

DEVELOPMENT OF A NEW DIRECTION FOR CMAQ AT NCDOT

Background

Congestion Mitigation & Air Quality (CMAQ) is a Federal program that funds transportation projects and programs in air quality nonattainment and maintenance areas to help achieve and maintain national standards for pollutants. In North Carolina, the current criteria pollutants are ozone, carbon oxides and particulate matter. Figure 1 shows the current non-attainment and maintenance counties within North Carolina.

CMAQ was initially authorized with ISTEA and further continued in TEA-21 and SAFETEA-LU. The program is jointly administered by FHWA and FTA in consultation with EPA.

Funding is apportioned to North Carolina based on the population in non-attainment and maintenance areas of the state and the severity of air quality problem. These funds are outside of the Equity Formula.

Current Status of CMAQ program

In 2004, NCDOT changed the process for funding CMAQ projects by issuing a call for projects to be locally administered within North Carolina's non-attainment and maintenance counties¹. NCDOT announced that approximately \$20 million per year would be available to fund CMAQ projects in the TIP for the years 2006 – 2012.

The anticipated North Carolina CMAQ authorization was allocated to eligible MPO/RPOs. In addition, a portion was reserved for projects with statewide benefits. The allocation formula that was used mimicked the Federal apportionment formula and was approved by the Board of Transportation.

The project selection process was a cooperative process performed by an interagency review committee.

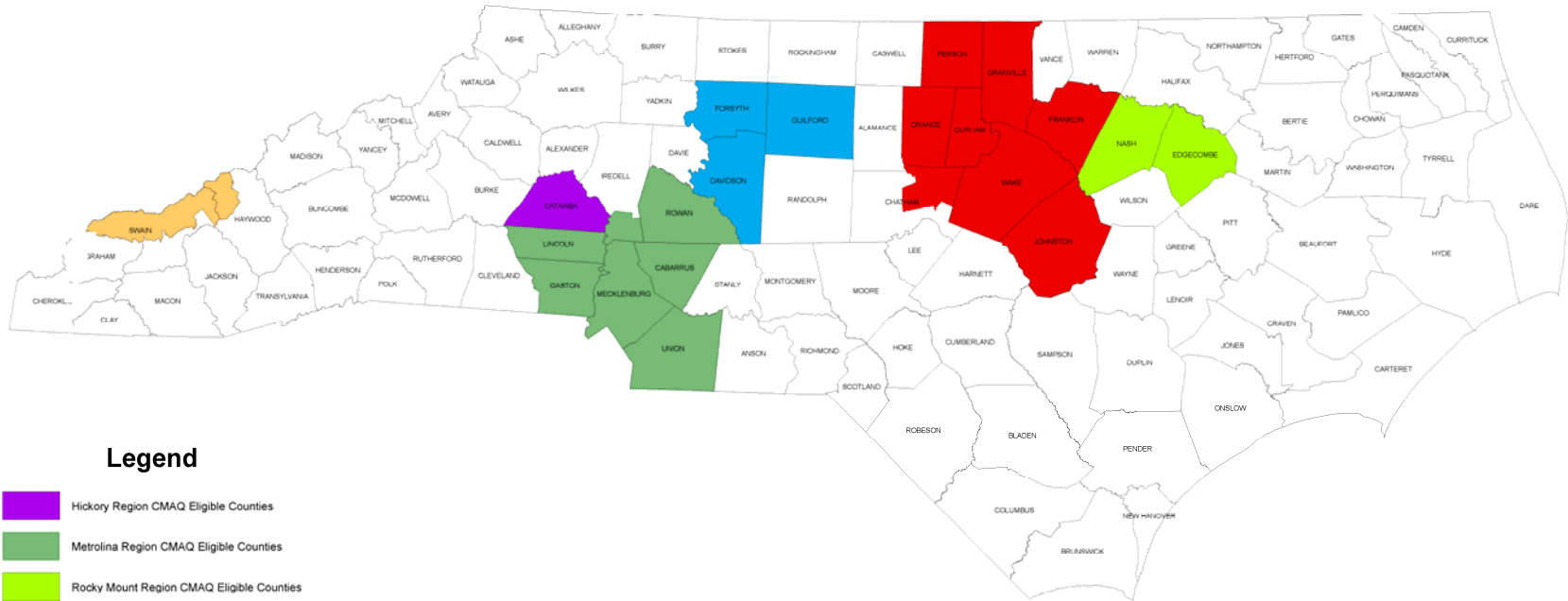
- Team was comprised of representatives from NCDOT (Transportation Planning and Program Development); NCDENR (Division of Air Quality); FHWA and FTA; and MPO/RPOs (presiding presidents from NCAMPO and NCARPO).
- Committee reviewed projects based on the CMAQ eligibility rules, emissions benefits, cost and other applicable criteria and recommended projects to the Board of Transportation.

