

Appendix B

Stakeholder Correspondence Regarding

Motor Vehicle Emission Budgets

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North Carolina Department of Environment and Natural Resources
Division of Air Quality

Michael F. Easley, Governor

William G. Ross, Jr., Secretary
B. Keith Overcash, P.E., Director

September 16, 2005

Subject: Development of Motor Vehicle Emissions Budgets

Dear Transportation Partner:

The North Carolina Division of Air Quality (NCDAQ) is developing the attainment demonstrations for 8-hour ozone and PM_{2.5} nonattainment areas in North Carolina. The State Implementation Plan (SIP) attainment demonstration submitted to the U. S. Environmental Protection Agency (USEPA) establishes the motor vehicle emissions budgets (MVEBs) that will be used in future transportation conformity demonstrations once approved or deemed adequate by the USEPA. At stakeholder meetings held throughout 2005, NCDAQ presented different approaches for setting MVEBs. As a result of the feedback received by NCDAQ during the stakeholder meetings, the decision was made to develop a policy memo that provides an explanation of NCDAQ's preference for the geographical basis of MVEBs in nonattainment areas and clearly outlines the procedures and timelines for setting those MVEBs.

NCDAQ believes that the MVEBs should be set at the county level. The reason NCDAQ believes this is appropriate is as follows:

- The motor vehicle emissions generated for SIP attainment demonstration are by county; therefore, developing county level MVEBs would maintain consistency with the attainment modeling. County level sub-area MVEBs provide additional assurance that future conformity determinations, transportation plans, and TIPs will produce emission patterns that will achieve and maintain the National Ambient Air Quality Standards (NAAQS).
- County level sub-area MVEBs preserve the growth projected by Metropolitan Planning Organizations (MPOs)/Rural Planning Organizations (RPOs)/North Carolina Department of Transportation (NCDOT). NCDAQ has relied on MPOs/RPOs/NCDOT to provide these future projections of vehicle miles traveled (VMT) in the SIP process and will continue to rely on MPOs/RPOs/NCDOT as the source of this data throughout the MVEB setting process.
- County level sub-area MVEBs would eliminate the requirement for a new conformity analysis for all MPOs/RPOs in the nonattainment area if one of the MPOs/RPOs revises or updates their respective long range transportation plan or transportation improvement program when there are conforming plans in place for the other areas. In a situation where there are conforming plans in place and there are county level sub-area MVEBs, if one MPO in the nonattainment area had a conformity lapse, the neighboring MPOs/RPOs would not be impacted until their next conformity determination was due.

Planning Section

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- If an area-wide MVEB involving multiple MPOs/RPOs is set and conformity cannot be demonstrated, it could take significantly longer to resolve which projects should be removed from the various plans. If resolution is not reached in a timely manner, it could result in a conformity lapse for the entire nonattainment or maintenance area.

An important component to the SIP development process is interagency consultation. Therefore, NCDAQ requests feedback from the transportation partners on MVEBs development. NCDAQ's preference is not to set MVEBs for areas less than a county boundary since the emission estimates are made on a county level basis. The exception to this would be partial counties designated as nonattainment. Additionally, NCDAQ prefers not setting MVEBs based on MPO/RPO boundaries since this would result in having to update the MVEBs every time the MPO/RPO boundaries change. The process for recommending other approaches is provided below.

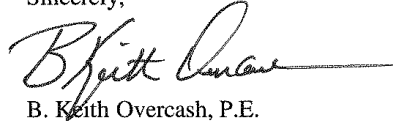
- Transportation partners are invited to provide in writing their preferred approach to setting MVEBs. If setting MVEBs for area-wide or multi-county sub-area is the desired approach, then it must be agreed upon by all of the transportation partners that are responsible for conducting conformity analyses for that area. This includes the MPO(s) and NCDOT after consultation with the RPO(s).
- NCDAQ requests that all written submittals outlining a MVEB approach that consists of more than one county (i.e., area-wide or multi-county sub-areas) include a technical explanation as to why the MVEBs should be set as such. This explanation should include information that illustrates the similarities between the counties listed in the approach such as, but not limited to: degree of urbanization, commuting patterns, expected population and VMT, and expected population and VMT growth rates.
- All requests should be submitted for consideration to NCDAQ by **January 16, 2006**. This will allow NCDAQ time to review and respond to the requests prior to finalizing the documentation for the SIP in February 2006.
- Requests should be submitted to the attention of the Attainment Planning Branch Chief, Laura Boothe, 1641 Mail Service Center, Raleigh, NC 27699-1641.

