



CAPE COD
COMMISSION

2024 REGIONAL TRANSPORTATION PLAN

Technical Appendix K: Access to Essential Services and Regional Cooperation

**FINAL JULY
2023**



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Technical Appendix K: Access to Essential Services and Regional Cooperation

ACCESS TO ESSENTIAL SERVICES

This section identifies Cape Cod's essential services and facilities, including housing, employment, healthcare, education, and transportation and assesses how well Cape Cod's transportation system serves them in terms of access and connectivity to the regional transportation network. As discussed throughout the 2024 RTP the following strategies represent key objectives for the Cape's regional transportation network:

- Reduce congestion for all modes,
- Improve travel time reliability for all modes,
- Improve safety for all modes,
- Increase connections opportunities between different modes,
- Close gaps in the bicycle and pedestrian network, and
- Improve transit options.

Cape Cod's transportation network includes regional and local roadways, plus bicycle and pedestrian facilities, ferries, and airports. The transportation system, particularly roadway conditions, fluctuates significantly between the summer season and off-season. The additional seasonal population and influx of summer tourists increase traffic volumes and create summertime congestion and safety hazards, as discussed in the Congestion Management and Safety appendices. Access to essential services is impacted by the summertime congestion. The Cape is heavily auto-dependent, with most residents and visitors reliant on their cars to travel around the region. Area roadways are less congested in the off-season, but safety issues for motorists, bicyclists, and pedestrians are still present in some areas.

Access to and from Cape Cod

All motor vehicles travelling to Cape Cod must cross the Cape Cod Canal in Bourne, using the Bourne Bridge or the Sagamore Bridge, which are functionally obsolete and proposed for replacement. During the summer and during periods of bridge maintenance or in emergency situations, multi-mile backups are common. This limits travel for those living near the bridges, commuters, and vacationers. While this chapter on interregional access to essential services focuses on travel and accessing facilities within the region, access into and out of the region is

impacted by bridge access. Provincetown, located at the tip of Cape Cod, serves as a multi-modal hub for residents and visitors during the summer season, with daily ferry service to and from Boston. Thousands of travelers leave their cars behind and opt for the ferry from Boston to Macmillan Wharf, where they can connect with bus service or bicycle to their destination.

Impacts of Climate Change on Access

Climate change impacts could affect access to regional facilities and services. Flooding is currently a regular event along numerous low-lying roads during extreme high tides and storm events. As seas rise and storms intensify, the impact to our coastlines and flooding occurrences will increase in frequency and depth. Low lying roads are vulnerable to flooding from the combined effects of hazards such as sea level rise, storm surge, and erosion.

Cape Cod Commission staff are working with all 15 Cape towns to examine vulnerabilities in the roadway network and identify adaptation alternatives. With funding support from the U.S. Economic Development Administration and the Massachusetts Municipal Vulnerability Preparedness program, the Commission contracted with the Woods Hole Group to conduct a vulnerability assessment of roadway segments, bridges, and culverts due to flooding from the combined effects of sea level rise and storm surge. The project employs state of the art modeling and community engagement to identify and prioritize low lying roads to target for coastal resiliency action. Access to critical facilities, services, and socially vulnerable populations are among considerations for prioritization. More information about the project is available at <https://www.capecodcommission.org/our-work/low-lying-roads-project/>

Community Activity Centers

The 2019 Cape Cod Regional Policy Plan provides a growth policy and land use vision for the region that directs growth to be focused in centers of activity and areas supported by adequate infrastructure and guided away from areas that must be protected for ecological, historical or other reasons. Community Activity Centers are areas with a concentration of business activity, community activity, and a compact built environment. Buildings are generally smaller in scale and connected by a network of streets, ways or alleys. Community Activity Centers are more walkable and densely developed than other Placetypes and often contain concentrations of historic buildings that contribute to the Cape's unique character. Mixed commercial and residential uses make it possible to live and work within the same walking distance. Smaller parks provide greenspace and recreation within Community Activity Centers, with ample access to transit, bike connections and sidewalks. The vision for these areas is to accommodate mixed-use and multifamily residential development in a walkable, vibrant area, preserve historic buildings, and to provide diverse services, shopping, recreation, civic spaces, housing, and job opportunities at a scale of growth and development desired by the community, with adequate infrastructure and pedestrian amenities to support development.

CACs support the region’s essential facilities and services, including commercial uses and housing. Roadway infrastructure investment, including bicycle and pedestrian accommodations, in these areas will help foster smart growth and ensure accessibility to important services and facilities. As the Cape Cod Commission develops its Regional Housing Strategy, CAC’s are areas for future housing and infrastructure investments. Coordination of the region’s transportation planning with its land use visioning planning will help ensure multi-modal accessibility to these areas.

Town Centers

While the mapped CACs represent activity nodes of regional scale, Cape Cod’s town centers and downtowns represent smaller scale local areas of community activity and mixed uses. Connectivity and access to facilities and services in town centers from regional and local roadways, for motor vehicles and transit and bicycle and pedestrian is an important objective in the region’s transportation planning.