¹ Non-attainment and maintenance counties at that time included the following: Cabarrus, Catawba, Chatham, Davidson, Davie, Durham, Edgecombe, Forsyth, Franklin, Gaston, Granville, Guilford, Haywood, Iredell, Johnston, Lincoln, Mecklenburg, Nash, Orange, Person, Rowan, Swain, Union and Wake.

Figure 1

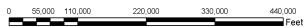


CMAQ Eligible Counties in North Carolina



Legend

- Hickory Region CMAQ Eligible Counties
- Metrolina Region CMAQ Eligible Counties
- Rocky Mount Region CMAQ Eligible Counties
- Triad Region CMAQ Eligible Counties
- Triangle Region CMAQ Eligible Counties
- Great Smokey Moutains National Park



NCDOT Transportation Planning Branch
August 4, 2008

The committee reviewed both statewide and local projects.

- **Statewide projects** – those projects benefiting multi-jurisdictions (more than one air quality region), having true statewide benefits, that can not be considered local projects
 - *Evaluated by air quality emissions benefits and cost*
- **Local projects** – awarded within eligible counties at the MPO/RPO level from a selection of candidate projects submitted by local project sponsors up to the target yearly allocation for the MPO/RPO
 - *Evaluated by air quality emissions benefits, MPO/RPO priorities and cost*
 - *Required endorsement by MPO/RPO*

As a result of this call for projects and review of submitted proposals, approximately 100 projects were selected for funding across the State.

- *Four areas did not submit any projects for consideration²*
- *Some areas did not submit enough projects to use their full allocation of funds with the intent to add projects based on initial distribution during the next call for projects*
- *Prior to programming projects, received notification that NCDOT cash flow model would only support CMAQ funding of \$12 million for first years of program and then increase to \$28 million for years 2009 – 2012*

The Transportation Planning Branch (TPB) has responsibility for managing the CMAQ program. Other divisions within NCDOT are involved with the process at some point.

- *Management includes overseeing the development of local agreements, requesting Federal authorizations, approving environmental documentation, overseeing local procurement of consultants/contractors, managing individual contracts & reimbursements, etc.*

There have been issues encountered through this process, mostly focused on project implementation and meeting the TIP-established cash flow targets.

- *Implementation delays due to local areas being unfamiliar with Federal funds process and our inexperience in project management*
- *Burdensome management & coordination process involving a multitude of divisions within NCDOT*
- *Same level of management and oversight required, regardless of project size/cost*

² NW Piedmont RPO, Hickory MPO, Unifour RPO, Upper Coastal Plain RPO

Opportunity for Change

In light of the issues encountered implementing the program over the last few years and NCDOT's recent transformation process, it seems appropriate to modify the current methodology to improve its functionality and align better with the goals and mission of both the CMAQ program and NCDOT.

The main goals sought with revisions to the current CMAQ methodology include the following:

- To program unused funds remaining from 2004 Call for Projects allocations;
- To address implementation and management issues realized as a result of the initial call for projects; and
- To keep in mind the goals of the CMAQ program by focusing on the highest & best use of funds.

In addition, there is a significant balance of CMAQ funds outside of the allocations that were distributed to the local areas in 2004. Therefore, another goal of the revised process is to utilize these funds.

In order to meet these goals, the three processes described as follows were approved by the NC Board of Transportation on October 2, 2008.

➤ **Programming Unallocated Funds from 2004 Call for Projects**

During the 2004 Call for Projects, four areas did not submit any projects and several others did not submit sufficient project proposals to exhaust their entire CMAQ target. Table 1 presents the current balance of CMAQ funds for Fiscal Years 2009 – 2012.