NCDAQ is responsible for submitting the SIP attainment demonstration and ensuring that the measures in the demonstration will allow the area to attain, as well as maintain the NAAQS. Transportation conformity was designed to help ensure that transportation plans, programs, and projects do not produce new air quality violations, worsen existing violations, or delay timely attainment of NAAQS. NCDAQ will take into consideration the recommended approaches from the transportation partners when developing the MVEBs. The transportation partners will have an opportunity to review the draft final MVEB approach prior to the SIP going through the public hearing process.

Transportation Partners
September 16, 2005
Page 3

NCDAQ is committed to working with all of our partners during this process to determine the best course of action in achieving and maintaining air quality goals. If you should have any questions, please contact Laura Boothe of my staff at (919) 733-1488 or laura.boothe@ncmail.net.

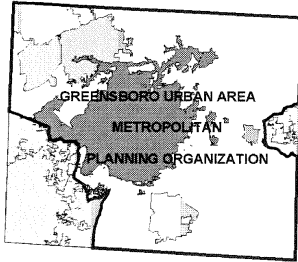
Sincerely,

A handwritten signature in black ink, appearing to read "B. Keith Overcash", with a long horizontal flourish extending to the right.

B. Keith Overcash, P.E.

BKO:lab

cc: Sheila Holman, NCDAQ
Laura Boothe, NCDAQ
Mike Abraczinskas, NCDAQ
Lynorae Benjamin, USEPA
Amanetta Wood, USEPA
Eddie Dancausse, FHWA
Loretta Barren, FHWA



GREENSBORO URBAN AREA METROPOLITAN PLANNING ORGANIZATION

September 29, 2005

RECEIVED
DAQ
SEP 30 2005
ADMIN. OFFICE

Laura Boothe, Attainment Planning Branch Chief
NCDENR- DAQ
1641 Mail Service Center
Raleigh, NC 27699-1641

Re: Development of Motor Vehicle Emissions Budgets

Dear Ms. Boothe:

The Greensboro Urban Area Metropolitan Planning Organization (MPO) welcomes the opportunity to comment on the development of the Motor Vehicle Emission Budgets (MVEB) for 8 hour ozone and PM 2.5.

The MPO is in agreement with the methodology laid out in the letter dated September 16, 2005 regarding the development of the MVEB. The MPO agrees that development of motor vehicle emissions at a county-level allows for easier data transference and flexibility in the conformity process.

Thank you for the opportunity to comment and please contact me at (336) 373-3117 should you have any questions or need any additional information.

Sincerely,

Lydia M. McIntyre
Transportation Planning Engineer

Attachment

Cc: Sandy Carmany, Chair, Transportation Advisory Committee
Jim Westmoreland, PE, Director, GDOT
Eddie Dancusse, Air Quality Specialist, FHWA
Cynthia Muldrow, Transportation Engineer, NCDOT
Tyler Meyer, AICP, Planning Division Manager, GDOT

City of Greensboro Department of Transportation, Lead Planning Agency
P.O. Box 3136 Greensboro, NC 27402-3136 Telephone (336) 373-2332 FAX (336) 412-6171

Support for County-Level MVEB

Subject: Support for County-Level MVEB
From: roland tilley <ron_d_tilley@yahoo.com>
Date: Sun, 19 Feb 2006 09:30:00 -0800 (PST)
To: laura.booth@ncmail.net

Laura,
On behalf of citizens for Smrth Growth, I am writing to express our support for county level MVEBs and urge you to continue with your traditional method for setting budgets.
Thanks
Ron

Yahoo! Mail
Use Photomail to share photos without annoying attachments.

1 of 1

2/19/2006 4:46 PM



North Carolina Department of Environment and Natural Resources
Division of Air Quality

Michael F. Easley, Governor

William G. Ross, Jr., Secretary
B. Keith Overcash, P.E., Director

June 21, 2006

Lydia M. McIntyre
Transportation Planning Engineer
Greensboro Urban Area Metropolitan Planning Organization
PO Box 3136
Greensboro, NC 27402-3136


Dear Ms. McIntyre:

Thank you for your letter about setting motor vehicle emission budgets (MVEBs) for the Greensboro-Winston-Salem-High Point fine particulate matter nonattainment area. We greatly appreciate your feedback on the setting of the MVEBs.

We have decided to set county level MVEBs for transportation conformity purposes in this nonattainment area and appreciate your support of this. We believe that county level MVEBS better serve our goals of attaining and maintaining the standard in order to protect public health.

The North Carolina Division of Air Quality is committed to working with all our partners during the State Implementation Plan (SIP) process to determine the best course of action in achieving and maintaining air quality goals. If you should have any questions, please contact Laura Boothe of my staff at (919) 733-1488 or laura.boothe@ncmail.net.

