Hampton Roads, Virginia Eight-Hour Ozone Maintenance Area

Transportation Conformity Analysis

2030 Long Range Transportation Plan and FY 09-12 Transportation Improvement Program

DRAFT REPORT

Prepared by: Virginia Department of Transportation

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Hampton Roads, Virginia
Eight-Hour Ozone Maintenance Area

Transportation Conformity Analysis

for the

Amended

2030 Long Range Transportation Plan

and

FY 09-12 Transportation Improvement Program

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Acronym List

BHP-hr	Brake-horsepower-hour
BPR	Bureau of Public Roads
BRT	Bus Rapid Transit
CAA	United States Clean Air Act, as amended
CFR	Code of Federal Regulations
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
FR	Federal Register
FTA	Federal Transit Administration
FY	Fiscal Year
g	grams
HCM	Highway Capacity Manual
HDDE	Heavy-Duty Diesel Engine
HDDV	Heavy-Duty Diesel Vehicle
HPMS	Highway Performance Monitoring System
HRPDC	Hampton Roads Planning District Commission
HRTPO	Hampton Roads Transportation Planning Organization
HRT	Hampton Roads Transit
I/M	Vehicle Emission Inspection and Maintenance Program
LRTP	Long Range Transportation Plan
LRT	Light Rail Transit
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NLEV	National Low Emission Vehicle Program
NO_X	Nitrogen Oxides
PPAQ	Post Processor for Air Quality
psi	Pounds per square inch
RFG	Reformulated Gasoline
RVP	Reid Vapor Pressure
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHiPS	State Highway Planning System
SIP	State Implementation Plan (for air quality)
STIP	State Transportation Improvement Program
TAZ	Traffic Analysis Zone
TCM	Transportation Control Measure
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Program
TSD	Technical Support Document (for SIPs or SIP revisions)
V/C	Volume-to-Capacity (Ratio)
VAC	Virginia Administrative Code
VDEQ (or DEQ)	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation
VDRPT	Virginia Department of Rail and Public Transportation
VEC	Virginia Employment Commission
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles of Travel
VOC	Volatile Organic Compounds
VRS	Vapor Recovery System

Executive Summary

This report presents the regional conformity analysis and recommendation for a finding of conformity for the Hampton Roads 2030 Long Range Transportation Plan (LRTP, or "Plan") and associated Fiscal Year (FY) 2009-2012 Transportation Improvement Program (TIP, or "Program"), both as amended by the Hampton Roads Transportation Planning Organization (HRTPO). The HRTPO serves as the designated Metropolitan Planning Organization or MPO for the Hampton Roads region[1]. This analysis was conducted in compliance with the federal transportation conformity rule *(*40 CFR Parts 51 and 93*)*[2] and the corresponding state conformity regulation *(*9 VAC 5-151*)*[3].

As summarized in Exhibit ES-1, the Plan and Program meet all applicable federal and state conformity requirements and criteria[4].

Exhibit ES-1: Conformity Analysis Summary*

Section	Criteria	Demonstrated:
93.108	Fiscal constraint	Yes**
93.110	Latest planning assumptions	Yes
93.111	Latest emissions model	Yes
93.112	Consultation	Yes***
93.113(b) & (c)	TCMs	na****
93.118	Emissions Budget	Yes

* *As specified in 40 CFR 93.109, "Table 1 – Conformity Criteria", with the addition of fiscal constraint as required in Section 93.108. Additional requirements apply, e.g. as specified in 93.122, although not specifically listed above.*

** *As indicated by MPO (HRTPO) approval and/or provision of the project lists for the Plan and Program and the supporting information provided with those documents, and subject to federal review consistent with 23 CFR Part 450 as referenced in the conformity rule in Section 93.108.*

*** *Conducted to meet both state and federal requirements.*

**** *The applicable implementation (maintenance) plan (72 FR 30490, effective June 1, 2007) for Hampton Roads does not include transportation control measures (TCMs), which therefore are not required for the conformity analysis or determination.*

A recommendation for a finding of conformity is therefore made, conditional upon any further and separate review as may be required by the US Department of Transportation (US DOT) for the fiscal constraint criterion consistent with Section 93.108[5] of the federal

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1 The Hampton Roads Metropolitan Planning Organization (HRMPO) was renamed the Hampton Roads Transportation Planning Organization (HRTPO) in 2009. New Website: http://www.hrtpo.org.

2 Federal Transportation Conformity Regulations (EPA Website): http://www.epa.gov/otaq/stateresources/transconf/conf-regs.htm.

3 Virginia *Regulation for Transportation Conformity* (9 VAC5-151), effective January 19, 2010: http://leg1.state.va.us/000/reg/TOC09005.HTM#C0151

4 Federal Conformity Rule, 40 CFR 93.109 (*Criteria*…). See "*Table 1 - Conformity Criteria*": http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.109.htm

5 Federal Conformity Rule, 40 CFR 93.108 *Fiscal Constraints for Transportation Plans and TIPs*: http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.108.htm

conformity rule and the requirements of the federal planning rule specified at 23 CFR Part 450[6].

Supporting information for each of these criteria demonstrations is provided below, following a summary of the current status of the region with regard to air quality and, for context, an overview of the applicable regulatory requirements.

Hampton Roads Air Quality Planning Status

Hampton Roads is currently in attainment (maintenance) of the 1997 eight-hour ozone national ambient air quality standard (NAAQS) and in attainment of all of the other applicable NAAQS. The designated maintenance area includes the Counties of Gloucester, Isle of Wight, James City, and York, and the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg. Federal transportation conformity requirements apply for areas in nonattainment or maintenance, and therefore apply for Hampton Roads.

On June 1, 2007, the United State Environmental Protection Agency (US EPA) via Federal Register notice approved a redesignation request and State Implementation Plan (SIP) revision (maintenance plan) that had been submitted by the Virginia Department of Environmental Quality (VDEQ)[7]. EPA also found adequate and approved motor vehicle emission budgets for ozone precursors (nitrogen oxides or NO_x, and volatile organic compounds, or VOC) as specified in the maintenance plan. Pursuant to the requirements of the federal conformity rule, the maintenance plan budgets must be met in all regional conformity analyses for the Hampton Roads area.

Regulatory Requirements Overview

Conformity means, as indicated in Section 176(c) of the Clean Air Act (CAA)[8] as amended:

> *"(A) conformity to an [air quality] implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and*
>
> *(B) that such activities will not— (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing*

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6 US DOT - Federal Highway Administration (FHWA), 23 CFR Parts 450 and 500 and Federal Transit Administration (FTA), 49 CFR Part 613, *Statewide Transportation Planning; Metropolitan Transportation Planning,* Final Rule effective March 16, 2007. See: http://edocket.access.gpo.gov/2007/07-493.htm.

For reference, the FHWA also provides a compilation of transportation-related legislation, regulations and guidance on their website: http://www.fhwa.dot.gov/hep/legreg.htm.

7 US EPA, 72 FR 30490, 40 CFR Parts 52 and 81 [EPA–R03–OAR–2006–0919; FRL–8320–9], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Redesignation of the Hampton Roads 8-Hour Ozone Nonattainment Area to Attainment and Approval of the Area's Maintenance Plan and 2002 Base-Year Inventory*, Final Rule, effective June 1, 2007. See: http://edocket.access.gpo.gov/2007/E7-10581.htm.

8 *Clean Air Act* (and amendments): http://www.epa.gov/air/caa/

> *violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. …"*

Section 176(c)(4)(B) of the CAA requires regulatory action in the form of criteria and procedures for conformity to be promulgated by EPA in concurrence with the US DOT:

> *"176(c)(4)(B) Transportation plans, programs, and projects.— The Administrator, with the concurrence of the Secretary of Transportation, shall promulgate, and periodically update, criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects."*

The federal conformity rule was initially promulgated in 1993 and has been amended a number of times since. The most current compilation is that produced by EPA in March 2010[9]. Under the federal rule, MPOs, state departments of transportation and the FHWA along with the FTA are responsible for conformity determinations for: (1) LRTPs, (2) TIPs, (3) transportation projects that receive federal funding or require FHWA or FTA approval, and (4) regionally significant non-federal projects, if these actions occur in areas that have been designated by EPA as nonattainment or maintenance areas for any of the criteria pollutants.

State conformity regulations, primarily to address consultation, are a requirement of the federal conformity rule at 40 CFR Part 51. Accordingly, the VDEQ in 1997 developed the Virginia *Regulation for Transportation Conformity*[10]. The Virginia regulation was updated for consistency with EPA requirements in 2007, and amended again in 2008. The current version, specified in the Virginia Administrative Code (VAC) at 9 VAC 5-151[11], was approved by EPA via Federal Register notice on November 20, 2009 (effective January 19, 2010)[12]. The Virginia regulation closely reflects the requirements of the federal rule for inter-agency and public consultation.

Demonstrations of conformity are therefore conducted to meet the general objectives given in the CAA by meeting the technical criteria specified in the federal and state conformity regulations, with consultation as required by the federal and state regulations including local procedures for inter-agency and public consultation that have been established for the Hampton Roads area.

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9 US EPA, *Transportation Conformity Regulations Updated March 2010*, EPA-420-B-10-006, March 2010, available at: http://www.epa.gov/otaq/stateresources/transconf/regs/420b10006.pdf.

10 Specified in the Virginia Administrative Code (VAC) at 9 VAC 5-150. See: http://www.deq.virginia.gov/air/regulations/air150.html.

11 Virginia *Regulation for Transportation Conformity* (9 VAC 5-151). See: http://www.deq.virginia.gov/air/regulations/air151.html.

12 US EPA, 74 FR 60194, 40 CFR Part 52, [EPA-R03-OAR-2009-0674; FRL-8983-1], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Transportation Conformity Regulations*, Direct Final Rule, November 20, 2009, effective January 19, 2010. See: http://edocket.access.gpo.gov/2009/E9-27814.htm

Conformity Criteria Assessments

Summary assessments are presented below for each of the key conformity criteria listed in Exhibit ES-1, which includes not only the specific criteria identified for regional conformity analyses in Section 93.109[13] of the federal rule (namely, those specified in sections 93.110 through 93.113, and 93.118) but also fiscal constraint from Section 93.108 of that rule. However, as revenues and project costs are not generally assessed in air quality conformity analyses, but are instead assessed as required with the associated Plan and TIP, the fiscal constraint criterion effectively serves as a pre-requisite for the conformity analysis and determination. More detail and supporting information on the technical criteria and assessments are provided in the main report.

- *Section 93.108 (Fiscal Constraints for Transportation Plans and TIPs)*[14]: The federal conformity rule states: "*Transportation plans and TIPs must be fiscally constrained consistent with [US] DOT's planning regulations at 23 CFR part 450 in order to be found in conformity*."

  For Hampton Roads, the MPO (HRTPO) addresses fiscal constraint in the development of the Plan and Program as appropriate and typically includes specific sections or chapters addressing revenues, cost estimates, and financial constraint with those documents. For the purposes of this conformity demonstration, therefore, fiscal constraint is indicated by HRTPO provision and/or approval of the project lists for the Plan and Program and the supporting information referenced by those documents.

  A recommendation for a finding of conformity is therefore conditional upon any further and separate review as may be required by the US DOT for the fiscal constraint criterion consistent with Section 93.108 of the federal conformity rule as well as requirements of federal planning regulations specified at 23 CFR Part 450.

- *Section 93.110 (Latest Planning Assumptions)*[15]: All requirements for the application of latest planning assumptions were met as follows:

  - 93.110(a) Latest Planning Assumptions: This section requires that: "*the conformity determination … must be based upon the most recent planning assumptions in force at the time the conformity analysis begins...*"

    In general, the latest available and approved population and employment forecasts for 2030 by Traffic Analysis Zone (TAZ) were employed with the regional travel demand network model (TP+) to generate the traffic volume and vehicle-miles-traveled (VMT) forecasts applied in this conformity analysis. Regional roadway and transit networks were updated as

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13 Federal Conformity Rule, 40 CFR 93.109 ("Criteria…"). See "*Table 1 - Conformity Criteria*": http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.109.htm

14 Federal Conformity Rule, 40 CFR 93.108 *Fiscal Constraints for Transportation Plans and TIPs*: http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.108.htm

15 Federal Conformity Rule, 40 CFR 93.110 *Criteria and Procedures: Latest Planning Assumptions* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.110.htm

appropriate using the Plan and Program project lists, which were subjected to interagency consultation as described below. Emission controls assumed for the analysis were consistent with those specified in the applicable implementation (maintenance) plan revision.

All of the latest planning assumptions and other aspects of the conformity analysis were reviewed by the Hampton Roads Interagency Consultation Group (ICG) at the beginning of the conformity analysis process, as documented in the chapter on consultation and in Appendix E. Additional details are provided below.

- 93.110 (b) Socioeconomic Forecasts: This section requires that "*Assumptions must be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates and approved by the MPO*". Further, Section 93.122(b)(1)(ii) requires that "*Land use, population, employment, and other network-based travel model assumptions must be documented and based on the best available information*". Section 93.122(b)(1)(iii) adds that "*Scenarios of land development and use must be consistent with the future transportation system alternatives for which emissions are being estimated*."

  As documented in the main report, the socioeconomic forecasts for 2030 (including interim years and sub-allocations as appropriate) represent the latest projections available and approved for use with the 2030 LRTP[16]. The Regional Economic Models, Inc. (REMI) econometric model was applied to develop control totals for key parameters such as population and employment for the Hampton Roads area. The HRTPO then sub-allocated the regional control totals to the local or jurisdiction level. The sub-allocations were reviewed by each locality and adjustments made where appropriate.

- 93.110(c) and (d) Transit: These sections respectively require that "*The conformity determination for each transportation plan and TIP must discuss how transit operating policies (including fares and service levels) and assumed transit ridership have changed since the previous conformity determination*" and "*The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time*".

  Transit operating policies (including fares and service levels) and modeling for transit (ridership) have not changed significantly since the previous

[16] While socioeconomic forecasts for 2034 have more recently been adopted for use in the pending development of the 2034 LRTP, they were not intended nor approved by the TPO for use with the existing and approved 2030 LRTP. Consistent with the consultation requirements of the federal conformity rule at 93.105 and the corresponding state regulation at 9 VAC 5-151-70 that is now in effect, the use of the 2030 versus the 2034 socioeconomic forecasts for this analysis was reviewed by the ICG at the beginning of the conformity analysis process. Minutes for that meeting are provided in Appendix E. The consensus of the ICG was to apply the approved 2030 socioeconomic forecasts for this analysis.

conformity determination. Transit service including proposed light rail is included in future networks for the region. While future transit ridership is effectively determined in the course of modeling for the conformity analysis, details on current transit operating policies including fares and service levels may be found on the Hampton Roads Transit (HRT) and Williamsburg Area Transportation Authority (WATA) websites[17]. Transit service and fares as well as road and bridge tolls are also addressed in supporting documentation for the Plan and associated modeling.

In brief, while local transit fares have not changed (or not changed significantly) since the last conformity analysis for either HRT or the WATA, express bus service has been augmented. For Hampton Roads Transit, the current single ticket fare for local bus service is $1.50. A day pass (the Go Pass) was introduced in 2008 with a fare of $3.50 for a one-day pass. For Williamsburg Area Transit, the fare for a one-way trip is $1.25; for seniors (60 and over) and disabled, a reduced fare of $0.50 applies. An all-day pass (for unlimited trips) is also available for a fare of $1.50. In keeping with the Americans with Disabilities Act (ADA), door-to-door service is also available for those unable to use bus at a fare of $2.00 per one-way trip. Finally, express bus service has been augmented in the model with the addition of new ("Max") express bus service (with fares converted to constant 2000 dollars.

- 93.110(e) Transportation Control Measures (TCMs) and Other Measures: This section requires that "*The conformity determination must use the latest existing information regarding the effectiveness of the TCMs [transportation control measures] and other implementation plan measures which have already been implemented*."

  The applicable SIP revision (maintenance plan) for Hampton Roads does not include transportation control measures (TCMs). TCMs are therefore not required for the conformity analysis or determination. Accordingly, credit for TCMs was not taken in this analysis. See 72 FR 30490, effective June 1, 2007.

  Other measures applicable for on-road motor vehicles as listed in the applicable implementation (maintenance) plan include *Tier 2/Low Sulfur Gasoline Rule*, *2007 On Road Diesel Engine Rule*, and *Reformulated gasoline (on-road)*[18]. Other or associated measures implemented in the

[17] See www.hrtransit.org and www.williamsburgtransport.com, respectively.

[18] VDEQ, *Maintenance Plan for the Hampton Roads Nonattainment Area Consisting of the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Suffolk, Virginia Beach, and Williamsburg and the Counties of James City, York, Gloucester, and Isle of Wight - Final*, ca October 2006. See Table 5.2.2-1 (*Maintenance Plan Control Measures and Emission Reductions*) on page 8.

The Technical Support Document (TSD) for the maintenance plan lists the same measures under slightly different headings, namely the *Federal Tier 2/Low Sulfur Gasoline Rule*, *Federal Heavy Duty Diesel Engine Rule*, and *Reformulated Gasoline (On-Road)*. See: VDEQ, *Technical Support Document for the Redesignation Request and Maintenance Plan for Hampton Roads 8-hour Ozone Nonattainment Area - Final*, ca October 2006, Table 8-1 (*Maintenance Plan Control Measures and Emission Reductions*), p.282.

region and documented in this report include gasoline Reid Vapor Pressure (RVP) limits and early implementation of the National Low Emission Vehicle (NLEV) Program. All of these measures have been implemented and were therefore credited in this analysis as appropriate.

Further, and though not specified in the implementation plan, other measures have been implemented that have or may have the effect of reducing emissions. Credit for these measures was not needed to demonstrate conformity and was therefore not taken for this analysis. These measures include transit bus replacements, Congestion Mitigation and Air Quality (CMAQ) funded projects, van pools, and park-and-ride lots.

- o 93.110(f) Consultation on Key Assumptions: This section requires that "*Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by Sec. 93.105*".

  Consultation was conducted on all key assumptions in accord with both federal and the corresponding (and newly applicable) state regulation, as documented below in the summary on consultation.

- *Section 93.111 (Latest Emissions Model)*[19]. Requirements to apply the latest emission model were satisfied using MOBILE6.2 for this conformity analysis. The use of the latest emission model is specified in the federal conformity rule at 93.111(a) as follows: "*The conformity determination must be based on the latest emission estimation model available.*" However, when EPA issues a new model, a grace or transition period applies in which the previous model or version of the model may still be applied, per the federal conformity rule at 93.111(c) which states: "*Transportation plan and TIP conformity analyses for which the emissions analysis was begun during the grace period or before the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model.*"

  On March 2, 2010, EPA officially released the next generation Motor Vehicle Emission Simulator (MOVES2010) model for use in SIP development and regional conformity applications[20]. The EPA notice indicated that a two-year grace period (ending March 2, 2012) will apply for use of the new model in regional emissions analyses for transportation conformity determinations. Therefore, for regional conformity analyses initiated before or within the two-year

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19 Federal Conformity Rule, 40 CFR 93.111 *Criteria and Procedures: Latest Emissions Model* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.111.htm

20 US EPA, 75 FR 9411, [FRL–9121–1], *Official Release of the MOVES2010 Motor Vehicle Emissions Model for Emissions Inventories in SIPs and Transportation Conformity*, Notice of Availability, March 2, 2010. Available at: http://edocket.access.gpo.gov/2010/2010-4312.htm. While the official name of the current model is "MOVES2010", it is abbreviated here as "MOVES" to allow for pending future revisions to the model and any associated revisions to the model name. For additional information, see:

- EPA website for MOVES: http://www.epa.gov/otaq/models/moves/index.htm.
- US EPA, *Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes*, EPA-420-B-09-046, December 2009. Direct link: http://www.epa.gov/otaq/models/moves/420b09046.pdf.

grace period, the MOBILE6.2 model (the model previously designated as the official model by EPA) may continue to be applied.

The selection of latest emission model for the conformity analysis was considered by the ICG at the beginning of the conformity analysis process, as documented in the chapter on consultation and in Appendix E. The consensus of the ICG was to apply the MOBILE6.2 model for this analysis, within the grace period. The MOVES model may be applied in future analyses once appropriate steps have been taken, within the grace period, to review and update as needed the applicable budgets specified in the maintenance plan[21].

- *Section 93.112 (Consultation)*[22]: Regulatory requirements for consultation that were initially established at the federal level have been reflected in state regulations and requirements as well as locally developed inter-agency and public consultation procedures. Exhibit ES-2 presents an overview of applicable federal, state and local consultation requirements.

  Federal Regulation: Federal requirements for consultation as specified in the conformity rule in Section 93.105 were made subject in Section 93.112 to the establishment and approval by EPA of corresponding state requirements, as follows: "*Conformity must be determined according to the consultation procedures in this subpart and in the applicable implementation plan, and according to the public involvement procedures established in compliance with 23 CFR part 450. Until the implementation plan revision required by §51.390 of this chapter is fully approved by EPA, the conformity determination must be made according to §93.105 (a)(2) and (e) and the requirements of 23 CFR part 450.*"

  The referenced section, 51.390, of the federal transportation conformity rule effectively requires the development of a state regulation to govern conformity consultation processes and further provides that the state regulation once approved by EPA effectively governs (over the federal) where they overlap. Section 51.390c provides that: *"Timing and approval... Following EPA approval of the state conformity provisions (or a portion thereof) in a revision to the state's conformity implementation plan, conformity determinations will be governed by the approved (or approved portion of the) state criteria and procedures as well as any applicable portions of the federal conformity rules that are not addressed by the approved conformity SIP."*

  Commonwealth of Virginia Regulation: The recently approved Virginia "*Regulation for Transportation Conformity*" (9 VAC 5-151) as previously referenced satisfies these requirements and is now therefore the governing regulation for consultation for conformity purposes for the Commonwealth.

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21 A separate process to review and update as appropriate (using MOVES) the motor vehicle emission budgets specified in the currently applicable SIP revision (maintenance plan) is planned. This review and update process would need to be completed before the new or revised budgets could be applied in future conformity analyses using MOVES for the region.

22 Federal Conformity Rule, 40 CFR 93.112 *Criteria and Procedures: Consultation* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.112.htm

Although the Virginia regulation generally mirrors the federal with regard to specific consultation requirements, one difference is that the Virginia regulation requires that the Lead (or Local) Planning Organization (LPO) for air quality planning that has been established for the region pursuant to Section 174 of the federal Clean Air Act as amended specifically be included in consultation for conformity purposes. As the Hampton Roads Air Quality Committee (HRAQC) is the designated LPO for the region, involvement of the VDEQ staff representative for that Committee in the local inter-agency consultation process for conformity is considered to fulfill that requirement.

Hampton Roads Procedures: Both inter-agency and public consultation procedures have been established for Hampton Roads. Inter-agency consultation procedures for conformity were approved by the Hampton Roads MPO in 2005[23,24]. As required by these procedures, an Interagency Consultation Group (ICG) for Hampton Roads has been formed. Members of the ICG include representatives of federal, state and local air and transportation agencies, including the member agencies of the HRTPO, Virginia Department of Rail and Public Transportation (VDRPT), VDOT, FHWA, FTA, VDEQ and the US EPA. As noted above, the LPO is also involved in consultation with the ICG. All meetings are open to the public.

Public consultation on the LRTP and TIP (versus the conformity analysis specifically) is conducted following the extensive procedures presented in the Hampton Roads "*Public Participation Plan*" (PPP)[25] that was approved by the HRTPO in December 2009. The PPP responds to SAFETEA-LU requirements as implemented with the revised planning regulations (23 CFR Part 450). Conformity consultation requirements including the existing ICG procedures are referenced in the PPP, and the two processes are coordinated.

The main report includes a summary of all applicable federal, state and local consultation requirements as well as a record of inter-agency and public consultation activities conducted in support of this analysis. The consultation record is also reviewed below.

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[23] VDOT, *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations*, Revised July 18, 2005. See: http://www.hrtpo.org/Documents/Reports/Rev_HR_ICP2005.pdf

[24] The recent approval by EPA of the Virginia *Regulation for Transportation Conformity* will require updates to currently established consultation procedures for MPOs across the Commonwealth, including the HRTPO. However, since the consultation requirements specified in the new Virginia regulation generally mirror those in the existing federal regulation, the updates are expected to be largely editorial in nature and not involve significant changes to established consultation processes.

For Hampton Roads, an update to existing consultation procedures is in the planning stages. The update is planned to not only reflect changes as appropriate to the applicable regulations for the new Virginia regulation but also to provide the ICG an opportunity to update and streamline existing consultation processes.

[25] Hampton Roads TPO, *Public Participation Plan*, December 2009: http://www.hrtpo.org/Documents/Reports/HRTPO%20PPP%20-%20December%202009%20(Final).pdf

Exhibit ES-2: Federal, State and Local Consultation Requirements Relating to Transportation Conformity

DATE	REQUIREMENT
PENDING	
Update to Inter-Agency Consultation Procedures for Transportation Conformity	
2010	Update for the existing (2005) Hampton Roads Conformity Consultation Procedures, both to reflect the new Virginia Conformity SIP *(Regulation for Transportation Conformity* , 9 VAC 5-151) and to streamline and update existing processes as appropriate.
CURRENTLY APPLICABLE OR APPROVED	
Federal	***Legislation & Regulations***
US EPA Regulation for Transportation Conformity (40 CFR Parts 51 and 93). *Key requirements for consultation are addressed in Sections 51.390, 93.105, and 93.112.*	
March 24, 2010	*Transportation Conformity Regulations Updated March 2010* issued by EPA. This is the most current compilation by EPA of the Federal Transportation Conformity Rule (40 CFR Parts 51 and 93). It reflects all amendments made since the initial issuance by EPA of the rule in 1993 through March 24, 2010, including revisions promulgated pursuant to SAFETEA-LU in 2005.
US DOT Planning Assistance and Standards (23 CFR Part 450)(Transportation Planning & Programming Requirements). *Key requirements for consultation are addressed in Section 450.316 Interested parties, participation, and consultation.*	
February 14, 2007	US DOT, Federal Highway Administration, 23 CFR Parts 450 and 500, Federal Transit Administration, 49 CFR Part 613 [Docket No. FHWA–2005–22986] RIN 2125–AF09; FTA RIN 2132–AA82, *Statewide Transportation Planning; Metropolitan Transportation Planning* , Final Rule. Most recent major update to the federal planning regulations.
Legislation - Clean Air Act as amended, and subsequent SAFETEA-LU amendments.	
August 10, 2005	Federal Reauthorization (*Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users,* or *SAFETEA-LU* , Public Law 109-59), which addressed in part conformity.
November 15, 1990	Last set of major amendments to the *Clean Air Act* , although there have been minor amendments since. Conformity is addressed in Section 176(c).
State	***Federally-Required State Regulation for Transportation Conformity (9 VAC 5-151)***
January 19, 2010	Effective date for the new Virginia *Regulation for Transportation Conformity* (9 VAC 5-151) approved 11/20/09 by EPA via Federal Register notice. See US EPA, 74 FR 60194, 40 CFR Part 52, [EPA-R03-OAR-2009-0674; FRL-8983-1], "*Approval and Promulgation of Air Quality Implementation Plans; Virginia; Transportation Conformity Regulations* ", Direct Final Rule, November 20, 2009. The regulation was approved as submitted on March 23, 2009.
March 23, 2009	Submittal the Virginia *Regulation for Transportation Conformity* (9 VAC 5-151) by the VDEQ to the US EPA for approval in response to federal conformity rule requirements at 40 CFR Part 51. By the federal rule, the requirements of the new state regulation generally govern over the pre-existing federal requirements for consultation for conformity purposes (where they overlap, and as long as they are no less stringent).
Local	***Consultation Procedures***
Public Participation Plan	
December 16, 2009	MPO (HRTPO) approval of the *Hampton Roads Transportation Planning Organization Public Participation Plan* dated December 2009. This document responds to public and consultation stakeholder requirements specified in 23 CFR Part 450.
Inter-Agency Consultation Procedures for Transportation Conformity	
September 21, 2005	MPO (HRTPO) approval of (Inter-Agency) *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations (Revised July 18, 2005).* This revision updated the initial version approved in July 2001. These procedures were developed in response to requirements of the federal conformity rule at 40 CFR 93.105.

Consultation Record

Interagency and public consultation opportunities relating to this conformity analysis, including the prior development of project lists, were (*or will be*) provided at the following meetings and events:

- December 16, 2009: HRTPO approval of amendments to the 2030 LRTP (to be subject to a conformity analysis). HRTPO meetings are open to the public, with email announcements (including public notices) and agendas generally posted the week before the meeting.

- March 3, 2010: TTAC approval of list of projects for amendment to the 2030 LRTP, accounting for a February 2010 federal update to stimulus funding. TTAC meetings are open to the public, with email announcements (including public notices) and agendas generally posted the week before the meeting.

- April 7, 2010: ICG meeting, marking the beginning of the conformity analysis process. This meeting provided an opportunity for detailed review and comment on all aspects of the proposed analysis, including models, associated methods and assumptions, project lists for the Plan and TIP (including changes), and overall schedule.

  Exhibit ES-3 lists current members of the Hampton Roads ICG. Updates to the member list incorporated subsequent to the ICG meeting are italicized. The new Virginia *Regulation for Transportation Conformity* does not specifically require changes to the ICG membership and the agencies and other parties that it does specify to be consulted (as noted in the section above) were all included in the consultation for this analysis.

  Meeting notices were distributed by email and also posted on the HRTPO web site. The email distribution list included the members of the Hampton Roads TTAC in addition to the agencies listed in the Exhibit for the ICG as well as the staff representative for the HRAQC (LPO).

  A public announcement for the meeting was posted on March 31, 2010 on the HRTPO website on the same page as the affiliated TTAC meeting scheduled to immediately follow the ICG meeting at the same location. Public involvement was at the same time also solicited via an announcement posted in the *Public Notices* section on the HRTPO website as well as a regularly-scheduled HRTPO *Public Notice* email distributed the same day in which the upcoming ICG meeting was listed along with other public meetings. An opportunity was provided for public input at the meeting. No comments from the public were received at the meeting.

  Copies of materials distributed for the ICG Meeting are provided in Appendix E, with the exception of the project lists for the Plan and TIP which are presented separately (given their length) in Appendix F. Consultation materials presented in the Appendix E include email notice, website notices, ICG meeting agenda, ICG membership list, draft modeling methodology and assumptions (draft chapter of conformity analysis report), draft conformity analysis schedule, and the ICG meeting presentation (PowerPoint slides).

Exhibit ES-3: Hampton Roads Interagency Consultation Group (ICG)

Agency	*Staff*	
City/County		
City of Chesapeake	Earl	Sorey
City of Hampton	Lynn	Allsbrook
City of Newport News	Michael	King
City of Norfolk	Jeffrey	Raliski
City of Poquoson	Jeff	Bliemel
City of Portsmouth	Richard	Hartman
City of Suffolk	*Robert*	*Lewis*
City of Virginia Beach	Travis	Campbell
City of Williamsburg	Reed	Nester
Gloucester County	Anne	Ducey-Ortiz
Isle of Wight County	Jane	Hill
James City County	Steven	Hicks
York County	Timothy	Cross
Regional		
Hampton Roads Transportation Planning Organization	Andy	Pickard
Hampton Roads Transit	Jayne	Whitney
Williamsburg Area Transit Authority	Richard	Drumwright
State		
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham
Virginia Dept. of Rail & Public Transportation	Joseph	Swartz
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw
Federal		
Environmental Protection Agency	Martin	Kotsch
Federal Highway Administration	Marisel	Lopez-Cruz
Federal Transit Administration	Tony	Cho
Alternates / Other (non-voting)		
City of Suffolk	*Sherry*	*Earley*
James City County	Allen	Murphy
US Navy	*Jennifer*	*Tabor*

* *Listing as of April 21, 2010. Changes made since the April 7, 2010 ICG meeting are italicized.*

The presentation given at the ICG meeting addressed the membership list (and the inclusion of the LPO in the consultation process), selection of the latest emission model for the analysis, modeling methodology and assumptions for the conformity analysis (including the selection of socioeconomic forecasts to meet latest planning assumption requirements), the project lists to be applied in the conformity analysis for the Plan and TIP, and the conformity analysis schedule. The presentation also addressed a planned future update to the ICG Consultation Procedures pursuant to the approval of the Virginia *Regulation for Transportation Conformity*.

Draft meeting minutes (including attachments and an updated ICG Membership list) were distributed for comment. Other than updates to the membership list, no comments on the draft minutes were received. Email for

both draft and final minutes are included in the Appendix E, with the final minutes included in full.

- April 7-21, 2010: Fourteen-day public comment period for the Amended 2030 LRTP and FY 2009-2012 TIP project lists, conducted immediately following the ICG meeting. An announcement was provided to more than 4,000 email addresses, among them local and regional media and public information officers. Two comments from the public were received. Copies of the comments received and responses provided are included in Appendix E.

- *May 26-June 9, 2010: Fourteen-day public review period on the draft Regional Conformity Analysis and proposed finding of conformity. HRTPO staff published a public notice in local newspapers and on the web site seeking comments, and published the draft Conformity Analysis on the HRTPO website.*

- *June 2, 2010: TTAC recommendation for approval of the draft Conformity Analysis and proposed finding of conformity, subject to no adverse comments received during the associated public review period.*

- *June 16, 2010: HRTPO approval of the Conformity Analysis and finding of conformity.*

- *Section 93.113 (Timely Implementation of TCMs)*[26]: As indicated previously under "Latest Planning Assumptions", the applicable SIP revision (maintenance plan) for Hampton Roads does not include transportation control measures (TCMs). TCMs are therefore not required for the conformity analysis or determination. See 72 FR 30490, effective June 1, 2007.

- *Section 93.118 (Motor Vehicle Emissions Budget)*[27]: Requirements of the federal conformity rule with regard to the applicable motor vehicle emission budgets were met as follows:

  (a) The transportation plan, TIP… must be consistent with the motor vehicle emissions budget(s) in the applicable implementation plan... This criterion is satisfied if it is demonstrated that emissions of the pollutants …are less than or equal to the motor vehicle emissions budget(s)….",

  Exhibit ES-4 lists the motor vehicle emission budgets as specified in the applicable implementation plan revision, namely the 2007 maintenance plan for the eight-hour ozone standard as previously referenced. Budgets are specified for nitrogen oxides (NO_x) and for volatile organic compounds (VOC), both of which are precursors to ozone formation.

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[26] Federal Conformity Rule, 40 CFR 93.113 *Criteria and Procedures: Timely Implementation of TCMs* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.113.htm

[27] Federal Conformity Rule, 40 CFR 93.118 *Criteria and Procedures: Motor Vehicle Emissions Budget* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.118.htm

Exhibit ES-4: Motor Vehicle Emission Budgets for Hampton Roads

ADEQUATE AND APPROVED MOTOR VEHICLE EMISSIONS BUDGETS (MVEBS) IN TONS PER DAY (TPD)		
Budget year	NO_x	VOC
2011	50.387	37.846
2018	31.890	27.574

Source: Excerpted from 72 FR 30490, effective June 1, 2007.

Exhibit ES-5 presents the emission forecasts for the LRTP and TIP in comparison to the specified motor vehicle emission budgets. The forecast emissions are less than the corresponding budgets established in the applicable SIP revision (maintenance plan) for each pollutant and year tested. The emission tests required by the federal conformity rule are therefore passed.

For transparency and to demonstrate consistency with the methodology applied in the maintenance plan, the Exhibit presents separate emission totals for network emissions, off-network emissions, and contributions from mobile sources operating on military bases within the Hampton Roads maintenance area.

(b) *"Consistency with the motor vehicle emissions budget(s) must be demonstrated for each year for which the applicable (and/or submitted) implementation plan specifically establishes motor vehicle emissions budget(s), for the attainment year (if it is within the timeframe of the transportation plan and conformity determination), for the last year of the timeframe of the conformity determination …, and for any intermediate years within the timeframe of the conformity determination as necessary so that the years for which consistency is demonstrated are no more than ten years apart … "*

The motor vehicle emission budget tests were satisfied for each pollutant and year modeled, as noted above. Years selected for the analysis were as follows:

- The years 2011 and 2018 are ones for which the applicable implementation plan revision (maintenance plan) as noted above specifies motor vehicle emission budgets.
- The year 2030 was selected as the horizon year for the LRTP.
- To meet the interim year requirement (ten-year limit), the year 2020 was selected.

Since the conformity rule requires that motor vehicle budgets established "for the most recent prior year" apply for years for which budgets have not been "specifically established", the 2018 budgets as listed are also applicable for the subsequent test years (2020 and 2030).

Exhibit ES-5: Conformity (Emission Budget) Tests

Year		Regional Emissions *(tons per average ozone season weekday)*	
		NO_x	**VOC**
2011	**Budget Year**		
	Network	*36.83*	*27.95*
	Off-Network	*8.50*	*8.78*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	45.85	36.99
	Budget:	50.387	37.846
	Conformity Test:	PASSED	PASSED
2018	**Budget Year**		
	Network	*21.08*	*18.59*
	Off-Network	*5.03*	*6.09*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	26.64	24.94
	Budget:	31.890	27.574
	Conformity Test:	PASSED	PASSED
2020	**Interim Year** (within ten years of other years modeled)		
	Network	*19.10*	*16.58*
	Off-Network	*4.59*	*5.58*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	24.21	22.41
	2018 Budget:	31.890	27.574
	Conformity Test:	PASSED	PASSED
2030	**LRTP Horizon Year**		
	Network	*16.37*	*15.97*
	Off-Network	*4.14*	*5.77*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	21.02	22.00
	2018 Budget:	31.890	27.574
	Conformity Test:	PASSED	PASSED

** Budgets specified in 72 FR 30490, effective June 1, 2007, with military base contributions from Table 4-7, p. 62, in the TSD for the referenced Maintenance Plan.*

(c) "Consistency with the motor vehicle emissions budget(s) must be demonstrated for each pollutant or pollutant precursor …for which the area is in nonattainment or maintenance and for which the applicable implementation plan (or implementation plan submission) establishes a motor vehicle

emissions budget",

The motor vehicle emission budget tests were satisfied for each pollutant and year modeled, as noted above. The pollutants modeled (NO_x and VOC precursors to ozone) were ones for which motor vehicle emission budgets were specified in the applicable implementation plan revision, namely the 2007 maintenance plan for the eight-hour ozone standard) as noted above.

(d) *"Consistency with the motor vehicle emissions budget(s) must be demonstrated by including emissions from the entire transportation system, including all regionally significant projects contained in the transportation plan and all other regionally significant highway and transit projects expected in the nonattainment or maintenance area in the timeframe of the transportation plan… "*

The motor vehicle emission budget tests were satisfied for each pollutant and year modeled, as noted above. Emissions from the entire transportation system, including "all regionally significant projects contained in the transportation plan and all other regionally significant highway and transit projects expected in the maintenance area in the timeframe of the transportation plan", were included in the analysis. For this purpose, separate emission forecasts were generated for motor vehicle traffic on network and off-network facilities and military bases.

Network emissions are those attributable to travel on roadways included in the regional travel demand (network) model. This includes all existing roadway facilities and transit service as well as all regionally significant roadway projects and transit services planned to be open or operational by each year modeled. Estimates for emissions attributable to travel on network facilities were estimated for each year modeled for the conformity analysis.

Off-network emissions are for travel on local and collector streets not included in the regional travel demand network model. Estimates for emissions attributable to travel on off-network facilities were also estimated for each year modeled for the conformity analysis.

Contributions from military bases were taken as specified in the maintenance plan for the region. Exhibit ES-6 presents the estimated emissions for on-road motor vehicles operating on military bases in the Hampton Roads area as reported in the technical support document for the maintenance plan. The estimates do not vary by year.

Exhibit ES-6: Hampton Roads Military Base Emissions

Year	Regional Emissions *(tons per ozone season weekday)*	
	NOx	**VOC**
2011	0.52	0.26
2018	0.52	0.26

Source: Table 4-7, page 62, in the Technical Support Document for the Maintenance Plan approved effective June 1, 2007 (72 FR 30490)

For reference, Chapter 1 of the main report provides a more detailed review of applicable federal, state and local regulatory requirements.

Chapter 2 documents the transportation and emission modeling methodology and key data and assumptions applied in this analysis.

Chapter 3 provides an overview of all applicable consultation requirements as well as a chronological consultation record of meetings and events related to the analysis. Copies of consultation materials including meeting agenda, minutes, conformity analysis schedule, presentation and handouts are provided in Appendix E. Project lists are provided in Appendix F.

Chapter 4 summarizes the conformity demonstration and conclusion.

1. Introduction and Overview

This report presents the transportation conformity analysis for the Hampton Roads 2030 Long Range Transportation Plan (LRTP, or "Plan") and Fiscal Year (FY) 2009-2012 Transportation Improvement Program (TIP, or "Program").

The Hampton Roads Transportation Planning Organization (HRTPO) serves as the as the designated Metropolitan Planning Organization or MPO for the Hampton Roads region and, as such, the forum for cooperative transportation decision-making for the area[28].

The HRTPO leads the development of the LRTP and TIP, in consultation and coordination with the Virginia Department of Transportation (VDOT) and other public and private stakeholders as appropriate. Per an interagency agreement developed to meet the requirements of the federal planning rule at 23 CFR 450.314[29], VDOT, working with the MPO and in consultation and coordination with other agencies and public and private stakeholders as appropriate, leads the development of the regional conformity analyses.

The report is organized as follows:

- Chapter 1 (this chapter) provides an overview of applicable federal, state and local regulatory requirements and guidance, focusing on transportation conformity. For context, the chapter begins with a brief review of federal air quality requirements and associated designations and air quality plan development for the Hampton Roads area. The chapter concludes with a tabulation of the chronology of conformity determinations for the region.

- Chapter 2 provides a detailed review of the modeling methodology and assumptions as applied in the conformity analysis.

- Chapter 3 summarizes the consultation process and results, which begins before the conformity (technical) analysis is initiated with inter-agency review of the proposed methods, assumptions, schedule and project lists to be analyzed and concludes with HRTPO approval of the draft conformity analysis and subsequent review and finding of conformity by the US DOT in consultation with the US EPA.

- Chapter 4 documents the results of the conformity analysis, supporting a recommendation for a finding of conformity for the LRTP and TIP.

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[28] The Hampton Roads Metropolitan Planning Organization (HRMPO) was renamed the Hampton Roads Transportation Planning Organization (HRTPO) in 2009. Website: http://www.hrtpo.org.

[29] *Metropolitan Planning Agreement for the Hampton Roads Area,* effective July 15, 2009. This Agreement satisfies the requirements of 23 CFR 450.314.

1.1 Clean Air Act Requirements

The Clean Air Act (CAA)[30] was passed in 1963 and most recently amended in 1990. Requirements of the CAA that are relevant to this analysis include national ambient air quality standards (NAAQS) for specific "criteria" pollutants, motor vehicle emission standards, and transportation conformity. The first two requirements are reviewed briefly in this section, including an overview of related trends; requirements for transportation conformity are reviewed in more detail later in this chapter.

Exhibit 1-1 lists the currently applicable NAAQS[31]. Areas not meeting these standards may be designated as nonattainment and made subject to various provisions of the CAA until attainment is achieved. Development of a state implementation plan (SIP) that demonstrates attainment by a required date is one such provision; federal transportation conformity requirements are another. SIPs address not only direct emissions of a pollutant but also its precursors. For example, nitrogen oxides (NO_x) and volatile organic compounds (VOC) are considered the primary precursors to ozone, as emissions of these pollutants react in the atmosphere in the presence of sunlight and contribute to the atmospheric formation of ozone.

Areas designated nonattainment that subsequently attain or regain attainment may be redesignated to attainment, subject to maintenance requirements[32]. The development and implementation of a "maintenance" plan (as a revision to the SIP) to "*provide for the maintenance of the national primary ambient air quality standard for such air pollutant in the area concerned for at least 10 years after the redesignation*"[33] is one such requirement. A second maintenance plan, or "*an additional revision of the applicable State implementation plan for maintaining the national primary ambient air quality standard for 10 years after the expiration of the 10-year period referred to in subsection (a)*", is another such requirement[34]. Maintenance plans typically include the establishment of motor vehicle emission budgets (MVEBs) for the region, which are limits or caps on total regional emissions from the on-road motor vehicle fleet. Federal and state conformity requirements, including demonstrations of conformity to the SIP and the motor vehicle emission budgets established therein, remain in force until the designated maintenance periods are over.

National Trends

Long-term trends in emissions and ambient concentrations are informative, given the time that has elapsed since the CAA of 1963 was passed and the efforts made since then to reduce emissions through technology and other means.

Using ozone as an example, Exhibit 1-1 as previously referenced lists the currently applicable 2008 eight-hour ozone standard of 0.075 parts per million (75 parts per billion

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30 *Clean Air Act* (and amendments): http://www.epa.gov/air/caa/

31 Revisions are addressed in the next section in relation to the air quality status for Hampton Roads.

32 CAA, Title I, Part D, Section 175A - *Maintenance Plans* http://www.law.cornell.edu/uscode/html/uscode42/usc_sec_42_00007505---a000-.html

33 *Ibid*, subsection (a).

34 *Ibid*, subsection (b).

or ppb) as well as the previous standards of 0.08 ppm (1997) and 0.12 ppm. Reducing ambient levels of ozone to achieve the more stringent standards requires reductions in emissions of its precursors, namely NO_x and VOC.

Exhibit 1-1: National Ambient Air Quality Standards*

	Primary Standards		Secondary Standards	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour [(1)]	None	
	35 ppm (40 mg/m^3)	1-hour [(1)]		
Lead	0.15 µg/m^3 [(2)]	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m^3	Quarterly Average	Same as Primary	
Nitrogen Dioxide	53 ppb [(3)]	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour [(4)]	None	
Particulate Matter (PM_{10})	150 µg/m^3	24-hour [(5)]	Same as Primary	
Particulate Matter ($PM_{2.5}$)	15.0 µg/m^3	Annual [(6)] (Arithmetic Average)	Same as Primary	
	35 µg/m^3	24-hour [(7)]	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour [(8)]	Same as Primary	
	0.08 ppm (1997 std)	8-hour [(9)]	Same as Primary	
	0.12 ppm	1-hour [(10)]	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour [(1)]
	0.14 ppm	24-hour [(1)]		

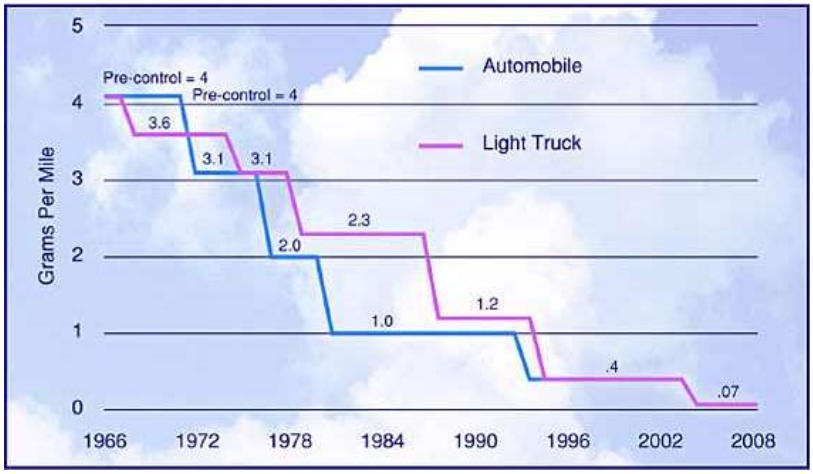
(1) Not to be exceeded more than once per year.
(2) Final rule signed October 15, 2008.
(3) The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard
(4) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
(5) Not to be exceeded more than once per year on average over 3 years.
(6) To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m3.
(7) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).
(8) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)
(9) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
(c) EPA is in the process of reconsidering these standards (set in March 2008).
(10) (a) EPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").
(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is $\leq$ 1.

Source: US Environmental Protection Agency (http://www.epa.gov/air/criteria.htm , accessed May 24, 2010).

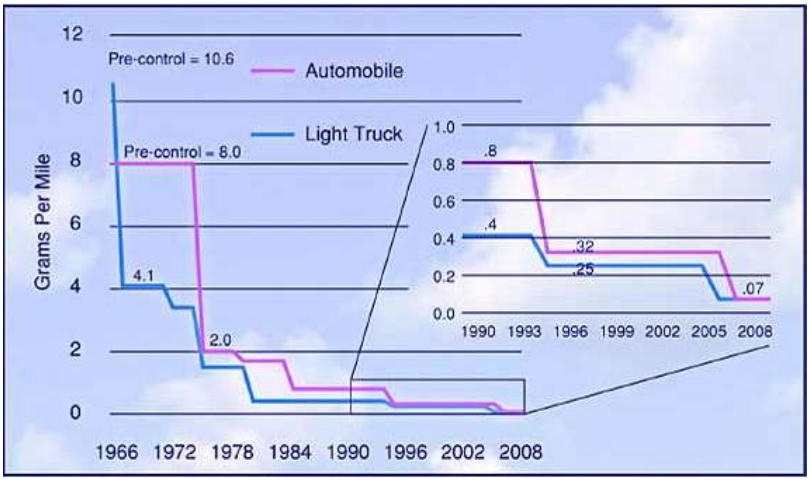
Exhibit 1-2 presents a simplified graphic of NO_x and VOC emission standards implemented since the 1960s for on-road light duty vehicles (cars and light trucks). Emissions standards similarly apply for heavy duty vehicles (trucks and buses). Related fuel quality standards also apply. A complete listing of federal emission standards for on-road vehicles is available online from EPA[35]. The graphic gives a visual sense of how much more stringent federal emission standards have been made over time in an effort to help states and regions meet the federal NAAQS.

Exhibit 1-2: Federal Emission Standards for Light Duty Vehicles and Trucks

(a) NO_x



(b) VOC



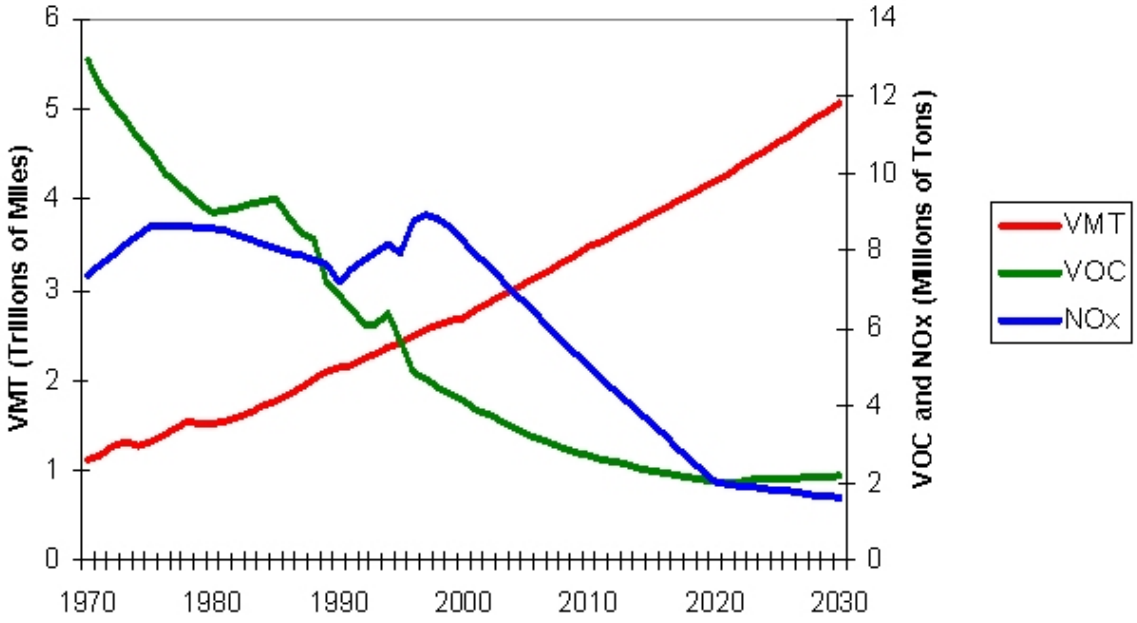
Source: FHWA website entitled "Federal Emissions Standards", accessed March 2010: http://www.fhwa.dot.gov/environment/aqfactbk/page14.htm

Exhibit 1-3 presents national trends in vehicle-miles-traveled (VMT) and associated emissions of NO_x and VOC from the on-road motor vehicle fleet. In general, despite

[35] US EPA Office of Transportation & Air Quality website "*Emission Standards Reference Guide*": http://www.epa.gov/otaq/standards/allstandards.htm

ongoing and substantial increases in VMT across the nation, total emissions of NO_x and VOC have been reduced substantially in this time period. The reduction in emissions is attributable in large part to the emission controls introduced to meet the federal emission standards.