Table 1. FY 2006 – FY 2012 Summary of Funding

| Area | 2006 - 2012 Target | Total Funded Projects ³ | Balance |
|---------------------------------|--------------------|------------------------------------|---------------|
| Burlington-Graham MPO | \$224,438 | \$0 | \$224,438 |
| Greensboro MPO | \$8,649,393 | \$6,682,156 | \$1,967,237 |
| High Point MPO | \$4,644,397 | \$496,018 | \$4,148,379 |
| NW Piedmont RPO | \$1,048,597 | \$0 | \$1,048,597 |
| Piedmont Triad RPO | \$2,279,712 | \$765,894 | \$1,513,818 |
| Winston-Salem MPO | \$9,677,543 | \$1,878,520 | \$7,799,023 |
| Cabarrus-Rowan MPO | \$7,065,979 | \$6,557,380 | \$508,599 |
| Gaston MPO | \$4,383,131 | \$6,891,000 | (\$2,507,869) |
| Lake Norman RPO | \$4,850,744 | \$901,152 | \$3,949,592 |
| Mecklenburg Union MPO | \$24,484,950 | \$22,600,652 | \$1,884,298 |
| Rocky River RPO | \$529,390 | \$141,542 | \$387,848 |
| Capital Area MPO | \$19,076,138 | \$23,259,200 | (\$4,183,062) |
| Durham-Chapel Hill-Carrboro MPO | \$9,332,401 | \$5,566,941 | \$3,765,460 |
| Kerr Tarr RPO | \$3,686,237 | \$1,907,140 | \$1,779,096 |
| Triangle RPO | \$639,141 | \$329,758 | \$309,383 |
| Hickory MPO | \$3,336,171 | \$0 | \$3,336,171 |
| Unifour RPO | \$524,975 | \$0 | \$524,975 |
| Land of Sky RPO ² | \$1,227,073 | \$217,367 | \$1,301,205 |
| Southwestern RPO ⁴ | \$294,499 | | |
| Rocky Mount MPO | \$1,612,865 | \$844,400 | \$768,465 |
| Upper Coastal Plain RPO | \$4,432,227 | \$0 | \$4,432,227 |

³ As programmed in the Draft 2009 – 2015 STIP, subject to verification.

⁴ Funding allocated to the Land of Sky RPO and Southwestern RPO was combined, per local request.

NCDOT proposes a process to allow each non-attainment/maintenance MPO/RPO with a balance to submit project proposals for CMAQ funding. The following process would apply:⁵

Timeline

Action

November 12, 2008

MPO/RPOs will receive notification of any CMAQ balances by the NCDOT Transportation Planning Branch (TPB). This will initiate a window of time for these areas to submit project proposals to NCDOT to exhaust these balances.

- Project proposals will require a completed CMAQ application (and supporting details) and MPO/RPO endorsement.
- Individual project proposals will be subject to a minimum cost threshold of **\$100,000** or amount remaining in MPO/RPO target, whichever is less.

May 1, 2009

Deadline for eligible MPO/RPOs to submit project proposals to TPB for funding consideration⁶. TPB will initiate interagency review upon receipt of proposals.

- All proposals require documentation of MPO/RPO approval.
- All proposal packages must be hard copies physically received by TPB by the due date. Email submissions will not be allowed.

TPB will then distribute project proposals to **Interagency Review Team** (IRT, made up of FHWA, FTA, EPA, NCDOT and NCDQAQ⁷), allowing at least **4 weeks** for review & comment. The IRT will review the CMAQ eligibility of each project proposal, convening for a Project Review Meeting, if needed.

TPB will provide feedback to eligible MPO/RPOs regarding project proposals. Once all comments have been sufficiently addressed & reviewed by the IRT, TPB will forward IRT recommendation to NCDOT Transportation Improvement Development Unit (TIP Unit).

August 6, 2009

TIP Unit will present approved CMAQ projects for addition to 2009 STIP by amendment, subject to current funding availability⁸.

- Any remaining funds not programmed for eligible projects through this process will then revert to the general balance of CMAQ funds and be subject to new NCDOT CMAQ Project Selection & Programming Guidelines.

⁵ Dates based upon November 6, 2008 BOT approval.

⁶ If any proposed projects meet the requirements of the CMAQ Project Fast-Tracking process and 100% Federal funding for FY 2009 is desired, documentation of MPO/RPO approval and CMAQ project application package must be received by January 29, 2006 for consideration.

⁷ IRT for this process will not include MPO/RPO Association representation, since IRT is only reviewing CMAQ eligibility of proposed projects.

⁸ MPOs should make any necessary revisions to their MTIPs according to this schedule.

➤ CMAQ Project Fast-Tracking

The Federal Energy Independence and Security Act (Energy Act) passed in 2007 allows States to obligate up to 100% Federal share for CMAQ projects for Fiscal Years 2008 and 2009. This presents an opportunity for NCDOT to exhaust a significant portion of the unobligated CMAQ balance⁹ by encouraging sponsors to fast-track the preliminary engineering on their CMAQ projects and resulting construction authorization requests.