Sincerely,



B. Keith Overcash, P.E.

BKO:lab

cc: Sheila Holman, NCDAQ
Laura Boothe, NCDAQ
Sandy Carmany, Chair, Transportation Advisory Committee
Jim Westmoreland, PE, Director, GDOT
Eddie Dancausse, USDOT FHWA
Dan Thomas, NCDOT Transportation Planning Branch
Tyler Meyer, AICP, Planning Division Manager, GDOT

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Subject: Consultation Plan with MVEB for the Hickory NA Area

From: "Phyllis.D.Jones" <Phyllis.D.Jones@ncmail.net>

Date: Tue, 29 Jan 2008 11:12:17 -0500

To: john.tippett@wpcog.org, john.marshall@wpcog.org, lnguyen@dot.state.nc.us, sarahsmith@dot.state.nc.us, "Alena Cook \ (Cook, Alena)" <arcook@dot.state.nc.us>, "Stark, Jill" <Jill.Stark@fhwa.dot.gov>

CC: "Dancausse, Edward" <edward.dancausse@fhwa.dot.gov>, george.bridgers@ncmail.net, janice.godfrey@ncmail.net, keith.melton@dot.gov, tarellano@dot.state.nc.us, Wood.Amanetta@epamail.epa.gov, Benjamin.Lynorae@epamail.epa.gov, ward.nacosta@epa.gov, Laura Boothe <laura.boothe@ncmail.net>

Good Morning All,

As you know, the NCDAQ is planning on pursuing insignificance for Primary PM_{2.5} , NO_x, NH₃ , SO₂ , VOC and road dust for the Hickory NA area. When the NCDAQ submits the PM_{2.5} SIP for public comment (currently scheduled for 2/11/08), the draft SIP will have two options, one with a Primary PM_{2.5} MVEB for Catawba County, and an option without a MVEB. If the option without a MVEB is not approved by EPA, the NCDAQ will have to establish a MVEB for Catawba County. Attached is the consultation plan outlining the MOBILE6.2 parameters used to develop the Primary PM_{2.5} MVEB for the Hickory NA area with the MVEB for Catawba County. The MVEB is calculated using the latest speeds, VMT, vehicle age distribution and vehicle count data (used to calculate the vehicle mix) supplied by NCDOT.

MOBILE6.2 is insensitive to the such parameters as temperature, RVP, anti-tampering and I/M commands when calculating PM_{2.5} emission factors, therefore, the Primary PM_{2.5} emission factor was calculated for a typical summer day (using summertime temperatures, RVP, etc.) and multiplied by 365 days to calculate an annual emission of kg/year. We performed various sensitivity runs with MOBILE6.2 to verify this.

Please provide comments to me by **2/05/08**. I can be reached via phone at 919-715-1246 or e-mail Phyllis.D.Jones@ncmail.net.

Thanks,
Phyllis D. Jones, EIT
Environmental Engineer II
NCDENR, Division of Air Quality
1641 MSC, Raleigh, NC 27699
Phone-(919) 715-1246
Fac-(919) 715-7476

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PM2.5 SIP MVEB Mobile inputs.doc

Content-Type: application/msword
Content-Encoding: base64

Subject: Consultation Plan with MVEB for the Triad NA Area

From: "Phyllis.D.Jones" <Phyllis.D.Jones@ncmail.net>

Date: Tue, 29 Jan 2008 10:53:05 -0500

To: Scott Rhine <scottr@partnc.org>

CC: Eddie Dancausse <edward.dancausse@fhwa.dot.gov>, Lynorae Benjamin

<Benjamin.Lynorae@epamail.epa.gov>, "Terry Arellano, PE" <tarellano@dot.state.nc.us>, George Bridgers

<George.Bridgers@ncmail.net>, Amanetta Wood <Wood.Amanetta@epamail.epa.gov>,

ward.nacosta@epa.gov, Laura Boothe <laura.boothe@ncmail.net>, Janice Godfrey

<Janice.Godfrey@ncmail.net>

Good Morning Scott,

As you know, the NCDAQ is planning on pursuing insignificance for Primary PM_{2.5}, NO_x, NH₃, SO₂, VOC and road dust for the Triad NA area. When the NCDAQ submits the PM_{2.5} SIP for public comment (currently scheduled for 2/11/08), the draft SIP will have two options, one with a Primary PM_{2.5} MVEB for Davidson and Guilford Counties, and an option without MVEBs. If the option without MVEBs is not approved by EPA, the NCDAQ will have to establish MVEBs for Davidson and Guilford Counties. Attached is the consultation plan outlining the MOBILE6.2 parameters used to develop the Primary PM_{2.5} MVEBs for the Triad NA area with MVEBs for each county. The MVEBs are calculated using the latest speeds, VMT, vehicle age distribution and vehicle count data (used to calculate the vehicle mix) supplied by NCDOT.