Exhibit 1-3: National Trends in Vehicle Miles Traveled (VMT) and Associated Emissions of Ozone Precursors



Source: Chart entitled "Vehicle Miles Traveled (VMT) vs. Vehicle Emissions", dated July 30, 2002, on FHWA website accessed March 2010: http://www.fhwa.dot.gov/environment/vmtems.htm

Exhibit 1-4 shows the national trends in ambient ozone levels. The general trend is downward, that is, towards improved air quality with lower concentrations of ozone. This is partly attributable to the standards introduced within the transportation sector.

1.2 Air Quality Planning Status for Hampton Roads

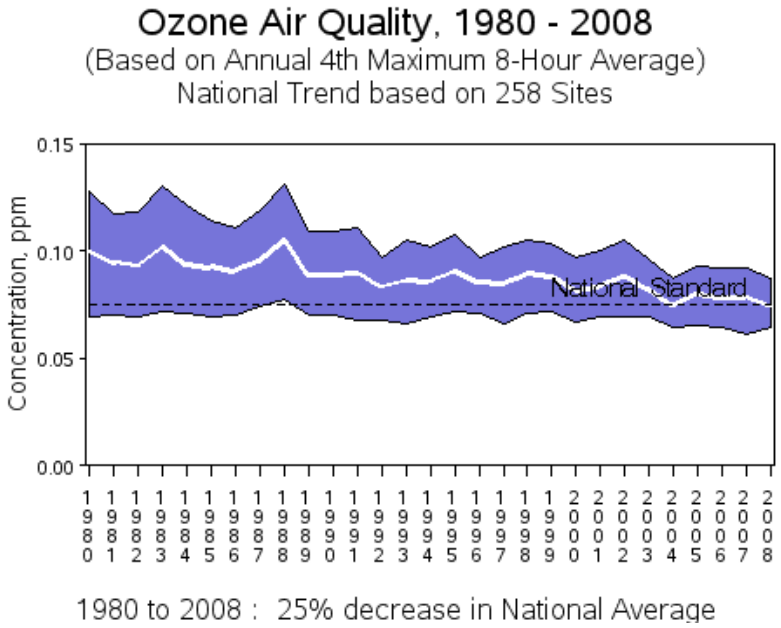
The Hampton Roads area is currently in attainment for all of the NAAQS. However, as the area has previously been designated as nonattainment for ozone and then redesignated to attainment, it is subject to maintenance plan requirements and therefore to continued federal and state transportation conformity requirements. Motor vehicle emission budgets have accordingly been established for the region and most recently updated in the maintenance plan.

Chronology of Air Quality Designations for Hampton Roads

On November 6, 1991, the Hampton Roads, Virginia region was classified by EPA as a marginal ozone non-attainment area for the one-hour ozone standard (56 FR 56694). The designated non-attainment area included the Counties of James City and York as well as the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.

On March 12, 1997, EPA approved a redesignation of the Hampton Roads one-hour ozone non-attainment area to attainment in a direct final rule effective April 28, 1997[36]. At the same time, EPA approved the associated maintenance plan revision to the SIP. The redesignation was based upon three years of quality-assured ambient air quality monitoring data for the area that demonstrated that the one-hour ozone NAAQS had been attained.

Exhibit 1-4: National Trends in Ambient Ozone Levels



Source: US EPA website, accessed March 2010, Chart entitled "Ozone Air Quality, 1980 – 2008". The referenced "national standard" is 75 ppb. See: http://www.epa.gov/airtrends/ozone.html

On July 18, 1997, EPA promulgated a revised (eight-hour) ozone NAAQS of 0.08 parts per million (ppm), with designations of areas across the nation as attainment or nonattainment for the new standard to follow[37]. Implementation of the new ("1997") eight-hour ozone standard was however delayed by litigation.

On April 30, 2004, EPA, in a final rule effective June 15, 2004, re-classified the Hampton Roads area to be in marginal non-attainment for the 1997 eight-hour ozone standard based on a review of local ambient air quality monitoring data for 2001 through 2003[38].

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[36] US EPA, 62 FR 11337, 40 CFR Parts 52 and 81 [VA068-5018a, VA066-5018a; FRL-5688-8], *Approval and Promulgation of Air Quality Implementation Plans; Designation of Areas for Air Quality Planning Purposes; Virginia; Redesignation to Attainment of the Hampton Roads Ozone Nonattainment Area, Approval of the Maintenance Plan and Mobile Emissions Budget*, Direct Final Rule effective April 28, 1997. Available at: http://www.gpoaccess.gov/fr/index.html.

[37] US EPA, 62 FR 38855, *National Ambient Air Quality Standards for Ozone; Final Rule*, July 18, 1997, Final Rule effective September 16, 1997. Available at: http://www.gpoaccess.gov/fr/index.html.

[38] US EPA, 69 FR 23858, 40 CFR Part 81 [OAR-2003-0083; FRL-7651-8] RIN 2060-, *Air Quality*

The area so designated included the area previously designated as non-attainment for the one-hour standard plus the Counties of Gloucester and Isle of Wight.

In September 2006, in response to the re-classification to nonattainment for the 1997 eight-hour ozone standard, VDEQ submitted to EPA a request[39] for redesignation to attainment along with a proposed maintenance plan[40] and base year inventory. Ambient air quality monitoring data for 2003 through 2005 showing attainment of the standard were presented with the redesignation request. The proposed maintenance plan included new motor vehicle emission budgets to be applied in future regional conformity analyses. As stated in the introduction of the redesignation request:

> "*Based on an analysis of air quality monitoring data, source emission reduction information, and the existing federal and state regulatory programs, the Commonwealth of Virginia has determined that the Hampton Roads 8-hour ozone nonattainment area qualifies for redesignation to attainment. The maintenance plan, which includes a mobile source budget, has also been developed in order for the acceptable ozone level to continue.*"

Exhibit 1-5, taken from the maintenance plan, shows the maintenance area for the 1997 eight-hour ozone standard.

On April 13, 2007, considering the VDEQ request and ambient air quality monitoring data showing attainment of the standard as well as other criteria for redesignation per the requirements of the CAA, EPA issued a proposed rule to redesignate the Hampton Roads area to attainment for the 1997 eight-hour ozone standard and approve the associated maintenance plan and base year inventory[41].

On June 1, 2007, EPA approved the request for redesignation of the Hampton Roads area to attainment for the 1997 eight-hour ozone standard[42]. EPA also approved the associated maintenance plan for the 1997 eight-hour ozone standard (superseding the maintenance plan for the one-hour standard), the associated motor vehicle emission budgets and 2002 base year inventory.

Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards; Early Action Compact Areas With Deferred Effective Dates, Final Rule, April 30, 2004. See: http://edocket.access.gpo.gov/2004/04-9152.htm.

39 Virginia DEQ, *Request for Redesignation to Attainment for the Hampton Roads Nonattainment Area Consisting of the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg, and the Counties of Gloucester, Isle of Wight, James City, and York. Final*, October 2006.

40 Virginia DEQ, "*Maintenance Plan for The Hampton Roads Nonattainment Area Consisting of the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Suffolk, Virginia Beach, and Williamsburg and the Counties of James City, York, Gloucester, and Isle of Wight. Final*, October 2006.

41 US EPA, 72 FR 18602, 40 CFR Parts 52 and 81 [EPA-R03-OAR-2006-0919; FRL-8298-2], *Approval and Promulgation of Air Quality Implementation Plans: Virginia; Redesignation of the Hampton Roads 8-Hour Ozone Nonattainment Area to Attainment and Approval of the Associated Maintenance Plan and 2002 Base-Year Inventory*, Proposed Rule, Friday, April 13, 2007. See: http://edocket.access.gpo.gov/2007/E7-7017.htm.

42 US EPA, 72 FR 30490, 40 CFR Parts 52 and 81 [EPA-R03-OAR-2006-0919; FRL-8320-9], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Redesignation of the Hampton Roads 8-Hour Ozone Nonattainment Area to Attainment and Approval of the Area's Maintenance Plan and 2002 Base-Year Inventory*, Final Rule, Friday, June 1, 2007 (effective the same day). See http://edocket.access.gpo.gov/2007/E7-10581.htm.

Exhibit 1-6 presents the motor vehicle emission budgets as excerpted from the final rule. Note, while the table lists units of tons per day (TPD), the methodology presented in the Technical Support Document (TSD) for the maintenance plan indicates the "day" selected to represent an average ozone season weekday.

Exhibit 1-5: Hampton Roads Maintenance Area for the 1997 Eight-Hour Ozone Standard

Source: Virginia DEQ, "Maintenance Plan for The Hampton Roads Nonattainment Area Consisting of the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Suffolk, Virginia Beach, and Williamsburg and the Counties of James City, York, Gloucester, and Isle of Wight. Final", October 2006.

Exhibit 1-6: Motor Vehicle Emissions Budgets for Hampton Roads

ADEQUATE AND APPROVED MOTOR VEHICLE EMISSIONS BUDGETS (MVEBS) IN TONS PER DAY (TPD)		
Budget year	NO_x	VOC
2011	50.387	37.846
2018	31.890	27.574

Source: Excerpted from 72 FR 30490, effective June 1, 2007.

For reference, Exhibit 1-7 presents the estimated emissions as reported in the TSD for on-road motor vehicles operating on military bases in the Hampton Roads area. These emissions are included with the motor vehicle emission budget established for the region as reported above.

Exhibit 1-7: Hampton Roads Military Base Emissions

Year	Regional Emissions *(tons per ozone season weekday)*	
	NOx	VOC
2011	0.52	0.26
2018	0.52	0.26

Source: Table 4-7, page 62, in the TSD for the maintenance plan approved effective June 1, 2007 (72 FR 30490)

In this same time period, certain aspects of the Implementation Rule[43] were under legal review, the result of which would serve to confirm the status of that Rule as well as the relative applicability of motor vehicle emission budgets associated with the one- and eight-hour standards. In brief, the April 2007 proposed redesignation by EPA included a discussion of a December 22, 2006 DC Circuit Court of Appeals decision[44] regarding the Implementation Rule. Previously, on March 22, 2007, EPA had petitioned for a panel rehearing of that decision, and others had petitioned as well.

On June 8, 2007, the DC Circuit Court of Appeals issued a decision in which it denied

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[43] US EPA, 69 FR 23951, 40 CFR Parts 50, 51 and 81 [OAR 2003-0079, FRL-7651-7] RIN 2060-AJ99, *Final Rule To Implement the 8-Hour Ozone National Ambient Air Quality Standard--Phase 1*, Final Rule, April 30, 2004, effective June 15, 2004. See http://edocket.access.gpo.gov/2004/04-9153.htm.

[44] United States Court of Appeals for the District of Columbia Circuit, No. 04-1200, *South Coast Air Quality Management District, Petitioner v. Environmental Protection Agency, Respondent, National Environmental Development Association's Clean Air Regulatory Project, et al., Intervenors, Consolidated with No. 04-1201, et al., On Petitions for Review of a Final Rule of the Environmental Protection Agency*, Argued October 12, 2006, Decided December 22, 2006. See: http://pacer.cadc.uscourts.gov/docs/common/opinions/200612/04-1200a.pdf

the petitions[45]. However, it did grant the joint request of EPA and other petitioners and clarified the December 22, 2006 ruling regarding both the (limited) scope of the vacatur of the 2004 Final Rule[46] as well as the relative applicability of motor vehicle emission budget for conformity determinations[47], such that budgets established for the eight-hour standard effectively supersede those previously set for the one-hour standard.

With the clarifications provided by the Court, the budgets for the 1997 eight-hour ozone standard as presented in the maintenance plan for Hampton Roads (and excerpted in the Exhibit above) effectively superseded, effective June 1, 2007, the budgets previously established for the one-hour ozone standard.

Pending Changes to the NAAQS

On July 11, 2007, EPA issued a proposed rule to further strengthen the eight-hour ozone standard[48]. On March 12, 2008, EPA announced the new primary and secondary standards and, on March 27, 2008, promulgated the final rule[49]. These are the "2008" standards that are presented in Exhibit 1-1 above.

On September 16, 2009, however, EPA announced it would "reconsider" the 2008 standards[50]. EPA indicated that this decision followed petitions in May 2008 from environmental and industry groups that had been filed with the D.C. Circuit Court of Appeals "*for review of the 2008 ozone standards*" and a subsequent Court decision, in March 2009, to grant an EPA "*request to stay the litigation so the new administration could review the standards and determine whether they should be reconsidered*".

Subsequently, on January 19, 2010, EPA issued a proposed rule to revise both the primary and secondary standards for ozone[51], stating: "*[b]ased on its reconsideration of the primary and secondary national ambient air quality standards (NAAQS) for ozone (O_3) set in March 2008, EPA proposes to set different primary and secondary standards*

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45 United States Court of Appeals for the District of Columbia Circuit, No. 04-1200, *South Coast Air Quality Management District, Petitioner v. Environmental Protection Agency, Respondent, National Environmental Development Association's Clean Air Regulatory Project, et al., Intervenors*, Consolidated with No. 04-1201, et al., filed June 8, 2007. See: http://pacer.cadc.uscourts.gov/docs/common/opinions/200706/04-1200b.pdf

46 *Ibid*, Section III, paragraph 2, pp.7-8. Regarding vacatur of the 2004 Final Rule, the June 2007 ruling stated: "*We also grant their request that the 2004 Rule be vacated only to the extent that the court has sustained challenges to it. …EPA is urged to act promptly in promulgating a revised rule that effectuates the statutory mandate by implementing the eight-hour standard*…".

47 *Ibid*, Section III, paragraph 1, page 7. Regarding conformity, the June 2007 ruling stated: "*We grant the joint request by EPA and the Environmental Petitioners to make explicit that the court's reference to conformity determinations speaks only to the use of one-hour motor vehicle emissions budgets as part of eight-hour conformity determinations until eight-hour motor vehicle emissions budgets are available*.".

48 US EPA, 72 FR 37818, 40 CFR Part 50 [EPA-HQ-OAR-2005-0172; FRL-8331-5] RIN 2060-AN24, *National Ambient Air Quality Standards for Ozone*, *Proposed Rule*, July 11, 2007. See: http://edocket.access.gpo.gov/2007/E7-12416.htm.

49 US EPA, 73 FR 16436, 40 CFR Parts 50 and 58 [EPA-HQ-OAR-2005-0172; FRL-8544-3] RIN 2060-AN24, *National Ambient Air Quality Standards for Ozone. Final Rule*, March 27, 2008, effective May 27, 2008. See: http://edocket.access.gpo.gov/2008/E8-5645.htm.

50 US EPA, *Fact Sheet - EPA to Reconsider Ozone Pollution Standards*, September 2009. See: http://www.epa.gov/air/ozonepollution/pdfs/O3_Reconsideration_FACT%20SHEET_091609.pdf

51 US EPA, 75 FR 2938, *National Ambient Air Quality Standards for Ozone. Proposed Rule*, January 19, 2010. See: http://edocket.access.gpo.gov/2010/2010-340.htm.

than those set in 2008 to provide requisite protection of public health and welfare, respectively[52]". Specifically, "[*w]ith regard to the primary standard for O_3, EPA proposes that the level of the 8-hour primary standard, which was set at 0.075 ppm in the 2008 final rule, should instead be set at a lower level within the range of 0.060 to 0.070 parts per million (ppm)…*", and "*[w]ith regard to the secondary standard for O3, EPA proposes that the secondary O_3 standard, which was set identical to the revised primary standard in the 2008 final rule, should instead be a new cumulative, seasonal standard expressed as an annual index of the sum of weighted hourly concentrations, cumulated over 12 hours per day (8 am to 8 pm) during the consecutive 3-month period within the O_3 season with the maximum index value, set at a level within the range of 7 to 15 ppm-hours…*"[53].

EPA set a due date for comments on the proposed rule of March 22, 2010. As noted in the preamble to the proposed rule: "*[i]n its [September 2009] notice to the Court, EPA stated that this notice of proposed rulemaking would be signed by December 21, 2009, and that the final rule will be signed by August 31, 2010*."[54] The Fact Sheet provided by EPA with the proposed rule restated this commitment for the schedule for the final rule, indicating that "*EPA will issue final standards by August 31, 2010*", and also outlined a general schedule for implementation of the new standards as follows[55]:

- *By January 2011: States make recommendations for areas to be designated attainment, nonattainment or unclassifiable.*
- *By July 2011: EPA makes final area designations.*
- *August 2011 Designations become effective.*
- *December 2013: State Implementation Plans, outlining how states will reduce pollution to meet the standards, are due to EPA.*
- *2014 to 2031: States are required to meet the primary standard, with deadlines depending on the severity of the problem.*

Next steps, pending finalization of new standards, are the review of ambient air quality data and subsequent designation (as attainment or nonattainment) by EPA of areas across the country for the new primary and secondary standards. Areas designated nonattainment will initiate preparation of revisions to SIPs as needed to show compliance to the new standard.

For reference, Exhibit 1-8 presents recent trends in ambient ozone levels. While the region is attainment with the 2008 primary (and secondary) NAAQS of 75 ppb, the region is currently above the range of 60 to 70 ppb proposed for the revised or "reconsidered" primary standard.

With regard to conformity implications for the revised SIPs, the new MOVES model as previously referenced would be applied to establish new motor vehicle emission budgets. However, SIP revisions to update the budgets specifically using MOVES may also be initiated earlier as needed in support of regional Plan and Program updates (i.e.,

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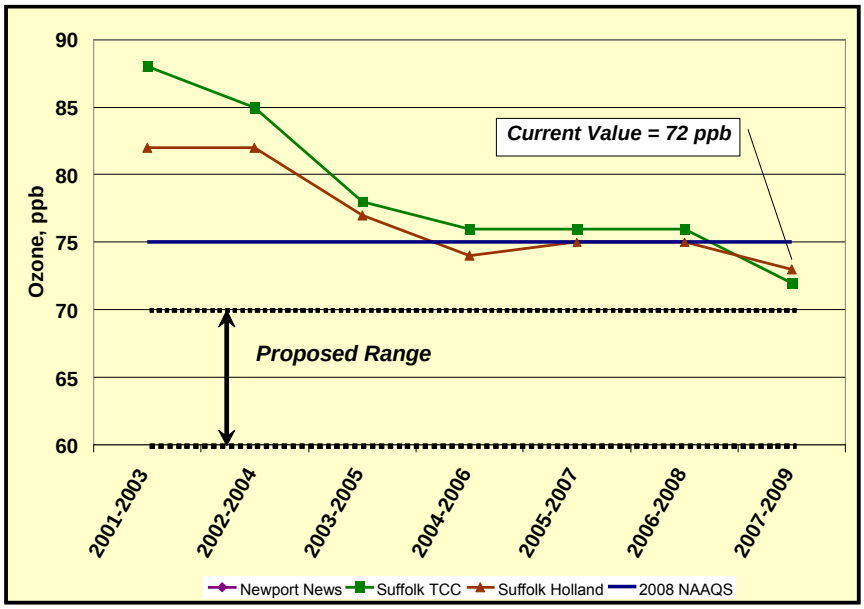
52 *Ibid,* p.2938.
53 *Ibid*, p.2938.
54 *Ibid*, p.2944.
55 US EPA, *Fact Sheet Proposal to Revise the National Ambient Air Quality Standards for Ozone*, January 2010. See: http://www.epa.gov/air/ozonepollution/pdfs/fs20100106std.pdf.

in advance of the need for revisions to the SIP for the revised NAAQS).

Exhibit 1-8: Recent Trends in Ozone Levels for Hampton Roads



Source: VDEQ, "2008 Ozone Standard Reconsideration", Presentation to the Hampton Roads Transportation Technical Advisory Committee, April 7, 2010

1.3 Transportation Conformity Requirements

Federal, state and local requirements addressing transportation conformity apply for air quality nonattainment and maintenance areas, of which there are several, including the Hampton Roads region, in the Commonwealth of Virginia. Conformity requirements originate from Section 176(c) of the Clean Air Act (CAA)[56] as amended, which requires that federal agencies and MPOs not approve any transportation project, program, or plan that does not conform with the approved State Implementation Plan (SIP) for air quality.

Section 176(c)(1) of the CAA provides a definition for conformity, stating:

> *"… Conformity to an implementation plan means—*
>
> *"(A) conformity to an [air quality] implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and*
>
> *(B) that such activities will not— (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any*

[56] *Clean Air Act* (and amendments): http://www.epa.gov/air/caa/

area. …"

Further, Section 176(c)(4)(B) of the CAA adds a requirement for regulatory action in the form of criteria and procedures for conformity to be promulgated by EPA in concurrence with the US DOT:

> *176(c)(4)(B) Transportation plans, programs, and projects.— The Administrator, with the concurrence of the Secretary of Transportation, shall promulgate, and periodically update, criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects.*

Federal Conformity Regulation

On November 24, 1993, in keeping with CAA requirements, EPA promulgated a rule (40 CFR Part 51, Subpart T) establishing "*criteria and procedures for determining conformity to state and federal implementation plans of transportation plans, programs, and projects funded or approved under Title 23 U.S.C. or the Federal Transit Act*." The final rule for transportation conformity became effective on December 27, 1993.

EPA and the U.S. DOT have subsequently finalized a number of amendments to the federal conformity rule, e.g., following the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which was signed into law on August 10, 2005. Several sections of the amended rule have also been modified and/or remanded due to court rulings. The most current compilation is that produced by EPA in March 2010[57].

In brief, the federal transportation conformity rule was written to meet CAA requirements and ensure conformity to SIPs for the purpose of: (1) eliminating or reducing the number and severity of violations of national ambient air quality standards (NAAQS) and (2) attaining these standards. It also is intended to ensure that neither a transportation system as a whole nor an individual project will cause or contribute to new air quality violations or will increase the frequency or severity of existing violations.

Under the federal conformity rule, MPOs, state departments of transportation and the FHWA along with the FTA are responsible for conformity determinations for: (1) LRTPs, (2) TIPs, (3) transportation projects that receive federal funding or require FHWA or FTA approval, and (4) regionally significant non-federal projects, if these actions occur in areas that have been designated by EPA as nonattainment or maintenance areas for any of the criteria pollutants.

State Conformity Regulation

Pursuant to the federal conformity rule at 40 CFR Part 51, a state conformity regulation implementing certain requirements (primarily addressing consultation) of the federal conformity rule is also required. Accordingly, the Virginia *Regulation for Transportation Conformity* was developed by the VDEQ in 1997 and amended for consistency with EPA

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[57] US EPA, *Transportation Conformity Regulations Updated March 2010*, EPA-420-B-10-006, March 2010, available at: http://www.epa.gov/otaq/stateresources/transconf/regs/420b10006.pdf.

requirements in 2007. The current version is specified in the Virginia Administrative Code (VAC) at 9 VAC 5-151. The Virginia regulation was approved by EPA via Federal Register notice in November 2009 (effective January 19, 2010)[58]. More detail on the requirements of the state regulation for consultation is presented in Chapter 3.

Federal Criteria

Section 93.109[59] of the federal transportation conformity rule identifies specific criteria that are required to be satisfied in conformity demonstrations for transportation plans, programs and projects.

Exhibit 1-9 presents an excerpt from the federal rule showing the criteria specific to just plans and programs. Each of these listed criteria is reviewed briefly below, with more detail provided in Chapter 4 with the results of the conformity analysis.

Exhibit 1-9: Excerpt from 40 CFR 93.109 ("Table 1--Conformity Criteria") of the Federal Transportation Conformity Rule

All Actions at all times:	
§93.110	Latest planning assumptions
§93.111	Latest emissions model
§93.112	Consultation
Transportation Plan:	
§93.113(b)	TCMs
§93.118 and/or §93.119	Emissions budget and/or Interim emissions
TIP:	
§93.113(c)	TCMs
§93.118 and/or §93.119	Emissions budget and/or Interim emissions

- §93.110[60] requires that conformity determinations be based upon the latest planning assumptions in force at the time of the determination.

- §93.111[61] requires that the latest emissions model be applied.

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58 US EPA, 74 FR 60194, 40 CFR Part 52, [EPA-R03-OAR-2009-0674; FRL-8983-1], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Transportation Conformity Regulations*, Direct Final Rule, effective January 19, 2010.
See: http://edocket.access.gpo.gov/2009/E9-27814.htm

59 Federal Conformity Rule, 40 CFR 93.109 *Criteria and Procedures for Determining Conformity of Transportation Plans, Programs, and Projects: General*.
http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.109.htm

60 Federal Conformity Rule, 40 CFR 93.110 *Criteria and Procedures: Latest Planning Assumptions*
http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.110.htm

61 Federal Conformity Rule, 40 CFR 93.111 *Criteria and Procedures: Latest Emissions Model*
http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.111.htm

- §93.112[62] requires that consultation be conducted following specified procedures. More detail on the requirements is presented in Chapter 3[63,64].

- §93.113[65] details the steps necessary to demonstrate that the Plan and Program provide for the timely implementation of transportation control measures (TCMs) and do not interfere with their implementation.

- §93.118[66] requires that the Plan and Program be consistent with the motor vehicle emission budgets specified in the applicable SIP. Since emission budgets have been established for the Hampton Roads area, as reviewed later in this chapter, emission budget tests as required in the federal rule are applicable for this region.[67]

  Budgets not only apply for the year for which they are established but also to subsequent years as well. Section 93.118(b)(1)(ii) specifically requires that "*Emissions in years for which no motor vehicle emission budget(s) are specifically established must be less than or equal to the motor vehicle emissions budget(s) established for the most recent prior year. …*"

Additional detailed requirements for modeling are provided in §93.122[68], which is entitled "*procedures for determining regional transportation-related emissions"*. This section requires that all regionally significant projects included in the Plan and Program be included in the regional emissions analysis and includes specific requirements for the conduct of both transportation and emission modeling. The applicable modeling requirements of this section for this analysis are summarized with the conformity demonstration in Chapter 4.

For reference, the federal rule also specifies related requirements apply for project-level determinations:

- §93.114[69] requires that a currently conforming plan and TIP at the time of project approval.

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62 Federal Conformity Rule, 40 CFR 93.112 *Criteria and Procedures: Consultation* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.112.htm

63 Section 93.112 states in part: "*Until the implementation plan revision required by Sec. 51.390 of this chapter is fully approved by EPA, the conformity determination must be made according to Sec. 93.105 (a)(2) and (e) and the requirements of 23 CFR part 450*."

64 Federal Conformity Rule, 40 CFR 93.105 *Consultation* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.105.htm

65 Federal Conformity Rule, 40 CFR 93.113 *Criteria and Procedures: Timely Implementation of TCMs* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.113.htm

66 Federal Conformity Rule, 40 CFR 93.118 *Criteria and Procedures: Motor Vehicle Emissions Budget* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.118.htm

67 Since budget tests are applicable for this region, the interim tests provided in Section 93.119 are not required and are not reviewed here.

68 Federal Conformity Rule, 40 CFR 93.122 *Procedures for Determining Regional Transportation-Related Emissions*. http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.122.htm

69 Federal Conformity Rule, 40 CFR 93.114 *Criteria and procedures: Currently Conforming Transportation Plan and TIP*. http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.114.htm

- §93.115[70] requires that projects be from a conforming transportation plan and program.

- §93.126[71] provides for exemptions for projects in certain categories from the requirement to determine conformity. It states in part that: "*Notwithstanding the other requirements of this subpart, highway and transit projects of the types listed in table 2 of this section are exempt from the requirement to determine conformity. Such projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP*." The categories listed in Table 2 are grouped as safety, mass transit, air quality, and other projects.

- §93.127[72] provides for the exemption of certain project categories from the requirement to conduct regional emission analyses in support of conformity determinations. It states in part that: *"Notwithstanding the other requirements of this subpart, highway and transit projects of the types listed in Table 3 of this section are exempt from regional emissions analysis requirements.*" Projects listed in Table 3 include: intersection channelization projects, intersection signalization projects at individual intersections, interchange reconfiguration projects, changes in vertical and horizontal alignment, truck size and weight inspection stations, and bus terminals and transfer points. If the project is not otherwise exempt, requirements for project-level conformity determinations may still apply for these projects.

1.4 Chronology of Conformity Determinations for Hampton Roads

Exhibit 1-10 presents the chronology of conformity determinations for plans and programs for Hampton Roads from 2001 to the present.

The Exhibit also lists expiry dates for the current Plan and TIP (i.e., the ones approved prior to this conformity analysis). Expiry dates apply as, pursuant to federal regulations, transportation plans and TIPs must be updated (and conformity re-determined) at least every four years. An additional limitation applies for TIPs, such that they also expire when FHWA/FTA approval of the state transportation improvement program (STIP) expires[73].

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[70] Federal Conformity Rule, 40 CFR 93.115 *Criteria and procedures: Projects from a Transportation Plan and TIP*. http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.115.htm

[71] Federal Conformity Rule, 40 CFR 93.126 *Exempt Projects*. http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.126.htm

[72] Federal Conformity Rule, 40 CFR 93.127, *Projects Exempt from Regional Emissions Analyses*. http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.127.htm

[73] See 23 CFR 450.322 & 450.324, and 40 CFR 93.104 respectively:

- Federal Planning Rule, 23 CFR 450.322 *Development and Content of the Metropolitan Transportation Plan* (April 1, 2009 CFR revision): http://edocket.access.gpo.gov/cfr_2009/aprqtr/23cfr450.322.htm
- Federal Planning Rule, 23 CFR 450.324 *Development and Content of the Transportation Improvement Program (TIP)* (April 1, 2009 CFR revision): http://edocket.access.gpo.gov/cfr_2009/aprqtr/23cfr450.324.htm
- Federal Conformity Rule, 40 CFR 93.104 *Frequency of Conformity Determinations* (July 1, 2009 CFR revision): http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.104.htm

Exhibit 1-10: Chronology of Conformity Determinations for Hampton Roads (2004 – Present)

Date	Plan	TIP	Cycle
Expiry Dates for the Current Plan and TIP			**Limiting Cycle(s)***
July 30, 2012		FY 09-12 TIP	TIP & Conformity
January 22, 2012	2030 CLRP		Plan & Conformity
US DOT Conformity Finding (Approval Dates)			**Cycle Length** (Years)**
July 30, 2008	*[2030 CLRP unchanged]*	FY 2009-2012 TIP	4
January 22, 2008	2030 CLRP	FY 2006-2009 TIP (Amended)	4
August 22, 2006	2026 CLRP (Amended)	FY 2006-2009 TIP	4
October 21, 2005	2026 CLRP (Amended)	FY 2005-2008 TIP (Amended)	4
August 10, 2005 - SAFETEA-LU signed, adding a year to planning & conformity cycles.			
December 10, 2004	2026 CLRP (Amended)	FY 2005-2008 TIP	3
August 27, 2004	*[2026 CLRP unchanged]*	FY 2005-2007 TIP	3
June 21, 2004	*[2026 CLRP unchanged]*	FY 2003-2005 TIP	3
February 3, 2004	2026 CLRP	*[FY 2003-2006 TIP unchanged]*	3

** Four years update cycles apply for transportation plans and TIPs and their respective conformity determinations. See 23 CFR 450.322 & 450.324, and 40 CFR 93.104. A key difference is that planning & TIP cycles restart with updates (not amendments) to the Plan and/or TIP, while conformity cycles restart with both updates or amendments to the Plan and/or TIP respectively. Planning & TIP cycles therefore tend to be more limiting, as they are not restarted with amendments.*

Regulations on Plan, TIP and Conformity Cycles:

Plans: 23 CFR 450.322 - *Development and content of the metropolitan transportation plan... (c) The MPO shall review and update the transportation plan at least every four years in air quality nonattainment and maintenance areas...*

TIPs: 23 CFR 450.324 - *Development and content of the transportation improvement program (TIP). (a) ... The TIP shall ...be updated at least every four years, ... The TIP expires when the FHWA/FTA approval of the STIP expires....*

Conformity Cycle for Plans: 40 CFR § 93.104 - *Frequency of conformity determinations...(b) Frequency of conformity determinations for transportation plans...(3) The MPO and DOT must determine the conformity of the transportation plan (including a new regional emissions analysis) no less frequently than every four years...*

Conformity Cycle for TIPs: *(c) Frequency of conformity determinations for transportation improvement programs... (3) The MPO and DOT must determine the conformity of the TIP (including a new regional emissions analysis) no less frequently than every four years...*

A key difference to note between the update cycle requirements for plans and TIPs and those for conformity analyses is that planning & TIP cycles restart with updates (and not amendments) to the Plan and/or TIP, respectively, while conformity cycles for Plans and/or TIPs restart with either updates or amendments to the Plan and/or TIP respectively. Plan and TIP cycles therefore tend to be the limiting factor for new conformity determinations, as they are not restarted with amendments.

2. Modeling

A review of the modeling methodology and assumptions applied in the conformity analysis is presented in this chapter, beginning with an overview of the general approach and the determination of the analysis years and motor vehicle emission budgets applicable for Hampton Roads. Then, in turn, reviews of the key input data and specific assumptions applied in each step of the modeling process (transportation modeling, emission factor modeling, and emission modeling) are presented.

2.1 General Approach

Emissions are generally calculated as the product of vehicle activity and an emission factor corresponding to that vehicle class and activity. Emission factors are typically expressed in units of grams per mile (effectively, grams of pollutant emitted per vehicle-mile-traveled), consistent with federal new vehicle exhaust emission standards that are expressed on a grams per mile basis. Estimates for regional emissions, therefore, typically are generated as the product of VMT (by speed, roadway class, vehicle class etc.) estimated with corresponding emission factors.

Three separate models are typically applied in the development of the regional emission forecasts for conformity analyses:

1) a regional travel demand forecasting model,
2) the latest EPA-approved model to generate forecasts for regional fleet-average emission factors, and
3) a post-processor designed to combine the results from the first two models and generate estimates for regional total emissions for each pollutant and year as required for the conformity analysis.

Exhibit 2-1 below presents the key steps in this process.

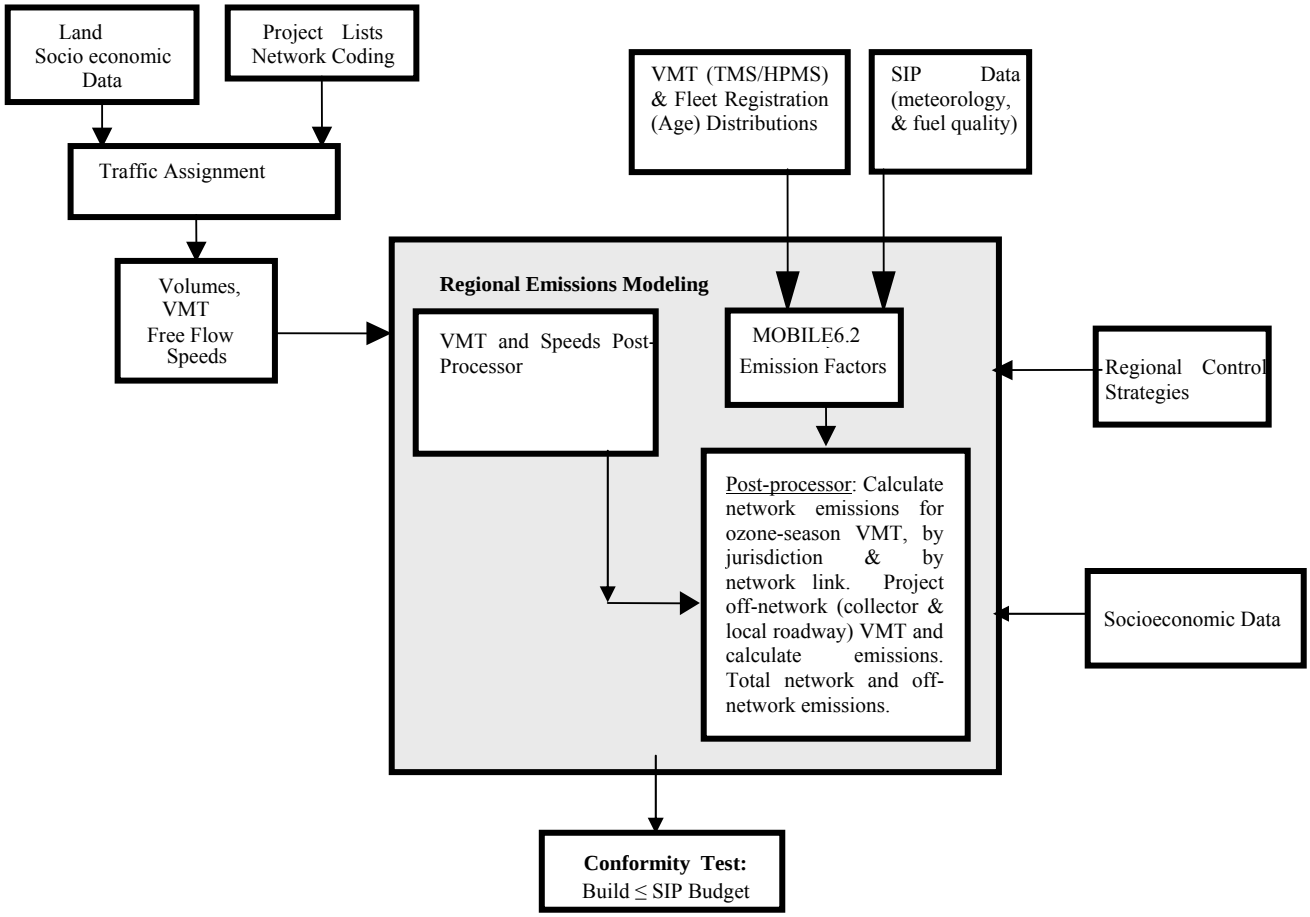
First, as shown on the left side of the exhibit, forecasts for travel demand for each year being modeled in the conformity analysis are developed. Key inputs for this step include the latest available socioeconomic forecasts and project lists. The latter are applied to update the regional transportation networks as appropriate for changes to the Plan and Program. The regional transportation networks include both existing and new regionally significant facilities, i.e. all interstates, freeways, expressways, principal arterials, and minor arterials as specified in the Plan and Program and expected to be open to traffic by the forecast year to be modeled for the conformity analysis. Separate networks are developed for each of the specific forecast years needed for the conformity analysis.

Concurrent with the development of travel demand forecasts, and as shown on the right side of the exhibit, emission factors (in unit of grams per mile) are generated using the latest EPA-approved emission factor model (MOBILE6.2)[74] for each pollutant and

[74] As noted later in this chapter, on March 2, 2010, EPA has released a next generation emission model (MOVES2010) that is intended to replace the MOBILE6.2 model that is currently in use. EPA indicated with the release that a two-year grace period will apply for conformity. Therefore, the MOBILE6.2 model was selected for application in this analysis.

forecast year. The factors are generally tabulated by speed, vehicle class, roadway class (or facility type), and, to allow for possible differences in fuel quality or emission control programs, jurisdiction. Key region-specific inputs include vehicle age distributions, VMT distributions, fuel quality data and meteorological data.

Exhibit 2-1: Conformity Analysis Process



Next, regional total emissions are calculated in the post-processor in three steps: 1) regional network emission, 2) off-network emissions, and 3) military base contributions are combined with the results from network and off-network emissions.

In the first step in the post-processor, regional network emissions are calculated using the traffic forecasts generated for the regional network by the travel demand model and the fleet-average emission factors as described above.

In the second step in the post-processor, emissions for traffic operating on "off-network" facilities (collectors and local streets) not included in the regional transportation model networks are estimated based on VMT generated by a simple growth model to the modeled year from base year traffic counts. Estimates for vehicle travel were also developed for the portion of Gloucester County that are within the designated maintenance area but are not (at least as yet) included in the regional network model.

In the third and last step in the post-processor, estimated contributions to regional emissions from mobile sources operating on military facilities (as specified in the maintenance plan[75]) are added to the estimates for emissions for network and off-network emissions to obtain estimates for regional total emissions for the maintenance area.

The post-processor calculations are repeated for each analysis year as needed. Conformity (emission budget) tests as described in the previous chapter are then applied for each analysis year.

2.2 Analysis Years and Budgets

Exhibit 2-2 presents the years selected for modeling for this conformity analysis and the associated motor vehicle emission budgets as specified in the maintenance plan.

Exhibit 2-2: Analysis Years and Budgets

Year	Regional Emission Budgets *(tons per ozone season weekday)*	
	NOx	VOC
2011*	50.387	37.846
2018*	31.890	27.574
2020	31.890	27.574
2030	31.890	27.574

** Budgets specified in 72 FR 30490, effective June 1, 2007.*

The years selected for analysis are consistent with the requirements of Section 93.118 of the conformity rule, which requires that years selected for the regional conformity analysis include the years for which budgets are established, the horizon year of the transportation plan, and an interim year such that analysis years are no more than ten years apart.

For this analysis, the years 2011 and 2018 were selected as they are years for which the maintenance plan specifies budgets. The year 2030 was selected as the horizon year for the transportation plan. To meet the interim year requirement (ten-year limit), the year 2020 was also selected.

Since Section 93.118 the conformity rule requires budgets established "for the most recent prior year" to apply for years for which budgets have not been "specifically established", the 2018 budgets as listed above are also applicable for the subsequent years (2020 and 2030).

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[75] Hampton Roads Maintenance Plan for the 1997 Eight-Hour Ozone Standard, as previous referenced. See US EPA, 72 FR 30490, 40 CFR Parts 52 and 81 [EPA–R03–OAR–2006–0919; FRL–8320–9], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Redesignation of the Hampton Roads 8-Hour Ozone Nonattainment Area to Attainment and Approval of the Area's Maintenance Plan and 2002 Base-Year Inventory*, Final Rule, effective June 1, 2007.
See: http://edocket.access.gpo.gov/2007/E7-10581.htm.

2.3 Transportation Demand Forecasting (TP+ Model)

The Hampton Roads regional traffic model is based on the TP+ transportation model, which is a suite of programs implementing a traditional four-step transportation model that includes trip generation, trip distribution, mode split and traffic assignment. The Hampton Roads regional traffic model covers the Counties of Gloucester (southern portion), Isle of Wight, James City, and York, as well as the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Williamsburg, and Virginia Beach. The model satisfies the requirements enumerated in 40 CFR 93.110 as well as the related requirements in 40 CFR 93.122 as summarized below.

The model was validated and calibrated for 2000 traffic volumes and land use conditions [40 CFR 93.122(b)(1)(i)][76]. Additional documentation on the calibration process is provided in the User Guide for the model[77].

Consistent with the requirements of federal conformity rule, all regionally significant projects in service or open to traffic in the year of analysis are included in the modeling [40 CFR 93.122(a)]. Roadway data input by the user (e.g., road segment length, capacity, number of lanes, and free-flow speeds by facility type) are used to create a representation of the regional transportation system for each analysis year, which includes all regionally significant projects identified for the Plan and TIP. A transportation system network is developed for all motorized modes of travel including single-occupant vehicle, high or multi-occupant vehicle (HOV), bus transit, and light rail transit. Following network development, travel time and cost estimates for all networks modeled are tabulated for use in subsequent model steps.

Trip making activity is estimated in the trip generation and trip distribution steps. Trip generation uses land use information aggregated by traffic analysis zone (TAZ), estimated trip rates, and standard equations to estimate the number of trips that will be generated by and attracted to each TAZ. The TAZ trip data are then used in the trip distribution step that links trip origins with trip destinations to create trip tables, which are disaggregated for work and non-work trip purposes. Trips that leave or pass through the Hampton Roads region were also estimated, using observed 2000 traffic counts at major exit points of the region, and expanded based on forecast traffic counts at those locations in future years.

Trip tables from trip distribution along with network-based travel time and cost data [40 CFR 93.122(b)(1)(v, vi)] are input to the mode split step to estimate trip tables by trip purpose and mode. In the mode split step, nested-logit equations are applied to allocate trips between auto and transit modes. Individual trip tables are created for auto and transit modes. Prior to traffic assignment, trip tables are processed to apply standard auto occupancy rates, convert the tables from model-based production-attraction format to standard origin-destination format, and aggregate results.

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[76] Michael Baker, Jr., Inc., *2000 Hampton Roads Model Validation Memorandum*, May 2004

[77] Michael Baker, Jr., Inc., *2000 Hampton Roads Model Users Guide*, August 2004

Finally, in the traffic assignment step, the trip tables are loaded onto the appropriate highway or transit network and the model run to produce forecasts for traffic volumes for each roadway or transit link. Highway assignment utilizes a capacity restraint formula to simulate congestion effects on the roadway system [40 CFR 93.122(b)(1)(iv)]. The model makes route decisions based upon the estimated level of roadway congestion, redirecting trips to less congested routes until equilibrium is achieved (i.e., when shifting trips to alternative routes will no longer realize any time savings).

Output from the highway assignment is a network file that includes the assigned roadway volumes for each roadway link. Transit assignment is based upon best available route and does not have a modeled congestion process. The assigned volumes are applied to generate VMT estimates.

This overall modeling process is applied for each analysis year. Appendix B presents resulting forecasts by jurisdiction. Key inputs to the network model are reviewed below.

2.3.1 Socioeconomic Forecasts

The HRTPO developed the socioeconomic data to be used in the conformity analysis using the Regional Economic Models, Inc. (REMI) econometric model. The REMI model is a conjoined input-output and econometric model widely used by local, state and federal governments, colleges and universities, consulting firms and others for economic forecasting including impact analyses.

Following standard practice for the development of socioeconomic forecasts, the REMI model was applied to develop "control totals" for key parameters such as population and employment for the Hampton Roads area. The HRTPO then sub-allocated the regional control totals generated with the REMI model to the local or jurisdiction level for the Hampton Roads area. The sub-allocations were reviewed by each locality and adjustments were made where appropriate [40CFR93.110; 40CFR93.122(b)(1)(iiii)].

Participants in this process included the Counties of Gloucester, Isle of Wight, James City, and York, as well as the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Williamsburg, and Virginia Beach. Representatives of these jurisdictions distributed the regional population and employment projections to the TAZs used in the transportation model, covering the LRTP Study Area.

Exhibit 2-3 presents the socioeconomic forecasts underlying the travel demand forecasts developed for this conformity analysis. The forecasts (including interim years and sub-allocations as appropriate) represent the latest projections available and approved for use with the 2030 LRTP[78] [40CFR93.110(a,b); 40CFR93.122(b)(1)(ii)]. More detailed data are presented in Appendix A.

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[78] While socioeconomic forecasts for 2034 have more recently been adopted for use in the pending development of the 2034 LRTP, they were not intended nor approved by the TPO for use with the existing and approved 2030 LRTP. Consistent with the consultation requirements of the federal conformity rule at 93.105 and the corresponding state regulation at 9 VAC 5-151-70 that is now in effect, the use of the 2030 versus the 2034 socioeconomic forecasts for this analysis was reviewed by the Hampton Roads Interagency Consultation Group at the beginning of the conformity analysis process, as documented with the minutes for that meeting (which are included in Appendix E). The

Exhibit 2-3: Socioeconomic Forecasts*

Year	Hampton Roads LRP Study Area			
	Population	Households	Automobiles	Employment
2011	1,693,101	627,306	1,282,689	1,045,049
2018	1,796,281	668,383	1,408,788	1,101,666
2020	1,825,772	680,130	1,444,843	1,117,867
2030	1,973,250	738,865	1,625,000	1,198,775

** The projections for 2030 were adopted by the Hampton Roads TPO in December 2004. The projections for other years were obtained by interpolation, by TAZ, between 2000 and 2030.*

2.3.2 Transit Service

Transit operating policies (including fares and service levels) and modeling for transit (ridership) have not changed significantly since the previous conformity determination [40 CFR 93.110(c) and (d)]. Proposed light rail service is included in future networks for the region. Transit service and fares as well as road and bridge tolls are addressed in more detail in supporting documentation for the Plan and associated modeling. While future transit ridership is effectively determined in the course of modeling for the conformity analysis, details on current transit operating policies including fares and service levels may be found on the Hampton Roads Transit (HRT) and Williamsburg Area Transportation Authority (WATA) websites[79].

In brief, while local transit fares have not changed since the last conformity analysis for either HRT or the WATA, express bus service has been augmented. For Hampton Roads Transit, the current single ticket fare for local bus service is $1.50. A day pass (the Go Pass) was introduced in 2008 with a fare of $3.50 for a one-day pass. For Williamsburg Area Transit, the fare for a one-way trip is $1.25; for seniors (60 and over) and disabled, a reduced fare of $0.50 applies. An all-day pass (for unlimited trips) is also available for a fare of $1.50. In keeping with the Americans with Disabilities Act (ADA), door-to-door service is also available for those unable to use bus at a fare of $2.00 per one-way trip. Finally, new ("Max") express bus service was added to the current service in the model (with fares converted to constant 2000 dollars).

2.3.3 Project Lists & Regional Network Development

The federal conformity rule at 40 CFR 93.122(a) requires that "*General requirements. (1) The regional emissions analysis … for the transportation plan, TIP… must include all regionally significant projects expected in the nonattainment or maintenance area. The analysis shall include FHWA/FTA projects proposed in the transportation plan and TIP*

[79] consensus of the ICG was to apply the approved 2030 socioeconomic forecasts for this analysis. See www.hrtransit.org and www.williamsburgtransport.com, respectively.

and all other regionally significant projects which are disclosed to the MPO as required by Sec. 93.105."

All regionally significant and/or federally funded or approved projects identified in the Plan and Program were incorporated into the respective highway networks for each analysis year. The project list for the Plan and TIP was subjected to Interagency Consultation Group review (pursuant to Section 93.105 and the corresponding state regulation) as documented in the chapter on consultation.

Each network is a representation of the region's highway system as it is likely to appear by the specified year. Similarly, the transit network for each scenario and analysis year is coded to estimate transit volumes and ridership.

Regionally significant projects are defined in the federal conformity rule and generally include arterials and higher level facilities (freeways, expressways, interstates) that serve a regional function and are typically coded in the transportation model network for transportation analyses. Minor arterials, collectors, or local streets are usually only coded in the model if they enhance the capability of the traffic model to route trips on the network.

Since regional emission analyses are performed for a number of analysis years as needed for the conformity determination, the transportation networks were coded to include all regionally significant projects specified or included in the Plan and Program and open to traffic in each of the selected analysis years. Appendix F presents the project list for modeling (i.e., regionally significant changes to the existing roadway and transit system) including years modeled as open to traffic.

Projects were coded in the networks based on the first analysis year in which the project would be open to traffic or operational. For the most part, project opening dates were determined at the District level based upon detailed project information provided by either the localities or the associated VDOT project manager. In cases where that level of detail in scheduling was not available, assumptions were made. For example, completion dates where otherwise not available were estimated by adding three years to the advertisement date for major projects and shorter timeframes as appropriate for minor projects.

2.3.4 Adjustments for Gloucester County

The federal conformity rule at 40 CFR 93.122(a)(7) requires that "*Reasonable methods shall be used to estimate nonattainment or maintenance area VMT on off-network roadways within the urban transportation planning area, and on roadways outside the urban transportation planning area.*"

The Hampton Roads TP+ travel demand model covers the Hampton Roads MPO (TPO) study area. Although only a portion of Gloucester County is within the study area, the remainder of the county is also in the maintenance area and must be included in the conformity analysis. Therefore, for the off-network area within Gloucester County, traffic counts and forecasts as needed were extracted from the VDOT Statewide Planning System database.

The specific data extracted included the roadway functional class, posted speed, link distance, and traffic count / forecast for each analysis year for all links that were not inside the network area. Estimates of vehicle-miles-traveled (VMT) were computed by multiplying link length by the traffic count forecast for each link. These off-network results were then added to the network VMT estimates produced by the regional travel demand model to obtain the regional forecasts needed, covering the entire County.

2.3.5 Treatment of Off-Network Facilities (Local and Collector Roads)

Local and collector roadways are not typically coded in regional transportation model networks and, consistent with that practice, are not coded in the TP+ regional network developed for Hampton Roads. However, the travel demand model output is not directly adjusted to account for traffic on these facilities. Instead, traffic and emissions for these facilities are addressed in the post-processor and, accordingly, documented with the post-processor.

