



CAPE COD  
COMMISSION

# Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod

## 2017 TIGER Grant Application



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# Executive Summary

## PROJECT CO-APPLICANTS

Town of Barnstable, MA and the Cape Cod Commission

## GRANT OPPORTUNITY

2017 Transportation Investment Generating Economic Recovery (TIGER) Program

## FUNDING REQUEST

\$25 million

# HYANNIS ACCESS PHASE II



BUILDING A COMPLETE STREETS CONNECTION TO THE HEART OF CAPE COD

## PROJECT DESCRIPTION

This project is part of a 20-year, \$100 million vision to improve access to the Village of Hyannis, the largest and most urbanized area in the Town of Barnstable and on Cape Cod, for all users.

Yarmouth Road provides direct access from Route 6 to Hyannis Center. The project area offers single lanes of travel with a narrow shoulder and no accommodations for walkers and bicyclists. It is also the preferred route for ambulances exiting Route 6 seeking access to Cape Cod Hospital, the largest emergency and health care service provider on the Cape. Due to

significant traffic congestion on the corridor, many ambulances seek alternate routes which lengthens emergency response times. Traffic congestion also stifles Hyannis' economic development as residents and visitors alike avoid the area due to long delays and the lack of alternative transportation modes.

*The reconstruction of Yarmouth Road includes converting the roadway from two lanes to a four lane boulevard and the addition of a bicycle-pedestrian path connecting the Cape Cod Rail Trail to the transit hub.* The project will serve the entire Cape Cod region, including both urban and rural communities that use the Yarmouth Road corridor to access the region's largest hospital, national and regional retail stores, a vibrant downtown and harbor district, the regional airport, the Cape Cod Regional Transit Authority Transportation Center, and ferry service to Nantucket and Martha's Vineyard islands, among other services and amenities.

Broad public support of the project has been consistently demonstrated through a series of public engagement processes and surveys.

## PROJECT SCOPE

Upgrading this portion of Yarmouth Road will connect a recently completed \$6 million upgrade of the interchange of Route 6, Cape Cod's main highway, with a \$10 million planned upgrade of the intersection with Route 28, a main commercial corridor.

The addition of a multi-use path along Yarmouth Road will connect the region's economic hub, Hyannis, to the region's multi-use path network, the Cape Cod Rail Trail. \$23 million has been expended or is currently obligated for the build-out of the Cape Cod Rail Trail which will ultimately span 88 miles providing connections across Cape Cod.



# HYANNIS ACCESS PHASE II



BUILDING A COMPLETE STREETS CONNECTION TO THE HEART OF CAPE COD

Route 6 Cape Cod's main highway

## Cape Cod Rail Trail Extensions

Dennis-Yarmouth under construction (\$9.8 M)  
Yarmouth-Barnstable Funded (\$7.6 M)



Willow Street from Route 6 Ramps to Higgins Crowell Road  
Completed in 2008 (\$3.4 M)

**Yarmouth Road Project**  
Preferred alternative from 2012 Yarmouth Road Corridor Study

Leveraging **existing investment** to build a **multimodal connection** between **community assets**

**Barnstable Municipal Airport**  
Region's largest airport



Regional Retail Centers

Route 132

Route 28

Route 28

**Route 28 from Bearses Way to Cape Cod Mall**  
Construction underway (\$7.0 M)

**Route 28 at Yarmouth Road**  
Funded for 2019 (\$9.6 M)

**Hyannis Transportation Center**  
Regional hub for bus and rail service and planned Transit-Oriented-Development site



**East Main Street Improvements**  
Under design



**Cape Cod Hospital**  
Region's largest hospital for emergency and non-emergency care

**Main Street**  
Business District and Cultural Center



**Hyannis Harbor**  
Passenger and Freight Ferry Terminal to Martha's Vineyard and Nantucket

Route 28

The Yarmouth Road project is part of a 20-year, \$100 million vision to improve access to the Village of Hyannis, the largest and most urbanized area on Cape Cod. With improvements, Yarmouth Road will provide a multimodal connection between the 15 communities of Cape Cod to the region's healthcare, transportation, retail, and employment hub.

## KEY PROJECT BENEFITS

- **Improves Emergency Medical Access:** Improves access to the region’s largest hospital, cutting crucial minutes off the main ambulance route to the hospital
- **Reduces Freight Delays:** Reduces delays to freight moving through the corridor and to Martha’s Vineyard and Nantucket via ferries
- **Creates New Multi-Modal Connections** between the regional path network and the regional transit hub (regional bus, intercity bus, rail, air, and ferry)
- **Reduces Traffic Congestion:** Reduces congestion that stifles economic development and job access to an area uniquely-suited for such activities
- **Improves Roadway and Pedestrian Safety** in a corridor with documented safety issues
- **Improves Road Conditions:** Improves the state of good repair of a roadway that is critical to the region’s transportation network
- **Economic Improvement:** Improves economic competitiveness and movement of goods in a key freight corridor and critical economic opportunity
- **Enhances Quality of Life** by addressing high priority needs for pedestrians and bicycles (located near identified concentration of individuals with limited access to personal automobiles)
- **Enhances the Environment:** Promotes environmental sustainability by reducing carbon emissions and reduces the potential for pollutants to impact public water supply wells

## PROJECT SCHEDULE

|                             | Start          | Complete       |
|-----------------------------|----------------|----------------|
| Grant Agreement Negotiation | January 2018   | May 2018       |
| Permitting & Approvals      | September 2018 | August 2020    |
| Design                      | September 2018 | September 2020 |
| Right-of-Way Assembly       | February 2019  | June 2020      |
| Construction Procurement    | October 2020   | January 2021   |
| Construction                | Spring 2021    | Spring 2024    |

## PROJECT BUDGET

| Sources            | Funding             |
|--------------------|---------------------|
| TIGER Request      | \$25,000,000        |
| Town of Barnstable | \$7,797,328         |
| <b>TOTAL</b>       | <b>\$32,797,328</b> |

| Uses                     |                     |
|--------------------------|---------------------|
| Design and permitting    | \$3,975,748         |
| Construction             | \$18,071,580        |
| Right-of-way acquisition | \$10,750,000        |
| <b>TOTAL</b>             | <b>\$32,797,328</b> |

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# Table of Contents

|   |           |
|---|-----------|
| <b>I. Project Description.....</b>                                    | <b>1</b>  |
| Project Development.....  | 1         |
| Needs Assessment.....   | 2         |
| Description of Improvement.....                                       | 4         |
| <b>II. Project Location.....</b>                                      | <b>5</b>  |
| Community Profile.....  | 6         |
| <b>III. Project Partners.....</b>                                     | <b>7</b>  |
| Town of Barnstable.....   | 7         |
| Cape Cod Commission.....  | 8         |
| Town of Yarmouth.....   | 8         |
| <b>IV. Grant Funds, Sources, and Uses of All Project Funding.....</b> | <b>9</b>  |
| <b>V. Merit Criteria.....</b>   | <b>10</b> |
| Safety.....   | 10        |
| State of Good Repair.....   | 12        |
| Economic Competitiveness.....   | 12        |
| Environmental Sustainability.....                                     | 14        |
| Quality of Life.....  | 15        |
| Innovation.....   | 15        |
| Partnership.....  | 16        |
| <b>VI. Project Readiness.....</b>                                     | <b>17</b> |
| Technical Feasibility.....  | 17        |
| Project Schedule.....   | 17        |
| Required Approvals.....   | 18        |
| Assessment of Potential Risks and Mitigation Strategies.....          | 19        |
| <b>VII. Benefit Cost Analysis.....</b>                                | <b>20</b> |
| <b>VIII. Cost Share.....</b>  | <b>21</b> |
| <b>IX. Federal Wage Rate Certification.....</b>                       | <b>22</b> |
| <b>X. Supporting Documentation.....</b>                               | <b>23</b> |

## List of Figure

|  |    |
|--|----|
| Figure 1. Project Locus Map.....   | 1  |
| Figure 2. Hyannis Access Vision Phasing .....  | 2  |
| Figure 3. Congestion on Yarmouth Road .....  | 2  |
| Figure 4. Example of Redevelopment in the Downtown Hyannis Growth Incentive Zone ..... | 3  |
| Figure 5. Existing Condition of Pedestrian Facility.....                               | 3  |
| Figure 6. Proposed Project Improvements.....   | 4  |
| Figure 7. Proposed Cross Section (looking north).....                                  | 4  |
| Figure 8. Project Context Map.....   | 5  |
| Figure 9. Hyannis Transportation Center.....   | 6  |
| Figure 10. Environmental Justice Communities (Source: MassGIS EJ Viewer) .....         | 7  |
| Figure 11. Main Street (Hyannis), Barnstable .....                                     | 7  |
| Figure 12. Scenic Destination in Yarmouth (Judah Baker Windmill).....                  | 8  |
| Figure 13. Ambulance En Route to Cape Cod Hospital .....                               | 11 |
| Figure 14. Current Roadway Condition.....  | 12 |
| Figure 15. Recent Redevelopment in Hyannis .....                                       | 13 |
| Figure 16. Freight Vehicle on Yarmouth Road .....                                      | 13 |
| Figure 17. Cape Flyer Train in Hyannis - Offering a "Car-free" Cape Cod Vacation.....  | 14 |
| Figure 18. Medical Complex in Hyannis .....  | 15 |
| Figure 19. Steamship Authority Vessel - Significant Parking Demand Generator .....     | 15 |
| Figure 20. Yarmouth-Barnstable Cape Cod Rail Trail Extension .....                     | 16 |
| Figure 21. Route 132 Boulevard Project (Source: Google Earth) .....                    | 17 |
| Figure 22. Recently Expanded Cape Cod Hospital Emergency Center.....                   | 21 |

## List of Tables

|   |    |
|---|----|
| Table 1. Demographic Profile of Barnstable Residents Proximate to the Project Limits..... | 6  |
| Table 2. Project Budget by Funding Source .....   | 9  |
| Table 3. Project Budget by Use .....  | 9  |
| Table 4. Existing Crash Profile.....  | 10 |
| Table 5. Anticipated Crash Reduction .....  | 11 |
| Table 6. Community Business Patterns (2015).....  | 12 |
| Table 7. Project Schedule .....   | 18 |
| Table 8. Summary of Benefit Cost Analysis Conclusions.....                                | 20 |
| Table 9. Summary of Project Benefits.....   | 20 |



## I. Project Description

This project is part of a 20-year, \$100 million vision to improve access for all users to the Village of Hyannis, the largest and most urbanized area in the Town of Barnstable and on Cape Cod.

The roadway network leading into Hyannis is the region's most important link to such key assets as Cape Cod's largest airport, second largest ferry terminal, largest hospital, only train and bus terminal, and its major retailers and professional service providers. One key link in this roadway network, Yarmouth Road, is woefully inadequate for the vehicle demand it faces each day including frequent ambulances desperate to reach the hospital. Improvement to Yarmouth Road are needed to eliminate the chronic, often dangerous congestion, and close a major gap in the region's

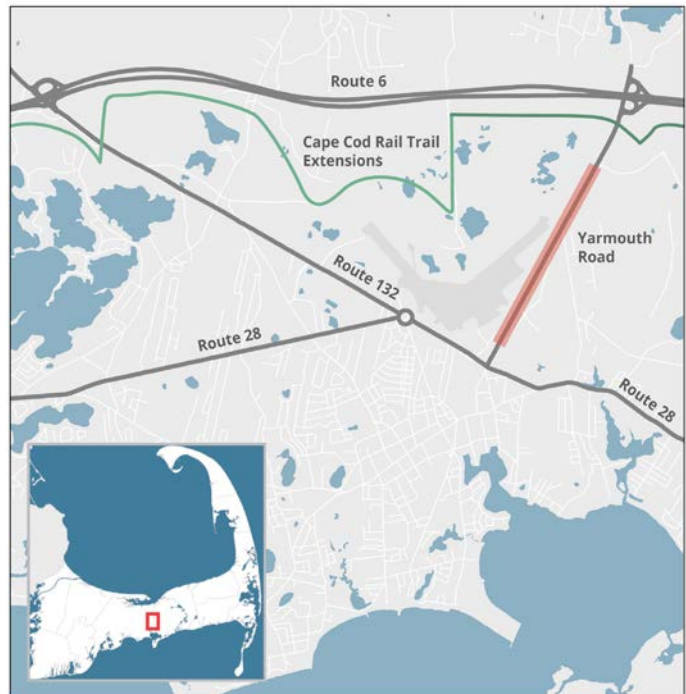


Figure 1. Project Locus Map

extensive multi-use path network to the Hyannis area. With an alignment that predates the founding of our nation and a configuration that is largely unchanged since the advent of modern paving, Yarmouth Road simply cannot meet the demands of 21<sup>st</sup> century transportation.

### Project Development

The development of improvement options for the Yarmouth Road spans three planning efforts; the 2008 Hyannis Access Study<sup>1</sup>, the 2012 Yarmouth Road Corridor Study<sup>2</sup>, and the 2013 Hyannis Access Study Implementation Report<sup>3</sup>. Previous studies area available on the project development [website](#).

The goals, alternatives, and recommendations of the studies were developed in concert with a robust public participation process. By engaging with the public, area officials, and many other interested parties from the beginning of the efforts, there is a common understanding of problems facing the Hyannis area and a comprehensive assessment of needs and opportunities for improvement.