NCDOT proposes a process to apply 100% Federal CMAQ funds towards projects that meet a specified deadline for construction funding authorization. The following process would apply:¹⁰

Timeline

Action

November 12, 2008

MPO/RPOs, along with the sponsors of local projects within these areas, will receive notification of the opportunity for full-Federal funding on currently programmed projects. This will initiate a window of time for these areas to assess their ability to meet the requirements of this process and notify NCDOT of their intent.

- In order to qualify for project fast-tracking, all required preliminary engineering (PE, environmental document and right-of-way authorization) must be complete in time for NCDOT to request Federal funding authority by **September 15, 2009**¹¹. To allow adequate time for review of submitted items and preparation of Federal funding authorization requests, all PE items must be received by TPB no later than close of business on **August 29, 2009**.
- This offer will extend to any currently programmed CMAQ project or any project proposals programmed as a result of the *Programming of Unallocated Funds from 2004 Call for Projects* process.

January 29, 2009

MPO/RPOs will submit list of projects requested for fast-tracking to TPB via letter/memorandum. This submittal should include the anticipated completion date for preliminary engineering items for each project.

- Each MPO/RPO should establish their own internal deadlines with project sponsors to ensure that this TPB deadline can be met.

February 5, 2009

TPB will request a Supplemental Agreement for each fast-track project request from the Agreements Unit.

- The Supplemental Agreement will include a provision that if all preliminary engineering is complete and any required documentation is received by TPB by the close of business on **August 29, 2009**, NCDOT will request construction authorization with 100% Federal funding.
- TPB will facilitate local approval of this agreement directly with the Project Sponsor.

⁹ This unobligated balance is outside of the current MPO/RPO balances.

¹⁰ Dates based upon November 6, 2008 BOT approval.

¹¹ This is the last day that NCDOT will request Federal authorization for funding in FY 2009.

August 29, 2009 Deadline for receipt of required preliminary engineering items by TPB.

- If Project Sponsor does not complete preliminary engineering by this deadline, the project will not be funded with 100% Federal funding and will be funded according to the original local agreement.

➤ **New Guidelines for Programming Post-FY 2012 CMAQ Funding**

The 2004 Call for Projects was a successful process, yet there have been issues encountered from the both the State and local perspectives implementing the resulting projects. These include implementation delays and a resource-intensive management process. In addition, NCDOT has implemented new departmental goals and missions and is striving to incorporate these into all programs.

NCDOT proposes modifying the Call for Project methodology to better address these issues and incorporate the NCDOT goals and missions. This process would coincide with the STIP update cycle followed by the NCDOT – TIP Unit. The following guidelines would apply:

Timeline¹²

September – Year 1¹³

Action

Eligible MPO/RPOs will receive notification letter outlining the revised project selection process and their individual MPO/RPO monetary CMAQ target for the TIP under development.

- A portion of the NC allocation equal to \$4 million per year will be taken off the top for statewide projects
- Remaining portion of NC allocation will be distributed to eligible MPO/RPOs using the following distribution formula:

$$\text{Yearly MPO/RPO CMAQ \$} = \frac{\text{Factored NA Population for MPO/RPO} * \text{Total Yearly CMAQ \$}}{\text{Total State NA Population}}$$

- Project proposals will be submitted with the MPO/RPO priority list to the TIP Unit.
- All projects will be subject to a minimum project cost threshold equal to **\$100,000**.

January/February – Year 1

MPO/RPOs will submit CMAQ project proposals with the project priority list submitted to the NCDOT - TIP Unit. The TIP Unit will forward all CMAQ applications to the TPB.

- Project proposals will require a completed CMAQ application (and supporting details) and MPO/RPO endorsement.

¹² Based on “Biennial STIP Update Process” schedule posted at http://www.ncdot.org/planning/development/TIP/TIP/pdf/STIP_Process.pdf

¹³ Year 1 is assumed to be the September – August time period when the draft STIP is under development.

February/March – Year 1 NCDOT – TPB will distribute project proposals to IRT, allowing at least **4 weeks** for review. If needed, a Project Review Meeting will be held in to review Statewide projects and discuss any outstanding issues with local project proposals.