See Section 2.5 on post-processing for more information on the adjustments for off-network facilities.

2.3.6 Optional Off-line Analyses

Some transportation projects that have a potentially significant impact on regional air quality cannot be coded into the transportation modeling network. These are categorized as "off-line projects" and are analyzed using a variety of methodologies that include elasticity/pivot-point analysis and the use of traffic engineering principles to estimate their traffic and emission impacts.

Off-line analyses for Hampton Roads would include transit bus replacements, Congestion Mitigation and Air Quality (CMAQ) funded projects, van pools, and park-and-ride lots. However, since these adjustments were not needed to demonstrate conformity for this conformity analysis, they were not applied.

2.4 Emission Factor Forecasting

This section presents the selection of the latest emission model as well as key inputs for that model.

2.4.1 Latest Emission Model

The federal conformity rule at 93.111(a) requires the use of the latest emission model as follows: "*The conformity determination must be based on the latest emission estimation model available.*"[80] However, when EPA issues a new model, a grace or transition period applies in which the previous version of the model may still be applied, per the federal conformity rule at 93.111(c) which states: "*Transportation plan and TIP conformity analyses for which the emissions analysis was begun during the grace period or before*

[80] Federal Conformity Rule, 40 CFR 93.111 *Criteria and Procedures: Latest Emissions Model* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.111.htm

the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model."

On March 2, 2010, EPA officially released the next generation Motor Vehicle Emission Simulator (MOVES) model for use in SIP development and regional conformity applications[81]. The EPA notice indicated that a two-year grace period (ending March 2, 2012) applies for use of the new model in regional emissions analyses for transportation conformity determinations. Therefore, for regional conformity analyses initiated before or within the two-year grace period, the MOBILE6.2 model (the model previously designated as the official model by EPA) may continue to be applied.

Since this conformity analysis for Hampton Roads is being initiated within the two-year grace period, the MOBILE6.2 model may be applied. Given that the applicable budgets for the Hampton Roads region were developed based on the MOBILE6.2 model, and that this model has been applied successfully to meet those budgets in previous conformity analyses for the region, it was selected for application for this conformity analysis. The MOVES model may be applied in future analyses once appropriate steps have been taken, within the two-year grace period, to review and update as needed the applicable budgets[82].

2.4.2 MOBILE Model Inputs

The MOBILE6.2 model may be applied to generate estimates for historic, current and future emission factors for regional on-road motor vehicle fleets. Fleet average emission factors may be generated for:

- multiple pollutants, including hydrocarbons, carbon monoxide, nitrogen oxides, exhaust particulate, hazardous air pollutants (HAPs), and carbon dioxide,
- multiple vehicle and fuel-types, including gasoline, diesel, and natural gas-fueled cars, trucks, buses and motorcycles, and
- calendar years between 1952 and 2050.

Modeled emission factors also vary with age (registration distribution by vehicle class), humidity, ambient temperatures, detailed fuel specifications, and operation (speed, by roadway functional class).

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[81] US EPA, 75 FR 9411, [FRL–9121–1], *Official Release of the MOVES2010 Motor Vehicle Emissions Model for Emissions Inventories in SIPs and Transportation Conformity*, Notice of Availability, March 2, 2010. Available at: http://edocket.access.gpo.gov/2010/2010-4312.htm. While the official name of the new model is "MOVES2010", with the year of release incorporated into the model name, it is abbreviated here as "MOVES" to allow for pending future revisions to the model and any associated revisions to the model name. EPA also uses the abbreviated name (without the reference to year) in its website address for the model. For additional information, see:

- EPA website for MOVES: http://www.epa.gov/otaq/models/moves/index.htm.
- US EPA, *Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes*, EPA-420-B-09-046, December 2009. Direct link: http://www.epa.gov/otaq/models/moves/420b09046.pdf.

[82] A separate process to review and update as appropriate (using MOVES) the motor vehicle emission budgets specified in the currently applicable SIP revision (maintenance plan) is planned. This budget review and update process would need to be completed before the new or revised budgets could be applied for the region in future conformity analyses to be conducted using MOVES, and would need to be targeted therefore for completion by the end of the two-year grace period ending March 2, 2012.

Emission factors are generated by the model in units of grams of pollutant per vehicle mile of travel. Emission forecasts are obtained (as noted previously) as the product of these estimated emission factors with corresponding VMT forecasts.

For this analysis, both national default data and region-specific inputs were used with MOBILE6.2. Region-specific inputs include meteorological data, emission control programs, and on-road fleet registration and traffic distribution data, which are summarized in turn below. A sample of a MOBILE6.2 input file applied in this conformity analysis is provided in Appendix C.

2.4.2.1 Ambient Conditions

The federal conformity rule at 93.122(a)(6) requires that "*The ambient temperatures used for the regional emissions analysis shall be consistent with those used to establish the emissions budget in the applicable implementation plan.…*" [83].

Exhibit 2-4 presents average hourly ambient temperatures, hourly relative humidities, and barometric pressure data as presented in the Technical Support Document for the applicable implementation (maintenance) plan. The hourly data for ambient temperature and relative humidity along with the average daily value for barometric pressure were applied in this conformity analysis, consistent with the maintenance plan.

2.4.2.2 Emission Control Programs

Exhibit 2-5 lists emission control programs in effect for the Hampton Roads area as input to the MOBILE6.2 model. The locality-specific MOBILE input parameters are consistent with the approved maintenance SIP and based on the latest planning assumptions.

Emission control programs for Hampton Roads as modeled for this analysis include:

- Reformulated Gasoline (RFG), and Gasoline Reid Vapor Pressure (RVP): RFG was modeled for all jurisdictions within the maintenance area with the exception of the Counties of Gloucester and Isle of Wight, which use conventional gasoline. RFG benefits were modeled for all analysis years after 1996, consistent with Virginia regulations requiring RFG and the Maintenance Plan.

  RFG Phase 2, which is currently in effect, has an approximate Reid vapor pressure (RVP) of 6.8 pounds per square inch (PSI). For the Counties of Gloucester and Isle of Wight, the RVP for conventional gasoline was taken as 8.4 PSI.

- 2007 Heavy Duty Diesel Vehicle (HDDV): The 2007 Heavy Duty Diesel Vehicle (HDDV) program including the implementation of ultra low sulfur diesel was included in the generation of emission factors for the conformity analysis. From the regulatory announcement[84]:

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[83] Federal Conformity Rule, 40 CFR 93.122 *Procedures for Determining Regional Transportation-Related Emissions*: http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.122.htm

[84] US EPA, *Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control*

Exhibit 2-4: Ambient Conditions - Ozone Season

Average Hourly Meteorological Data				
Time (EDT)	Temperature (F)	Dew Point (F)	Relative Humidity (%)	Pressure (In)
6:00 AM	71.77	66.4	83.9	30.017
7:00 AM	75.2	67.7	78.1	30.029
8:00 AM	77.8	68.09	72.7	30.033
9:00 AM	81.07	67.22	63	30.034
10:00 AM	83.04	66.91	58.5	30.034
11:00 AM	84.34	65.99	54.5	30.027
12:00 PM	85.79	65.04	50	30.019
1:00 PM	86.59	64.81	48.9	30.009
2:00 PM	87.4	64.09	46.6	29.996
3:00 PM	87.27	63.82	46	29.985
4:00 PM	87.6	63.22	44.7	29.978
5:00 PM	87.01	63.86	46.7	29.974
6:00 PM	85.51	63.99	49.1	29.973
7:00 PM	83.21	65.42	55.9	29.982
8:00 PM	79.39	68.16	69	29.99
9:00 PM	77.9	68.5	73.3	30.004
10:00 PM	77.02	68.08	74.5	30.006
11:00 PM	75.38	67.87	78.1	30.007
12:00 AM	73.31	66.4	79.8	30.006
1:00 AM	72.91	66.31	80.7	30.004
2:00 AM	72.71	66.49	81.7	29.997
3:00 AM	71.9	63.8	78.1	29.995
4:00 AM	71.2	65.5	82.8	29.995
5:00 AM	70.73	65.49	84.3	30.006
	Avg Min T	70.51		
	Avg Max T	88.01		
	Avg Pres	30.004		

Source: VDEQ, "Technical Support Document for the Redesignation Request and Maintenance Plan for Hampton Roads 8-Hour Ozone Nonattainment Area, Final", as approved June 1, 2007, 72 FR 30490. See Table 4.1-2 on age 64. Reproduced with permission.

Exhibit 2-5: Emission Control Programs

Programs	**2011**	**2018**	**2020**	**2030**
Reformulated Gasoline*	Yes	Yes	Yes	Yes
RVP (PSI):				
• All jurisdictions but Gloucester and Isle of Wight	6.8	6.8	6.8	6.8
• Gloucester and Isle of Wight	8.4	8.4	8.4	8.4
2007 HDDV Program	Yes	Yes	Yes	Yes
NLEV Early Implementation	Yes	Yes	Yes	Yes
Tier 2 Standards	Yes	Yes	Yes	Yes

**Except for the counties of Gloucester and Isle of Wight, which use conventional gasoline.*

Requirements, EPA420-F-00-057, Office of Transportation and Air Quality, December 2000.

New Standards for Heavy-Duty Highway Engines and Vehicles

[EPA is] finalizing a PM emissions standard for new heavy-duty engines of 0.01 grams per brake-horsepower-hour (g/bhp-hr), to take full effect for diesels in the 2007 model year. [EPA is] also finalizing standards for NOx and non-methane hydrocarbons (NMHC) of 0.20 g/bhp-hr and 0.14 g/bhp-hr, respectively. These NOx and NMHC standards will be phased in together between 2007 and 2010, for diesel engines. The phase-in will be on a percent of-sales basis: 50 percent from 2007 to 2009 and 100 percent in 2010. Gasoline engines will be subject to these standards based on a phase in requiring 50 percent compliance in the 2008 model year and 100 percent compliance in the 2009 model year.

The program includes flexibility provisions to facilitate the transition to the new standards and to encourage the early introduction of clean technologies, and adjustments to various testing and compliance requirements to address differences between the new technologies and existing engine based technologies.

New Standards for Diesel Fuel

Refiners will be required to start producing diesel fuel for use in highway vehicles with a sulfur content of no more than 15 parts per million (ppm), beginning June 1, 2006. At the terminal level, highway diesel fuel sold as low sulfur fuel will be required to meet the 15 ppm sulfur standard as of July 15, 2006. For retail stations and fleets, highway diesel fuel sold as low sulfur fuel must meet the 15 ppm sulfur standard by September 1, 2006.

This program includes a combination of flexibilities available to refiners to ensure a smooth transition to low sulfur highway diesel fuel.

- National Low Emission Vehicle (NLEV) Program Early Implementation: Early implementation of the NLEV program was included in the modeling for the conformity analysis. The NLEV program, finalized by EPA in March 1998, implemented cleaner light-duty gasoline vehicles beginning in model year 1999 throughout Virginia.

- Tier 2 Vehicle Emission Standards: EPA Tier 2 vehicle emission standards implementation beginning with the 2004 model year was specified for the modeling for the conformity analysis. Gasoline sulfur levels as required for the Tier 2 standards were incorporated into the modeling. From the supplementary information included with the final Tier 2 rule[85]:

Highlights of the Tier2/Gasoline Sulfur Program
For cars, and light trucks, and larger passenger vehicles, the program will—
o *Starting in 2004, through a phase in, apply for the first time the same set of emission standards covering passenger cars, light trucks, and large SUVs and passenger vehicles. …*

[85] US EPA, 65 FR 6698, 40 CFR Parts 80, 85, and 86, *Control of Air Pollution From New Motor Vehicles: Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements; Final Rule*, February 10, 2000. Published in four sections spanning pages 6697-6870. See:
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6697-6746
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6747-6796
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6797-6846
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6847-6870

- o *Introduce a new category of vehicles, ''medium-duty passenger vehicles,'' thus bringing larger passenger vans and SUVs into the Tier 2 program.*
- o *During the phase-in, apply interim fleet emission average standards that match or are more stringent than current federal and California ''LEV I'' (Low-Emission Vehicle, Phase I) standards.*
- o *Apply the same standards to vehicles operated on any fuel.*
- o *Allow auto manufacturers to comply with the very stringent new standards in a flexible way while ensuring that the needed environmental benefits occur.*
- o *Build on the recent technology improvements resulting from the successful National Low-Emission Vehicles (NLEV) program and improve the performance of these vehicles through lower sulfur gasoline.*
- o *Set more stringent particulate matter standards.*
- o *Set more stringent evaporative emission standards.*

For commercial gasoline, the program will—

- o *Significantly reduce average gasoline sulfur levels nationwide as early as 2000, fully phased-in in 2006. Refiners will generally add refining equipment to remove sulfur in their refining processes. Importers of gasoline will be required to import and market only gasoline meeting the sulfur limits.*

…

- o *Enable the new Tier 2 vehicles to meet the emission standards by greatly reducing the degradation of vehicle emission control performance from sulfur in gasoline. Lower sulfur gasoline also appears to be necessary for the introduction of advanced technologies that promise higher fuel economy but are very susceptible to sulfur poisoning (for example, gasoline direct injection engines).*
- o *Reduce emissions from NLEV vehicles and other vehicles already on the road.*

Consistent with the modeling presented in the Technical Support Document for the maintenance plan, inspection and maintenance or anti-tampering programs were not included in the modeling for this analysis.

2.4.2.3 Fleet Distribution Data

Fleet data are input into the MOBILE6.2 model for vehicle age distributions by vehicle class and VMT distributions by vehicle and roadway class. Separate distributions are applied for each jurisdiction in the region.

Exhibit 2-6 presents a sample of vehicle registration distribution data (relative vehicle population by vehicle "age"[86] and class). The sample is for the entire regional on-road motor vehicle fleet in Hampton Roads in 2008, which is not applied directly in the conformity analysis. For greater accuracy, the conformity analysis was instead conducted using the corresponding age distributions developed for each individual jurisdiction within the Hampton Roads region.

[86] Defined by EPA as the calendar year minus model year, plus one. See: US EPA, *User's Guide to MOBILE6.1 and MOBILE6.2 Mobile Source Emission Factor Model*, EPA420-R-03-010, August 2003, p.95 (Section 2.8.7.1 *Distribution of Vehicle Registrations*)

Exhibit 2-6: 2008 Vehicle Registration Distributions for Hampton Roads

MOBILE Model	Vehicle Age (Calendar Year - Model Year +1)									
Composite Vehicle Class*	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
(Number, Abbreviation, Description)	**21**	**22**	**23**	**24**	**25+**					
1. LDV - Light-Duty Vehicles (Passenger Cars)	0.0471	0.0672	0.0626	0.0638	0.0646	0.0677	0.0669	0.0637	0.0698	0.0575
	0.0518	0.0505	0.0424	0.0441	0.0357	0.0298	0.0244	0.0194	0.0164	0.0132
	0.0109	0.0094	0.0073	0.0053	0.0084					
2. LDT1 - Light-Duty Trucks 1	0.0348	0.0000	0.0559	0.0722	0.0227	0.0646	0.0589	0.0546	0.0378	0.0355
(0-6,000 lbs. GVWR, 0-3,750 lbs. LVW)	0.0305	0.0311	0.0540	0.0244	0.0178	0.0175	0.0181	0.0187	0.0162	0.0418
	0.0793	0.0814	0.0511	0.0277	0.0534					
3. LDT2 - Light-Duty Trucks 2	0.0395	0.0653	0.0626	0.0749	0.0781	0.0722	0.0774	0.0649	0.0695	0.0556
(0-6,000 lbs. GVWR, 3,751-5,750 lbs. LVW)	0.0542	0.0477	0.0372	0.0349	0.0315	0.0252	0.0178	0.0159	0.0132	0.0135
	0.0123	0.0105	0.0094	0.0060	0.0108					
4. LDT3 - Light-Duty Trucks 3	0.0443	0.0676	0.0759	0.0795	0.0985	0.0952	0.0796	0.0669	0.0610	0.0624
(6,001-8,500 lbs. GVWR, 0-5,750 lbs. ALVW*)	0.0364	0.0339	0.0329	0.0363	0.0285	0.0185	0.0139	0.0087	0.0117	0.0122
	0.0098	0.0073	0.0070	0.0047	0.0076					
5. LDT4 - Light-Duty Trucks 4	0.0472	0.1382	0.0806	0.1090	0.1361	0.0843	0.0471	0.0543	0.0572	0.0730
(6,001-8,500 lbs. GVWR, 5,751 lbs. and greater ALVW)	0.0501	0.0431	0.0162	0.0131	0.0121	0.0083	0.0042	0.0026	0.0043	0.0048
	0.0056	0.0029	0.0015	0.0014	0.0031					
6. HDV2B Class 2b Heavy-Duty Vehicles	0.0432	0.0602	0.0913	0.0764	0.0957	0.0933	0.0660	0.0678	0.0691	0.0568
(8,501-10,000 lbs. GVWR)	0.0274	0.0428	0.0324	0.0342	0.0209	0.0166	0.0143	0.0093	0.0120	0.0152
	0.0112	0.0080	0.0113	0.0092	0.0155					
7. HDV3 - Class 3 Heavy-Duty Vehicles	0.0557	0.0591	0.1320	0.1044	0.0719	0.0636	0.0619	0.0620	0.0614	0.0638
(10,001-14,000 lbs. GVWR)	0.0266	0.0270	0.0186	0.0277	0.0192	0.0137	0.0125	0.0077	0.0148	0.0146
	0.0197	0.0154	0.0156	0.0111	0.0197					
8. HDV4 - Class 4 Heavy-Duty Vehicles	0.0296	0.0559	0.0531	0.0480	0.0432	0.0613	0.0527	0.0596	0.0722	0.0754
(14,001-16,000 lbs. GVWR)	0.0341	0.0765	0.0391	0.0490	0.0475	0.0223	0.0240	0.0195	0.0249	0.0289
	0.0220	0.0168	0.0121	0.0110	0.0214					
9. HDV5 - Class 5 Heavy-Duty Vehicles	0.0517	0.0848	0.1079	0.1326	0.0919	0.0693	0.0369	0.0369	0.0567	0.0649
(16,001-19,500 lbs. GVWR)	0.0193	0.0815	0.0226	0.0341	0.0270	0.0149	0.0110	0.0088	0.0072	0.0077
	0.0061	0.0094	0.0061	0.0044	0.0066					
10. HDV6 - Class 6 Heavy-Duty Vehicles	0.0329	0.0815	0.0778	0.0790	0.0787	0.0440	0.0544	0.0505	0.0774	0.0697
(19,501-26,000 lbs. GVWR)	0.0508	0.0350	0.0282	0.0463	0.0167	0.0217	0.0178	0.0178	0.0171	0.0144
	0.0124	0.0178	0.0153	0.0151	0.0275					
11. HDV7 - Class 7 Heavy-Duty Vehicles	0.0204	0.0527	0.0429	0.0422	0.0468	0.0281	0.0404	0.0408	0.0556	0.0492
(26,001-33,000 lbs. GVWR	0.0601	0.0348	0.0334	0.0745	0.0440	0.0222	0.0267	0.0366	0.0482	0.0323
	0.0411	0.0390	0.0274	0.0260	0.0345					
12. HDV8 - Class 8a Heavy-Duty Vehicles	0.0267	0.0768	0.0382	0.0398	0.0330	0.0298	0.0485	0.0605	0.0633	0.0700
(33,001-60,000 lbs. GVWR)	0.0633	0.0569	0.0374	0.0676	0.0378	0.0334	0.0227	0.0231	0.0302	0.0283
	0.0267	0.0251	0.0175	0.0231	0.0203					
13. HDV8B Class 8b Heavy-Duty Vehicles	0.0215	0.0786	0.0772	0.0664	0.0580	0.0458	0.0348	0.0776	0.0945	0.0723
(>60,000 lbs. GVWR)	0.0647	0.0510	0.0502	0.0481	0.0363	0.0230	0.0154	0.0160	0.0131	0.0143
	0.0120	0.0078	0.0072	0.0076	0.0067					
14. HDBS - School Buses	0.0026	0.0068	0.0047	0.0047	0.0350	0.0575	0.0178	0.0606	0.0721	0.0669
	0.0789	0.0418	0.0706	0.0664	0.0235	0.0355	0.0382	0.0486	0.0805	0.0711
	0.0105	0.0303	0.0314	0.0256	0.0183					
15. HDBT - Transit and Urban Buses	0.0324	0.0333	0.0182	0.0373	0.0280	0.0266	0.0506	0.0235	0.0200	0.0337
	0.0258	0.0129	0.0222	0.0706	0.0448	0.0608	0.0249	0.0262	0.0324	0.0626
	0.0710	0.0870	0.0586	0.0435	0.0528					
16. MC - Motorcycles (All)	0.0578	0.1231	0.1274	0.1053	0.0847	0.0957	0.0705	0.0555	0.0447	0.0362
	0.0249	0.0196	0.0203	0.0157	0.0146	0.0120	0.0087	0.0063	0.0060	0.0065
	0.0053	0.0073	0.0109	0.0111	0.0297					

* *EPA footnote for the vehicle class definitions*: ALVW = Alternative Loaded Vehicle Weight: The adjusted loaded vehicle weight is the numerical average □(GVWR) of the vehicle curb weight and the gross vehicle weight rating□(GVWR)

Source for the vehicle registration data: VDEQ Email to VDOT regarding "2008 Vehicle Registration Data (more)", September 9, 2009. Sums normalized in MOBILE model execution.

Source for the vehicle class definitions: *Appendix B, MOBILE6 Input Data Format Reference Tables, Table 1 - Composite Vehicle Classes for Vehicle Registration Data and Vehicle Miles Traveled Fractions (REG DIST and VMT FRACTIONS Commands)* from US EPA, *User's Guide to MOBILE6.1 and MOBILE6.2 Mobile Source Emission Factor Model,* EPA420-R-03-010, August 2003

The data for each jurisdiction in the region as well as the regional set presented here were developed by the VDEQ in support of the preparation of the federally-required 2008 Periodic Emission Inventory ("2008 PEI"). The VDEQ developed the update to the registration distribution data using detailed vehicle identification number (VIN) data for July 1, 2008 for all jurisdictions in the Commonwealth. The jurisdictional data for Hampton Roads so developed were incorporated into the MOBILE6.2 input files for this conformity analysis, consistent with but updating the data applied in the 2007 maintenance plan for the region.

Exhibit 2-7 presents VMT distributions by vehicle and federal roadway functional class. The distributions were generated using TMS/HPMS data compiled by VDOT[87]. Similar to the registration distribution data, the VMT distribution data were developed in support of the preparation of the federally-required 2008 PEI.

2.5 Post-Processing

The post-processor generates regional total emission forecasts based on estimates developed for three separate sub-categories, namely:

1) regional network VMT and emissions, which are generated using the VMT and emission factor output from the regional travel demand and emission factor modeling steps as described above,

2) "off-network" VMT and emissions, for which traffic (VMT and speeds) expected for roadways that are not typically coded in regional transportation model networks (i.e., local and collector roadways) are first projected and the results combined with the emission factors generated previously to generate emission estimates for these minor facilities, and

3) military base contributions to emissions, as specified in the maintenance plan (referenced earlier). Following the procedure in the maintenance plan, the military base contributions are added without adjustment in the post-processor to the estimate for total regional emissions.

The post-processor is based upon transportation engineering methods presented in the 2000 *Highway Capacity Manual (HCM)* and *National Cooperative Highway Research Program (NCHRP) Report 387*.

While the development of estimates for VMT and emissions factors for traffic on the regional network has been presented, the calculation of emissions for the regional network involves two additional adjustments: i) for congested speeds, and ii) for seasonal traffic levels. These are reviewed in turn below.

The development of estimates for traffic and emissions on off-network facilities is then reviewed. This section concludes with a presentation of the hourly profiles that were applied for the VMT tables included in the appendices.

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[87] VDOT, *Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester*, September 2009.

Exhibit 2-7: 2008 VMT Distribution by Roadway Functional Class for Hampton Roads

FHWA Roadway Functional Class		Hampton Roads Ozone Maintenance Area Daily VMT Distribution																
		LDV	LDT1	LDT2	LDT3	LDT4	HDV2b	HDV3	HDV4	HDV5	HDV6	HDV7	HDV8a	HDV8b	HDBS	HDBT	MC	SUM
1	Rural Interstate	0.38141	0.08791	0.29267	0.08912	0.04098	0.03405	0.00335	0.00275	0.00205	0.00760	0.00897	0.00975	0.03477	0.00172	0.00079	0.00211	1.00
2	Rural Principal Arterial	0.37691	0.08688	0.28923	0.08807	0.04050	0.03785	0.00373	0.00306	0.00228	0.00844	0.00997	0.01083	0.03865	0.00192	0.00088	0.00080	1.00
6	Rural Minor Arterial	0.38059	0.08773	0.29205	0.08893	0.04089	0.03373	0.00332	0.00273	0.00203	0.00753	0.00889	0.00965	0.03445	0.00171	0.00079	0.00498	1.00
7	Rural Major Collector	0.41055	0.09464	0.31505	0.09593	0.04411	0.01177	0.00116	0.00095	0.00071	0.00263	0.00310	0.00337	0.01202	0.00060	0.00027	0.00314	1.00
8	Rural Minor Collector	0.41590	0.09587	0.31915	0.09718	0.04469	0.00805	0.00079	0.00065	0.00049	0.00180	0.00212	0.00231	0.00822	0.00041	0.00019	0.00218	1.00
9	Rural Local	0.39413	0.09085	0.30245	0.09209	0.04235	0.02347	0.00231	0.00190	0.00142	0.00524	0.00619	0.00672	0.02397	0.00119	0.00055	0.00517	1.00
11	Urban Interstate	0.40916	0.09431	0.31396	0.09560	0.04396	0.01267	0.00125	0.00102	0.00076	0.00283	0.00334	0.00363	0.01294	0.00064	0.00030	0.00363	1.00
12	Urban Freeway/Expressway	0.40658	0.09372	0.31200	0.09500	0.04369	0.01456	0.00143	0.00118	0.00088	0.00325	0.00384	0.00417	0.01487	0.00074	0.00034	0.00375	1.00
14	Urban Principal Arterial	0.41686	0.09609	0.31989	0.09740	0.04479	0.00645	0.00064	0.00052	0.00039	0.00144	0.00170	0.00185	0.00658	0.00033	0.00015	0.00492	1.00
16	Urban Minor Arterial	0.41215	0.09500	0.31625	0.09630	0.04428	0.01000	0.00098	0.00081	0.00060	0.00223	0.00263	0.00286	0.01021	0.00051	0.00023	0.00496	1.00
17	Urban Collector	0.41485	0.09563	0.31835	0.09694	0.04458	0.00823	0.00081	0.00066	0.00050	0.00184	0.00217	0.00236	0.00840	0.00042	0.00019	0.00407	1.00
19	Urban Local	0.39980	0.09215	0.30678	0.09341	0.04296	0.01887	0.00186	0.00152	0.00114	0.00421	0.00497	0.00540	0.01926	0.00096	0.00044	0.00627	1.00
All Functional Classes		**0.41064**	**0.09465**	**0.31509**	**0.09594**	**0.04412**	**0.01129**	**0.00111**	**0.00091**	**0.00068**	**0.00252**	**0.00298**	**0.00323**	**0.01153**	**0.00057**	**0.00026**	**0.00448**	**1.00**

Source: *VDOT, "Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester", September 2009, Exhibit 29.*

2.5.1 Congested Speed Calculation

The post-processor estimates congested speeds using standard Bureau of Public Roads (BPR) formulae that are based upon free flow speeds, volumes and capacity[88]. Two forms of the BPR equation are applied:

1) for non-signalized roadway segments:

$$speed\ \ for\ unsignalized\ \ facilities = \frac{corridor\ \ free\ \ flow\ speed}{1 + 0.2\left(volume / capacity\right)^{10}}$$

2) for signalized roadway segments, defined as facilities on which traffic signals are spaced two miles or less apart:

$$speed\ \ for\ signalized\ \ facilities = \frac{corridor\ \ free\ \ flow\ speed}{1 + 0.05\left(volume / capacity\right)^{10}}$$

2.5.2 Seasonal Adjustments to Traffic

Exhibit 2-8 presents average ozone season weekday adjustment factors for the Hampton Roads area. The factors are applied to the forecast VMT to more accurately account for observed ozone (summer) season traffic levels.

The tabulated factors were obtained as the average for the TMS/HPMS values reported for May through September (the summer ozone season) for the Hampton Roads area for 2008.

2.5.3 Adjustments for Off-Network Facilities (Local and Collector Roads)

The federal conformity rule at 40 CFR 93.122(a) requires that "*…Projects which are not regionally significant are not required to be explicitly modeled, but vehicle miles traveled (VMT) from such projects must be estimated in accordance with reasonable professional practice.*"

All regionally significant projects are included in the network modeling as summarized previously. However local and collector roadways are not typically coded in regional transportation model networks and are not coded in the TP+ regional network developed for Hampton Roads.

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[88] Generally, free flow speed is taken here as the speed at which a vehicle on the roadway segment would travel given no conflict with other traffic, i.e., no congestion. As traffic volumes increase and the carrying capacity of the roadway is reached (i.e. congestion increases), average speeds would be expected to be reduced. The free flow speeds used are consistent with those used in the TP+ model.

Exhibit 2-8: Ozone Season Traffic Adjustment Factors

FHWA Roadway Functional Class		Average Ozone Season Weekday VMT Adjustment Factor
1	Rural Interstate	1.0582
2	Rural Principal Arterial	1.0602
6	Rural Minor Arterial	1.0765
7	Rural Major Collector	1.0798
8	Rural Minor Collector	1.0751
9	Rural Local	1.0004
11	Urban Interstate	1.0902
12	Urban Freeway/Expressway	1.0786
14	Urban Principal Arterial	1.0851
16	Urban Minor Arterial	1.1001
17	Urban Collector	1.1008
19	Urban Local	1.0854

Source: VDOT, "Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester", September 2009.

The post-processor was therefore designed to generate estimates for VMT for these minor facilities, projecting future traffic volumes using traffic count data for a base year and average annual growth rates applicable through the horizon year of the LRTP for the region. Speeds are taken from the VDOT Statewide Planning System (SPS) database or MOBILE model defaults. Exhibit 2-9 presents forecast annual average growth rates for local and collector road VMT for the Hampton Roads area.

As an approximation, the rates were taken as equivalent to the annual average growth rates reported with the socioeconomic data for auto ownership in Hampton Roads. The base year VMT data for local and collector roads were obtained for 2008 from the VDOT TMS/HPMS database previously referenced. Tabulations of the VMT forecasts generated are presented in Appendix B.

2.5.4 Hourly Traffic Volumes

Exhibit 2-10 presents the hourly VMT distributions by vehicle class for the region. These profiles were applied in the generation of the VMT tables that are presented in Appendix B.

Exhibit 2-9: Annual Average Growth Rates for Local and Collector Road VMT

Jurisdiction	Annual Average Growth Rate
Chesapeake	1.55%
Gloucester	2.48%
Hampton	1.40%
Isle of Wight	2.10%
James City	2.90%
Newport News	1.24%
Norfolk	0.58%
Poquoson	2.17%
Portsmouth	0.65%
Suffolk	2.48%
Virginia Beach	1.09%
Williamsburg	1.24%
York	1.52%

Exhibit 2-10: Hourly Traffic Distribution by Roadway Functional Class

Hampton Roads Hourly VMT Distributions by Vehicle Class All FHWA Roadway Functional Classes																		
Hour	**LDV**	**LDT1**	**LDT2**	**LDT3**	**LDT4**	**HDV2b**	**HDV3**	**HDV4**	**HDV5**	**HDV6**	**HDV7**	**HDV8a**	**HDV8b**	**HDBS**	**HDBT**	**MC**	**Total for Hour**	**Percent of Daily**
0	0.41459	0.09557	0.31814	0.09687	0.04455	0.00842	0.00083	0.00068	0.00051	0.00188	0.00222	0.00241	0.00860	0.00043	0.00020	0.00410	1.00000	0.9552%
1	0.41017	0.09455	0.31476	0.09584	0.04407	0.01195	0.00118	0.00097	0.00072	0.00267	0.00315	0.00342	0.01220	0.00061	0.00028	0.00346	1.00000	0.6143%
2	0.40472	0.09329	0.31057	0.09457	0.04349	0.01626	0.00160	0.00131	0.00098	0.00363	0.00428	0.00465	0.01660	0.00082	0.00038	0.00285	1.00000	0.5130%
3	0.39574	0.09122	0.30366	0.09246	0.04252	0.02286	0.00225	0.00185	0.00138	0.00510	0.00603	0.00654	0.02335	0.00116	0.00053	0.00335	1.00000	0.4410%
4	0.39983	0.09217	0.30682	0.09343	0.04296	0.01941	0.00191	0.00157	0.00117	0.00433	0.00512	0.00556	0.01982	0.00098	0.00045	0.00447	1.00000	0.8194%
5	0.41000	0.09450	0.31461	0.09580	0.04405	0.01144	0.00113	0.00092	0.00069	0.00255	0.00301	0.00327	0.01168	0.00058	0.00027	0.00550	1.00000	2.3098%
6	0.41031	0.09457	0.31483	0.09587	0.04408	0.01130	0.00111	0.00091	0.00068	0.00252	0.00298	0.00323	0.01154	0.00057	0.00026	0.00524	1.00000	4.6178%
7	0.40881	0.09423	0.31369	0.09552	0.04392	0.01288	0.00127	0.00104	0.00078	0.00287	0.00339	0.00369	0.01316	0.00065	0.00030	0.00380	1.00000	5.9858%
8	0.40355	0.09303	0.30968	0.09430	0.04336	0.01702	0.00168	0.00138	0.00103	0.00380	0.00449	0.00487	0.01738	0.00086	0.00040	0.00317	1.00000	5.4590%
9	0.40099	0.09243	0.30770	0.09369	0.04309	0.01879	0.00185	0.00152	0.00113	0.00419	0.00495	0.00538	0.01919	0.00095	0.00044	0.00371	1.00000	4.9462%
10	0.40189	0.09265	0.30842	0.09391	0.04319	0.01809	0.00178	0.00146	0.00109	0.00404	0.00477	0.00518	0.01847	0.00092	0.00042	0.00372	1.00000	5.1546%
11	0.40365	0.09304	0.30974	0.09431	0.04337	0.01659	0.00163	0.00134	0.00100	0.00370	0.00437	0.00475	0.01694	0.00084	0.00039	0.00434	1.00000	5.6473%
12	0.40647	0.09370	0.31192	0.09498	0.04368	0.01440	0.00142	0.00116	0.00087	0.00321	0.00380	0.00412	0.01471	0.00073	0.00034	0.00449	1.00000	6.1765%
13	0.40601	0.09359	0.31155	0.09487	0.04362	0.01473	0.00145	0.00119	0.00089	0.00329	0.00388	0.00422	0.01504	0.00075	0.00034	0.00458	1.00000	6.1112%
14	0.40635	0.09366	0.31181	0.09494	0.04366	0.01431	0.00141	0.00116	0.00086	0.00319	0.00377	0.00409	0.01461	0.00072	0.00033	0.00513	1.00000	6.5444%
15	0.41017	0.09455	0.31474	0.09584	0.04407	0.01135	0.00112	0.00092	0.00068	0.00253	0.00299	0.00325	0.01158	0.00057	0.00026	0.00538	1.00000	7.3457%
16	0.41438	0.09552	0.31798	0.09682	0.04452	0.00820	0.00081	0.00066	0.00049	0.00183	0.00216	0.00235	0.00837	0.00042	0.00019	0.00530	1.00000	7.7849%
17	0.41846	0.09645	0.32110	0.09777	0.04496	0.00536	0.00053	0.00043	0.00032	0.00120	0.00141	0.00153	0.00547	0.00027	0.00012	0.00462	1.00000	7.7010%
18	0.41961	0.09672	0.32198	0.09804	0.04508	0.00445	0.00044	0.00036	0.00027	0.00099	0.00117	0.00127	0.00455	0.00023	0.00010	0.00474	1.00000	6.0557%
19	0.42016	0.09685	0.32240	0.09817	0.04514	0.00409	0.00040	0.00033	0.00025	0.00091	0.00108	0.00117	0.00418	0.00021	0.00010	0.00456	1.00000	4.4681%
20	0.42054	0.09694	0.32270	0.09826	0.04519	0.00386	0.00038	0.00031	0.00023	0.00086	0.00102	0.00110	0.00394	0.00020	0.00009	0.00438	1.00000	3.6562%
21	0.42062	0.09696	0.32276	0.09828	0.04519	0.00394	0.00039	0.00032	0.00024	0.00088	0.00104	0.00113	0.00402	0.00020	0.00009	0.00394	1.00000	3.0277%
22	0.41983	0.09678	0.32217	0.09810	0.04511	0.00457	0.00045	0.00037	0.00028	0.00102	0.00120	0.00131	0.00466	0.00023	0.00011	0.00381	1.00000	2.1751%
23	0.41823	0.09641	0.32094	0.09772	0.04494	0.00585	0.00058	0.00047	0.00035	0.00131	0.00154	0.00167	0.00597	0.00030	0.00014	0.00358	1.00000	1.4900%
Daily	**0.41064**	**0.09465**	**0.31509**	**0.09594**	**0.04412**	**0.01129**	**0.00111**	**0.00091**	**0.00068**	**0.00252**	**0.00298**	**0.00323**	**0.01153**	**0.00057**	**0.00026**	**0.00448**	**1.00000**	**100.00%**

Source: VDOT, "Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester", September 2009.

3. Consultation

Federal, state and local requirements for consultation apply for the development of transportation conformity analyses and determinations. This section documents both the applicable regulatory requirements and the consultation record for this analysis.

3.1 Regulatory Requirements

Regulatory requirements for consultation that were initially established at the federal level have been reflected in state regulations and requirements as well as locally-developed inter-agency and public consultation procedures. Exhibit 3-1 presents an overview of federal, state and local consultation requirements, which are reviewed in turn below.

3.1.1 Federal Requirements

While the federal transportation conformity rule includes specific requirements for consultation in Section 93.105, those requirements were made subject in Section 93.112 of the same rule to the establishment and approval by EPA of corresponding state requirements, as follows:

> *"§93.112 Criteria and procedures: Consultation. Conformity must be determined according to the consultation procedures in this subpart and in the applicable implementation plan, and according to the public involvement procedures established in compliance with 23 CFR part 450. Until the implementation plan revision required by §51.390 of this chapter is fully approved by EPA, the conformity determination must be made according to §93.105 (a)(2) and (e) and the requirements of 23 CFR part 450."*[89]

The referenced section, 93.105(a)(2), requires consultation with local, state and federal agencies, as follows:

> *"[§93.105 (a)(2)]: Before EPA approves the conformity implementation plan revision required by §51.390 of this chapter, MPOs and State departments of transportation must provide reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, DOT, and EPA, including consultation on the issues described in paragraph (c)(1) of this section, before making conformity determinations."*

[89] See Federal Conformity Rule, 40 CFR 93.112 *Criteria and Procedures: Consultation* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.112.htm

Exhibit 3-1: Federal, State and Local Consultation Requirements Relating to Transportation Conformity

DATE	REQUIREMENT
PENDING	
Update to Inter-Agency Consultation Procedures for Transportation Conformity	
2010	Update for the existing (2005) Hampton Roads Conformity Consultation Procedures, both to reflect the new Virginia Conformity SIP *(Regulation for Transportation Conformity* , 9 VAC 5-151) and to streamline and update existing processes as appropriate.
CURRENTLY APPLICABLE OR APPROVED	
Federal	***Legislation & Regulations***
US EPA Regulation for Transportation Conformity (40 CFR Parts 51 and 93).	
Key requirements for consultation are addressed in Sections 51.390, 93.105, and 93.112.	
March 24, 2010	*Transportation Conformity Regulations Updated March 2010* issued by EPA. This is the most current compilation by EPA of the Federal Transportation Conformity Rule (40 CFR Parts 51 and 93). It reflects all amendments made since the initial issuance by EPA of the rule in 1993 through March 24, 2010, including revisions promulgated pursuant to SAFETEA-LU in 2005.
US DOT Planning Assistance and Standards (23 CFR Part 450)(Transportation Planning & Programming Requirements).	
Key requirements for consultation are addressed in Section 450.316 Interested parties, participation, and consultation.	
February 14, 2007	US DOT, Federal Highway Administration, 23 CFR Parts 450 and 500, Federal Transit Administration, 49 CFR Part 613 [Docket No. FHWA–2005–22986] RIN 2125–AF09; FTA RIN 2132–AA82, *Statewide Transportation Planning; Metropolitan Transportation Planning* , Final Rule. Most recent major update to the federal planning regulations.
Legislation - Clean Air Act as amended, and subsequent SAFETEA-LU amendments.	
August 10, 2005	Federal Reauthorization (*Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users,* or *SAFETEA-LU* , Public Law 109-59), which addressed in part conformity.
November 15, 1990	Last set of major amendments to the *Clean Air Act* , although there have been minor amendments since. Conformity is addressed in Section 176(c).
State	***Federally-Required State Regulation for Transportation Conformity (9 VAC 5-151)***
January 19, 2010	Effective date for the new Virginia *Regulation for Transportation Conformity* (9 VAC 5-151) approved 11/20/09 by EPA via Federal Register notice. See US EPA, 74 FR 60194, 40 CFR Part 52, [EPA-R03-OAR-2009-0674; FRL-8983-1], "*Approval and Promulgation of Air Quality Implementation Plans; Virginia; Transportation Conformity Regulations* ", Direct Final Rule, November 20, 2009. The regulation was approved as submitted on March 23, 2009.
March 23, 2009	Submittal the Virginia *Regulation for Transportation Conformity* (9 VAC 5-151) by the VDEQ to the US EPA for approval in response to federal conformity rule requirements at 40 CFR Part 51. By the federal rule, the requirements of the new state regulation generally govern over the pre-existing federal requirements for consultation for conformity purposes (where they overlap, and as long as they are no less stringent).
Local	***Consultation Procedures***
Public Participation Plan	
December 16, 2009	MPO (HRTPO) approval of the *Hampton Roads Transportation Planning Organization Public Participation Plan* dated December 2009. This document responds to public and consultation stakeholder requirements specified in 23 CFR Part 450.
Inter-Agency Consultation Procedures for Transportation Conformity	
September 21, 2005	MPO (HRTPO) approval of (Inter-Agency) *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations (Revised July 18, 2005).* This revision updated the initial version approved in July 2001. These procedures were developed in response to requirements of the federal conformity rule at 40 CFR 93.105.

The referenced paragraphs [(c)(1)] state:

> *"(c) Interagency consultation procedures: Specific processes. Interagency consultation procedures shall also include the following specific processes: (1) A process involving the MPO, State and local air quality planning agencies, State and local transportation agencies, EPA, and DOT for the following:…"*

The specific processes identified in the remainder of 93.105(c)(1) are lengthy but include, in general terms: the emission model(s) to be applied in regional (and project-level) conformity analyses as well as associated methods and assumptions, the identification of regionally significant projects, the treatment of exempt projects, TCMs, and other related items.

Federal Requirements for a State Regulation for Transportation Conformity

Section 51.390 of the federal transportation conformity rule effectively requires the development of a state regulation to govern conformity consultation processes and further provides that the state regulation once approved by EPA effectively governs (over the federal) where they overlap. Therefore, for example, the specific items listed in 93.105(c)(1) as referenced above are to be made enforceable in a corresponding state regulation.

Specifically, Section 51.390 provides in part that the federal requirements apply "until such time" as a requisite state regulation for transportation conformity is approved by EPA as part of a state implementation plan revision, as follows:

> *"§51.390 Implementation plan revision. (a) Purpose and applicability. The federal conformity rules under part 93, subpart A, of this chapter, in addition to any existing applicable state requirements, establish the conformity criteria and procedures necessary to meet the requirements of Clean Air Act section 176(c) until such time as EPA approves the conformity implementation plan revision required by this subpart…"*

The revision to the SIP for the transportation conformity regulation is also commonly referred to as the "Conformity SIP". Section 51.390 then requires that specific sections of the federal transportation conformity rule (including consultation requirements in Section 93.105)[90] must be addressed in a state conformity regulation, as follows:

> *"(b) Conformity implementation plan content. To satisfy the requirements of Clean Air Act section 176(c)(4)(E), the implementation plan revision required by this section must include the following three requirements of part 93, subpart A, of this chapter: §§93.105, 93.122(a)(4)(ii), and 93.125(c)..."*

Finally, Section 51.309 of the federal transportation conformity rule concludes that conformity determinations will be "governed" (where they overlap) by the federally-required state regulation or conformity SIP once it is approved, as follows:

> *"(c) Timing and approval... Following EPA approval of the state conformity provisions (or a portion thereof) in a revision to the state's conformity*

[90] Paragraphs 40 CFR 93.122(a)(4)(ii), and 93.125(c) respectively address commitments needed if any to emission reduction credits taken for control measures in the emissions analysis and any mitigation measures specified in the SIP.

implementation plan, conformity determinations will be governed by the approved (or approved portion of the) state criteria and procedures as well as any applicable portions of the federal conformity rules that are not addressed by the approved conformity SIP."

3.1.2 Commonwealth of Virginia Requirements

Requirements in the federal conformity rule at 40 CFR Part 51.390 that certain elements (primarily addressing consultation) of the federal rule be established in state conformity regulations were addressed with the Virginia *Regulation for Transportation Conformity* that was initially developed by the VDEQ in 1997[91]. This version was updated for consistency with EPA requirements in 2007, and amended in 2008. The current version, specified in the Virginia Administrative Code (VAC) at 9 VAC 5-151[92], was approved by EPA via Federal Register notice on November 20, 2009 (effective January 19, 2010)[93].

General requirements for consultation are specified in Subsection 9 VAC 5-151-70 of the Virginia regulation. Subsection A[94] of this section requires that:

"The MPOs, LPOs, DEQ, VDOT and VDRPT shall undertake the procedures prescribed in this section for interagency consultation, conflict resolution and public consultation with each other and with local or regional offices of EPA, FHWA, and FTA on the development of control strategy implementation plan revisions, the list of TCMs in the applicable implementation plan, transportation plans, TIPs, and associated conformity determinations required by this chapter."

Specific requirements in Virginia for inter-agency and public consultation are addressed in turn below.

3.1.2.1 Virginia Inter-Agency Consultation Requirements

Section 9 VAC 5-151-70 subsection C[95] of the Virginia regulation addresses inter-agency consultation. Subdivision C1 requires that:

C. The provisions of this subsection shall be followed with regard to general factors associated with interagency consultation.

1. Representatives of the MPOs, VDOT, VDRPT, FHWA, and FTA shall undertake an interagency consultation process, in accordance with subdivisions

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91 Specified in the Virginia Administrative Code (VAC) at 9 VAC 5-150. See: http://www.deq.virginia.gov/air/regulations/air150.html.

92 Virginia *Regulation for Transportation Conformity* (9 VAC 5-151): http://www.deq.virginia.gov/air/regulations/air151.html.

93 The state regulation as referenced above was approved by EPA via Federal Register notice effective January 19, 2010. US EPA, 74 FR 60194, 40 CFR Part 52, [EPA-R03-OAR-2009-0674; FRL-8983-1], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Transportation Conformity Regulations*, Direct Final Rule, November 20, 2009, effective January 19, 2010. See: http://edocket.access.gpo.gov/2009/E9-27814.htm

94 Corresponding to 40 CFR 93.105(a) of the federal rule.

95 Corresponding to 40 CFR 93.105(a)(2) of the federal rule. Subsection 9 VAC 5-151-70B, which also refers to inter-agency consultation, was applicable prior to the approval by EPA of the Virginia regulation. This subsection requires that: "*Until EPA grants approval of this chapter, the MPOs, and VDOT and VDRPT, prior to making conformity determinations, shall provide reasonable opportunity for consultation with LPOs, DEQ and EPA on the issues in subdivision D 1 of this section.*"

1 and 3 of this subsection and subsection D of this section, with the LPOs, DEQ and EPA on the development of implementation plans, transportation plans, TIPs, any revisions to the preceding documents, and associated conformity determinations."

The referenced subsection D includes the following requirements under subdivision D1:

"*D. The provisions of this subsection shall be followed with regard to specific processes associated with interagency consultation.*

1. An interagency consultation process involving the MPOs, LPOs, DEQ, VDOT, VDRPT, EPA, FHWA, and FTA shall be undertaken for the following:
a. Evaluating and choosing each model (or models) and associated methods and assumptions to be used in hot-spot analyses and regional emission analyses, including vehicle miles traveled (VMT) forecasting, to be initiated by VDOT, in consultation with the MPOs, and conducted in accordance with subdivisions C 1 and 3 of this section.
b. Determining which transportation projects should be considered "regionally significant" for the purpose of regional emission analysis (in addition to those functionally classified as principal arterial or higher; or fixed guideway systems or extensions that offer an alternative to regional highway travel), and which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP, to be initiated by VDOT, in consultation with the MPOs, and conducted in accordance with subdivisions C 1 and 3 of this section.
c. Evaluating whether projects otherwise exempted from meeting the requirements of 40 CFR 93.126 and 40 CFR 93.127 should be treated as non-exempt in cases where potential adverse emissions impacts may exist for any reason, to be initiated by VDOT, in consultation with the MPOs, and conducted in accordance with subdivisions C 1 and 3 of this section.
d. Making a determination, as required by 40 CFR 93.113(c)(1), whether past obstacles to implementation of TCMs that are behind the schedule established in the applicable implementation plan have been identified and are being overcome, and whether state and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding for TCMs, to be initiated by VDOT as lead agency, in consultation with the MPOs and VDRPT, and conducted in accordance with subdivisions C 1 and 3 of this section. This consultation process shall also consider whether delays in TCM implementation necessitate revisions to the applicable implementation plan to remove TCMs or substitute TCMs or other emission reduction measures.
e. Notifying all parties to the consultation process of transportation plan or TIP amendments which merely add or delete exempt projects listed in 40 CFR 93.126 or 40 CFR 93.127, to be initiated by VDOT in consultation with the MPOs, and conducted in accordance with subdivisions C 1 and 3 of this section.
f. Choosing conformity tests and methodologies for isolated rural nonattainment and maintenance areas, as required by 40 CFR 93.109(l)(2)(iii), to be initiated by VDOT, in consultation with the MPOs, and in accordance with subdivisions C 1 and 3 of this section.
g. Determining what forecast of vehicle miles traveled (VMT) to use in establishing or tracking emissions budgets, developing transportation plans, TIPs, of control strategy implementation plan revisions, or making conformity determinations, to be initiated by VDOT, in consultation with the MPOs, and in accordance with subdivisions C 1 and 3 of this section."

Other subdivisions of subsection D address respectively (paraphrasing) consultation requirements for events that trigger new conformity determinations and for emissions analyses for transportation activities that cross MPO borders or nonattainment areas (D2), for locations where the planning area does not include the entire nonattainment or maintenance area (D3), for the disclosure of regionally significant projects that are not FHWA or FTA projects (D4), for assumptions for location, design concept and scope for projects identified in D4 but for which decisions have not yet been made on these elements (D5), and for the design, scheduling and funding of research and data collection and model development efforts for regional transportation (D6).

Subdivision C2 addresses consultation requirements for air agencies ("*LPOs, DEQ, and EPA*") in "*control strategy implementation plan revisions, the list of TCMs in the applicable implementation plan, and any revisions to the preceding documents.*" It does not address consultation requirements for conformity directly.

Subdivision C3 addresses the "*specific roles and responsibilities of various participants in the interagency consultation process.*" Note roles and responsibilities for transportation, air quality and related conformity planning activities for the Hampton Roads region specifically, in consideration of applicable federal and state requirements, are addressed in the *Metropolitan Planning Agreement for the Hampton Roads Area* that was executed on July 15, 2009 between VDOT, VDEQ, the HRTPO, the LPO and other parties.

