



2014 CMAQ Program

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Congestion Mitigation and Air Quality Improvement (CMAQ)

Program Overview

There are three main requirements for all CMAQ projects:

- Must be a transportation project
- Must reduce NOx and PM 2.5 emissions from mobile sources (cars, trucks, buses etc.)
- Must benefit air quality in air quality nonattainment and maintenance areas

CMAQ's Purpose

Nationwide, mobile sources release nearly 75% of emissions. The CMAQ program helps achieve federal air quality health standards by reducing emissions from both onroad and nonroad sources.



Eligible Areas



 CMAQ Eligible Counties

Eligible Projects



Program Information & Applications:
www.tdot.state.tn.us/cmaq



Purpose of CMAQ

- Nationwide, mobile sources = almost 75 percent of air emissions
- In Middle Tennessee, onroad mobile sources = about 60 percent of NOx emissions
- CMAQ helps achieve federal air quality health standards by reducing emissions from both onroad and nonroad transportation sources

CMAQ Eligible Areas

- Nonattainment/maintenance areas only
- Five Tennessee areas eligible for CMAQ
 - Chattanooga, Clarksville, Knoxville, Memphis, Nashville
 - Knoxville area includes Jefferson County
- Six nonattainment MPOs (four largest metro areas, Lakeway (Jefferson County) and Clarksville
- More nonattainment counties possible
 - Cheatham, Dickson and Robertson
 - Sullivan and/or Washington County

2014 List of CMAQ Eligible Counties

Knoxville Region

Anderson

Blount

Cocke (partial)

Jefferson

Knox

Loudon

Roane (partial)

Sevier

Nashville Region

Davidson

Rutherford

Sumner

Williamson

Wilson

Chattanooga Region

Hamilton

Clarksville Region

Montgomery

Memphis Region

Shelby

Congestion Mitigation and Air Quality Improvement (CMAQ)

Proposed CMAQ Initiatives

In 2014, TDOT will implement a series of strategic initiatives to reduce congestion and improve air quality.

These investments include the following:

- Cleaner technologies for heavy-duty diesel vehicles, road construction equipment, locomotives and transit buses
- Projects to increase use of other transportation modes include park and ride lots, commute options and new commuter transportation services
- Advanced traffic operations systems to reduce congestion

These initiatives will seek public-private partnerships and provide enhanced transportation options that accomplish CMAQ's primary goal of improving air quality.



CMAQ Program Initiatives

- 2014 Call for Local Government Project Proposals
- Cleaner Diesel Technology Rebates
- Park and Ride Lots
- New or Expanded Transit Service
- Cleaner Transit Buses
- Tennessee Commute Options
- Transportation Systems Management and Operations (TSMO) Pilot Project
- Clean Construction Pilot Project



Program Information & Applications:

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TDOT Proposed CMAQ Initiatives

2014 Call for Project Proposals

Initiative	Match	Budget	Benefits	Eligible Participants
Cleaner Diesel Technology Rebate Program	20% for ROI Projects	\$8.3 Million Set-Aside	↓ PM 2.5	Heavy-Duty Diesel Trucks and Equipment
Park and Ride Lots	20% Match	\$4 Million	↓ Congestion NOx	Nonattainment/Maintenance Areas
New or Expanded Transit Service	20% Match	\$6 Million	↓ Congestion NOx	Transit Agencies in 5 Major Urban Areas
Clean Transit Buses	20% Match	\$6.6 Million 11 Buses	↓ PM 2.5 NOx	Transit Agencies in 5 Major Urban Areas
Tennessee Commute Options	TDOT 20% Match	\$3 Million	↓ Congestion NOx	Nonattainment and Maintenance Areas
Transportation Systems Management and Operations (TSMO) Pilot Project	TDOT 20% Match	\$2 Million	↓ Congestion NOx	Nonattainment/Maintenance Areas
Clean Road Construction Pilot Project	TDOT 20% Match	Funded by Rebate Program	↓ PM 2.5	Road Contractors



