

# CMAQ EMISSIONS ESTIMATION METHODOLOGIES

AMPO Survey February-March 2019

DRAFT RESULTS

April 3, 2019

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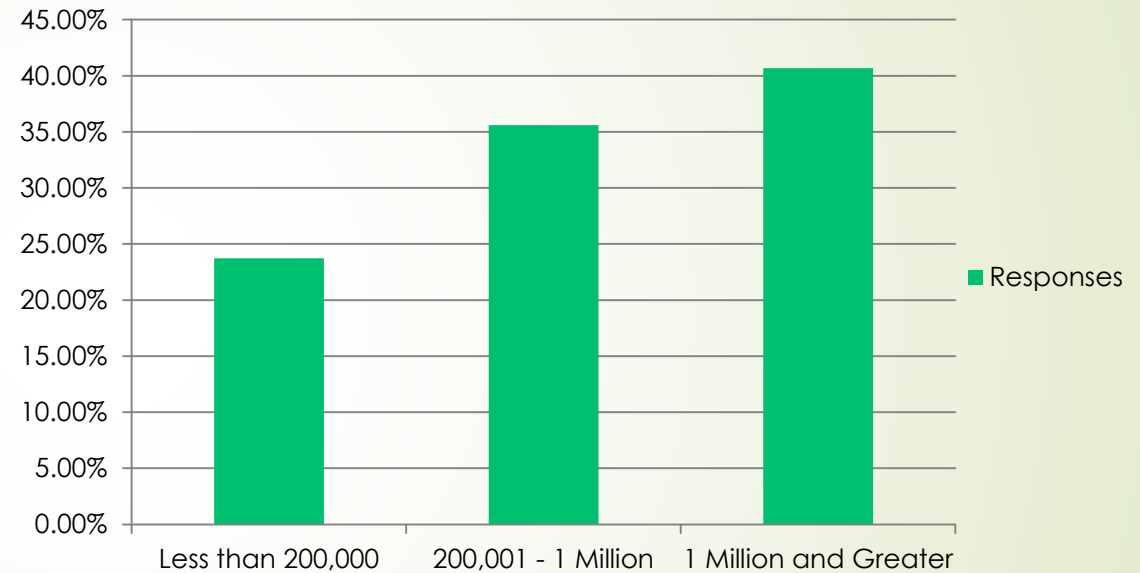
# Overview

- ▶ Purpose of Survey
  - ▶ To determine what methodologies are being used by MPOs to estimate the emission reduction benefits of CMAQ-funded projects.
- ▶ Survey Results
  - ▶ Profile of Respondents
  - ▶ CMAQ Project Selection Process
  - ▶ Emissions Estimating Methodologies
  - ▶ Performance Targets
  - ▶ Communications and Training
  - ▶ Recommendations/Notable Practices

# Profile of Respondents: How many?

- 62 MPOs total
  - 14- less than 200,000
  - 21 -200K-1M
  - 24- 1M+
  - 3- skipped question
- 15% response rate