- **Statewide projects** (those projects benefiting multi-jurisdictions – more than one air quality region – having true statewide benefits that can not be considered local projects) evaluated by air quality emissions benefits and cost
- **Local projects** (those projects within eligible counties submitted by local project sponsors) evaluated by air quality emissions benefits, MPO/RPO priorities and cost and require endorsement by MPO/RPO

April/May – Year 1 Based on IRT comments, TPB will provide feedback to eligible MPO/RPOs regarding project proposals and providing opportunity to address comments. Once comments have been sufficiently addressed & reviewed by the IRT, TPB will forward IRT recommendation to TIP Unit.

September – Year 1 Approved CMAQ projects will be included in the Draft TIP.

- Final Statewide CMAQ projects will be determined based on coordination between the TIP Unit and the BOT/Secretary/Governor
- Final MPO/RPO projects will be determined based on consultation between BOT Members and MPO/RPOs

June – Year 2¹⁴ Any CMAQ funds not programmed after final adoption of the STIP revert back to the overall balance & are reallocated per formula for the next update cycle.

Division of Funds

Division of the NC CMAQ apportionment under the proposed modified process maintains the methodology used for the 2004 call for projects, but updates the population data based on 2000 Census population within AQ areas as established by EPA¹⁵. In addition, this formula includes factors to account for the severity of AQ pollutants – ozone, carbon oxides and particulate matter – within the AQ areas.

The revised formula is as follows:

$$\text{Yearly MPO/RPO CMAQ Target} = \frac{\text{Factored Population for MPO/RPO}}{\text{Total Statewide AQ Area Population}} * \text{Total Yearly NC CMAQ Allocation}$$

A minimum yearly target will be guaranteed for any MPO/RPO whose yearly target resulting from this formula is less than \$50,000. These funds will be allocated from the statewide target.

¹⁴ Year 2 is assumed to be the September – June time period after the release of the draft STIP.

¹⁵ Source - <http://www.epa.gov/oar/oaqps/greenbk/anay.html>

This will ensure that each MPO/RPO can program at least one CMAQ project that meets the \$100,000 minimum project amount during the TIP update cycle.

Calculation of the MPO/RPO funding distribution is shown in **Table 2**. This table also presents the anticipated funding that would be available to each MPO and RPO during the 2011- 2017 STIP development cycle.

Table 2. Calculation of Funding by MPO/RPO

Assumed yearly North Carolina CMAQ allocation = \$30,000,000¹

| MPO/RPO | County | Non Attainment Area Population (2000 Census) ² | Pollutant Factors | | Factored Population | % Factored Population | Yearly Target | 2011-2017 Total CMAQ Target (2013 - 2017) |
|------------------------------|----------------------|---|------------------------|--|---------------------|-----------------------|--------------------|---|
| | | | 8-hr Ozone Basic (1.0) | 8-hr Ozone Moderate (1.1) PM _{2.5} (1.2) Ozone + CO (1.2 x O ₃ Factor) | | | | |
| Statewide³ | | | | | | | \$6,000,000 | \$30,000,000 |
| Burlington-Graham MPO | | | | | 10,490 | 0.24% | \$57,464 | \$287,322 |
| | Guilford | 4,507 | 1.2 | 5,408 | | | | |
| | Orange | 5,082 | 1.0 | 5,082 | | | | |
| Greensboro MPO | | | | | 383,509 | 8.75% | \$2,100,771 | \$10,503,855 |
| | Guilford | 319,591 | 1.2 | 383,509 | | | | |
| High Point MPO | | | | | 174,507 | 3.98% | \$955,905 | \$4,779,525 |
| | Davidson | 46,196 | 1.2 | 55,435 | | | | |
| | Forsyth | 2,732 | 1.0 | 2,732 | | | | |
| | Guilford | 96,950 | 1.2 | 116,340 | | | | |
| Piedmont Triad RPO | | | | | 97,472 | 2.22% | \$533,929 | \$2,669,646 |
| | Davidson | 81,227 | 1.2 | 97,472 | | | | |
| Winston-Salem MPO | | | | | 327,123 | 7.47% | \$1,791,903 | \$8,959,513 |
| | Davidson | 19,823 | 1.2 | 23,788 | | | | |
| | Forsyth | 303,335 | 1.0 | 303,335 | | | | |
| Cabarrus-Rowan MPO | | | | | 287,543 | 6.56% | \$1,575,092 | \$7,875,461 |
| | Cabarrus | 131,063 | 1.1 | 144,169 | | | | |
| | Rowan | 130,340 | 1.1 | 143,374 | | | | |
| Gaston MPO | | | | | 186,733 | 4.26% | \$1,022,876 | \$5,114,381 |
| | Gaston | 169,757 | 1.1 | 186,733 | | | | |
| Lake Norman RPO | | | | | 136,700 | 3.12% | \$748,811 | \$3,744,055 |
| | Gaston | 20,608 | 1.1 | 22,669 | | | | |
| | Iredell ^P | 39,885 | 1.1 | 43,874 | | | | |
| | Lincoln | 63,780 | 1.1 | 70,158 | | | | |
| Mecklenburg-Union MPO | | | | | 1,032,656 | 23.57% | \$5,656,636 | \$28,283,180 |
| | Mecklenburg | 695,454 | 1.3 | 917,999 | | | | |
| | Union | 104,233 | 1.1 | 114,656 | | | | |
| Rocky River RPO | | | | | 21,388 | 0.49% | \$117,160 | \$585,802 |
| | Union | 19,444 | 1.1 | 21,388 | | | | |
| Capital Area MPO | | | | | 850,972 | 19.42% | \$4,661,417 | \$23,307,087 |
| | Franklin | 27,633 | 1.0 | 27,633 | | | | |
| | Granville | 12,932 | 1.0 | 12,932 | | | | |
| | Johnston | 56,992 | 1.0 | 56,992 | | | | |
| | Wake | 627,846 | 1.2 | 753,415 | | | | |