I would like to note that there are slight differences in the MOBILE6.2 parameters used to develop the MVEBs and the current conformity demonstration. MOBILE6.2 is insensitive to the such parameters as temperature, RVP, anti-tampering and I/M commands when calculating PM_{2.5} emission factors. We performed various sensitivity runs with MOBILE6.2 to verify this. Therefore, the Primary PM_{2.5} emission factors were calculated for a typical summer day (using summertime temperatures, RVP, etc.) and multiplied by 365 days to calculate an annual emissions of kg/year.

Can you please share this with the Triad NA area partners? Please provide comments to me by **2/05/08**. I can be reached via phone at 919-715-1246 or e-mail Phyllis.D.Jones@ncmail.net.

Thanks,
Phyllis D. Jones, EIT
Environmental Engineer II
NCDENR, Division of Air Quality
1641 MSC, Raleigh, NC 27699
Phone-(919) 715-1246
Fac-(919) 715-7476

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Mobile Model Settings for Developing the 2009 MVEB in the PM_{2.5} Attainment Demonstration for Catawba, Davidson, and Guilford Counties

Parameter	Details
a. <i>Emissions Model Version(s):</i>	MOBILE6.2
b. <i>Emission Model Runs:</i>	Average annual weekday.
c. <i>Time Periods:</i>	Used daily data from TRM and Rural areas to calculate the annual emissions.
d. <i>Pollutants Reported:</i>	PM _{2.5}
e. <i>Emissions Budget Year:</i>	2009
f. <i>Vehicle Classes:</i>	16
g. <i>Max/Min Temperatures:</i>	Annual average 2002 max/min temperatures based upon the data from the Hickory Regional Airport (KHKY) and the Piedmont Triad International Airport (KGSO).

County	2002 Annual Average Max (F)	2002 Annual Average Min (F)
Catawba	70	50
Davidson	70	49
Guilford	70	49

h. <i>VMT Mix:</i>	2009 statewide vehicle mix based upon the 2006 count data provided by NCDOT using the method in the August 2004 USEPA Emissions Inventory Technical Guidance.
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2009 State Vehicle Mix

Rural							
LDV	LDT1	LDT2	LDT3	LDT4	HDV2B	HDV3	HDV4
HDV5	HDV6	HDV7	HDV8a	HDV8b	HDBS	HDBT	MC
Interstate							
0.3030	0.0718	0.2389	0.0736	0.0339	0.0880	0.0086	0.0072
0.0054	0.0197	0.0233	0.0253	0.0900	0.0045	0.0023	0.0045
Principal Arterial							
0.3591	0.0851	0.2833	0.0873	0.0401	0.0448	0.0044	0.0037
0.0028	0.0100	0.0119	0.0129	0.0458	0.0023	0.0012	0.0053
Minor Arterial							
0.3668	0.0869	0.2894	0.0892	0.0410	0.0389	0.0038	0.0032
0.0024	0.0087	0.0103	0.0112	0.0398	0.0020	0.0010	0.0054
Major Collector							
0.3827	0.0906	0.3018	0.0930	0.0428	0.0267	0.0026	0.0022
0.0017	0.0060	0.0071	0.0077	0.0274	0.0014	0.0007	0.0056
Minor Collector							
0.3821	0.0905	0.3014	0.0929	0.0427	0.0272	0.0027	0.0022
0.0017	0.0061	0.0072	0.0078	0.0278	0.0014	0.0007	0.0056
Local							
0.3805	0.0901	0.3001	0.0925	0.0425	0.0284	0.0028	0.0023
0.0018	0.0064	0.0075	0.0082	0.0291	0.0015	0.0007	0.0056
Urban							
LDV	LDT1	LDT2	LDT3	LDT4	HDV2B	HDV3	HDV4
HDV5	HDV6	HDV7	HDV8a	HDV8b	HDBS	HDBT	MC
Interstate							
0.3442	0.0815	0.2714	0.0836	0.0384	0.0564	0.0055	0.0046
0.0035	0.0126	0.0149	0.0162	0.0577	0.0029	0.0015	0.0051

Freeway							
0.3699	0.0876	0.2918	0.0899	0.0413	0.0366	0.0036	0.0030
0.0023	0.0082	0.0097	0.0105	0.0374	0.0019	0.0009	0.0054
Principal Arterial							
0.3837	0.0909	0.3026	0.0933	0.0429	0.0260	0.0025	0.0021
0.0016	0.0058	0.0069	0.0075	0.0266	0.0013	0.0007	0.0056
Minor Arterial							
0.3930	0.0931	0.3100	0.0956	0.0439	0.0188	0.0018	0.0015
0.0012	0.0042	0.0050	0.0054	0.0192	0.0010	0.0005	0.0058
Collector							
0.3967	0.0939	0.3127	0.0964	0.0443	0.0161	0.0016	0.0013
0.0010	0.0036	0.0043	0.0046	0.0165	0.0008	0.0004	0.0058
Local							
0.3872	0.0917	0.3054	0.0941	0.0433	0.0233	0.0023	0.0019
0.0014	0.0052	0.0062	0.0067	0.0238	0.0012	0.0006	0.0057

i. **Speeds:**

From TDM and Rural spreadsheet provided by NCDOT.