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<sup>1</sup> *Hyannis Access Study*. Prepared by TranSystems, Inc. for the Massachusetts Executive Office of Transportation (August 2008)

<sup>2</sup> *Yarmouth Road Corridor Study*. Prepared by the Cape Cod Commission. (December 2012)

<sup>3</sup> *Hyannis Access Study Implementation Report*. Prepared by the Cape Cod Commission. (June 2013)

A diverse and knowledgeable task force was established for each of these studies including over two dozen representatives from many levels of government, business interests, transportation providers, local residents and other stakeholders. Task force meetings were open to the public and a targeted outreach effort included meetings with a wide variety of stakeholders. In total, more than 50 meetings were held over the course of seven years culminating in a unified vision for improving access to the Hyannis area.

The set of improvements identified in the Hyannis Access Study Implementation Report was adopted, in three phases, in the most recent Cape Cod Regional Transportation Plan (RTP). The preferred improvement alternative for Yarmouth Road (“the Project” for the purposes of this application) represents Phase II of this vision.



Figure 2. Hyannis Access Vision Phasing

## Needs Assessment

Yarmouth Road is a two-lane, undivided roadway with eleven-foot lanes, one-foot shoulders, and a single four-foot sidewalk for portions of the 1.5-mile corridor. The road is an essential link between the only limited access highway in the region, Route 6, and the regional hospital, transportation hub, and commercial center.

### *Perpetual Congestion*

The Yarmouth Road corridor experiences significant traffic congestion. During the summer months, there are 22,000 to 24,000 vehicle trips on the road each day, far more than a two-lane roadway can effectively accommodate. The frequent curb cuts, more than 100 within the project limits, also add to the congestion. Queuing on Yarmouth Road frequently extends more than a mile from Route 28 back towards Route 6. Traffic congestion on the corridor causes delays in emergency trips to the Cape Cod Hospital, impacts the ability of residents and visitors to access other modes of transportation, and stifles Hyannis’ economic development.



Figure 3. Congestion on Yarmouth Road

Yarmouth Road is the ideal route for ambulances exiting US Route 6 to access Cape Cod Hospital, the largest emergency and health care service provider on Cape Cod. Frequent queuing, coupled with no shoulders for emergency or other vehicles to pull off, makes the road a challenging place for ambulances to navigate. Often ambulances will take longer, alternative routes to Cape Cod Hospital to avoid traffic congestion on Yarmouth Road. Delay on Yarmouth Road or time lost taking a detour, put patients needing emergency services at risk; risk that can be avoided by implementing the proposed improvements.

Traffic congestion on Yarmouth Road also impacts the ability of motorists to access the regional airport, ferry terminal, bus or train depot in Hyannis. Not only is this an inconvenience, it deters people from using these forms of public transportation. Modern communities need robust, well-integrated transportation networks with a variety of modal choices for long-term viability. Yarmouth Road is a weak link in that network that negatively impacts all transportation modes.

Hyannis has long been the commercial center of Cape Cod hosting a wide range of industries. All fifteen Cape communities and the islands of Martha’s Vineyard and Nantucket rely on Hyannis for goods and services that are available nowhere else in the region. To continue to focus growth in the area, in 2006, the Town of Barnstable worked with the Cape Cod Commission to designate the “Downtown Hyannis Growth Incentive Zone.” This designation established a 448-acre portion of Hyannis where business could take advantage of a streamlined regulatory review process to lower development costs. This designated growth area is connected to Route 6, the region’s main highway, by Yarmouth Road. Since the designation, the area has seen over \$70 million in public investment and \$125 million in private investment in the area. However, growth continues to be hampered by congestion on Yarmouth Road.



Figure 4. Example of Redevelopment in the Downtown Hyannis Growth Incentive Zone

#### *Inadequate Pedestrian and Bicyclist Facilities*



Figure 5. Existing Condition of Pedestrian Facility

While driving the corridor can be quite challenging, navigating the corridor as a pedestrian is both challenging and very dangerous. Roughly half the corridor has no dedicated pedestrian accommodation. Where sidewalks exist, they only serve pedestrians on one side of Yarmouth Road and must cross frequent, poorly delineated and often wide curb cuts.

The existing sidewalk is four feet wide with utility poles located within the sidewalk every 150-200 feet. In most places, there is less than one foot separating the sidewalk from passing cars and trucks.

There are no marked crosswalks within the 1.5-mile corridor despite the fact that there are businesses and residences on both sides of the roadway. With a posted speed limits of 35 and 40 mph in the corridor, crossing Yarmouth Road can be quite a challenge.

A \$17 million extension<sup>4</sup> of the region’s multi-use path network will soon bring bicyclists within a short ride of Hyannis. The path will cross Yarmouth Road near the northern extent of the project, leaving just a two-mile ride into Downtown Hyannis. The multi-use path included with

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<sup>4</sup> Funding allocated in the FFY2018-2022 Cape Cod Transportation Improvement Program

this Project will create that connection and be far safer for all users than channeling bike and pedestrian traffic onto the existing roadway.

### Description of Improvement

Coming out of years of analysis and review, the recommended concept for Yarmouth Road is a cross-section with the following features (listed starting from the west side of the roadway to the east side):

- 12' multi-use path
- 10' landscaped buffer
- 5' shoulder
- Two 11' northbound travel lanes
- 20' landscaped median divider
- Two 11' southbound travel lanes
- 5' shoulder
- 5' sidewalk

The recommended improvement concept also involves construction of roundabouts at two currently un-signalized intersections: Yarmouth Road at Camp Street and Yarmouth Road at Ferndoc Street.

As these improvements require more right-of-way than is available, the taking of eighteen properties on the west side of Yarmouth Road would be required.



Figure 6. Proposed Project Improvements

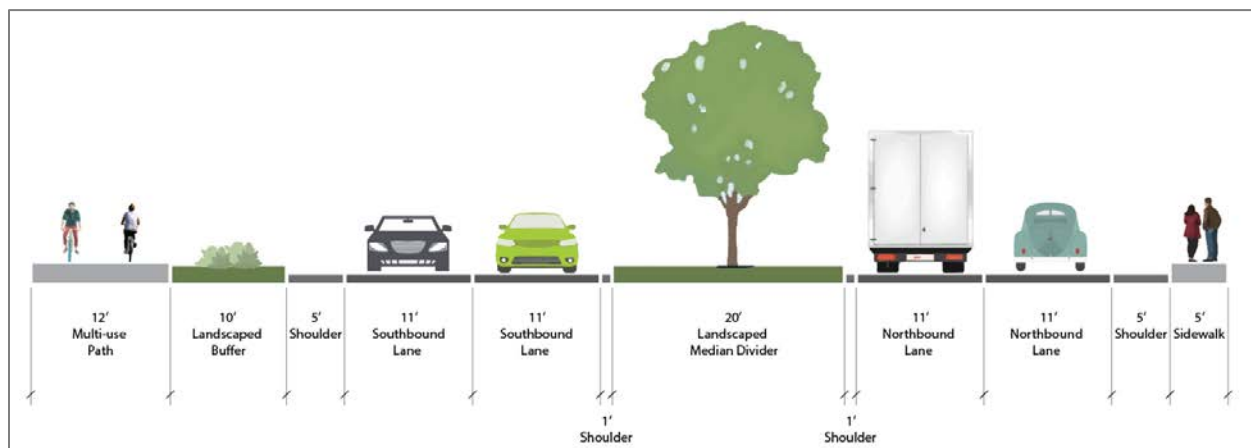


Figure 7. Proposed Cross Section (looking north)



## II. Project Location

Cape Cod's transportation system has both shaped and been shaped by development patterns of the region. As our regional economy has evolved so too has our transportation infrastructure. It has evolved from a reliance on ports and marine transport to support the natural resource based economy of the 19th century, to an early system of rail soon overcome by the automobile fueled by the tourism, second-home, and retirement driven economy of the 20th century through to today.

Early development patterns focused around small village centers close to ports and easily served by rail. With the advent of the automobile, a much more sprawling development pattern took hold as the region's population grew from 82 people per square mile in 1930 to over 573 people per square mile at the turn of the century – an over 600% increase in population density. Between 1980 and 2010 alone, the resident population in the county increased by 46%; a growth rate mirrored in the town of Barnstable where the project is located. Barnstable is home to 21% of the Cape's resident population. Hyannis is the largest of the seven villages of the Town of Barnstable, the largest town on Cape Cod.

Hyannis, within the town of Barnstable, has been the hub of Cape Cod throughout the region's evolution. Hyannis Harbor, originally a key port for the whaling industry, remains a vital link for passenger and freight transportation to Martha's Vineyard and Nantucket. The Hyannis rail spur, once a key passenger and freight link to the mainland, now supports the tourism industry with vehicle-free options for visiting Cape Cod. Hyannis is linked to Cape Cod major highway, US Route 6, by Yarmouth Road.

Hyannis is home to the Cape Cod Hospital, the largest of only two hospitals in the region, and many associated medical offices. The Hospital has one of the busiest emergency rooms in Massachusetts and many of the patients must use Yarmouth Road to get there despite the chronic delays experienced along the key section connecting Route 6 to the Hospital.



Figure 8. Project Context Map

The Hyannis Transportation Center, also reliant on Yarmouth Road for access, is the hub of local and intercity bus transportation on Cape Cod as well as the most active rail station on Cape Cod. Within a mile of the Hyannis Transportation Center is the region’s largest airport and one of two major passenger and freight terminals serving the islands of Nantucket and Martha’s Vineyard.



Figure 9. Hyannis Transportation Center

Hyannis is the commercial hub of the region as well, with a traditional town center on the verge of revitalization and an extensive large retail strip and industrial park area that provide essential goods and services to residents across the Cape. Recent improvements in zoning rules, along with regulatory relief, have laid the foundation needed to see private re-investment in downtown Hyannis but access to the town center remains a major impediment that this project seeks to help resolve.

### Community Profile

While Cape Cod is viewed as an idyllic summer destination by many, the reality of living year-round on Cape Cod is in fact challenging for many residents. The buying power of second homeowners and retirees, coupled with land and natural resource constraints, result in housing that is largely unaffordable to the year-round working people living on Cape Cod. A [recent study](#) of the region’s housing market indicated that over 22,000 households, almost a quarter of all households, already spend over 30% of their income on housing and this will only increase, becoming an issue for not only those struggling to earn a median wage but for those at 120% of median wage and higher.

There are also disparities within the region; Hyannis is home to many of the region's lowest income families, as well as our immigrant communities, individuals and families in need of social services, and seasonal workers. Comparing the demographic profile of residents living in census block groups within one mile of the proposed project to all Cape Cod residents makes the difference quite apparent.

Table 1. Demographic Profile of Barnstable Residents Proximate to the Project Limits

|   | Residents Proximate to the Project Limits* | Cape Cod (Barnstable County) |
|---|--|------------------------------|
| Per Capita Income   | \$18,427                                   | \$37,678                     |
| Percentage of Household with Income < \$25,000  | 43%  | 19%                          |
| Percentage of Household with Income < \$15,000  | 28%  | 9%                           |
| Percentage of Residents with a Bachelor’s Degree  | 15%  | 40%                          |
| Source: U.S. Census Bureau, American Community Survey (ACS) 2011 - 2015.                |  |                              |
| *Block groups: 250010153002, 250010126023, 250010126022, 250010153003, and 250010153001 |  |                              |

Hyannis is home to more young adults and working families, often single parent working families, than other communities on the Cape. Residents are far more likely to rent their home, live in poverty, and work in low-wage jobs than people living elsewhere in the region. While the region is over 90% white only, racial diversity is much higher in Hyannis than elsewhere in the county.

A number of these census block groups also are identified by the State of Massachusetts as Environmental Justice Communities based on income - share of households that earned 65% or less of the statewide median household income - and/or minority population share - 25% or more residents that identified as a race other than white (Source: Massachusetts Executive Office of Energy and Environmental Affairs (EEA) Environmental Justice Program - 2010 Environmental Justice Populations Analysis).

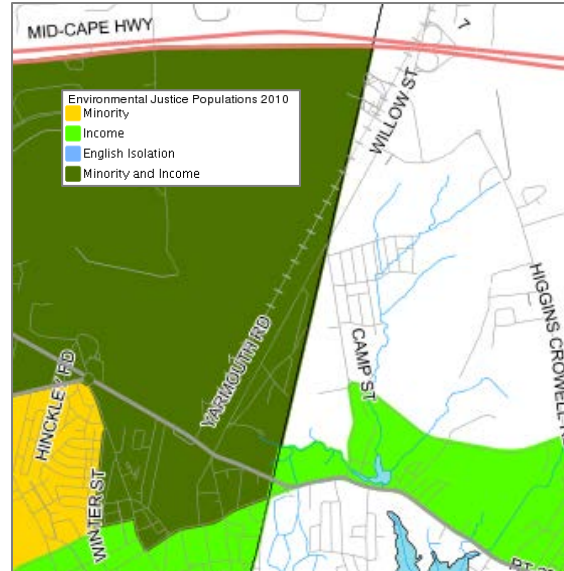


Figure 10. Environmental Justice Communities (Source: MassGIS EJ Viewer)

### III. Project Partners

The Town of Barnstable and the Cape Cod Commission are joint applicants on this proposal with the Town of Yarmouth joining the effort as a project partner. Below is a brief summary of each of the project parties and their role in 2017 TIGER grant application and potential management.

#### Town of Barnstable

The largest town on Cape Cod, the Town of Barnstable, had a year-round population of 45,193 as of the 2010 census. There are over 26,000 housing units in town; 22% of these are seasonal second homes. During the summer, with seasonal home owners and tourists staying at the many inns, hotels, and other types of lodgings, the population is closer to 100,000.

