MEMORANDUM

To: Technical Coordinating Committee
DCHC MPO

From: DCHC MPO Lead Planning Agency

Date: October 12, 2011

Subject: **FY 2006-2007 Congestion Mitigation Air Quality Funds**

NCDOT has requested that MPOs and RPOs submit applications for subregional, regional, and statewide FY 2016-2017 Congestion Mitigation Air Quality (CMAQ) funds by October 31, 2011.

Subregional CMAQ

NCDOT has reserved 60 percent of the State's CMAQ funds for subregional projects. The DCHC MPO's subregional annual funding target for each of these years is $2,638,891, for a total of $5,277,782. Project applications from member jurisdictions were submitted to the LPA by August 17, 2011. Nine applications were considered for funding. The applications were reviewed by LPA staff, a TCC subcommittee, and the TCC. The TCC recommends funding eight projects with CMAQ in FY 2016 and 2017 as shown in the table attached to the resolution.

As required by NCDOT, a CMAQ application form was filled out for each project including the estimated emission reductions for each project. The TCC and LPA staff developed a scoring methodology that is based on the cost per kilogram of CO reduced, cost per kilogram of NOx reduced, support for the regional rail projects, and support for promoting a state of good repair for transit vehicles. VOC and NOx are precursor pollutants for ozone. While the amount of VOC reduced is a requirement for the CMAQ application form, it was not included in the scoring formula because, in the Triangle, the chemical formation of ozone is controlled by the amount of NOx in the atmosphere. There is an abundance of VOC in the atmosphere - naturally emitted from trees and vegetation in our area.

For this call for projects, the LPA developed a methodology for estimating the emission reductions for bicycle and pedestrian projects that uses the non-motorized trip model. The result of this analysis is shown in the attached table. For past CMAQ calls for projects, the estimation of emission reductions for bicycle and pedestrian projects was done by each applicant. There was typically a wide variation in the methodologies used by each applicant – making it difficult to fairly compare projects. Using the non-motorized trip model this year has helped ensure that projects are being compared using a consistent method. However, as with all modeling, there are limitations to the accuracy of the results. For instance, the model is not able to accurately reflect specific connectivity benefits of individual projects. The low modeling results for the Carrboro High School trail project are likely due to the model's inability

to assess the connectivity benefits of this specific project to the Morgan Creek Trail and the fact that the future construction of portions of the Morgan Creek Trail is not reflected in the current model.

The TCC's recommendation is to fund the eight projects as shown in the table attached to the resolution. The projects are:

1. Triangle Travel Demand Management Program – continuation of CMAQ funding for the MPO's share of this regional program administered by TJ COG
2. West Durham Station Pedestrian Enhancements – sidewalk planning, R/W, and construction on Georgia Ave. (Club Blvd. to Hillsborough St.), Green St. (Carolina Ave. to Oakland Ave.), Oakland Ave. (Club Blvd. to Hillsborough St.) to increase access to proposed West Durham commuter rail and light rail stations
3. Durham Station Pedestrian Enhancements – sidewalk planning, R/W, and construction on Pettigrew St. (Blackwell St. to Mangum St.) and Morehead Ave. (Duke St. to Blackwell St.) to increase access to proposed downtown Durham commuter rail and light rail stations
4. Carrboro downtown Multi-use Path – trail planning, R/W, and construction connecting Greensboro and Lloyd streets (within 3 mile bike-shed of UNC Hospitals Station)
5. Durham Alston Avenue Station Pedestrian Enhancements – sidewalk planning, R/W, and construction on Pettigrew St. (Fayetteville St. to Driver St.) to increase access to proposed Alston Avenue commuter rail and light rail stations
6. West Ellerbee Creek Trail – R/W and construction of proposed West Ellerbee Creek Trail (within 3 mile bike-shed of West Durham Station)
7. Durham Area Transit Authority – purchase of two replacement buses
8. Chapel Hill Transit – purchase of two replacement buses
9. Carrboro High School Multi-use Path – planning and construction of trail connecting the Morgan Creek Trail and Carrboro High School – NOT RECOMMENDED FOR FUNDING

The DATA and CHT projects are identical. Both are replacing two older vehicles with new hybrid buses. The emission reductions are higher for the DATA project because DATA buses run an average of 252 miles per day and CHT buses run an average of 119 miles per day. The TCC's recommendation leaves a small portion, $98,492, of each of these two projects unfunded. The cost estimate is based on a predicted inflation factor applied to the current cost of hybrid buses. Since the transit agencies were conservative in their estimate and the actual cost is likely to be lower, these two projects may end up being fully funded by the TCC's recommendation.

Since there is some uncertainty in the continuation of State support for the Transportation Demand Management program, the TCC recommends considering the ninth ranked project, the Carrboro High School Multi-use Path, for CMAQ funding if the Transportation Demand Management program is reduced or restructured. Future STPDA funds could also be considered for the Carrboro project. Furthermore, the TCC recommends that the LPA staff continue to refine the non-motorized trip model and work to ensure that future projects are reflected in the model network.

Statewide and Regional CMAQ

NCDOT has reserved 40 percent of the State's CMAQ funds for statewide and regional projects. Statewide projects must be on the statewide tier and sponsored by a NCDOT Division or Modal Unit. Regional projects must span multiple air quality regions in the State.

NCDOT's CMAQ staff informed the LPA that they do not intend to fund any bicycle, pedestrian, or transit projects with statewide CMAQ funds. Eligibility criteria have not been developed for these modes and they don't consider these to be of statewide significance. Highway and rail projects are eligible for statewide funding.

The Town of Hillsborough, in coordination with the NCDOT Rail Division, has developed an application for statewide CMAQ funding for construction of a rail station in Hillsborough. This application will be submitted to NCDOT for consideration. An MPO resolution of support is not required.

TCC Recommendation: That the TAC approve the Resolution to Endorse Candidate Congestion Mitigation Air Quality (CMAQ) Project Proposals for FY 2016-2017

TAC Action: Approve the Resolution to Endorse Candidate Congestion Mitigation Air Quality (CMAQ) Project Proposals for FY 2016-2017

Non-Motorized Trip Model Results for FY 2016-2017 CMAQ Project Applications

Project	Distance	Modeled New Trips in Project Zone	% Change from Base	Estimated New Trips to/from Nearby Zones	Total New Trips	Average n-m trip length (miles)	VMT reduced	Functional Classification	CO (g/mile)	VOC (g/mile)	NOx (g/mile)	CO (kg reduced/day)	VOC (kg reduced/day)	NOx (kg reduced/day)
Durham Ellerbe CreekTrail	1.2	43	3.10%	28	71	3.3	234.3	urban local	11.512	0.661	0.46	2.7	0.15	0.11
Durham Alston Avenue Station Area Sidewalk	1.2	47	9.30%	38	85	3.3	280.5	urban local	11.512	0.661	0.46	3.23	0.19	0.13
Durham Station Area Sidewalk	0.27	38	3.20%	24	62	3.3	204.6	urban minor art	11.832	0.647	0.465	2.42	0.13	0.1
West Durham Station Area Sidewalk	0.92	82	5.10%	74	156	3.3	514.8	urban minor art	11.832	0.647	0.465	6.09	0.33	0.24
Carrboro Downtown Connector	0.15	40	1.40%	28	68	3.3	224.4	urban minor art	11.832	0.647	0.465	2.66	0.15	0.1
Carrboro HS Multiuse	0.22	11	0.70%	4	15	3.3	49.5	urban minor art	11.832	0.647	0.465	0.59	0.03	0.02