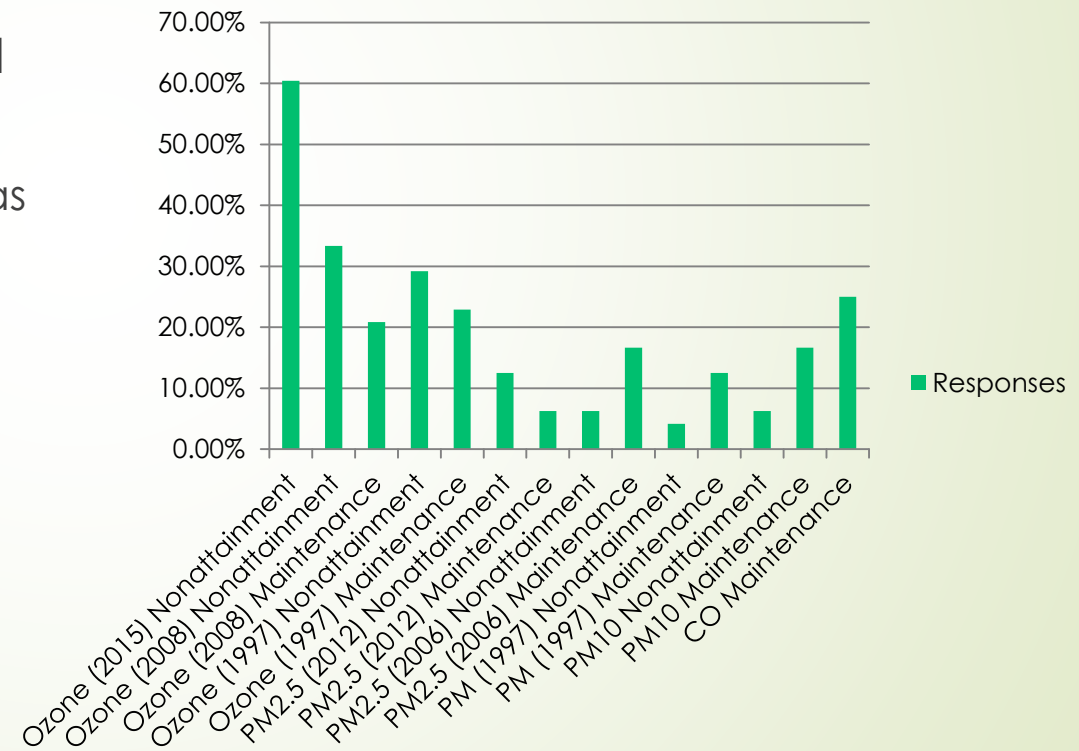
Size of MPO Population



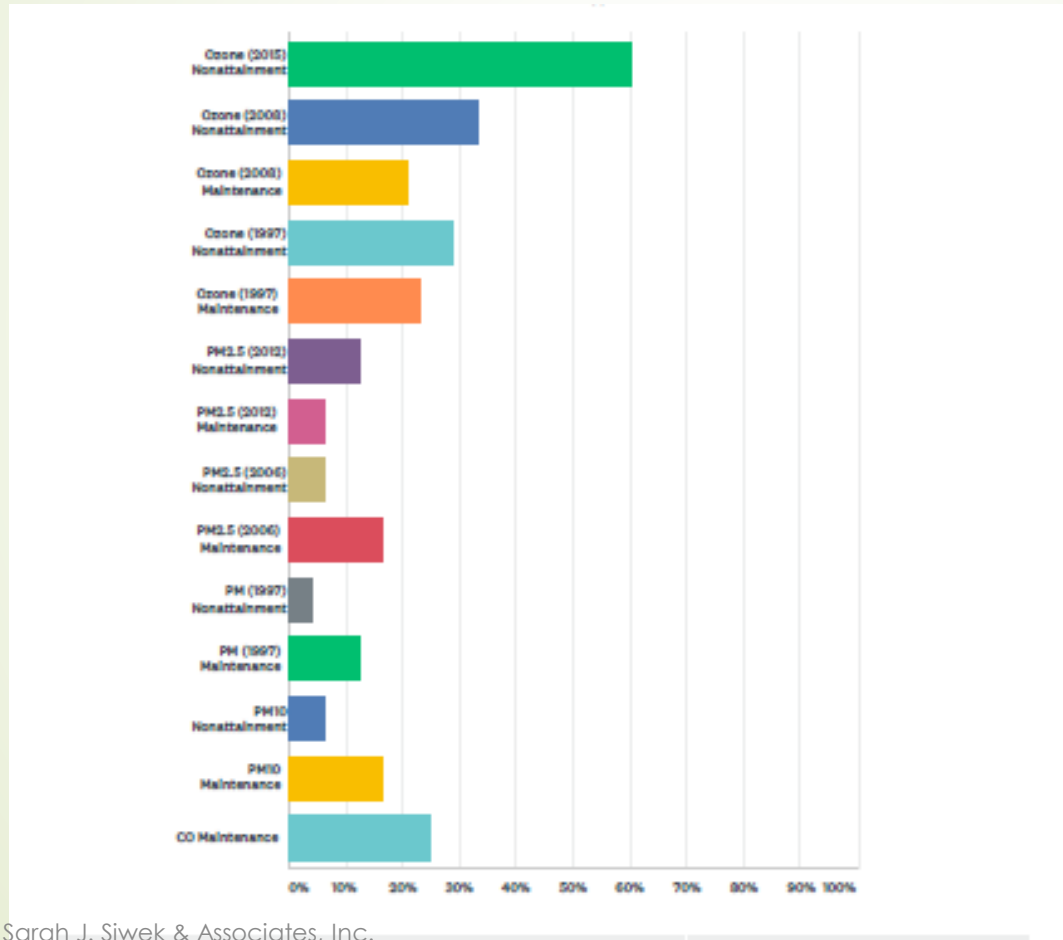
# Profile of Respondents: Non-attainment and maintenance areas

- 48 answered/14 skipped
- 131 Non-attainment and Maintenance areas
  - 73 non-attainment areas
  - 58 maintenance areas

Is your MPO in a nonattainment or maintenance area (check all that apply)