Essential Facilities

HOUSING

Cape Cod faces a limited housing supply and a limited range of housing type options, as well as high levels of demand for seasonal and retiree housing. Owner-occupied units, seasonal rental units, and single-unit detached homes are prevalent in Barnstable County, rendering year-round rental options scarce and expensive. Within the region, the Lower Cape and Outer Cape sub-regions have the highest concentration of seasonal homes, though the Upper and Mid Cape sub-regions also have significant shares of seasonal homes. Seasonality is one factor accounting for the difference between the number of households and number of housing units in the region as housing units account for any residential unit, whether occupied or not, whereas households only account for those housing units that are primary places of residence.

HOUSING AFFORDABILITY

Barnstable County’s housing market has been shaped by both long-standing factors, including Cape Cod’s appeal to generations of retirees and visitors, historical development patterns, natural resource constraints, and acute events including the housing market crash of 2009 and the COVID-19 pandemic. Taken together, these factors have created a highly constrained housing market that does not meet the diverse needs of Barnstable County’s residents. One of the core challenges to the adequate provision of affordable housing is the gap between the region’s comparatively low average wages and comparatively high housing costs: the median household income falls short of the amount needed to affordably purchase a median-priced home in all fifteen Barnstable County towns. Housing profiles for the region and each of the 15 towns is available at www.capecodcommission.org/housing.

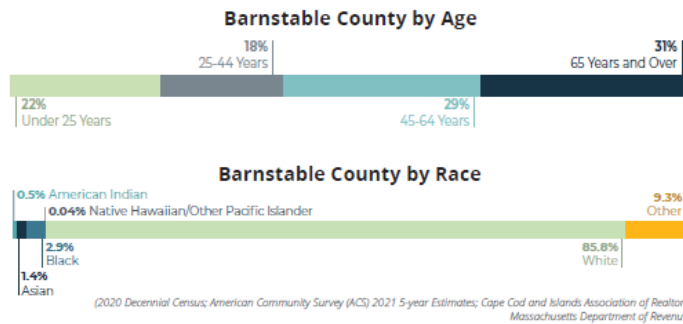


Housing Profile: Barnstable County

Key Demographic and Economic Information

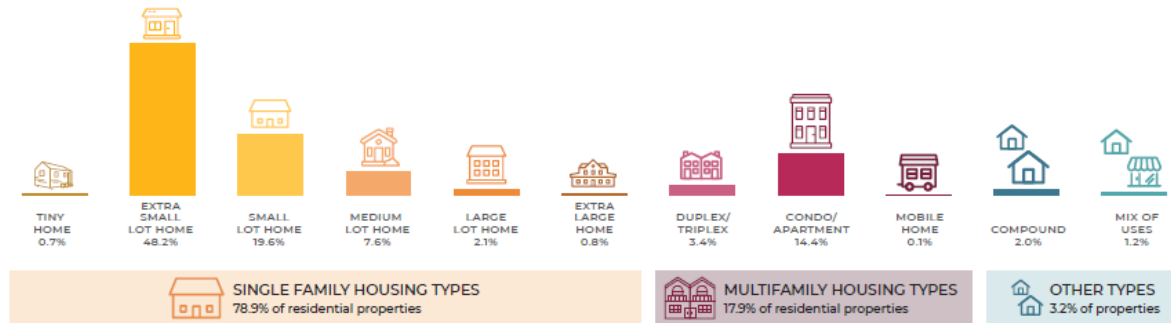
POPULATION	HOUSEHOLDS	HOUSEHOLD SIZE	HOUSING UNITS	MEDIAN HOME SALES PRICE (2022)	MEDIAN HOUSEHOLD INCOME (2021)
228,996	98,163	2.3	164,885	\$638,500	\$82,619

Barnstable County has a year-round population of nearly 229,000 according to the most recent Decennial Census. The median household income is about \$82,600, lower than the Massachusetts median household income of approximately \$89,000. The County is also older than the state and a significant portion of the housing stock, 36%, is used for seasonal use or as second homes. The 15 towns that comprise Barnstable County are all unique but face many similar challenges when it comes to housing affordability and availability.



Current Housing Stock

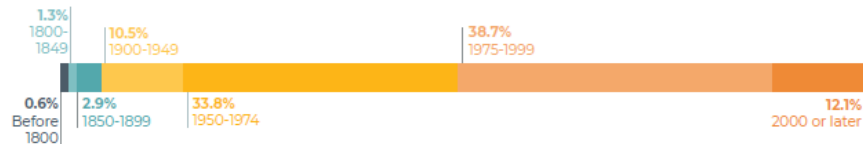
The Cape Cod Commission conducted a housing typology study using local assessors' data and state class property codes. The graph below shows the distribution of various types of residences using this data, which differs slightly from American Community Survey counts. County-wide, nearly 80% of residential properties are single family homes; almost 18% are multifamily properties. The remaining 3.2% are other types of properties. Other properties may be a single home or may be multifamily homes such as compounds, which may include multiple houses on one parcel occupied by different households or a single family home with a guest house. Mix of uses are properties that have at least one residence on them but also have some sort of other use such as agricultural or commercial. For more information on the housing typology and categories visit: [cccom.link/ht](https://www.cccom.link/ht)



Housing Stock by Year Built

Almost 90% of the region's housing stock is more than 20 years old. The vast majority of housing units in the region were built between 1950 and 1999.

