



Cape Cod Bridges Program

Bourne, Massachusetts

Draft Environmental Impact Statement

SUBMITTED TO:

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Massachusetts Department of Transportation

CAPE COD BRIDGES PROGRAM
Barnstable County, Massachusetts

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to:
42 U.S.C. 4332(2)(c) and 49 U.S.C. 303

By:
U.S. Department of Transportation – Federal Highway Administration
and
Massachusetts Department of Transportation

In Cooperation with:
U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Massachusetts Executive Office of Energy and Environmental Affairs, Massachusetts Department of Environmental Protection, Massachusetts Department of Fish and Game, Massachusetts Historical Commission, and Massachusetts Office of Coastal Zone Management



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11-17-2025

Date of Approval



Jonathan Gulliver
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Date of Approval

FHWA and the Massachusetts Department of Transportation (MassDOT) have prepared a Draft Environmental Impact Statement (DEIS) for the Cape Cod Bridges Program in the town of Bourne, Barnstable County, Massachusetts. The DEIS identifies the needs to address the deteriorating conditions, increasing maintenance demands, and substandard design elements of the Sagamore and Bourne highway bridges, including their immediate approaches, and to improve traffic operations and accommodations for pedestrians and bicyclists. The DEIS presents in detail the potential social, economic, and environmental effects of two alternatives, including the No Build Alternative and a Build Alternative. The Build Alternative is identified in the DEIS as the recommended Preferred Alternative; however, a formal selection will not be made until public and agency comments received during the DEIS review period have been fully considered. Measures being considered by FHWA and MassDOT to avoid, minimize, and mitigate the adverse effects of the Build Alternative are described in this DEIS. FHWA has also prepared a Draft Section 4(f) Evaluation for the Program in compliance with Section 4(f) of the United States Department of Transportation Act of 1966.

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The DEIS is available for public review on the [Cape Cod Bridges Program website](#). Comments on this DEIS are due 45 calendar days from the date of publication in the Federal Register and may be submitted via postal mail to either address listed above, or through the online comment portals linked within the PDF documents available on the Cape Cod Bridges Program website.

Following the public comment period on this DEIS and consideration of the comments received, FHWA intends to issue a combined Final Environmental Impact Statement and Record of Decision pursuant to 23 U.S.C. § 139(n)(2) and 23 CFR 771.123(g) unless FHWA determines statutory criteria or practicability considerations preclude issuance of the combined document.

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AAB	Architectural Access Board
AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AAWDT	average annual weekday traffic
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
ANRAD	Abbreviated Notice of Resource Area Delineation
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
ASL	American Sign Language
ASTM	American Society for Testing and Materials
AUL	Activity Use Limitation
BA	Biological Assessment
BFE	Base Flood Elevation
BG	Block Group
BGEPA	Bald and Gold Eagle Protection Act
BLSF	Bordering Land Subject to Flooding
BMP	best management practices
BN	Bourne North (quadrant)
BO	Biological Opinion
BS	Bourne South (quadrant)
BUAR	Board of Underwater Archaeological Resources
BVW	Bordering Vegetated Wetlands
CAA	Clean Air Act

Acronym/Abbreviation	Definition
CADD	computer aided design and drafting
CAF	capacity adjustment factors
CART	Communication, Access, Realtime Translation
CB	Coastal Bank
CBO	community-based organizations
CCAA	Candidate Conservation Agreement with Assurances for the Monarch Butterfly
CCC TIP	Cape Cod Canal Area Transportation Improvement Program
CCCTS	Cape Cod Canal Transportation Study
CCETP	Cape Cod Emergency Traffic Plan
CCRTA	Cape Cod Regional Transit Authority
CDWM	Construction and Demolition Waste Management Plan
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CF	cubic feet
CFR	Code of Federal Regulations
CH₄	methane
CHS	Coastal Hazard System
CMF	crash modification factors
CMP	Conservation Management Plan
CMR	Code of Massachusetts Regulations
CO	carbon monoxide
CO₂	carbon dioxide
CP₄	Construction Period Erosion, Sedimentation and Pollution Prevention Plan
CSO	combined sewer overflow
CT	census tract (use with specific census tract number; otherwise, spell out lowercase)
CTPS	Central Transportation Planning Staff
CWA	Clean Water Act
CY	Calendar Year
dBA	A-weighted decibel(s)