| | | | | | | | |
|--|----------------------------|---------|-----|------------------|--------------|---------------------|------------------------------|
| Durham-Chapel Hill-Carrboro MPO | | | | 371,764 | 8.49% | \$2,036,432 | \$10,182,160 |
| | <i>Chatham^P</i> | 10,337 | 1.0 | 10,337 | | | |
| | <i>Durham</i> | 223,314 | 1.2 | 267,977 | | | |
| | <i>Orange</i> | 93,450 | 1.0 | 93,450 | | | |
| Kerr-Tar RPO | | | | 90,816 | 2.07% | \$497,467 | \$2,487,334 |
| | <i>Franklin</i> | 19,627 | 1.0 | 19,627 | | | |
| | <i>Granville</i> | 35,566 | 1.0 | 35,566 | | | |
| | <i>Person</i> | 35,623 | 1.0 | 35,623 | | | |
| Triangle Area RPO | | | | 31,372 | 0.72% | \$171,849 | \$859,244 |
| | <i>Chatham^P</i> | 11,678 | 1.0 | 11,678 | | | |
| | <i>Orange</i> | 19,694 | 1.0 | 19,694 | | | |
| Hickory MPO | | | | 142,391 | 3.25% | \$779,984 | \$3,899,919 |
| | <i>Catawba</i> | 118,659 | 1.2 | 142,391 | | | |
| Unifour RPO | | | | 27,631 | 0.63% | \$151,355 | \$756,777 |
| | <i>Catawba</i> | 23,026 | 1.2 | 27,631 | | | |
| Rocky Mount MPO | | | | 77,480 | 1.77% | \$424,417 | \$2,122,084 |
| | <i>Edgecombe</i> | 23,451 | 1.0 | 23,451 | | | |
| | <i>Nash</i> | 54,029 | 1.0 | 54,029 | | | |
| Upper Coastal Plain RPO | | | | 130,519 | 2.98% | \$714,954 | \$3,574,768 |
| | <i>Edgecombe</i> | 32,155 | 1.0 | 32,155 | | | |
| | <i>Johnston</i> | 64,973 | 1.0 | 64,973 | | | |
| | <i>Nash</i> | 33,391 | 1.0 | 33,391 | | | |
| Land of Sky RPO | | | | 28 | 0.00% | \$153 | \$250,000³ |
| | <i>Haywood^P</i> | 28 | 1.0 | 28 | | | |
| Southwestern RPO | | | | 260 | 0.01% | \$1,424 | \$250,000³ |
| | <i>Swain^P</i> | 260 | 1.0 | 260 | | | |
| | | | | 3,778,672 | | \$30,000,000 | \$150,000,000 |

Notes

1 - The level of CMAQ funds to be available has not been determined. This funding is based on \$30,000,000 with \$6,000,000 available on a statewide basis. The total amount to be available and/or the split between regions and statewide is subject to revision.

2 - Source - <http://www.epa.gov/oar/oaqps/greenbk/anay.html>

3 - \$50,000 from yearly Statewide target will be designated for any NA area whose yearly target by the revised formula is less than \$50,000

P - only a portion of the county is non-attainment or maintenance for AQ