The Town of Barnstable is the only non-town meeting form of government on Cape Cod; it is led by a thirteen-member elected Town Council and a professional Town Manager with a full staff of professionals. The Council develops, adopts, and enacts policies and ordinances and hires the Town Manager. The town's most recent bond rating from Standard and Poor's is AAA due to strong management and budgetary performance, a strong debt position, a strong institutional framework and budget flexibility/liquidity, as well as a strong regional economy.



Figure 11. Main Street (Hyannis), Barnstable

## Cape Cod Commission

The Cape Cod Commission (CCC) is the regional planning and regulatory authority for Barnstable County. The CCC is led by an 18 members board representing the fifteen towns of Cape Cod, the County Commissioners, minority populations on Cape Cod, the Wampanoag Native American Tribe, and the Governor.

The CCC mission is to protect the unique values, resources and quality of life on Cape Cod by coordinating a balanced relationship between environmental protection and economic progress. The CCC carries out this mission by leading, supporting, and enforcing the development of regional plans, policies, regulations, and infrastructure to guide and manage growth, and by supporting the 15 Cape Cod towns with professional and cost-effective planning and technical support services. The CCC forty-member staff also includes professionals to staff the Cape Cod Metropolitan Planning Organization.

## Town of Yarmouth

The third largest town on Cape Cod, the Town of Yarmouth, had a year-round population of 23,793 as of the 2010 census. There are over 17,158 housing units in town; 32% of these are seasonal second homes. During the summer, with seasonal home owners and tourists staying at the many inns, hotels, and other types of lodgings, the population is over 50,000.

The Town of Yarmouth has a town meeting form of government it is led by a five-member elected Board of Selectmen and a professional Town Manager with a full staff of professionals. The Board develops, adopts, and enacts policies and ordinances and hires the Town Manager. The town's most recent bond rating from Standard and Poors is AA+ due to strong management and budgetary performance, a strong debt position, a strong institutional framework and budget flexibility/liquidity, as well as a strong regional economy.



Figure 12. Scenic Destination in Yarmouth (Judah Baker Windmill)



## IV. Grant Funds, Sources, and Uses of All Project Funding

This section details the estimated cost to design and construct the project and the anticipated sources of funding. None of the matching funds listed are from federal sources; nor have any federal funds been previously applied to this project. All funding will be available when needed, consistent with the project schedule.

Table 2. Project Budget by Funding Source

| Sources            | Funding             |
|--------------------|---------------------|
| TIGER Request      | \$25,000,000        |
| Town of Barnstable | \$7,797,328         |
| <b>TOTAL</b>       | <b>\$32,797,328</b> |

The Project Budget by Use table outlines the estimated project costs for each component project. The construction cost estimates summarized here are supported by a detailed cost estimate included in the supporting materials. Estimated design costs include survey and geotechnical borings, permitting, and engineering studies. Construction costs include general conditions, contractor mobilization, and traffic management. The construction cost estimate included in this application incorporates a 25% construction contingency to allow for potential cost increases as the design is further advanced. Construction costs are escalated to the mid-point of construction utilizing 4% annual escalation consistent with trends observed in Massachusetts. All costs assume compliance with federal and state public procurement requirements and payment of prevailing wages.

Table 3. Project Budget by Use

| Uses                     |                     |
|--------------------------|---------------------|
| Design and permitting    | \$3,975,748         |
| Construction             | \$18,071,580        |
| Right-of-way acquisition | \$10,750,000        |
| <b>TOTAL</b>             | <b>\$32,797,328</b> |

The proposed reconstruction of Yarmouth Road as part of this TIGER grant ends just north of Route 28. The planned reconstruction of the intersection of Yarmouth Road at Route 28 is currently funded in FFY2019 of the Cape Cod Transportation Improvement with a combination of federal and state funds. This intersection project is considered a related investment but NOT included in the TIGER project. The current estimated construction cost for the intersection project is \$9.6 million with design and right-of-way acquisition likely to exceed \$3 million. Together, these projects will significantly improve access to Hyannis.

## V. Merit Criteria

The following section details the project consistency with the five primary selection criteria, safety, state of good repair, economic competitiveness, quality of life, and environmental sustainability and the two secondary selection criteria, innovation and partnership.

### Safety

The Yarmouth Road corridor has a well-documented crash history. Within the project area there were 105 crashes reported over the most recent three years on record, 2012-2014, including 25 injury crashes. The nature of these crashes is summarized in the following table.

Table 4. Existing Crash Profile

| Collision Type       | Number of Crashes (2012-2014) |
|----------------------|-------------------------------|
| Rear-end             | 48                            |
| Angle                | 21                            |
| Single Vehicle Crash | 19                            |
| Sideswipe            | 11                            |
| Other/Unknown        | 6                             |
| <b>TOTAL</b>         | <b>105</b>                    |

Crash trends on this corridor relate directly to deficiencies in the current roadway configuration. The rear-end crashes occurred frequently during the periods of congestion on the roadway. The angle crashes were mostly spread between the numerous uncontrolled driveways along the corridor. In total, there are over 100 curbs cut along the 1.5-mile corridor.

Conversion of Yarmouth Road from a two-lane undivided roadway to a four-lane divided roadway will address nearly all of the safety deficiencies on the corridor. Based on peer-reviewed literature, it is estimated that this type of improvement will result in a 68% crash reduction<sup>5</sup>. This equates to an *anticipated annual reduction of 23 crashes* as shown in the following table. The proposed improvements will also reduce the likelihood of a fatal crash by eliminating many of the turning movements related to the current angle crashes.

It is likely that an even greater crash reduction will be realized considering the 29 driveway access points that will be eliminated on the west side of the roadway.

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<sup>5</sup> Source: Evaluation of the Safety Effectiveness of the Conversion of Two-Lane Roadways to Four-Lane Divided Roadways: Bayesian vs. Empirical Bayes, Ahmed et al., 2015 as presented in the FHWA Crash Modification Factors Clearinghouse.

Table 5. Anticipated Crash Reduction

| Severity                     | Number of Crashes (2012-2014) | Anticipated 3-Year Crash Reduction Total (68% reduction) <sup>6</sup> |
|------------------------------|-------------------------------|---|
| Fatal                        | 0                             | NA  |
| Injury                       | 25                            | 17  |
| Property Damage Only/Unknown | 80                            | 54  |
| <b>TOTAL</b>                 | <b>105</b>                    | <b>71</b>   |

There were three non-motorist crashes within the same three-year period, all resulting in injuries. Two crashes involved individuals attempting to cross Yarmouth Road; there are no marked crosswalks along this portion of the roadway. The third crash involved a pedestrian walking along the roadway in a portion where no sidewalk is present.

As designed, the Project will separate pedestrian and bicycle users from automobiles. Together with anticipated intersection improvements at Yarmouth Road and Route 28, programmed for construction in the 2019 TIP, the Project will provide a direct connection of multimodal access to the Hyannis Transportation Center with regional bus, intercity bus, taxi, and rail access. The addition of a separated multi-use path on the west side of the roadway and a continuous sidewalk on the east side of the roadway will *improve pedestrian and bicyclist safety*.

Yarmouth Road is the ideal route for ambulances exiting US Route 6 to access Cape Cod Hospital, the largest emergency and health care service provider on Cape Cod. Frequent queuing, coupled with no shoulders for emergency or other vehicles to pull off, makes the road a challenging place for ambulances to navigate. Often ambulances will take longer, alternative routes to Cape Cod Hospital to avoid traffic congestion on Yarmouth Road. Congestion on Yarmouth Road puts patients needing emergency services at risk; risk that can be avoided through the proposed improvements. *Hospital access will be greatly improved by this project.*



Figure 13. Ambulance En Route to Cape Cod Hospital

Eight of the fourteen properties on the west side of the corridor are aging automobile sales and service businesses. These properties are within Zone IIs for the Hyannis Water District and Town of Yarmouth public water supply wells. Removing these eight businesses will *prevent unintended releases of hazardous materials* that could potentially contaminate the drinking water going to nearly 20,000 homes and businesses.

<sup>6</sup> Source: Evaluation of the Safety Effectiveness of the Conversion of Two-Lane Roadways to Four-Lane Divided Roadways: Bayesian vs. Empirical Bayes, Ahmed et al., 2015 as presented in the FHWA Crash Modification Factors Clearinghouse.

### State of Good Repair

The Cape Cod MPO’s Regional Transportation Plan, Cape Cod Commission Regional Policy Plan, and the Barnstable Local Comprehensive Plan, all identify improving and revitalizing Hyannis as a key priority for the long-term viability of the region. These plans and numerous studies have identified the current barriers to accessing Hyannis that threaten revitalization. Yarmouth Road’s inability to effectively handle the current and future project transportation demands presents a major barrier to accessing Hyannis. This barrier ***threatens the mobility of goods and people*** accessing Hyannis and the island and Nantucket and Martha’s Vineyard. This barrier further ***threatens the economic growth demands*** of Hyannis and the region.

As a testament to the importance of the project to the region, the Cape Cod MPO’s Regional Transportation Plan includes Hyannis Access Phase II as ***one of the most important regional projects*** within the next 20 years.



Figure 14. Current Roadway Condition

The Town of Barnstable and Yarmouth have and will continue to maintain the project corridor. As detailed in the Cost Share section of the application, both Towns have a ***demonstrated ability and the financial capability to maintain this asset***. The Towns are, however, somewhat limited in the scale of capital improvement projects they can independently fund. Transportation funds within the Towns are largely dedicated to state of good repair maintenance activities. As such, the Towns rely on other funding opportunities to assist in funding large-scale improvements such as this Hyannis Access Phase II project.

### Economic Competitiveness

The Yarmouth Road corridor is the primary means of access to Hyannis, the economic, governmental, and transportation hub of the Cape Cod region. ***Hyannis is also the largest single employment center and is the economic engine for the year-round economy***. Using the Census Bureau’s County Business Pattern’s dataset makes this clear, indicating that over ¼ of the jobs and payroll in the county are generated by the 1,200 establishments within the two Hyannis zip code areas.

Table 6. Community Business Patterns (2015)

| Severity                   | Establishments | Paid Employees | Annual Payroll (\$1,000) |
|----------------------------|----------------|----------------|--------------------------|
| Hyannis Zip Codes          | 1,200          | 19,420         | 893,664                  |
| Barnstable County          | 8,488          | 74,140         | 3,292,880                |
| Hyannis as % of the Region | 14%            | 26%            | 27%                      |
| Source: U.S. Census Bureau |                |                |                          |

**The proposed improvement to Yarmouth Road is one of the last remaining public infrastructure investments needed to stimulate the redevelopment of downtown Hyannis** and the surrounding residential and commercial areas. Over the past decade, there has been significant public investment in the area, including a new Regional Transportation Center, a new airport terminal and access road, additional wastewater treatment capacity, streetscape improvements downtown and revitalization of public parks and gathering places. At the same time, town and regional regulations have been significantly streamlined to encourage redevelopment in and around downtown. The town is currently examining options to promote new development and redevelopment in the area of existing commercial national and regional retail development along Route 132, as well as identifying opportunities for high density housing development to provide needed housing diversity for the region.



Figure 15. Recent Redevelopment in Hyannis

Private investment has begun to occur, primarily at the hospital and in downtown, where over \$125 million has been invested in several mixed-use retail-residential developments and a major office renovation. Nevertheless, the potential and need for redevelopment in the area is still enormous. There are several developers considering major investments in the harbor area and the Regional Transit Agency plans for a mixed-use Transportation Oriented Development in the area surrounding the Regional Transportation Center. However, across the region Hyannis has a

reputation as being a difficult place to reach due to traffic, with Yarmouth Road a key culprit, and thus a place best avoided if at all possible. **Removing the Yarmouth Road bottleneck would stimulate pent up private investment and economic development to the area.**

The direct impact of the proposed project will be to **improve access and travel time for workers, hospital patients, customers and others needing to reach jobs, businesses and social services in Hyannis, many coming from the rural Outer Cape.** The Project will improve access to ferries and the regional airport, jobs, education, shopping and other services for all roadway users. It will greatly improve public safety by reducing the time needed to reach the hospital and enabling the rapid circulation of police and fire vehicles throughout the area.

Travel time will also be improved for the many freight trucks serving Hyannis, **facilitating efficient and reliable freight movement.** The Yarmouth Road corridor was designated by the Cape Cod MPO as a **Critical Urban and Rural Freight Corridor** in May of 2017. The corridor also serves as the primary freight route from US Route 6 to the Nantucket and Martha's Vineyard ferries which transport many of the goods supplied to the islands. This link to the islands is also important for workers, many of whom live on Cape Cod rather than on the islands where they work. Overall, by



Figure 16. Freight Vehicle on Yarmouth Road



improving travel time, businesses will reduce freight costs, increase customers, and enjoy greater productivity by their workers.

Yarmouth Road is one of three phases of improvements identified to address congestion that is limiting economic activity in Hyannis that were identified in the 2013 Hyannis Access Study Implementation Report:

- Phase I: Route 28 Intersection at Yarmouth Road – Reconstruction funding approved (\$10 million) in FFY2019 for FFY2018-22 Transportation Improvement Program
- Phase II: Yarmouth Road – Designated a regional priority but currently unfunded.
- Phase III: Airport Rotary and approaches (Route 28, Route 132, and Barnstable Road) – Designated a regional priority but currently unfunded.