CMAQ 2014 Call for Proposals

- 1/17/14 - TDOT announced request for competitive grant applications
 - Sent to MPOs and posted on TDOT's website
- MPOs pass information to local governments
- Local governments submit proposals to MPOs
- 3/14/14 – Proposal deadline
- MPOs submit package of proposals from local governments in their respective regions
- TDOT prepares proposals for state-level projects

CMAQ Local Government Project Selection Criteria

Emission Reductions – 25 points

- Measures emission reduction potential of a project

Project Delivery Plan (Schedule, Milestones, Major Tasks) – 25 points

- Assesses the proposal's implementation/management plan to focus on delivering projects on schedule
- Encourages projects that can be implemented quickly and efficiently without major delays

Innovative Project Proposals – 15 points

- Encourages new ways to reduce mobile source emissions or address evolving air quality/ transportation issues (e.g., freight hauling and freight transfer activities)

Cost-Effectiveness of Emission Reductions – 15 points

- Estimates project's cost per unit of emission reduction of all pollutants

Project Impacts on Diversity of Regional Initiatives – 10 points

- Encourages a range of projects to reduce mobile source emissions in the region

Project Benefits for Multimodal Infrastructure in Region – 10 points

- Encourages projects that will expand and enhance multimodal infrastructure

CMAQ Proposal Content

- Detailed project descriptions – more detail, not less
- Identify projects to be “flexed” to FTA
- If project is continuation, describe existing project and relationship to proposal
- Identify/confirm all sources of match
- No “endless” projects
- Avoid ineligible project elements
- Projects may not add highway capacity

Air Quality Analyses

- Proposals require air quality analyses
- Reasonable and realistic assumptions to estimate emission reductions
- Need more consistency in methods
- No credit for carbon dioxide reductions
- Priority mobile source air pollutants
 - Oxides of nitrogen (contributes to ozone formation)
 - Microscopic particles (PM 2.5)
 - Diesel exhaust
- Cost per unit of emission reduction is important project selection criterion

Priority Mobile Source Pollutants

PM 2.5

- Microscopic particles (≤ 2.5 microns in diameter) from diesel exhaust
- Penetrate deeply into lungs and may cross into bloodstream
- Hundreds of chemicals adsorbed onto particle surfaces, including many known or suspected mutagens and carcinogens
- Diesel emissions may cause adverse health effects, including cancer and other pulmonary and cardiovascular diseases

Priority Mobile Source Pollutants

NO_x

- Oxides of nitrogen
 - Produced by combustion
 - Emissions from cars, trucks, buses, power plants and off-road equipment
 - Contributes to formation of ozone & PM 2.5
 - Linked with adverse effects on respiratory system
 - Can cause or worsen respiratory disease
 - Especially harmful for asthmatics, children, and the elderly

CMAQ Project Selection

- Proposals evaluated and scored by TDOT staff and possibly others
- Scores based on the range of points assigned to each project selection criterion (e.g., 1-25 points for Criterion A)
- High-scoring projects arrayed in a list
- Some consideration to geographic distribution
- Recommendations to Commissioner
- Letters to local governments on selected projects

Congestion Mitigation and Air Quality Improvement (CMAQ)



Provide rebates to diesel fleet owners that apply to the purchase and installation of cleaner technologies to significantly decrease particulate matter (i.e., soot).

- Eligible Projects:
 - Diesel Retrofits
 - Engine Replacements
 - Engine Upgrades
 - Conversions to natural gas as the fuel powering diesel engines
 - Innovative technologies to reduce engine idling



Cleaner Diesel
Technology Rebates



Congestion Mitigation and Air Quality Improvement (CMAQ)



Park and Ride Lots

Expand opportunities for more ridesharing and transit ridership by increasing the number of park and ride facilities serving commuters.