3.1.2.2 Virginia Public Consultation Requirements

Section 9 VAC 5-151-70 subsection F[96] of the Virginia *Regulation for Transportation Conformity* includes the following requirements for public consultation:

> *"F. The provisions of this subsection shall be followed with regard to public consultation.*
>
> *1. The MPOs shall establish a proactive involvement process which provides reasonable opportunity for review and comment by, at a minimum, providing reasonable public access to technical and policy information considered by the MPO at the beginning of the public comment period and prior to taking formal action on a conformity determination for all transportation plans and TIPs, consistent with the requirements of 23 CFR 450.316(a).*
> *2. The MPOs shall specifically address in writing public comments regarding plans for a regionally significant project, not receiving FHWA or FTA funding or approval, and how the project is properly reflected in the emission analysis supporting a proposed conformity finding for a transportation plan or TIP.*
> *3. The MPOs shall also provide an opportunity for public involvement in conformity determinations for projects where otherwise required by law."*

The referenced requirements from the federal transportation planning rule at 23 CFR 450.316(a) are lengthy but include the following general introduction:

> "*§450.316 Interested parties, participation, and consultation. (a) The MPO shall develop and use a documented participation plan that defines a process for providing citizens, affected public agencies, representatives of public transportation*

[96] Corresponding to 40 CFR 93.105(e) of the federal rule.

> *employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process…*"

Additionally, for reference, requirements of the *Virginia Freedom of Information Act*[97] and the *Virginia Public Records Ac*[98]*t* also apply.

3.1.3 Local Requirements

In response to the applicable federal and Virginia conformity requirements summarized above, procedures have been established for Hampton Roads for both inter-agency and public consultation. These local procedures are reviewed in turn below.

3.1.3.1 Hampton Roads Inter-Agency Conformity Consultation Procedures

Inter-agency conformity consultation procedures were initially adopted by the MPO in 2001 and updated in 2005[99]. As these procedures reflect the federal regulations in force at the time of adoption, a review and update is being planned to reflect the specific language and requirements of the recently approved Virginia *Regulation for Transportation Conformity*.

In general, the Hampton Roads consultation procedures address the establishment and operation of an inter-agency consultation group (ICG). Membership in the ICG as specified in the Hampton Roads procedures includes representatives of each of the federal, state and local transportation and air agencies required by regulation. More specifically, ICG membership includes representatives of the HRTPO, HRTPO member agencies, VDOT, VDRPT, VDEQ, EPA, FHWA and FTA are represented at ICG meetings.

Although not specifically listed in the current (2005) ICG procedures, but consistent with the new Virginia *Regulation for Transportation Conformity*, a representative of the designated Lead Planning Organization (LPO) for the region is also invited to participate in inter-agency consultation on conformity issues. The LPO for this area is the Hampton Roads Air Quality Committee (HRAQC).

In keeping with the applicable regulatory requirements and approved Hampton Roads conformity consultation procedures, ICG meetings are held to initiate conformity analyses for amendments, revisions and/or updates to the LRTP and/or TIP as appropriate, with consensus sought on the following topics:

- ICG Membership updates,
- Latest emission model(s) selected for the conformity analysis, and associated methods and assumptions for the analysis,
- Regionally significant projects (list of LRTP and TIP project lists to be included in the

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97 §2.2 Chapter 37 of the Code of Virginia. See: http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC02020000037000000000000.

98 §42.1 Chapter 7 of the Code of Virginia. See: http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC42010000007000000000000

99 VDOT, *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations*, Revised July 18, 2005. A copy is available at: http://www.hrtpo.org/Documents/Reports/Rev_HR_ICP2005.pdf

network modeling for the conformity analysis), and
- Schedule for the conformity analysis.

The review of methods and assumptions covers a broad area and typically addresses the following key items:
- Latest planning assumptions including socioeconomic data and forecasts to be employed in travel demand modeling for the conformity analysis,
- Transportation modeling approach, including the treatment of network and off-network travel, as well as the treatment of travel outside of the planning area but within the (larger) maintenance area,
- Emission modeling approach, including an overview of the inputs to the model(s) selected for the analysis,
- Emission test(s) to be applied (i.e., applicable budgets as specified in the Maintenance Plan, and years to be tested), and
- Key criteria for the conformity determination, based on the table provided in 40 CFR 93.109 of the federal conformity rule but also including fiscal constraint specified at 40 CFR 93.108 as effectively a pre-requisite for the conformity analysis (which does not include any financial analyses or otherwise address fiscal constraint).

Meeting notices and related correspondence are generally handled by email to the ICG with copies to all members of the Transportation Technical Advisory Committee (TTAC) as well as other interested parties[100]. Public notices (reviewed in the next section) are handled by the HRTPO and are typically posted on the Hampton Roads website and also provided to the media or designated outlets for media releases.

In addition to ICG meetings, inter-agency consultation also occurs through other HRTPO meetings including:
- Regularly scheduled HRTPO Board meetings,
- Regularly scheduled TTAC meetings, and
- Other meetings convened by the HRTPO, VDOT and/or VDEQ at which Hampton Roads issues relating to conformity may be one of several topics discussed.

Pending Update to ICG Consultation Procedures

The recent approval by EPA of the *Virginia Regulation for Transportation Conformity* will involve updates to currently established consultation procedures. However, since the consultation requirements specified in the new Virginia regulation generally mirror those in the existing federal regulation, the updates are expected to be largely editorial in nature and not involve significant changes to established consultation processes.

For Hampton Roads, an update to existing consultation procedures is in the planning states. The update is planned to not only reflect changes as appropriate to the applicable regulations for the new Virginia regulation but also to provide the ICG an opportunity to update and streamline existing consultation processes.

[100] Although not a requirement, many HRTPO member agencies are represented on the ICG by one of their TTAC representatives. ICG meetings are usually coordinated with TTAC meetings for convenience both in terms of meeting logistics and also for the TTAC to take action as needed (e.g. for changes to the project lists) as the need may occasionally arise following the ICG meeting, and to help ensure a quorum.

3.1.3.2 Hampton Roads Public Participation Plan (PPP)

In December 2009, the HRTPO approved a new "*Public Participation Plan*" (PPP)[101]. The PPP responds to SAFETEA-LU requirements as implemented with the revised planning regulations at 23 CFR Part 450.316, and serves to guide consultation conducted in support of the development and approval of the amendments, revisions and updates to the LRTP and TIP. Additionally, the processes provided in the PPP were designed to coordinate as appropriate with conformity consultation processes.

Goals and objectives are specified in the PPP as follows[102]:

"HRTPO public involvement and community outreach goals:

- *Inform Hampton Roads residents and other interested parties about the regional transportation planning and programming process and issues related to transportation.*
- *Increase awareness of the agency's purpose and function.*
- *Engage Hampton Roads residents and interested parties in an open dialogue about their transportation priorities and regional planning and programming issues through meaningful public involvement opportunities.*

HRTPO public involvement and community outreach objectives:

- *Provide broad□based access to HRTPO activities, plans, and programs.*
- *Develop and disseminate information about the transportation planning and programming process through multiple media, with clear, non-technical language.*
- *Seek to engage all interested parties, including minority, low-income, disabled, and elderly persons in meaningful exchange of ideas related to the transportation planning and programming process.*
- *Establish working relationships with partner and peer organizations in the region for the purpose of information exchange and regional dialogue."*

Overall, following the procedures specified in the PPP, MPOs are the lead agencies when developing planning work programs, LRTPs, TIPs and any revisions to the preceding documents, and associated conformity determinations. From the PPP, the HRTPO, in conjunction with VDOT as appropriate, conducts consultation in compliance with federal planning requirements to include the follow key features:

- Provide adequate public notice of public participation activities and time for public review and comment at key decision points, including but not limited to a reasonable opportunity to comment on the proposed LRTP and TIP.
- Provide timely notice and reasonable access to information about transportation issues and processes.
- Employ visualization techniques to describe the LRTP and TIP.
- Make public information (technical information and meeting notices) available in electronically accessible formats and means, such as the World Wide Web.
- Hold any public meetings at convenient and accessible locations and times.
- Demonstrate explicit consideration and response to public input received during the development of the LRTP and TIP.

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[101] Hampton Roads TPO, *Public Participation Plan*, December 2009: http://www.hrtpo.org/Documents/Reports/HRTPO%20PPP%20-%20December%202009%20(Final).pdf

[102] *Ibid*, p.1

- Seek out and consider the needs of those traditionally underserved by the existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.
- Provide an additional opportunity for public comment if the final LRTP or TIP differs significantly from the version that was made available for public comment by the MPO and raises new material issues which interested parties could not reasonably have foreseen from the public involvement efforts.
- Coordinate with the statewide transportation planning public involvement and consultation processes.
- Periodically review the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process.

Public consultation relating to air quality conformity analyses is addressed as follows[103]:

"Air Quality Conformity Analysis (Conformity)

- *Conformity means a Clean Air Act (CAA) requirement that ensures that federal funding and approval are given to transportation plans, programs and projects that are consistent with the air quality goals established by a State Implementation Plan (SIP). Air Quality Conformity, to the purpose of the SIP, means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the air quality standards.*

- *Details on the conformity analysis procedures, including the required interagency consultation, are detailed in a separate document developed and updated periodically by the Interagency Consultation Group (ICG), made up of representatives from VDOT, DRPT, HRTPO, FHWA, FTA, EPA and the Virginia Department of Environmental Quality. The current version is entitled "Consultation Procedures for the Hampton Roads Ozone Nonattainment Area In Support of the Transportation Conformity Regulations, Revised July 18, 2005." This document is made available on the HRTPO website.*

  Generally, before the regional conformity analysis process as defined in the ICG Consultation Procedures document begins, the list of applicable projects from the LRTP and TIP are posted on the website to allow for public access and review. A public notice is published on the HRTPO website and distributed to HRTPO committees and interested parties through electronic mailing list to solicit comments from all interested parties on the project lists to be used in the conformity analysis. The project list comment period is typically 14 days and may overlap with the initiation of the conformity analysis process.

  Once the draft regional conformity analysis has been completed, then following the process defined in the ICG Consultation Procedures, the draft report is posted on the HRTPO website to facilitate public access and review. A press release is sent to regional news providers and distributed to HRTPO committees and interested parties to solicit comments. The public review and comment period is typically not less than 14 days or as otherwise defined in the ICG Consultation Procedures document. Comments received are

[103] *Ibid*, p.11

> *summarized and considered as the final RCA [regional conformity analysis] is developed, with responses as appropriate included with the LRTP, TIP, and/or RCA."*

3.2 Consultation Record

This section documents the specific consultation activities conducted in support of the development of this conformity analysis. Included in this summary are both inter-agency and public consultation activities.

All consultation was conducted to satisfy the applicable requirements of both the federal regulation and the new Virginia *Regulation for Transportation Conformity.* For example, requirements specified in the new Virginia regulation regarding parties to be consulted (to specifically include the LPO) and matters for consultation (to specifically include VMT forecasts), neither of which were listed requirements of the federal regulation at 40 CFR 93.105, were both satisfied for this analysis. Additional specifics on the consultation conducted for this analysis are provided with the consultation record presented below and in Appendix E.

Interagency and public consultation opportunities relating to this conformity analysis, including the prior development of project lists, were (*or will be*) provided at the following meetings and events:

- December 16, 2009: HRTPO approval of amendments to the 2030 LRTP (to be subject to a conformity analysis). HRTPO meetings are open to the public, with email announcements (including public notices) and agendas generally posted the week before the meeting.

- March 3, 2010: TTAC approval of list of projects for amendment to the 2030 LRTP, accounting for a February 2010 federal update to stimulus funding. TTAC meetings are open to the public, with email announcements (including public notices) and agendas generally posted the week before the meeting.

- April 7, 2010: ICG meeting, marking the beginning of the conformity analysis process. This meeting provided an opportunity for detailed review and comment on all aspects of the proposed analysis, including models, associated methods and assumptions, project lists for the Plan and TIP (including changes), and overall schedule.

  Exhibit 3-2 lists current members of the Hampton Roads ICG. Updates to the member list incorporated subsequent to the ICG meeting are italicized. All parties identified in federal and state regulation as well as the Hampton Roads procedures were involved in the consultation. Meeting notices were distributed by email and also posted on the HRTPO web site. The email distribution list included the members of the Hampton Roads TTAC in addition to the agencies listed in Exhibit 3-2 for the ICG as well as the staff representative for the HRAQC (LPO).

  A public announcement for the meeting was posted on March 31, 2010 on the HRTPO website on the same page as the affiliated TTAC meeting scheduled to immediately follow the ICG meeting at the same location. Public involvement was at the same time also solicited via an announcement posted in the *Public Notices* section on the HRTPO website as well as a regularly-scheduled HRTPO *Public Notice* email distributed the same day in which the upcoming ICG meeting was listed along with other public meetings. An opportunity was provided for public input at the

meeting. No comments from the public were received at the meeting.

Exhibit 3-2: Hampton Roads Interagency Consultation Group (ICG)

Agency	*Staff*	
City/County		
City of Chesapeake	Earl	Sorey
City of Hampton	Lynn	Allsbrook
City of Newport News	Michael	King
City of Norfolk	Jeffrey	Raliski
City of Poquoson	Jeff	Bliemel
City of Portsmouth	Richard	Hartman
City of Suffolk	*Robert*	*Lewis*
City of Virginia Beach	Travis	Campbell
City of Williamsburg	Reed	Nester
Gloucester County	Anne	Ducey-Ortiz
Isle of Wight County	Jane	Hill
James City County	Steven	Hicks
York County	Timothy	Cross
Regional		
Hampton Roads Transportation Planning Organization	Andy	Pickard
Hampton Roads Transit	Jayne	Whitney
Williamsburg Area Transit Authority	Richard	Drumwright
State		
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham
Virginia Dept. of Rail & Public Transportation	Joseph	Swartz
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw
Federal		
Environmental Protection Agency	Martin	Kotsch
Federal Highway Administration	Marisel	Lopez-Cruz
Federal Transit Administration	Tony	Cho
Alternates / Other (non-voting)		
City of Suffolk	*Sherry*	*Earley*
James City County	Allen	Murphy
US Navy	*Jennifer*	*Tabor*

* *Listing as of April 21, 2010. Changes made since the April 7, 2010 ICG meeting are italicized.*

Copies of materials distributed for the ICG Meeting are provided in Appendix E, with the exception of the project lists for the Plan and TIP which are presented separately (given their length) in Appendix F. Consultation materials presented in the Appendix E include email notice, website notices, ICG meeting agenda, ICG membership list, draft modeling methodology and assumptions (draft chapter of conformity analysis report), draft conformity analysis schedule, and the ICG meeting presentation (PowerPoint slides).

The presentation given at the ICG meeting addressed the membership list (and the inclusion of the LPO in the consultation process), selection of the latest emission model for the analysis, modeling methodology and assumptions for the conformity

analysis (including the selection of socioeconomic forecasts to meet latest planning assumption requirements), the project lists to be applied in the conformity analysis for the Plan and TIP, and the conformity analysis schedule. The presentation also addressed a planned future update to the ICG Consultation Procedures pursuant to the approval of the Virginia *Regulation for Transportation Conformity*.

Draft meeting minutes (including attachments and an updated ICG Membership list) were distributed for comment. Other than updates to the membership list, no comments on the draft minutes were received. Email for both draft and final minutes are included in the Appendix E, with the final minutes included in full.

- April 7-21, 2010: Fourteen-day public comment period for the Amended 2030 LRTP and FY 2009-2012 TIP project lists, conducted immediately following the ICG meeting. An announcement was provided to more than 4,000 email addresses, among them local and regional media and public information officers. Two comments from the public were received. Copies of the comments received and responses provided are included in Appendix E.

- *May 26–June 9, 2010: Fourteen-day public review period on the draft Regional Conformity Analysis and proposed finding of conformity. HRTPO staff published a public notice in local newspapers and on the web site seeking comments, and published the draft Conformity Analysis on the HRTPO website.*

- *June 2, 2010: TTAC recommendation for approval of the draft Conformity Analysis and proposed finding of conformity, subject to no adverse comments received during the associated public review period.*

- *June 16, 2010: HRTPO approval of the Conformity Analysis and finding of conformity.*

4. Conformity Demonstration & Conclusion

This report presents the regional conformity analysis and recommendation for a finding of conformity for the Hampton Roads 2030 Long Range Transportation Plan (LRTP, or "Plan") and associated Fiscal Year (FY) 2009-2012 Transportation Improvement Program (TIP, or "Program"), both as amended by the Hampton Roads Transportation Planning Organization (HRTPO). The HRTPO serves as the designated Metropolitan Planning Organization or MPO for the Hampton Roads region[104]. This analysis was conducted in compliance with the federal transportation conformity rule *(*40 CFR Parts 51 and 93*)*[105] and the corresponding state conformity regulation *(*9 VAC 5-151*)*[106].

4.1 Conformity Demonstration

As summarized in Exhibit 4-1, the Plan and Program meet all applicable federal and state conformity requirements and criteria[107].

Exhibit 4-1: Conformity Analysis Summary*

Section	Criteria	Demonstrated:
93.108	Fiscal constraint	Yes**
93.110	Latest planning assumptions	Yes
93.111	Latest emissions model	Yes
93.112	Consultation	Yes***
93.113(b) & (c)	TCMs	na****
93.118	Emissions Budget	Yes

* *As specified in 40 CFR 93.109, "Table 1 – Conformity Criteria", with the addition of fiscal constraint as required in Section 93.108. Additional requirements apply, e.g. as specified in 93.122, although not specifically listed above.*

** *As indicated by MPO (HRTPO) approval and/or provision of the project lists for the Plan and Program and the supporting information provided with those documents, and subject to federal review consistent with 23 CFR Part 450 as referenced in the conformity rule in Section 93.108.*

*** *Conducted to meet both state and federal requirements.*

**** *The applicable implementation (maintenance) plan (72 FR 30490, effective June 1, 2007) for Hampton Roads does not include transportation control measures (TCMs), which therefore are not required for the conformity analysis or determination.*

A recommendation for a finding of conformity is therefore made, conditional upon any

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104 The Hampton Roads Metropolitan Planning Organization (HRMPO) was renamed the Hampton Roads Transportation Planning Organization (HRTPO) in 2009. New Website: http://www.hrtpo.org.

105 Federal Transportation Conformity Regulations (EPA Website): http://www.epa.gov/otaq/stateresources/transconf/conf-regs.htm.

106 Virginia *Regulation for Transportation Conformity* (9 VAC5-151), effective January 19, 2010: http://leg1.state.va.us/000/reg/TOC09005.HTM#C0151

107 Federal Conformity Rule, 40 CFR 93.109 (*Criteria*…). See "*Table 1 - Conformity Criteria*": http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.109.htm

further and separate review as may be required by the US Department of Transportation (US DOT) for the fiscal constraint criterion consistent with Section 93.108[108] of the federal conformity rule and the requirements of the federal planning rule specified at 23 CFR Part 450[109].

4.2 Conformity Criteria and Assessments

Summary assessments are presented below for each of the key conformity criteria listed in Exhibit 4-1, which includes not only the specific criteria identified for regional conformity analyses in Section 93.109[110] of the federal rule (namely, those specified in sections 93.110 through 93.113, and 93.118) but also fiscal constraint from Section 93.108 of that rule. However, as revenues and project costs are not generally assessed in air quality conformity analyses, but are instead assessed as required with the associated Plan and TIP, the fiscal constraint criterion effectively serves as a pre-requisite for the conformity analysis and determination. More detail and supporting information on the technical criteria and assessments are provided in the main report.

- *Section 93.108 (Fiscal Constraints for Transportation Plans and TIPs)*[111]: The federal conformity rule states: "*Transportation plans and TIPs must be fiscally constrained consistent with [US] DOT's planning regulations at 23 CFR part 450 in order to be found in conformity*."

  For Hampton Roads, the MPO (HRTPO) addresses fiscal constraint in the development of the Plan and Program as appropriate and typically includes specific sections or chapters addressing revenues, cost estimates, and financial constraint with those documents. For the purposes of this conformity demonstration, therefore, fiscal constraint is indicated by HRTPO provision and/or approval of the project lists for the Plan and Program and the supporting information referenced by those documents.

  A recommendation for a finding of conformity is therefore conditional upon any further and separate review as may be required by the US DOT for the fiscal constraint criterion consistent with Section 93.108 of the federal conformity rule as well as requirements of federal planning regulations specified at 23 CFR Part 450.

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108 Federal Conformity Rule, 40 CFR 93.108 Fiscal Constraints for Transportation Plans and TIPs: http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.108.htm

109 US DOT - Federal Highway Administration (FHWA), 23 CFR Parts 450 and 500 and Federal Transit Administration (FTA), 49 CFR Part 613, *Statewide Transportation Planning; Metropolitan Transportation Planning,* Final Rule effective March 16, 2007. See: http://edocket.access.gpo.gov/2007/07-493.htm.

For reference, the FHWA also provides a compilation of transportation-related legislation, regulations and guidance on their website: http://www.fhwa.dot.gov/hep/legreg.htm.

110 Federal Conformity Rule, 40 CFR 93.109 ("Criteria…"). See "*Table 1 - Conformity Criteria*": http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.109.htm

111 Federal Conformity Rule, 40 CFR 93.108 *Fiscal Constraints for Transportation Plans and TIPs*: http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.108.htm

- *Section 93.110 (Latest Planning Assumptions)*[112]: All requirements for the application of latest planning assumptions were met as follows:

  - 93.110(a) Latest Planning Assumptions: This section requires that: "*the conformity determination … must be based upon the most recent planning assumptions in force at the time the conformity analysis begins...*"

    In general, the latest available and approved population and employment forecasts for 2030 by Traffic Analysis Zone (TAZ) were employed with the regional travel demand network model (TP+) to generate the traffic volume and vehicle-miles-traveled (VMT) forecasts applied in this conformity analysis. Regional roadway and transit networks were updated as appropriate using the Plan and Program project lists, which were subjected to interagency consultation as described below. Emission controls assumed for the analysis were consistent with those specified in the applicable implementation (maintenance) plan revision.

    All of the latest planning assumptions and other aspects of the conformity analysis were reviewed by the Hampton Roads Interagency Consultation Group (ICG) at the beginning of the conformity analysis process, as documented in the chapter on consultation and in Appendix E. Additional details are provided below.

  - 93.110 (b) Socioeconomic Forecasts: This section requires that "*Assumptions must be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates and approved by the MPO*". Further, Section 93.122(b)(1)(ii) requires that "*Land use, population, employment, and other network-based travel model assumptions must be documented and based on the best available information*". Section 93.122(b)(1)(iii) adds that "*Scenarios of land development and use must be consistent with the future transportation system alternatives for which emissions are being estimated*."

    As documented in the main report, the socioeconomic forecasts for 2030 (including interim years and sub-allocations as appropriate) represent the latest projections available and approved for use with the 2030 LRTP[113]. The Regional Economic Models, Inc. (REMI) econometric model was applied to develop control totals for key parameters such as population and employment for the Hampton Roads area. The HRTPO then sub-allocated the regional

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[112] Federal Conformity Rule, 40 CFR 93.110 *Criteria and Procedures: Latest Planning Assumptions* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.110.htm

[113] While socioeconomic forecasts for 2034 have more recently been adopted for use in the pending development of the 2034 LRTP, they were not intended nor approved by the TPO for use with the existing and approved 2030 LRTP. Consistent with the consultation requirements of the federal conformity rule at 93.105 and the corresponding state regulation at 9 VAC 5-151-70 that is now in effect, the use of the 2030 versus the 2034 socioeconomic forecasts for this analysis was reviewed by the ICG at the beginning of the conformity analysis process. Minutes for that meeting are provided in Appendix E. The consensus of the ICG was to apply the approved 2030 socioeconomic forecasts for this analysis.

control totals to the local or jurisdiction level. The sub-allocations were reviewed by each locality and adjustments made where appropriate.

- 93.110(c) and (d) Transit: These sections respectively require that "*The conformity determination for each transportation plan and TIP must discuss how transit operating policies (including fares and service levels) and assumed transit ridership have changed since the previous conformity determination*" and "*The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time*".

  Transit operating policies (including fares and service levels) and modeling for transit (ridership) have not changed significantly since the previous conformity determination. Transit service including proposed light rail is included in future networks for the region. While future transit ridership is effectively determined in the course of modeling for the conformity analysis, details on current transit operating policies including fares and service levels may be found on the Hampton Roads Transit (HRT) and Williamsburg Area Transportation Authority (WATA) websites[114]. Transit service and fares as well as road and bridge tolls are also addressed in supporting documentation for the Plan and associated modeling.

  In brief, while local transit fares have not changed (or not changed significantly) since the last conformity analysis for either HRT or the WATA, express bus service has been augmented. For Hampton Roads Transit, the current single ticket fare for local bus service is $1.50. A day pass (the Go Pass) was introduced in 2008 with a fare of $3.50 for a one-day pass. For Williamsburg Area Transit, the fare for a one-way trip is $1.25; for seniors (60 and over) and disabled, a reduced fare of $0.50 applies. An all-day pass (for unlimited trips) is also available for a fare of $1.50. In keeping with the Americans with Disabilities Act (ADA), door-to-door service is also available for those unable to use bus at a fare of $2.00 per one-way trip. Finally, express bus service has been augmented in the model with the addition of new ("Max") express bus service (with fares converted to constant 2000 dollars.

- 93.110(e) Transportation Control Measures (TCMs) and Other Measures: This section requires that "*The conformity determination must use the latest existing information regarding the effectiveness of the TCMs [transportation control measures] and other implementation plan measures which have already been implemented*."

  The applicable SIP revision (maintenance plan) for Hampton Roads does not include transportation control measures (TCMs). TCMs are therefore not required for the conformity analysis or determination. Accordingly, credit for TCMs was not taken in this analysis. See 72 FR 30490, effective June 1, 2007.

[114] See www.hrtransit.org and www.williamsburgtransport.com, respectively.

Other measures applicable for on-road motor vehicles as listed in the applicable implementation (maintenance) plan include *Tier 2/Low Sulfur Gasoline Rule*, *2007 On Road Diesel Engine Rule*, and *Reformulated gasoline (on-road)*[115]*.* Other or associated measures implemented in the region and documented in this report include gasoline Reid Vapor Pressure (RVP) limits and early implementation of the National Low Emission Vehicle (NLEV) Program. All of these measures have been implemented and were therefore credited in this analysis as appropriate.

Further, and though not specified in the implementation plan, other measures have been implemented that have or may have the effect of reducing emissions. Credit for these measures was not needed to demonstrate conformity and was therefore not taken for this analysis. These measures include transit bus replacements, Congestion Mitigation and Air Quality (CMAQ) funded projects, van pools, and park-and-ride lots.

- o 93.110(f) Consultation on Key Assumptions: This section requires that "*Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by Sec. 93.105*".

  Consultation was conducted on all key assumptions in accord with both federal and the corresponding (and newly applicable) state regulation, as documented below in the summary on consultation.

- *Section 93.111 (Latest Emissions Model)*[116]. Requirements to apply the latest emission model were satisfied using MOBILE6.2 for this conformity analysis. The use of the latest emission model is specified in the federal conformity rule at 93.111(a) as follows: "*The conformity determination must be based on the latest emission estimation model available.*" However, when EPA issues a new model, a grace or transition period applies in which the previous model or version of the model may still be applied, per the federal conformity rule at 93.111(c) which states: "*Transportation plan and TIP conformity analyses for which the emissions analysis was begun during the grace period or before the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model.*"

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[115] VDEQ, *Maintenance Plan for the Hampton Roads Nonattainment Area Consisting of the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Suffolk, Virginia Beach, and Williamsburg and the Counties of James City, York, Gloucester, and Isle of Wight - Final*, ca October 2006. See Table 5.2.2-1 (*Maintenance Plan Control Measures and Emission Reductions*) on page 8.

The Technical Support Document (TSD) for the maintenance plan lists the same measures under slightly different headings, namely the *Federal Tier 2/Low Sulfur Gasoline Rule*, *Federal Heavy Duty Diesel Engine Rule*, and *Reformulated Gasoline (On-Road)*. See: VDEQ, *Technical Support Document for the Redesignation Request and Maintenance Plan for Hampton Roads 8-hour Ozone Nonattainment Area - Final*, ca October 2006, Table 8-1 (*Maintenance Plan Control Measures and Emission Reductions*), p.282.

[116] Federal Conformity Rule, 40 CFR 93.111 *Criteria and Procedures: Latest Emissions Model* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.111.htm

On March 2, 2010, EPA officially released the next generation Motor Vehicle Emission Simulator (MOVES2010) model for use in SIP development and regional conformity applications[117]. The EPA notice indicated that a two-year grace period (ending March 2, 2012) will apply for use of the new model in regional emissions analyses for transportation conformity determinations. Therefore, for regional conformity analyses initiated before or within the two-year grace period, the MOBILE6.2 model (the model previously designated as the official model by EPA) may continue to be applied.

The selection of latest emission model for the conformity analysis was considered by the ICG at the beginning of the conformity analysis process, as documented in the chapter on consultation and in Appendix E. The consensus of the ICG was to apply the MOBILE6.2 model for this analysis, within the grace period. The MOVES model may be applied in future analyses once appropriate steps have been taken, within the grace period, to review and update as needed the applicable budgets specified in the maintenance plan[118].

- *Section 93.112 (Consultation)*[119]: Regulatory requirements for consultation that were initially established at the federal level have been reflected in state regulations and requirements as well as locally developed inter-agency and public consultation procedures. Exhibit 4-2 presents an overview of applicable federal, state and local consultation requirements.

  Federal Regulation: Federal requirements for consultation as specified in the conformity rule in Section 93.105 were made subject in Section 93.112 to the establishment and approval by EPA of corresponding state requirements, as follows: "*Conformity must be determined according to the consultation procedures in this subpart and in the applicable implementation plan, and according to the public involvement procedures established in compliance with 23 CFR part 450. Until the implementation plan revision required by §51.390 of this chapter is fully approved by EPA, the conformity determination must be made according to §93.105 (a)(2) and (e) and the requirements of 23 CFR part 450.*"

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[117] US EPA, 75 FR 9411, [FRL–9121–1], *Official Release of the MOVES2010 Motor Vehicle Emissions Model for Emissions Inventories in SIPs and Transportation Conformity*, Notice of Availability, March 2, 2010. Available at: http://edocket.access.gpo.gov/2010/2010-4312.htm. While the official name of the current model is "MOVES2010", it is abbreviated here as "MOVES" to allow for pending future revisions to the model and any associated revisions to the model name. For additional information, see:
- EPA website for MOVES: http://www.epa.gov/otaq/models/moves/index.htm.
- US EPA, *Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes*, EPA-420-B-09-046, December 2009. Direct link: http://www.epa.gov/otaq/models/moves/420b09046.pdf.

[118] A separate process to review and update as appropriate (using MOVES) the motor vehicle emission budgets specified in the currently applicable SIP revision (maintenance plan) is planned. This review and update process would need to be completed before the new or revised budgets could be applied in future conformity analyses using MOVES for the region.

[119] Federal Conformity Rule, 40 CFR 93.112 *Criteria and Procedures: Consultation* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.112.htm

Exhibit 4-2: Federal, State and Local Consultation Requirements Relating to Transportation Conformity

DATE	REQUIREMENT
PENDING	
Update to Inter-Agency Consultation Procedures for Transportation Conformity	
2010	Update for the existing (2005) Hampton Roads Conformity Consultation Procedures, both to reflect the new Virginia Conformity SIP *(Regulation for Transportation Conformity* , 9 VAC 5-151) and to streamline and update existing processes as appropriate.
CURRENTLY APPLICABLE OR APPROVED	
Federal	***Legislation & Regulations***
US EPA Regulation for Transportation Conformity (40 CFR Parts 51 and 93). *Key requirements for consultation are addressed in Sections 51.390, 93.105, and 93.112.*	
March 24, 2010	*Transportation Conformity Regulations Updated March 2010* issued by EPA. This is the most current compilation by EPA of the Federal Transportation Conformity Rule (40 CFR Parts 51 and 93). It reflects all amendments made since the initial issuance by EPA of the rule in 1993 through March 24, 2010, including revisions promulgated pursuant to SAFETEA-LU in 2005.
US DOT Planning Assistance and Standards (23 CFR Part 450)(Transportation Planning & Programming Requirements). *Key requirements for consultation are addressed in Section 450.316 Interested parties, participation, and consultation.*	
February 14, 2007	US DOT, Federal Highway Administration, 23 CFR Parts 450 and 500, Federal Transit Administration, 49 CFR Part 613 [Docket No. FHWA–2005–22986] RIN 2125–AF09; FTA RIN 2132–AA82, *Statewide Transportation Planning; Metropolitan Transportation Planning* , Final Rule. Most recent major update to the federal planning regulations.
Legislation - Clean Air Act as amended, and subsequent SAFETEA-LU amendments.	
August 10, 2005	Federal Reauthorization (*Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users,* or *SAFETEA-LU* , Public Law 109-59), which addressed in part conformity.
November 15, 1990	Last set of major amendments to the *Clean Air Act* , although there have been minor amendments since. Conformity is addressed in Section 176(c).
State	***Federally-Required State Regulation for Transportation Conformity (9 VAC 5-151)***
January 19, 2010	Effective date for the new Virginia *Regulation for Transportation Conformity* (9 VAC 5-151) approved 11/20/09 by EPA via Federal Register notice. See US EPA, 74 FR 60194, 40 CFR Part 52, [EPA-R03-OAR-2009-0674; FRL-8983-1], "*Approval and Promulgation of Air Quality Implementation Plans; Virginia; Transportation Conformity Regulations* ", Direct Final Rule, November 20, 2009. The regulation was approved as submitted on March 23, 2009.
March 23, 2009	Submittal the Virginia *Regulation for Transportation Conformity* (9 VAC 5-151) by the VDEQ to the US EPA for approval in response to federal conformity rule requirements at 40 CFR Part 51. By the federal rule, the requirements of the new state regulation generally govern over the pre-existing federal requirements for consultation for conformity purposes (where they overlap, and as long as they are no less stringent).
Local	***Consultation Procedures***
Public Participation Plan	
December 16, 2009	MPO (HRTPO) approval of the *Hampton Roads Transportation Planning Organization Public Participation Plan* dated December 2009. This document responds to public and consultation stakeholder requirements specified in 23 CFR Part 450.
Inter-Agency Consultation Procedures for Transportation Conformity	
September 21, 2005	MPO (HRTPO) approval of (Inter-Agency) *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations (Revised July 18, 2005).* This revision updated the initial version approved in July 2001. These procedures were developed in response to requirements of the federal conformity rule at 40 CFR 93.105.

The referenced section, 51.390, of the federal transportation conformity rule effectively requires the development of a state regulation to govern conformity consultation processes and further provides that the state regulation once approved by EPA effectively governs (over the federal) where they overlap. Section 51.390c provides that: *"Timing and approval... Following EPA approval of the state conformity provisions (or a portion thereof) in a revision to the state's conformity implementation plan, conformity determinations will be governed by the approved (or approved portion of the) state criteria and procedures as well as any applicable portions of the federal conformity rules that are not addressed by the approved conformity SIP."*

Commonwealth of Virginia Regulation: The recently approved Virginia "*Regulation for Transportation Conformity*" (9 VAC 5-151) as previously referenced satisfies these requirements and is now therefore the governing regulation for consultation for conformity purposes for the Commonwealth.

Although the Virginia regulation generally mirrors the federal with regard to specific consultation requirements, one difference is that the Virginia regulation requires that the Lead (or Local) Planning Organization (LPO) for air quality planning that has been established for the region pursuant to Section 174 of the federal Clean Air Act as amended specifically be included in consultation for conformity purposes. As the Hampton Roads Air Quality Committee (HRAQC) is the designated LPO for the region, involvement of the VDEQ staff representative for that Committee in the local inter-agency consultation process for conformity is considered to fulfill that requirement.

Hampton Roads Procedures: Both inter-agency and public consultation procedures have been established for Hampton Roads. Inter-agency consultation procedures for conformity were approved by the Hampton Roads MPO in 2005[120,121]. As required by these procedures, an Interagency Consultation Group (ICG) for Hampton Roads has been formed. Members of the ICG include representatives of federal, state and local air and transportation agencies, including the member agencies of the HRTPO, Virginia Department of Rail and Public Transportation (VDRPT), VDOT, FHWA, FTA, VDEQ and the US EPA. As noted above, the LPO is also involved in consultation with the ICG. All meetings are open to the public.

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[120] VDOT, *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations*, Revised July 18, 2005. See: http://www.hrtpo.org/Documents/Reports/Rev_HR_ICP2005.pdf

[121] The recent approval by EPA of the Virginia *Regulation for Transportation Conformity* will require updates to currently established consultation procedures for MPOs across the Commonwealth, including the HRTPO. However, since the consultation requirements specified in the new Virginia regulation generally mirror those in the existing federal regulation, the updates are expected to be largely editorial in nature and not involve significant changes to established consultation processes.

For Hampton Roads, an update to existing consultation procedures is in the planning stages. The update is planned to not only reflect changes as appropriate to the applicable regulations for the new Virginia regulation but also to provide the ICG an opportunity to update and streamline existing consultation processes.

Public consultation on the LRTP and TIP (versus the conformity analysis specifically) is conducted following the extensive procedures presented in the Hampton Roads "*Public Participation Plan*" (PPP)[122] that was approved by the HRTPO in December 2009. The PPP responds to SAFETEA-LU requirements as implemented with the revised planning regulations (23 CFR Part 450). Conformity consultation requirements including the existing ICG procedures are referenced in the PPP, and the two processes are coordinated.

The main report includes a summary of all applicable federal, state and local consultation requirements as well as a record of inter-agency and public consultation activities conducted in support of this analysis. The consultation record is also reviewed below.

Consultation Record

Interagency and public consultation opportunities relating to this conformity analysis, including the prior development of project lists, were (*or will be*) provided at the following meetings and events:

- December 16, 2009: HRTPO approval of amendments to the 2030 LRTP (to be subject to a conformity analysis). HRTPO meetings are open to the public, with email announcements (including public notices) and agendas generally posted the week before the meeting.

- March 3, 2010: TTAC approval of list of projects for amendment to the 2030 LRTP, accounting for a February 2010 federal update to stimulus funding. TTAC meetings are open to the public, with email announcements (including public notices) and agendas generally posted the week before the meeting.

- April 7, 2010: ICG meeting, marking the beginning of the conformity analysis process. This meeting provided an opportunity for detailed review and comment on all aspects of the proposed analysis, including models, associated methods and assumptions, project lists for the Plan and TIP (including changes), and overall schedule.

  Exhibit 4-3 lists current members of the Hampton Roads ICG. Updates to the member list incorporated subsequent to the ICG meeting are italicized. The new Virginia *Regulation for Transportation Conformity* does not specifically require changes to the ICG membership and the agencies and other parties that it does specify to be consulted (as noted in the section above) were all included in the consultation for this analysis.

  Meeting notices were distributed by email and also posted on the HRTPO web site. The email distribution list included the members of the Hampton Roads TTAC in addition to the agencies listed in the Exhibit for the ICG as well as the staff representative for the HRAQC (LPO).

[122] Hampton Roads TPO, *Public Participation Plan*, December 2009: http://www.hrtpo.org/Documents/Reports/HRTPO%20PPP%20-%20December%202009%20(Final).pdf

A public announcement for the meeting was posted on March 31, 2010 on the HRTPO website on the same page as the affiliated TTAC meeting scheduled to immediately follow the ICG meeting at the same location. Public involvement was at the same time also solicited via an announcement posted in the *Public Notices* section on the HRTPO website as well as a regularly-scheduled HRTPO *Public Notice* email distributed the same day in which the upcoming ICG meeting was listed along with other public meetings. An opportunity was provided for public input at the meeting. No comments from the public were received at the meeting.

Copies of materials distributed for the ICG Meeting are provided in Appendix E, with the exception of the project lists for the Plan and TIP which are presented separately (given their length) in Appendix F. Consultation materials presented in the Appendix E include email notice, website notices, ICG meeting agenda, ICG membership list, draft modeling methodology and assumptions (draft chapter of conformity analysis report), draft conformity analysis schedule, and the ICG meeting presentation (PowerPoint slides).

The presentation given at the ICG meeting addressed the membership list (and the inclusion of the LPO in the consultation process), selection of the latest emission model for the analysis, modeling methodology and assumptions for the conformity analysis (including the selection of socioeconomic forecasts to meet latest planning assumption requirements), the project lists to be applied in the conformity analysis for the Plan and TIP, and the conformity analysis schedule. The presentation also addressed a planned future update to the ICG Consultation Procedures pursuant to the approval of the Virginia *Regulation for Transportation Conformity*.

Draft meeting minutes (including attachments and an updated ICG Membership list) were distributed for comment. Other than updates to the membership list, no comments on the draft minutes were received. Email for both draft and final minutes are included in the Appendix E, with the final minutes included in full.

- April 7-21, 2010: Fourteen-day public comment period for the Amended 2030 LRTP and FY 2009-2012 TIP project lists, conducted immediately following the ICG meeting. An announcement was provided to more than 4,000 email addresses, among them local and regional media and public information officers. Two comments from the public were received. Copies of the comments received and responses provided are included in Appendix E.

- *May 26-June 9, 2010: Fourteen-day public review period on the draft Regional Conformity Analysis and proposed finding of conformity. HRTPO staff published a public notice in local newspapers and on the web site seeking comments, and published the draft Conformity Analysis on the HRTPO website.*

- *June 2, 2010: TTAC recommendation for approval of the draft Conformity Analysis and proposed finding of conformity, subject to no adverse comments received during the associated public review period.*

Exhibit 4-3: Hampton Roads Interagency Consultation Group (ICG)

Agency	*Staff*	
City/County		
City of Chesapeake	Earl	Sorey
City of Hampton	Lynn	Allsbrook
City of Newport News	Michael	King
City of Norfolk	Jeffrey	Raliski
City of Poquoson	Jeff	Bliemel
City of Portsmouth	Richard	Hartman
City of Suffolk	*Robert*	*Lewis*
City of Virginia Beach	Travis	Campbell
City of Williamsburg	Reed	Nester
Gloucester County	Anne	Ducey-Ortiz
Isle of Wight County	Jane	Hill
James City County	Steven	Hicks
York County	Timothy	Cross
Regional		
Hampton Roads Transportation Planning Organization	Andy	Pickard
Hampton Roads Transit	Jayne	Whitney
Williamsburg Area Transit Authority	Richard	Drumwright
State		
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham
Virginia Dept. of Rail & Public Transportation	Joseph	Swartz
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw
Federal		
Environmental Protection Agency	Martin	Kotsch
Federal Highway Administration	Marisel	Lopez-Cruz
Federal Transit Administration	Tony	Cho
Alternates / Other (non-voting)		
City of Suffolk	*Sherry*	*Earley*
James City County	Allen	Murphy
US Navy	*Jennifer*	*Tabor*

* *Listing as of April 21, 2010. Changes made since the April 7, 2010 ICG meeting are italicized.*

- *June 16, 2010: HRTPO approval of the Conformity Analysis and finding of conformity.*

- Section 93.113 (Timely Implementation of TCMs)[123]: As indicated previously under "Latest Planning Assumptions", the applicable SIP revision (maintenance plan) for Hampton Roads does not include transportation control measures (TCMs). TCMs are therefore not required for the conformity analysis or determination. See 72 FR 30490, effective June 1, 2007.

[123] Federal Conformity Rule, 40 CFR 93.113 *Criteria and Procedures: Timely Implementation of TCMs* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.113.htm

- *Section 93.118 (Motor Vehicle Emissions Budget)*[124]: Requirements of the federal conformity rule with regard to the applicable motor vehicle emission budgets were met as follows:

  (a) The transportation plan, TIP… must be consistent with the motor vehicle emissions budget(s) in the applicable implementation plan... This criterion is satisfied if it is demonstrated that emissions of the pollutants …are less than or equal to the motor vehicle emissions budget(s)….",

  Exhibit 4-4 lists the motor vehicle emission budgets as specified in the applicable implementation plan revision, namely the 2007 maintenance plan for the eight-hour ozone standard as previously referenced. Budgets are specified for nitrogen oxides (NO_x) and for volatile organic compounds (VOC), both of which are precursors to ozone formation.

Exhibit 4-4: Motor Vehicle Emission Budgets for Hampton Roads

ADEQUATE AND APPROVED MOTOR VEHICLE EMISSIONS BUDGETS (MVEBS) IN TONS PER DAY (TPD)		
Budget year	NO_x	VOC
2011	50.387	37.846
2018	31.890	27.574

Source: Excerpted from 72 FR 30490, effective June 1, 2007.

Exhibit 4-5 presents the emission forecasts for the LRTP and TIP in comparison to the specified motor vehicle emission budgets. The forecast emissions are less than the corresponding budgets established in the applicable SIP revision (maintenance plan) for each pollutant and year tested. The emission tests required by the federal conformity rule are therefore passed.

For transparency and to demonstrate consistency with the methodology applied in the maintenance plan, the Exhibit presents separate emission totals for network emissions, off-network emissions, and contributions from mobile sources operating on military bases within the Hampton Roads maintenance area.

(b) "Consistency with the motor vehicle emissions budget(s) must be demonstrated for each year for which the applicable (and/or submitted) implementation plan specifically establishes motor vehicle emissions budget(s), for the attainment year (if it is within the timeframe of the

[124] Federal Conformity Rule, 40 CFR 93.118 *Criteria and Procedures: Motor Vehicle Emissions Budget* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.118.htm

transportation plan and conformity determination), for the last year of the timeframe of the conformity determination …, and for any intermediate years within the timeframe of the conformity determination as necessary so that the years for which consistency is demonstrated are no more than ten years apart … "

Exhibit 4-5: Conformity (Emission Budget) Tests

Year		Regional Emissions *(tons per average ozone season weekday)*	
		NO_x	**VOC**
2011	**Budget Year**		
	Network	*36.83*	*27.95*
	Off-Network	*8.50*	*8.78*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	45.85	36.99
	Budget:	50.387	37.846
	Conformity Test:	PASSED	PASSED
2018	**Budget Year**		
	Network	*21.08*	*18.59*
	Off-Network	*5.03*	*6.09*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	26.64	24.94
	Budget:	31.890	27.574
	Conformity Test:	PASSED	PASSED
2020	**Interim Year** (within ten years of other years modeled)		
	Network	*19.10*	*16.58*
	Off-Network	*4.59*	*5.58*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	24.21	22.41
	2018 Budget:	31.890	27.574
	Conformity Test:	PASSED	PASSED
2030	**LRTP Horizon Year**		
	Network	*16.37*	*15.97*
	Off-Network	*4.14*	*5.77*
	Miltary Base	*0.52*	*0.26*
	TOTAL FORECAST:	21.02	22.00
	2018 Budget:	31.890	27.574
	Conformity Test:	PASSED	PASSED

** Budgets specified in 72 FR 30490, effective June 1, 2007, with military base contributions from Table 4-7, p. 62, in the TSD for the referenced Maintenance Plan.*

The motor vehicle emission budget tests were satisfied for each pollutant and year modeled, as noted above. Years selected for the analysis were as follows:

- The years 2011 and 2018 are ones for which the applicable implementation plan revision (maintenance plan) as noted above specifies motor vehicle emission budgets.
- The year 2030 was selected as the horizon year for the LRTP.
- To meet the interim year requirement (ten-year limit), the year 2020 was selected.

Since the conformity rule requires that motor vehicle budgets established "for the most recent prior year" apply for years for which budgets have not been "specifically established", the 2018 budgets as listed are also applicable for the subsequent test years (2020 and 2030).

(c) "Consistency with the motor vehicle emissions budget(s) must be demonstrated for each pollutant or pollutant precursor …for which the area is in nonattainment or maintenance and for which the applicable implementation plan (or implementation plan submission) establishes a motor vehicle emissions budget",

The motor vehicle emission budget tests were satisfied for each pollutant and year modeled, as noted above. The pollutants modeled (NO_x and VOC precursors to ozone) were ones for which motor vehicle emission budgets were specified in the applicable implementation plan revision, namely the 2007 maintenance plan for the eight-hour ozone standard) as noted above.

(d) "Consistency with the motor vehicle emissions budget(s) must be demonstrated by including emissions from the entire transportation system, including all regionally significant projects contained in the transportation plan and all other regionally significant highway and transit projects expected in the nonattainment or maintenance area in the timeframe of the transportation plan… "

The motor vehicle emission budget tests were satisfied for each pollutant and year modeled, as noted above. Emissions from the entire transportation system, including "all regionally significant projects contained in the transportation plan and all other regionally significant highway and transit projects expected in the maintenance area in the timeframe of the transportation plan", were included in the analysis. For this purpose, separate emission forecasts were generated for motor vehicle traffic on network and off-network facilities and military bases.

Network emissions are those attributable to travel on roadways included in the regional travel demand (network) model. This includes all existing roadway facilities and transit service as well as all regionally significant roadway projects and transit services planned to be open or operational by each year modeled. Estimates for emissions attributable to travel on network facilities were estimated for each year modeled for the conformity analysis.

Off-network emissions are for travel on local and collector streets not

included in the regional travel demand network model. Estimates for emissions attributable to travel on off-network facilities were also estimated for each year modeled for the conformity analysis.

Contributions from military bases were taken as specified in the maintenance plan for the region. Exhibit 4-6 presents the estimated emissions for on-road motor vehicles operating on military bases in the Hampton Roads area as reported in the technical support document for the maintenance plan. The estimates do not vary by year.