(Assessors' data and CCC housing typology analysis)



Owners and Renters

There are about 98,000 year-round occupied housing units in the region; of these, 81% are owner-occupied and 19% are renter-occupied.

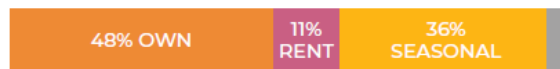
(ACS 2021 5-year Estimates)



Seasonality

Approximately 36% of all housing units in the region are used for seasonal, recreational, or occasional use.

(ACS 2021 5-year Estimates)



4% VACANT, OTHER
Totals may not equal 100% due to rounding

FIGURE 1. Snapshot of Regional Housing Profile

HOUSING AND TRANSPORTATION ACCESS

Most of the region’s existing housing is dispersed across the 15 Cape Cod towns in residential zoning districts, outside of Community Activity Centers and village centers. Existing development patterns and zoning have contributed to residential sprawl, including single family home development served by local subdivision roads. Most households depend on automobiles for commuting and access to services.

For households that lack access to automobiles, transit service (CCRTA), bicycle and pedestrian facilities are critical needs for access to jobs, schools, and services.

Employment Centers

Two key components of employment on Cape Cod are the region’s large employers and the seasonal economy and several large employers. The table below identifies the top 10 employers on Cape Cod. The two facilities that employ between 1,000 and 4,999 people according to the Massachusetts database are Cape Cod Health Cape and Woods Hole Oceanographic Institution. Facilities that employ between 500 and 999 people according to the Massachusetts database are Air National Guard, Cape Cod Community College, Nantucket Airlines, Ocean Edge Resort, Steamship Authority, and the Woods Hole Steamship Authority. All other employers on Cape Cod are not recognized to have over 500 employees. Retail Centers also have a high number of employees. Many locations increase employment or are only open in the summer months. Accesses to facilities that employ over 1000 people and large retail centers are discussed below.

TABLE 1. Largest Employers on Cape Cod

EMPLOYER	RANGE OF EMPLOYEES
Cape Cod Healthcare Inc.	1,000-4,999
Woods Hole Oceanographic Institute	1,000-4,999
Cape Cod Community College	500-999
CBI Operations, Chatham	500-999
Commscope Inc Teaticket Path, Falmouth	500-999
Falmouth Hospital	500-999
Nantucket Airlines,	500-999
Ocean Edge Resort & Golf Club	500-599
Woods Hole Steamship Authority	500-599

Source: Massachusetts Department of Economic Research

LARGE EMPLOYERS

Cape Cod Health Care operates several locations including the Cape Cod Hospital and other facilities that include outpatient centers and rehab centers across the Cape. Access to the hospital is detailed in the Healthcare Facilities sections below.

Woods Hole Oceanographic Institution (WHOI) is located in Woods Hole in Falmouth. Access to Woods Hole by personal vehicle can be difficult due to the geographic location. Woods Hole is the southwestern most part of the region and only road accessing this area is Woods Hole Road which deviates south from Route 28. Both Route 28 and Woods Hole Road experience year-round congestion and several traffic volume measurements indicate a LOS F. Woods Hole is accessible by fixed route transit on the Sealine and seasonally on the WHOOSH Trolley. The majority roads surrounding the WHOI have sidewalks and the Shining Sea Bike Path is located under one quarter of a mile from the facility. There is ferry service to Martha's Vineyard from the Woods Hole Steamship Authority Terminal.

Employers with over 500 employees are listed below:

- Community College is located on Route 132 in Barnstable and on Main Street in Hyannis. Access issues associated with this facility are detailed in the Educational Facilities section of this appendix.
- CBI (Chatham Bars Inn) is located on Shore Road in Chatham. The property is accessible by fixed route CCRTA service. Shore Road lack sidewalks and bicycle accommodations, so walking or bicycling from neighboring Harwich/Orleans area is challenging, but the Old Colony Rail Trail spur provides a connection from to the west. Most of the adjacent streets are low speed and low volume and connect to the downtown/Main Street.
- Commstock is located in East Falmouth about a mile off of Route 28. The Sealine fixed route service runs along Route 28. Route 28 lacks bicycle accommodations and is hazardous in this area, though a sidewalk is available.
- Falmouth Hospital, located on Route 28 in Falmouth. Access detail are provided in Healthcare Facilities section below.
- Nantucket Airlines is located in Hyannis at the Hyannis Airport. Access issues associated with this facility are detailed in the Transportation Services section of this appendix.
- Ocean Edge Resort is located in Brewster on Route 6A. There are not significant access issues to this location.
- Steamship Authority is located in Hyannis and the Woods Hole Steamship Authority Terminal is located in Woods Hole. Access associated with both the Steamship Terminal locations are identified in the Transportation Services section of this appendix.