- Park and Ride lots have the ability to:
 - Reduce individual trip costs
 - Reduce the number of trips made alone
 - Reduce peak demand on roadways and parking
- Applicants for funding for new or expanded park and ride facilities within eligible urban areas of Tennessee will need to provide the following information:
 - The local need and use for park and ride facilities
 - Possible locations (existing publicly owned land preferred, not required)
 - 20% local match



- ↑ Safety and security
- ↓ Fuel costs
- ↓ Individual vehicle trips



Congestion Mitigation and Air Quality Improvement (CMAQ)



Cleaner Transit Buses

Help urban transit systems reduce harmful emissions from aging diesel buses.

- TDOT plans to help urban transit systems purchase cleaner transit buses, including hybrids and natural gas powered buses.
- The allocation of CMAQ funding for bus purchases will consider populations in transit service areas and PM 2.5 nonattainment status.

↑ Fuel efficiency

↓ Transportation-related pollution

↓ Aging bus fleets



Congestion Mitigation and Air Quality Improvement (CMAQ)



New or Expanded
Transit Service

Add or expand transit service along key commuting corridors. This may include areas not currently served by existing transit service.

- New bus routes can make transit a viable alternative to the personal auto.
- Emission benefits can be seen in reduced vehicle trips and congestion.



Congestion Mitigation and Air Quality Improvement (CMAQ)

Inform the public about the benefits of transportation alternatives and their transportation options. TDOT also plans to implement other travel demand management (TDM) strategies to alleviate congestion.

- TDM strategies improve mobility by supporting a wide variety of commuting options including:
 - Teleworking
 - Shifts to other transportation modes such as transit and ridesharing
 - Flexible Work Schedules
- This public information will also inform the public about the following:
 - Cleaner Transportation Strategies
 - Practices drivers can employ to reduce their environmental footprint, reduce emissions, and save energy



Tennessee Commute Options



Program & Application Information:
www.tdot.state.tn.us/cmaq



Congestion Mitigation and Air Quality Improvement (CMAQ)



Transportation Systems Management & Operations (TSM&O) Pilot Project

Implement innovative transportation systems management and operations projects that result in air quality benefits.

With fewer funds available for major roadway capacity projects, improving the management of current roadway assets has become a critical issue for TDOT.

- Potential projects that may be eligible for CMAQ funding include:
 - HELP Program Expansions
 - Active Traffic Management Projects (Ramp Metering, Dynamic Speed Control, Lane Management)
 - Traffic Information and Management Service Improvements (Updates to 511, TMC Operations, Traffic Web and Apps)
 - Integrated Corridor Management Programs
 - Expansions of the TDOT SmartWay System (Intelligent Transportation System Expansions)



- ↑ Safety and security
- ↑ System reliability and performance
- ↓ Long-term operational costs



Program & Application Information:
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Congestion Mitigation and Air Quality Improvement (CMAQ)



Clean Road Construction Pilot Project

Provides incentives for upgrading road construction equipment so that contractors play an active role in decreasing emissions from road construction projects.

- For a selected pilot project, TDOT will include a bid specification that will require that the project be completed using clean construction equipment defined by emission performance.
- Contractor bids must clearly define the company's plan to upgrade their equipment to a clean construction level of performance and the estimated costs of doing so.
- TDOT plans to work with the selected construction company to upgrade their equipment with cleaner technologies to be used in that pilot project.
- Approved equipment upgrade costs will be covered by PM 2.5 set-aside rebate funds.