A TIGER grant to fund a portion of Phase II would allow the region to continue to make progress towards *reducing congestion in Hyannis, the center of the Barnstable urbanized area.*

### Environmental Sustainability

The proposed project will enable a mode shift by residents and visitors towards bicycle and public transportation that will *reduce congestion-related emissions and air pollution.* With all major transportation modes located in Hyannis and a significant portion of the region’s population within a comfortable biking distance, bicycling should be a practical mode of transportation in the area.

However, Yarmouth Road currently presents a significant impediment to bicycling in the area. The multi-use path included with this project will create that connection between Hyannis and the expanding multi-use path network. This will encourage some nearby residents to choose their bicycle over their personal automobile.



Figure 17. Cape Flyer Train in Hyannis - Offering a "Car-free" Cape Cod Vacation

Improving access to the regional transportation center will also encourage more visitors to the region to take public transportation. With over 8 million visitors to the region annually, even a small shift towards public transportation will reduce congestion throughout the region. The recent and highly successful return of seasonal passenger rail to Hyannis has spurred the desire for a “car-free” trip to Cape Cod that would be more realistic as a result of this project.

There are *no significant adverse environmental impacts to air or water quality, wetlands, and endangered species* identified given the location of the project. In fact, this project negates the need for another much more environmentally disruptive project, the construction of a new highway interchange, considered in the 2008 Hyannis Access Study. Rather than undermining undeveloped areas, this improve already disturbed areas. It will also project will remove eight aging automobile businesses and prevent potential releases of hazardous materials into the drinking water supply over which they reside and that serves nearly 20,000 homes and businesses. Furthermore, this project will greatly improve evacuation from Hyannis in the event of a hurricane or other natural hazard or, if such hazards impact other areas of the Cape, improve access to the hospital and other services located in Hyannis.

## Quality of Life

This project will advance quality of life for urban and rural residents by improving everyone's ability to **access, jobs, health care, critical social service and community and cultural assets by more modes of travel**. The variety of employers and employment sectors in Hyannis is found nowhere else on Cape Cod. Of the approximately 20,000 people working in Hyannis, 67% commute into the area from elsewhere, very often via Route 6 and Yarmouth Road according to the US Census Bureau "[On the Map](#)" program. Hyannis is home to twenty-two social service agencies serving all residents of the region. There are forty-two arts and culture venues in the Hyannis area serving both the year-round and seasonal populations. In addition to the hospital in Hyannis, transportation services out of Hyannis to Boston-area medical facilities provide residents access to some of the best health care facilities in the nation. This project would improve access to these important, often essential, assets by reducing travel time, transportation costs, and increasing safety. It will also open up new opportunities to access Hyannis via bicycle for work and pleasure that can lead to better health and air quality.



Figure 18. Medical Complex in Hyannis

## Innovation

The applicants will employ best construction practices to minimize traffic disruption during roadway construction. Because much of the Cape Cod economy is dependent on second home owners and visitors, construction activities will need to be restricted to non-summer months. The applicants will develop **innovative contract bid language** that includes incentives for awardees to maximize daily work duration (including promoting night work) to shorten impacts on the traveling public and the duration of the overall construction project.

The applicants will review current and future utility demands in the area and, as feasible, make utility improvements in parallel with the roadway construction activities. By addressing transportation and utility needs during the same construction window, overall cost and disruption to the public will be minimized.

The applicants will investigate options to incorporate ITS applications along the corridor in the future, such as dynamic parking signs to direct passengers to ferry, bus, rail, and airport parking often in high demand and difficult to locate. Visitors to Downtown Hyannis can also find parking challenging and complex. **Leveraging technology to optimize parking and reduce parking-related congestion** would present many benefits to the community.



Figure 19. Steamship Authority Vessel - Significant Parking Demand Generator

## Partnership

As detailed in the Project Development section of this application, ***strong collaboration among a broad range of stakeholders*** has been a priority since the project's conception. Cape Cod Commission staff has guided the project development process up to conceptual design, with the close cooperation of state and municipal partners. The project has been thoroughly vetted by state and local policy makers, other public entities, and interested private and nonprofit entities.

The project will result in significant regional benefits given the importance of Hyannis and its many community assets to all of Cape Cod. As such, the project has been a priority in all regional transportation planning documents, including the most recent Cape Cod Regional Transportation Plan endorsed by the Cape Cod Metropolitan Planning Organization. Several transportation agencies have been involved in this project development process including MassDOT, MassBike, Cape Cod Regional Transportation Authority, Barnstable Municipal Airport, Steamship Authority, and Cape Cod Railroad. The Cape Cod Hospital and other key regional entities were also involved in the project development.

Furthermore, the project is coordinated with ***economic development, housing, water infrastructure, and land use plans and policies*** of regional significance. Specifically, the project supports regional growth policy adopted in the Cape Cod Regional Policy Plan to focus economic development and housing in town centers served by wastewater infrastructure, transit, social and community services, and other key infrastructure. The goal is to co-locate jobs and housing. This project is consistent with the redevelopment goals of the Hyannis Growth Incentive Zone and improves protecting one of the region's most important drinking water supply areas, while supporting sustainable, mixed-use, village-center development encouraged in the Cape Cod Regional Policy Plan.



Figure 20. Yarmouth-Barnstable Cape Cod Rail Trail Extension

The Towns of Barnstable and Yarmouth will continue to work collaboratively on the development of the project and the implementation of any improvement for the mutual benefit of the region. Another project being jointing development by the Town of Barnstable and Yarmouth is the Yarmouth-Barnstable Cape Cod Rail Trail Extension which is now funded in the FFY2018-2022 Cape Cod Transportation Improvement Program.



## VI. Project Readiness

The Hyannis Access Phase II project will allow US DOT to obligate TIGER funds within the timeline established in Consolidated Appropriation Act, 2017 (Pub. L. 115-31, May 5, 2017). The following sections discuss the Project's Technical Feasibility, Financial Feasibility, Project Schedule, Assessment of Potential Risks and Mitigation Strategies, and Required Approvals.

### Technical Feasibility

The Town of Barnstable is committed to implementing this regionally-important project as proposed in this TIGER grant application. The project is fairly typical from a technical perspective; all of the project elements are routinely constructed in the region. The design criteria used on this project is based on Massachusetts Department of Transportation (MassDOT) design standards and specifications.

A similar project (two-lane undivided roadway to four-lane divided roadway with multiuse path) was completed on Route 132 in Barnstable approximately ten years ago with relatively few challenges. Given the construction sequencing, there was relatively little disruption to regional traffic and the Route 132 project has been universally viewed as a success in dealing with congestion issues that the corridor once faced.



Figure 21. Route 132 Boulevard Project (Source: Google Earth)

The specific design elements are as follows (see Figure 6 and Figure 7):

- Widening Yarmouth Road 2 lanes to 4 lanes with a landscaped median
- New/improved 5' concrete sidewalk
- New 12' multi-use path
- New roundabouts at Camp Street and Ferndoc Road

Both ends of the projects will tie into portions of roadway that, at the time of construction, will have a comparable configuration.

### Project Schedule

The following table outlines the proposed project schedule, which will enable the project to complete all pre-construction activity prior to September 30, 2020 and all construction prior to September 30, 2025. A more detailed project schedule is included with the supporting materials.

Table 7. Project Schedule

|                             | Start          | Complete       |
|-----------------------------|----------------|----------------|
| Grant Agreement Negotiation | January 2018   | May 2018       |
| Permitting & Approvals      | September 2018 | August 2020    |
| Design                      | September 2018 | September 2020 |
| Right-of-Way Assembly       | February 2019  | June 2020      |
| Construction Procurement    | October 2020   | January 2021   |
| Construction                | Spring 2021    | Spring 2024    |

The Permitting & Approvals timeframe is conservative given the relatively limited number of approvals that will be required (see Required Approvals section of the application). The Design timeframe allows for the project to be designed from the conceptual level up to the final plans specification and estimate phase. The right-of-way assembly timeframe allows for the process to be completed in accordance with CFR part 24, 23 CFR part 710, and other applicable legal requirements. The acquisition process for the taking of parcels to the west of the current roadway alignment can begin early in the design process as complete taking of the properties will be required regardless of any design details. The construction allows for the Cape Cod summertime construction moratorium while it is likely that waivers for activities that do not impact traffic flow are likely to be granted; see the following section for more details.

## Required Approvals

### *Environmental Permits and Reviews*

- National Environmental Policy Act (NEPA) – pending a consultation with the Federal Highway Administration (FHWA), preparation of an Environmental Assessment (EA) is anticipated as the project does not clearly require the preparation of an Environmental Impact Statement (EIS) per CFR 771.115. To be conservative, the timeline and budget allow for the preparation of an EIS should one be required.
- Massachusetts Environmental Policy Act (MEPA) – Based on the transportation threshold of “widening of an existing roadway by four or more feet for one-half or more miles,” the preparation of an Environmental Notification Form (ENF) is required. Preliminary project analysis has not identified any impacts that would require the preparation of an Environmental Impact Report (EIR); however, the timeline and budget allow for the preparation of an EIR should one be required.

### *State and Local Approvals*

The following state and local and approvals are included within the project timeline.

- Barnstable Town Council – Council approvals will be required to accept and expend the federal grant and to authorize and execute the takings related to the project.

- Yarmouth Board of Selectmen – Board approvals will be required to execute the takings related to the project.
- Barnstable and Yarmouth Planning Boards – Board approvals will be required due to laying out the new roadway right-of-way.
- Massachusetts Department of Transportation (MassDOT) District 5 and Rail and Transit Division) – MassDOT has been involved with the project development since the preliminary planning phases and have voiced support for the preferred alternative as a member of each task force. No issues with MassDOT review are anticipated. A letter of support from MassDOT is included in the supporting materials.
- Barnstable Municipal Airport/Federal Aviation Agency (FAA) – Given the airport’s proximity to the project, airport officials have been involved with the project development since the preliminary planning phases. A letter of support from the Barnstable Municipal Airport is included within the supporting materials. FAA review, primarily related to flight path height restrictions, is included in the project timeline. No issues with FAA review are anticipated given that the project will likely improve conditions relative to existing height nonconformities with the removal of structures near one of the runway approaches.

#### *Federal Transportation Requirements Affecting State and Local Planning*

The following federal transportation processes are included within the project timeline.

- Transportation Improvement Program (TIP) – As detailed in the Cape Cod Metropolitan Planning Organization (MPO) support letter included within the supporting materials, the MPO is in full support of the project and is prepared to promptly amend the TIP as required upon request subject to the required 30-day public notice period.
- Regional Transportation Plan (RTP) – The project is included in the 2016 Cape Cod Regional Transportation Plan, a requirement for projects over \$10 million.

#### Assessment of Potential Risks and Mitigation Strategies

One unique challenge of roadway construction is that there is a summer construction moratorium for construction activities expending from Memorial Day to Labor Day. This moratorium has been accounted for within the project construction schedule. In addition, waivers are routinely given for construction activities that do not impact roadway operations. It is anticipated that the multi-use path and southbound travel lanes can be constructed without impacting travel within the existing roadway. While this would allow for an expedited construction, to be conservative, the waiver was not assumed as the construction schedule was developed.

Other factors that have delayed past construction projects in the region are permitting and mitigation related to wetlands, rare species habitat, historic resources, and coastal resiliency. Based on consultations with subject-matter experts, there are no identified wetlands, rare species habitat, or historic resources that would be impacted by the project. The project is not located within the FEMA flood zone.

## VII. Benefit Cost Analysis

The Benefit Cost Analysis (BCA) takes a conservative approach to estimating the benefits of the project. Where the known benefits were not readily quantifiable, a qualitative description is offered. The BCA was conducted consistent with the *2017 Benefit-Cost Analysis Guidance for TIGER and INFRA Applications*. The analysis utilized a model framework developed by the California Department of Transportation modified to reflect local conditions. A detailed presentation of the benefit cost analysis, along with the analysis spreadsheet, is included in the supporting materials.

The BCA expresses benefits and costs monetarily in “constant dollars” and “present value” (PV) to capture the flows of benefits and costs over the project horizon. Project costs and benefits are forecast over 20 years, discounted at 7% in line with federal practice. The BCA calculates a Benefit Cost Ratio (BCR) for the project. The BCR is expressed as the ratio of benefits of a project relative to its costs, both expressed in present-value terms. A BCR above 1.0 suggests that benefits exceed costs, in which case, the project creates a positive return on investment.

Table 8. Summary of Benefit Cost Analysis Conclusions

| Total Project Benefit & Costs |               |                                   |
|-------------------------------|---------------|-----------------------------------|
|                               | Constant \$   | Present Value<br>7% Discount Rate |
| Benefits                      | \$179,919,994 | \$82,335,682                      |
| Costs                         | \$37,298,000  | \$33,515,272                      |
| Benefit / Cost Ratio          |               | 2.5                               |

### *Project Costs*

The estimated total project cost is \$37,300,000 (present value rounded \$33,500,000); 11% of this cost is for design and permitting, 48% is for construction, and 29% is for right-of-way acquisition as presented in the Grant Funds, Sources, and Uses of All Project Funding section of this application. On-going maintenance costs constitute 12% of the total cost in current dollars.

### *Project Benefits*

The proposed project will have quantifiable benefits in four areas: travel time savings, vehicle operating savings, accident reductions, and vehicle emission reductions. The largest savings are found in travel time and accidents which can be attributed to the significant reduction in curbs-cuts and other improvements that enhance vehicle speed and safety.