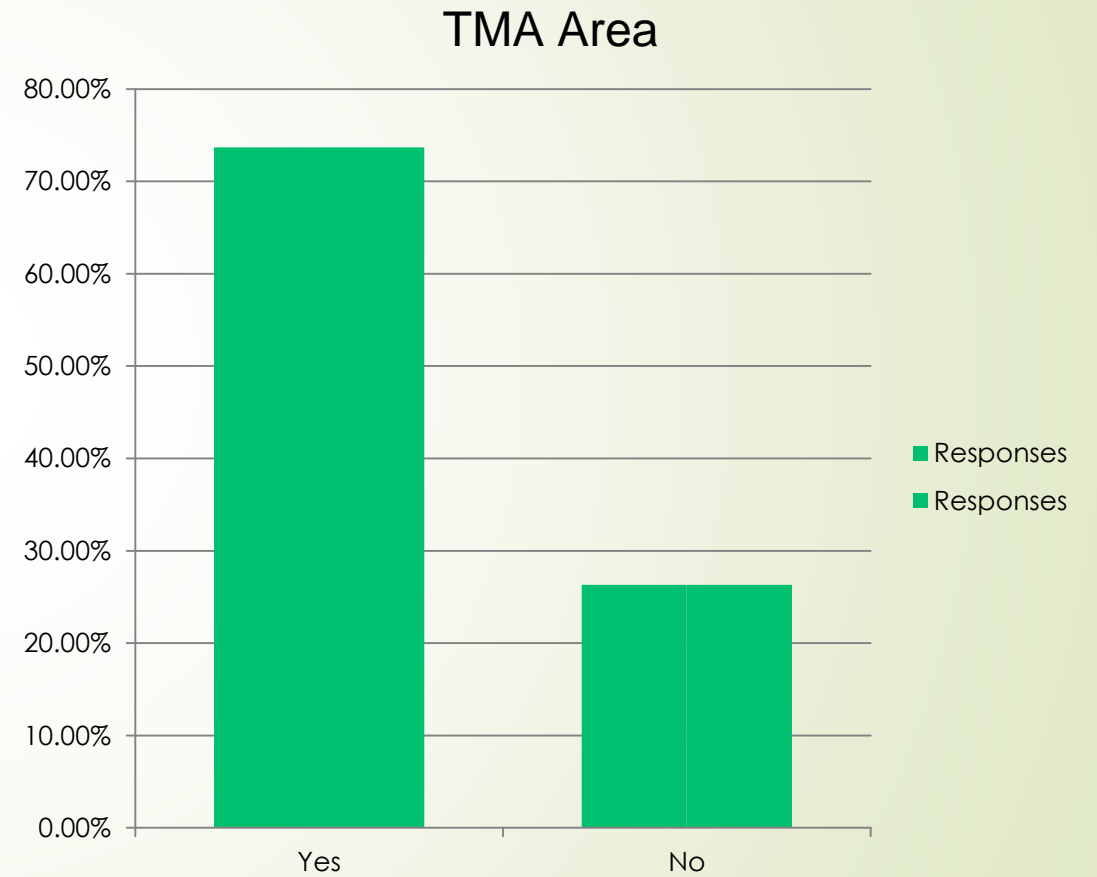


# Profile of Respondents: Types of non-attainment and maintenance areas



# Profile of Respondents: TMA Areas

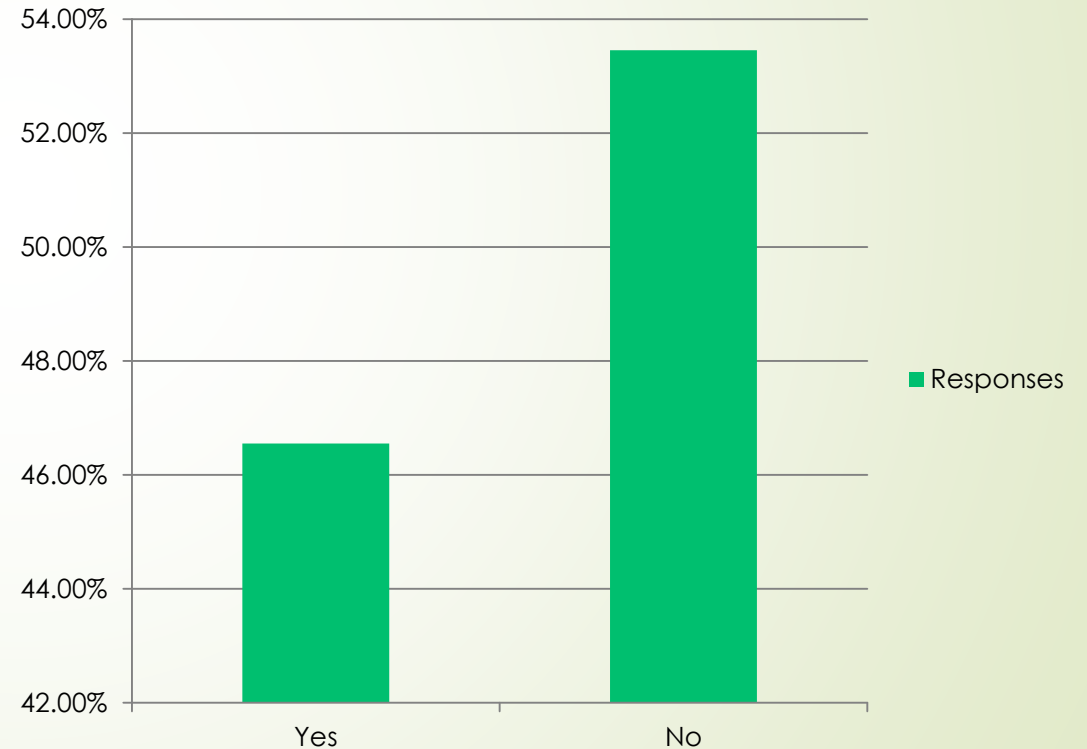
- ▶ 57 answered
- ▶ 5 skipped
- ▶ 74% - Yes, we are TMA
- ▶ 26% - No, not TMA
  
- ▶ How many MPOs within the TMA Area?
  - ▶ 1 TMA- 30 areas
  - ▶ 2 TMA- 3 areas
  - ▶ 3 TMA- 2 areas
  - ▶ 4 TMA- 1 area
  - ▶ 5 TMA- 1 area



# Profile of Respondents: CMAQ Performance Plans

- 58 answered/4 skipped question
- 27 – Yes, we have to do
- 31- No, don't have to do