RETAIL CENTERS

The Hyannis area, particularly Route 132 is the location for the region's high density retail/commercial uses, including the Cape Cod Mall and several shopping plazas. Most commercial development on Route 132 (and Route 28) is auto-oriented, with large on site parking areas between the highway and the buildings. Despite its location along two major road corridors, vehicular access to the Hyannis commercial center is limited by year-round congestion. Numerous traffic volume measurements in Hyannis show a roadway LOS of F. Transit service to many retail locations is available on the Barnstable Villager. Intercity busses and numerous other CCRTA fixed routes access the Hyannis Transportation Center. The Hyannis commercial area is not accessible by bicycle. Several adjacent roads have sidewalks, but pedestrian travel can be hazardous, particularly road crossings. Downtown Hyannis, in the Main Street area, is a mixed use node that is walkable, with smaller scale buildings. It is adjacent to the Cape Cod Regional Transit Center and the ferry docks. Accessibility by vehicle is also limited by year young congestion on Rites 132 and 28.

Mashpee Commons and the adjacent commercial shopping plazas also represent a regional high-density retail center location. Mashpee Commons is located by the Mashpee Rotary on both sides of Route 151. Access to this location by personal vehicle is affected by congestion on Route 28 and Route 151. Numerous traffic volume measurements near the Mashpee Rotary show a roadway LOS of F. A fixed bus stop on the Bourne Run and the Sealine is located at Mashpee Commons. Several roads around Mashpee Commons lack sidewalks and bicycle accommodations, and access is oriented for motorists.

Healthcare Facilites

Health care facilities, both large and small practices, are located throughout Cape Cod. The Hyannis area, with Cape Cod Hospital serving as the region's largest and most central facility, represents the regional hub for medical services. Descriptions of location and accessibility to the two largest hospitals and access to Boston medical facilities is detailed below.

HOSPITALS

Cape Cod Hospital is located in Hyannis south of Route 28 on Lewis Bay Road. Access by vehicle to this location is difficult due to year-round congestion from all directions. Long-distance travel from points east (i.e Lower and Outer Cape) has significant access issues because most traffic accesses the hospital from Route 6 at Exit 7 to the north, then travels down Yarmouth Road/Willow Street and Camp Street. The intersection of Yarmouth Road and Route 28 is one of the most congested and poorly functioning intersections on Cape Cod, but is currently being reconstructed.

A fixed route transit stop is located at Cape Cod Health Care on the H2O Route. The Hyannis Transportation Center, where numerous local and regional busses stop, is located a few blocks from the hospital. Access to the hospital from the Outer Cape communities is difficult for people who lack personal vehicles. The hospital is an hour away from Provincetown during the off-season.

At peak season, with Route 6 and other major roads congested, even travel by ambulance is delayed. Regular/hourly transit service from the Outer Cape is not available. Social service agencies, including local Councils on Aging, provide van service to the hospital but it is insufficient for demand. Social service agencies report that clients hesitate and have avoided emergency room care due to lack of transportation home from the hospital. The region's labor shortage has impacted transportation options and accessibility to critical medical services, with transit and other private transport services lacking workers. Social service agencies have requested more frequent transit service between the Outer Cape and Cape Cod Hospital (and other medical services) in Hyannis.

Most roads surrounding the Cape Cod Hospital have sidewalks, but bicycle accommodations are lacking. The Steamship Authority and HyLine ferry's terminals are located a few blocks away connecting patients from Nantucket and Martha's Vineyard to the hospital area.

Falmouth Hospital is located on Ter Heun Drive west of Route 28 in Falmouth. Traffic congestion impacts access to this location by personal vehicle. Traffic volume measurements on most roads near the Falmouth Hospital including Route 28 and Jones Road show roadway LOS of F. The intersection of Route 28 and Jones Road/Ter Heun Drive does provide signal prioritization for emergency vehicles. The closest fixed route transit stop is at the Falmouth Bus Depot on the Sealine, over a half a mile away. Demand response services are available to bring patients to the hospital on a limited basis. The RTA's DART service is available only in Barnstable and Yarmouth.

Ter Huen Drive and Route 28 do have sidewalks on one or both sides and the Shining Sea Bikeway is located under a quarter mile away.

Cape Cod residents also travel to Boston for medical service. Methods of access include personal vehicle, transit. Severe cases are transported by medical flight using a helicopter. Demand response transit services are offered by the CCRTA that travel directly to the Boston hospitals. These services are critical to people who lack access to personal vehicles, but the trips are a full day's worth of travel. For Outer Cape residents, the only stop for departure is in Wellfleet at 7AM. The return bus home leaves Boston at 3PM.

