2021-2023 Regional/Local CMAQ Initiatives Program

Information Session
March 12, 2020

Planning Department
North Jersey Transportation Planning Authority
NJTPA Region

Bergen  Morris
Essex    Newark
Hudson   Ocean
Hunterdon Passaic
Jersey City Somerset
Middlesex Sussex
Monmouth  Union
Monmouth  Warren
CMAQ Initiatives

- The NJTPA receives Congestion Mitigation and Air Quality (CMAQ) funds for projects that help improve air quality in the region.
- These funds are allocated on a competitive basis to projects that best meet the federal CMAQ goals.
- $7.5 million per year over three years.
Proposed CMAQ projects must reduce emissions and/or traffic congestion in the NJTPA air quality maintenance and nonattainment areas.
Two Program Elements

1. Local Mobility Initiatives (Shuttle Services)
   – Operational support
   – Vehicle replacement

2. Transportation Clean Air Measures (TCAMs)
   – All non-shuttle proposals
Who Can Apply

- NJTPA subregions
- Municipalities
- Transportation Management Associations (TMAs)
- State agencies and authorities (TCAMS only)
- Non-profit agencies
- Private firms (TCAMs only)

Partnerships are strongly encouraged
Local Mobility Initiatives
Shuttle Program Purpose

- Alternative to single-occupant vehicle travel
- First mile – from home to transit
- Last mile – from transit to work/school
Required Elements For A Shuttle Application

1. Complete narrative
2. Map
3. Emissions reduction spreadsheet
4. Budget spreadsheet (operations)
5. Vehicle inventory (vehicle replacement)
6. Letters of subregional support (if necessary)
Demonstration of Need

• Describe how the service will meet the identified need
• Reference a plan or study
Potential For Success

• Run Efficiently
  – High potential ridership
  – Effective schedule

• Serve a Variety of Riders
  – Previous success stories all serve either major public transit or several employers linked to transit
Innovation

Examples

– Use of low carbon fuels
– Anti-idling measures
– Driver training
– Driver performance monitoring
– Measures to enhance customer satisfaction
Selection Criteria

1. Demonstration of Need
   – Proposal demonstrates a strong link to a well-defined need
Selection Criteria

2. Potential/Demonstrated Success
   - Addresses a transportation demand
   - Reduces single-occupancy vehicle trips
   - Demonstrates regional impacts
   - Provides a usable connection to transit
   - Describes marketing and communications to attract and retain ridership
   - Includes plans for financial support
Selection Criteria

3. Operations
   – Accurate and clear budget
   – Integration with existing public transit, without duplication
   – Ability to implement in a timely manner
   – Quantifiable benefits for congestion mitigation and air quality
   – Staffing capabilities
   – Successful record of shared ride services
4. Innovation

– Utilization of low-carbon fuel sources
– Implementation of enhanced customer satisfaction measures
– Increased service attractiveness
– Implementation of cost reduction tactics
## Recent Operational Support Awards

**FY 2018-2020**

- Sandy Hook Shuttle, EZ Ride (pending start 2020)
- Hazlet-Holmdel Shuttle, EZ Ride (pending start 2020)

**FY 2014-2017**

- Hackensack Bus and Rail Connection, Bergen County
- Kearny Circulator, EZ Ride (ended April 2019)
- Long Beach Island Shuttle Service, Long Beach Twp. (graduated to local funding)
Vehicle Replacement Program

- Must include vehicle replacement data
- NJ TRANSIT purchases vehicles to ensure compliance
- Vehicles are lift or ramp equipped, with securement locations for people using mobility devices
- Vehicles are titled to the subrecipient, NJ TRANSIT is first lien holder to ensure federal compliance
- Vehicles are leased to subrecipient (no fee) until FTA useful life is reached
General Vehicle Requirements

• Vehicles are for general public transportation
• Must undergo annual inspections by NJ TRANSIT
• Required to submit monthly ridership and maintenance reports to NJ TRANSIT
• Maintain per manufacturer-recommended guidelines
• New FTA vehicles cannot be used as spares and must be used as per application and award
• Minimum combined single limit liability insurance policy of $5,000,000 required
• Certificates of insurance must be sent annually
Vehicles are considered FTA Section 5307 funded. All subrecipients must comply with:

– FTA drug and alcohol requirement
– Title VI of the Civil Rights Act, including preparing a Title VI plan
– Must sign off Annual FTA certifications and assurances
– Comply with the ADA including having a “reasonable modification” policy
Vehicle Types

1. Minibus (small cutaway)
2. Minibus (standard cutaway)
3. Extended Minibus
   – CNG engine option
   – low floor option
4. Transit style (medium duty cutaway)
Minibus (small cutaway)

- Gas engine
- Transports 8 ambulatory passengers and one or two forward facing mobility device (depends on location of lift)
- Rear or front lift
- Useful life 5 years or 150,000 miles
- CDL may be required
Minibus (standard cutaway)

- Gas engine
- Transports 11-12 ambulatory passengers and one or two forward facing mobility device (depends on lift location)
- If no mobility devices, transports 14 ambulatory passengers
- Farebox option (required to have destination sign)
- Bike rack option (front of vehicle)
- Shopping racks option (shopping racks located behind driver; passenger seat capacity is lost with this option)
- Rear or front lift

Useful life 5 years or 150,000 miles
CDL may be required
Extended Minibus

- Gas engine or CNG
- Option to have vehicle as standard floor with lift or “low floor” with manual ramp
- Transports 16 ambulatory passengers and two forward facing mobility devices
- 18 ambulatory, one forward facing mobility device
- Optional: farebox, bike rack, shopping racks
- Rear or front lift or front ramp (low floor vehicle only can have front ramp)
- Useful life 5 years or 150,000 miles
- CDL is required
Transit Style
(Medium duty cutaway)

- 30 feet or more in length
- Diesel engine
- Transports 22-24 ambulatory and two forward facing mobility devices
- Farebox/destination sign
- Optional: bike rack, shopping racks
- Rear lift
- Useful life 7 years or 200,000 miles
- CDL is required
Transportation Clean Air Measures
## Types of Eligible TCAMs

<table>
<thead>
<tr>
<th>CMAQ Project Type (ranked by cost effectiveness)</th>
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<tbody>
<tr>
<td>1. Diesel Retrofit Technologies</td>
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<tr>
<td>2. Truck Stop Electrification</td>
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<td>3. Heavy Vehicle Engine Replacements</td>
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<td>4. Park and Ride</td>
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<td>5. Incident Management</td>
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<td>6. Transit Service Expansion</td>
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<td>7. Extreme-Temperature Cold-Start Technologies</td>
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<td>8. Bicycle and Pedestrian Paths</td>
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<td>9. Transit Amenity Improvements</td>
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<td>10. Employee Transit Benefits</td>
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<td>11. Carsharing</td>
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<td>12. Intermodal Freight Facilities and Programs</td>
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<td>13. Intersection Improvements</td>
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<tr>
<td>14. Natural Gas Re-Fueling Infrastructure</td>
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<td>15. Rideshare Programs</td>
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<td>16. Roundabouts</td>
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<tr>
<td>17. Bikesharing</td>
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<tr>
<td>18. Electric Vehicle Charging Stations (this should change if electric vehicle usage increases in future years)</td>
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</table>
Popular CMAQ Project Types

- Congestion Reduction and Traffic Flow Improvements
- Bicycle and Pedestrian Facilities Programs
- Transit Improvements
- Travel Demand Management
- Ride Sharing
- Alternative Fuels and Vehicles