Table 9. Summary of Project Benefits

| Project Benefit              | Constant \$          | Present Value<br>7% Discount Rate |
|------------------------------|----------------------|-----------------------------------|
| Travel Time Savings          | \$77,796,189         | \$35,553,824                      |
| Vehicle Operating Savings    | \$6,665,278          | \$3,053,858                       |
| Accident Reductions          | \$94,589,911         | \$43,338,654                      |
| Vehicle Emissions Reductions | \$868,616            | \$389,349                         |
| <b>TOTAL</b>                 | <b>\$179,919,994</b> | <b>\$82,335,682</b>               |

There are a number of additional project benefits that cannot be quantified but contribute to the importance of this project to the entire region. First among these is improved access to the hospital and its emergency room in situations where delays may be life threatening. Residents of the region need reliable, safe access to emergency services. As discussed throughout this proposal, the importance of this project to the revitalization of Hyannis cannot be overstated. This area has been sorely neglected despite its vital importance to the region in terms of health services, business activity and employment, and housing that is still relatively affordable.



Figure 22. Recently Expanded Cape Cod Hospital Emergency Center

The future of the Cape's economy depends on the ability of Hyannis, and two or three other smaller centers, to absorb population growth and provide desirable and affordable living options and quality of life to current and future residents. These few areas have the infrastructure and potential for density necessary for sustainable growth.

## VIII. Cost Share

As discussed in the section IV of this application, the total project is estimated at \$32,797,328. The Town of Barnstable is seeking \$25,000,000 from the 2017 TIGER VII, which will be matched by contributions of \$7,797,328 million from local Town funds (non-federal).

The Town of Barnstable has an \$177 million annual operating budget and is financially stable with an AAA bond rating. In addition, the town annually receives approximately \$2 million in State Chapter 90 funding for roadway improvements. The Town of Yarmouth has an \$67 million annual operating budget and an AA+ bond rating. In addition, the Town annually receives approximately \$850,000 in State Chapter 90 funding for roadway improvements.

The Towns have also been successful in seeking grants to support transportation improvements. Over the past 10 years the Towns of Barnstable and Yarmouth have benefited in projects totaling \$16.9 million and \$8.9 million, respectively, through the Cape Cod Transportation Improvement Program. The Towns have long advocated for including the Hyannis Access Phase II in the Cape Cod Transportation Improvement Program; however, it greatly exceeded the approximately \$10 million annual allocation the region receives.

The Town of Barnstable is currently seeking a \$2 million MassWorks grant to construct sidewalks and signalize two intersections to serve new high density residential development and a variety of new commercial developments in the vicinity of the TIGER project.





# The Town of Barnstable

## Office of Town Manager

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## Federal Wage Rate Certification

I, Mark S. Ells, Town Manager for the Town of Barnstable, Massachusetts hereby certify that the Town of Barnstable will comply with the requirements of subchapter IV of chapter 31 of title 40, United States Code (Federal wage rate requirements), as required by the FY 2017 Appropriations Act for the proposed *Hyannis Access Phase II* project seeking federal funding under the TIGER Discretionary Grants program.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: Mark S. Ells

Title: Town Manager

## **X. Supporting Documentation**

The following supporting materials can be found at:  
<http://www.capecodcommission.org/tiger2017>

- List of Referenced Reports
- Detailed Cost Estimate
- Letter of Commitment
  - Town Manager, Town of Barnstable
  - Executive Director, Cape Cod Commission
- Detailed Schedule
- Benefit/Cost Analysis
  - Documentation
  - Analysis spreadsheets
- Letters of Support
  - US Senator Warren
  - US Senator Markey
  - US Representative Keating
  - State Senator Cyr
  - State Representative Crocker
  - State Representative Peake
  - State Representative Whalen
  - Massachusetts Department of Transportation
  - Cape Cod Metropolitan Planning Organization
  - Cape Cod Joint Transportation Committee
  - Town of Yarmouth
  - Cape Cod Regional Transit Authority
  - Barnstable Municipal Airport
  - Cape Air
  - Cape Cod Chamber of Commerce
  - Cape & Islands Workforce Development Board
  - Cape Cod Healthcare
- Federal Wage Rate Certification

**CAPE COD COMMISSION**

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## List of Referenced Reports

### 2013 Hyannis Access Study Implementation Report

|  |   |
|--|---|
| <p><i>Prepared by the Cape Cod Commission (June 2013)</i></p> <p>This is the most recent study to examine access issues in Hyannis. The preferred alternative for the Yarmouth Road corridor was carried over from the 2012 study.</p> <p>Project Website:<br/><a href="http://www.capecodcommission.org/hyannisaccess">http://www.capecodcommission.org/hyannisaccess</a></p> | <p>Report available at:<br/><a href="http://www.capecodcommission.org/resources/transportation/hyannisaccess/HASI_2013_final_report06282013.pdf">http://www.capecodcommission.org/resources/transportation/hyannisaccess/HASI_2013_final_report06282013.pdf</a></p> |
|--|---|

### 2012 Yarmouth Road Corridor Study

|  |   |
|--|---|
| <p><i>Prepared by the Cape Cod Commission (December 2012)</i></p> <p>This study developed a preferred alternative for the Yarmouth Road corridor as identified by the Task Force. With updates to match the newest design standards, the preferred alternative from this study is presented for TIGER funding consideration.</p> | <p>Report available at:<br/><a href="http://www.capecodcommission.org/resources/transportation/Yarmouth_Road_2012_report_12272012.pdf">http://www.capecodcommission.org/resources/transportation/Yarmouth_Road_2012_report_12272012.pdf</a></p> |
|--|---|

### 2008 Hyannis Access Study

|   |   |
|---|---|
| <p><i>Prepared by TranSystems, Inc. for the Massachusetts Executive Office of Transportation (August 2008)</i></p> <p>This was the first study to comprehensive look at access issues in Hyannis. The Yarmouth Road corridor was looked in brief, but a more detailed analysis was identified as a next step (see 2012 Yarmouth Road Corridor Study).</p> | <p>Report available at:<br/><a href="http://www.capecodcommission.org/resources/transportation/Hyannis_Access_Study_2008_final_report.pdf">http://www.capecodcommission.org/resources/transportation/Hyannis_Access_Study_2008_final_report.pdf</a></p> |
|---|---|

### Cape Cod 2016 Regional Transportation Plan

|  |  |
|--|--|
| <p><i>Endorsed by the Cape Cod Metropolitan Planning Organization on July 20, 2015</i></p> <p>Note the Hyannis Access Phase II project is included in this TIGER application is identified as a regional priority project within the 2021-25 time band. The estimated cost presented in this document did not include right-of-way, design, or permitting costs.</p> | <p>Available at:<br/><a href="http://www.capecodcommission.org/resources/transportation/rtp/2016/FinalReport/Cape%20Cod%202016%20Regional%20Transportation%20Plan%20-%20without%20Appendices%20(Endorsed%207-20-15).pdf">http://www.capecodcommission.org/resources/transportation/rtp/2016/FinalReport/Cape%20Cod%202016%20Regional%20Transportation%20Plan%20-%20without%20Appendices%20(Endorsed%207-20-15).pdf</a></p> |
|--|--|

### Federal Fiscal Year 2018-2022 Cape Cod Transportation Improvement Program

|  |  |
|--|--|
| <p><i>Endorsed by the Cape Cod Metropolitan Planning Organization on May 22, 2017</i></p> <p>Note the Route 28 at Yarmouth Road intersection project programmed in FFY 2019 (pages 24-26) and the Yarmouth-Barnstable Cape Cod Rail Trail Extension programmed in FFY 2022 (page 33-35).</p> | <p>Available at:<br/><a href="http://www.capecodcommission.org/resources/transportation/tip/Cape_Cod_2018-2022_Transportation_Improvement_Program_(Endorsed_05222017).pdf">http://www.capecodcommission.org/resources/transportation/tip/Cape_Cod_2018-2022_Transportation_Improvement_Program_(Endorsed_05222017).pdf</a></p> |
|--|--|

Project: Hyannis Access Phase II (Yarmouth Road/Willow Street)

Location: Barnstable/Yarmouth

Date: October 2017

Prepared by: Cape Cod Commission Staff



CAPE COD  
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| <u>Item Description</u>              | <u>Unit Cost</u>   | <u>Units</u>   | <u>Total Cost</u>   |
|--------------------------------------|--------------------|--|---------------------|
| Full Depth Pavement                  | \$82.00 /SY        | 55,000 SY  | \$4,510,000         |
| Cement Concrete Sidewalk             | \$65.00 /SY        | 7,000 SY   | \$455,000           |
| Full Depth Pavement: Shared-Use Path | \$47.50 /SY        | 14,000 SY  | \$665,000           |
| HMA Driveway                         | \$45.00 /SY        | 800 SY   | \$36,000            |
| Loam and Seed                        | \$6.50 /SY         | 22,000 SY  | \$143,000           |
| Vertical Granite Curb                | \$35.00 /FT        | 36,000 FT  | \$1,260,000         |
| Roadway Striping                     | \$2.00 /FT         | 51,000 FT  | \$102,000           |
| Stormwater                           | \$500,000.00 /LS   | 1 LS   | \$500,000           |
| Drainage Modifications               | \$1,925,000.00 /LS | 1 LS   | \$1,925,000         |
| Lighting and Landscaping             | \$850,000.00 /LS   | 1 LS   | \$850,000           |
|                                      |                    |  |                     |
|                                      |                    | <b>SUB TOTAL:</b>  | <b>\$10,446,000</b> |
|                                      |                    |  |                     |
|                                      |                    | Escalation to Mid-point of Construction (20%)                            | \$2,089,200         |
|                                      |                    | Construction Staking (3%)  | \$313,380           |
|                                      |                    | Police Detail (5%)   | \$522,300           |
|                                      |                    | Utility Relocation (12%)   | \$1,253,520         |
|                                      |                    | Mobilization (3%)  | \$313,380           |
|                                      |                    | Construction Traffic Management (5%)                                     | \$522,300           |
|                                      |                    | Contingencies (25%)  | \$2,611,500         |
|                                      |                    |  |                     |
|                                      |                    | <b>SUB TOTAL:</b>  | <b>\$18,071,580</b> |
|                                      |                    |  |                     |
|                                      |                    | Engineering Design (10%)   | \$1,807,158         |
|                                      |                    | Construction Engineering Services (12%)                                  | \$2,168,590         |
|                                      |                    | Right of Way acquisitions, Business Relocations, and Building Demolition | \$10,750,000        |
|                                      |                    |  |                     |
| <b>TOTAL:</b>                        |                    |  | <b>\$32,797,328</b> |

# Project: Hyannis Access Phase II (Yarmouth Road/Willow Street)

Location: Barnstable/Yarmouth

Date: October 2017

Prepared by: Cape Cod Commission Staff



CAPE COD  
COMMISSION

## Data Source

Prices were determined from the MassDOT Weighted Average Bid Prices website (September 2017)

## Design Specifications

### **Pavement**

Assumes full depth pavement within project limits.

### **Sidewalk**

Assumes 6' wide; cement concrete.

### **Curbing**

Assumes new vertical granite curb.

### **Lighting and Landscaping**

Assumes 4" loam and seed plus assumed fixed cost per linear foot

### **Drainage Modifications**

Assumes fixed cost per linear foot of project.

## Project Limits

| <b>Section</b>       | <b>Road</b>                     | <b>Limits</b>                     | <b>Length</b>    |
|----------------------|---------------------------------|-----------------------------------|------------------|
| 1                    | Willow Street - Shared Use Path | Higgins Crowell Rd to Rte 6 Ramps | 2,000 FT         |
| 2                    | 2 Yarmouth Road/Willow Street   | Route 28 to Higgins Crowell Road  | 8,500 FT         |
| <b>Project Total</b> |                                 |                                   | <b>10,500 FT</b> |

## Cross-section

### **Section**

- 12 FT Shared Use Path; 6 FT buffer from existing roadway
- 12 FT Shared Use Path; 10 FT Buffer; 5 FT Shoulder; 2-11 FT Travel lanes; 2 FT Shoulder; 18 FT Median; 2 FT Shoulder; 2-11 FT Travel lanes; 5 FT Shoulder; 6 FT Sidewalk



# The Town of Barnstable

## Office of Town Manager

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**Mark S. Ells, Town Manager**  
[mark.ells@town.barnstable.ma.us](mailto:mark.ells@town.barnstable.ma.us)

**M. Andrew Clyburn, Assistant Town Manager**  
[andy.clyburn@town.barnstable.ma.us](mailto:andy.clyburn@town.barnstable.ma.us)

October 13, 2017

The Honorable Elaine L. Chao  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Re: 2017 TIGER Application – Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod

Dear Secretary Chao,

Please accept this letter as evidence of the Town of Barnstable's unequivocal commitment to complete the *Hyannis Access Phase II* project as submitted to the 2017 TIGER Discretionary Grant opportunity.

The Town understands the TIGER discretionary Grants program may be used for up to 80 percent of the costs of the project, not to exceed \$25 million, and requires a local match of at least 20 percent utilizing non-federal funds. As such, the Town understands that as a condition of the acceptance of the award of the grant, the Town will be required to provide the necessary matching funding.

Sincerely,

  
Mark S. Ells  
Town Manager

3225 MAIN STREET • P.O. BOX 226  
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD  
COMMISSION

(508) 362-3828 • Fax (508) 362-3136 • [www.capecodcommission.org](http://www.capecodcommission.org)

**Paul Niedzwiecki, Executive Director**  
[pniedzwiecki@capecodcommission.org](mailto:pniedzwiecki@capecodcommission.org)

October 16, 2017

The Honorable Elaine L. Chao  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Re: 2017 TIGER Application – Hyannis Access Phase II: Building a Complete Streets  
Connection to the Heart of Cape Cod

Dear Secretary Chao,

I am writing to you today to confirm the Cape Cod Commission's dedication to the *Hyannis Access Phase II* project as submitted to the 2017 TIGER Discretionary Grant committee.