Improved air quality

TDOT good will

Hazardous construction
pollutants

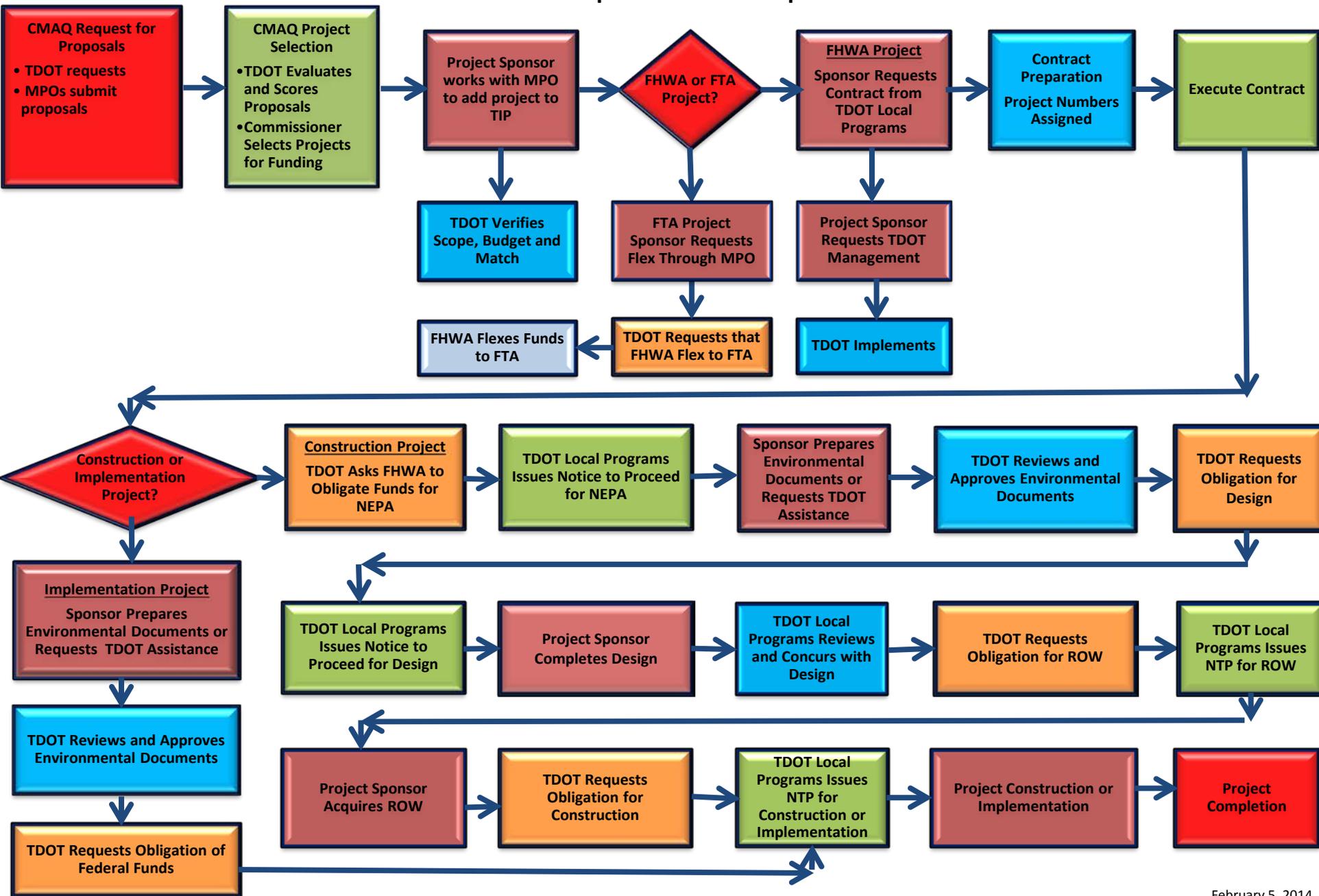


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CMAQ Project Implementation Process