Source: https://fhwaapps.fhwa.dot.gov/cmaq_pub/
## Completed TCAM Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Sponsor</th>
<th>CMAQ$/Match$</th>
<th>Benefits</th>
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</table>
| NJ TRANSIT Locomotive Idle Reduction Program                           | NJ TRANSIT/NJDEP                             | $537,500/ $200,000(NJDEP) $100,000(NJ TRANSIT)    | • Reduced VOCs, NOX, PM2.5 and GHGs  
• Reduced fuel consumption and extended engine life  
• Reduced noise levels  
• Responded to community concerns  
• Responded to MAP-21 which identifies diesel reduction measures as a priority for CMAQ funds.  
• Responded to the NJTPA’s environmental and livability goals |
| Private Diesel Freight Locomotive Retrofit/Replacement Program        | PANYNJ/CSX Railroad                          | $1,800,000/ $600,000(PANYNJ) $600,000(CSX)       | • Reduced VOCs & NOx, PM2.5 and GHGs  
• Each replaced Tier 0 engine with a diesel particulate filter removes 2 tons/yr of PM, and 36 tons/yr of NOx (based on 5000 hrs/yr usage with a load factor of 10%). This is an enormous amount.  
• Reduced fuel consumption (25%) and extended engine life  
• Reduced noise levels  
• Responded to community concerns  
• Responded to MAP-21 which identifies diesel reduction measures as a priority for CMAQ funds. |
| New Jersey Clean Construction Program Phase 1                          | NJDEP/NJDOT                                  | $800,000/ $1,850,000(NJDEP)                      | • Significant and quantifiable reductions in PM 2.5 and NOx  
• Responded to the Governor’s Executive Order #60  
• Addressed environmental justice issues with emphasis on densely populated urban areas  
• Laid a strong foundation for future phases, including all state contracts and has great potential for adoption in the private sector  
• Responded to MAP-21 which identifies diesel reduction measures as a priority for CMAQ funds. |
## Completed TCAM Projects

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| New Jersey Clean Construction Program Phase 2| NJDEP/NJDOT       | $600,000/ $300,000   | • Significant and quantifiable reductions in PM 2.5 and NOx  
• Responds to the Governor’s Executive Order #60  
• Addresses environmental justice issues with emphasis on densely populated urban areas  
• Lays a strong foundation for future phases, including all state construction contracts and has great potential for adoption in the private sector  
• Responds to MAP-21 which identifies diesel reduction measures as a priority for CMAQ funds. |
| North Jersey Regional Truck Replacement Program | PANYNJ            | $2,000,000/ $2,000,000 | • Reduces NOx, PM 2.5, HC and CO  
• Responds to community concerns in surrounding environmental justice areas of Essex, Hudson and Union Counties, specifically chronic and acute health issues  
• Responds to MAP-21 which identifies diesel reduction measures as a priority for CMAQ funds. |
| Traffic Signal Optimization                  | Ocean County      | $273,000/ $68,250    | • Reduces emissions of criteria pollutants and corresponding fuel usage  
• Reduces travel delay by approximately 15%  
• Improves corridor safety and incident management  
• Responds to MAP-21  
•Responds to key principles in the NJTPA’s Regional Capital Investment Strategy (RCIS); Safety; Fix it First; Manage Incidents; and Apply Transportation Technology |
| Morris Canal Greenway                        | Passaic County    | $468,000/ $117,000   | • Reduces emissions of criteria pollutants by increasing non-motorized options  
• Improves safety by increasing visibility of cyclists and pedestrians  
• Improves tourism to the area by linking to regional bike and trail systems  
• Improves economy of the area by linking travelers to stores and services |
Ineligible TCAM Projects

• Projects that require further study prior to implementation
• Projects that don’t satisfy the non-federal matching funds requirements
• System capacity projects
• Maintenance projects
• Studies
TCAM Selection Criteria

- Achieves primary CMAQ goals of reducing air pollutants and/or traffic congestion
- Has an immediate impact on pollution reduction and congestion mitigation
- Reduces fine particulate matter (PM$_{2.5}$) pollution
- Innovative approach
- Complements other projects/activities
- Achieves secondary goals, e.g., fuel costs, reducing VMT, noise, community issues
- Advances a recommendation(s) from a specific plan, study or legislation
• Located in an NJTPA maintenance or non-attainment area
• Potential for cross-jurisdictional partnership
• Project sponsor/manager has demonstrated successful implementation of programs/projects as contracted with the NJTPA
• Considers the needs of and specifically benefits environmental justice/low-income/minority communities
• Reasonable cost/cost-effectiveness
TCAM Selection Criteria

- Local funding match meets or exceeds requirements and source is identified
- Ability to realistically implement in the specified timeframe
TCAM Success Stories