My MPO must submit a CMAQ Performance Plan

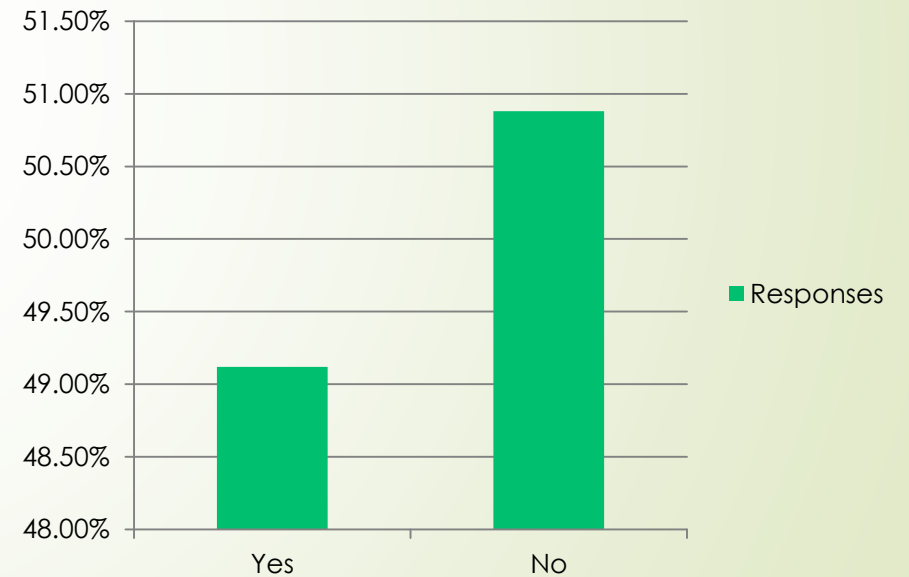




# Profile of Respondents: On-Road Mobile Source Emission Performance Measure

- 57 answered/5 skipped
- 28 – yes
- 29- no

My MPO must implement the On-Road Mobile Source Emission Performance Measure

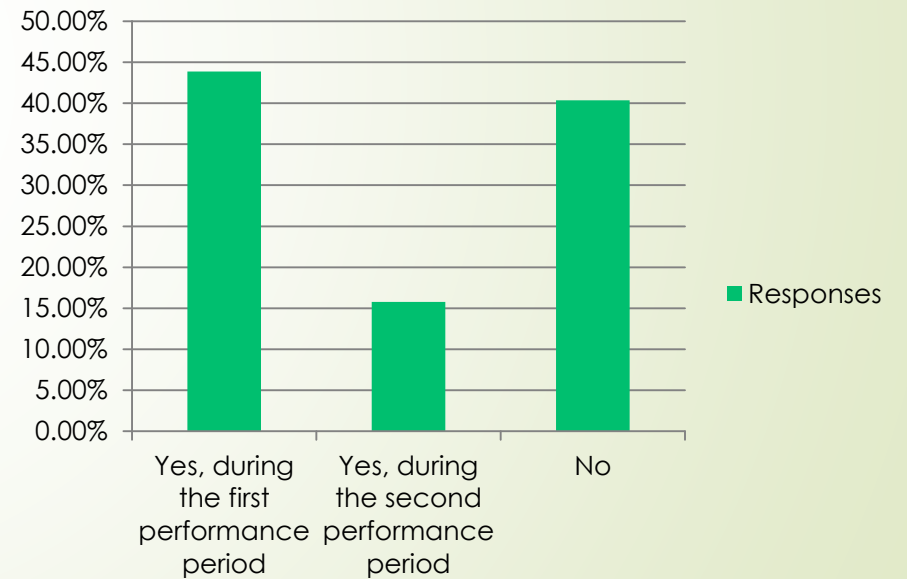




# Profile of Respondents: Traffic Congestion Performance Measures (PHED and non-SOV)

- 57 answered/5 skipped
- 25- first performance period
- 9- second performance period
- 23- no

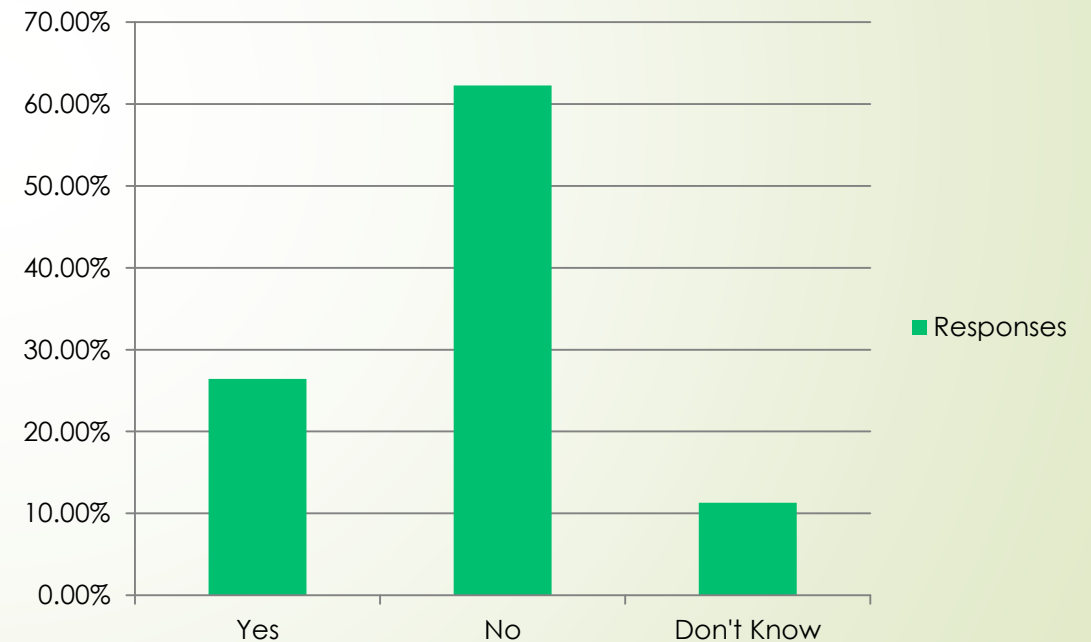
My MPO must implement the Traffic Congestion Performance Measures (PHED and non-SOV)



# CMAQ Project Selection Process

- 53 answered/9 skipped
- 14 Yes
  - 15 competitive process
- 33 No
- 6 Don't know

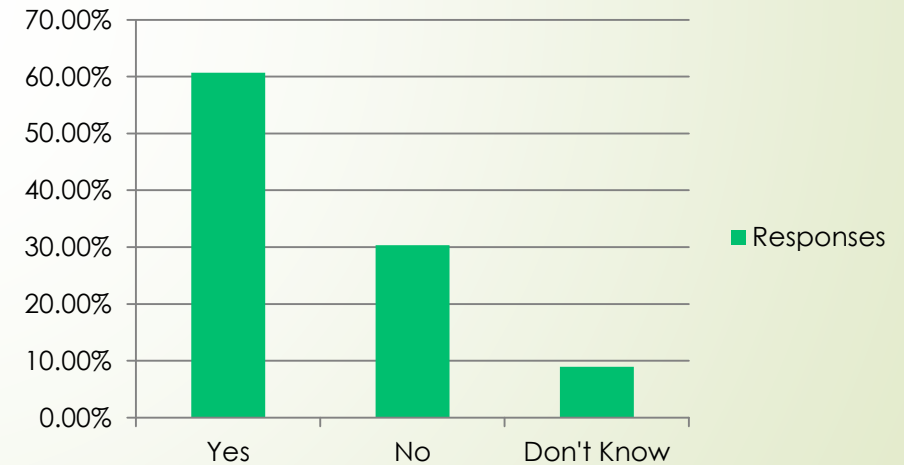
Does the State DOT make all project selection decisions for CMAQ funds throughout the entire state (e.g., no MPO involvement)?