Acronym/Abbreviation	Definition
DCR	Massachusetts Department of Conservation and Recreation
DEIS	Draft Environmental Impact Report
DGA	Designated Geographic Area
DHCD	Massachusetts Department of Housing and Community Development
DPA	Designated Port Area
DPH	Massachusetts Department of Public Health
DPM	diesel particulate matter
EA	Environmental Assessment
EB	eastbound
EC	Engineering Circular
EFH	Essential Fish Habitat
EH	Estimated Habitat
EHASP	Environmental
EIR	Environmental Impact Report
EJ	Environmental Justice
ENF	Environmental Notification Form
EO	Executive Order
EOS	Enhancement of Survival
EPA	U.S. Environmental Protection Agency
EPD	Environmental Product Declaration
ERDC	Engineer Research and Development Center
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FCM	fracture critical members
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration

Acronym/Abbreviation	Definition
FIRM	Federal Insurance Rate Map
FIS	Flood Insurance Study
FNP	Federal Navigation Project
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Act
GARFO	Greater Atlantic Regional Fisheries Office
GIZ	Growth Incentive Zone
GPR	ground-penetrating radar
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HEC	Hydraulic Engineering Circular
HTL	High Tide Line
IAGWSP	Impact Area Groundwater Study Program
IC	Intersection Control
ICE	Intersection Control Evaluation
IHSDM	Interactive Highway Safety Design Manual
ILSF	Isolated Land Subject to Flooding
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
JBCC	Joint Base Cape Cod
JD	Jurisdictional Determination
LBP	lead-based paint
LCP	Local Comprehensive Plan
LCSCF	Land Subject to Coastal Storm Flowage
LEP	Limited English Proficiency
Leq	equivalent sound level
LID	Low Impact Development

Acronym/Abbreviation	Definition
LiDAR	Light Detection and Ranging
LOS	Level of Service
LSCSF	Land Subject to Coastal Storm Flowage
LST	Land surface temperatures
LSTA	Land Subject to Tidal Action
LTH	Loudest Traffic Hour
LUO	Land Under Ocean
LUW	Land Under Water Bodies and Waterways
LWCF	U.S. Land and Water Conservation Fund Act
MA CZM	Massachusetts Office of Coastal Zone Management
MA EEA	Massachusetts Executive Office of Energy and Environmental Affairs
MA WPA	Massachusetts Wetlands Protection Act
MA CZMP	Massachusetts Coastal Zone Management Program
MACRIS	Massachusetts Cultural Resources Information System
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MassWildlife	Massachusetts Division of Fisheries and Wildlife
MBTA	Massachusetts Bay Transportation Authority
MBTA	Migratory Bird Treaty Act
MCCP	Massachusetts Climate Change Projections
MC-FRM	Massachusetts Coast Flood Risk Model
MCP	Massachusetts Contingency Plan
MEPA	Massachusetts Environmental Policy Act
MESA	Massachusetts Endangered Species Act
MGL	Massachusetts General Law
MHC	Massachusetts Historic Commission
MHHW	Mean Higher High Water
MHI	median household income
MHW	Mean High Water