Catawba County Speeds

Road Type	Model Area	Non-Model Area
Rural Interstate	0	66
Rural Principal Arterial	0	47
Rural Minor Arterial	0	44
Rural Major Collector	0	43
Rural Minor Collector	0	42
Rural Local	0	42
Urban Interstate	60	63
Urban Freeway	57	56
Urban Principal Arterial	27	29
Urban Minor Arterial	29	32
Urban Collector	33	31
Urban Local	29	31

Davidson County Speeds

Road Type	Model Area	Non-Model Area
Rural Interstate	68	65
Rural Principal Arterial	60	44
Rural Minor Arterial	44	43
Rural Major Collector	44	43
Rural Minor Collector	48	42
Rural Local	46	42
Urban Interstate	66	62
Urban Freeway	52	56
Urban Principal Arterial	40	28
Urban Minor Arterial	40	32
Urban Collector	37	31
Urban Local	43	32

Guilford County Speeds

Road Type	Model Area
Rural Interstate	59
Rural Principal Arterial	57
Rural Minor Arterial	45
Rural Major Collector	47
Rural Minor Collector	46
Rural Local	44
Urban Interstate	60
Urban Freeway	54
Urban Principal Arterial	40
Urban Minor Arterial	38
Urban Collector	38
Urban Local	37

- j. **Vehicle Age Distribution:** Based on 2005 vehicle registration data provided by NCDOT. NCAGE05.prn is used for Davidson and Catawba Counties and TrdAge05.prn is used for Guilford County.

NCAGE05.prn

* MOBILE6 Vehicle Classes:

- * 1 LDV Light-Duty Vehicles (Passenger Cars)
- * 2 LDT1 Light-Duty Trucks 1 (0-6,000 lbs. GVWR, 0-3750 lbs. LVW)
- * 3 LDT2 Light Duty Trucks 2 (0-6,000 lbs. GVWR, 3751-5750 lbs. LVW)
- * 4 LDT3 Light Duty Trucks 3 (6,001-8500 lbs. GVWR, 0-3750 lbs. LVW)
- * 5 LDT4 Light Duty Trucks 4 (6,001-8500 lbs. GVWR, 3751-5750 lbs. LVW)
- * 6 HDV2B Class 2b Heavy Duty Vehicles (8501-10,000 lbs. GVWR)
- * 7 HDV3 Class 3 Heavy Duty Vehicles (10,001-14,000 lbs. GVWR)
- * 8 HDV4 Class 4 Heavy Duty Vehicles (14,001-16,000 lbs. GVWR)
- * 9 HDV5 Class 5 Heavy Duty Vehicles (16,001-19,500 lbs. GVWR)
- * 10 HDV6 Class 6 Heavy Duty Vehicles (19,501-26,000 lbs. GVWR)

- * 11 HDV7 Class 7 Heavy Duty Vehicles (26,001-33,000 lbs. GVWR)
- * 12 HDV8A Class 8a Heavy Duty Vehicles (33,001-60,000 lbs. GVWR)
- * 13 HDV8B Class 8b Heavy Duty Vehicles (>60,000 lbs. GVWR)
- * 14 HDBS School Busses
- * 15 HDBT Transit and Urban Busses
- * 16 MC Motorcycles (All)