# CMAQ Project Selection Process

- 56 answered/6 skipped
- 34 yes
- 17 no
- 5 don't know

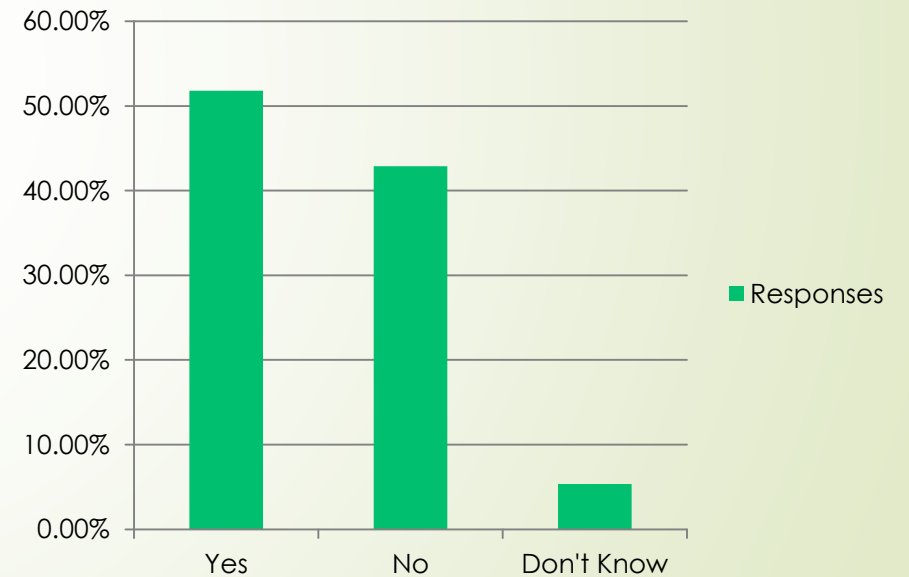
Does the State DOT sub allocate CMAQ funds to the MPOs/counties with nonattainment and/or maintenance areas?



# CMAQ Project Selection Process

- 56 answered/6 skipped
- 29 yes
- 24 no
- 3 don't know

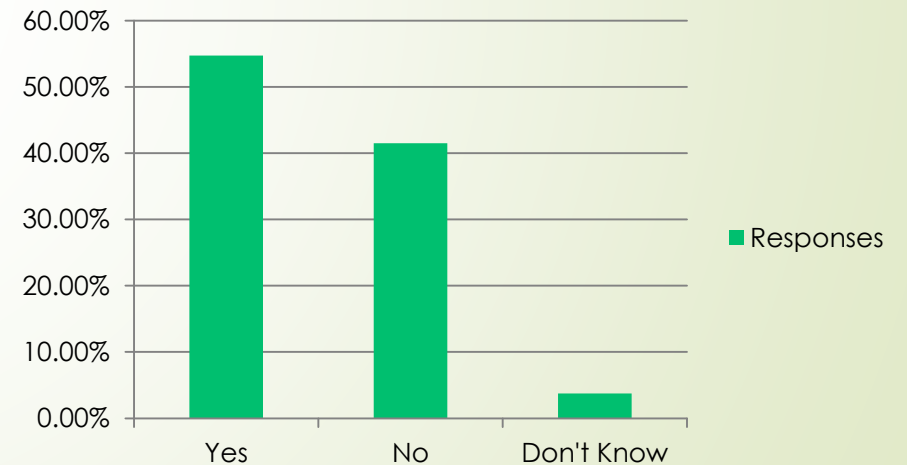
Is there a collaborative process between the State DOT and the MPO for project selection?



# CMAQ Project Selection Process

- 53 answered/9 skipped
- 29 yes
- 22 no
- 2 don't know
- Frequency of project selection process?
  - 28 answered
  - Most do Biannually or annually

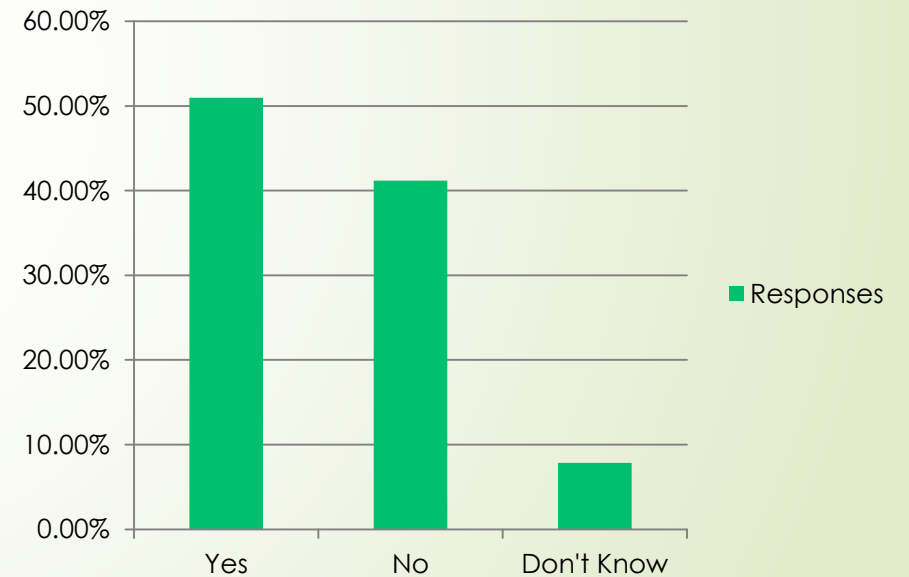
Does the MPO conduct a stand-alone project selection process (e.g., used exclusively for potential CMAQ projects) within the MPO region?