Education

Education facilities on Cape Cod include private and public K-12 school, technical high schools, higher education, and continued education. The table below shows the enrollment at each of Cape Cod's 19 school districts or independent. Access to the largest Cape Cod Community College, Massachusetts Maritime Academy and the high schools or independent schools in districts that enroll over 3,000 students is discussed below.

TABLE 2. Enrollment at Cape Cod Schools (2020-21 School Year)

SCHOOL DISTRICT/ INDEPENDENT SCHOOL	STUDENTS
Barnstable	4,713
Falmouth	3,029
Dennis-Yarmouth	2,739
Sandwich	2,326
Monomoy Regional School District	1,763
Bourne	1,650
Mashpee	1,468
Nauset Regional (Middle and High School)	1,426
Sturgis Charter Public (District)	853
Upper Cape Cod Regional Vocational Technical	722
Cape Cod Regional Vocational Technical	626
Brewster	420
Cape Cod Lighthouse Charter (District)	250
Eastham	194
Orleans	175
Provincetown	133
Wellfleet	103

ACCESS TO K-12 SCHOOLS

School busses exclusively transport students to and from school. Regional Transit Authorities are not legally able to provide trips to and from public schools.

Barnstable School District is the largest district, with 4,900 students. Bus service is available but families must pay for it, which is a hardship for lower income students. The high school is located

on West Main Street in Hyannis. Access by vehicle is limited by congestion during the school year due to the school's proximity to Hyannis. The Sandwich Line and Sealine stop about one quarter mile to the west at the intersection of Route 28 and West Main Street. The Sandwich Line also stops about one quarter mile to the east at the Star Market on West Main Street. There are sidewalks in both directions and there is not bike accommodation along West Main Street. There is a second entrance to the north on Route 28 that provides connection to residential neighborhoods. The entrance on Route 28 also provides access to the Barnstable Senior Center and Barnstable Intermediate School. A multi-use path on the south side of Route 28 is walkable but lacks a safe crossing for those walking to school.

Falmouth School district is the second largest school district with 3541 students enrolled. The high school is located on Gifford Street Extension, north of Brick Kiln Road. There is not a fixed route transit stop near this school. Access by vehicle to this location is not limited by congestion. There are sidewalks along the west side of Gifford Street Extension that terminates at the intersections to the north and south of the school.

Dennis-Yarmouth School District is the third largest school district in the region with 3044 students enrolled. The high school is located on Station Avenue Road. Route 6 is located to the north and Route 28 is located to the south. Access by vehicle can be limited by congestion. Traffic volume measurements near the intersection of Gifford Street at Brick Kiln Road show a roadway LOS of F. The closest transit stop is located on Route 28 over three quarters of a mile away. There is a sidewalk on the west side of Station Avenue.

Sandwich School District is the fourth largest school district with 3,017 enrolled students. The high school is located on Quaker Meeting House Road between Route 6A from to the north and Route 6 to the south. Access by vehicle to this location is not limited by congestion. The closest transit stop is located three quarters of a mile to the south on Quaker Meeting House Road. There is sidewalk on the east side of Quaker Meeting House Road.

Schools in every cape Cod town participate in Massachusetts Safe Route to School Program. Cape Cod Commission Staff has worked with SRTS staff to provide technical assistance for partner schools seeking bicycle/pedestrian improvements for improved access. Commission staff completed a 2017 study with recommendations for improved connectivity between schools and the bicycle and pedestrian facility network.

HIGHER EDUCATION

Cape Cod Community College is located in Barnstable on Route 132 north of Route 6. The programs offered include 32 associates in arts degrees, 32 associates in science degrees and 56 career certificates. The college estimates that approximately 7,300 individuals from all over southern Massachusetts enroll in courses each year. The college is located about one quarter mile north of Route 6 at Exit 6. Access by personal vehicle is limited by congestion and the nearest traffic volume measurement on Route 132 indicated a roadway LOS of F. The entrance and exit points on Route 132 have been identified as dangerous in a Road Safety Audit (RSA). The study recommended considering a modern roundabout or traffic signal, providing a walking path and sidewalks to connect the facility with the Exit 6 Park and Rider Lot, and improving signage and lighting. Currently the Barnstable Villager stops at the college and intercity buses stop at the park and ride lot located less than a mile to the south at the Route 6 Exit 6 park and ride lot. Route 132 has a sidewalk on the west side near the college.

Massachusetts Maritime Academy is located in Buzzards Bay, Bourne. Access to Buzzards Bay by automobile is limited by congestion. Numerous traffic volume measurements indicate a roadway LOS of F. The geographic location of Massachusetts Maritime provides only one access road, Taylor Point. There is a stop on the Bourne Run approximately one quarter mile from the Academy. Regional Buses and the weekend summer train the CapeFLYER stop at the same place the Bourne Run does. There are not sidewalks or bike paths on the roads that access Massachusetts Maritime Academy.