RESULTING MOBILE6-BASED REGISTRATION FRACTIONS

*

*MOBILE6 REGISTRATION FRACTIONS BY VEHICLE CLASS AND AGE

* LDV	M5 LDGV									
1	0.061	0.064	0.063	0.065	0.064	0.072	0.069	0.063	0.061	0.056
	0.061	0.049	0.043	0.035	0.029	0.025	0.023	0.019	0.015	0.011
	0.009	0.006	0.004	0.002	0.030					
* LDT1	M5 LDGT1									
2	0.040	0.050	0.047	0.047	0.052	0.058	0.056	0.055	0.057	0.047
	0.051	0.054	0.039	0.032	0.029	0.028	0.034	0.033	0.028	0.028
	0.021	0.018	0.012	0.007	0.078					
* LDT2	M5 LDGT1									
3	0.040	0.050	0.047	0.047	0.052	0.058	0.056	0.055	0.057	0.047
	0.051	0.054	0.039	0.032	0.029	0.028	0.034	0.033	0.028	0.028
	0.021	0.018	0.012	0.007	0.078					
* LDT3	M5 LDGT2									
4	0.071	0.079	0.060	0.049	0.053	0.061	0.059	0.047	0.053	0.041
	0.050	0.040	0.030	0.023	0.021	0.025	0.031	0.028	0.019	0.021
	0.018	0.014	0.009	0.006	0.090					
* LDT4	M5 LDGT2									
5	0.071	0.079	0.060	0.049	0.053	0.061	0.059	0.047	0.053	0.041
	0.050	0.040	0.030	0.023	0.021	0.025	0.031	0.028	0.019	0.021
	0.018	0.014	0.009	0.006	0.090					
* HDV2B	M5 HDVs (Combined HDGV and HDDV)									
6	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV3	M5 HDVs (Combined HDGV and HDDV)									
7	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV4	M5 HDVs (Combined HDGV and HDDV)									
8	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV5	M5 HDVs (Combined HDGV and HDDV)									
9	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV6	M5 HDVs (Combined HDGV and HDDV)									
10	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV7	M5 HDVs (Combined HDGV and HDDV)									
11	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV8a	M5 HDVs (Combined HDGV and HDDV)									
12	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDV8b	M5 HDVs (Combined HDGV and HDDV)									
13	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					

* HDBS	M5 HDVs (Combined HDGV and HDDV)									
14	0.069	0.061	0.054	0.045	0.060	0.069	0.069	0.042	0.052	0.040
	0.049	0.036	0.026	0.021	0.020	0.026	0.028	0.027	0.022	0.021
	0.018	0.014	0.008	0.007	0.116					
* HDBT	M5 HDDVs									
15	0.093	0.074	0.064	0.051	0.071	0.087	0.089	0.051	0.063	0.044
	0.051	0.037	0.027	0.019	0.020	0.027	0.026	0.025	0.021	0.014
	0.013	0.009	0.004	0.004	0.016					
* Motorcycles	M5 MC									
16	0.122	0.092	0.104	0.087	0.076	0.066	0.056	0.042	0.038	0.037
	0.028	0.024	0.019	0.013	0.010	0.010	0.010	0.010	0.011	0.018
	0.016	0.013	0.013	0.015	0.070					

TrdAge05.prn

* MOBILE6 Vehicle Classes:

* 1	LDV	Light-Duty Vehicles (Passenger Cars)
* 2	LDT1	Light-Duty Trucks 1 (0-6,000 lbs. GVWR, 0-3750 lbs. LVW)
* 3	LDT2	Light Duty Trucks 2 (0-6,000 lbs. GVWR, 3751-5750 lbs. LVW)
* 4	LDT3	Light Duty Trucks 3 (6,001-8500 lbs. GVWR, 0-3750 lbs. LVW)
* 5	LDT4	Light Duty Trucks 4 (6,001-8500 lbs. GVWR, 3751-5750 lbs. LVW)
* 6	HDV2B	Class 2b Heavy Duty Vehicles (8501-10,000 lbs. GVWR)
* 7	HDV3	Class 3 Heavy Duty Vehicles (10,001-14,000 lbs. GVWR)
* 8	HDV4	Class 4 Heavy Duty Vehicles (14,001-16,000 lbs. GVWR)
* 9	HDV5	Class 5 Heavy Duty Vehicles (16,001-19,500 lbs. GVWR)
* 10	HDV6	Class 6 Heavy Duty Vehicles (19,501-26,000 lbs. GVWR)
* 11	HDV7	Class 7 Heavy Duty Vehicles (26,001-33,000 lbs. GVWR)
* 12	HDV8A	Class 8a Heavy Duty Vehicles (33,001-60,000 lbs. GVWR)
* 13	HDV8B	Class 8b Heavy Duty Vehicles (>60,000 lbs. GVWR)
* 14	HDBS	School Busses
* 15	HDBT	Transit and Urban Busses
* 16	MC	Motorcycles (All)