# Is cost-effectiveness a criterion in CMAQ project selection ?

- 51 answered/11 skipped
- 26 yes
- 21 no
- 4 don't know

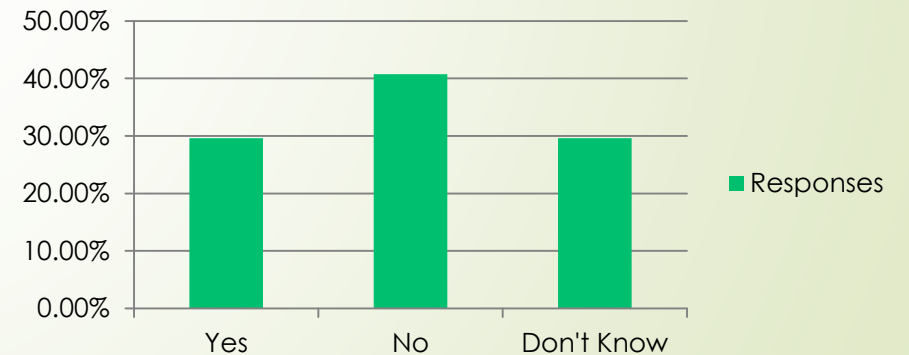
Does your agency use cost-effectiveness as a criterion in CMAQ project selection?



# CMAQ Project Selection Process

- 54 answered/8 skipped
- 16 yes
- 22 no
- 16 don't know
- 16 answered on amount
  - INSERT RESULTS

Are some portion or specific amount of CMAQ funds in your State and/or MPO region reserved each year for specific ongoing programs (e.g. Transit, Commuter Choice Program, Incident Management...







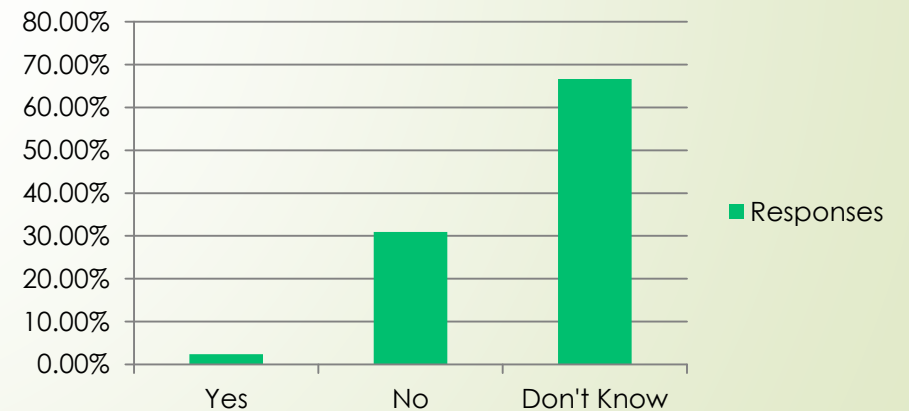
# CMAQ Project Selection Process


- ▶ What portion of funds are reserved each year for on-going programs?
  - ▶ Less than 25%= 8 MPOs
  - ▶ 25-50%= 2 MPOs
  - ▶ 50-100%= 2 MPOs
  - ▶ Other= 3 MPOs
  - ▶ N/A= 1 MPO

# CMAQ Project Selection Process

- 42 answered/20 skipped
- 1 yes
- 13 no
- 28 don't know

If there are no nonattainment or maintenance areas in your state, does the State DOT use the CMAQ funds for any project eligible under the STBG program?





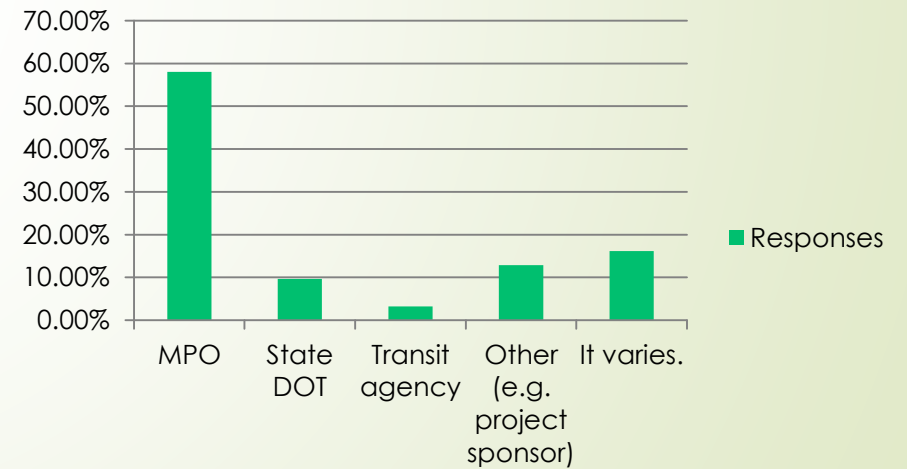
# List CMAQ Project Selection Criteria in addition to emissions reduction-Examples of responses

- ▶ Support of regional goals
- ▶ Project readiness
- ▶ FHWA cost benefit analysis, project lifespan, VMT reduction potential, project cost
- ▶ Congestion, Safety, Project Readiness, Land use/Connectivity
- ▶ Multimodal/operational improvements, transit access/ridership, safety
- ▶ Livability and safety
- ▶ Highway peak period LOS before and after project
- ▶ Preserves existing transportation assets

# Emissions Estimating for CMAQ projects

- 31 answered/31 skipped
- 18 MPOs
- 3 State DOTs
- 1 transit agency
- 4 other
- 6 it varies

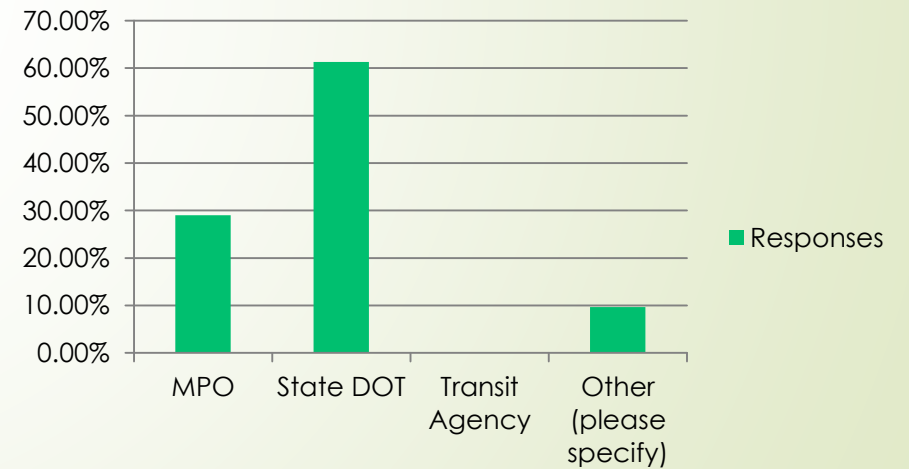
Which agency develops the emissions reduction estimates for each CMAQ project that are used in the required annual reporting process?