The Commission knows that this will be a long term undertaking and is looking forward to working with the town on seeing it through. This multi-phase project is important to the town and to the entire County. The Commission will contribute staffing and research assistance to the town in order to achieve the goals set out in the application.

Thank you for your consideration.

Sincerely,

Paul Niedzwiecki  
Executive Director







# Benefit-Cost Analysis Documentation

| Hyannis Access II: Project Matrix  |   |  |   |  |  |                       |
|--|---|--|---|--|--|-----------------------|
| Current Status & Problem to be Addressed   | Change to Baseline/ Alternatives  | Type of Impacts  | Population Affected by Impacts  | Economic Benefits  | Summary of Results   | Page reference in BCA |
| Heavily traveled roadway between the region's limited access highway and its largest commercial center and hospital; excess traffic delays and many safety hazards | Expand from two to four lanes, reduce curb-cuts, add sidewalks and a multi-use path | Reduced travel time for all users, most importantly ambulances, fewer accidents, small reductions in vehicle operating costs and emissions | Proximate residents, including environmental justice communities, and proximate businesses; residents, seasonal residents & visitors across the region in need of hospital services, other medical or social services and consumer goods; travelers using the airport, ferries, train and/or buses; | Reduced employee commuting costs, reduced business freight costs, improved customer access; redevelopment of regional commercial center of Hyannis creating new employment and housing opportunities; improved emergency patient outcomes and public safety. | The life-cycle benefits outweigh the costs by 2.5 to one. The return on this public investment is almost 20% and the cost will be exceeded by the benefits within four years. Benefits accrue in travel time and accident cost savings followed by smaller gains in operating costs and emissions costs. |                       |

## MODEL DESCRIPTION

The benefit/cost model used for this proposal was developed by the California Office of Transportation, Economics Division of Transportation Planning. The version used, number 5.0, was published in February 2012. The model calculates the life-cycle costs and benefits, in current and net present value, the cost benefit ratio, the internal rate of return and the payback period for a variety of highway and transit projects. The benefits included in the model are improvements in travel time, vehicle operating costs, safety in terms of accident costs, and emissions reductions in terms of health costs.

For the purposes of the proposed project, the Cape Cod Commission selected "general highway" as the most appropriate project type and the urban/suburban location type (northern California), and the conventional highway as the roadway type. These selections best approximated local conditions and the proposed project. A number of tables have been hidden

in the model submitted as they pertain to transit or other types of projects different from that being proposed in this application.

The model includes nine active worksheets plus a cover page and instructions worksheet. This documentation walks through all of the information in-put into the model and explains how it is used by the model to calculate project benefits and costs. The worksheets are listed with a brief description in the following table:

| <b>Worksheets</b>       | <b>Contents</b>   |
|-------------------------|---|
| Instructions            | General model description and assumptions                                   |
| 1) Project Information  | Project input data  |
| 2) Model Inputs         | Model Calculations and User Changes to Calculations                         |
| 3) Results              | Summary results of analysis   |
| Travel Time             | Calculation of travel time and induced demand impacts                       |
| Vehicle Operating Costs | Calculation of highway vehicle operating cost impacts                       |
| Accident Costs          | Calculation of accident cost impacts  |
| Emissions               | Calculation of emission impacts   |
| Final Calculations      | Calculation of net present value, internal rate of return, & payback period |
| Parameters              | Economic assumptions, lookup tables, and other model parameters             |

## MODEL IN-PUTS

The model requires the user to input information about the proposed project including data on existing conditions, use, and safety. The user also provides the information on project cost during the construction phase and for twenty years after construction is completed. This data, specific to the proposed project, is all in-put into the Project Information worksheet.

The user may adjust the baseline calculations of the model in the Model Inputs worksheet. The only user adjustment made for this project were on truck speed under the build scenario, bringing up to the same level as auto speed, and the impact of the upgrades on highway safety. Using the Highway Capacity Software 2010 model, a 68% reduction in collisions was projected; this figure is found in cell H99 on the Model Inputs worksheet.

The user may also update the PARAMETERS worksheet. The data on this worksheet is used to estimate impacts and place dollar values on the benefits calculated by the project. For this proposal, the parameters were updated with the figures provided in the “Benefit-Cost Analysis Guidance for TIGER and INFRA Applications” published by US Department of Transportation in July 2017. The single exception is wage rates, which were updated with US Bureau of Labor Statistics data specifically for Barnstable County. The following tables were not adjusted from the original California model:

1. Demand for Travel in Peak Period Table
2. Fuel Consumption Rates Table
3. Accident Tables
4. Highway Emissions Factor Tables, and



## 5. Pavement Adjustments Tables

The next section provides the data used to model the benefits of this specific project.

### PROJECT INFORMATION

The following table provides all the project data in-put into the model on the Project Information worksheet. The table shows the data for both the no-build and build scenarios and provides the data source.

| <b>Project Site Information Used in CBA</b>     | <b>No Build</b> | <b>Build</b>                  | <b>Source</b>  |
|---|-----------------|-------------------------------|--|
| Length of Construction Period (years)           | 0               | 3                             | Field Survey   |
| Number of Traffic Lanes                         | 2               | 4                             | Field Survey   |
| Length of Project Segment (miles)               | 1.5             | 1.5                           | Field Survey   |
| Length of Impacted Segments (miles)             | 2.8             | 2.8                           | Field Survey   |
| Current Pavement Condition (IRI - inches/mile)  | 250             | 250                           | Field Survey   |
| Forecast Pavement Condition (IRI - inches/mile) | 350             | 150                           | Field Survey   |
| Free Flow Speed                                 | 30.8            | 39.0                          | Highway Capacity Software 2010                                   |
| Peak Traffic Period (hours)                     | 10              | 10                            | Field Survey   |
| <b>Average Daily Traffic (ADT)</b>              |                 |                               |  |
| Current   | 17,400          | 17,400                        | Field Survey   |
| Forecast (20 years)                             | 19,200          | 19,200                        | Historic Growth Trends   |
| Truck Traffic (% of ADT)                        | 6%              | 6%                            | Field Survey   |
| Truck Speed                                     | 30.8            | 39.0                          | Highway Capacity Software 2010                                   |
| Vehicle Occupancy                               | 1.39            | 1.39                          | Field Survey   |
| <b>3-Year Accident Data</b>                     |                 |                               |  |
| Total Accidents                                 | 105             | 68%<br>reduction<br>estimated | MassDOT;<br>Crash Modification<br>Factors Clearinghouse,<br>FHWA |
| Fatal Accidents                                 | 0               |                               |  |
| Injury Accidents                                | 25              |                               |  |
| Property Damage Only Accidents                  | 80              |                               |  |
| <b>Statewide Average Accident Rates</b>         |                 |                               |  |
| Accident Rate (per million vehicle-miles)       | 3.33            | 3.33                          | MassDOT  |
| Percent Fatal                                   | .27%            | .27%                          | MassDOT  |
| Percent Injury                                  | 25%             | 25%                           | MassDOT  |

Project costs are also in-put into the first worksheet, Project Information, on the table to right of the project information tables. The project costs were developed over time with the Town and the Commission and was informed by the bid price guidance document provided by MassDOT.

| <b>Project Cost Information Used in CBA</b> | <b>Current \$ (1,000)</b> | <b>Source</b>  |
|---|---------------------------|--|
| Project Support Costs                       | 3,976                     | Cape Cod Commission, Town of Barnstable, and MassDOT Weighted Average Bid Prices |
| Right-of-Way Costs                          | 10,750                    |  |
| Construction Costs                          | 18,072                    |  |

|                                |               |  |
|--------------------------------|---------------|--|
| Maintenance & Operations Costs | 4,500         |  |
| <b>Total</b>                   | <b>37,298</b> |  |

## MODEL PARAMETERS

The following tables provide all the data used by the model to calculate the four types of project benefits and calculate present value for both costs and benefits.

| Parameter                                   | Value | Source      |
|---|-------|-------------|
| Year of Current Dollars for Model           | 2016  | TIGER       |
| Economic Update Factor (Using GDP Deflator) | 1.00  | TIGER - BEA |
| Real Discount Rate                          | 7.0%  | TIGER       |

| Parameter                                       | Value           | Units     | Data Source |
|---|-----------------|-----------|-------------|
| Peak Travel Demand-% of ADT during peak hours   | 71.1            | %         | Model       |
| Barnstable County Average Hourly Wage           | \$21.75         | /hour     | BLS         |
| Truck Drivers Average Hourly Wage               | \$21.75         | /hour     | BLS         |
| Truck Drivers Benefits and Costs                | \$11.23         | /hour     | BLS         |
| Fuel Consumption Rates                          | Varies by Speed | Gal/VMT   | Model       |
| <b>Fuel Costs</b>                               |                 |           |             |
| Automobile (regular unleaded)                   | \$2.71          | /gal      | AAA         |
| Truck (diesel)                                  | \$2.73          | /gal      | AAA         |
| <b>Non-Fuel Cost Per Mile</b>                   |                 |           |             |
| Automobile                                      | \$0.400         | /mile     | TIGER       |
| Truck   | \$0.960         | /mile     | TIGER       |
| <b>Accident Costs</b>                           |                 |           |             |
| Cost of a Fatality                              | \$9,600,000     | /event    | TIGER       |
| Cost of Level A Injury (Severe)                 | \$2,553,600     | /event    | TIGER       |
| Cost of Level B Injury (Moderate)               | \$451,200       | /event    | TIGER       |
| Cost of Level C Injury (Minor)                  | \$28,800        | /event    | TIGER       |
| Cost of Property Damage                         | \$4,300         | /event    | TIGER       |
| Pollutant Emissions Rates Tables by Vehicle     | Varies by speed | g/mi      | Model       |
| <b>Health Costs of Transportation Emissions</b> |                 |           |             |
| CO  | \$80            | /ton      | 1           |
| CO2e  | \$25            | /ton      | 2           |
| NOX   | \$7,377         | /ton      | TIGER       |
| PM10  | \$337,459       | /ton      | TIGER       |
| SOX   | \$43,600        | /ton      | TIGER       |
| VOC   | \$1,872         | /ton      | TIGER       |
| <b>Highway Operations Parameters</b>            |                 |           |             |
| Maximum V/C Ratio                               | 1.56            |           | 3           |
| Capacity (vehicles)                             | 800             | /hr./lane | 4           |

|                            |                     |   |       |
|----------------------------|---------------------|---|-------|
| Pavement Adjustment Tables | Varies by IRI score | % | Model |
|----------------------------|---------------------|---|-------|

Sources: 1) McCubbin and Delucchi, 1996; 2) Interagency Working Group on Social Cost of Carbon, United States Government, 2010; 3) Highway Capacity Manual; 4) National Cooperative Highway Research Program (NCHRP) Report 387;

## MODEL OUT-PUTS

### BENEFIT CALCULATION WORKSHEETS

The model includes separate sheets to calculate the potential project benefits in four key areas:

1. Travel Time,
2. Vehicle Operating Costs,
3. Accident Costs, and
4. Emissions.

The tables use peak and non-peak volumes for autos and freight to calculate the projects benefits over a twenty-year period. The formula's used in the tables are displayed at the top of the worksheet. Many of them include IF-THEN statements and VLOOKUP commands. The following tables provide simplified version of these formulas to make it easier to interpreting the model. All of the information in **RED** is pulled from the **PARAMETERS** worksheet.

| <i>Travel Time</i>          |  |
|-----------------------------|--|
| Column                      | Formulas   |
| Average Volume              | Avg. Daily Traffic x Number of Days in Model Year  |
| Annual Person Trips         | Average Volume x Avg. Vehicle Occupancy  |
| Average Travel Time         | Impact Road Length / Speed   |
| Travel Time Benefit         | Build (Annual Person Trips x Average Travel Time) – No Build (Annual Person Trips x Average Travel Time) |
| Induced Travel Time Benefit | Change in Trips x Change in Travel Time * 0.5  |
| Travel Time Savings         | Travel Time Benefit x <b>Value of Time</b>   |

| <i>Vehicle Operating Costs</i> |  |
|--------------------------------|--|
| Column                         | Formulas   |
| Average Volume                 | Avg. Daily Traffic x Number of Days in Model Year (365 days)   |
| Total VMT                      | Impacted Road Length x Average Volume  |
| Benefits – Fuel Costs          | Build (VMT x <b>Fuel Consumption Rate at Avg. Speed x Pavement Quality Adjustment x Fuel Cost</b> ) – No Build (VMT x <b>Fuel Consumption Rate at Avg. Speed x Pavement Quality Adjustment x Fuel Cost</b> ) |
| Benefits – Non-Fuel Costs      | Build (VMT x <b>Pavement Quality Adjustment x Non-Fuel Costs</b> ) - No Build (VMT x <b>Pavement Quality Adjustment x Non-Fuel Costs</b> )   |
| Vehicle Op. Cost Savings       | Fuel Cost Benefits + Non-Fuel Cost Benefits  |

| <i>Accident Costs</i> |          |
|-----------------------|----------|
| Column                | Formulas |

|                       |   |
|-----------------------|---|
| Average Volume        | Avg. Daily Traffic x Number of Days in Model Year |
| Total VMT             | Impacted Road Length x Average Volume             |
| Accident Costs        | (VMT x Rate x Cost/Mile) by Accident Type         |
| Accident Cost Savings | Build Accident Costs – No Build Accident Costs    |

| <i>Emissions</i>              |  |
|-------------------------------|--|
| Column                        | Formulas   |
| Average Volume                | Avg. Daily Traffic x Number of Days in Model Year  |
| Total VMT                     | Impacted Road Length x Average Volume  |
| Benefits – Running Emissions  | Highway Emissions Factors by vehicle type and average speed x Health Cost of Transportation Emissions by location type |
| Benefits – Starting Emissions | Highway Emissions Factor for speed 0 by vehicle type x Health Cost of Transportation Emissions by location type        |
| Emissions Cost Savings        | Build Emissions Costs – No Build Emissions Costs   |

Each benefit calculation worksheet includes a summary table of the benefits. The summary tables are to the right of the other tables and provide the present value and constant value of the benefits expected from the project. There are rows and columns hidden within these worksheets that pertain to different types of projects than the one proposed.