Transportation Services

There are numerous transportation services provided by both private and public agencies on Cape Cod. Transportation services are essential to the region for reasons including the number of seniors needing assistance to medical appointments, congestion in the summer months or at the canal bridges, and access to the islands across the water. Access to services provided by the Cape Cod Regional Transit Authority, intercity and commuter buses, ferries and airports are discussed below.

CAPE COD REGIONAL TRANSIT AUTHORITY

Access to this type of service requires that passengers get to the stop locations without parking. In a survey conducted by the Regional Coordinating Committee, lack of sidewalks and other pedestrian facilities was identified by consumers as the number one barrier to transit services. Pedestrian access to transit stops varies at each location. The number of amenities such as shelters or bike racks also varies. The Cape Cod Commission staff is performing a study in 2015-2016 to identify locations to improve pedestrian access to transit stops and subsequent studies to prioritize locations for improvements.

The CCRTA offers several types of demand response services including Dial-A-Rider Transportation, Paratransit Service and coordinated service with health care facilities and Councils on Aging. Access to the services depends on the type of service, but the bus typically arrives curbside at homes or businesses if a request is made in the day prior.

The CCRTA office and the major transit hub on Cape Cod are located at the Hyannis Transportation Center. Access by vehicle to this location is limited by year-round congestion. Several access points lead to this location. From the north access is off Route 28 west of the Yarmouth Road at Route 28 intersection. Yarmouth Road and Route 28 is one of the worst functioning intersections on Cape Cod. The access point is unsignalized and does not provide an aesthetic entrance to the facility. It is difficult to take a left-hand turn into this entrance because of the high volume of traffic on Route 28. The second access point is on Ridgewood Avenue. Access to Ridgewood Avenue is affected by congestion. The third access point is on Center Street north of the Main Street intersection. This location does not have significant access issues, but it is less direct than the other access points. The CCRTA has conducted a Transit Oriented Development study to identify ways to improve the Hyannis Transportation Center in terms of access and development. The recommendations in this study include building a village center around the transit hub that includes commercial, residential and recreational facilities. Roads accessing the Hyannis Transportation Center have sidewalks.

INTERCITY AND COMMUTER SERVICES

Intercity and commuter buses are essential to the Cape Cod economy because it allows individuals to live in the region and work in a location with more financial opportunity. Each carrier and bus facility are discussed in more detail in the Existing Condition Appendix of this report. Access to bus terminal and park and ride lots are detailed below.

The Falmouth bus terminal is located on Depot Avenue west of North Main Street at the elbow of Route 28 in Falmouth near the Falmouth Hospital. Peter Pan Buses depart from this location. The Falmouth Bus Depot has limited parking and a poorly functioning facility. Access to this location by vehicle can be affected by congestion. There are sidewalks on both sides of Depot Avenue in this location and on both sides of North Main Street. The CCRTA busses that stop at this location include the Sealine and the WHOOSH Trolley in the summer months.

Macmillan Pier is located in Provincetown south of Commercial Street and serves as a multi modal hub for the Outer Cape. This location is congested with bicyclist and pedestrians in the summer months and parking is limited. The Plymouth and Brockton services this location with a connection to the Hyannis Transportation Center. There are sidewalks on the roads that access Macmillan Pier and the CCRTA FLEX route access the bus terminal.

The Park and Ride lots on Cape Cod are located north of the Sagamore Bridge; at Exit 6 on Route 6; and at Exit 10 on Route 6. Parking is free, which also results in use by carpoolers who are not commuting. Parking at the Exit 6 and Sagamore lots is often at capacity. The Exit 6 and Sagamore Lots are serviced by intercity buses traveling to Boston. The Exit 10 lot is a stop on the Plymouth and Brockton Hyannis to Provincetown route. The lots are located near limited access highways, and congestion does not affect vehicle access. The Sagamore Lot has CCRTA service on the Sandwich Line and Bourne Run. Neither Exit 6 or the Exit 10 lot have a fixed route CCRTA transit stop.

The CapeFLYER train is available for people traveling from Boston to Cape Cod in the summer months on weekends. The train includes bicycle storage and dining services. It travels from the city and stops at several locations on the way to Cape Cod. On Cape it stops in Buzzards Bay and in Hyannis at the Hyannis Transportation Center. The stop in Buzzards Bay has access restrictions including congestion and limited parking. The Bourne Run transit route provides service that connects this parking location to the Falmouth Bus Depot.

MBTA commuter rail stations in Kingston and Lakeville also provide service to Boston. These stations are outside of the MPO region. Cape Cod Canal bridge crossing congestion can impact travel to these stations from the Cape.