REG DIST

* RESULTING MOBILE6-BASED REGISTRATION FRACTIONS

*MOBILE6 REGISTRATION FRACTIONS BY VEHICLE CLASS AND AGE

* LDV	M5 LDGV									
1	0.071	0.067	0.067	0.069	0.069	0.076	0.073	0.066	0.062	0.055
	0.059	0.046	0.040	0.032	0.026	0.023	0.020	0.016	0.012	0.009
	0.007	0.005	0.003	0.001	0.024					
* LDT1	M5 LDGT1									
2	0.041	0.052	0.054	0.052	0.055	0.061	0.058	0.058	0.059	0.048
	0.053	0.055	0.037	0.032	0.027	0.024	0.031	0.030	0.024	0.024
	0.017	0.014	0.008	0.006	0.081					
* LDT2	M5 LDGT1									
3	0.041	0.052	0.054	0.052	0.055	0.061	0.058	0.058	0.059	0.048
	0.053	0.055	0.037	0.032	0.027	0.024	0.031	0.030	0.024	0.024
	0.017	0.014	0.008	0.006	0.081					
* LDT3	M5 LDGT2									
4	0.091	0.081	0.078	0.052	0.062	0.070	0.079	0.062	0.060	0.044
	0.052	0.042	0.029	0.019	0.017	0.018	0.019	0.020	0.013	0.013
	0.011	0.007	0.005	0.004	0.053					
* LDT4	M5 LDGT2									
5	0.091	0.081	0.078	0.052	0.062	0.070	0.079	0.062	0.060	0.044
	0.052	0.042	0.029	0.019	0.017	0.018	0.019	0.020	0.013	0.013
	0.011	0.007	0.005	0.004	0.053					
* HDV2B	M5 HDVs (Combined HDGV and HDDV)									
6	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDV3	M5 HDVs (Combined HDGV and HDDV)									
7	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					

* HDV4	M5 HDVs (Combined HDGV and HDDV)									
8	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDV5	M5 HDVs (Combined HDGV and HDDV)									
9	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDV6	M5 HDVs (Combined HDGV and HDDV)									
10	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDV7	M5 HDVs (Combined HDGV and HDDV)									
11	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDV8a	M5 HDVs (Combined HDGV and HDDV)									
12	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDV8b	M5 HDVs (Combined HDGV and HDDV)									
13	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDBS	M5 HDVs (Combined HDGV and HDDV)									
14	0.098	0.084	0.063	0.052	0.076	0.094	0.084	0.046	0.054	0.040
	0.046	0.031	0.022	0.017	0.015	0.019	0.022	0.018	0.016	0.015
	0.011	0.008	0.005	0.005	0.059					
* HDBT	M5 HDDVs									
15	0.114	0.090	0.059	0.056	0.082	0.102	0.100	0.047	0.055	0.045
	0.049	0.033	0.023	0.018	0.018	0.021	0.022	0.016	0.015	0.011
	0.008	0.006	0.002	0.002	0.008					
* Motorcycles	M5 MC									
16	0.098	0.088	0.105	0.092	0.081	0.073	0.058	0.043	0.038	0.039
	0.030	0.026	0.023	0.015	0.012	0.010	0.010	0.008	0.012	0.017
	0.017	0.012	0.011	0.016	0.069					

- k. **Anti-tampering Applicability:** Applies to vehicles 35 years and newer starting with MY 1975.
- l. **RVP:** RVP does not impact the MOBILE6.2 PM_{2.5} emission factors, therefore, NCDAQ is using the summertime RVP.

County	Average Annual RVP (psi)
Catawba	9.0
Davidson	7.8
Guilford	7.8

- m. **I/M Fraction:** Will assume 100 percent penetration since MOBILE6.2 PM_{2.5} emission factors are not impacted by I/M.
- n. **Evaluation month:** July
- o. **VMT:** TRM and rural spreadsheet where applicable.

Catawba County VMT

Road Type	Model Area	Non-Model Area
Rural Interstate	0	56,490
Rural Principal Arterial	0	75,274
Rural Minor Arterial	0	73,290
Rural Major Collector	0	56,815
Rural Minor Collector	0	90,945
Rural Local	0	68,374
Urban Interstate	1,068,778	165,606
Urban Freeway	318,096	39,019
Urban Principal Arterial	762,827	167,088
Urban Minor Arterial	1,132,744	152,147
Urban Collector	261,444	26,271
Urban Local	514,186	123,328

Davidson County VMT

Road Type	Model Area	Non-Model Area
Rural Interstate	306,105	443,207
Rural Principal Arterial	249,163	287,385
Rural Minor Arterial	269,215	301,987
Rural Major Collector	172,846	427,935
Rural Minor Collector	156,314	215,492
Rural Local	301,453	157,910
Urban Interstate	333,251	371,816
Urban Freeway	676,186	199,204
Urban Principal Arterial	448,118	372,564
Urban Minor Arterial	293,172	298,549
Urban Collector	192,524	57,169
Urban Local	242,868	131,653

Guilford County VMT

Road Type	Model Area
Rural Interstate	992,132
Rural Principal Arterial	587,329
Rural Minor Arterial	198,365
Rural Major Collector	688,901
Rural Minor Collector	289,515
Rural Local	440,324
Urban Interstate	4,925,953
Urban Freeway	2,341,290
Urban Principal Arterial	2,405,902
Urban Minor Arterial	2,698,219
Urban Collector	1,143,015
Urban Local	1,884,921

p. ***Diesel Sulfur Content:***

USEPA Technical Guidance: Use of MOBILE6.2 for Emissions Inventory Preparation (August 2004).