## FINAL CALCULATIONS & RESULTS TABLES

### Results Worksheet

The Results worksheet provides a summary of the model out-puts in the form of the two tables shown below. This project has a positive cost benefit ratio of 2.6 and an excellent return on investment of 20%. The project is projected to have only a four-year payback period. The strongest benefits are in travel time savings and accident cost savings.

|                                      |         |
|--------------------------------------|---------|
| <b>Life-Cycle Costs (mil. \$)</b>    | \$33.5  |
| <b>Life-Cycle Benefits (mil. \$)</b> | \$82.3  |
| <b>Net Present Value (mil. \$)</b>   | \$48.8  |
| <b>Benefit / Cost Ratio:</b>         | 2.5     |
| <b>Rate of Return on Investment:</b> | 19.7%   |
| <b>Payback Period:</b>               | 4 years |

| <b>ITEMIZED BENEFITS (mil. \$)</b>              | Average Annual | Total Over 20 Years |
|---|----------------|---------------------|
| <b>Travel Time Savings</b>                      | \$1.8          | \$35.6              |
| <b>Veh. Op. Cost Savings</b>                    | \$0.2          | \$3.1               |
| <b>Accident Cost Savings</b>                    | \$2.2          | \$43.3              |
| <b>Emission Cost Savings</b>                    | \$0.0          | \$0.4               |
| <b>TOTAL BENEFITS</b>                           | \$4.1          | \$82.4              |
| <b>Person-Hours of Time Saved</b>               | 174,570        | 3,491,398           |
| <b>CO<sub>2</sub> Emissions Saved (tons)</b>    | 1,212          | 24,238              |
| <b>CO<sub>2</sub> Emissions Saved (mil. \$)</b> | \$0.0          | \$0.3               |

### Final Calculations Worksheet

For greater detail on how the costs and benefits break out over time, the Final Calculations Worksheet provides the conclusions of each benefits worksheet in both current and present value as well as the cost information. The present value table has been duplicated below.

| Year                       | PRESENT VALUE OF USER BENEFITS |                          |                     |                             | Present Value of Total User Benefits | Present Value of Total Project Costs | NET PRESENT VALUE   |
|----------------------------|--------------------------------|--------------------------|---------------------|-----------------------------|--------------------------------------|--------------------------------------|---------------------|
|                            | Travel Time Savings            | Vehicle Op. Cost Savings | Accident Reductions | Vehicle Emission Reductions |                                      |                                      |                     |
| <b>Construction Period</b> |                                |                          |                     |                             |                                      |                                      |                     |
| 1                          |                                |                          |                     |                             | \$0                                  | \$18,581,000                         | (\$18,581,000)      |
| 2                          |                                |                          |                     |                             | \$0                                  | \$6,643,458                          | (\$6,643,458)       |
| 3                          |                                |                          |                     |                             | \$0                                  | \$6,208,839                          | (\$6,208,839)       |
| <b>Project Open</b>        |                                |                          |                     |                             |                                      |                                      |                     |
| 1                          | \$3,007,442                    | \$260,565                | \$3,697,791         | \$30,882                    | \$6,996,680                          | \$183,667                            | \$6,813,013         |
| 2                          | \$2,827,005                    | \$244,648                | \$3,471,904         | \$29,428                    | \$6,572,985                          | \$171,651                            | \$6,401,333         |
| 3                          | \$2,657,336                    | \$229,698                | \$3,259,746         | \$28,044                    | \$6,174,824                          | \$160,422                            | \$6,014,402         |
| 4                          | \$2,497,795                    | \$215,657                | \$3,060,488         | \$26,726                    | \$5,800,667                          | \$149,927                            | \$5,650,740         |
| 5                          | \$2,347,783                    | \$202,471                | \$2,873,349         | \$25,472                    | \$5,449,075                          | \$140,119                            | \$5,308,957         |
| 6                          | \$2,206,734                    | \$190,086                | \$2,697,598         | \$24,278                    | \$5,118,695                          | \$130,952                            | \$4,987,743         |
| 7                          | \$2,074,114                    | \$178,456                | \$2,532,545         | \$23,141                    | \$4,808,255                          | \$122,385                            | \$4,685,870         |
| 8                          | \$1,949,424                    | \$167,533                | \$2,377,542         | \$20,139                    | \$4,514,638                          | \$114,379                            | \$4,400,259         |
| 9                          | \$1,832,192                    | \$157,277                | \$2,231,981         | \$19,227                    | \$4,240,676                          | \$106,896                            | \$4,133,780         |
| 10                         | \$1,721,974                    | \$147,645                | \$2,095,289         | \$18,357                    | \$3,983,266                          | \$99,903                             | \$3,883,363         |
| 11                         | \$1,618,354                    | \$138,600                | \$1,966,931         | \$17,528                    | \$3,741,412                          | \$93,367                             | \$3,648,045         |
| 12                         | \$1,520,939                    | \$130,106                | \$1,846,399         | \$16,736                    | \$3,514,180                          | \$87,259                             | \$3,426,921         |
| 13                         | \$1,429,359                    | \$122,131                | \$1,733,219         | \$15,980                    | \$3,300,689                          | \$81,550                             | \$3,219,139         |
| 14                         | \$1,343,266                    | \$114,643                | \$1,626,946         | \$15,259                    | \$3,100,114                          | \$76,215                             | \$3,023,898         |
| 15                         | \$1,262,334                    | \$107,611                | \$1,527,160         | \$14,571                    | \$2,911,676                          | \$71,229                             | \$2,840,447         |
| 16                         | \$1,186,255                    | \$101,009                | \$1,433,467         | \$13,914                    | \$2,734,645                          | \$66,569                             | \$2,668,076         |
| 17                         | \$1,114,740                    | \$94,810                 | \$1,345,496         | \$13,287                    | \$2,568,334                          | \$62,214                             | \$2,506,119         |
| 18                         | \$1,047,516                    | \$88,990                 | \$1,262,901         | \$12,689                    | \$2,412,096                          | \$58,144                             | \$2,353,952         |
| 19                         | \$984,328                      | \$83,526                 | \$1,185,354         | \$12,118                    | \$2,265,325                          | \$54,340                             | \$2,210,985         |
| 20                         | \$924,933                      | \$78,396                 | \$1,112,549         | \$11,572                    | \$2,127,450                          | \$50,785                             | \$2,076,665         |
| <b>Total</b>               | <b>\$35,553,824</b>            | <b>\$3,053,858</b>       | <b>\$43,338,654</b> | <b>\$389,346</b>            | <b>\$82,335,682</b>                  | <b>\$33,515,272</b>                  | <b>\$48,820,410</b> |

|           |                             |
|-----------|-----------------------------|
| 3,491,398 | Person-Hours of Time Saved  |
| 24,238    | CO2 Emissions Saved (tons)  |
| \$315,860 | CO2 Emissions Saved (\$ PV) |

- End -



# Congress of the United States

Washington, DC 20510

October 11, 2017

The Honorable Elaine L. Chao, Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Dear Secretary Chao:

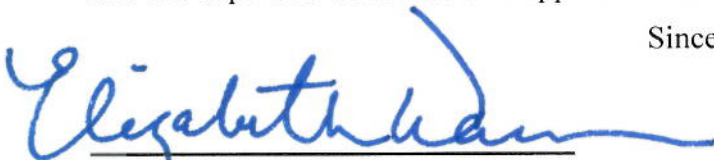
We write to you today to express our strong support for the Town of Barnstable and Cape Cod Commission's application for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod project will serve the region in multiple ways: Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also to the largest hospital in the county.

Although Yarmouth Road in Barnstable is the main route to the largest hospital in the region, it is often impassable to ambulances coming from Lower and Outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity and allowing emergency vehicles to save crucial minutes on their way to the hospital.

Investing in this corridor will also support economic development in the greater Cape Cod and Islands region. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone, an area in which the Cape Cod Commission has taken steps to incentivize development to spur economic growth. Yarmouth Road connects to the local airport and transit authority, which are critical to connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census tract in the county. TIGER funding will allow the addition of a multi-use path connecting the village to the regional path network. This funding will also enable the Town of Barnstable to make numerous improvements, including public water supply protection.

This project will serve the entire Cape Cod region, including both urban and rural communities which use the Yarmouth Road corridor to access the region's largest hospital, national and regional retail stores, and transportation hub. By reconstructing the entire road, the town will be promoting health, safety, and economic development. We appreciate your consideration of the Town of Barnstable and the Cape Cod Commission's application to support this regionally transformative project.


Sincerely,



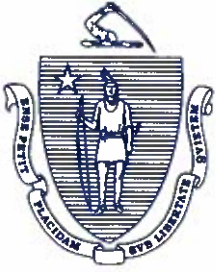
Elizabeth Warren  
United States Senator



William R. Keating  
Member of Congress



Edward J. Markey  
United States Senator



The Commonwealth of Massachusetts  
MASSACHUSETTS SENATE

**SENATOR JULIAN CYR**  
*Cape and Islands District*

STATE HOUSE, ROOM 218  
BOSTON, MA 02133-1054  
TEL: (617) 722-1570  
FAX: (617) 722-1271

[JULIAN.CYR@MASENATE.GOV](mailto:JULIAN.CYR@MASENATE.GOV)  
[WWW.MASENATE.GOV](http://WWW.MASENATE.GOV)

*Chair*  
COMMUNITY DEVELOPMENT  
AND SMALL BUSINESSES

*Vice Chair*  
JOINT COMMITTEE ON ELDER AFFAIRS  
JOINT COMMITTEE ON ARTS, TOURISM  
AND CULTURE

JOINT COMMITTEE ON HOUSING  
JOINT COMMITTEE ON PUBLIC HEALTH  
JOINT COMMITTEE ON MUNICIPALITIES  
AND REGIONAL GOVERNMENT  
JOINT COMMITTEE ON CHILDREN, FAMILIES  
AND PERSONS WITH DISABILITIES

October 11, 2017

Secretary Elaine L. Chao  
US Department of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590  
United States

Dear Secretary Chao,

I write to you today to express my strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county. Yarmouth Road in Barnstable is the main route to the largest hospital in the region, and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

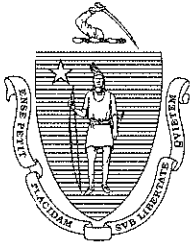
Investing in this corridor is the key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority, improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census tract in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.

Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Respectfully,

A handwritten signature in blue ink that reads "Julian Cyp". The signature is written in a cursive style with a large initial 'J' and a stylized 'C'.



*The Commonwealth of Massachusetts*

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON 02133-1054

**WILL CROCKER**  
STATE REPRESENTATIVE  
2ND BARNSTABLE DISTRICT

Committees:  
Mental Health, Substance Use  
and Recovery  
Tourism, Arts and  
Cultural Development  
Children, Families, and  
Persons With Disabilities  
STATE HOUSE, ROOM 39  
TEL. (617) 722-2014  
William.Crocker@MAhouse.gov

Dear Secretary Chao,

We write to you today to express our strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

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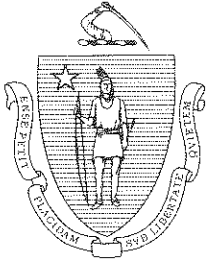
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Sincerely,

A handwritten signature in black ink, appearing to read 'Will Crocker', written in a cursive style.

Representative Will Crocker  
2<sup>nd</sup> Barnstable District





*The Commonwealth of Massachusetts*

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON 02133-1054

FLOOR DIVISION LEADER

**SARAH K. PEAKE**

**STATE REPRESENTATIVE**  
4TH BARNSTABLE DISTRICT

ROOM 163, STATE HOUSE  
TEL: (617) 722-2040  
Sarah.Peake@MAhouse.gov

October 6, 2017

Secretary Elaine L. Chao  
U.S. Department of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590

Dear Secretary Chao,

I write to you today to express my strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

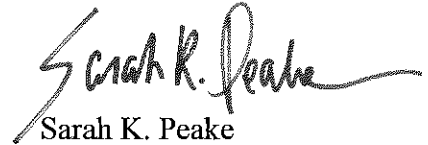
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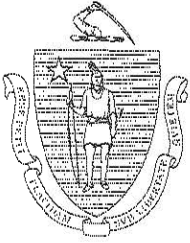
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This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. I look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Sincerely,

A handwritten signature in black ink that reads "Sarah K. Peake". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Sarah K. Peake



*The Commonwealth of Massachusetts*

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON 02133-1054

TIMOTHY R. WHELAN  
STATE REPRESENTATIVE  
1ST BARNSTABLE DISTRICT

STATE HOUSE, ROOM 39  
TEL. (617) 722-2014  
FAX. (617) 722-2215  
Timothy.Whelan@MAhouse.gov

October 11, 2017

Representative Timothy R Whelan  
1st Barnstable District  
24 Beacon Street  
Boston, MA. 02133

The Honorable Elaine L. Chao  
Secretary of Transportation  
Office of the Secretary of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590

Dear Madam Secretary,

I write to you today to express my strong support for the Town of Barnstable and Cape Cod Commission's partnership in applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to Cape Cod Hospital and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity and allowing emergency vehicles to save crucial, potentially lifesaving minutes on their way to the hospital.