Acronym/Abbreviation	Definition
MLLW	Mean Lower Low Water
MLW	Mean Low Water
MMPA	Marine Mammal Protection Act
MMR	Massachusetts Military Reservation
MOA	Memorandum of Agreement
MOE	Measure of Effectiveness
MOU	Memorandum of Understanding
mph	miles per hour
MRE	Major Rehabilitation Evaluation
MRER	Major Rehabilitation Evaluation Report
MS4	Municipal Separate Storm Sewer System
MSAT	mobile source air toxics
MTL	mean tide level
MVMT	million vehicle miles traveled
N20	nitrogen dioxide
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NACCS	North Atlantic Coast Comprehensive Study
NACTO	National Association of City Transportation Officials
NAICS	North American Industry Classification System
NAVD88	North American Vertical Datum of 1988
NB	northbound
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NHESP	Natural Heritage and Endangered Species Program
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide

Acronym/Abbreviation	Definition
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NOI	Notice of Intent
NOx	nitrogen oxides
NP&EDC	Nantucket Planning and Economic Development Commission
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NTP	Notice to Proceed
O3	ozone
O-D	origin-destination
OHM	oil and hazardous material
ORAD	Order of Resource Area Delineation
OSHA	Occupational Safety and Health Administration
OTP	Office of Transportation Planning
OWJ	Officials with Jurisdiction
PAH	polycyclic aromatic hydrocarbons
Pb	lead
pc/mi/ln	per mile per lane
PCB	polychlorinated biphenyl
PDDG	Project Development and Design Guide
PH	Priority Habitat
PIMA	Public Involvement Management Application
PIP	Public Involvement Plan
PM10	respirable particulate matter of diameter less than 10 microns
PM2.5	fine particulate matter of diameter less than 2.5 microns
ppb	parts per billion
ppm	parts per million
ppv	parts per
Program	Cape Cod Bridges Program

Acronym/Abbreviation	Definition
Program	Cape Cod Bridges Program (use for all technical reports and DEIS/DEIS chapters)
PROTECT	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation
PROWAG	Public Right-of-Way Guidelines
PVP	potential vernal pools
RCNM	Roadway Construction Noise Model
RCRA	U.S. Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RHA	Rivers and Harbors Act
RMAT	Resilient Massachusetts Action Team
ROD	Record of Decision
ROW	right-of-way
RPP	Regional Policy Plan
RSA	Road Safety Audits
RSLR	relative sea level rise
RTE	rare, threatened, and endangered species
RTP	Regional Transportation Plan
SAF	Safety Adjustment Factors
SAV	Submerged Aquatic Vegetation
SB	southbound
SCM	stormwater control measure
SCS	Soil Conservation Service
Section 4(f)	Section 4(f) of the U.S. Department of Transportation Act of 1966
sf	square feet
SHLO	state highway layout
SHMCAP	Massachusetts State Hazard Mitigation and Climate Adaptation Plan
SHPO	State Historic Preservation Officer
SLR	sea level rise
SMS	Stormwater Management Standards
SN	Sagamore North (quadrant)

Acronym/Abbreviation	Definition
SO2	sulfur dioxide
SOI	Secretary of Interior
SPUI	Single-Point Urban Interchange
SRHP	State Register of Historic Places
SRPEDD	Southeastern Regional Planning & Economic Development Commission
SS	Sagamore South (quadrant)
SSA	sole source aquifer
SUP	shared-use path
SWOT	Strengths, Weaknesses, Opportunities, and Threats
SWPPP	Stormwater Pollution Prevention Plan
TAZ	Transportation Analysis Zone
TBD	To Be Determined
THPO	Tribal Historic Preservation Officer
TIAS	Traffic Impact and Access Study
TIP	Transportation Improvement Program
TMP	Traffic Management Plan
TNM	Traffic Noise Model
TOY	time of year
TRB	Transportation Research Board
TSCA	U.S. Toxic Substances Control Act
UMDI	University of Massachusetts Amherst Donahue Institute
Uniform Act	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VAST	Vulnerability Assessment Tool

Acronym/Abbreviation	Definition
VHT	vehicle hours traveled
VMT	vehicle miles traveled
VOC	volatile organic compounds
VPI	Virtual Public Involvement
WB	westbound
WCSC	Waterborne Commerce Statistics Center
WOTUS	Waters of the United States
µg/m ³	microgram per cubic meter