



CAPE COD  
COMMISSION

2016 REGIONAL TRANSPORTATION PLAN  
Technical Appendix N: Air Quality  
Conformity

Draft  
June 15, 2015



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## Table of Contents

Legislative Background.....	1
Greenhouse Gas (GHG) Analysis .....	2

## **List of Tables**

Table 1. Highway Regional Target Projects – Anticipated GHG Impacts ..... 2

# Technical Appendix N: Air Quality Conformity

The transportation system is a critical component of the Commonwealth of Massachusetts' infrastructure; it facilitates economic development, access to goods and services, and social interaction and enrichment. While the system has numerous benefits that users depend upon daily, it also contributes over one third of the Bay State's greenhouse gas (GHG) emissions, a key cause of climate change. Sprawling development patterns and automobile dependence also contribute to physical inactivity, which is associated with various negative health outcomes, while motor vehicle pollution contaminates the air, causing respiratory and other health conditions.

## LEGISLATIVE BACKGROUND

In 2010, the Massachusetts Department of Transportation (MassDOT) responded to these challenges by launching its comprehensive sustainability initiative, the GreenDOT Policy. GreenDOT was born of numerous state laws and policies aimed at reducing GHG emissions, improving public health, and leading on environmental stewardship. The Global Warming Solutions Act (GWSA), which Governor Deval Patrick signed into law in 2008, set legally-enforceable goals of reducing GHG emissions by 25 percent below 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The Healthy Transportation Compact, created by the 2009 Transportation Reform Law, is a coordinated multi-agency effort to encourage the healthy transportation modes of walking, bicycling, and public transit, and to ensure that public health factors are taken into account in transportation decision-making. In addition, Executive Orders 484 and 515, known as Leading by Example and Environmental Purchasing Policy respectively, require state agencies to invest public resources in ways that support environmental sustainability by conserving energy and water, implementing efficiency measures, and producing or purchasing renewable energy. Taken together, the Global Warming Solutions Act, Healthy Transportation Compact, and Leading by Example policy form the foundation for the GreenDOT Policy.

The GreenDOT Policy Directive, released in June 2010, set forth the primary goals of reducing GHG emissions; promoting the healthy transportation modes of walking, bicycling, and public transit; and supporting smart growth development. The 2012 GreenDOT Implementation Plan then outlined specific tasks and targets for achieving these goals, including the Mode Shift Goal, which calls for a tripling of the amount of walking, bicycling, and public transit ridership in Massachusetts between 2010 and 2030. The Cape Cod Regional Transportation Plan (RTP) reflects the vision of the GreenDOT with the Multimodal Options/Healthy Transportation Goal including a Performance Measure reflecting the state Mode Shift Goal.

## GREENHOUSE GAS (GHG) ANALYSIS

Under MassDOT guidance, the impacts of RTP projects on GHG emissions have been evaluated and considered as a part of the project selection process. The anticipated GHG impacts from projects specifically identified in the RTP are as follows.

TABLE 1. HIGHWAY REGIONAL TARGET PROJECTS – ANTICIPATED GHG IMPACTS

PROJECT	ANTICIPATED GHG IMPACT
Barnstable: Hyannis Access Improvements	Quantified Decrease in Emissions from Traffic Operational Improvement – To be verified by statewide modeling
Route 28 Multimodal Improvements: Various Locations	Assumed Nominal Decrease in Emissions from Sidewalk and Bicycle Infrastructure
Route 6 Outer Cape Safety Improvements	Assumed Nominal Decrease in Emissions from Sidewalk and Bicycle Infrastructure
Canal Area: Belmont Circle/ Route 25 Ramp Improvements	Quantified Decrease in Emissions from Traffic Operational Improvement – To be verified by statewide modeling
Canal Area: Route 6 Exit 1C Reconfiguration	Quantified Decrease in Emissions from Traffic Operational Improvement – To be verified by statewide modeling
Cape Cod Rail Trail Expansion: S. Wellfleet to Provincetown	Assumed Nominal Decrease in Emissions from Bicycle Infrastructure
Infrastructure Improvements (Platform, Parking, etc.) for Buzzards Bay Commuter Rail Service	Assumed Nominal Decrease in Emissions from Other Improvements
Cape Cod Rail Trail Expansion: Barnstable to Sandwich	Assumed Nominal Decrease in Emissions from Bicycle Infrastructure
Shining Sea Bikepath Extension to Cape Cod Canal Bikepath	Assumed Nominal Decrease in Emissions from Bicycle Infrastructure

More detailed GHG analysis of projects is conducted as they are considered for inclusion in the Transportation Improvement Program.

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