Tennessee Department of Transportation



CMAQ Project Issues

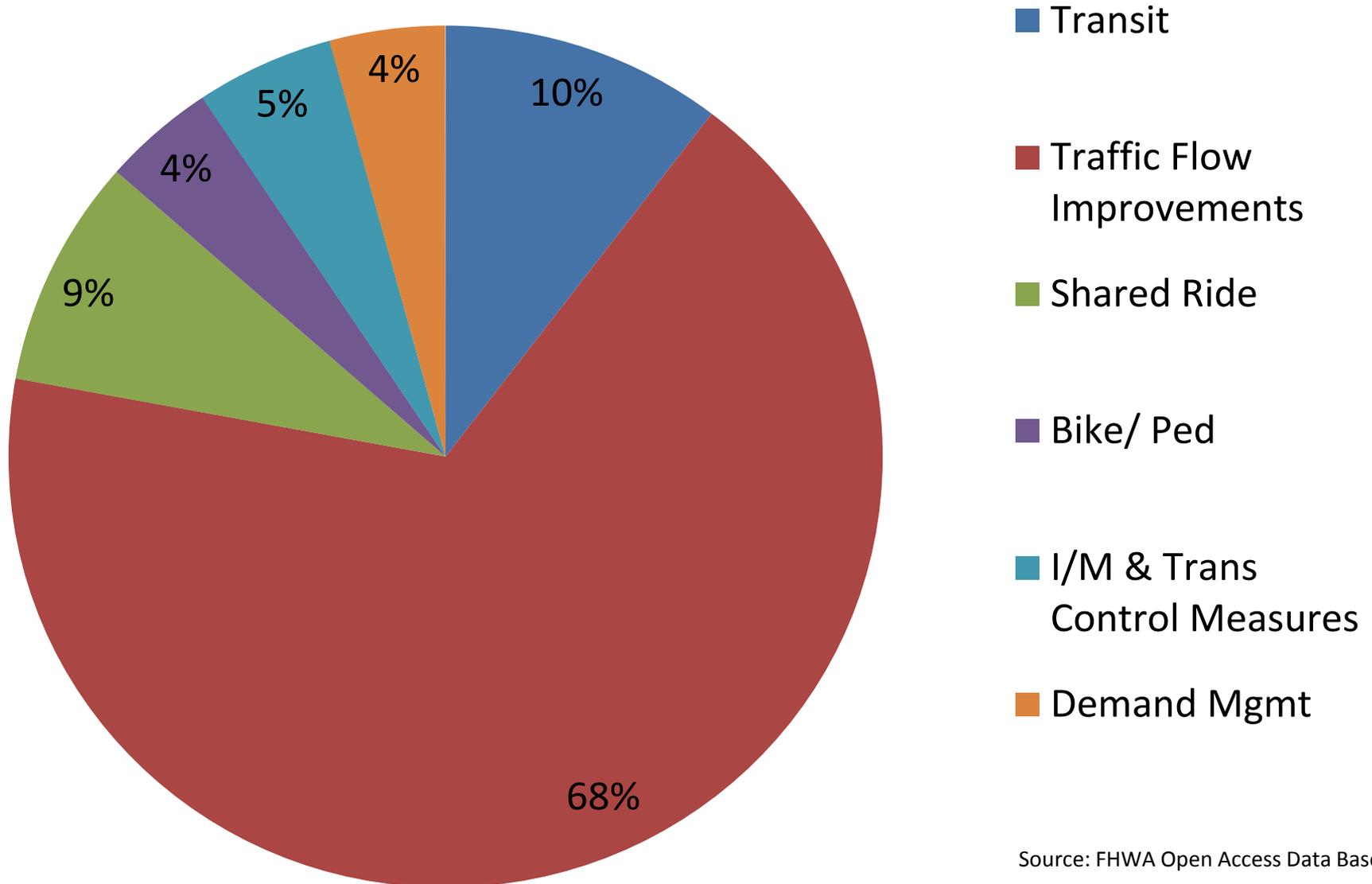
- No changes in scope unless approved by TDOT and the MPO/TPO
- Local government responsible for cost overruns
- If local match is proposed, the TIP and TDOT contract to include that match
- After adding a project to TIP, sponsor requests contract from TDOT
- Obligate at least a portion of funds within two years of TDOT contract with project sponsor
- Begin billing within one year of obligation

Obligation of Funds

- For existing projects, sponsors must obligate CMAQ funds by June 1, 2014
- Failure to do so may lead to loss of funding
- If project delays are beyond the project sponsor's control, contact TDOT's CMAQ staff
- Be a squeaky wheel if others are holding up your project