Investing in this corridor is key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the gateway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority. Improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the

poorest census tract in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.

Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project of critical importance to our region.

Respectfully yours,

A handwritten signature in black ink, appearing to read "Timothy R. Whelan". The signature is fluid and cursive, with the first name being the most prominent.

Timothy R. Whelan,  
State Representative  
First Barnstable District  
Massachusetts House of Representatives



Charlie Baker, Governor  
Karyn Polito, Lt. Governor  
Stephanie Pollack, MassDOT Secretary & CEO

**massDOT**  
Massachusetts Department of Transportation

October 13, 2017

The Honorable Elaine L. Chao  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Dear Secretary Chao:

On behalf of the Massachusetts Department of Transportation (MassDOT), I am requesting your support and full funding consideration for the \$25 million FY 2018 TIGER Application for Hyannis Access Phase II project submitted jointly by the Town of Barnstable and the Cape Cod Commission.

The project is included in the 2016 Cape Cod Regional Transportation Plan and represents a strategic investment in the region's transportation network. The corridor to be improved is the main route to the largest hospital in the region and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

The project would also involve connections to the regional airport, the Cape Cod Regional Transit Authority Transportation Center, and ferry service to Nantucket and Martha's Vineyard islands.

I look forward to your favorable review and consideration of this funding request in support of the Hyannis Access Phase II project. Should you have any questions during your review, please do not hesitate to contact me directly.

Sincerely,

Stephanie Pollack  
Secretary and CEO



3225 MAIN STREET • P.O. BOX 226  
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD  
COMMISSION

(508) 362-3828 • Fax (508) 362-3136 • [www.capecodcommission.org](http://www.capecodcommission.org)

October 16, 2017

The Honorable Elaine L. Chao  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Re: 2017 TIGER Application – Hyannis Access Phase II: Building a Complete  
Streets Connection to the Heart of Cape Cod

Dear Secretary Chao,

I am writing on behalf of the Cape Cod, Massachusetts Metropolitan Planning Organization (the “Cape Cod MPO”) which represents the 15 towns of Barnstable County.

The Cape Cod MPO views the Hyannis Access Phase II project a priority project for the region, voting on July 20, 2015 to include the project in the Cape Cod Regional 2016 Transportation Plan and voting on October 16, 2017 to send a letter of support for this TIGER grant application.

The Hyannis Access Phase II project will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region’s economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to the largest hospital in the region, and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

Investing in this corridor is the key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha’s Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority, improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census track in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.



Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub.

Further, the Cape Cod MPO is committed to amending the FFY2018-2022 Transportation Improvement Program to include this project should federal transportation funding be obtained through the TIGER program.

Sincerely,



David Mohler  
Chair, Cape Cod Metropolitan Planning Organization  
Executive Director, Office of Transportation Planning  
Massachusetts Department of Transportation

Cc:

Jonathan Gulliver, MassDOT Highway Administrator

Harold Mitchell, Cape Cod Commission Chair

Tom Guerino, Cape Cod Regional Transit Authority Chairman

Leo Cakounes, Barnstable County Commissioners' MPO Representative

Cedric Cromwell, Mashpee Wampanoag Tribal Council Chairman

Eric Steinhilber, Barnstable Town Council President

R. Patrick Ellis, Mashpee Selectman (Representing Sub-region A: Bourne, Falmouth, Mashpee, and Sandwich)

Sheryl A. McMahon, Dennis Selectman (Representing Sub-region B: Dennis and Yarmouth)

Sims McGrath, Orleans Selectman, (Representing Sub-region C: Brewster, Chatham, Harwich, and Orleans)

Robert Weinstein, Truro Selectman, (Representing Sub-region D: Eastham, Provincetown, Truro, and Wellfleet)





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CAPE COD  
COMMISSION

The Honorable Elaine L. Chao  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Re: 2017 TIGER Application – Hyannis Access Phase II: Building a Complete Streets  
Connection to the Heart of Cape Cod

Dear Secretary Chao,

I write to you on behalf of the Cape Cod Joint Transportation Committee (CCJTC), the advisory group to the Cape Cod Metropolitan Planning Organization. Our group includes representatives from all fifteen towns on Cape Cod.

Our group voted at their October 13, 2016 meeting to submit this letter expressing strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

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Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Sincerely,



Catherine Laurent,

Chairman, Cape Cod Joint Transportation Committee

Mashpee DPW Director

Cape Cod Joint Transportation Committee Members:

|                        |  |
|------------------------|--|
| BARNSTABLE             | Paul Graves, Town Engineer                           |
| BOURNE                 | George Sala, Town DPW Acting Superintendent          |
| BREWSTER               | Patrick Ellis, Town DPW Superintendent               |
| CHATHAM                | Thomas Temple, Town DPW Director                     |
| DENNIS                 | David Johanson, Town DPW Director                    |
| EASTHAM                | Cornelius Andres, Town DPW Superintendent            |
| FALMOUTH               | Raymond A, Jack, Town DPW Director                   |
| HARWICH                | Lincoln Hooper, Town Highway Director                |
| MASHPEE                | Catherine Laurent, Town DPW Director (Vice Chairman) |
| ORLEANS                | Tom Daley, Town DPW & Natural Resources Director     |
| PROVINCETOWN           | Rich Waldo, Town DPW Director                        |
| SANDWICH               | Paul S. Tilton, PE, Town DPW Director                |
| TRURO                  | Jarrold Cabral Town DPW Director                     |
| WELLFLEET              | Mark Vincent, Town DPW Director                      |
| YARMOUTH               | Jeff Colby, Town DPW Director                        |
| BICYCLE REPRESENTATIVE | Edward S, Gross, MD                                  |



# TOWN OF YARMOUTH

1146 ROUTE 28, SOUTH YARMOUTH, MASSACHUSETTS 02664-4492  
Telephone (508) 398-2231 Ext. 1271, Fax (508) 398-2365

BOARD OF  
SELECTMEN

TOWN  
ADMINISTRATOR  
Daniel M. Knapik

Cape Cod Commission  
3225 Main Street  
P.O. Box 226  
Barnstable, MA 02630

October 10, 2017

Dear Secretary Chao,

We write to you today to express our strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to the largest hospital in the region, and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

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This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Sincerely,

Daniel M. Knapik  
Town Administrator





ADVISORY BOARD OFFICERS  
 Thomas M. Guerino, CHAIRMAN  
 Robert C. Lawton, Jr., VICE CHAIRMAN  
 George H. Dunham, CLERK  
 Thomas S. Cahir, ADMINISTRATOR

**CAPE COD REGIONAL TRANSIT AUTHORITY**

BARNSTABLE BOURNE BREWSTER CHATHAM DENNIS EASTHAM FALMOUTH HARWICH MASHPEE ORLEANS PROVINCETOWN SANDWICH TRURO WELLFLEET YARMOUTH

October 13, 2017

The Honorable Elaine L. Chao  
 Secretary  
 U.S. Department of Transportation  
 1200 New Jersey Ave. SE  
 Washington, DC 20590

Re: 2017 TIGER Application – Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod

Dear Secretary Chao,

We write to you today to express our strong support for the Town of Barnstable and Cape Cod Commission’s partnership towards applying for the U.S. Department of Transportation’s TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region’s economic and transportation hubs, but also the largest hospital in the county.

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Sincerely,

Thomas S. Cahir  
 Administrator



215 IYANNOUGH ROAD P.O. BOX 1988 HYANNIS, MA 02601  
 (508) 775-8504 (508) 775-8513 FAX  
 www.capecodrta.org info@capecodrta.org







**BARNSTABLE MUNICIPAL AIRPORT  
BOARDMAN-POLANDO FIELD**

480 BARNSTABLE ROAD, 2ND FLOOR

HYANNIS, MA 02601

[www.town.barnstable.ma.us](http://www.town.barnstable.ma.us)



Office: 508-775-2020  
Fax: 508-775-0453

R.W. "Bud" Breault, Jr., Airport Manager  
Katie R. Servis, Assistant Airport Manager

Barnstable Municipal  
Airport Commission:

John T. Griffin, Jr.,  
Chairman

Mary F. Smith,  
Vice Chairman

Stephen P. Cobb,  
Clerk

James T. DellaMorte,  
Commissioner

Elizabeth D. Young,  
Commissioner

Zachary T. Lesinski,  
Commissioner

Vacant,  
Commissioner

October 6, 2017

The Honorable Elaine L. Chao  
Secretary, U. S. Department of Transportation  
1200 New Jersey Avenue, SE  
Washington, DC 20590

Dear Secretary Chao:

I am writing to you on behalf of the Barnstable Municipal Airport Commission to express our strong support for the Town of Barnstable and the Cape Cod Commission's partnership and co-application for the U. S. Department of Transportation's TIGER Grant program to improve access to the Village of Hyannis, Massachusetts.

The proposed Hyannis Access Phase II Project, to use Yarmouth Road as a connection to the "Heart" of Cape Cod will be a major improvement over the current clogged artery that inhibits quick access to the regional center of commerce on Cape Cod. The Barnstable Airport is the only commercial non-hub airport in the region and is a major part of the transportation hub located in Hyannis, contributing over \$200 million dollars in economic impact annually to the region. This new access will only serve to improve our ability to provide higher quality service to the region and to the National Airspace System.

We strongly support this application for the TIGER Grant and urge your careful review, support and approval as a major improvement and benefit to the entire region of Cape Cod and the Islands of Nantucket and Martha's Vineyard.

Thank you for your consideration.

Sincerely,

R. W. Breault, Jr.  
Airport Manager

Cc: Cape Cod Commission  
Town of Barnstable



HYANNIS, MA 02601  
660 BARNSTABLE ROAD

October 9, 2017

*RE: TIGER Grant program*

Dear Secretary Chao,

We write to you today to express our strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to the largest hospital in the region, and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

Investing in this corridor is the key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority, improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census track in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.

Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Respectfully Submitted,

Daniel A. Wolf  
Founder and CEO, Cape Air



October 10, 2017

Secretary Elaine Chao  
U.S. Department of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590  
United States

Re: TIGER Grant Application – Town of Barnstable, MA and Cape Cod Commission

Dear Secretary Chao,

On behalf of our 1,276 member businesses and organizations, we write to express our strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program.

The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to the largest hospital in the region, and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

Investing in this corridor is the key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority, improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census tract in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.

Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Sincerely,

A handwritten signature in black ink that reads "Wendy Northcross". The signature is written in a cursive, flowing style.

Wendy K. Northcross, CCE  
Chief Executive Officer



The Link for Local Employment

Dear Secretary Chao,

I write to you today to express the strong support of the Cape & Islands Workforce Development Board for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to the largest hospital in the region, and it is often impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital.

Investing in this corridor is the key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority, improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census tract in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.

Yarmouth Road is a single corridor that needs a lot of work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's largest hospital, national, and regional retail stores, and transportation hub. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Sincerely,

David Augustinho

Executive Director

Cape & Islands Workforce

Development Board



# CAPE COD HEALTHCARE

October 11, 2017

The Honorable Elaine L. Chao  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Ave. SE  
Washington, DC 20590

Re: 2017 TIGER Application – Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod

Dear Secretary Chao,

We write to you today to express our strong support for the Town of Barnstable and Cape Cod Commission's partnership towards applying for the U.S. Department of Transportation's TIGER Grant program. The Hyannis Access Phase II: Building a Complete Streets Connection to the Heart of Cape Cod will serve the region in multiple ways. Yarmouth Road is the main corridor not only to the region's economic and transportation hubs, but also the largest hospital in the county.

Yarmouth Road in Barnstable is the main route to Cape Cod Healthcare and Cape Cod Hospital, the region's sole community provider hospital. Under certain conditions, this road has been impassable to ambulances coming from the lower and outer Cape towns. TIGER funding will enable the town to widen the road from two to four lanes, thereby improving capacity, allowing emergency vehicles to save crucial minutes on their way to the hospital. It will also provide improved access for patients driving themselves to the hospital.

Investing in this corridor is the key, not only to the health and safety of residents and visitors, but also to the economy of Cape Cod and the Islands. Yarmouth Road is the main route for freight on its way from the mainland to Martha's Vineyard and Nantucket. It is also the entryway to the Downtown Hyannis Growth Incentive Zone. Yarmouth Road also connects to the local airport and transit authority, and improving this corridor will improve connections beyond Cape Cod. Currently, congestion and safety issues stifle economic development and job access in the poorest census tract in the county. TIGER funding will allow the addition of a multiuse path connecting the village to the regional path network.

Yarmouth Road is a single corridor that needs significant work. TIGER funding will enable the Town of Barnstable to make numerous improvements, including public water supply protection. By reconstructing the entire road, the Town will be promoting health, safety, and economic development.

This project will serve the entire Cape Cod region, including both urban and rural communities that use Yarmouth Road corridor to access the region's medical area, which includes Cape Cod Hospital, Cape Cod Healthcare and many physician office locations. We look forward to working with the Town of Barnstable and the Cape Cod Commission on this regionally transformative project.

Sincerely,



Michael K. Lauf  
President and CEO