FERRIES

The Woods Hole Steam Ship Authority Terminal is located in Falmouth on Woods Hole Road near the Woods Hole Oceanographic Institute. Access by vehicle is limited by congestion and parking. There are sidewalks on the roads that access the Woods Hole Steamship Authority Terminal. The CCRTA fixed route Sealine and seasonal fixed route WHOOSH Trolley access this location. The Boston to Woods Hole commuter bus stops at this location. The Shining Sea Bike Path terminated at this location.

The Hyannis Steamship Authority and Highline Ferry terminals are located in Hyannis on the Lewis Bay Waterfront near the Cape Cod Hospital. Access by vehicle is limited parking and congestion. There are sidewalks on the roads that access both ferry terminals. The CCRTA does not have year-round fixed route transit stops at this location but does offer seasonal stops at both ferry terminals on the Hyannis Trolley.

Macmillan Pier is another location that has ferry service provided by Bay State Cruise Company. The Provincetown Ferry travels from Provincetown to Boston. This access to this location was discussed in the Intercity and Commuter Bus section of this appendix.

AIRPORTS

Cape Cod has two airports with several scheduled passenger service and several smaller airports. Access to the commercial airports is detailed below. The functionality of the airports is discussed in the Existing Conditions Appendix.

Barnstable Municipal Airport is the largest airport on Cape Cod. It is located in Hyannis north of the Airport Rotary. There are several access points for vehicles including through airport road north of Route 132, through Hinckley Road north of Route 132, or the terminal entrance east of the airport rotary on Route 28. Traffic leaving the airport can join airport rotary traffic through a one-way street. Congestion associated with Hyannis affects vehicle access. There are not sidewalks on many of the roads accessing the airport including Route 28 and Route 132. There is not a fixed route transit stop provided at this location by the CCRTA. A prior transit stop was discontinued due to low ridership generation at the airport.

Provincetown Municipal Airport is located on Province Lands Road in Provincetown. Access by vehicle is not affected by summer congestion. There are not sidewalks on the roads near the airport, but the Province Lands Bike Path crossed the vehicle entrance to the airport. There is not a CCRTA year-round fixed route stop here but there is a stop on the seasonal fixed route service the Provincetown Beach Shuttle.

Access Improvements

Traffic congestion and unsafe conditions limits vehicular access to some essential services on Cape Cod, as identified in this appendix. Several transportation projects are in progress that would that would improve access to the essential services.

Access restrictions due to the functionally obsolete Sagamore and Bourne Bridges create barriers to the region. During summer months and periods of bridge maintenance the bridge traffic can be backed up multiple miles. Projects which could improve access across the Cape Cod Canal and adjacent roads e.g. the Bourne Rotary, Belmont Circle, Sandwich Road, Route 6 exit 1 reconfiguration, replacement bridges would improve access to essential services.

Hyannis is the most urbanized region of Cape Cod and a location hub for numerous essential services.

Projects have been identified that could improve access to Hyannis in recent studies including the Hyannis Access Study, Hyannis Access Implementation Study, and Yarmouth Road Study. The Yarmouth Road Study identified the potential improvements along Yarmouth Road between Higgins Crowell Road and Route 28, including a multi-use path and two additional lanes of travel. The Hyannis access study and Hyannis Access Implementation Study identified improvements at the intersection at Yarmouth Road and Route 28, Route 28 between Yarmouth Road and the

Airport Rotary, and at the Airport Rotary. The improvements at the Airport Rotary include an underpass for critical directional volumes. The intersection of Yarmouth Road and Route 28 is currently programmed through the Transportation Improvement Program (TIP).

Other areas that were identified to have access issues to essential services include at the Mashpee Rotary, in the Woods Hole Area, the southwest elbow of Route 28 in Falmouth, Provincetown, and along Route 6 in the Outer Cape. These roadways should be further investigated for proposed improvements and opportunities to study.

REGIONAL COOPERATION

Regional Partners

Development of the RTP and other planning efforts include consultation with or consideration of a wide range of federal, state, and local agencies and organizations including:

- Barnstable County Government
- Bay Colony Railroad
- Cape Air
- Cape Cod Central Railroad
- Cape Cod Commission
- Cape Cod Joint Transportation Committee
- Cape Cod Metropolitan Planning Organization
- Cape Cod National Seashore (National Park Service)
- Cape Cod Regional Transit Authority
- Cape Cod Towns
- Federal Highway Administration
- Federal Transit Administration
- Hy-Line Cruises
- Joint Base Cape Cod
- Martha's Vineyard Commission, Nantucket Planning and Economic Development Commission, Old Colony Planning Council, and Southeastern Regional Planning and Economic Development District
- Massachusetts Department of Recreation and Conservation
- Massachusetts Department of Transportation
- MassBike
- Nantucket Air
- Peter Pan – Bonanza Bus Lines
- Plymouth and Brockton Street Railway Company
- U.S. Army Corps of Engineers
- Woods Hole, Martha's Vineyard and Nantucket Steamship Authority

Urbanized Area Boundaries

Cooperation across Cape Cod Metropolitan Planning Organization (MPO) Boundaries occurs through meeting and consultation on studies. The Cape Cod borders both the towns of Wareham and Plymouth. The Barnstable Town Urbanized Area, defined by the 2010 census, extends into the abutting regional planning districts, Old Colony Planning Council (OCPC) and Southeastern Regional Planning and Economic Development District (SRPEDD). In some cases, federal funds are distributed to Urbanized Area (UZA) requiring coordination on planning efforts. When this occurs coordination meetings are organized, and Cape Cod Commission Staff may attend MPO meetings in these MPO districts.