Exhibit 4-6: Hampton Roads Military Base Emissions

Year	Regional Emissions *(tons per ozone season weekday)*	
	NOx	**VOC**
2011	0.52	0.26
2018	0.52	0.26

Source: Table 4-7, page 62, in the Technical Support Document for the Maintenance Plan approved effective June 1, 2007 (72 FR 30490)

APPENDICES

Appendix A: Socioeconomic Forecasts by Jurisdiction

2011	Population	Households	Autos	EMP
Chesapeake	231,462	83,061	179,899	126,046
Gloucester Co. (portion)	29,866	11,463	29,362	14,169
Hampton	153,794	57,267	116,576	84,940
Isle of Wight Co.	37,382	14,354	34,326	19,041
James City Co.	64,748	25,859	56,077	34,176
Newport News	195,861	76,145	148,575	129,158
Norfolk	236,055	86,651	154,033	231,998
Poquoson	14,035	5,095	13,357	2,561
Portsmouth	101,531	38,592	68,120	54,785
Suffolk	86,206	31,909	67,999	36,660
Virginia Beach	463,854	169,522	349,441	257,368
Williamsburg	13,134	4,088	11,584	25,658
York Co.	65,173	23,300	53,340	28,489
Total	**1,693,101**	**627,306**	**1,282,689**	**1,045,049**

2018	Population	Households	Autos	EMP
Chesapeake	251,995	91,439	200,205	140,030
Gloucester Co. (portion)	33,916	13,045	34,680	16,457
Hampton	158,474	59,414	128,412	86,211
Isle of Wight Co.	42,252	16,287	39,585	21,642
James City Co.	75,339	30,218	67,952	39,046
Newport News	205,862	80,255	161,849	136,640
Norfolk	237,093	86,921	160,382	234,393
Poquoson	15,606	5,686	15,471	2,610
Portsmouth	102,148	38,847	71,279	55,825
Suffolk	100,528	37,397	80,304	43,078
Virginia Beach	488,395	179,085	376,829	267,181
Williamsburg	13,858	4,388	12,621	26,815
York Co.	70,815	25,401	59,219	31,738
Total	**1,796,281**	**668,383**	**1,408,788**	**1,101,666**

2020	Population	Households	Autos	EMP
Chesapeake	257,856	93,836	206,001	144,015
Gloucester Co. (portion)	35,068	13,499	36,201	17,112
Hampton	159,810	60,031	131,797	86,581
Isle of Wight Co.	43,642	16,840	41,087	22,383
James City Co.	78,366	31,468	71,344	40,439
Newport News	208,714	81,426	165,642	138,795
Norfolk	237,400	86,997	162,206	235,085
Poquoson	16,056	5,856	16,077	2,625
Portsmouth	102,324	38,918	72,184	56,118
Suffolk	104,626	38,963	83,822	44,928
Virginia Beach	495,414	181,822	384,663	269,983
Williamsburg	14,067	4,474	12,920	27,142
York Co.	72,429	26,000	60,899	32,660
Total	**1,825,772**	**680,130**	**1,444,843**	**1,117,866**

2030	Population	Households	Autos	EMP
Chesapeake	287,200	105,800	235,000	164,000
Gloucester Co. (portion)	40,850	15,765	43,800	20,375
Hampton	166,500	63,100	148,700	88,400
Isle of Wight Co.	50,600	19,600	48,600	26,100
James City Co.	93,500	37,700	88,300	47,400
Newport News	223,000	87,300	184,600	149,500
Norfolk	238,900	87,400	171,300	238,500
Poquoson	18,300	6,700	19,100	2,700
Portsmouth	103,200	39,300	76,700	57,600
Suffolk	125,100	46,800	101,400	54,100
Virginia Beach	530,500	195,500	423,800	284,000
Williamsburg	15,100	4,900	14,400	28,800
York Co.	80,500	29,000	69,300	37,300
Total	**1,973,250**	**738,865**	**1,625,000**	**1,198,775**

2011 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	FC#	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed
Chesapeake											
Urban Interstate	11	309,714	56	363,930	56	652,246	56	501,440	56	1,827,327	56
Urban Freeways and	12	188,387	55	242,807	51	409,726	54	280,697	56	1,121,616	56
Urban Principal	14	163,545	46	224,385	43	400,921	44	247,953	47	1,036,801	47
Urban Minor Arterial	16	216,579	43	292,749	42	521,205	42	336,251	43	1,366,772	43
Urban Collector	17	62,842	20	87,504	20	132,096	20	86,093	20	368,531	20
Urban Local	19	180,824	13	234,351	13	338,243	13	234,162	13	987,572	13
TOTAL		1,121,890		1,445,726		2,454,438		1,686,595		6,708,619	
Gloucester											
Rural Principal Arterial	2	32,970	50	51,744	50	84,741	50	69,924	50	239,380	50
Rural Minor Arterial	6	32,591	52	42,676	52	65,635	52	46,520	52	187,421	52
Rural Major Collector	7	31,537	35	40,078	35	60,551	35	35,737	35	167,903	35
Rural Minor Collector	8	5,688	37	8,392	37	10,627	37	8,003	37	32,710	37
Rural Local	9	10,813	25	17,826	25	21,875	25	21,879	25	72,394	25
Urban Freeways and	12	23,084	55	29,752	55	50,205	55	34,395	55	137,436	55
Urban Principal	14	48,069	51	65,951	49	117,839	50	72,878	51	304,737	51
Urban Collector	17	10,828	27	15,077	27	22,761	27	14,834	27	63,500	27
Urban Local	19	4,018	13	5,207	13	7,516	13	5,203	13	21,943	13
TOTAL		199,598		276,705		441,749		309,374		1,227,424	
Hampton											
Urban Interstate	11	367,335	47	431,639	35	773,595	44	594,732	55	2,167,298	55
Urban Freeways and	12	24,839	50	32,015	50	54,024	50	37,011	51	147,889	51
Urban Principal	14	50,960	42	69,917	42	124,925	42	77,261	42	323,063	42
Urban Minor Arterial	16	169,365	40	228,931	39	407,584	39	262,950	40	1,068,821	40
Urban Collector	17	49,740	26	69,260	26	104,555	26	68,143	26	291,694	26
Urban Local	19	157,429	13	204,030	13	294,480	13	203,865	13	859,796	13
TOTAL		819,668		1,035,791		1,759,163		1,243,961		4,858,560	
Isle of Wight											
Rural Principal Arterial	2	84,666	54	132,878	54	217,612	54	179,564	54	614,723	54
Rural Minor Arterial	6	105,628	47	138,314	46	212,726	47	150,774	47	607,440	47

2011 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Rural Major Collector	7	19,028	38	24,181	38	36,533	38	21,562	38	101,304	38
Rural Minor Collector	8	2,754	43	4,063	43	5,145	43	3,874	43	15,835	43
Rural Local	9	22,129	25	36,480	25	44,766	25	44,774	25	148,149	25
Urban Collector	17	15,211	38	21,181	38	31,975	38	20,840	38	89,206	38
Urban Local	19	14,733	13	19,095	13	27,560	13	19,079	13	80,466	13
TOTAL		264,149		376,192		576,316		440,467		1,657,123	
James City											
Rural Minor Arterial	6	32,876	47	43,049	47	66,209	47	46,927	47	189,060	47
Rural Major Collector	7	20,988	37	26,672	37	40,296	37	23,782	37	111,737	37
Rural Minor Collector	8	3,345	35	4,935	35	6,249	35	4,706	35	19,236	35
Rural Local	9	15,223	25	25,095	25	30,795	25	30,801	25	101,913	25
Urban Interstate	11	208,143	52	244,579	44	438,342	50	336,993	58	1,228,054	58
Urban Freeways and	12	38,327	53	49,399	52	83,358	53	57,108	53	228,192	53
Urban Principal	14	33,567	50	46,054	50	82,287	50	50,891	50	212,799	50
Urban Minor Arterial	16	26,555	45	35,894	44	63,905	44	41,228	45	167,580	45
Urban Collector	17	14,436	35	20,101	35	30,345	35	19,777	35	84,659	35
Urban Local	19	11,240	13	14,567	13	21,025	13	14,555	13	61,386	13
TOTAL		404,698		510,345		862,811		626,768		2,404,616	
Newport News											
Urban Interstate	11	441,722	38	519,047	23	930,251	33	715,167	56	2,606,182	54
Urban Freeways and	12	5,870	46	7,566	46	12,767	46	8,746	46	34,949	46
Urban Principal	14	197,460	44	270,916	42	484,060	44	299,371	45	1,251,805	45
Urban Minor Arterial	16	181,924	39	245,907	36	437,808	38	282,448	40	1,148,077	40
Urban Collector	17	62,778	18	87,415	18	131,962	18	86,005	18	368,157	18
Urban Local	19	128,442	13	166,463	13	240,259	13	166,328	13	701,487	13
TOTAL		1,018,196		1,297,313		2,237,107		1,558,066		6,110,656	
Norfolk											
Urban Interstate	11	571,379	52	671,401	46	1,203,304	51	925,088	55	3,371,165	55
Urban Freeways and	12	5,689	53	7,333	36	12,374	50	8,477	55	33,872	55
Urban Principal	14	285,170	41	391,255	40	699,077	41	432,350	41	1,807,850	41

2011 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Urban Minor Arterial	16	172,868	38	233,665	37	416,013	38	268,387	38	1,090,925	38
Urban Collector	17	40,897	12	56,947	12	85,968	12	56,029	12	239,838	12
Urban Local	19	78,890	13	102,243	13	147,569	13	102,160	13	430,860	13
TOTAL		1,154,894		1,462,844		2,564,305		1,792,491		6,974,510	
Poquoson											
Urban Minor Arterial	16	11,919	44	16,110	41	28,683	43	18,504	44	75,216	44
Urban Collector	17	10,273	35	14,305	35	21,594	35	14,074	35	60,245	35
Urban Local	19	10,197	13	13,215	13	19,073	13	13,204	13	55,689	13
TOTAL		32,388		43,630		69,350		45,783		191,149	
Portsmouth											
Urban Interstate	11	66,366	54	77,983	52	139,764	54	107,449	55	391,562	55
Urban Freeways and	12	78,913	55	101,709	54	171,630	55	117,581	56	469,832	56
Urban Principal	14	41,203	43	56,530	43	101,006	43	62,468	43	261,206	43
Urban Minor Arterial	16	66,032	39	89,255	39	158,908	39	102,518	39	416,710	39
Urban Collector	17	27,931	23	38,892	23	58,712	23	38,265	23	163,798	23
Urban Local	19	48,809	13	63,257	13	91,300	13	63,206	13	266,569	13
TOTAL		329,253		427,627		721,319		491,487		1,969,677	
Suffolk											
Rural Principal Arterial	2	80,726	51	126,696	51	207,487	51	171,209	51	586,121	51
Rural Minor Arterial	6	14,571	47	19,080	47	29,345	47	20,799	47	83,796	47
Rural Major Collector	7	2,000	41	2,541	41	3,840	41	2,266	41	10,647	41
Rural Minor Collector	8	0		0		0		0		0	
Rural Local	9	320	25	528	25	647	25	648	25	2,142	25
Urban Interstate	11	80,363	58	94,430	57	169,241	58	130,111	58	474,143	58
Urban Freeways and	12	124,162	55	160,029	54	270,042	55	185,001	56	739,234	56
Urban Principal	14	115,404	50	158,335	50	282,905	50	174,965	50	731,608	50
Urban Minor Arterial	16	106,638	45	144,142	41	256,628	43	165,561	46	672,963	46
Urban Collector	17	15,745	28	21,924	28	33,097	28	21,571	28	92,336	28
Urban Local	19	63,942	13	82,870	13	119,607	13	82,803	13	349,219	13

2011 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	FC#	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed
TOTAL		603,870		810,575		1,372,839		954,934		3,742,208	
Virginia Beach											
Urban Interstate	11	399,899	53	469,903	48	842,173	52	647,455	55	2,359,426	55
Urban Freeways and	12	43,704	55	56,329	55	95,053	55	65,119	55	260,204	55
Urban Principal	14	219,152	42	300,678	41	537,238	41	332,259	42	1,389,324	42
Urban Minor Arterial	16	568,133	40	767,944	38	1,367,233	39	882,058	41	3,585,339	40
Urban Collector	17	184,783	35	257,300	35	388,420	35	253,150	35	1,083,641	35
Urban Local	19	192,558	13	249,558	13	360,192	13	249,357	13	1,051,657	13
TOTAL		1,608,229		2,101,711		3,590,310		2,429,398		9,729,591	
Williamsburg											
Urban Freeways and	12	1,807	42	2,329	42	3,931	42	2,693	42	10,761	42
Urban Principal	14	18,689	46	25,642	43	45,816	44	28,335	46	118,483	46
Urban Minor Arterial	16	20,318	39	27,464	39	48,897	39	31,545	39	128,224	39
Urban Collector	17	5,200	25	7,241	25	10,931	25	7,124	25	30,497	25
Urban Local	19	9,103	13	11,798	13	17,028	13	11,788	13	49,717	13
TOTAL		55,119		74,475		126,603		81,486		337,681	
York											
Rural Minor Arterial	6	4,019	47	5,263	47	8,094	47	5,737	47	23,112	47
Rural Major Collector	7	7,671	32	9,749	32	14,728	32	8,693	32	40,841	32
Rural Local	9	5,876	25	9,687	25	11,887	25	11,889	25	39,339	25
Urban Interstate	11	197,872	56	232,510	50	416,711	54	320,363	58	1,167,454	58
Urban Freeways and	12	15,961	56	20,572	56	34,715	56	23,783	56	95,031	56
Urban Principal	14	140,490	48	192,753	44	344,403	46	212,998	49	890,643	49
Urban Minor Arterial	16	32,851	43	44,404	41	79,056	42	51,002	43	207,311	43
Urban Collector	17	27,426	35	38,189	35	57,650	35	37,573	35	160,835	35
Urban Local	19	34,099	13	44,192	13	63,784	13	44,157	13	186,230	13
TOTAL		466,264		597,318		1,031,027		716,195		2,810,795	
Hampton Roads Total		8,078,217		10,460,254		17,807,338		12,377,005		48,722,611	

2018 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Chesapeake											
Urban Interstate	11	345,813	56	406,350	55	728,271	56	559,887	56	2,040,317	56
Urban Freeways and	12	200,515	54	258,440	49	436,105	53	298,768	56	1,193,826	56
Urban Principal	14	191,034	48	262,100	47	468,309	48	289,629	48	1,211,070	48
Urban Minor Arterial	16	238,097	43	321,835	41	572,988	42	369,658	43	1,502,565	43
Urban Collector	17	70,001	20	97,473	20	147,145	20	95,901	20	410,515	20
Urban Local	19	201,424	13	261,049	13	376,777	13	260,838	13	1,100,078	13
TOTAL		1,246,884		1,607,245		2,729,594		1,874,682		7,458,372	
Gloucester											
Rural Principal Arterial	2	35,379	50	55,526	50	90,933	50	75,034	50	256,873	50
Rural Minor Arterial	6	36,401	52	47,666	52	73,309	52	51,959	52	209,335	52
Rural Major Collector	7	37,438	35	47,578	35	71,881	35	42,424	35	199,320	35
Rural Minor Collector	8	6,753	37	9,962	37	12,616	37	9,500	37	38,831	37
Rural Local	9	12,837	25	21,162	25	25,968	25	25,973	25	85,940	25
Urban Freeways and	12	24,953	55	32,161	55	54,270	55	37,180	55	148,564	55
Urban Principal	14	52,579	51	72,139	46	128,895	49	79,716	51	333,328	51
Urban Collector	17	12,854	27	17,899	27	27,020	27	17,610	27	75,382	27
Urban Local	19	4,770	13	6,182	13	8,922	13	6,177	13	26,049	13
TOTAL		223,964		310,273		493,814		345,573		1,373,622	
Hampton											
Urban Interstate	11	387,492	44	455,324	31	816,044	40	627,366	55	2,286,221	55
Urban Freeways and	12	27,083	51	34,907	50	58,903	51	40,354	51	161,246	51
Urban Principal	14	54,856	42	75,263	41	134,476	42	83,168	42	347,762	42
Urban Minor Arterial	16	183,671	39	248,268	38	442,012	39	285,160	40	1,159,102	40
Urban Collector	17	54,824	26	76,340	26	115,243	26	75,109	26	321,513	26
Urban Local	19	173,522	13	224,887	13	324,584	13	224,706	13	947,692	13
TOTAL		881,448		1,114,988		1,891,262		1,335,862		5,223,536	
Isle of Wight											
Rural Principal Arterial	2	96,436	54	151,351	54	247,864	54	204,527	54	700,182	54
Rural Minor Arterial	6	116,875	47	153,042	45	235,377	47	166,828	47	672,121	47

2018 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Rural Major Collector	7	22,006	38	27,966	38	42,251	38	24,936	38	117,159	38
Rural Minor Collector	8	3,185	43	4,698	43	5,950	43	4,480	43	18,313	43
Rural Local	9	25,592	25	42,189	25	51,772	25	51,782	25	171,334	25
Urban Collector	17	17,592	38	24,496	38	36,979	38	24,101	38	103,167	38
Urban Local	19	17,039	13	22,083	13	31,873	13	22,065	13	93,059	13
TOTAL		298,725		425,826		652,066		498,720		1,875,335	
James City											
Rural Minor Arterial	6	40,381	47	52,877	47	81,324	47	57,640	47	232,220	47
Rural Major Collector	7	25,642	37	32,587	37	49,233	37	29,057	37	136,518	37
Rural Minor Collector	8	4,087	35	6,030	35	7,635	35	5,750	35	23,502	35
Rural Local	9	18,599	25	30,661	25	37,625	25	37,632	25	124,515	25
Urban Interstate	11	223,198	51	262,270	42	470,047	49	361,368	58	1,316,880	58
Urban Freeways and	12	43,593	53	56,186	52	94,811	53	64,953	53	259,542	53
Urban Principal	14	41,423	50	56,832	49	101,546	50	62,802	50	262,603	50
Urban Minor Arterial	16	29,289	45	39,590	44	70,486	44	45,473	45	184,837	45
Urban Collector	17	17,638	35	24,559	35	37,075	35	24,163	35	103,434	35
Urban Local	19	13,733	13	17,798	13	25,688	13	17,783	13	75,001	13
TOTAL		457,582		579,389		975,468		706,621		2,719,052	
Newport News											
Urban Interstate	11	449,537	37	528,231	22	946,710	32	727,821	56	2,652,293	54
Urban Freeways and	12	6,337	46	8,167	46	13,782	46	9,442	47	37,727	47
Urban Principal	14	212,535	44	291,598	40	521,015	43	322,226	45	1,347,372	45
Urban Minor Arterial	16	197,138	39	266,471	34	474,420	37	306,068	40	1,244,087	40
Urban Collector	17	68,412	18	95,260	18	143,804	18	93,723	18	401,194	18
Urban Local	19	139,968	13	181,401	13	261,820	13	181,254	13	764,437	13
TOTAL		1,073,926		1,371,128		2,361,551		1,640,534		6,447,111	
Norfolk											
Urban Interstate	11	608,692	53	715,246	47	1,281,883	52	985,499	55	3,591,314	55
Urban Freeways and	12	6,467	55	8,336	55	14,066	55	9,636	55	38,505	55
Urban Principal	14	290,125	41	398,052	40	711,223	41	439,861	42	1,839,259	41

2018 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Urban Minor Arterial	16	175,982	38	237,874	37	423,507	38	273,222	38	1,110,577	38
Urban Collector	17	42,586	12	59,299	12	89,518	12	58,343	12	249,743	12
Urban Local	19	82,148	13	106,465	13	153,664	13	106,380	13	448,654	13
TOTAL		1,206,000		1,525,273		2,673,861		1,872,941		7,278,051	
Poquoson											
Urban Minor Arterial	16	13,450	43	18,180	39	32,368	42	20,882	44	84,880	44
Urban Collector	17	11,939	35	16,624	35	25,096	35	16,356	35	70,014	35
Urban Local	19	11,850	13	15,358	13	22,166	13	15,345	13	64,718	13
TOTAL		37,239		50,162		79,630		52,583		219,612	
Portsmouth											
Urban Interstate	11	71,398	54	83,897	53	150,362	54	115,597	55	421,252	55
Urban Freeways and	12	94,080	56	121,257	55	204,616	56	140,179	56	560,132	56
Urban Principal	14	39,794	43	54,597	43	97,552	43	60,332	43	252,275	43
Urban Minor Arterial	16	64,049	39	86,575	39	154,137	39	99,440	39	404,199	39
Urban Collector	17	29,227	23	40,696	23	61,435	23	40,040	23	171,396	23
Urban Local	19	51,073	13	66,191	13	95,535	13	66,138	13	278,935	13
TOTAL		349,621		453,214		763,638		521,726		2,088,190	
Suffolk											
Rural Principal Arterial	2	86,740	51	136,134	51	222,943	51	183,963	51	629,782	51
Rural Minor Arterial	6	16,241	47	21,267	47	32,708	47	23,182	47	93,398	47
Rural Major Collector	7	2,373	41	3,016	41	4,557	41	2,690	41	12,636	41
Rural Minor Collector	8	0		0		0		0		0	
Rural Local	9	380	25	626	25	768	25	769	25	2,543	25
Urban Interstate	11	84,918	58	99,784	57	178,835	58	137,487	58	501,023	58
Urban Freeways and	12	134,093	55	172,830	52	291,643	55	199,800	56	798,365	56
Urban Principal	14	127,392	50	174,782	49	312,293	50	193,140	50	807,606	50
Urban Minor Arterial	16	119,257	45	161,199	40	286,996	42	185,153	46	752,600	46
Urban Collector	17	18,687	28	26,021	28	39,281	28	25,601	28	109,590	28
Urban Local	19	75,890	13	98,355	13	141,957	13	98,275	13	414,474	13

2018 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	FC#	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed
TOTAL		665,972		894,013		1,511,982		1,050,060		4,122,015	
Virginia Beach											
Urban Interstate	11	422,086	52	495,974	45	888,899	51	683,376	55	2,490,330	55
Urban Freeways and	12	47,101	55	60,708	55	102,442	55	70,181	55	280,432	55
Urban Principal	14	229,242	42	314,521	40	561,973	41	347,556	42	1,453,290	42
Urban Minor Arterial	16	624,664	40	844,357	38	1,503,277	39	969,826	41	3,942,091	41
Urban Collector	17	199,314	35	277,534	35	418,966	35	273,059	35	1,168,861	35
Urban Local	19	207,701	13	269,184	13	388,519	13	268,966	13	1,134,361	13
TOTAL		1,730,109		2,262,278		3,864,075		2,612,965		10,469,365	
Williamsburg											
Urban Freeways and	12	1,956	42	2,521	42	4,253	42	2,914	42	11,643	42
Urban Principal	14	20,014	46	27,460	43	49,064	45	30,344	46	126,881	46
Urban Minor Arterial	16	22,364	39	30,229	39	53,819	39	34,721	39	141,133	39
Urban Collector	17	5,668	25	7,892	25	11,914	25	7,765	25	33,239	25
Urban Local	19	9,922	13	12,858	13	18,559	13	12,848	13	54,187	13
TOTAL		59,923		80,960		137,609		88,592		367,082	
York											
Rural Minor Arterial	6	4,620	47	6,050	47	9,305	47	6,595	47	26,571	47
Rural Major Collector	7	8,524	32	10,833	32	16,367	32	9,660	32	45,384	32
Rural Local	9	6,530	25	10,764	25	13,209	25	13,212	25	43,715	25
Urban Interstate	11	215,827	54	253,609	45	454,524	52	349,434	58	1,273,392	58
Urban Freeways and	12	18,562	56	23,925	56	40,372	56	27,658	56	110,516	56
Urban Principal	14	169,421	48	232,447	43	415,326	46	256,861	49	1,074,054	49
Urban Minor Arterial	16	36,033	42	48,705	39	86,714	41	55,943	43	227,394	43
Urban Collector	17	30,476	35	42,437	35	64,063	35	41,752	35	178,726	35
Urban Local	19	37,892	13	49,108	13	70,879	13	49,068	13	206,945	13
TOTAL		527,886		677,878		1,170,759		810,184		3,186,696	
Hampton Roads Total		8,759,280		11,352,627		19,305,310		13,411,044		52,828,040	

2020 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Chesapeake											
Urban Interstate	11	353,300	56	415,147	55	744,038	56	572,009	56	2,084,491	56
Urban Freeways and	12	205,994	54	265,502	48	448,022	53	306,933	56	1,226,449	56
Urban Principal	14	198,334	48	272,115	47	486,204	48	300,697	48	1,257,349	48
Urban Minor Arterial	16	243,564	43	329,225	41	586,146	42	378,147	43	1,537,068	43
Urban Collector	17	72,192	20	100,524	20	151,751	20	98,903	20	423,366	20
Urban Local	19	207,730	13	269,221	13	388,572	13	269,003	13	1,134,516	13
TOTAL		1,281,115		1,651,734		2,804,733		1,925,691		7,663,239	
Gloucester											
Rural Principal Arterial	2	35,312	50	55,420	50	90,760	50	74,891	50	256,383	50
Rural Minor Arterial	6	37,196	52	48,706	52	74,909	52	53,093	52	213,903	52
Rural Major Collector	7	39,319	35	49,967	35	75,491	35	44,555	35	209,332	35
Rural Minor Collector	8	7,092	37	10,463	37	13,249	37	9,977	37	40,781	37
Rural Local	9	13,482	25	22,225	25	27,273	25	27,278	25	90,256	25
Urban Freeways and	12	25,486	55	32,849	55	55,431	55	37,975	55	151,740	55
Urban Principal	14	53,789	51	73,798	45	131,860	49	81,550	51	340,996	51
Urban Collector	17	13,500	27	18,798	27	28,377	27	18,495	27	79,168	27
Urban Local	19	5,009	13	6,492	13	9,370	13	6,487	13	27,358	13
TOTAL		230,183		318,717		506,720		354,300		1,409,918	
Hampton											
Urban Interstate	11	392,490	43	461,197	30	826,569	39	635,458	55	2,315,709	54
Urban Freeways and	12	28,077	51	36,188	50	61,065	51	41,835	51	167,164	51
Urban Principal	14	56,857	42	78,009	41	139,382	42	86,202	42	360,450	42
Urban Minor Arterial	16	188,155	39	254,329	38	452,802	39	292,121	40	1,187,397	40
Urban Collector	17	56,370	26	78,493	26	118,493	26	77,227	26	330,580	26
Urban Local	19	178,416	13	231,229	13	333,738	13	231,042	13	974,417	13
TOTAL		900,365		1,139,443		1,932,049		1,363,886		5,335,717	
Isle of Wight											
Rural Principal Arterial	2	100,475	54	157,691	54	258,246	54	213,094	54	729,509	54
Rural Minor Arterial	6	118,952	47	155,761	45	239,559	47	169,793	47	684,063	47

2020 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Rural Major Collector	7	22,939	38	29,152	38	44,043	38	25,994	38	122,129	38
Rural Minor Collector	8	3,320	43	4,898	43	6,202	43	4,671	43	19,090	43
Rural Local	9	26,678	25	43,979	25	53,968	25	53,978	25	178,602	25
Urban Collector	17	18,338	38	25,535	38	38,548	38	25,123	38	107,543	38
Urban Local	19	17,762	13	23,020	13	33,225	13	23,001	13	97,006	13
TOTAL		308,464		440,035		673,791		515,654		1,937,942	
James City											
Rural Minor Arterial	6	42,217	47	55,281	47	85,022	47	60,261	47	242,782	47
Rural Major Collector	7	27,153	37	34,506	37	52,132	37	30,768	37	144,559	37
Rural Minor Collector	8	4,328	35	6,385	35	8,085	35	6,088	35	24,886	35
Rural Local	9	19,694	25	32,467	25	39,841	25	39,848	25	131,849	25
Urban Interstate	11	225,907	51	265,453	41	475,752	48	365,754	58	1,332,863	58
Urban Freeways and	12	45,870	53	59,121	52	99,764	53	68,347	53	273,102	53
Urban Principal	14	42,986	50	58,977	49	105,377	50	65,172	50	272,511	50
Urban Minor Arterial	16	30,649	45	41,428	43	73,758	44	47,584	45	193,417	45
Urban Collector	17	18,676	35	26,006	35	39,259	35	25,587	35	109,526	35
Urban Local	19	14,541	13	18,846	13	27,201	13	18,831	13	79,418	13
TOTAL		472,022		598,470		1,006,191		728,240		2,804,914	
Newport News											
Urban Interstate	11	455,090	36	534,756	21	958,404	31	736,811	56	2,685,055	54
Urban Freeways and	12	6,577	46	8,477	46	14,304	46	9,800	47	39,157	47
Urban Principal	14	217,090	44	297,848	39	532,183	42	329,133	45	1,376,252	45
Urban Minor Arterial	16	205,959	39	278,394	33	495,648	36	319,763	40	1,299,754	40
Urban Collector	17	70,112	18	97,628	18	147,379	18	96,053	18	411,167	18
Urban Local	19	143,448	13	185,910	13	268,328	13	185,760	13	783,439	13
TOTAL		1,098,276		1,403,013		2,416,245		1,677,319		6,594,824	
Norfolk											
Urban Interstate	11	615,807	53	723,607	46	1,296,868	51	997,020	55	3,633,295	55
Urban Freeways and	12	6,574	55	8,473	55	14,298	55	9,796	55	39,141	55
Urban Principal	14	292,351	41	401,107	40	716,680	41	443,236	42	1,853,372	41

2020 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Urban Minor Arterial	16	178,041	38	240,658	37	428,462	38	276,419	38	1,123,570	38
Urban Collector	17	43,081	12	59,989	12	90,559	12	59,021	12	252,647	12
Urban Local	19	83,104	13	107,704	13	155,451	13	107,617	13	453,871	13
TOTAL		1,218,958		1,541,537		2,702,319		1,893,108		7,355,897	
Poquoson											
Urban Minor Arterial	16	14,525	44	19,634	43	34,955	43	22,551	44	91,664	44
Urban Collector	17	12,462	35	17,353	35	26,197	35	17,073	35	73,085	35
Urban Local	19	12,370	13	16,031	13	23,138	13	16,018	13	67,558	13
TOTAL		39,357		53,018		84,290		55,643		232,307	
Portsmouth											
Urban Interstate	11	71,042	54	83,479	53	149,613	54	115,021	55	419,153	55
Urban Freeways and	12	97,518	56	125,689	55	212,094	56	145,302	56	580,603	56
Urban Principal	14	40,224	43	55,188	43	98,608	43	60,985	44	255,004	44
Urban Minor Arterial	16	65,367	39	88,356	39	157,308	39	101,486	39	412,513	39
Urban Collector	17	29,608	23	41,227	23	62,236	23	40,562	23	173,631	23
Urban Local	19	51,739	13	67,054	13	96,781	13	67,000	13	282,572	13
TOTAL		355,498		460,993		776,640		530,356		2,123,478	
Suffolk											
Rural Principal Arterial	2	88,795	51	139,360	50	228,226	51	188,322	51	644,706	51
Rural Minor Arterial	6	17,125	47	22,425	47	34,489	47	24,445	47	98,484	47
Rural Major Collector	7	2,493	41	3,168	41	4,786	41	2,824	41	13,270	41
Rural Minor Collector	8	0		0		0		0		0	
Rural Local	9	399	25	658	25	807	25	807	25	2,670	25
Urban Interstate	11	86,230	58	101,325	57	181,598	58	139,611	58	508,763	58
Urban Freeways and	12	137,191	55	176,822	51	298,379	55	204,415	56	816,806	56
Urban Principal	14	131,522	50	180,449	49	322,419	50	199,403	50	833,792	50
Urban Minor Arterial	16	123,587	44	167,053	40	297,418	42	191,877	46	779,928	46
Urban Collector	17	19,625	28	27,326	28	41,252	28	26,886	28	115,088	28
Urban Local	19	79,697	13	103,289	13	149,078	13	103,205	13	435,266	13

2020 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	FC#	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed
TOTAL		686,665		921,874		1,558,452		1,081,794		4,248,774	
Virginia Beach											
Urban Interstate	11	427,874	52	502,776	44	901,088	50	692,748	55	2,524,482	55
Urban Freeways and	12	47,985	55	61,847	55	104,364	55	71,498	55	285,694	55
Urban Principal	14	232,896	42	319,535	40	570,931	41	353,097	42	1,476,457	42
Urban Minor Arterial	16	648,245	40	876,231	38	1,560,026	39	1,006,437	41	4,090,907	41
Urban Collector	17	203,672	35	283,603	35	428,127	35	279,029	35	1,194,418	35
Urban Local	19	212,243	13	275,069	13	397,013	13	274,847	13	1,159,163	13
TOTAL		1,772,916		2,319,061		3,961,551		2,677,657		10,731,120	
Williamsburg											
Urban Freeways and	12	2,046	42	2,636	42	4,449	42	3,048	42	12,179	42
Urban Principal	14	20,572	46	28,225	42	50,431	44	31,189	46	130,416	46
Urban Minor Arterial	16	23,556	39	31,840	39	56,688	39	36,572	39	148,655	39
Urban Collector	17	5,809	25	8,089	25	12,211	25	7,958	25	34,067	25
Urban Local	19	10,169	13	13,179	13	19,021	13	13,168	13	55,536	13
TOTAL		62,151		83,969		142,800		91,935		380,853	
York											
Rural Minor Arterial	6	5,096	47	6,673	47	10,264	47	7,274	47	29,308	47
Rural Major Collector	7	8,785	32	11,165	32	16,868	32	9,955	32	46,772	32
Rural Local	9	6,729	25	11,094	25	13,613	25	13,616	25	45,052	25
Urban Interstate	11	216,066	54	253,890	44	455,028	52	349,821	58	1,274,803	58
Urban Freeways and	12	19,162	56	24,698	56	41,677	56	28,552	56	114,090	56
Urban Principal	14	174,605	48	239,559	41	428,034	45	264,721	49	1,106,918	49
Urban Minor Arterial	16	37,166	43	50,237	39	89,440	41	57,702	43	234,542	43
Urban Collector	17	31,409	35	43,735	35	66,022	35	43,030	35	184,194	35
Urban Local	19	39,051	13	50,611	13	73,047	13	50,570	13	213,277	13
TOTAL		538,070		691,661		1,193,994		825,241		3,248,956	
Hampton Roads Total		8,964,041		11,623,525		19,759,775		13,720,824		54,067,938	

2030 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	FC#	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed
Chesapeake											
Urban Interstate	11	392,696	56	461,439	53	827,004	55	635,793	56	2,316,928	56
Freeway/Expressway	12	226,562	53	292,011	45	492,756	52	337,579	56	1,348,907	55
Urban Principal	14	224,327	48	307,778	46	549,924	47	340,105	48	1,422,131	48
Urban Minor Arterial	16	275,607	42	372,537	41	663,259	42	427,896	43	1,739,285	43
Urban Collector	17	84,222	20	117,275	20	177,039	20	115,384	20	493,915	20
Urban Local	19	242,345	13	314,082	13	453,322	13	313,829	13	1,323,567	13
TOTAL		1,445,760		1,865,123		3,163,303		2,170,585		8,644,733	
Gloucester											
Rural Principal Arterial	2	39,597	50	62,146	49	101,775	50	83,980	50	287,500	50
Rural Minor Arterial	6	42,870	52	56,136	50	86,336	52	61,192	52	246,533	52
Rural Major Collector	7	50,236	35	63,842	35	96,453	35	56,926	35	267,457	35
Rural Minor Collector	8	9,061	37	13,368	37	16,928	37	12,748	37	52,105	37
Rural Local	9	17,225	25	28,396	25	34,846	25	34,852	25	115,318	25
Freeway/Expressway	12	28,157	55	36,291	55	61,239	55	41,954	55	167,640	55
Urban Principal	14	59,269	50	81,318	38	145,295	45	89,859	51	375,740	51
Urban Collector	17	17,248	27	24,017	27	36,256	27	23,630	27	101,151	27
Urban Local	19	6,400	13	8,295	13	11,972	13	8,288	13	34,954	13
TOTAL		270,064		373,808		591,100		413,429		1,648,398	
Hampton											
Urban Interstate	11	427,818	36	502,709	25	900,969	32	692,656	55	2,524,147	53
Freeway/Expressway	12	30,748	51	39,631	50	66,875	51	45,815	51	183,069	51
Urban Principal	14	62,278	42	85,446	41	152,672	41	94,421	42	394,816	42
Urban Minor Arterial	16	201,786	39	272,754	38	485,606	39	313,284	40	1,273,420	40
Urban Collector	17	64,780	26	90,202	26	136,170	26	88,748	26	379,896	26
Urban Local	19	205,032	13	265,724	13	383,525	13	265,509	13	1,119,781	13
TOTAL		992,442		1,256,466		2,125,816		1,500,434		5,875,128	
Isle of Wight											
Rural Principal Arterial	2	116,533	54	182,892	54	299,518	54	247,150	54	846,097	54
Rural Minor Arterial	6	135,165	46	176,992	42	272,211	46	192,936	47	777,302	47

2030 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Rural Major Collector	7	28,235	38	35,882	38	54,211	38	31,995	38	150,323	38
Rural Minor Collector	8	4,086	43	6,028	43	7,634	43	5,749	43	23,497	43
Rural Local	9	32,837	25	54,132	25	66,427	25	66,440	25	219,835	25
Urban Collector	17	22,572	38	31,430	38	47,447	38	30,923	38	132,371	38
Urban Local	19	21,862	13	28,334	13	40,895	13	28,311	13	119,401	13
TOTAL		361,290		515,691		788,344		603,504		2,268,827	
James City											
Rural Minor Arterial	6	54,804	47	71,763	47	110,371	47	78,228	47	315,165	47
Rural Major Collector	7	36,148	37	45,938	37	69,403	37	40,962	37	192,450	37
Rural Minor Collector	8	5,761	35	8,500	35	10,764	35	8,106	35	33,130	35
Rural Local	9	26,219	25	43,222	25	53,040	25	53,050	25	175,530	25
Urban Interstate	11	257,182	41	302,203	31	541,617	38	416,390	58	1,517,389	56
Freeway/Expressway	12	56,791	53	73,196	51	123,515	53	84,618	53	338,121	53
Urban Principal	14	47,965	50	65,809	49	117,584	50	72,721	50	304,078	50
Urban Minor Arterial	16	35,435	44	47,897	41	85,274	43	55,014	44	223,618	44
Urban Collector	17	24,864	35	34,622	35	52,265	35	34,063	35	145,812	35
Urban Local	19	19,359	13	25,089	13	36,212	13	25,069	13	105,729	13
TOTAL		564,528		718,239		1,200,045		868,220		3,351,022	
Newport News											
Urban Interstate	11	516,914	24	607,403	14	1,088,604	20	836,908	56	3,049,823	49
Freeway/Expressway	12	7,351	47	9,475	45	15,989	46	10,954	47	43,768	47
Urban Principal	14	229,741	44	315,206	40	563,196	43	348,313	45	1,456,453	45
Urban Minor Arterial	16	225,392	38	304,661	31	542,413	35	349,933	40	1,422,388	40
Urban Collector	17	79,270	18	110,380	18	166,630	18	108,600	18	464,875	18
Urban Local	19	162,185	13	210,194	13	303,377	13	210,024	13	885,773	13
TOTAL		1,220,854		1,557,318		2,680,209		1,864,731		7,323,080	
Norfolk											
Urban Interstate	11	649,181	51	762,823	42	1,367,152	49	1,051,053	55	3,830,200	55
Freeway/Expressway	12	7,279	55	9,382	55	15,832	55	10,846	55	43,340	55
Urban Principal	14	307,484	41	421,869	40	753,778	41	466,180	41	1,949,309	41

2030 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	**FC#**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**	**VMT**	**Speed**
Urban Minor Arterial	16	187,739	38	253,766	37	451,801	37	291,476	38	1,184,772	38
Urban Collector	17	45,645	12	63,559	12	95,949	12	62,534	12	267,684	12
Urban Local	19	88,050	13	114,114	13	164,703	13	114,022	13	480,884	13
TOTAL		1,285,378		1,625,513		2,849,214		1,996,110		7,756,189	
Poquoson											
Urban Minor Arterial	16	16,435	44	22,216	42	39,552	43	25,517	44	103,720	44
Urban Collector	17	15,447	35	21,509	35	32,469	35	21,162	35	90,585	35
Urban Local	19	15,332	13	19,870	13	28,679	13	19,854	13	83,734	13
TOTAL		47,214		63,594		100,701		66,533		278,039	
Portsmouth											
Urban Interstate	11	79,994	54	93,997	51	168,464	53	129,514	55	471,968	55
Freeway/Expressway	12	106,612	56	137,410	55	231,874	56	158,853	56	634,748	56
Urban Principal	14	42,454	44	58,247	43	104,074	44	64,365	44	269,140	44
Urban Minor Arterial	16	70,159	39	94,834	39	168,841	39	108,926	39	442,758	39
Urban Collector	17	31,589	23	43,986	23	66,402	23	43,277	23	185,252	23
Urban Local	19	55,202	13	71,542	13	103,258	13	71,484	13	301,483	13
TOTAL		386,011		500,017		842,913		576,419		2,305,350	
Suffolk											
Rural Principal Arterial	2	95,358	51	149,659	50	245,093	51	202,240	51	692,352	51
Rural Minor Arterial	6	19,056	47	24,953	47	38,377	47	27,201	47	109,587	47
Rural Major Collector	7	3,184	41	4,046	41	6,113	41	3,608	41	16,950	41
Rural Minor Collector	8	0		0		0		0		0	
Rural Local	9	509	25	840	25	1,031	25	1,031	25	3,411	25
Urban Interstate	11	95,762	57	112,526	54	201,672	57	155,044	58	565,004	58
Freeway/Expressway	12	154,573	55	199,226	48	336,185	54	230,315	56	920,298	56
Urban Principal	14	146,815	50	201,431	46	359,908	49	222,588	50	930,740	50
Urban Minor Arterial	16	143,668	43	194,196	38	345,743	40	223,053	46	906,654	45
Urban Collector	17	25,066	28	34,903	28	52,690	28	34,341	28	146,999	28
Urban Local	19	101,795	13	131,928	13	190,415	13	131,822	13	555,956	13
TOTAL		785,787		1,053,708		1,777,227		1,231,241		4,847,949	

2030 Summertime VMT and Average Speeds Plan

JURISDICTION		AM Period		PM Period		Midday Period		Night Period		24-Hour Total	
Functional Class	FC#	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed	VMT	Speed
Virginia Beach											
Urban Interstate	11	455,421	50	535,144	41	959,101	48	737,347	55	2,687,008	55
Freeway/Expressway	12	53,176	55	68,537	55	115,653	55	79,232	55	316,597	55
Urban Principal	14	254,550	42	349,244	39	624,014	41	385,926	42	1,613,732	42
Urban Minor Arterial	16	712,873	40	963,589	38	1,715,557	40	1,106,777	41	4,498,759	41
Urban Collector	17	226,934	35	315,993	35	477,024	35	310,897	35	1,330,833	35
Urban Local	19	236,483	13	306,485	13	442,357	13	306,238	13	1,291,552	13
TOTAL		1,939,437		2,538,993		4,333,705		2,926,417		11,738,481	
Williamsburg											
Freeway/Expressway	12	2,440	42	3,145	41	5,308	42	3,636	42	14,530	42
Urban Principal	14	23,060	45	31,638	41	56,530	43	34,962	46	146,190	46
Urban Minor Arterial	16	27,670	39	37,401	38	66,588	39	42,958	39	174,615	39
Urban Collector	17	6,569	25	9,147	25	13,809	25	9,000	25	38,525	25
Urban Local	19	11,499	13	14,903	13	21,510	13	14,891	13	62,804	13
TOTAL		71,239		96,235		163,745		105,447		436,664	
York											
Rural Minor Arterial	6	4,771	47	6,247	47	9,608	47	6,810	47	27,436	47
Rural Major Collector	7	10,214	32	12,980	32	19,611	32	11,574	32	54,379	32
Rural Local	9	7,824	25	12,898	25	15,827	25	15,830	25	52,378	25
Urban Interstate	11	243,438	47	286,053	30	512,672	43	394,137	58	1,436,297	57
Freeway/Expressway	12	20,839	56	26,859	56	45,322	56	31,050	56	124,069	56
Urban Principal	14	192,520	48	264,139	38	471,951	43	291,882	49	1,220,490	49
Urban Minor Arterial	16	42,483	42	57,424	35	102,236	38	65,957	43	268,097	43
Urban Collector	17	36,516	35	50,847	35	76,759	35	50,027	35	214,148	35
Urban Local	19	45,401	13	58,841	13	84,926	13	58,793	13	247,960	13
TOTAL		604,006		776,287		1,338,913		926,060		3,645,253	
Hampton Roads Total		9,974,009		12,940,994		21,955,234		15,249,130		60,119,113	

Appendix C: MOBILE6.2 Sample Input File

The following table provides a guide to the MOBILE6.2 Input files included in this appendix. A sample portion of a 2030 input file used in the analysis for Chesapeake is provided. Copies of complete input files are available upon request.

Header section of the input file:	
MOBILE6 Input Header	What the header means:
DATABASE OUTPUT	Specifies MOBILE6 to report output in database format for all scenarios.
DAILY OUTPUT	Database output will represent daily rather than hourly time periods.
WITH FIELDNAMES	Directs MOBILE6 to place a row of column names in the first row of the database output table.
AGGREGATE OUTPUT	Database output will represent daily rather than hourly time periods that will reduce the volume of reported output.
Run Segment:	
RUN DATA	Marks the end of the header section and beginning of run section of command input file. Administrative function—no information required.
EXPRESS HC AS VOC	Directs MOBILE6 to output exhaust HC as volatile organic compounds.
REG DIST	Allows user to supply vehicle registration distributions by vehicle age for all 16 composite vehicle types. Command requires an external data file.
NO REFUELING	Directs MOBILE6 not to calculate the refueling emissions from gasoline-fueled vehicles.
94+ LDG IMP	Allows the user to input optional 1994 and later fleet penetration factors for light-duty gasoline vehicles under the Tier 1, NLEV, and Tier 2 standards.
HOURLY TEMPERATURES	Allows entry of 24 hourly temperatures.
FUEL PROGRAM	Designates fuel sulfur level of gasoline and whether RFG use should be assumed
FUEL RVP	Required input of average fuel Reid vapor pressure.
SEASON	Allows users to specify winter or summer RVP independent of evaluation month
RELATIVE HUMIDITY	Allows user to specify hourly relative humidity values and to relate these relative humidity values directly to the hourly temperature.
BAROMETRIC PRES	Allows user to supply a daily average barometric pressure.

Scenario Segment:	
SCENARIO RECORD	Allows MOBILE6 users to label individual scenario results. Marks start of new scenario.
CALENDAR YEAR	Calendar year of the scenario evaluated. Four-digit value for year must be entered. ***Example:*** **CALENDAR YEAR : 2015**
EVALUATION MONTH	Specifies January 1 (*winter RFG rules)* or July 1 (*summer RFG rules)* for calendar year of interest. ***Example:*** **EVALUATION MONTH : 7**
VMT FRACTIONS	Allows user to supply vehicle travel data specific to the geographical location they wish to model. Set of 16 fractional values between 0 and 1 in which all 16 values add up to 1.0 ***Example:*** **VMT FRACTIONS :** **0.354 0.089 0.297 0.092 0.041 0.040 0.004 0.003** **0.002 0.008 0.010 0.012 0.040 0.002 0.001 0.005**
AVERAGE SPEED	Allows the user to enter a single average speed to use for all freeways and/or arterial/collectors for the entire day, rather than an average speed distribution
END OF RUN	Marks the end of each Run section and required to separate multiple runs in command input files.

MOBILE6.2 INPUT FILE EXCERPT

```
MOBILE6 INPUT FILE :
>
>  ------------------------------
>  HAMPTON ROADS MAINTENANCE AREA
>  ------------------------------
>
>  ANALYSIS YEAR: 2030
>
>  ------------------------------
>  FLEET DATA:
>   *  2008 registration data for Hampton Roads member jurisdictions as provided by VDEQ
>   *  2008 VMT Mix for Hampton Roads based on the VDOT 2008 Traffic report (TMS/HPMS data)
>
>  ------------------------------
>  AMBIENT CONDITIONS
>   *  HR Ozone Maintenance Plan (eff. 6/1/07)
>      - Hourly temperature, relative humidity, and barometric pressure
>
>  ------------------------------
>  EMISSION CONTROLS:
>   * RFG (not applicable for Gloucester and Isle of Wight);
>   * 2007 HDDV including LSD;
>   * NLEV; and
>   * Tier 2 emission standards.
>   * Fuel Economy based on MOBILE6.2 model defaults.
>
>  -------------------------------------
>   * REFUELING EMISSIONS NOT INCLUDED *
>  -------------------------------------
>


REPORT FILE        : C:\M6_HR\RC\HR2030.OUT
DATABASE OUTPUT    :
WITH FIELDNAMES    :
POLLUTANTS         : HC NOX
AGGREGATED OUTPUT  :
EMISSIONS TABLE    : C:\M6_HR\RC\HR2030.TXT   REPLACE


RUN DATA           :
EXPRESS HC AS VOC  :
REG DIST           : C:\M6_HR\RC\CHESA08.RDT
NO REFUELING       :
94+ LDG IMP        : C:\M6_HR\RC\NLEVNE.D
HOURLY TEMPERATURES: 71.77 75.20 77.80 81.07 83.04 84.34 85.79 86.59 87.40 87.27 87.60 87.01
                     85.51 83.21 79.39 77.90 77.02 75.38 73.31 72.91 72.71 71.90 71.20 70.73
FUEL PROGRAM       : 4
 150  149  129  120 120  90  30  30
  30   30   30   30  30  30  30  30
1000 1000 1000 1000 303 303  87  87
  80   80   80   80  80  80  80  80
FUEL RVP           : 6.8
OXYGENATED FUELS   : 1.00 0.00 0.021 0.00 1
SEASON             : 1

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 2.5 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 3.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 4.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
```

```
AVERAGE SPEED      : 5.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 6.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 7.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 8.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 9.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 10.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 11.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 12.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 13.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
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0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 14.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 15.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 16.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 17.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 18.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 19.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 20.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 21.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 22.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
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0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 23.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 24.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 25.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 26.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 27.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 28.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 29.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 30.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 31.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
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VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 32.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 33.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 34.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 35.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 36.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 37.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 38.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 39.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 40.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
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EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 41.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 42.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 43.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 44.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 45.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 46.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 47.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 48.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 49.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
```

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CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 50.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 51.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 52.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 53.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 54.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 55.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 56.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 57.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 58.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004
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SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 59.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 60.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 61.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 62.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 63.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 64.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004

SCENARIO RECORD    : Chesapeake, ROADFHWA 11, Urban Interstate
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
VMT FRACTIONS      :
0.40916 0.09431 0.31396 0.09560 0.04396 0.01267 0.00125 0.00102
0.00076 0.00283 0.00334 0.00363 0.01294 0.00064 0.00030 0.00363
AVERAGE SPEED      : 65.0 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004
END OF RUN         :



EXPRESS HC AS VOC  :
REG DIST           : C:\M6_HR\RC\CHESA08.RDT
NO REFUELING       :
94+ LDG IMP        : C:\M6_HR\RC\NLEVNE.D
HOURLY TEMPERATURES: 71.77 75.20 77.80 81.07 83.04 84.34 85.79 86.59 87.40 87.27 87.60 87.01
                     85.51 83.21 79.39 77.90 77.02 75.38 73.31 72.91 72.71 71.90 71.20 70.73
FUEL PROGRAM       : 4
 150  149  129  120 120  90  30  30
  30   30   30   30  30  30  30  30
1000 1000 1000 1000 303 303  87  87
  80   80   80   80  80  80  80  80
FUEL RVP           : 6.8
OXYGENATED FUELS   : 1.00 0.00 0.021 0.00 1
SEASON             : 1

SCENARIO RECORD    : Chesapeake, ROADFHWA 12, Urban Freeway/Expressway
CALENDAR YEAR      : 2030
EVALUATION MONTH   : 7
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VMT FRACTIONS      :
0.40658 0.09372 0.31200 0.09500 0.04369 0.01456 0.00143 0.00118
0.00088 0.00325 0.00384 0.00417 0.01487 0.00074 0.00034 0.00375
AVERAGE SPEED      : 2.5 FREEWAY 92.0 0.0 0.0 8.0
RELATIVE HUMIDITY  : 83.9 78.1 72.7 63.0 58.5 54.5 50.0 48.9 46.6 46.0 44.7 46.7
                     49.1 55.9 69.0 73.3 74.5 78.1 79.8 80.7 81.7 78.1 82.8 84.3
BAROMETRIC PRES    : 30.004
…
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Appendix D: Summary Statistics

Table D-1 presents summary statistics from the conformity analysis. The forecasts are indexed to the first year (2011) in the analysis, to better present the long-term trends in the values for each parameter.

Table D-1: Summary Statistics for the Regional Conformity Analysis

Parameter	2011 (Index)	2018 (Index)	2020 (Index)	2030 (Index)
Forecasts:				
Total VMT (millions/ozone season weekday):	48.7 *(100.0)*	52.8 *(108.4)*	54.1 *(111.0)*	60.1 *(123.4)*
Total NOx Emissions (tons/ozone season weekday):	45.9 *(100.0)*	26.6 *(58.1)*	24.2 *(52.8)*	21.0 *(45.9)*
Total VOC Emissions (tons/ozone season weekday):	37.0 *(100.0)*	24.9 *(67.4)*	22.4 *(60.6)*	22.0 *(59.5)*
Derived Statistics*:				
NOx emissions (grams) per VMT:	0.85 *(100.0)*	0.46 *(53.6)*	0.41 *(47.6)*	0.32 *(37.2)*
VOC emissions (grams) per VMT:	0.69 *(100.0)*	0.43 *(62.2)*	0.38 *(54.6)*	0.33 *(48.2)*
VMT per day per auto:	37.98 *(100.0)*	37.50 *(98.7)*	37.42 *(98.5)*	37.00 *(97.4)*
NOx emissions (grams) per day per auto:	32.43 *(100.0)*	17.15 *(52.9)*	15.20 *(46.9)*	11.74 *(36.2)*
VOC emissions (grams) per day per auto:	26.16 *(100.0)*	16.06 *(61.4)*	14.07 *(53.8)*	12.28 *(47.0)*
VMT per day per capita	28.78 *(100.0)*	29.41 *(102.2)*	29.61 *(102.9)*	30.47 *(105.9)*
NOx emissions (grams) per day per capita:	24.57 *(100.0)*	13.45 *(54.8)*	12.03 *(49.0)*	9.67 *(39.3)*
VOC emissions (grams) per day per capita:	19.82 *(100.0)*	12.59 *(63.5)*	11.14 *(56.2)*	10.12 *(51.0)*
VMT per day per household:	77.67 *(100.0)*	79.04 *(101.8)*	79.50 *(102.4)*	81.37 *(104.8)*
NOx emissions (grams) per day per household:	66.31 *(100.0)*	36.15 *(54.5)*	32.29 *(48.7)*	25.81 *(38.9)*
VOC emissions (grams) per day per household:	53.49 *(100.0)*	33.85 *(63.3)*	29.90 *(55.9)*	27.02 *(50.5)*
VMT per employee:	46.62 *(100.0)*	47.95 *(102.9)*	48.37 *(103.7)*	50.15 *(107.6)*
NOx emissions (grams) per day per employee:	39.80 *(100.0)*	21.93 *(55.1)*	19.65 *(49.4)*	15.91 *(40.0)*
VOC emissions (grams) per day per employee:	32.11 *(100.0)*	20.53 *(64.0)*	18.19 *(56.6)*	16.65 *(51.9)*

** Based upon socioeconomic forecasts for automobile ownership, population, households and employment as presented in Chapter 2.*

Appendix E: Consultation

This appendix includes Inter-Agency Consultation Group (ICG) and public consultation materials for the conformity analysis for the Hampton Roads Amended 2030 LRTP and FY 09-12 TIP. Attached in reverse chronological order are:

1) *Letter dated ___ from the HRTPO documenting MPO approval on ____ of the conformity analysis. The letter also notes that no comments were received in the public comment period for the conformity analysis that ran from ____ to _____.*

2) *Public notice issued May 26, 2010 and posted on the HRTPO web site page inviting comment on the draft Conformity Analysis*.