County	2009 Diesel Sulfur (ppm)
Catawba	43
Davidson	43
Guilford	43

s. ***Annual Emissions:***

Annual 2009 PM_{2.5} emissions will be calculated by multiplying average daily county emissions by 365 days.

t. ***Emissions analysis units:***

Units = Kilograms/day

NOTE: NO_x has been deemed insignificant for mobile; therefore there is no NO_x MVEB.

MVEBs

County	MVEB (Kilograms/year)
Catawba	48,132
Davidson	71,152
Guilford	164,286

Subject: RE: Consultation Plan with MVEB for the Hickory NA Area

From: "John Tippet" <john.tippet@wpcog.org>

Date: Tue, 29 Jan 2008 11:59:49 -0500

To: "Phyllis.D.Jones" <Phyllis.D.Jones@ncmail.net>, "John Marshall" <john.marshall@wpcog.org>, <Inguyen@dot.state.nc.us>, <sarahsmith@dot.state.nc.us>, "Alena Cook (Cook, Alena)" <arcook@dot.state.nc.us>, "Stark, Jill" <Jill.Stark@fhwa.dot.gov>

CC: "Dancausse, Edward" <edward.dancausse@fhwa.dot.gov>, <george.bridgers@ncmail.net>, <janice.godfrey@ncmail.net>, <keith.melton@dot.gov>, <tarellano@dot.state.nc.us>, <Wood.Amanetta@epamail.epa.gov>, <Benjamin.Lynorae@epamail.epa.gov>, <ward.nacosta@epa.gov>, "Laura Boothe" <laura.boothe@ncmail.net>, "Taylor Dellinger" <taylor.dellinger@wpcog.org>

The Mobile 6 factors look reasonable to us at the MPO and we have no other comments. Our knowledge is limited in this area so we will defer to others.

John Tippet

Greater Hickory MPO

-----Original Message-----

From: Phyllis.D.Jones [mailto:Phyllis.D.Jones@ncmail.net]

Sent: Tuesday, January 29, 2008 11:12 AM

To: John Tippet; John Marshall; Inguyen@dot.state.nc.us; sarahsmith@dot.state.nc.us; Alena Cook (Cook, Alena); Stark, Jill

Cc: Dancausse, Edward; george.bridgers@ncmail.net;

janice.godfrey@ncmail.net; keith.melton@dot.gov;

tarellano@dot.state.nc.us; Wood.Amanetta@epamail.epa.gov;

Benjamin.Lynorae@epamail.epa.gov; ward.nacosta@epa.gov; Laura Boothe

Subject: Consultation Plan with MVEB for the Hickory NA Area

Good Morning All,

As you know, the NCDAQ is planning on pursuing insignificance for Primary PM_{2.5}, NO_x, NH₃, SO₂, VOC and road dust for the Hickory NA

area. When the NCDAQ submits the PM_{2.5} SIP for public comment (currently scheduled for 2/11/08), the draft SIP will have two options, one with a Primary PM_{2.5} MVEB for Catawba County, and an option without

a MVEB. If the option without a MVEB is not approved by EPA, the NCDAQ will have to establish a MVEB for Catawba County. Attached is the consultation plan outlining the MOBILE6.2 parameters used to develop the

Primary PM_{2.5} MVEB for the Hickory NA area with the MVEB for Catawba County. The MVEB is calculated using the latest speeds, VMT, vehicle age

distribution and vehicle count data (used to calculate the vehicle mix) supplied by NCDOT.

MOBILE6.2 is insensitive to the such parameters as temperature, RVP, anti-tampering and I/M commands when calculating PM_{2.5} emission factors, therefore, the Primary PM_{2.5} emission factor was calculated for a typical summer day (using summertime temperatures, RVP, etc.) and multiplied by 365 days to calculate an annual emission of kg/year. We performed various sensitivity runs with MOBILE6.2 to verify this.

Please provide comments to me by **2/05/08**. I can be reached via phone at 919-715-1246 or e-mail Phyllis.D.Jones@ncmail.net.

RE: Consultation Plan with MVEB for the Hickory NA Area

Thanks,
Phyllis D. Jones, EIT
Environmental Engineer II
NCDENR, Division of Air Quality
1641 MSC, Raleigh, NC 27699
Phone-(919) 715-1246
Fac-(919) 715-7476

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