The neighboring regional transit authority, Greater Attleboro Taunton Regional Transit Authority (GATRA) operated a fixed route service into the Buzzards Bay area. This agency is consulted when planning studies reach across the MPO boundary. Most recently this occurred in the Coordinated Public Transit- Human Service Transportation Plan because this plan released transit funds that were distributed to UZA districts, of which the GATRA and CCRTA service area are included.

Metropolitan Planning Organization

There are several meetings facilitated or frequently attended by the Cape Cod Metropolitan Planning Organization Staff that promote coordination.

Cape Cod MPO meeting are held monthly and in attendance representatives from four sub regions in Barnstable County, MassDOT Secretary/CEO, MassDOT Highway Division Administrator, Chair of the Cape Cod Commission Chair of the Cape Cod Regional Transit Authority Advisory Board, President of the Barnstable Town Council, and the Tribal Chairman of the Mashpee Wampanoag Tribal Council. Sub region A consists of the town of Bourne, Falmouth, Mashpee, and Sandwich. Sub region B includes the town of Yarmouth and Dennis. Sub region C includes the towns of Brewster, Harwich and Orleans. Sub region D includes the town of Eastham, Wellfleet, Truro and Provincetown. The MPO is formed and abides by rules established under a formal agreement in the form of a Memorandum of Understanding (MOU). MPO meetings are attended by the public.

The Joint Transportation Advisory Committee (JTC) is an advisory committee to the Cape Cod MPO. The committee is made up of representatives from each town, often a director of the town Department of Public Works (DPW) or the town engineer. Materials presented before the MPO are often presented first to the JTC to receive local feedback and to recommend action by the MPO. JTC meetings are attended by the public.

Coordination on Cape Cod

The CCRTA hosts monthly Multi-Modal Meetings, quarterly advisory board meetings and Regional Coordination Committee (RCC) which Cape Cod MPO staff attends. The Multi-Modal meetings are

regularly attended by representatives from the Barnstable Municipal Airport, Steamship Authority, Hy-line, Plymouth and Brockton Street Railway Company, Town of Barnstable, Cape Cod Chamber of Commerce, State Legislation Representatives. The advisory board consists of representatives from each town and meetings are attended by various interested agencies. The RCC includes various members of human service agencies on Cape Cod. CCRTA staff and Cape Cod MPO staff also meet as frequently as bi-weekly to discuss planning efforts.

The majority of the east coast of Cape Cod is owned and managed by the National Park Service. Transportation issues that affect the National Park are discussed with their staff. Recently this agency was engaged to coordinate data collection for bicycles, the conduction of the Outer Cape Bicycle and Pedestrian Master Plan and for safety upgrades for Route 6 in Wellfleet resulting in the implementation of rumble strips on the centerline of the roadway.

Statewide Coordination

Coordination with the state transportation department, MassDOT occurs through many means including MPO and JTC meetings. Conversation with the state department is constant in planning efforts to determine scopes of work or impacts to local character. There have been several recent large studies that have been performed in coordination between the MPO staff and MassDOT including the Hyannis Access Study, Bourne Rotary Study and the Canal Area Study. In all three of these studies data collection, public outreach was coordinated in addition to consistent consultation on the outcomes and conduction of the study.

The Cape Cod MPO staff also coordinates with other state departments. In planning efforts to extend commuter rail to Buzzards Bay the Cape Cod MPO staff consulted with the Central Transportation Planning Staff and the MBTA. These groups lead their own investigation into the feasibility of providing the service.

The Cape Cod MPO staff attends statewide meetings with the Massachusetts Association of Regional Planning Agencies (MARPA) and Transportation Managers Group (TMG). MARPA meetings are attended executive directors from each of the thirteen planning agencies in Massachusetts and statewide and local planning issues including but not limited to transportation are discussed. TMG meetings are attended by transportation directors at regional planning agencies to discuss statewide and local transportation issues. The islands south of the Cape Cod region, Nantucket and Martha's Vineyard have representation at these meetings. At this time critical transportation coordination with these regions may be discussed.

Road Safety Audits (RSA) is performed by Cape Cod MPO staff or private consultants. An RSA is performed to identify problems at intersection and roadways and establish long- and short-term solutions. At these events Cape Cod Commission staff, MassDOT staff, and town staff are present. The recent RSAs performed on Cape Cod are listed in the Safety appendix item.

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