CMAQ Obligations 2001 – 2010

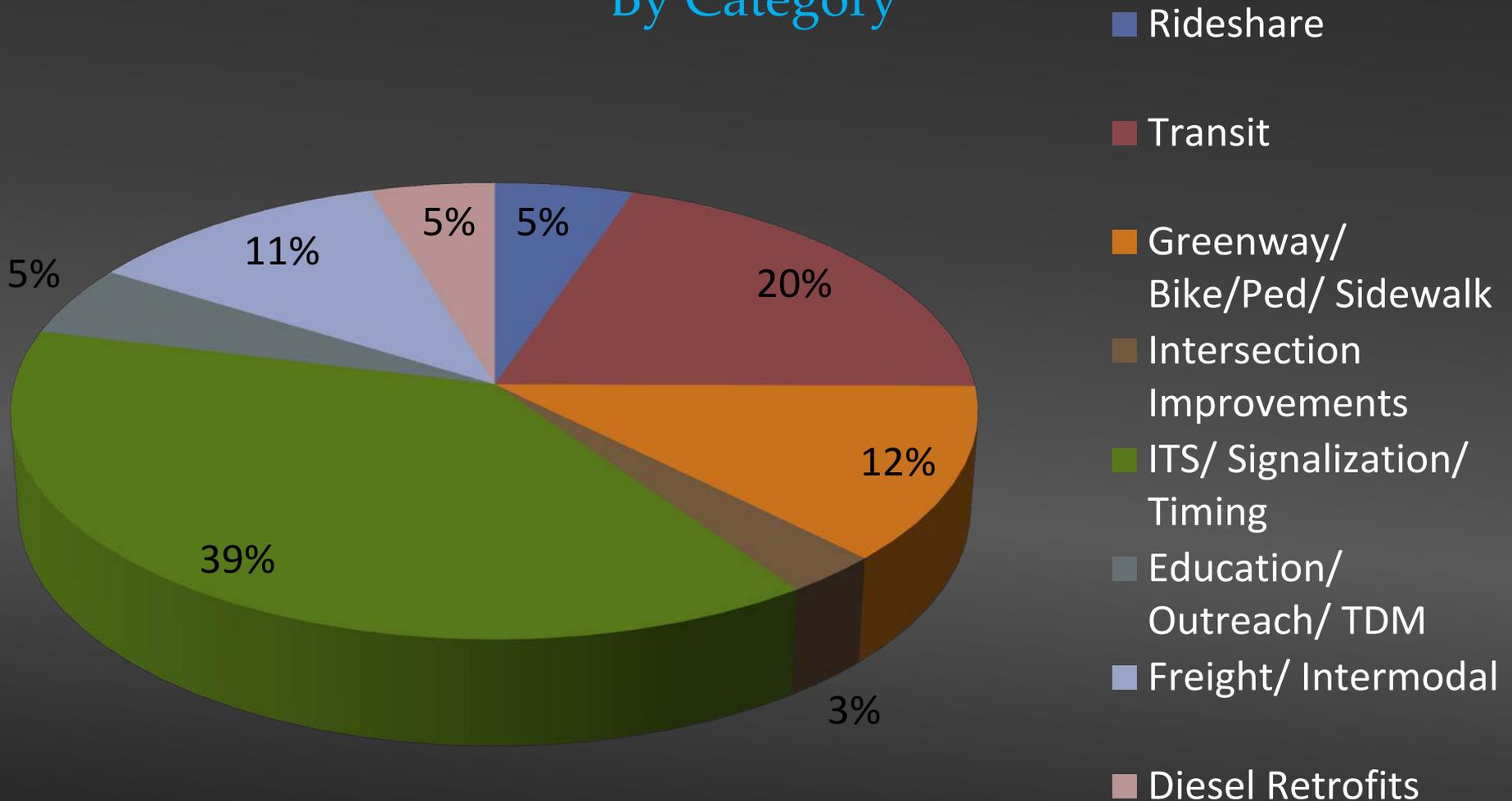
By Category



Source: FHWA Open Access Data Base

2010 – 2011 CMAQ Awards

By Category



Source: TDOT CMAQ Project Awards