3) Responses to comments received in public review (print versions of email exchanges):
    a. As published with the (5/19/2010) HRTPO agenda package.
    b. As published with the (5/5/2010) TTAC agenda package.
    c. As provided on-table at the 4/21/2010 HRTPO meeting.

4) ICG Minutes:
    a. May 5, 2010 email transmitting:
        i. final minutes for the ICG Meeting held 3/5/08, and
        ii. an updated ICG member list.

        It was noted that the schedule was unchanged from that presented at the ICG meeting.

    b. April 19, 2010 email of draft minutes for the ICG meeting (see final minutes above).

5) April 7, 2010 public notice (website listing and email broadcast to mailing lists) for the project lists for the conformity analysis, following the ICG meeting. *[The project lists are presented separately in Appendix F.]*

6) April 7, 2010 ICG Meeting Presentation (PowerPoint slides)

7) March 31, 2010 HRTPO Public Notice and Meeting Listing for the ICG 4/7/2010 ICG Meeting
    a. Public Notice.
    b. HRTPO Website Listing.

8) March 31, 2010 ICG Meeting Notice: Website listing as well as the email and agenda package as distributed for the April 7, 2010 ICG meeting:
    a. Email Transmittal of ICG Meeting Notice and Agenda Package [Attached]
    b. ICG Agenda
    c. ICG Agenda Attachment - Membership Update Form, [Attached]
    d. ICG Agenda Attachment - Modeling Methodology and Assumptions [Attached]
    e. ICG Agenda Attachment - Project Lists [presented separately in Appendix F]
    f. ICG Agenda Attachment - Conformity Analysis Schedule [Attached]

9) March 25, 2010 Advance Notice for the ICG meeting to EPA, FHWA, FTA, HRAQC (LPO), VDEQ, VDOT District staff, VDOT Planning staff, and HRTPO and TTAC representatives.

<E.1 - HRTPO Certification Letter for Approval of the Conformity Analysis – June 2010>

<E.2 - Public Notice for the draft Conformity Analysis – May-June 2010>

AGENDA ITEM #13: FOR YOUR INFORMATION

A. TRANSPORTATION TECHNICAL ADVISORY COMMITTEE SUMMARY MINUTES

The summary minutes of the May 5, 2010 Transportation Technical Advisory Committee meeting are attached.

Attachment 13-A

B. HIGH-SPEED AND INTERCITY PASSENGER RAIL STEERING COMMITTEE SUMMARY MINUTES

The summary minutes of the April 21, 2010 High-Speed and Intercity Passenger Rail Steering Committee meeting are attached.

Attachment 13-B

C. HRTPO TREASURER'S REPORT

Attachment 13-C

D. ARRA TRANSPORTATION AND INFRASTRUCTURE REPORTING

Congressman James L. Oberstar, Transportation and Infrastructure (T & I) Committee Chairman, pledged the Committee will closely oversee the implementation of transportation and infrastructure provisions of the American Reinvestment and Recovery Act (ARRA) to ensure the funds provided are invested quickly, efficiently, and in harmony with the job-creating purposes of this Act. The attachment includes information from Virginia's April 2010 T & I Committee report, summarized by MPO.

Attachment 13-D

E. DRAFT FY 2011-2016 SIX-YEAR IMPROVEMENT PROGRAM: PUBLIC INPUT

The Commonwealth Transportation Board (CTB) will hold four public hearings to solicit public comments regarding essential rail, transit, transportation demand management, bicycle, pedestrian, and highway projects in the Working Draft of the Fiscal Year 2011-2016 Six-Year Improvement Program (SYIP) to be approved by the CTB in June 2010. The Draft SYIP will be released on May 19, 2010.

The public hearing for the Hampton Roads District will be held on June 2, 2010 at the Chesapeake Conference Center, 900 Greenbrier Circle, Chesapeake, VA 23320. The Elected Officials' Open House will begin at 5:00 p.m. and the public hearing will begin at 6:00 p.m.

Written comments may be submitted via mail or e-mail until June 11, 2010. For more information, visit: http://virginiadot.org/projects/syp-default.asp.

F. U.S. ROUTE 460 CORRIDOR IMPROVEMENT PROJECT UNDER NEW SOLICITATION

On May 5, 2010, the Virginia Department of Transportation (VDOT) announced it will solicit new proposals for the Route 460 Corridor Improvements, a Public-Private Transportation Act (PPTA) project to build a new Route 460 between Petersburg and Suffolk.

After release of the Solicitation for Conceptual Proposals, potential offerors can submit their conceptual proposals, scheduled for August 5, 2010. The conceptual proposals will include a conceptual financial plan. Once received, Phase One, Quality Control Review, of a six-phase process will be initiated with subsequent evaluation and short-listing of offerors to move forward in the PPTA procurement process.

For more information on Route 460 and the Public-Private Transportation Act process, visit www.route460ppta.org.

G. APPROVAL OF NEARLY $500 MILLION IN TRANSPORTATION BONDS

On April 30, 2010, Governor Bob McDonnell approved the sale of nearly $500 million in bonds to advance transportation projects managed by the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transportation (DRPT). The bonds are scheduled to be sold in May 2010.

In addition, the Governor has directed VDOT to sell $293 million of bonds in FY 2011 and another $300 million in each fiscal year from 2012 through 2016 as part of the Commonwealth's Six-Year Improvement Program (SYIP).

The bond funding will be combined with other State and Federal dollars to continue moving projects forward when the Commonwealth updates its FY 2011-2016 SYIP this spring. The bond funding is helping to advance projects around the state, such as the Lynnhaven Interchange on I-264 and the Norfolk Light Rail.

H. TIGER II DISCRETIONARY GRANTS PROGRAM

In a notice in the Federal Register on April 26, 2010, the U.S. DOT announced the availability of funding and requested proposals for National Infrastructure Investments. The U.S. DOT is referring to the grants for National Infrastructure Investments under the FY 2010 Appropriations Act as TIGER II Discretionary Grants. The FY 2010 Appropriations Act appropriated $600 million to be awarded under TIGER II.

Attached is a summary of the TIGER II program, as well as a table that shows a comparison of TIGER versus TIGER II.

Pre-applications for TIGER II grants must be submitted by July 16, 2010. Final applications must be submitted by August 23, 2010. The HRTPO staff is coordinating with TTAC on potential regional projects to be submitted for funding under TIGER II, given the criteria associated with TIGER II.

Attachment 13-H

I. PUBLIC COMMENTS

Attachment 13-I

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HRTPO Comment

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Name: Ray Taylor
Date: April 19, 2010
Subject: Air Quality Conformity Analysis for Amended 2030 LRTP

Comments (Via E-mail):
Subject: Draft List of Projects for Air Quality Conformity Analysis for Amended 2030 LRTP

<u>Background:</u>

- The TPO has requested public review and comment on the draft 2030 Amended Long Range Transportation Plan (LRTP) Conformity Project List.
- The current LRTP for Hampton Road was approved in 2007 and included regional transportation projects totaling about $14 billion dollars over 20 years. The new draft list of projects will total about half of that cost over the same period of time.
- Before the amended 2030 LRTP can be finally approved by the TPO and, later, by the state and FHWA, three steps need to be accomplished: (1) the new draft list of projects must undergo public review before the air quality analysis is performed; (2) the air quality conformity analysis is performed; and (3) the amended 2030 LRTP itself undergoes public review followed by TPO board approval.

<u>Recommendations:</u>

- Recommend a more robust public review process.
    - The LRTP is one of the TPO's most important and most far reaching decisions. It is often the subject of media comment. An action that will reduce by half the scope of the LRTP (and add or delete major projects) is such an immense step that (for this writer) there should be a more substantial effort to inform stakeholders and the general public.
    - A TPO Staff public hearing, a TPO press announcement, or at least a TPO press release, as a minimum, should accompany such a major amendment. If for no other reason, this would square the TPO's activities to its customers and better meet federal goals that seek to develop an informed and aware general public about decisions that presage the future investment of millions in federal public monies.
- Recommend a review of the timing for a more robust public review process—should it occur when the new draft list of projects are sent forth for air quality analysis, or should it occur when (before) the TPO board makes its final decisions and approves the Amended 2030 Plan itself?
    - This is not an easy decision. The air quality conformity analysis that is conducted on the revised "list of projects" is an expensive and time consuming process. Therefore, it would be prudent to gain the benefit of stakeholder and public input before spending the time and money needed for air quality analysis (or risk paying for it twice). That said, when the TPO receives the air quality analysis, it may take additional actions that

affect not just the list of projects but the overall LRTP: (1) it may alter the list due to air quality findings; (2) it may prioritize projects, or (3) it may include TPO strategic decisions and new narrative in the 2030 Plan that were not reviewed in the earlier public comment review period.

Submitted by Ray Taylor

HRTPO Response
Thank you for your email of 4/19/2010 and comments concerning the draft list of projects for Air Quality Conformity Analysis for the Expedited Amended 2030 LRTP and FY 09 - 12 TIP. The following response is from the staffs of HRTPO and VDOT Environmental Division.

For the record, the HRTPO provided two formal public comment opportunities during the Air Quality Conformity Analysis process:

1) At the beginning of the process in the form of a 14-day review and comment period (April 7 - 21, 2010) of the Amended 2030 LRTP and FY 2009 - 2012 TIP. This included an announcement to more than 4,000 e-mail addresses, among them local and regional media and public information officers;

2) At the end of the process in the form of a 14-day review and comment period on the draft Regional Conformity Analysis.

We believe this is reasonable public access to technical information in accordance with 23 CFR 316 (a), the HRTPO Public Participation Plan updated in December 2009, and 40 CFR Part 93.105 (e). During this process, the HRTPO also worked closely with the Interagency Consultation Group (ICG) on methods and assumptions as well as the draft project lists for the conformity analysis. This inter-agency consultation effort included a meeting on Wednesday April 7, 2010 that was open to the public. We note that you attended the April 7th ICG meeting and thank you for your continued interest in the inter-agency consultation process.

In reference to your comments calling for a "more robust public review process", as part of our continuing, cooperative, and comprehensive process, the HRTPO has included an enhanced level of outreach activities during the development of the transportation plans and programs within the 2009 Public Participation Plan (PPP). Some of these activities are: an increased focus on partnerships with regional organizations; improved two-way communications through electronic means by our Public Involvement Administrator and Communications Manager; a Cooperative Agreement with CNU to conduct focus groups and assist with public involvement activities; and increased outreach opportunities during the current and future long range transportation plan updates.

Thank you once again for your comments. Please contact us with any questions.

Camelia Ravanbakht, Ph.D.
Deputy Executive Director

AGENDA ITEM #14: FOR YOUR INFORMATION

A. HRTO SUBCOMMITTEE MINUTES

The minutes from the February 23, 2010 Hampton Roads Transportation Operations (HRTO) Subcommittee can be found on the HRTPO website at http://www.hrtpo.org/MTG_AGNDS/TPO_TTAC_AgnArch.asp.

B. ARRA TRANSPORTATION AND INFRASTRUCTURE REPORTING

Congressman James L. Oberstar, Transportation and Infrastructure (T & I) Committee Chairman, pledged that the Committee will closely oversee the implementation of transportation and infrastructure provisions of the American Reinvestment and Recovery Act (ARRA) to ensure the funds provided are invested quickly, efficiently, and in harmony with the job-creating purposes of this Act. The Commonwealth of Virginia has submitted its April 2010 update to the T & I Committee. The attachment includes information from Virginia's April report, summarized by MPO.

Attachment 14B

C. HRTPO Board Supports CSX National Gateway

During its meeting on April 21, 2010, the HRTPO Board approved the attached resolution supporting the National Gateway, a public-private partnership supported by a coalition of states and public and private organizations interested in increasing the freight capacity between the Midwest and East Coast. The National Gateway project proposes to create a highly efficient freight transportation link by preparing three major rail corridors for double-stack clearance. For more information on the National Gateway project, you may view the presentation by CSX to the HRTPO Board at http://www.hrtpo.org/MTG_AGNDS/HRTPO/2010/April2010/P08_CSX_Presentation.pdf.

Attachment 14C

D. AMERICA'S MARINE HIGHWAYS PROGRAM – PROJECT APPLICATIONS SOLICITED

As indicated in the attachment, USDOT is soliciting applications for Marine Highway Projects as specified in the America's Marine Highway Program Final Rule published in the Federal Register on April 9, 2010. The application period runs through June 11, 2010. You may view the Final Rule at http://frwebgate5.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=393628108043+3+2+0&WAISaction=retrieve .

Attachment 14D

E. PUBLIC COMMENTS

Attachment 14E

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HRTPO Comment

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Name: Ray Taylor
Date: April 27, 2010 *(sic April 19, 2010)*
Subject: Air Quality Conformity Analysis for Amended 2030 LRTP

Comments (Via E-mail):

Subject: Draft List of Projects for Air Quality Conformity Analysis for Amended 2030 LRTP

Background:

- The TPO has requested public review and comment on the draft 2030 Amended Long Range Transportation Plan (LRTP) Conformity Project List.
- The current LRTP for Hampton Road was approved in 2007 and included regional transportation projects totaling about $14 billion dollars over 20 years. The new draft list of projects will total about half of that cost over the same period of time.
- Before the amended 2030 LRTP can be finally approved by the TPO and, later, by the state and FHWA, three steps need to be accomplished: (1) the new draft list of projects must undergo public review before the air quality analysis is performed; (2) the air quality conformity analysis is performed; and (3) the amended 2030 LRTP itself undergoes public review followed by TPO board approval.

Recommendations:

- Recommend a more robust public review process.
  - The LRTP is one of the TPO's most important and most far reaching decisions. It is often the subject of media comment. An action that will reduce by half the scope of the LRTP (and add or delete major projects) is such an immense step that (for this writer) there should be a more substantial effort to inform stakeholders and the general public.
  - A TPO Staff public hearing, a TPO press announcement, or at least a TPO press release, as a minimum, should accompany such a major amendment. If for no other reason, this would square the TPO's activities to its customers and better meet federal goals that seek to develop an informed and aware general public about decisions that presage the future investment of millions in federal public monies.
- Recommend a review of the timing for a more robust public review process—should it occur when the new draft list of projects are sent forth for air quality analysis, or should it occur when (before) the TPO board makes its final decisions and approves the Amended 2030 Plan itself?
  - This is not an easy decision. The air quality conformity analysis that is conducted on the revised "list of projects" is an expensive and time consuming process. Therefore, it would be prudent to gain the benefit of stakeholder and public input before spending the time and money needed for air quality analysis (or risk paying for it twice). That said, when the TPO receives the air quality

analysis, it may take additional actions that affect not just the list of projects but the overall LRTP: (1) it may alter the list due to air quality findings; (2) it may prioritize projects, or (3) it may include TPO strategic decisions and new narrative in the 2030 Plan that were not reviewed in the earlier public comment review period.

Submitted by Ray Taylor

HRTPO Response

Thank you for your email of 4/19/2010 and comments concerning the draft list of projects for Air Quality Conformity Analysis for the Expedited Amended 2030 LRTP and FY 09 - 12 TIP. The following response is from the staffs of HRTPO and VDOT Environmental Division.

For the record, the HRTPO provided two formal public comment opportunities during the Air Quality Conformity Analysis process:

1) At the beginning of the process in the form of a 14-day review and comment period (April 7 - 21, 2010) of the Amended 2030 LRTP and FY 2009 - 2012 TIP. This included an announcement to more than 4,000 e-mail addresses, among them local and regional media and public information officers;

2) At the end of the process in the form of a 14-day review and comment period on the draft Regional Conformity Analysis.

We believe this is reasonable public access to technical information in accordance with 23 CFR 316 (a), the HRTPO Public Participation Plan updated in December 2009, and 40 CFR Part 93.105 (e). During this process, the HRTPO also worked closely with the Interagency Consultation Group (ICG) on methods and assumptions as well as the draft project lists for the conformity analysis. This inter-agency consultation effort included a meeting on Wednesday April 7, 2010 that was open to the public. We note that you attended the April 7th ICG meeting and thank you for your continued interest in the inter-agency consultation process.

In reference to your comments calling for a "more robust public review process", as part of our continuing, cooperative, and comprehensive process, the HRTPO has included an enhanced level of outreach activities during the development of the transportation plans and programs within the 2009 Public Participation Plan (PPP). Some of these activities are: an increased focus on partnerships with regional organizations; improved two-way communications through electronic means by our Public Involvement Administrator and Communications Manager; a Cooperative Agreement with CNU to conduct focus groups and assist with public involvement activities; and increased outreach opportunities during the current and future long range transportation plan updates.

Thank you once again for your comments. Please contact us with any questions.

Provided on-table at the HRTPO Meeting April 21, 2010

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HRTPO Comment

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Name: John Moss
Date: April 16, 2010
Subject: Air Quality Conformity Analysis for Amended 2030 LRTP and FY 2009- 2012 TIP

Comments (Via E-mail):
Good morning,

List was provided without sufficient context that would permit a basis for meaningful public comment on the list.

Request you provide reference to the source document and methodology that qualified projects for "Air Quality Conformity Analysis".

Provide a copy of the guide book, reference manual that describes what constitutes a "Air Quality Conformity Analysis" and the consequence of the findings produced by such an analysis.

To date there is no analysis available that even suggest that the Beach rail extension has any impact significant measurable impact on air quality. Since the analysis of alternatives now being conducted should include air quality impact, what is the needed to another study?

What is the cost of conducting the subject studies and who conducts them.?

Request you provide a copy of previously completed study to aid VBTA in understanding the deliverable.

Sincerely,
John D. Moss
VBTA Chairman

HRTPO Response
Good Afternoon Mr. Moss,

Thank you for your email and comments regarding the draft list of projects for conformity analysis on the amended 2030 LRTP and FY 09-12 TIP.

Below is information we received from Chris Voigt, Virginia Department of Transportation (VDOT) Air Quality Engineer. As well, you can go to the HRTPO website to view the "Consultation Procedures for the Hampton Roads Ozone Nonattainment Area: In Support of

the Transportation Conformity Regulations" at http://www.hrtpo.org/Documents/Reports/Rev_HR_ICP2005.pdf. State agencies involved plan to update the procedures document in the near future.

As background information in response to your email request, the planned regional conformity analysis including the draft project lists was the subject of consultation at a meeting held April 7, 2010 at the HRTPO Regional Building in Chesapeake. A public meeting notice was distributed by e-mail and posted on the HRTPO website. Also attached in Adobe Acrobat (pdf) format is a copy of the agenda package provided for the meeting and the presentation given at the meeting. Attached per your request is a PDF copy of the most recent previously completed conformity analysis (May 2008 for the FY 09-12 Transportation Improvement Program).

In general, determinations of conformity are a federal requirement stemming from the Section 176 of the Clean Air Act. See http://www.epa.gov/air/caa/title1.html#id. The US EPA has issued detailed regulations and guidance for the conduct of the required transportation conformity analyses, which are available on their website at: http://www.epa.gov/otaq/stateresources/transconf/index.htm. The US DOT also maintains a website for transportation conformity (http://www.fhwa.dot.gov/environment/conform.htm), with introductory guides available at: http://www.fhwa.dot.gov/environment/conformity/con_bas.htm.

More specifically, regional conformity analyses (on metropolitan transportation plans and programs) are conducted for areas that are in nonattainment or maintenance of one or more pollutants for which a national ambient air quality standard (NAAQS) has been established by the US EPA. The general intent is to show that regional transportation plans "conform" to the state (air quality) implementation plan and will therefore not worsen air quality. Hampton Roads is currently in maintenance for the ozone standard, so the federal conformity requirements apply. If the studies are not conducted and a finding of conformity not received from the US DOT, then the conformity status of the plan and program will "lapse" by federal regulation.

In response to your question on the consequences of the findings produced by a conformity analysis, a finding of conformity from the US DOT for Plans and Programs (and projects) means that federal requirements for air quality have been met and the plan or program for which the finding was made can proceed. If the plan and/or program are not found to conform, then its conformity status will lapse and the ability to implement the plan or program will be impacted. 40 CFR Part 93.102 of the federal conformity rule addresses applicability. Consequences of conformity lapses and freezes are addressed in

detail in federal guidance available at:
http://www.fhwa.dot.gov/environment/conformity/ref_guid/chap4.htm.

In response to your question on why a regional study is needed when air quality studies are already conducted at a project level, the short answer is that regional conformity requirements apply for regional transportation plans and programs as already referenced, and separate project-level "hot-spot" analysis requirements apply for projects. The former is conducted for the transportation system as a whole, to help ensure regional air quality is protected, and the latter for individual projects, to help ensure that local air quality problems or "hot-spots" are avoided in the construction of individual roadway or transit projects.

In response to your question on costs, the HRTPO publishes cost information annually for its various activities and tasks in its Unified Planning Work Program (UPWP). The current FY 2010 UPWP is available on the HRTPO website at:
http://www.hrtpo.org/TPO_UPWP.asp. Chapter 9 addresses air quality planning, including air quality conformity analysis.

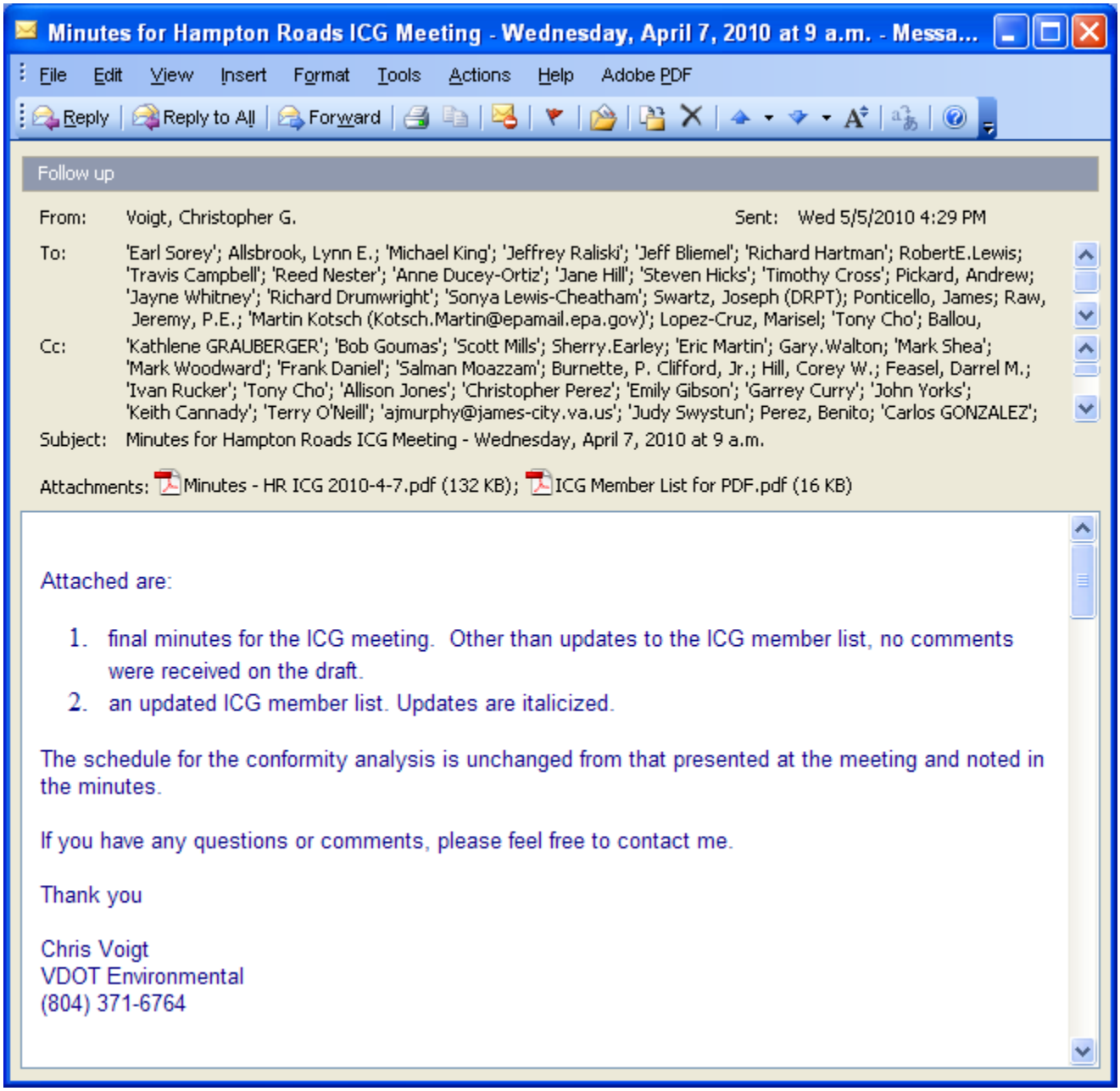
In response to your question about who conducts the conformity analyses for Hampton Roads, the HRTPO is involved in the development of project lists for regional conformity analyses for the transportation plan and program, and all associated consultation activities, while the state DOT conducts the air quality analyses and generates the draft and final regional conformity analysis reports for HRTPO review and approval. Individual project level analysis is the responsibility of the project sponsor.

I hope this information along with the attached documents will help. Please let us know If you have any other questions or comments.
Thanks,

Camelia Ravanbakht, Ph.D.
Deputy Executive Director
Hampton Roads Transportation Planning Organization

Enclosures Included
Public Meeting Notice (April 7, 2010)
ICG Meeting Agenda (April 7, 2010)
ICG Presentation (April 7, 2010)
Regional Conformity Analysis Report (May 2008)

E4a: ICG Final Minutes & Updated Member List



Minutes for Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m. - Messa...

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Follow up

From: Voigt, Christopher G. Sent: Wed 5/5/2010 4:29 PM

To: 'Earl Sorey'; Allsbrook, Lynn E.; 'Michael King'; 'Jeffrey Raliski'; 'Jeff Bliemel'; 'Richard Hartman'; RobertE.Lewis; 'Travis Campbell'; 'Reed Nester'; 'Anne Ducey-Ortiz'; 'Jane Hill'; 'Steven Hicks'; 'Timothy Cross'; Pickard, Andrew; 'Jayne Whitney'; 'Richard Drumwright'; 'Sonya Lewis-Cheatham'; Swartz, Joseph (DRPT); Ponticello, James; Raw, Jeremy, P.E.; 'Martin Kotsch (Kotsch.Martin@epamail.epa.gov)'; Lopez-Cruz, Marisel; 'Tony Cho'; Ballou,

Cc: 'Kathlene GRAUBERGER'; 'Bob Goumas'; 'Scott Mills'; Sherry.Earley; 'Eric Martin'; Gary.Walton; 'Mark Shea'; 'Mark Woodward'; 'Frank Daniel'; 'Salman Moazzam'; Burnette, P. Clifford, Jr.; Hill, Corey W.; Feasel, Darrel M.; 'Ivan Rucker'; 'Tony Cho'; 'Allison Jones'; 'Christopher Perez'; 'Emily Gibson'; 'Garrey Curry'; 'John Yorks'; 'Keith Cannady'; 'Terry O'Neill'; 'ajmurphy@james-city.va.us'; 'Judy Swystun'; Perez, Benito; 'Carlos GONZALEZ';

Subject: Minutes for Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m.

Attachments: Minutes - HR ICG 2010-4-7.pdf (132 KB); ICG Member List for PDF.pdf (16 KB)

Attached are:

1. final minutes for the ICG meeting. Other than updates to the ICG member list, no comments were received on the draft.
2. an updated ICG member list. Updates are italicized.

The schedule for the conformity analysis is unchanged from that presented at the meeting and noted in the minutes.

If you have any questions or comments, please feel free to contact me.

Thank you

Chris Voigt
VDOT Environmental
(804) 371-6764

MINUTES OF THE HAMPTON ROADS
INTER-AGENCY CONSULTATION GROUP (ICG) MEETING

9 a.m., April 7, 2010
The Regional Boardroom
723 Woodlake Drive, Chesapeake, Virginia 23320

MEMBERS ATTENDING:

Richard Drumwright (Chairman), Williamsburg Area Transport Authority
* Earl Sorey, City of Chesapeake
Lynn Allsbrook, City of Hampton
Michael King, City of Newport News
Guzin Akan for Jeffrey Raliski, City of Norfolk
* Jeff Bliemel, City of Poquoson
* Richard Hartman, City of Portsmouth
Sherry Earley for Scott Mills, City of Suffolk
Travis Campbell, City of Virginia Beach
* Reed Nester, City of Williamsburg
Anne Ducey-Ortiz, Gloucester County
Jane Hill, Isle of Wight County
Steven Hicks, James City County
Tim Cross, York County
Andy Pickard, HRTPO
Jayne Whitney, HRT
Tom Ballou for Sonya Lewis-Cheatham, VDEQ
Joseph Swartz, VDRPT
Jim Ponticello, VDOT (C/O Environmental)
Jeremy Raw, VDOT (C/O Planning)
Marisel Lopez-Cruz, US DOT (FHWA)
* Tony Cho, US DOT (FTA)
* Martin Kotsch, US EPA

HAMPTON ROADS AIR QUALITY COMMITTEE (LOCAL PLANNING ORGANIZATION FOR AIR QUALITY):

Tom Ballou, Virginia Department of Environmental Quality

OTHER AGENCY:

Keith Cannady, City of Hampton
Jackie Kassel, City of Newport News
Tom Slaughter, City of Newport News
Dempsey Bruton, City of Virginia Beach
Terri Boothe, City of Virginia Beach
Robert Gey, City of Virginia Beach
Dennis Carney, Town of Windsor
Michael Stallings, Town of Windsor/Isle of Wight County
Carlos Gonzalez, HRTPO
Mike Kimbrel, HRTPO
Keith Nichols, HRTPO
Camelia Ravanbakht, HRTPO
Tony Gibson, VDOT
Jaesup Lee, VDOT
Ray Hunt, VDOT
Eric Stringfield, VDOT
Christopher Voigt, VDOT
Ed Sundra, US DOT (FHWA)

PUBLIC:

Ray Taylor, Future of Hampton Roads

 # Participated by telephone conference call.
** Neither present nor represented by proxy.*

FHWA – Federal Highway Administration
FTA – Federal Transit Administration
HRTPO – Hampton Roads Transportation Planning Organization
HRT – Hampton Roads Transit
US EPA – US Environmental Protection Agency
US DOT – US Dept. of Transportation
VDEQ – Virginia Dept. of Environmental Quality
VDOT – Virginia Dept. of Transportation
VDRPT – Virginia Dept. of Rail and Public Transit

Call to Order

The meeting was called to order at 9:00 a.m. by the Mr. Richard Drumwright, Williamsburg Area Transportation Authority, who serves the chairman of the HRTPO Transportation Technical Advisory Committee (TTAC) and agreed to serve as chairman for this meeting of the ICG.

Mr. Ed Sundra and Ms. Marisel Lopez-Cruz of FHWA participated in the meeting via teleconference.

Public Comment Period

Mr. Drumwright provided an opportunity for any members of the public that were present at the meeting to speak for up to three minutes each. No comments were received.

Approval of Agenda

Mr. Drumwright requested comments or suggestions for additions or deletions to the agenda. No requests were received.

Mr. Drumwright then introduced Mr. Christopher Voigt, VDOT, to give a presentation on the main agenda topics. Print copies of the presentation had been provided on-table. Notes on the presentation including discussion on consultation items are provided below.

MAIN AGENDA

1. Inter-Agency Consultation Group (ICG) Membership

A list of the current members of the ICG was included with the agenda package distributed by email a week before the meeting. An updated list that reflected changes requested in the past week was presented to those in attendance, and an opportunity for further updates provided. The updated list is copied below. New members are italicized. A reference to the applicable ICG procedures document was given as follows: "2005 ICG *Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations.*"

No requests for additional updates or changes to the membership list were received.

2. Regional Conformity Analysis for the Hampton Roads Amended 2030 Long Range Transportation Plan (LRTP) & FY 09-12 Transportation Improvement Program (TIP)

In the presentation it was noted that both federal and state regulations require consultation for transportation conformity purposes to begin the consultation process for the conformity analysis. Additionally, in response to requirements in the federal regulation, consultation procedures last updated in 2005 for the HRTPO also apply and are being followed for this conformity analysis.

More specifically, consultation is required for

- the emission model and associated methods and assumptions. More detail is provided in the draft report text, which was included as Attachment 2a with the agenda.
- the identification of regionally significant projects, as represented in the HRTPO project lists for the Amended 2030 Plan & FY 09-12 TIP that were provided as Attachment 2b to the agenda, and

Agenda Item #1: Current ICG Membership (4/7/2010)

City/County		
City of Chesapeake	Earl	Sorey
City of Hampton	Lynn	Allsbrook
City of Newport News	*Michael*	*King*
City of Norfolk	Jeffrey	Raliski
City of Poquoson	*Jeff*	*Bliemel*
City of Portsmouth	Richard	Hartman
City of Suffolk	Scott	Mills
City of Virginia Beach	Travis	Campbell
City of Williamsburg	Reed	Nester
Gloucester County	*Anne*	*Ducey-Ortiz*
Isle of Wight County	*Jane*	*Hill*
James City County	*Steven*	*Hicks*
York County	Timothy	Cross
Regional		
Hampton Roads Transportation Planning Organization	*Andy*	*Pickard*
Hampton Roads Transit	Jayne	Whitney
Williamsburg Area Transit Authority	Richard	Drumwright
State		
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham
Virginia Dept. of Rail & Public Transportation	*Joseph*	*Swartz*
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw
Federal		
Environmental Protection Agency	Martin	Kotsch
Federal Highway Administration	*Marisel*	*Lopez-Cruz*
Federal Transit Administration	Tony	Cho
Alternates / Other (non-voting)		
James City County	*Allen*	*Murphy*
US Navy	Candice	Gay

- the schedule for the conformity analysis, provided as Attachment 2c to the agenda. It was noted that consultation on this item was a requirement of the ICG Procedures specifically and not the federal regulation.

Other key conformity criteria are addressed in the consultation as appropriate. Air quality criteria to be met in regional and project level conformity analyses are tabulated in section 93.109 of the federal conformity rule and include: latest planning assumptions (93.110), latest emissions model (93.111), consultation (93.112), transportation control measures or TCMs (93.113b & c), and emissions budget (93.118). TCMs though listed in the federal conformity rule were not specified in the applicable maintenance plan for Hampton Roads so are not applicable as a criterion. It was noted that the federal conformity rule specifies additional or more detailed criteria that are not listed in the summary table but are addressed in the draft report provided with the agenda package.

Fiscal constraint (93.108) was highlighted as a criterion specified in the federal conformity rule that is not specifically assessed in the air quality conformity analysis, which focuses on emissions

and not financial analyses. Fiscal constraint is in effect a prerequisite for the conformity analysis and taken as implicit in the project lists developed for the Plan and TIP by HRTPO and District Planning staff. It is therefore important to recognize that, since fiscal constraint is a federal criterion, the US DOT may withhold a finding of conformity if it independently finds, concurrent with its review of the final report for the conformity analysis, that the fiscal constraint has not been met for the Plan and/or the TIP even if all other conformity requirements are met and documented in the report for the conformity analysis.

2(a). Modeling Methodology and Assumptions

A detailed review of the methodology and assumptions was included with the agenda package distributed before the meeting. A general overview of the methodology and assumptions to be applied in the analysis was provided at the meeting.

In general, emissions are calculated as the product of estimates for emission factors and vehicle-miles-traveled (VMT). For this analysis, as in previous analyses for Hampton Roads, emissions will be estimated for the primary precursors to ozone formation, namely nitrogen oxides (NO_x) and volatile organic compounds (VOC). The conformity tests to be applied are emission budgets established for these pollutants in the applicable state implementation plan revision, which is the maintenance plan for the eight-hour ozone standard for Hampton Roads approved by EPA in 2007.

The analysis years for the conformity (budget) tests for this analysis will be the same as in the previous conformity analysis for the region: the years for which budgets have been specified in the applicable implementation plan revision (2011 and 2018 in the maintenance plan), the horizon year of the LRTP (2030), and an interim year such that other analysis years are no more than ten years apart. The year 2020 was selected as an interim year to satisfy this requirement.

The approach taken for the calculation of emission factors and VMT was then reviewed, with key considerations highlighted. For emission factors, to meet the requirements of the federal conformity rule at 93.111 for the use of the latest emission model, MOBILE6.2 will be applied within the grace period for the transition to the new MOVES2010 model. This selection of the latest emission model will be further reviewed in more detail later in the presentation.

Sensitivities for emission factors generated with the MOBILE6.2 model were noted generally as including vehicle type and year/mileage, fuel specifications, roadway class and speeds. Local conditions including temperature and relative humidity are also important, and kept consistent as appropriate with the inputs assumed in the development by the VDEQ of the maintenance plan.

Key updates for this analysis for inputs to the MOBILE6.2 model include both vehicle-age and VMT distributions, both of which were recently reviewed and updated in support of the federally-required 2008 Periodic Emission Inventory. The update for vehicle age distributions was based on detailed data obtained from the Department of Motor Vehicles (DMV) for July 1, 2008 and is notable in that it reflects the effects of economic downturn that year, i.e., with relatively fewer new vehicles than observed in previous data. The update for VMT distributions was developed by VDOT using Traffic Monitoring System/Highway Performance Monitoring System (TMS/HPMS) data for 2008. Based on preliminary modeling, it is expected that the net effect of these updates will be to increase modeled fleet average emission factors and correspondingly reduce the margin by which the applicable emission budgets would be met.

Updated forecasts for VMT will be developed using the regional transportation model (TP+) along with a post-processor, following the general approach applied in the previous conformity analysis. Socioeconomic forecasts and Plan and TIP project lists to be applied in the conformity analysis must meet the requirements of the federal conformity rule at 93.110 for the use of latest planning assumptions. The selection of socioeconomic forecasts and identification of regionally significant projects (i.e., the Plan and TIP project lists) for the conformity analysis are reviewed in more detail later in the presentation.

The post-processor is applied to generate regional emission estimates based upon separate estimates for network and off-network facilities including military bases. Off-network facilities such as local and collector roads are not captured in the regional network model, so the needed forecasts for VMT and emissions for these facilities are generated in the post-processor. Adjustments to forecast traffic volumes and VMT are made using TMS/ HPMS data by roadway class for Hampton Roads in 2008 to better reflect levels expected for a typical or average ozone season weekday in the region. Congested speeds are estimated using standard Bureau of Public Roads (BPR) formulae for signalized and unsignalized facilities based upon the ozone season weekday traffic forecasts.

Regarding the choice of the latest emission model, the federal conformity regulation at 40 CFR 93.111(a) requires that: "*The conformity determination must be based on the latest emission estimation model available*." Needed flexibility for when a new model is released is provided in the regulation at 40 CFR 93.111(c), which states that: "*Transportation plan and TIP conformity analyses for which the emissions analysis was begun during the grace period or before the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model*."

On March 2, 2010, EPA officially released the new Motor Vehicle Emission Simulator ("MOVES2010") model for use in SIP development and regional conformity. In keeping with the conformity regulation, EPA provided two-year grace period (ending March 2, 2012) for use of the new model in regional emissions analyses for transportation conformity determinations. After preliminary review in which it was determined that, based on default data provided by EPA, emission estimates generated using new MOVES model may be expected to exceed the currently applicable budgets, and that therefore new budgets established using the new model would be need to be developed, the current model (MOBILE6.2) was selected for this analysis pending an orderly transition to the new MOVES model within the grace period permitted by EPA.

The transition for the new MOVES model will involve the development of appropriate local data inputs (replacing EPA default data) and the subsequent development and approval as needed of SIP revisions to establish new motor vehicle emission budgets for the region. Additional info on the MOVES model and its implications for the region will be provided in a presentation scheduled for the TTAC later today. The MOVES website address (http://www.epa.gov/otaq/ models/moves/index.htm) was noted for those wishing more information on the new model.

Regarding the selection of socioeconomic forecasts to meet latest planning assumptions requirements specified in the federal conformity rule, 40 CFR 93.110(b), which follows federal Clean Air Act (CAA) requirements at 176(c)(1), specifies that: "*Assumptions must be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates and approved by the MPO...*"

Two options for socioeconomic forecasts were identified for this conformity analysis:

- Option 1: Interpolate 2034 socioeconomic forecasts by traffic analysis zone (TAZ) for 2030 (with interpolated values to be developed if this option was selected)

- Option 2: Base this analysis on available forecasts for 2030, which were presented as follows:

Year	Hampton Roads LRTP Study Area			
	Population	Households	Automobiles	Employment
2011	1,693,101	627,306	1,282,689	1,045,049
2018	1,796,281	668,383	1,408,788	1,101,666
2020	1,825,772	680,130	1,444,843	1,117,867
2030	1,973,250	738,865	1,625,000	1,198,775

To facilitate discussion, the views of modeling staff familiar with the forecasts were requested. Mr. Andy Pickard, HRTPO, responded by indicating that he would prefer Option 2 - the use of existing 2030 forecasts - for several reasons, including that technically they were approved for use with the 2030 plan while the 2034 forecasts were approved for use with the 2034 plan. Further, if Option 1 was to be selected, the resulting 2030 socioeconomic data obtained by interpolation may still need to undergo an approval process by the TPO. As well, having two versions of 2030 socioeconomic data being used for studies would be problematic.

Mr. Jeremy Raw, VDOT Transportation and Mobility Planning Division, indicated that there may be a theoretical advantage for Option 1 as the 2034 forecasts are the latest data that have been approved by the TPO. However, approvals may be needed for an interpolated 2030 data set as noted, and the development and approval of an interpolated data set for 2030 would set the schedule back.

A poll was taken to ascertain the preference of the ICG. By motion and majority vote, the ICG indicated their preference to apply the existing 2030 forecasts (Option 2) in this conformity analysis and for this preference to be indicated in the final motion for this agenda item.

No other comments were received on the proposed methodology or assumptions.

2(b). Regionally Significant Projects (Draft Project Lists for the Amended 2030 LRTP & FY 09-12 TIP)

Draft project lists for modeling for the conformity analysis for the amended 2030 LRTP and FY 09-12 TIP were included with the agenda package distributed before the meeting. The lists are as provided by HRTPO and District planning staff.

Key regulatory requirements for the project lists were presented as follows:

- 40 CFR 93.101: "*Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the*

region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel."

- 40 CFR 93.108: "*Transportation plans and TIPs must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450 in order to be found in conformity.*"
- 23 CFR 450.324g: "*Each project or project phase included in the TIP shall be consistent with the approved metropolitan transportation plan.*"

In brief, the project lists for modeling for the conformity analysis need to include all regionally significant projects for the Plan and TIP, which must meet fiscal constraint and consistency requirements.

Adjustments as specified by District and TPO Planning staff to the Plan and TIP project lists that were distributed with the agenda package prior to the meeting were presented as follows:

- TIP: UPC 14600 (Laskin Road) – Amend to PE/RW only
- Plan: Replace description of High Speed and Intercity Passenger Rail from "upgrade" to "Conventional Rail, Norf. to Rich."
- Other?

No comments were made on the project lists or adjustments as listed in the presentation. No other changes or adjustments to the project lists were requested.

2(c). Draft Conformity Analysis Schedule

A copy of the proposed schedule was distributed with the agenda package for this meeting. The proposed schedule included detailed task descriptions for both the development of the project lists prior to this ICG meeting and the subsequent steps for the conformity analysis itself. An excerpt copied below showing just the steps in the conformity analysis was presented at the meeting.

Key steps for the conformity analysis were noted as follows:

- The ICG meeting today at which methods and assumptions and the list of regionally significant projects would be finalized.
- Transportation network coding and modeling will take place this month (April), with the results forwarded at the end of the month for the emissions analysis.
- Emission modeling and completion of the draft report including agency internal reviews would be completed in May, in time for distribution of the draft report for the June TTAC. The 14-day public review period as required by the 2009 Hampton Roads Public Participation Plan for the draft conformity analysis and finding would be initiated at the same time.
- The TPO would approve the final draft conformity analysis and finding in June.
- The US DOT review and approval process would be initiated, which typically takes about 45 days. The US DOT finding of conformity would be expected in August.

No comments on the proposed schedule were received.

Draft Conformity Analysis Schedule

2010

April	• **7th: Interagency Consultation Group (ICG) Kickoff Meeting**: Review of methodology, assumptions and the project list for modeling for the conformity analysis. *PROJECT LIST FOR MODELING FINALIZED AT THE ICG. ANY SUBSEQUENT CHANGES MAY REQUIRE RESTARTING THE CONFORMITY PROCESS FROM THIS STEP.* • Initiation of 14-day public review period (ending 4/21 or shortly thereafter) on the project list(s), as required by the 2009 Hampton Roads Public Participation Plan (PPP) • 28th: Transportation network modeling completed & results transmitted to VDOT Air Quality. ○ Emission modeling and update of associated draft conformity analysis report text initiated.
May	• **14th: Draft conformity analysis completed.** Emission modeling, conformity determination & draft report. • 17th-20th: VDOT/VDEQ/HRTPO staff review of draft conformity analysis. • 24th: Draft Conformity Analysis transmitted to HRTPO for the TTAC meeting agenda. • 26th: HRTPO Initiation of 14-day Public Review for the draft conformity analysis & finding (ends 6/9).
June	• 2nd: TTAC reviews & recommends approval of draft conformity analysis & finding, subject to receipt of no adverse comment in public review or none requiring TTAC review. • 10th-14th: VDOT/HRTPO staff review and draft response to comments received (if any) in public review, for consideration by the HRTPO. • **16th: TPO approval of the final draft conformity analysis and finding** (and the response to comments if any). ○ 17th: TPO approval letter issued. VDOT sends Final Report with TPO approval letter to printing. • 23rd: VDOT transmits the Final Conformity Analysis (print copies) and TPO Letter to FHWA. Federal review period (typically 45 days) begins upon receipt of print copies. FHWA coordinates the review with FTA and consults with EPA.
August	• **7th: US DOT finding of conformity** (letter from FHWA).

Consensus Items (per ICG Procedures)

ICG consensus for the following items was requested:

- Methodology & Assumptions (as presented in the attachment 2a to the agenda), including the use of the
  - latest emission model (MOBILE6.2, within the grace period for MOVES2010), and the
  - latest planning assumptions and associated modeling data and assumptions, including the use of: existing 2030 socioeconomic forecasts and updated 2008 fleet / activity data,

- Regionally Significant Projects (Project lists for the amended 2030 LRTP and FY 09-12 TIP as presented in attachment 2b to the agenda with the following adjustments):
  - TIP: UPC 14600 – Laskin Road, amended to PE/RW only,
  - Plan: Replace description of High Speed and Intercity Passenger Rail from "upgrade" to "Conventional Rail, Norf. to Rich."

and

- Schedule (as presented in attachment 2c to the agenda)

Mr. Jim Ponticello, VDOT, moved to approve the motion as stated. Mr. Pickard seconded the motion. The ICG voted unanimously to approve the motion.

3. ICG Conformity Consultation Procedures Update – Advance Notice

The current ICG conformity consultation procedures as previously referenced were last updated and approved by the metropolitan planning organization (MPO) in 2005. That update was based on federal conformity rule requirements specified in 40 CFR 93.105. A copy of the 2005 procedures is available on the HRTPO website at: http://www.hrtpo.org/Documents/Reports/Rev_HR_ICP2005.pdf

An update is planned following the recent approval by the US EPA of a new federally-required (40 CFR Part 51) state regulation for transportation conformity (9 VAC 5–151). The state regulation was developed by the VDEQ in compliance with federal requirements and approved via federal register notice effective January 19, 2010.

The new state regulation generally mirrors existing federal consultation requirements. One key change is that it specifically adds consultation with the Lead Planning Organization (LPO). For Hampton Roads, the LPO is Hampton Roads Air Quality Committee (HRAQC). To meet this new requirement, the VDEQ staff representative for the HRAQC was added to consultation list for this analysis.

The planned update to the ICG procedures document will be initiated following the completion of this conformity analysis. While it will incorporate or otherwise address specific language as appropriate from the state regulation, other elements of the document may be updated at the same time. For example, process and other changes as may be desired by the ICG and editorial changes as needed may also be incorporated at the same time.

4. Next Steps

Next steps include:

- initiation of modeling for the conformity analysis
- update for the ICG Consultation Procedures following the completion of the conformity analysis for the Amended 2030 LRTP and FY 09-12 TIP

For more information, contact:

Christopher Voigt,
VDOT Environmental
(804) 371-6764
christopher.voigt@vdot.virginia.gov

CV

Updated Member List

Hampton Roads Interagency Consultation Group

As of April 21, 2010

Agency	*Staff*	
City/County		
City of Chesapeake	Earl	Sorey
City of Hampton	Lynn	Allsbrook
City of Newport News	Michael	King
City of Norfolk	Jeffrey	Raliski
City of Poquoson	Jeff	Bliemel
City of Portsmouth	Richard	Hartman
City of Suffolk	*Robert*	*Lewis*
City of Virginia Beach	Travis	Campbell
City of Williamsburg	Reed	Nester
Gloucester County	Anne	Ducey-Ortiz
Isle of Wight County	Jane	Hill
James City County	Steven	Hicks
York County	Timothy	Cross
Regional		
Hampton Roads Transportation Planning Organization	Andy	Pickard
Hampton Roads Transit	Jayne	Whitney
Williamsburg Area Transit Authority	Richard	Drumwright
State		
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham
Virginia Dept. of Rail & Public Transportation	Joseph	Swartz
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw
Federal		
Environmental Protection Agency	Martin	Kotsch
Federal Highway Administration	Marisel	Lopez-Cruz
Federal Transit Administration	Tony	Cho
Alternates / Other (non-voting)		
City of Suffolk	*Sherry*	*Earley*
James City County	Allen	Murphy
US Navy	*Jennifer*	*Tabor*

E4b: ICG Draft Minutes Transmittal

RE: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m. - Message (HT...

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Reply | Reply to All | Forward

You replied on 5/5/2010 4:03 PM.

From: Voigt, Christopher G. Sent: Mon 4/19/2010 1:48 PM

To: 'Earl Sorey'; Allsbrook, Lynn E.; 'Michael King'; 'Jeffrey Raliski'; 'Jeff Bliemel'; 'Richard Hartman'; 'Scott Mills'; 'Travis Campbell'; 'Reed Nester'; 'Anne Ducey-Ortiz'; 'Jane Hill'; 'Steven Hicks'; 'Timothy Cross'; Pickard, Andrew; 'Jayne Whitney'; 'Richard Drumwright'; 'Sonya Lewis-Cheatham'; Swartz, Joseph (DRPT); Ponticello, James; Raw, Jeremy, P.E.; 'Martin Kotsch (Kotsch.Martin@epamail.epa.gov)'; Lopez-Cruz, Marisel; 'Tony Cho'; Ballou,

Cc: 'Kathlene GRAUBERGER'; 'Bob Goumas'; RobertE.Lewis; Sherry.Earley; 'Eric Martin'; Gary.Walton; 'Mark Shea'; 'Mark Woodward'; 'Frank Daniel'; 'Salman Moazzam'; Burnette, P. Clifford, Jr.; Hill, Corey W.; Feasel, Darrel M.; 'Ivan Rucker'; 'Tony Cho'; 'Allison Jones'; 'Christopher Perez'; 'Emily Gibson'; 'Garrey Curry'; 'John Yorks'; 'Keith Cannady'; 'Terry O'Neill'; 'Judy Swystun'; Perez, Benito; 'Carlos GONZALEZ'; 'Camelia RAVANBAKHT'; Farmer,

Subject: RE: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m.