Retrofitted Freight Diesel Locomotive Engine

Benefits
- Reduced VOCs, NOX, PM 2.5, GHGs
- Reduced noise levels
- Responded to community concerns
- Reduced fuel consumption & extend engine life

Connects to existing plans
- PANYNJ Clean Air Strategy
- Reduced emissions in advance of regulations

CSX GenSet
TCAM Success Stories

Retrofitted Freight Diesel Locomotive Engine

Public/Private Partnership
- PANYNJ
- CSX Rail Line
- NJTPA

Leveraged Funds
- PANYNJ: $600,000
- CSX Rail Line: $600,000
- NJTPA: $900,000
- Replaced one engine

CSX GenSet
Success Stories

County Routes 540 & 631 Traffic Signal Optimization – Ocean County

Benefits

• Reduced travel time in corridor by 10-15%
  – Reduced idling and stop/start engine cycles
  – Lowered emissions
  – Reduced fuel consumption
• Reduced traffic accidents, which exceeded state averages
Success Stories

County Routes 540 & 631 Traffic Signal Optimization – Ocean County

Connected to Existing Plans
• Supported RCIS, Plan 2040, Fix it First, MAP 21 / FAST Act Performance Management Goals

Funding
• CMAQ $273,000
• Local match $68,250
Emissions Analysis TCAM Program

• The TCAM full proposal requires quantitative emissions reductions analysis

• Applicants can run emissions reductions analysis on their own
  – Subject to acceptance by NJTPA
  – Methodology must be described

• NJTPA can provide guidance to applicants
Emissions Analysis TCAM Program

- For those that require assistance to run emissions analysis
  - NJTPA will provide
    - Help with tools developed for NJDOT and FHWA
    - Decisions on what tool fits the project type applied for
    - Running the analysis at NJTPA
- If needed, NJTPA will assist with emissions analysis on projects as much as possible
  - Requirements include:
    - Project specific inputs
    - NJTPA will spec out what is required for each project type
TCAM Program Emissions Analysis Tools

FHWA CMAQ Emissions Calculator Toolkit

- Managed Lane Facilities and Conversions
- Dust Mitigation
- Bicycle and Pedestrian Improvements
- Diesel Idle Reduction Technologies
- Transit Bus Service and Fleet Expansion
- Transit Bus Retrofits and Replacement
- Carpooling and Vanpooling
- Alternative Fuels and Vehicles
- Advanced Diesel Truck/Engine Technologies
- Congestion Reduction and Traffic Flow Improvements

https://www.fhwa.dot.gov/environment/air_quality/cmaq/toolkit/
NJAQONE
- Idle reduction technology
- Traffic signal optimization and ITS
- Transit improvements
- Bicycle and pedestrian facilities and programs
- Travel demand
- Carpooling, vanpooling and carsharing
- Alternative fuels and vehicles
• NJTPA’s Regional Transportation Plan: [https://www.njtpa.org/Planning/Plans-Guidance/Plan-2045.aspx](https://www.njtpa.org/Planning/Plans-Guidance/Plan-2045.aspx)
• Together North Jersey: [http://TogetherNorthJersey.com](http://TogetherNorthJersey.com)
• FHWA CMAQ Guidance:
  - FHWA CMAQ Project Templates: [www.fhwa.dot.gov/environment/air_quality/cmaq/research/safety_phase_1/appendix_c/](http://www.fhwa.dot.gov/environment/air_quality/cmaq/research/safety_phase_1/appendix_c/)
## Application Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>March 16</td>
<td>Solicitation inquiry closing date</td>
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<tr>
<td>March 25</td>
<td>Thumbnail sketches due</td>
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<tr>
<td>April 15</td>
<td>Successful thumbnail applicants invited to complete full proposals</td>
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<tr>
<td>May 13</td>
<td>Full proposals due</td>
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Please submit questions by email by March 16, 2020

Responses will be posted on NJTPA website:
http://njtpa.org/Projects-Programs/Local-Programs/CMAQ-Local-Mobility.aspx

Contacts:
Transportation Clean Air Measures: Liz DeRuchie, Liz@njtpa.org
Local Mobility Initiatives: Peter Bilton, pbilton@njtpa.org
Questions?

Defining the Vision. Shaping the Future.

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