# Emissions Estimating for CMAQ Projects

- 31 answered/31 skipped
- 9 MPO
- 19 State DOT
- 0 Transit agency
- 3 other

Which agency enters the CMAQ data into the FHWA CMAQ Project Tracking System via the User Profile and Access Control System (UPACS)?

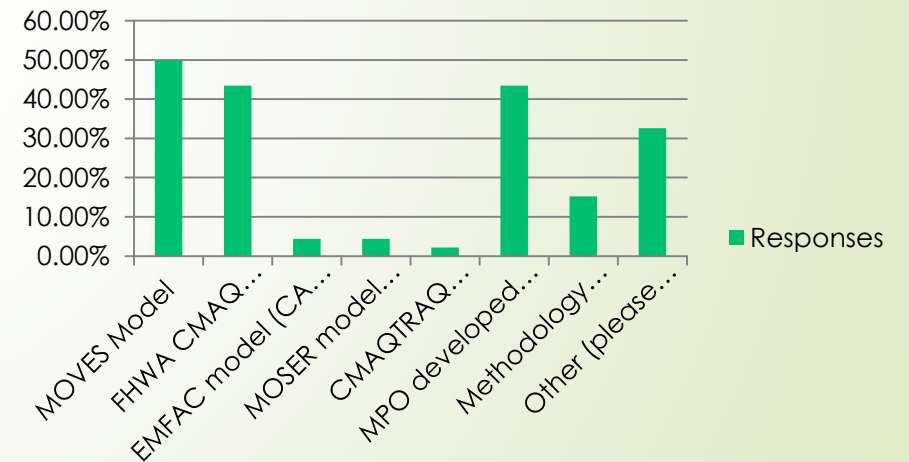


# Emissions Estimating for CMAQ Projects

- 46 answered/16 skipped
- 90 responses to tools used

MOVES Model	50.00%	23
FHWA CMAQ Emissions Calculator	43.48%	20
EMFAC model (CA only)	4.35%	2
MOSER model (developed in Texas)	4.35%	2
CMAQTRAQ (developed in New York)	2.17%	1
MPO developed process internally (e.g. CMAP in Chicago)	43.48%	20
Methodology developed by state DOT used in all MPOs in state (	15.22%	7
Other (please specify)	32.61%	15

What tools does your agency use to develop emission reduction estimates for CMAQ projects? (Please select all that apply)

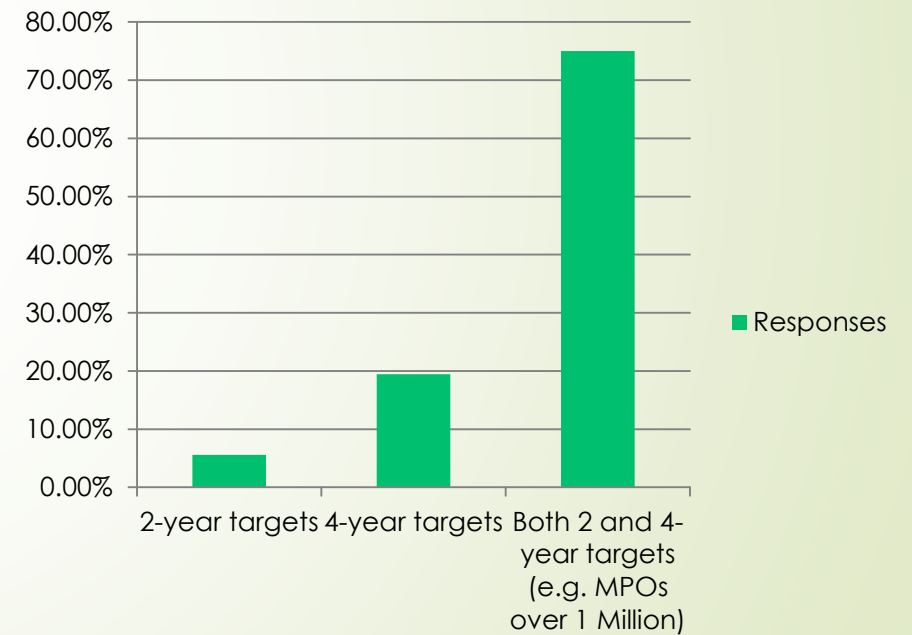




# Performance Targets

- 36 answered/26 skipped
- 2-year targets – 2 MPOs
- 4-year targets – 7 MPOs
- Both 2 and 4-year targets – 27 MPOs (MPOs over 1 M)

Does your MPO need to develop  
(check all that apply)







# Performance Targets: Briefly describe approach to setting targets

- ▶ We adopted the State targets and agreed to program projects to contribute towards achieving them.
- ▶ We adopted the targets set by state DOT in one case and created our own in the other. Both utilized Excel spreadsheet-based emission reduction consolidations of the projects.
- ▶ Review projects programming in TIP over next 4 years, sum emissions benefits
- ▶ State DOT initiated and took the lead on proposing targets, which we reviewed and commented on. Bigger issue was determining the correct baseline numbers to build from. Ended up taking very conservative approach to target setting.
- ▶ Collaboration and consultation