Attachments: Draft Minutes - HR ICG 2010-4-7 v4.pdf (132 KB)

Draft minutes for the April 7, 2010 ICG meeting are attached in Adobe Acrobat (PDF) format. Please provide any comments that you may have to me by COB on **Monday, April 26, 2010**.

Thank you

Chris Voigt
VDOT Environmental Division
(804) 371-6764

From: Voigt, Christopher G.
Sent: Wednesday, March 31, 2010 5:01 PM
To: Earl Sorey; Allsbrook, Lynn E.; Michael King; Jeffrey Raliski; Jeff Bliemel; Richard Hartman; Scott Mills; Travis Campbell; Reed Nester; Anne Ducey-Ortiz; Jane Hill; Steven Hicks; Timothy Cross; Pickard, Andrew; Jayne Whitney; Richard Drumwright; Sonya Lewis-Cheatham; Swartz, Joseph (DRPT); Ponticello, James; Raw, Jeremy, P.E.; 'Martin Kotsch (Kotsch.Martin@epamail.epa.gov)'; Lopez-Cruz, Marisel; Tony Cho; Ballou, Thomas (DEQ)
Cc: 'Kathlene GRAUBERGER'; Bob Goumas; RobertE.Lewis; Sherry.Earley; Eric Martin; Gary.Walton; Mark Shea; Mark Woodward; Frank Daniel; Salman Moazzam; Burnette, P. Clifford, Jr.; Hill, Corey W.; Feasel, Darrel M.; Ivan Rucker; Tony Cho; Allison Jones; Christopher Perez; Emily Gibson; Garrey Curry; John Yorks; Keith Cannady; Terry O'Neill; Judy Swystun; Perez, Benito; Carlos GONZALEZ; Camelia RAVANBAKHT; Farmer, Dwight L.; Stith, Dale; Jessica BANKS; Joe PAULUS; Keith NICHOLS; Mike KIMBREL; Case, Robert B.; Samuel BELFIELD; Stephanie SHEALEY; Carol Russell; David C. Sullivan; Karen Waterman; Vince Jackson; Beverly Walkup; Edwin Wrightson; Barbara Creel; Ellen Cook; Luke Vinciguerra; Mark Rickards; Tammy Rosario; W. Leon Sisco; 'mitchell.cooperman@navy.mil'; Alexander.Tsybin; Carl Jackson; David Wilkinson; Jacqueline.Kassel; Thomas.Slaughter; Amanda Christon; Guzin Akan; John M. Keifer; RobertD.Brown; Deborah.Vest; Joseph.Carter; Jonathan L. Montgomery; Arthur Moye; Heather Mantz; Florin, Jeff; Kevin Abt; Fred Brusso; Youssef Khalil; Mark Yehlen; Peter M. Stephenson; Cynthia Creede; Randy Brown; Tiffany Duffy; John E. Fowler; Mark Schnaufer; Phillip.Pullen; Robert Gey; Robert R. Matthias; Jack, Adam J. PE; Gibson, Anthony J; Duvall, Bruce L. PE; Heuer, Dennis W., PE; Stringfield, Eric L.; Shuman, Irene E.; Neblett, Mac PE; Corwin, Mike A, PE; Hunt, Alan R. 'Ray'; Partridge, Raymond T.; Hanshaw, Stephany D.; Brich, Stephen C. 'Steve'; Rowan, Steve A.; Halacy, Todd M, PE; Christopher Heath; Carolyn Murphy; Daniel Clayton; Rodney Rhodes; Steve Martin; Michael Stallings; Earl Anderson; Amy Parker; JohnM.Carter; Albert Maddalena; McLeod, Doris (DEQ); 'candice.gay@navy.mil'; 'Kurt Falkenstein (kfalkenstein@windsor-va.gov)'; Tucker, Chad J.; Mannell, Robert B.; Curling, Samuel F.; Lee, Jaesup
Subject: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m.

RE: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m. - Message (HT...

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To: 'Earl Sorey'; Allsbrook, Lynn E.; 'Michael King'; 'Jeffrey Raliski'; 'Jeff Bliemel'; 'Richard Hartman'; 'Scott Mills'; 'Travis Campbell'; 'Reed Nester'; 'Anne Ducey-Ortiz'; 'Jane Hill'; 'Steven Hicks'; 'Timothy Cross'; Pickard, Andrew; 'Jayne Whitney'; 'Richard Drumwright'; 'Sonya Lewis-Cheatham'; Swartz, Joseph (DRPT); Ponticello, James; Raw, Jeremy, P.E.; 'Martin Kotsch (Kotsch.Martin@epamail.epa.gov)'; Lopez-Cruz, Marisel; 'Tony Cho'; Ballou,

Cc: 'Kathlene GRAUBERGER'; 'Bob Goumas'; RobertE.Lewis; Sherry.Earley; 'Eric Martin'; Gary.Walton; 'Mark Shea'; 'Mark Woodward'; 'Frank Daniel'; 'Salman Moazzam'; Burnette, P. Clifford, Jr.; Hill, Corey W.; Feasel, Darrel M.; 'Ivan Rucker'; 'Tony Cho'; 'Allison Jones'; 'Christopher Perez'; 'Emily Gibson'; 'Garrey Curry'; 'John Yorks'; 'Keith Cannady'; 'Terry O'Neill'; 'Judy Swystun'; Perez, Benito; 'Carlos GONZALEZ'; 'Camelia RAVANBAKHT'; Farmer,

Subject: RE: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m.

Attachments: Draft Minutes - HR ICG 2010-4-7 v4.pdf (132 KB)

Lee, Jaesup

Subject: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m.

To: Members of the Hampton Roads Interagency Consultation Group
Hampton Roads Air Quality Committee (DEQ Staff Representative)

Subject: Hampton Roads ICG Meeting

An Inter-Agency Consultation Group (ICG) meeting is scheduled for Wednesday, April 7, 2010, beginning at 9:00 AM, prior to the start of the regularly-scheduled Transportation Technical Advisory Committee (TTAC) meeting in the Regional Building Board Room in Chesapeake. The focus of the ICG meeting will be consultation on the upcoming air quality conformity analysis for the amended Hampton Roads 2030 Long Range Transportation Plan (LRTP) and FY 09-12 Transportation Improvement Program (TIP). A copy of the agenda package in Adobe Acrobat (pdf) format is attached. A separate public notice is planned for the meeting.

A call-in line will be arranged for those that would like to participate by teleconference. Please let me know by close of business on Friday, April 2, 2010 if you plan to call in.

Please note that a quorum is needed for this meeting. If you are unable to attend the meeting, please make arrangements for a proxy from your jurisdiction to represent you. Please let me know if you have any questions.

Thank You

Christopher Voigt
VDOT Environmental Division
(804) 371-6764

cc: Other interested parties (including all TTAC Members)

Attachment: ICG Agenda Package

E5: HRTPO Public Notice for the Draft Project Lists

HRTPO Public Notices - Message (HTML)

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From: HRTPO [news@hrpdcva.ccsend.com] on behalf of HRTPO [news@hrpdcva.gov]
Sent: Wed 4/7/2010 6:04 PM
To: cgonzalez@hrpdcva.gov
Cc:
Subject: HRTPO Public Notices

Having trouble viewing this email? Click here

HRTPO Public Notices

For Immediate Release

Contact:
Camelia Ravanbakht
Deputy Executive Director
Tel: (757) 420-8300
Fax: (757) 523-4881
cravanbakht@hrpdcva.gov
http://www.hrtpo.org

The Hampton Roads Transportation Planning Organization (HRTPO), the federally recognized metropolitan planning organization responsible for transportation planning in the Hampton Roads region, currently has the following public notices available for review on its website, www.hrtpo.org. Click on the links below to be taken to the HRTPO website to review the public notices.

Public Notices

Below is a list of Reports and/or Studies available for public review. Expiration dates (if listed) refer to the Public Review Period.

FY2011 HRTPO Unified Planning Work Program (UPWP) - DRAFT 2, April 14, 2010

Draft Lists of Projects for Air Quality Conformity Analysis for Amended 2030 LRTP and Amendned FY09-12 TIP, April 21, 2010

TIP Amendments

Below is a list of proposed TIP amendments available for public review. Expiration dates (if listed) refer to the Public Review period.

Hampton Roads FY 2009-2012 Transportation Improvement Program -Proposed Amendment, April 14, 2010

Hampton Roads FY 2009-2012 Transportation Improvement Program -Norfolk CMAQ Transfer Request, April 21, 2010

April 7, 2010 Notice of Project Lists as posted on the HRTPO website:

Draft Lists of Projects for Air Quality Conformity Analysis for Amended 2030 LRTP and Amended FY09-12 TIP

The Hampton Roads Transportation Planning Organization (HRTPO) requests public review and comment on the draft 2030 Amended Long Range Transportation Plan (LRTP) Conformity Project List and the draft Amended FY 2009-2012 Transportation Improvement Program (TIP) Project List for the Hampton Roads, Virginia Eight-Hour Ozone Maintenance Area. The 2030 LRTP is being amended with regards to previously approved Hampton Roads Transportation Authority (HRTA) funds and add projects to the plan to compete for potential federal stimulus and transit grants. An Air Quality Conformity analysis was previously performed for the 2030 LRTP in 2007.

Due to the Ozone Maintenance Area designation, the HRTPO is required to perform an air quality conformity analysis whenever significant changes are made to the LRTP or TIP. The analysis ensures the emissions produced by future traffic do not exceed levels prescribed by the Environmental Protection Agency. This announcement provides interested parties an opportunity to review and provide input about the revised list of projects within the 2030 Amended LRTP and FY 2009 - 2012 TIP.

Draft 2030 Amended LRTP Conformity Project List

Draft Amended FY 2009-2012 TIP Project List

All interested parties are encouraged to review the information send comments to Carlos Gonzalez, Public Involvement Administrator, atmailto:cgonzalez@hrpdcva.gov or by mail to 723 Woodlake Drive, Chesapeake, Virginia 23320. **The deadline for comments on these draft project lists is April 21, 2010.**

The HRTPO strives to provide reasonable accommodations and services for persons who require special assistance to participate in this public involvement opportunity. Contact the Communications Manager at (757) 420-8300 for more information. *Para información en español, llame al (757) 366-4375.*

E6: ICG 4/7/2010 Meeting Presentation

Hampton Roads Regional Conformity Analysis

Amended 2030 Long Range Transportation Plan and FY 09-12 Transportation Improvement Program

Interagency Consultation Group Meeting

April 7, 2010 – 9:00 a.m.
Regional Boardroom
723 Woodlake Drive, Chesapeake, Va

Public Comment Period

Three minute limit per individual

Approval of Agenda

1. ICG Membership Update

2. Regional Conformity Analysis: Amended 2030 LRTP & FY 09-12 TIP
   a) Modeling Methodology & Assumptions
   b) Regionally Significant Projects
      (Project list for conformity analysis)
   c) Schedule

3. Planned ICG Conformity Consultation Procedures Update
   (Advance Notice)

4. Next Steps

1. ICG Membership

Current Members

(Attachment #1 to the agenda)

Agency listing per the 2005 ICG "Consultation Procedures for the Hampton Roads Ozone Nonattainment Area in Support of the Transportation Conformity Regulations"

City/County		
City of Chesapeake	Earl	Sorey
City of Hampton	Lynn	Allsbrook
City of Newport News	*Michael*	*King*
City of Norfolk	Jeffrey	Raliski
City of Poquoson	*Jeff*	*Bliemel*
City of Portsmouth	Richard	Hartman
City of Suffolk	Scott	Mills
City of Virginia Beach	Travis	Campbell
City of Williamsburg	Reed	Nester
Gloucester County	*Anne*	*Ducey-Ortiz*
Isle of Wight County	*Jane*	*Hill*
James City County	*Steven*	*Hicks*
York County	Timothy	Cross
Regional		
Hampton Roads Transportation Planning Organization	*Andy*	*Pickard*
Hampton Roads Transit	Jayne	Whitney
Williamsburg Area Transit Authority	Richard	Drumwright
State		
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham
Virginia Dept. of Rail & Public Transportation	*Joseph*	*Swartz*
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw
Federal		
Environmental Protection Agency	Martin	Kotsch
Federal Highway Administration	*Marisel*	*Lopez-Cruz*
Federal Transit Administration	Tony	Cho
Alternates / Other (non-voting)		
James City County	*Allen*	*Murphy*
US Navy	Candice	Gay

2. Regional Conformity Analysis: Consultation Requirements

- **Regulations & Guidance**
  - Federal and State Transportation Conformity Rules
    - MPO approved ICG Conformity Consultation Procedures in September 2005.
  - Public Consultation per Hampton Roads Public Participation Plan (2009)

- **Consultation specifically required for:**
  - Emission Model and "Associated Methods and Assumptions"
    - **Draft report text: Attachment 2a**
  - Regionally Significant Projects
    - **Plan & TIP lists: Attachment 2b**
  - Schedule (ICG Procedural requirement)
    - » **Attachment 2c**

- **Key conformity criteria also addressed as appropriate**

2. Regional Conformity Analysis: Key Conformity Criteria

Federal Conformity Rule Requirement 40 CFR Section:	Criteria (40 CFR 93.109+)	Demonstrated for the:	
		LRTP	TIP
93.108	Fiscal constraint (Final Determination with TPO)		
93.110	Latest planning assumptions		
93.111	Latest emissions model		
93.112	Consultation		
93.113(b) & (c)	TCMs	na	na
93.118	Emissions Budget		

2(a) Methodology & Assumptions: General

Emissions = Emission Factor * VMT

- NO_x and VOC (ozone precursors)
- Conformity tests: (40 CFR 93.118) Emission budgets set in applicable SIP (2007 Maintenance Plan)*
- Analysis Years: 2011 & 2018 (budgets from MP), 2030 (LRTP horizon year), and 2020 (EPA 10 year rule).

**See Exhibit 2-2 in Att.2a*

- 93.111 Latest emission model: MOBILE6.2, within grace period for transition to new MOVES2010 model
- Sensitivities:
  - vehicle type & age/ mileage,
  - fuel specifications,
  - roadway class, and
  - speeds.
- *Key updates (developed for the 2008 Periodic Emission Inventory):*
  - *vehicle age distributions, based on DMV data*
  - *VMT distributions, based on HPMS/TMS data*
  - *Net effect to increase EFs*

- Regional transportation model (TP+)

  93.110 Latest Planning Assumptions:
  - socioeconomic forecasts
  - regionally significant projects (Plan/TIP lists)
- Post-Processor:
  - Off-network (local & collector road) VMT projections
  - NW & Off-NW VMT totaled for each roadway
  - *Total VMT for each roadway adjusted to average ozone season weekday*
    - *Update: 2008 HPMS/TMS*
  - Congested speeds using BPR formulae (signalized & non-signalized roadways)

2(a) Methodology & Assumptions: 40 CFR 93.111 Latest Emission Model

- **Conformity Rule:**
  - 40 CFR 93.111(a): "The conformity determination must be based on the *latest emission estimation model* available."
  - 40 CFR 93.111(c): "Transportation plan and TIP conformity analyses for which the emissions analysis was begun during the *grace period* or before the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model."

- **Selection of emission model for this analysis:**
  - March 2, 2010: EPA officially released the new Motor Vehicle Emission Simulator ("MOVES2010") model* for use in SIP development & regional conformity.
  - Two-Year Grace Period (ending March 2, 2012): provided by EPA for use of the new model in regional emissions analyses for transportation conformity determinations.
  - Model selected for this analysis: MOBILE6.2 (the current model), pending an orderly transition to the new MOVES model within the grace period permitted by EPA

- **Transition planning for the new MOVES model:**
  - Local data inputs to be established (replacing EPA default data)
  - SIP revisions to establish new motor vehicle emission budgets may be needed.
  - *Additional info in MOVES presentation scheduled for the TTAC later today*.

**MOVES website: http://www.epa.gov/otaq/models/moves/index.htm*

2(a) Methodology & Assumptions: 40 CFR 93.110
Latest Planning Assumptions – Socioeconomic Forecasts

- **40 CFR 93.110(b), following CAA 176(c)(1):** "*Assumptions must be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates and approved by the MPO...*"

- **Option 1: Interpolate 2034 socioeconomic forecasts by TAZ for 2030**
- **Option 2: Base this analysis on available forecasts for 2030***

Year	Hampton Roads LRTP Study Area			
	Population	Households	Automobiles	Employment
2011	1,693,101	627,306	1,282,689	1,045,049
2018	1,796,281	668,383	1,408,788	1,101,666
2020	1,825,772	680,130	1,444,843	1,117,867
2030	1,973,250	738,865	1,625,000	1,198,775

**See Exhibit 2-3 in Att.2a*

2(b). Methodology & Assumptions: Regionally Significant Projects

- **Amended 2030 Plan & FY 09-12 TIP project lists included with the agenda package (Attachment #2b)**

- **Key considerations:**
  - 40 CFR 93.101: "*Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel."*
  - 40 CFR 93.108: *"Transportation plans and TIPs must be fiscally constrained consistent with DOT's metropolitan planning regulations at 23 CFR part 450 in order to be found in conformity."*
  - 23 CFR 450.324g: "*Each project or project phase included in the TIP shall be consistent with the approved metropolitan transportation plan*."

- **Project List Adjustments:**
  - TIP: UPC 14600 (Laskin Road) – Amend to PE/RW only
  - Plan: Replace description of High Speed and Intercity Passenger Rail from "upgrade" to **"Conventional Rail, Norf. to Rich."**
  - Other?

2(c). Conformity Analysis Schedule (Att.2c)

2010

April	• **7th: Interagency Consultation Group (ICG) Kickoff Meeting**: Review of methodology, assumptions and the project list for modeling for the conformity analysis. *PROJECT LIST FOR MODELING FINALIZED AT THE ICG. ANY SUBSEQUENT CHANGES MAY REQUIRE RESTARTING THE CONFORMITY PROCESS FROM THIS STEP.* • Initiation of 14-day public review period (ending 4/21 or shortly thereafter) on the project list(s), as required by the 2009 Hampton Roads Public Participation Plan (PPP) • 28th: Transportation network modeling completed & results transmitted to VDOT Air Quality. ○ Emission modeling and update of associated draft conformity analysis report text initiated.
May	• **14th: Draft conformity analysis completed.** Emission modeling, conformity determination & draft report. • 17th-20th: VDOT/VDEQ/HRTPO staff review of draft conformity analysis. • 24th: Draft Conformity Analysis transmitted to HRTPO for the TTAC meeting agenda. • 26th: HRTPO Initiation of 14-day Public Review for the draft conformity analysis & finding (ends 6/9).
June	• 2nd: TTAC reviews & recommends approval of draft conformity analysis & finding, subject to receipt of no adverse comment in public review or none requiring TTAC review. • 10th-14th: VDOT/HRTPO staff review and draft response to comments received (if any) in public review, for consideration by the HRTPO. • **16th: TPO approval of the final draft conformity analysis and finding** (and the response to comments if any). ○ 17th: TPO approval letter issued. VDOT sends Final Report with TPO approval letter to printing. • 23rd: VDOT transmits the Final Conformity Analysis (print copies) and TPO Letter to FHWA. Federal review period (typically 45 days) begins upon receipt of print copies. FHWA coordinates the review with FTA and consults with EPA.
August	• **7th: US DOT finding of conformity** (letter from FHWA).

2. Regional Conformity Analysis: Consensus Items *(per ICG Procedures)*

- **Methodology & Assumptions (See Attachment 2a)**
  - **Latest Emission Model:**
    MOBILE6.2 (within grace period for MOVES2010)
  - **Latest Planning Assumptions & Associated Modeling Data and Assumptions:**
    Including the use of:
    <Option 1 – 2034 socioeconomic forecasts interpolated for 2030 by TAZ, or Option 2 - Existing 2030 socioeconomic forecasts>, and updated 2008 fleet / activity data
- **Regionally Significant Projects* (Attachment 2b)**

  2030 LRTP and FY 09-12 TIP Project Lists, with the following changes*:

  1. TIP: UPC 14600 – Laskin Road amended to PE/RW only

  2. Plan: Replace description of High Speed and Intercity Passenger Rail from "upgrade" to "Conventional Rail, Norf. to Rich."

  ** With any changes subject to approvals by the TTAC and/or TPO as needed.*
- **Schedule**

3. ICG Conformity Consultation Procedures Update – Advance Notice

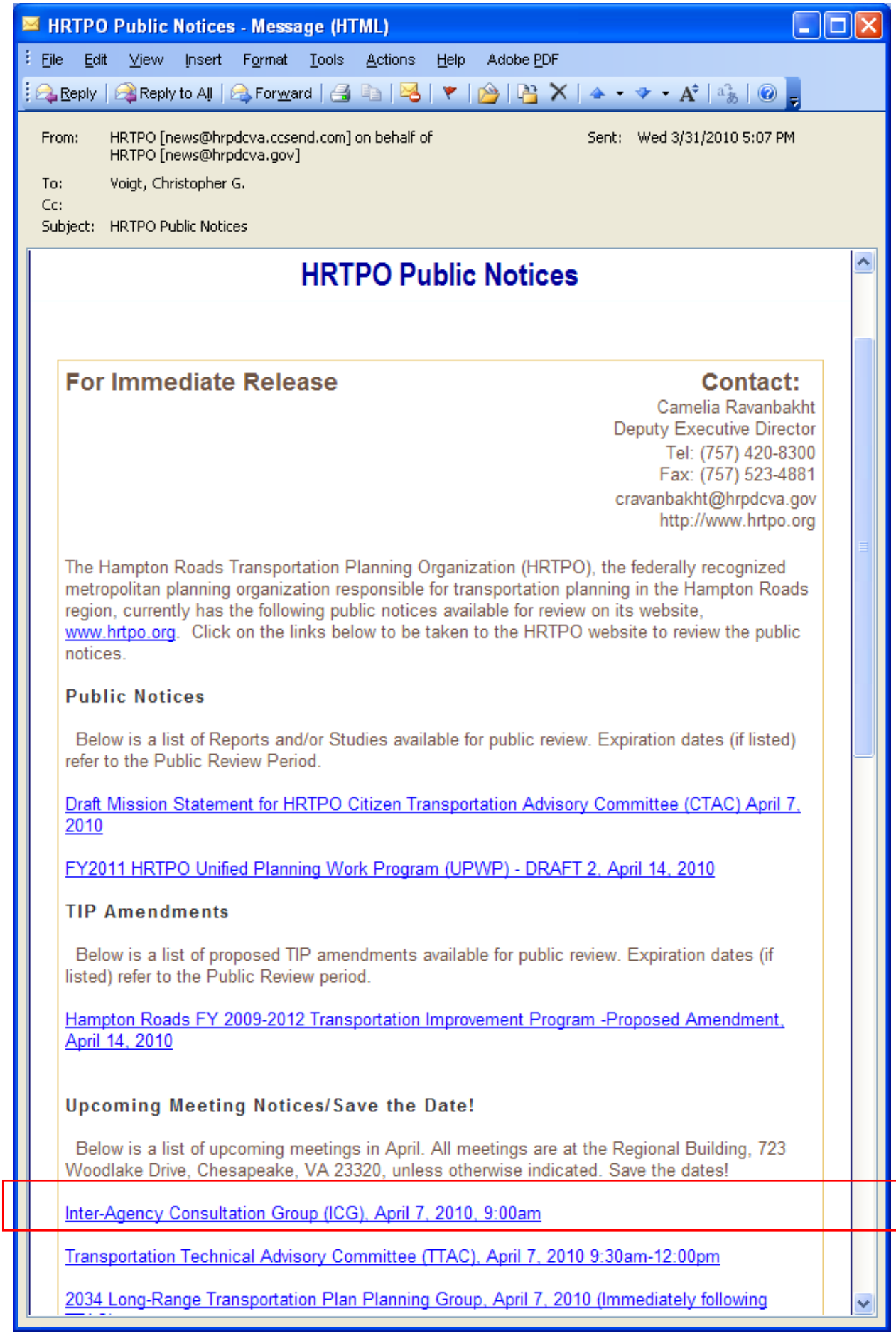
- **Current Procedures last updated in 2005**
  - Based on requirements in the federal conformity rule (40 CFR 93.105)
  - Available on HRTPO website: *http://www.hrtpo.org/Documents/Reports/Rev_HR_ICP2005.pdf*
- **New State Regulation for Transportation Conformity (9 VAC 5–151)**
  - Federally-required (40 CFR Part 51) state regulation developed by the VDEQ
  - EPA approval effective January 19, 2010
  - Generally mirrors existing federal consultation requirements
    - *Key change: Adds consultation with the Lead Planning Organization (LPO)*
      - *LPO: Hampton Roads Air Quality Committee (HRAQC)*
      - *HRAQC Staff (VDEQ) added to consultation list for this analysis.*
- **Update to be initiated following the completion of this conformity analysis**
  - To incorporate / address specific language from the state regulation
  - Update other elements at the same time
    - Process and other changes as desired by the ICG
    - Editorial changes such as SAFETEA-LU references, etc.

4. Next Steps

- **Initiation of modeling for the conformity analysis**
- **ICG Consultation Procedures update following the completion of the conformity analysis for the Amended 2030 LRTP and FY 09-12 TIP**
- **For more information, contact:**

Christopher Voigt,
VDOT Environmental
(804) 371-6764
christopher.voigt@vdot.virginia.gov

E7a: HRTPO Public Notice 3/31//2010 for the 4/7/2010 ICG Meeting



HRTPO Public Notices - Message (HTML)

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From: HRTPO [news@hrpdcva.ccsend.com] on behalf of HRTPO [news@hrpdcva.gov]
Sent: Wed 3/31/2010 5:07 PM
To: Voigt, Christopher G.
Cc:
Subject: HRTPO Public Notices

HRTPO Public Notices

For Immediate Release

Contact:
Camelia Ravanbakht
Deputy Executive Director
Tel: (757) 420-8300
Fax: (757) 523-4881
cravanbakht@hrpdcva.gov
http://www.hrtpo.org

The Hampton Roads Transportation Planning Organization (HRTPO), the federally recognized metropolitan planning organization responsible for transportation planning in the Hampton Roads region, currently has the following public notices available for review on its website, www.hrtpo.org. Click on the links below to be taken to the HRTPO website to review the public notices.

Public Notices

Below is a list of Reports and/or Studies available for public review. Expiration dates (if listed) refer to the Public Review Period.

Draft Mission Statement for HRTPO Citizen Transportation Advisory Committee (CTAC) April 7, 2010

FY2011 HRTPO Unified Planning Work Program (UPWP) - DRAFT 2, April 14, 2010

TIP Amendments

Below is a list of proposed TIP amendments available for public review. Expiration dates (if listed) refer to the Public Review period.

Hampton Roads FY 2009-2012 Transportation Improvement Program -Proposed Amendment, April 14, 2010

Upcoming Meeting Notices/Save the Date!

Below is a list of upcoming meetings in April. All meetings are at the Regional Building, 723 Woodlake Drive, Chesapeake, VA 23320, unless otherwise indicated. Save the dates!

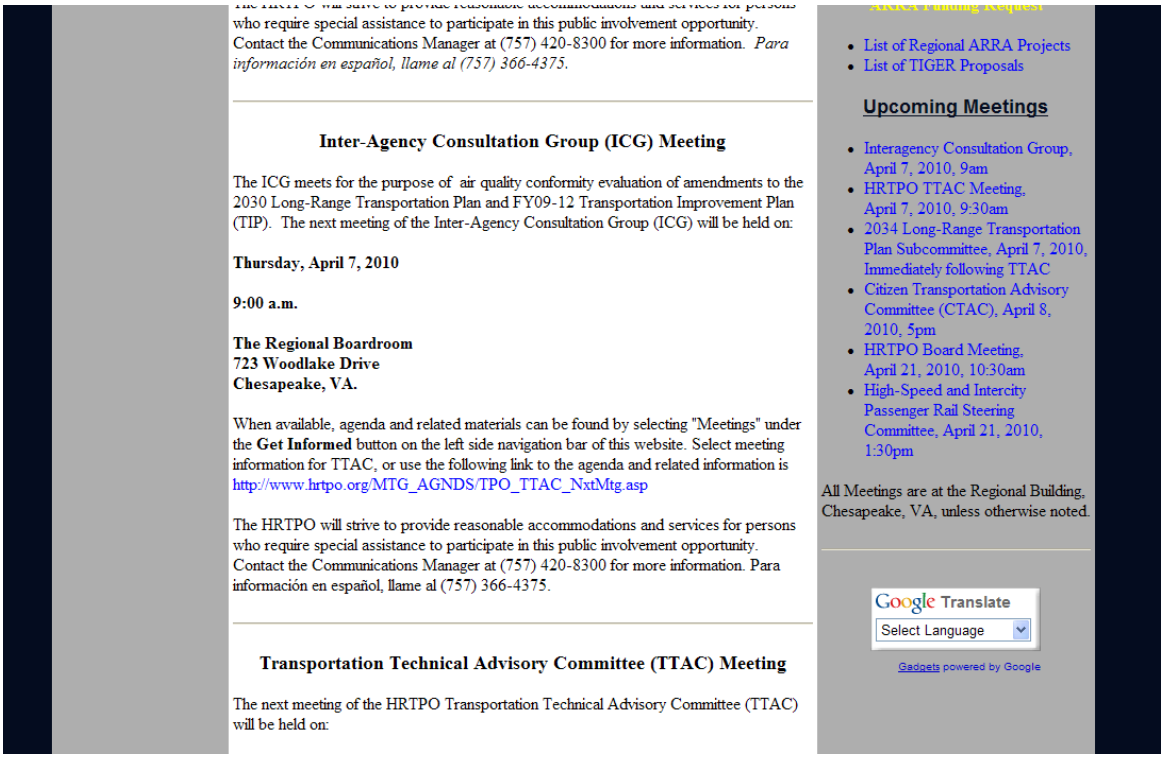
Inter-Agency Consultation Group (ICG), April 7, 2010, 9:00am

Transportation Technical Advisory Committee (TTAC), April 7, 2010 9:30am-12:00pm

2034 Long-Range Transportation Plan Planning Group, April 7, 2010 (Immediately following

E7b: HRTPO Website Listing 3/31/10 for the 4/7/2010 ICG Meeting

March 31, 2010 Notice of ICG Meeting as posted on the HRTPO website:



who require special assistance to participate in this public involvement opportunity. Contact the Communications Manager at (757) 420-8300 for more information. *Para información en español, llame al (757) 366-4375.*

Inter-Agency Consultation Group (ICG) Meeting

The ICG meets for the purpose of air quality conformity evaluation of amendments to the 2030 Long-Range Transportation Plan and FY09-12 Transportation Improvement Plan (TIP). The next meeting of the Inter-Agency Consultation Group (ICG) will be held on:

Thursday, April 7, 2010

9:00 a.m.

The Regional Boardroom
723 Woodlake Drive
Chesapeake, VA.

When available, agenda and related materials can be found by selecting "Meetings" under the **Get Informed** button on the left side navigation bar of this website. Select meeting information for TTAC, or use the following link to the agenda and related information is http://www.hrtpo.org/MTG_AGNDS/TPO_TTAC_NxtMtg.asp

The HRTPO will strive to provide reasonable accommodations and services for persons who require special assistance to participate in this public involvement opportunity. Contact the Communications Manager at (757) 420-8300 for more information. Para información en español, llame al (757) 366-4375.

Transportation Technical Advisory Committee (TTAC) Meeting

The next meeting of the HRTPO Transportation Technical Advisory Committee (TTAC) will be held on:

- List of Regional ARRA Projects
- List of TIGER Proposals

Upcoming Meetings

- Interagency Consultation Group, April 7, 2010, 9am
- HRTPO TTAC Meeting, April 7, 2010, 9:30am
- 2034 Long-Range Transportation Plan Subcommittee, April 7, 2010, Immediately following TTAC
- Citizen Transportation Advisory Committee (CTAC), April 8, 2010, 5pm
- HRTPO Board Meeting, April 21, 2010, 10:30am
- High-Speed and Intercity Passenger Rail Steering Committee, April 21, 2010, 1:30pm

All Meetings are at the Regional Building, Chesapeake, VA, unless otherwise noted.

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E8a: Email Transmittal 3/31/2010 of Agenda Package for the 4/7/2010 ICG Meeting

Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m. - Message (HTML)

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Follow up
You replied on 4/19/2010 1:44 PM.

From: Voigt, Christopher G. Sent: Wed 3/31/2010 5:01 PM

To: Earl Sorey; Allsbrook, Lynn E.; Michael King; Jeffrey Raliski; Jeff Bliemel; Richard Hartman; Scott Mills; Travis Campbell; Reed Nester; Anne Ducey-Ortiz; Jane Hill; Steven Hicks; Timothy Cross; Pickard, Andrew; Jayne Whitney; Richard Drumwright; Sonya Lewis-Cheatham; Swartz, Joseph (DRPT); Ponticello, James; Raw, Jeremy, P.E.; 'Martin Kotsch (Kotsch.Martin@epamail.epa.gov)'; Lopez-Cruz, Marisel; Tony Cho; Ballou,

Cc: 'Kathlene GRAUBERGER'; Bob Goumas; RobertE.Lewis; Sherry.Earley; Eric Martin; Gary.Walton; Mark Shea; Mark Woodward; Frank Daniel; Salman Moazzam; Burnette, P. Clifford, Jr.; Hill, Corey W.; Feasel, Darrel M.; Ivan Rucker; Tony Cho; Allison Jones; Christopher Perez; Emily Gibson; Garrey Curry; John Yorks; Keith Cannady; Terry O'Neill; Judy Swystun; Perez, Benito; Carlos GONZALEZ; Camelia RAVANBAKHT; Farmer, Dwight L.;

Subject: Hampton Roads ICG Meeting - Wednesday, April 7, 2010 at 9 a.m.

Attachments: ICG 2010-4-7 Agenda.pdf (351 KB)

To: Members of the Hampton Roads Interagency Consultation Group
Hampton Roads Air Quality Committee (DEQ Staff Representative)

Subject: Hampton Roads ICG Meeting

An Inter-Agency Consultation Group (ICG) meeting is scheduled for Wednesday, April 7, 2010, beginning at 9:00 AM, prior to the start of the regularly-scheduled Transportation Technical Advisory Committee (TTAC) meeting in the Regional Building Board Room in Chesapeake. The focus of the ICG meeting will be consultation on the upcoming air quality conformity analysis for the amended Hampton Roads 2030 Long Range Transportation Plan (LRTP) and FY 09-12 Transportation Improvement Program (TIP). A copy of the agenda package in Adobe Acrobat (pdf) format is attached. A separate public notice is planned for the meeting.

A call-in line will be arranged for those that would like to participate by teleconference. Please let me know by close of business on Friday, April 2, 2010 if you plan to call in.

Please note that a quorum is needed for this meeting. If you are unable to attend the meeting, please make arrangements for a proxy from your jurisdiction to represent you. Please let me know if you have any questions.

Thank You

Christopher Voigt
VDOT Environmental Division
(804) 371-6764

cc: Other interested parties (including all TTAC Members)

Attachment: ICG Agenda Package

E8b: ICG Agenda

AGENDA

HAMPTON ROADS

INTERAGENCY CONSULTATION GROUP MEETING

April 7, 2010 -- 9:00 a.m.

The Regional Building, 723 Woodlake Drive, Chesapeake, VA 23320

CALL TO ORDER

PUBLIC COMMENT PERIOD (Limit 3 minutes per individual)

APPROVAL OF AGENDA

1. Interagency Consultation Group (ICG) Membership (Attachment #1): Current members of the ICG are listed in Attachment #1. All members are invited to review the list and advise VDOT of any changes by mail or email by April 14, 2010. Adoption of the updated membership list will be requested at the meeting. Any updates requested after the meeting will be incorporated into a revised membership list to be distributed with the draft minutes.

2. Regional Conformity Analysis for the Hampton Roads Amended 2030 Long Range Transportation Plan (LRTP) & FY 09-12 Transportation Improvement Program (TIP): Comments are requested on the following items:
   a) Modeling Methodology & Assumptions, including latest planning assumptions as well as the selection of MOBILE6.2 for emission factor modeling (within the grace period for the MOVES model released 3/2/2010 by EPA) (Attachment #2a), and
   b) Regionally Significant Projects (Draft 2030 LRTP & FY 09-12 TIP Project Lists for Modeling)(Attachment #2b): *Any changes requested subsequent to today's meeting may require restarting the conformity analysis from this point.*

      For reference, the current schedule for the conformity analysis is provided as Attachment #2c.

3. ICG Conformity Consultation Procedures Update – Advance Notice: For information, an update to the 2005 ICG Consultation Procedures is planned for later this year, following the completion of this conformity analysis. The update is needed to formally incorporate changes required by the new state conformity regulation (9 VAC 5-151) that was developed by the Department of Environmental Quality in response to requirements in the federal conformity regulation (at 40 CFR Part 51). Approved by the US Environmental Protection Agency effective January 19, 2010, the new state regulation primarily addresses consultation and is generally consistent with the federal requirements for which the ICG Procedures were originally developed. As part of the planned update, members of the ICG will also be provided the opportunity to comment on current procedures (which are available on the TPO website). As is standard practice, this conformity analysis will comply with all applicable federal and state requirements including the new state regulation.

4. Next Steps
   - Modeling for the conformity analysis for the LRTP and TIP will be initiated.
   - The ICG Conformity Consultation Procedures Update will be initiated following the completion of the conformity analysis for the 2030 LRTP & FY 09-12 TIP.

ADJOURNMENT

E8c: ICG Agenda Attachment - Member Update Form

Attachment #1

Hampton Roads Interagency Consultation Group

As of March 31, 2010

Agency	*Staff*		*Updates (needed)*
City/County			
City of Chesapeake	Earl	Sorey	
City of Hampton	Lynn	Allsbrook	
City of Newport News	Michael	King	
City of Norfolk	Jeffrey	Raliski	
City of Poquoson			
City of Portsmouth	Richard	Hartman	
City of Suffolk	Scott	Mills	
City of Virginia Beach	Travis	Campbell	
City of Williamsburg	Reed	Nester	
Gloucester County	Anne	Ducey-Ortiz	
Isle of Wight County	Jane	Hill	
James City County	Steven	Hicks	
York County	Timothy	Cross	
Regional			
Hampton Roads Transportation Planning Organization	Andy	Pickard	
Hampton Roads Transit	Jayne	Whitney	
Williamsburg Area Transit Authority	Richard	Drumwright	
State			
Virginia Dept. of Environmental Quality	Sonya	Lewis-Cheatham	
Virginia Dept. of Rail & Public Transportation	Joseph	Swartz	
Virginia Dept. of Transportation – C/O Environmental	Jim	Ponticello	
Virginia Dept. of Transportation – C/O Planning	Jeremy	Raw	
Federal			
Environmental Protection Agency	Martin	Kotsch	
Federal Highway Administration	Marisel	Lopez-Cruz	
Federal Transit Administration	Tony	Cho	
Alternates / Other (non-voting)			
James City County	Allen	Murphy	
US Navy	Candice	Gay	

Please provide updates to:

Chris Voigt, VDOT Environmental Division, 1401 East Broad Street, Richmond, Va, 23219,
Phone (804) 371-6764 Fax (804) 786-7401, or email *christopher.voigt@vdot.virginia.gov*.

Modeling Methodology and Assumptions

A review of the modeling methodology and assumptions applied in the conformity analysis is presented in this chapter, beginning with an overview of the general approach and the determination of the analysis years and motor vehicle emission budgets applicable for Hampton Roads. Then, in turn, reviews of the key input data and specific assumptions applied in each step of the modeling process (transportation modeling, emission factor modeling, and emission modeling) are presented.

2.1 General Approach

Emissions are generally calculated as the product of vehicle activity and an emission factor corresponding to that vehicle class and activity. Emission factors are typically expressed in units of grams per mile (effectively, grams of pollutant emitted per vehicle-mile-traveled), consistent with federal new vehicle exhaust emission standards that are expressed on a grams per mile basis. Estimates for regional emissions, therefore, typically are generated as the product of VMT (by speed, roadway class, vehicle class etc.) estimated with corresponding emission factors.

Three separate models are typically applied in the development of the regional emission forecasts for conformity analyses:

1) a regional travel demand forecasting model,
2) the latest EPA-approved model to generate forecasts for regional fleet-average emission factors, and
3) a post-processor designed to combine the results from the first two models and generate estimates for regional total emissions for each pollutant and year as required for the conformity analysis.

Exhibit 2-1 below presents the key steps in this process.

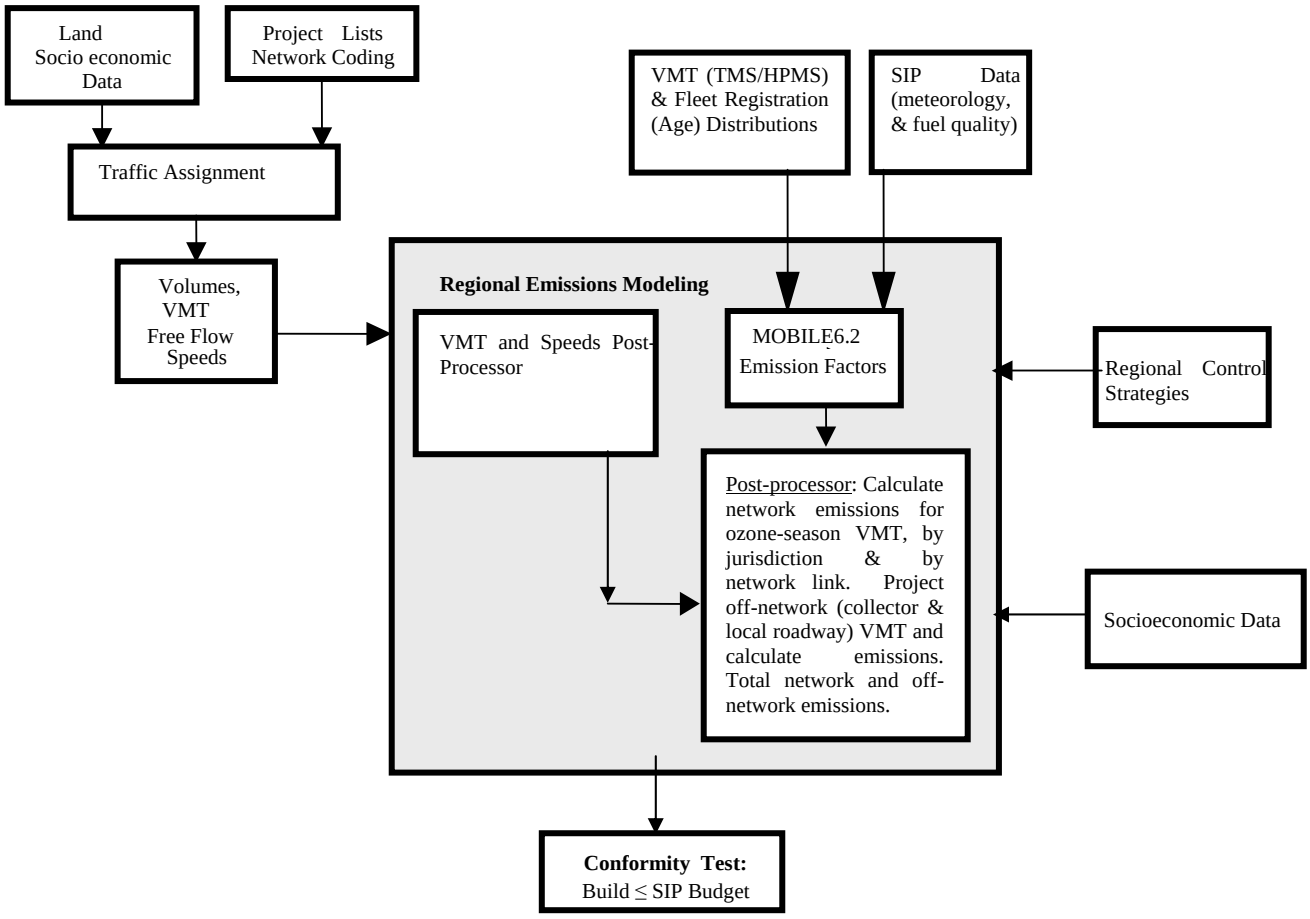
First, as shown on the left side of the exhibit, forecasts for travel demand for each year being modeled in the conformity analysis are developed. Key inputs for this step include the latest available socioeconomic forecasts and project lists. The latter are applied to update the regional transportation networks as appropriate for changes to the Plan and Program. The regional transportation networks include both existing and new regionally significant facilities, i.e. all interstates, freeways, expressways, principal arterials, and minor arterials as specified in the Plan and Program and expected to be open to traffic by the forecast year to be modeled for the conformity analysis. Separate networks are developed for each of the specific forecast years needed for the conformity analysis.

Concurrent with the development of travel demand forecasts, and as shown on the right side of the exhibit, emission factors (in unit of grams per mile) are generated using the latest EPA-approved emission factor model (MOBILE6.2)[1] for each pollutant and forecast year. The factors are generally tabulated by speed, vehicle class, roadway class (or facility type), and, to allow for possible differences in fuel quality or emission control

[1] As noted later in this chapter, on March 2, 2010, EPA has released a next generation emission model (MOVES2010) that is intended to replace the MOBILE6.2 model that is currently in use. EPA indicated with the release that a two-year grace period will apply for conformity. Therefore, the MOBILE6.2 model was selected for application in this analysis.

programs, jurisdiction. Key region-specific inputs include vehicle age distributions, VMT distributions, fuel quality data and meteorological data.

Exhibit 2-1: Conformity Analysis Process



Next, regional total emissions are calculated in the post-processor in three steps: 1) regional network emission, 2) off-network emissions, and 3) military base contributions are combined with the results from network and off-network emissions.

In the first step in the post-processor, regional network emissions are calculated using the traffic forecasts generated for the regional network by the travel demand model and the fleet-average emission factors as described above.

In the second step in the post-processor, emissions for traffic operating on "off-network" facilities (collectors and local streets) not included in the regional transportation model networks are estimated based on VMT generated by a simple growth model to the modeled year from base year traffic counts. Estimates for vehicle travel were also developed for the portion of Gloucester County that are within the designated maintenance area but are not (at least as yet) included in the regional network model.

In the third and last step in the post-processor, estimated contributions to regional emissions from mobile sources operating on military facilities (as specified in the

maintenance plan[2]) are added to the estimates for emissions for network and off-network emissions to obtain estimates for regional total emissions for the maintenance area.

The post-processor calculations are repeated for each analysis year as needed. Conformity (emission budget) tests as described in the previous chapter are then applied for each analysis year.

2.2 Analysis Years and Budgets

Exhibit 2-2 presents the years selected for modeling for this conformity analysis and the associated motor vehicle emission budgets as specified in the maintenance plan.

Exhibit 2-2: Analysis Years and Budgets

Year	Regional Emission Budgets *(tons per ozone season weekday)*	
	NOx	VOC
2011*	50.387	37.846
2018*	31.890	27.574
2020	31.890	27.574
2030	31.890	27.574

** Budgets specified in 72 FR 30490, effective June 1, 2007.*

The years selected for analysis are consistent with the requirements of Section 93.118 of the conformity rule, which requires that years selected for the regional conformity analysis include the years for which budgets are established, the horizon year of the transportation plan, and an interim year such that analysis years are no more than ten years apart.

For this analysis, the years 2011 and 2018 were selected as they are years for which the maintenance plan specifies budgets. The year 2030 was selected as the horizon year for the transportation plan. To meet the interim year requirement (ten-year limit), the year 2020 was also selected.

Since Section 93.118 the conformity rule requires budgets established "for the most recent prior year" to apply for years for which budgets have not been "specifically established", the 2018 budgets as listed above are also applicable for the subsequent years (2020 and 2030).

[2] Hampton Roads Maintenance Plan for the 1997 Eight-Hour Ozone Standard, as previous referenced. See US EPA, 72 FR 30490, 40 CFR Parts 52 and 81 [EPA–R03–OAR–2006–0919; FRL–8320–9], *Approval and Promulgation of Air Quality Implementation Plans; Virginia; Redesignation of the Hampton Roads 8-Hour Ozone Nonattainment Area to Attainment and Approval of the Area's Maintenance Plan and 2002 Base-Year Inventory*, Final Rule, effective June 1, 2007.
See: http://edocket.access.gpo.gov/2007/E7-10581.htm.

2.3 Transportation Demand Forecasting (TP+ Model)

The Hampton Roads regional traffic model is based on the TP+ transportation model, which is a suite of programs implementing a traditional four-step transportation model that includes trip generation, trip distribution, mode split and traffic assignment. The Hampton Roads regional traffic model covers the Counties of Gloucester (southern portion), Isle of Wight, James City, and York, as well as the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Williamsburg, and Virginia Beach. The model satisfies the requirements enumerated in 40 CFR 93.110 as well as the related requirements in 40 CFR 93.122 as summarized below.

The model was validated and calibrated for 2000 traffic volumes and land use conditions [40 CFR 93.122(b)(1)(i)][3]. Additional documentation on the calibration process is provided in the User Guide for the model[4].

Consistent with the requirements of federal conformity rule, all regionally significant projects in service or open to traffic in the year of analysis are included in the modeling [40 CFR 93.122(a)]. Roadway data input by the user (e.g., road segment length, capacity, number of lanes, and free-flow speeds by facility type) are used to create a representation of the regional transportation system for each analysis year, which includes all regionally significant projects identified for the Plan and TIP. A transportation system network is developed for all motorized modes of travel including single-occupant vehicle, high or multi-occupant vehicle (HOV), bus transit, and light rail transit. Following network development, travel time and cost estimates for all networks modeled are tabulated for use in subsequent model steps.

Trip making activity is estimated in the trip generation and trip distribution steps. Trip generation uses land use information aggregated by traffic analysis zone (TAZ), estimated trip rates, and standard equations to estimate the number of trips that will be generated by and attracted to each TAZ. The TAZ trip data are then used in the trip distribution step that links trip origins with trip destinations to create trip tables, which are disaggregated for work and non-work trip purposes. Trips that leave or pass through the Hampton Roads region were also estimated, using observed 2000 traffic counts at major exit points of the region, and expanded based on forecast traffic counts at those locations in future years.

Trip tables from trip distribution along with network-based travel time and cost data [40 CFR 93.122(b)(1)(v, vi)] are input to the mode split step to estimate trip tables by trip purpose and mode. In the mode split step, nested-logit equations are applied to allocate trips between auto and transit modes. Individual trip tables are created for auto and transit modes. Prior to traffic assignment, trip tables are processed to apply standard auto occupancy rates, convert the tables from model-based production-attraction format to standard origin-destination format, and aggregate results.

Finally, in the traffic assignment step, the trip tables are loaded onto the appropriate highway or transit network and the model run to produce forecasts for traffic volumes for each roadway or transit link. Highway assignment utilizes a capacity restraint formula to simulate congestion effects on the roadway system [40 CFR 93.122(b)(1)(iv)]. The model makes route decisions based upon the estimated level of roadway congestion,

[3] Michael Baker, Jr., Inc., *2000 Hampton Roads Model Validation Memorandum*, May 2004

[4] Michael Baker, Jr., Inc., *2000 Hampton Roads Model Users Guide*, August 2004

redirecting trips to less congested routes until equilibrium is achieved (i.e., when shifting trips to alternative routes will no longer realize any time savings).

Output from the highway assignment is a network file that includes the assigned roadway volumes for each roadway link. Transit assignment is based upon best available route and does not have a modeled congestion process. The assigned volumes are applied to generate VMT estimates.

This overall modeling process is applied for each analysis year. Appendix B presents resulting forecasts by jurisdiction. Key inputs to the network model are reviewed below.

2.3.1 Socioeconomic Forecasts

The HRPDC developed the socioeconomic data to be used in the conformity analysis using the Regional Economic Models, Inc. (REMI) econometric model. The REMI model is a conjoined input-output and econometric model widely used by local, state and federal governments, colleges and universities, consulting firms and others for economic forecasting including impact analyses.

Following standard practice for the development of socioeconomic forecasts, the REMI model was applied to develop "control totals" for key parameters such as population and employment for the Hampton Roads area. The HRPDC then sub-allocated the regional control totals generated with the REMI model to the local or jurisdiction level for the Hampton Roads area. The sub-allocations were reviewed by each locality and adjustments were made where appropriate [40CFR93.110; 40CFR93.122(b)(1)(iiii)].