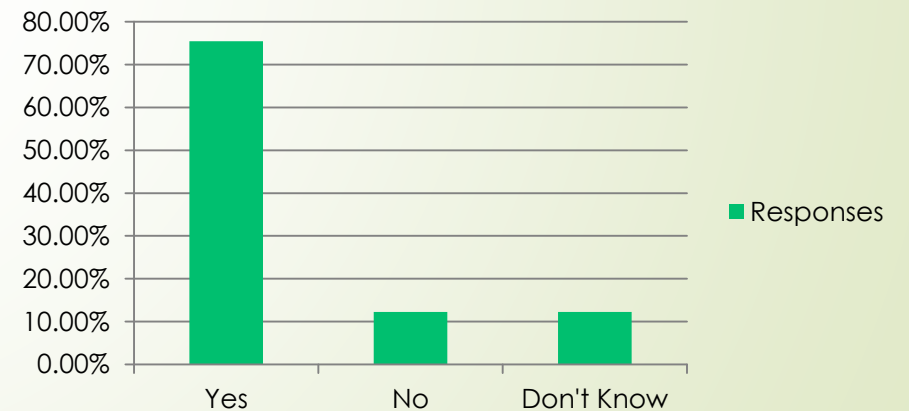
# Performance Targets: Briefly describe approach to setting targets

- ▶ Looked at future programmed CMAQ funds and the emissions associated with those projects and then discounted for changing emission rates and delivery rate of program.
- ▶ Worked closely with state DOTs to track previous years CMAQ emissions reductions and use historical data and list of projects in the pipeline to set targets.
- ▶ Targets were set by a combination of averaging previous emission reductions (and projecting them into the future) and estimating benefits from specific planned projects.
- ▶ MPO developed methodology in collaboration with other 2 nonattainment areas and submitted results to DOT.

# Performance Targets

- 49 answered/13 skipped
- 37 yes
- 6 no
- 6 don't know

Does your MPO have agreed-upon roles and responsibilities for target setting and reporting within your agency and with your partner agencies (e.g., State DOT)

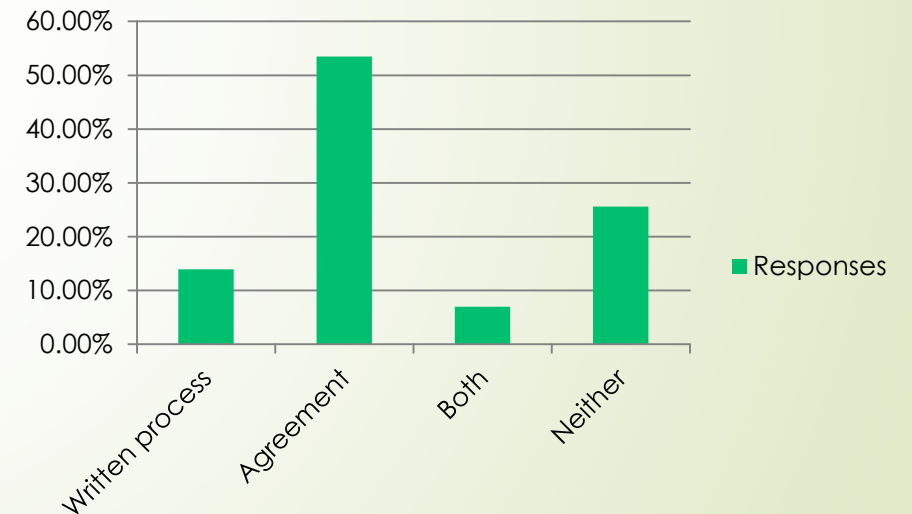


# Performance Targets

43 answered/19 skipped

Written process	13.95%	6
Agreement	53.49%	23
Both	6.98%	3
Neither	25.58%	11

Is there a formal, written process or agreement with the State DOT for how targets are being set, updated, and reported on?





# Performance Targets: Are there other tools your agency needs to meet CMAQ performance plan requirement?

- 14 answered/43 skipped
- More experience and training
- Better information from the CMAQ Public Access System would be helpful.
- Additional guidance, webinars and workshops would be helpful.
- If we need to develop such a plan, better information from the CMAQ Public Access System would be helpful. We will also need to work with our state DOT and our state air agency in order to develop such a plan.



# Performance Targets: Are there other tools your agency needs to meet CMAQ performance plan requirement? (cont'd)

- ▶ CMAQ projects are a very small part of transportation funding. Other emission reduction efforts such as I/M programs and cleaner vehicles entering the fleet far outweigh the benefits of CMAQ funded projects. The emission benefits of these other emission reducing programs are addressed in detail in the conformity process. This CMAQ target setting effort is not meaningful.





# Communication and Training

- ▶ Is there a process to ensure that when there is staff turnover, other staff will be knowledgeable about the CMAQ program and performance measure requirements?
  - ▶ 46 answered/16 skipped
  - ▶ We will train new staff as necessary.
  - ▶ Cross training of existing staff and solid documentation on the processes
  - ▶ Multiple individuals are involved with the CMAQ program and performance measure requirements. When there is staff turnover, other CMAQ involved individuals can replace loss of staff expertise.
  - ▶ This is a challenge. There's was only one staff person that is knowledgeable about this and he recently left the agency. He prepared information and has remained open to helping but succession planning is a challenge.
  - ▶ We have had the staff that oversee the CMAQ program for over 20 years. Currently we are training other staff.





# Communication and Training (cont'd)

- ▶ How do you learn about new information and activities in the CMAQ program?
  - ▶ 46 answered/16 skipped
  - ▶ AASHTO CEE Listserv, AMPO emails, State DOT, FHWA Division office, FHWA Newsletter, Texas Association of MPOs, Texas Working Group for Mobile Source Emissions (TWG), Newsletters, websites, quarterly conference calls, CA Federal Programming Group monthly meetings
- ▶ Have you or any other MPO staff participated in a training on the CMAQ program in last 18 months?
  - ▶ 58 answered/4 skipped
  - ▶ 26 yes/32 no