Participants in this process included the Counties of Gloucester, Isle of Wight, James City, and York, as well as the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Williamsburg, and Virginia Beach. Representatives of these jurisdictions distributed the regional population and employment projections to the TAZs used in the transportation model, covering the LRTP Study Area.

Exhibit 2-3 presents the socioeconomic forecasts underlying the travel demand forecasts developed for this conformity analysis. While regional socioeconomic forecasts for 2034 have more recently been adopted, allocations of the new regional-level forecasts to the TAZ level have not as yet been developed and approved so were not available for this analysis and are thus not yet "in force" as required in 40CFR93.110(a). The 2030 forecasts therefore represent the latest projections available for modeling purposes [40CFR93.110(a,b); 40CFR93.122(b)(1)(ii)]. More detailed data are presented in Appendix A.

2.3.2 Transit Service

Transit operating policies (including fares and service levels) and modeling for transit (ridership) have not changed significantly since the previous conformity determination [40 CFR 93.110(c) and (d)]. Proposed light rail service is included in future networks for the region. Transit service and fares as well as road and bridge tolls are addressed in more detail in supporting documentation for the Plan and associated modeling. While future transit ridership is effectively determined in the course of modeling for the conformity analysis, details on current transit operating policies including fares and

service levels may be found on the Hampton Roads Transit (HRT) and Williamsburg Area Transportation Authority (WATA) websites[5].

In brief, while local transit fares have not changed since the last conformity analysis for either HRT or the WATA, express bus service has been augmented. For Hampton Roads Transit, the current single ticket fare for local bus service is $1.50. A day pass (the Go Pass) was introduced in 2008 with a fare of $3.50 for a one-day pass. For Williamsburg Area Transit, the fare for a one-way trip is $1.25; for seniors (60 and over) and disabled, a reduced fare of $0.50 applies. An all-day pass (for unlimited trips) is also available for a fare of $1.50. In keeping with the Americans with Disabilities Act (ADA), door-to-door service is also available for those unable to use bus at a fare of $2.00 per one-way trip. Finally, new ("Max") express bus service was added to the current service in the model (with fares converted to constant 2000 dollars).

2.3.3 Project Lists & Regional Network Development

The federal conformity rule at 40 CFR 93.122(a) requires that "*General requirements. (1) The regional emissions analysis … for the transportation plan, TIP… must include all regionally significant projects expected in the nonattainment or maintenance area. The analysis shall include FHWA/FTA projects proposed in the transportation plan and TIP and all other regionally significant projects which are disclosed to the MPO as required by Sec. 93.105."*

Exhibit 2-3: Socioeconomic Forecasts*

Year	Hampton Roads LRTP Study Area			
	Population	Households	Automobiles	Employment
2011	1,693,101	627,306	1,282,689	1,045,049
2018	1,796,281	668,383	1,408,788	1,101,666
2020	1,825,772	680,130	1,444,843	1,117,867
2030	1,973,250	738,865	1,625,000	1,198,775

** The projections for 2030 were adopted by the Hampton Roads MPO (since renamed the TPO) in 2004. The projections for other years were obtained by interpolation, by TAZ, between 2000 and 2030.*

All regionally significant and/or federally funded or approved projects identified in the Plan and Program were incorporated into the respective highway networks for each analysis year. The project list for the Plan and TIP was subjected to Interagency Consultation Group review (pursuant to Section 93.105 and the corresponding state regulation) as documented in the chapter on consultation.

Each network is a representation of the region's highway system as it is likely to appear by the specified year. Similarly, the transit network for each scenario and analysis year is coded to estimate transit volumes and ridership.

Regionally significant projects are defined in the federal conformity rule and generally include arterials and higher level facilities (freeways, expressways, interstates) that

[5] See www.hrtransit.org and www.williamsburgtransport.com, respectively.

serve a regional function and are typically coded in the transportation model network for transportation analyses. Minor arterials, collectors, or local streets are usually only coded in the model if they enhance the capability of the traffic model to route trips on the network.

Since regional emission analyses are performed for a number of analysis years as needed for the conformity determination, the transportation networks were coded to include all regionally significant projects specified or included in the Plan and Program and open to traffic in each of the selected analysis years. Appendix F presents the project list for modeling (i.e., regionally significant changes to the existing roadway and transit system) including years modeled as open to traffic.

Projects were coded in the networks based on the first analysis year in which the project would be open to traffic or operational. For the most part, project opening dates were determined at the District level based upon detailed project information provided by either the localities or the associated VDOT project manager. In cases where that level of detail in scheduling was not available, assumptions were made. For example, completion dates where otherwise not available were estimated by adding three years to the advertisement date for major projects and shorter timeframes as appropriate for minor projects.

2.3.4 Adjustments for Gloucester County

The federal conformity rule at 40 CFR 93.122(a)(7) requires that "*Reasonable methods shall be used to estimate nonattainment or maintenance area VMT on off-network roadways within the urban transportation planning area, and on roadways outside the urban transportation planning area.*"

The Hampton Roads TP+ travel demand model covers the Hampton Roads MPO (TPO) study area. Although only a portion of Gloucester County is within the study area, the remainder of the county is also in the maintenance area and must be included in the conformity analysis. Therefore, for the off-network area within Gloucester County, traffic counts and forecasts as needed were extracted from the VDOT Statewide Planning System database.

The specific data extracted included the roadway functional class, posted speed, link distance, and traffic count / forecast for each analysis year for all links that were not inside the network area. Estimates of vehicle-miles-traveled (VMT) were computed by multiplying link length by the traffic count forecast for each link. These off-network results were then added to the network VMT estimates produced by the regional travel demand model to obtain the regional forecasts needed, covering the entire County.

2.3.5 Treatment of Off-Network Facilities (Local and Collector Roads)

Local and collector roadways are not typically coded in regional transportation model networks and, consistent with that practice, are not coded in the TP+ regional network developed for Hampton Roads. However, the travel demand model output is not directly adjusted to account for traffic on these facilities. Instead, traffic and emissions for these facilities are addressed in the post-processor and, accordingly, documented with the post-processor.

See Section 2.5 on post-processing for more information on the adjustments for off-network facilities.

2.3.6 Optional Off-line Analyses

Some transportation projects that have a potentially significant impact on regional air quality cannot be coded into the transportation modeling network. These are categorized as "off-line projects" and are analyzed using a variety of methodologies that include elasticity/pivot-point analysis and the use of traffic engineering principles to estimate their traffic and emission impacts.

Off-line analyses for Hampton Roads would include transit bus replacements, Congestion Mitigation and Air Quality (CMAQ) funded projects, van pools, and park-and-ride lots. However, since these adjustments were not needed to demonstrate conformity for this conformity analysis, they were not applied.

2.4 Emission Factor Forecasting

This section presents the selection of the latest emission model as well as key inputs for that model.

2.4.1 Latest Emission Model

The federal conformity rule at 93.111(a) requires the use of the latest emission model as follows: "*The conformity determination must be based on the latest emission estimation model available.*"[6] However, when EPA issues a new model, a grace or transition period applies in which the previous version of the model may still be applied, per the federal conformity rule at 93.111(c) which states: "*Transportation plan and TIP conformity analyses for which the emissions analysis was begun during the grace period or before the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model.*"

On March 2, 2010, EPA officially released the next generation Motor Vehicle Emission Simulator (MOVES) model for use in SIP development and regional conformity applications[7]. The EPA notice indicated that a two-year grace period (ending March 2,

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6 Federal Conformity Rule, 40 CFR 93.111 *Criteria and Procedures: Latest Emissions Model* http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.111.htm

7 US EPA, 75 FR 9411, [FRL–9121–1], *Official Release of the MOVES2010 Motor Vehicle Emissions Model for Emissions Inventories in SIPs and Transportation Conformity*, Notice of Availability, March 2, 2010. Available at: http://edocket.access.gpo.gov/2010/2010-4312.htm.

Note, while the official name of the new model is "MOVES2010", with the year of release incorporated into the model name, it is abbreviated here as "MOVES" to allow for pending future revisions to the model and any associated revisions to the model name. EPA also uses the abbreviated name (without the reference to year) in its website address for the model.

For additional information, see:

- EPA website for MOVES: http://www.epa.gov/otaq/models/moves/index.htm.
- US EPA, *Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes*, EPA-420-B-09-046, December 2009. Direct link: http://www.epa.gov/otaq/models/moves/420b09046.pdf.

2012) applies for use of the new model in regional emissions analyses for transportation conformity determinations. Therefore, for regional conformity analyses initiated before or within the two-year grace period, the MOBILE6.2 model (the model previously designated as the official model by EPA) may continue to be applied.

Since this conformity analysis for Hampton Roads is being initiated within the two-year grace period, the MOBILE6.2 model may be applied. Given that the applicable budgets for the Hampton Roads region were developed based on the MOBILE6.2 model, and that this model has been applied successfully to meet those budgets in previous conformity analyses for the region, it was selected for application for this conformity analysis. The MOVES model may be applied in future analyses once appropriate steps have been taken, within the two-year grace period, to review and update as needed the applicable budgets[8].

2.4.2 Key Inputs for Modeling Emission Factors

The MOBILE6.2 model may be applied to generate estimates for historic, current and future emission factors (not emissions) for area-wide or regional on-road motor vehicle fleets. It can be applied to calculate in-use fleet average emission factors for:

- multiple pollutants, including hydrocarbons, carbon monoxide, nitrogen oxides, exhaust particulate, hazardous air pollutants (HAPs), and carbon dioxide,
- multiple fuel-types, including gasoline, diesel, and natural gas-fueled cars, trucks, buses and motorcycles, and
- calendar years between 1952 and 2050.

The model generates emission factors in units of grams of pollutant per vehicle mile of travel. As noted previously, these emission factors are combined with VMT projections obtained from the regional travel demand model to generate estimates of regional emissions. Modeled emission factors vary with vehicle class, age (registration distribution by vehicle class), humidity, ambient temperatures, fuel specifications, and operation (speed, by roadway functional class).

For this analysis, both national default data and region-specific inputs were used with MOBILE6.2. Region-specific inputs include meteorological data, emission control programs, and on-road fleet registration and traffic distribution data, which are summarized in turn below. A sample of a MOBILE6.2 input file applied in this conformity analysis is provided in Appendix C.

2.4.2.1 Ambient Conditions

The federal conformity rule at 93.122(a)(6) requires that "*The ambient temperatures used for the regional emissions analysis shall be consistent with those used to establish the emissions budget in the applicable implementation plan.…*" [9].

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[8] A separate process to review and update as appropriate (using MOVES) the motor vehicle emission budgets specified in the currently applicable SIP revision (maintenance plan) is planned. This budget review and update process would need to be completed before the new or revised budgets could be applied for the region in future conformity analyses to be conducted using MOVES, and would need to be targeted therefore for completion by the end of the two-year grace period ending March 2, 2012.

[9] Federal Conformity Rule, 40 CFR 93.122 *Procedures for Determining Regional Transportation-Related Emissions*: http://edocket.access.gpo.gov/cfr_2009/julqtr/40cfr93.122.htm

Exhibit 2-4 presents average hourly ambient temperatures, hourly relative humidities, and barometric pressure data as presented in the Technical Support Document for the applicable implementation (maintenance) plan. The hourly data for ambient temperature and relative humidity along with the average daily value for barometric pressure were applied in this conformity analysis, consistent with the maintenance plan.

Exhibit 0-4: Ambient Conditions - Ozone Season

Average Hourly Meteorological Data				
Time (EDT)	Temperature (F)	Dew Point (F)	Relative Humidity (%)	Pressure (In)
6:00 AM	71.77	66.4	83.9	30.017
7:00 AM	75.2	67.7	78.1	30.029
8:00 AM	77.8	68.09	72.7	30.033
9:00 AM	81.07	67.22	63	30.034
10:00 AM	83.04	66.91	58.5	30.034
11:00 AM	84.34	65.99	54.5	30.027
12:00 PM	85.79	65.04	50	30.019
1:00 PM	86.59	64.81	48.9	30.009
2:00 PM	87.4	64.09	46.6	29.996
3:00 PM	87.27	63.82	46	29.985
4:00 PM	87.6	63.22	44.7	29.978
5:00 PM	87.01	63.86	46.7	29.974
6:00 PM	85.51	63.99	49.1	29.973
7:00 PM	83.21	65.42	55.9	29.982
8:00 PM	79.39	68.16	69	29.99
9:00 PM	77.9	68.5	73.3	30.004
10:00 PM	77.02	68.08	74.5	30.006
11:00 PM	75.38	67.87	78.1	30.007
12:00 AM	73.31	66.4	79.8	30.006
1:00 AM	72.91	66.31	80.7	30.004
2:00 AM	72.71	66.49	81.7	29.997
3:00 AM	71.9	63.8	78.1	29.995
4:00 AM	71.2	65.5	82.8	29.995
5:00 AM	70.73	65.49	84.3	30.006
	Avg Min T	70.51		
	Avg Max T	88.01		
	Avg Pres	30.004		

Source: VDEQ, "Technical Support Document for the Redesignation Request and Maintenance Plan for Hampton Roads 8-Hour Ozone Nonattainment Area, Final", as approved June 1, 2007, 72 FR 30490. See Table 4.1-2 on age 64. Reproduced with permission.

2.4.2.2 Emission Control Programs

Exhibit 2-5 lists emission control programs in effect for the Hampton Roads area as input to the MOBILE6.2 model. The locality-specific MOBILE input parameters are consistent with the approved maintenance SIP and based on the latest planning assumptions.

Exhibit 2-5: Emission Control Programs

Programs	2011	2018	2020	2030
Reformulated Gasoline*	Yes	Yes	Yes	Yes
RVP (PSI): • All jurisdictions but Gloucester and Isle of Wight • Gloucester and Isle of Wight	 6.8 8.4	 6.8 8.4	 6.8 8.4	 6.8 8.4
2007 HDDV Program	Yes	Yes	Yes	Yes
NLEV Early Implementation	Yes	Yes	Yes	Yes
Tier 2 Standards	Yes	Yes	Yes	Yes

**Except for the counties of Gloucester and Isle of Wight, which use conventional gasoline.*

Emission control programs for Hampton Roads, as modeled for this analysis, include:

- Reformulated Gasoline (RFG), and Gasoline Reid Vapor Pressure (RVP): RFG was modeled for all jurisdictions within the maintenance area with the exception of the Counties of Gloucester and Isle of Wight, which use conventional gasoline. RFG benefits were modeled for all analysis years after 1996, consistent with Virginia regulations requiring RFG and the Maintenance Plan.

  RFG Phase 2, which is currently in effect, has an approximate Reid vapor pressure (RVP) of 6.8 pounds per square inch (PSI). For the Counties of Gloucester and Isle of Wight, the RVP for conventional gasoline was taken as 8.4 PSI.

- 2007 Heavy Duty Diesel Vehicle (HDDV): The 2007 Heavy Duty Diesel Vehicle (HDDV) program including the implementation of ultra low sulfur diesel was included in the generation of emission factors for the conformity analysis. From the regulatory announcement[10]:

  New Standards for Heavy-Duty Highway Engines and Vehicles
  [EPA is] finalizing a PM emissions standard for new heavy-duty engines of 0.01 grams per brake-horsepower-hour (g/bhp-hr), to take full effect for diesels in the 2007 model year. [EPA is] also finalizing standards for NOx and non-methane hydrocarbons (NMHC) of 0.20 g/bhp-hr and 0.14 g/bhp-hr, respectively. These NOx and NMHC standards will be phased in together between 2007 and 2010, for diesel engines. The phase-in will be on a percent of-sales basis: 50 percent from 2007 to 2009 and 100 percent in 2010. Gasoline engines will be subject to these standards based on a phase in requiring 50 percent compliance in the 2008 model year and 100 percent compliance in the 2009 model year.

  The program includes flexibility provisions to facilitate the transition to the new standards and to encourage the early introduction of clean technologies, and adjustments to various testing and compliance requirements to address differences between the new technologies and existing engine based technologies.

  New Standards for Diesel Fuel
  Refiners will be required to start producing diesel fuel for use in highway vehicles with a sulfur content of no more than 15 parts per million (ppm), beginning June 1, 2006. At the terminal level, highway diesel fuel sold as low sulfur fuel will be required to meet the 15

[10] US EPA, "*Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*", EPA420-F-00-057, Office of Transportation and Air Quality, December 2000.

ppm sulfur standard as of July 15, 2006. For retail stations and fleets, highway diesel fuel sold as low sulfur fuel must meet the 15 ppm sulfur standard by September 1, 2006.

This program includes a combination of flexibilities available to refiners to ensure a smooth transition to low sulfur highway diesel fuel.

- National Low Emission Vehicle (NLEV) Program Early Implementation: Early implementation of the NLEV program was included in the modeling for the conformity analysis. The NLEV program, finalized by EPA in March 1998, implemented cleaner light-duty gasoline vehicles beginning in model year 1999 throughout Virginia.

- Tier 2 Vehicle Emission Standards: EPA Tier 2 vehicle emission standards implementation beginning with the 2004 model year was specified for the modeling for the conformity analysis. Gasoline sulfur levels as required for the Tier 2 standards were incorporated into the modeling. From the supplementary information included with the final Tier 2 rule[11]:

Highlights of the Tier2/Gasoline Sulfur Program

For cars, and light trucks, and larger passenger vehicles, the program will—

- o *Starting in 2004, through a phase in, apply for the first time the same set of emission standards covering passenger cars, light trucks, and large SUVs and passenger vehicles. …*
- o *Introduce a new category of vehicles, ''medium-duty passenger vehicles,'' thus bringing larger passenger vans and SUVs into the Tier 2 program.*
- o *During the phase-in, apply interim fleet emission average standards that match or are more stringent than current federal and California ''LEV I'' (Low-Emission Vehicle, Phase I) standards.*
- o *Apply the same standards to vehicles operated on any fuel.*
- o *Allow auto manufacturers to comply with the very stringent new standards in a flexible way while ensuring that the needed environmental benefits occur.*
- o *Build on the recent technology improvements resulting from the successful National Low-Emission Vehicles (NLEV) program and improve the performance of these vehicles through lower sulfur gasoline.*
- o *Set more stringent particulate matter standards.*
- o *Set more stringent evaporative emission standards.*

For commercial gasoline, the program will—

- o *Significantly reduce average gasoline sulfur levels nationwide as early as 2000, fully phased-in in 2006. Refiners will generally add refining equipment to remove sulfur in their refining processes. Importers of gasoline will be required to import and market only gasoline meeting the sulfur limits.*

…

- o *Enable the new Tier 2 vehicles to meet the emission standards by greatly reducing the degradation of vehicle emission control performance from sulfur in gasoline. Lower sulfur gasoline also appears to be necessary for the introduction of advanced technologies that promise higher fuel economy but are very susceptible to sulfur poisoning (for example, gasoline direct injection engines).*
- o *Reduce emissions from NLEV vehicles and other vehicles already on the road.*

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[11] US EPA, 65 FR 6698, 40 CFR Parts 80, 85, and 86, "*Control of Air Pollution From New Motor Vehicles: Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements; Final Rule*", February 10, 2000. Published in four sections spanning pages 6697-6870. See:
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6697-6746
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6747-6796
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6797-6846
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=page+6847-6870

Consistent with the modeling presented in the Technical Support Document for the maintenance plan, inspection and maintenance or anti-tampering programs were not included in the modeling for this analysis.

2.4.2.3 Fleet Distribution Data

Fleet data are input into the MOBILE6.2 model for vehicle age distributions by vehicle class and VMT distributions by vehicle and roadway class. Separate distributions are applied for each jurisdiction in the region.

Exhibit 2-6 presents a sample of vehicle registration distribution data (relative vehicle population by vehicle "age"[12] and class). The sample is for the entire regional on-road motor vehicle fleet in Hampton Roads in 2008, which is not applied directly in the conformity analysis. For greater accuracy, the conformity analysis was instead conducted using the corresponding age distributions developed for each individual jurisdiction within the Hampton Roads region.

The data for each jurisdiction in the region as well as the regional set presented here were developed by the VDEQ in support of the preparation of the federally-required 2008 Periodic Emission Inventory ("2008 PEI"). The VDEQ developed the update to the registration distribution data using detailed vehicle identification number (VIN) data for 2008 for all jurisdictions in the Commonwealth. The jurisdictional data for Hampton Roads so developed were incorporated into the MOBILE6.2 input files for this conformity analysis, consistent with but updating the data applied in the 2007 maintenance plan for the region.

Exhibit 2-7 presents VMT distributions by vehicle and federal roadway functional class. The distributions were generated using TMS/HPMS data compiled by VDOT[13]. Similar to the registration distribution data, the VMT distribution data were developed in support of the preparation of the federally-required 2008 PEI.

2.5 Post-Processing

The post-processor generates regional total emission forecasts based on estimates developed for three separate sub-categories, namely:

1) regional network VMT and emissions, which are generated using the VMT and emission factor output from the regional travel demand and emission factor modeling steps as described above,

2) "off-network" VMT and emissions, for which traffic (VMT and speeds) expected for roadways that are not typically coded in regional transportation model networks (i.e., local and collector roadways) are first projected and the results combined with the emission factors generated previously to generate emission estimates for these minor facilities, and

[12] Defined by EPA as the calendar year minus model year, plus one. See: US EPA, *User's Guide to MOBILE6.1 and MOBILE6.2 Mobile Source Emission Factor Model*, EPA420-R-03-010, August 2003, p.95 (Section 2.8.7.1 *Distribution of Vehicle Registrations*)

[13] VDOT, *Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester,* September 2009.

Exhibit 2-6: 2008 Vehicle Registration Distributions for Hampton Roads

MOBILE Model Composite Vehicle Class* (Number, Abbreviation, Description)	Vehicle Age (Calendar Year - Model Year +1) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25+									
1. LDV - Light-Duty Vehicles (Passenger Cars)	0.0471	0.0672	0.0626	0.0638	0.0646	0.0677	0.0669	0.0637	0.0698	0.0575
	0.0518	0.0505	0.0424	0.0441	0.0357	0.0298	0.0244	0.0194	0.0164	0.0132
	0.0109	0.0094	0.0073	0.0053	0.0084					
2. LDT1 - Light-Duty Trucks 1 (0-6,000 lbs. GVWR, 0-3,750 lbs. LVW)	0.0348	0.0000	0.0559	0.0722	0.0227	0.0646	0.0589	0.0546	0.0378	0.0355
	0.0305	0.0311	0.0540	0.0244	0.0178	0.0175	0.0181	0.0187	0.0162	0.0418
	0.0793	0.0814	0.0511	0.0277	0.0534					
3. LDT2 - Light-Duty Trucks 2 (0-6,000 lbs. GVWR, 3,751-5,750 lbs. LVW)	0.0395	0.0653	0.0626	0.0749	0.0781	0.0722	0.0774	0.0649	0.0695	0.0556
	0.0542	0.0477	0.0372	0.0349	0.0315	0.0252	0.0178	0.0159	0.0132	0.0135
	0.0123	0.0105	0.0094	0.0060	0.0108					
4. LDT3 - Light-Duty Trucks 3 (6,001-8,500 lbs. GVWR, 0-5,750 lbs. ALVW*)	0.0443	0.0676	0.0759	0.0795	0.0985	0.0952	0.0796	0.0669	0.0610	0.0624
	0.0364	0.0339	0.0329	0.0363	0.0285	0.0185	0.0139	0.0087	0.0117	0.0122
	0.0098	0.0073	0.0070	0.0047	0.0076					
5. LDT4 - Light-Duty Trucks 4 (6,001-8,500 lbs. GVWR, 5,751 lbs. and greater ALVW)	0.0472	0.1382	0.0806	0.1090	0.1361	0.0843	0.0471	0.0543	0.0572	0.0730
	0.0501	0.0431	0.0162	0.0131	0.0121	0.0083	0.0042	0.0026	0.0043	0.0048
	0.0056	0.0029	0.0015	0.0014	0.0031					
6. HDV2B Class 2b Heavy-Duty Vehicles (8,501-10,000 lbs. GVWR)	0.0432	0.0602	0.0913	0.0764	0.0957	0.0933	0.0660	0.0678	0.0691	0.0568
	0.0274	0.0428	0.0324	0.0342	0.0209	0.0166	0.0143	0.0093	0.0120	0.0152
	0.0112	0.0080	0.0113	0.0092	0.0155					
7. HDV3 - Class 3 Heavy-Duty Vehicles (10,001-14,000 lbs. GVWR)	0.0557	0.0591	0.1320	0.1044	0.0719	0.0636	0.0619	0.0620	0.0614	0.0638
	0.0266	0.0270	0.0186	0.0277	0.0192	0.0137	0.0125	0.0077	0.0148	0.0146
	0.0197	0.0154	0.0156	0.0111	0.0197					
8. HDV4 - Class 4 Heavy-Duty Vehicles (14,001-16,000 lbs. GVWR)	0.0296	0.0559	0.0531	0.0480	0.0432	0.0613	0.0527	0.0596	0.0722	0.0754
	0.0341	0.0765	0.0391	0.0490	0.0475	0.0223	0.0240	0.0195	0.0249	0.0289
	0.0220	0.0168	0.0121	0.0110	0.0214					
9. HDV5 - Class 5 Heavy-Duty Vehicles (16,001-19,500 lbs. GVWR)	0.0517	0.0848	0.1079	0.1326	0.0919	0.0693	0.0369	0.0369	0.0567	0.0649
	0.0193	0.0815	0.0226	0.0341	0.0270	0.0149	0.0110	0.0088	0.0072	0.0077
	0.0061	0.0094	0.0061	0.0044	0.0066					
10. HDV6 - Class 6 Heavy-Duty Vehicles (19,501-26,000 lbs. GVWR)	0.0329	0.0815	0.0778	0.0790	0.0787	0.0440	0.0544	0.0505	0.0774	0.0697
	0.0508	0.0350	0.0282	0.0463	0.0167	0.0217	0.0178	0.0178	0.0171	0.0144
	0.0124	0.0178	0.0153	0.0151	0.0275					
11. HDV7 - Class 7 Heavy-Duty Vehicles (26,001-33,000 lbs. GVWR	0.0204	0.0527	0.0429	0.0422	0.0468	0.0281	0.0404	0.0408	0.0556	0.0492
	0.0601	0.0348	0.0334	0.0745	0.0440	0.0222	0.0267	0.0366	0.0482	0.0323
	0.0411	0.0390	0.0274	0.0260	0.0345					
12. HDV8 - Class 8a Heavy-Duty Vehicles (33,001-60,000 lbs. GVWR)	0.0267	0.0768	0.0382	0.0398	0.0330	0.0298	0.0485	0.0605	0.0633	0.0700
	0.0633	0.0569	0.0374	0.0676	0.0378	0.0334	0.0227	0.0231	0.0302	0.0283
	0.0267	0.0251	0.0175	0.0231	0.0203					
13. HDV8B Class 8b Heavy-Duty Vehicles (>60,000 lbs. GVWR)	0.0215	0.0786	0.0772	0.0664	0.0580	0.0458	0.0348	0.0776	0.0945	0.0723
	0.0647	0.0510	0.0502	0.0481	0.0363	0.0230	0.0154	0.0160	0.0131	0.0143
	0.0120	0.0078	0.0072	0.0076	0.0067					
14. HDBS - School Buses	0.0026	0.0068	0.0047	0.0047	0.0350	0.0575	0.0178	0.0606	0.0721	0.0669
	0.0789	0.0418	0.0706	0.0664	0.0235	0.0355	0.0382	0.0486	0.0805	0.0711
	0.0105	0.0303	0.0314	0.0256	0.0183					
15. HDBT - Transit and Urban Buses	0.0324	0.0333	0.0182	0.0373	0.0280	0.0266	0.0506	0.0235	0.0200	0.0337
	0.0258	0.0129	0.0222	0.0706	0.0448	0.0608	0.0249	0.0262	0.0324	0.0626
	0.0710	0.0870	0.0586	0.0435	0.0528					
16. MC - Motorcycles (All)	0.0578	0.1231	0.1274	0.1053	0.0847	0.0957	0.0705	0.0555	0.0447	0.0362
	0.0249	0.0196	0.0203	0.0157	0.0146	0.0120	0.0087	0.0063	0.0060	0.0065
	0.0053	0.0073	0.0109	0.0111	0.0297					

* *EPA footnote for the vehicle class definitions*: ALVW = Alternative Loaded Vehicle Weight: The adjusted loaded vehicle weight is the numerical average (GVWR) of the vehicle curb weight and the gross vehicle weight rating (GVWR)

Source for the vehicle registration data: VDEQ Email to VDOT regarding "2008 Vehicle Registration Data (more)", September 9, 2009. Sums normalized in MOBILE model execution.

Source for the vehicle class definitions: *Appendix B, MOBILE6 Input Data Format Reference Tables, Table 1 - Composite Vehicle Classes for Vehicle Registration Data and Vehicle Miles Traveled Fractions (REG DIST and VMT FRACTIONS Commands)* from US EPA, *User's Guide to MOBILE6.1 and MOBILE6.2 Mobile Source Emission Factor Model,* EPA420-R-03-010, August 2003

3) military base contributions to emissions, as specified in the maintenance plan (referenced earlier). Following the procedure in the maintenance plan, the military base contributions are added without adjustment in the post-processor to the estimate for total regional emissions.

The post-processor is based upon transportation engineering methods presented in the 2000 *Highway Capacity Manual (HCM)* and *National Cooperative Highway Research Program (NCHRP) Report 387*.

Exhibit 2-7: 2008 VMT Distribution by Roadway Functional Class for Hampton Roads

FHWA Roadway Functional Class		Hampton Roads Ozone Maintenance Area Daily VMT Distribution																
		LDV	LDT1	LDT2	LDT3	LDT4	HDV2b	HDV3	HDV4	HDV5	HDV6	HDV7	HDV8a	HDV8b	HDBS	HDBT	MC	SUM
1	Rural Interstate	0.38141	0.08791	0.29267	0.08912	0.04098	0.03405	0.00335	0.00275	0.00205	0.00760	0.00897	0.00975	0.03477	0.00172	0.00079	0.00211	1.00
2	Rural Principal Arterial	0.37691	0.08688	0.28923	0.08807	0.04050	0.03785	0.00373	0.00306	0.00228	0.00844	0.00997	0.01083	0.03865	0.00192	0.00088	0.00080	1.00
6	Rural Minor Arterial	0.38059	0.08773	0.29205	0.08893	0.04089	0.03373	0.00332	0.00273	0.00203	0.00753	0.00889	0.00965	0.03445	0.00171	0.00079	0.00498	1.00
7	Rural Major Collector	0.41055	0.09464	0.31505	0.09593	0.04411	0.01177	0.00116	0.00095	0.00071	0.00263	0.00310	0.00337	0.01202	0.00060	0.00027	0.00314	1.00
8	Rural Minor Collector	0.41590	0.09587	0.31915	0.09718	0.04469	0.00805	0.00079	0.00065	0.00049	0.00180	0.00212	0.00231	0.00822	0.00041	0.00019	0.00218	1.00
9	Rural Local	0.39413	0.09085	0.30245	0.09209	0.04235	0.02347	0.00231	0.00190	0.00142	0.00524	0.00619	0.00672	0.02397	0.00119	0.00055	0.00517	1.00
11	Urban Interstate	0.40916	0.09431	0.31396	0.09560	0.04396	0.01267	0.00125	0.00102	0.00076	0.00283	0.00334	0.00363	0.01294	0.00064	0.00030	0.00363	1.00
12	Urban Freeway/Expressway	0.40658	0.09372	0.31200	0.09500	0.04369	0.01456	0.00143	0.00118	0.00088	0.00325	0.00384	0.00417	0.01487	0.00074	0.00034	0.00375	1.00
14	Urban Principal Arterial	0.41686	0.09609	0.31989	0.09740	0.04479	0.00645	0.00064	0.00052	0.00039	0.00144	0.00170	0.00185	0.00658	0.00033	0.00015	0.00492	1.00
16	Urban Minor Arterial	0.41215	0.09500	0.31625	0.09630	0.04428	0.01000	0.00098	0.00081	0.00060	0.00223	0.00263	0.00286	0.01021	0.00051	0.00023	0.00496	1.00
17	Urban Collector	0.41485	0.09563	0.31835	0.09694	0.04458	0.00823	0.00081	0.00066	0.00050	0.00184	0.00217	0.00236	0.00840	0.00042	0.00019	0.00407	1.00
19	Urban Local	0.39980	0.09215	0.30678	0.09341	0.04296	0.01887	0.00186	0.00152	0.00114	0.00421	0.00497	0.00540	0.01926	0.00096	0.00044	0.00627	1.00
All Functional Classes		**0.41064**	**0.09465**	**0.31509**	**0.09594**	**0.04412**	**0.01129**	**0.00111**	**0.00091**	**0.00068**	**0.00252**	**0.00298**	**0.00323**	**0.01153**	**0.00057**	**0.00026**	**0.00448**	**1.00**

Source: *VDOT, "Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester", September 2009, Exhibit 29.*

While the development of estimates for VMT and emissions factors for traffic on the regional network has been presented, the calculation of emissions for the regional network involves two additional adjustments: i) for congested speeds, and ii) for seasonal traffic levels. These are reviewed in turn below.

The development of estimates for traffic and emissions on off-network facilities is then reviewed. This section concludes with a presentation of the hourly profiles that were applied for the VMT tables included in the appendices.

2.5.1 Congested Speed Calculation

The post-processor estimates congested speeds using standard Bureau of Public Roads (BPR) formulae that are based upon free flow speeds, volumes and capacity[14]. Two forms of the BPR equation are applied:

1) for non-signalized roadway segments:

$$speed\ \ for\ unsignalized\ \ facilities = \frac{corridor\ \ free\ \ flow\ speed}{1 + 0.2\left(volume / capacity\right)^{10}}$$

2) for signalized roadway segments, defined as facilities on which traffic signals are spaced two miles or less apart:

$$speed\ \ for\ signalized\ \ facilities = \frac{corridor\ \ free\ \ flow\ speed}{1 + 0.05\left(volume / capacity\right)^{10}}$$

2.5.2 Seasonal Adjustments to Traffic

Exhibit 2-8 presents average ozone season weekday adjustment factors for the Hampton Roads area. The factors are applied to the forecast VMT to more accurately account for observed ozone (summer) season traffic levels.

The tabulated factors were obtained as the average for the TMS/HPMS values reported for May through September (the summer ozone season) for the Hampton Roads area for 2008.

2.5.3 Adjustments for Off-Network Facilities (Local and Collector Roads)

The federal conformity rule at 40 CFR 93.122(a) requires that "*…Projects which are not regionally significant are not required to be explicitly modeled, but vehicle miles traveled (VMT) from such projects must be estimated in accordance with reasonable professional practice.*"

All regionally significant projects are included in the network modeling as summarized previously. However local and collector roadways are not typically

[14] Free flow speed is the speed at which a vehicle on the roadway segment would travel given no conflict with other traffic, i.e., no congestion. As traffic volumes increase and the carrying capacity of the roadway is reached (i.e. congestion increases), average speeds decrease. The free flow speeds used are consistent with those used in the TP+ model.

coded in regional transportation model networks and are not coded in the TP+ regional network developed for Hampton Roads.

Exhibit 2-8: Ozone Season Traffic Adjustment Factors

FHWA Roadway Functional Class		Average Ozone Season Weekday VMT Adjustment Factor
1	Rural Interstate	1.0582
2	Rural Principal Arterial	1.0602
6	Rural Minor Arterial	1.0765
7	Rural Major Collector	1.0798
8	Rural Minor Collector	1.0751
9	Rural Local	1.0004
11	Urban Interstate	1.0902
12	Urban Freeway/Expressway	1.0786
14	Urban Principal Arterial	1.0851
16	Urban Minor Arterial	1.1001
17	Urban Collector	1.1008
19	Urban Local	1.0854

Source: VDOT, "Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester", September 2009.

The post-processor was therefore designed to generate estimates for VMT for these minor facilities, projecting future traffic volumes using traffic count data for a base year and average annual growth rates applicable through the horizon year of the LRTP for the region. Speeds are taken from the VDOT Statewide Planning System (SPS) database or MOBILE model defaults.

Exhibit 2-9 presents forecast annual average growth rates assumed for local and collector road VMT for the Hampton Roads area. As an approximation, the rates were taken as equivalent to the annual average growth rates reported with the socioeconomic data for auto ownership in Hampton Roads. The base year VMT data for local and collector roads were obtained for 2008 from the VDOT TMS/HPMS database previously referenced. Tabulations of the VMT forecasts generated are presented in Appendix B.

2.5.4 Hourly Traffic Volumes

Exhibit 2-10 presents the hourly VMT distributions by vehicle class for the region. These profiles were applied in the generation of the VMT tables that are presented in Appendix B.

Exhibit 2-9: Annual Average Growth Rates for Local and Collector Road VMT

Jurisdiction	Annual Average Growth Rate
Chesapeake	1.55%
Gloucester	2.48%
Hampton	1.40%
Isle of Wight	2.10%
James City	2.90%
Newport News	1.24%
Norfolk	0.58%
Poquoson	2.17%
Portsmouth	0.65%
Suffolk	2.48%
Virginia Beach	1.09%
Williamsburg	1.24%
York	1.52%

Exhibit 2-10: Hourly Traffic Distribution by Roadway Functional Class

Hampton Roads Hourly VMT Distributions by Vehicle Class All FHWA Roadway Functional Classes																		
Hour	**LDV**	**LDT1**	**LDT2**	**LDT3**	**LDT4**	**HDV2b**	**HDV3**	**HDV4**	**HDV5**	**HDV6**	**HDV7**	**HDV8a**	**HDV8b**	**HDBS**	**HDBT**	**MC**	**Total for Hour**	**Percent of Daily**
0	0.41459	0.09557	0.31814	0.09687	0.04455	0.00842	0.00083	0.00068	0.00051	0.00188	0.00222	0.00241	0.00860	0.00043	0.00020	0.00410	1.00000	0.9552%
1	0.41017	0.09455	0.31476	0.09584	0.04407	0.01195	0.00118	0.00097	0.00072	0.00267	0.00315	0.00342	0.01220	0.00061	0.00028	0.00346	1.00000	0.6143%
2	0.40472	0.09329	0.31057	0.09457	0.04349	0.01626	0.00160	0.00131	0.00098	0.00363	0.00428	0.00465	0.01660	0.00082	0.00038	0.00285	1.00000	0.5130%
3	0.39574	0.09122	0.30366	0.09246	0.04252	0.02286	0.00225	0.00185	0.00138	0.00510	0.00603	0.00654	0.02335	0.00116	0.00053	0.00335	1.00000	0.4410%
4	0.39983	0.09217	0.30682	0.09343	0.04296	0.01941	0.00191	0.00157	0.00117	0.00433	0.00512	0.00556	0.01982	0.00098	0.00045	0.00447	1.00000	0.8194%
5	0.41000	0.09450	0.31461	0.09580	0.04405	0.01144	0.00113	0.00092	0.00069	0.00255	0.00301	0.00327	0.01168	0.00058	0.00027	0.00550	1.00000	2.3098%
6	0.41031	0.09457	0.31483	0.09587	0.04408	0.01130	0.00111	0.00091	0.00068	0.00252	0.00298	0.00323	0.01154	0.00057	0.00026	0.00524	1.00000	4.6178%
7	0.40881	0.09423	0.31369	0.09552	0.04392	0.01288	0.00127	0.00104	0.00078	0.00287	0.00339	0.00369	0.01316	0.00065	0.00030	0.00380	1.00000	5.9858%
8	0.40355	0.09303	0.30968	0.09430	0.04336	0.01702	0.00168	0.00138	0.00103	0.00380	0.00449	0.00487	0.01738	0.00086	0.00040	0.00317	1.00000	5.4590%
9	0.40099	0.09243	0.30770	0.09369	0.04309	0.01879	0.00185	0.00152	0.00113	0.00419	0.00495	0.00538	0.01919	0.00095	0.00044	0.00371	1.00000	4.9462%
10	0.40189	0.09265	0.30842	0.09391	0.04319	0.01809	0.00178	0.00146	0.00109	0.00404	0.00477	0.00518	0.01847	0.00092	0.00042	0.00372	1.00000	5.1546%
11	0.40365	0.09304	0.30974	0.09431	0.04337	0.01659	0.00163	0.00134	0.00100	0.00370	0.00437	0.00475	0.01694	0.00084	0.00039	0.00434	1.00000	5.6473%
12	0.40647	0.09370	0.31192	0.09498	0.04368	0.01440	0.00142	0.00116	0.00087	0.00321	0.00380	0.00412	0.01471	0.00073	0.00034	0.00449	1.00000	6.1765%
13	0.40601	0.09359	0.31155	0.09487	0.04362	0.01473	0.00145	0.00119	0.00089	0.00329	0.00388	0.00422	0.01504	0.00075	0.00034	0.00458	1.00000	6.1112%
14	0.40635	0.09366	0.31181	0.09494	0.04366	0.01431	0.00141	0.00116	0.00086	0.00319	0.00377	0.00409	0.01461	0.00072	0.00033	0.00513	1.00000	6.5444%
15	0.41017	0.09455	0.31474	0.09584	0.04407	0.01135	0.00112	0.00092	0.00068	0.00253	0.00299	0.00325	0.01158	0.00057	0.00026	0.00538	1.00000	7.3457%
16	0.41438	0.09552	0.31798	0.09682	0.04452	0.00820	0.00081	0.00066	0.00049	0.00183	0.00216	0.00235	0.00837	0.00042	0.00019	0.00530	1.00000	7.7849%
17	0.41846	0.09645	0.32110	0.09777	0.04496	0.00536	0.00053	0.00043	0.00032	0.00120	0.00141	0.00153	0.00547	0.00027	0.00012	0.00462	1.00000	7.7010%
18	0.41961	0.09672	0.32198	0.09804	0.04508	0.00445	0.00044	0.00036	0.00027	0.00099	0.00117	0.00127	0.00455	0.00023	0.00010	0.00474	1.00000	6.0557%
19	0.42016	0.09685	0.32240	0.09817	0.04514	0.00409	0.00040	0.00033	0.00025	0.00091	0.00108	0.00117	0.00418	0.00021	0.00010	0.00456	1.00000	4.4681%
20	0.42054	0.09694	0.32270	0.09826	0.04519	0.00386	0.00038	0.00031	0.00023	0.00086	0.00102	0.00110	0.00394	0.00020	0.00009	0.00438	1.00000	3.6562%
21	0.42062	0.09696	0.32276	0.09828	0.04519	0.00394	0.00039	0.00032	0.00024	0.00088	0.00104	0.00113	0.00402	0.00020	0.00009	0.00394	1.00000	3.0277%
22	0.41983	0.09678	0.32217	0.09810	0.04511	0.00457	0.00045	0.00037	0.00028	0.00102	0.00120	0.00131	0.00466	0.00023	0.00011	0.00381	1.00000	2.1751%
23	0.41823	0.09641	0.32094	0.09772	0.04494	0.00585	0.00058	0.00047	0.00035	0.00131	0.00154	0.00167	0.00597	0.00030	0.00014	0.00358	1.00000	1.4900%
Daily	**0.41064**	**0.09465**	**0.31509**	**0.09594**	**0.04412**	**0.01129**	**0.00111**	**0.00091**	**0.00068**	**0.00252**	**0.00298**	**0.00323**	**0.01153**	**0.00057**	**0.00026**	**0.00448**	**1.00000**	**100.00%**

Source: VDOT, "Traffic Data for the 2008 Highway Emissions Inventory. Air Quality Planning Areas: Fredericksburg, Hampton Roads, Northern Virginia, Richmond, Roanoke & Winchester", September 2009.

E8e: ICG Agenda Attachment - Draft Project Lists

For convenience, the draft project lists for the conformity analysis are presented in a separate appendix. See Appendix F for the projects lists for the Plan and TIP.

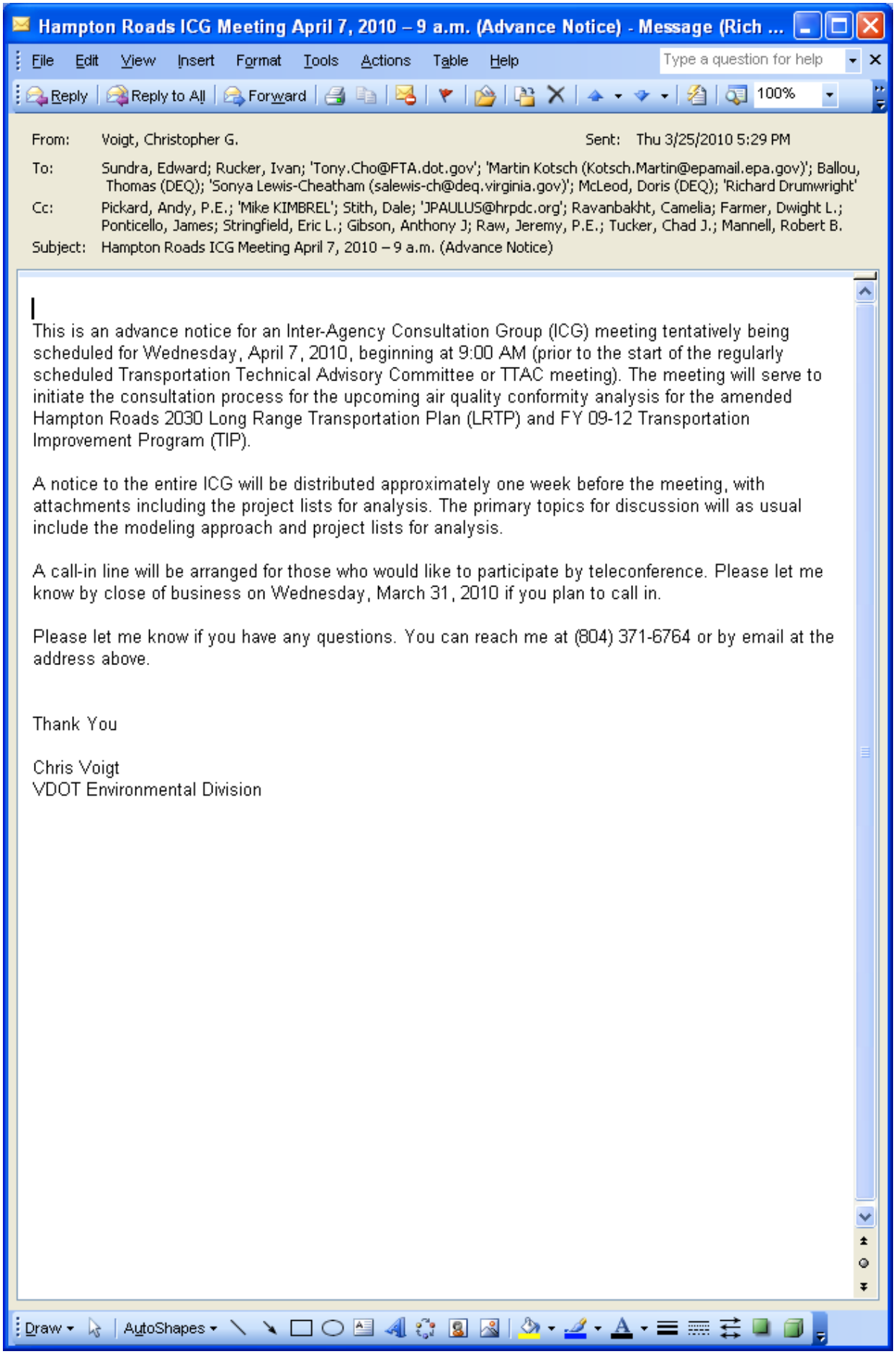
E8f: ICG Agenda Attachment - Draft Schedule

Attachment #2c

Regional Conformity Analysis Schedule (Draft 3/22/2010)
Hampton Roads Amended 2030 LRTP and FY 09-12 TIP

Month	Task
PROJECT LIST DEVELOPMENT	
December 2009	• 16th: TPO approval of amendments to the 2030 LRTP. • *Development of Plan and TIP project list for modeling initiated by TPO and VDOT staff.*
February 2010	• 17th: Federal TIGER Grants finalized o *Project lists to be revised as needed and approved at March meetings*. • 25th: LRTP Subcommittee review
March	• 3rd: TTAC approval of list of projects for amendment to the 2030 LRTP, accounting for the February 2010 update to federal stimulus funding. • 16th: TPO/District/FHWA planning staff review of fiscal constraint. • *24th: Plan and TIP Project list(s) for modeling completed by TPO & VDOT staff. (Network coding initiated.)* • *31st: Agenda Package including project list(s) for modeling transmitted to the ICG.*
CONFORMITY ANALYSIS & APPROVALS	
April	• 7th: Interagency Consultation Group (ICG) Kickoff Meeting: Review of methodology, assumptions and the project list for modeling for the conformity analysis. *PROJECT LIST FOR MODELING FINALIZED AT THE ICG. ANY SUBSEQUENT CHANGES MAY REQUIRE RESTARTING THE CONFORMITY PROCESS FROM THIS STEP.* • Initiation of 14-day public review period (ending 4/21 or shortly thereafter) on the project list(s), as required by the 2009 Hampton Roads Public Participation Plan (PPP) • 28th: Transportation network modeling completed & results transmitted to VDOT Air Quality. o Emission modeling and update of associated draft conformity analysis report text initiated.
May	• 14th: Draft conformity analysis completed. Emission modeling, conformity determination & draft report. • 17th-20th: VDOT/VDEQ/HRTPO staff review of draft conformity analysis. • 24th: Draft Conformity Analysis transmitted to HRTPO for the TTAC meeting agenda. • 26th: HRTPO Initiation of 14-day Public Review for the draft conformity analysis & finding (ends 6/9).
June	• 2nd: TTAC reviews & recommends approval of draft conformity analysis & finding, subject to receipt of no adverse comment in public review or none requiring TTAC review. • 10th-14th: VDOTHRTPO staff review and draft response to comments received (if any) in public review, for consideration by the HRTPO. • 16th: TPO approval of the final draft conformity analysis and finding (and the response to comments if any). o 17th: TPO approval letter issued. VDOT sends Final Report with TPO approval letter to printing. • 23rd: VDOT transmits the Final Conformity Analysis (print copies) and TPO Letter to FHWA. Federal review period (typically 45 days) begins upon receipt of print copies. FHWA coordinates the review with FTA and consults with EPA.
August	• 7th: US DOT finding of conformity (letter from FHWA).

E9: Advance Notice for the 4/7/2010 ICG Meeting



Hampton Roads ICG Meeting April 7, 2010 – 9 a.m. (Advance Notice) - Message (Rich ...

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From: Voigt, Christopher G. Sent: Thu 3/25/2010 5:29 PM

To: Sundra, Edward; Rucker, Ivan; 'Tony.Cho@FTA.dot.gov'; 'Martin Kotsch (Kotsch.Martin@epamail.epa.gov)'; Ballou, Thomas (DEQ); 'Sonya Lewis-Cheatham (salewis-ch@deq.virginia.gov)'; McLeod, Doris (DEQ); 'Richard Drumwright'

Cc: Pickard, Andy, P.E.; 'Mike KIMBREL'; Stith, Dale; 'JPAULUS@hrpdc.org'; Ravanbakht, Camelia; Farmer, Dwight L.; Ponticello, James; Stringfield, Eric L.; Gibson, Anthony J; Raw, Jeremy, P.E.; Tucker, Chad J.; Mannell, Robert B.

Subject: Hampton Roads ICG Meeting April 7, 2010 – 9 a.m. (Advance Notice)

This is an advance notice for an Inter-Agency Consultation Group (ICG) meeting tentatively being scheduled for Wednesday, April 7, 2010, beginning at 9:00 AM (prior to the start of the regularly scheduled Transportation Technical Advisory Committee or TTAC meeting). The meeting will serve to initiate the consultation process for the upcoming air quality conformity analysis for the amended Hampton Roads 2030 Long Range Transportation Plan (LRTP) and FY 09-12 Transportation Improvement Program (TIP).

A notice to the entire ICG will be distributed approximately one week before the meeting, with attachments including the project lists for analysis. The primary topics for discussion will as usual include the modeling approach and project lists for analysis.

A call-in line will be arranged for those who would like to participate by teleconference. Please let me know by close of business on Wednesday, March 31, 2010 if you plan to call in.

Please let me know if you have any questions. You can reach me at (804) 371-6764 or by email at the address above.

Thank You

Chris Voigt
VDOT Environmental Division

Draw AutoShapes

Appendix F: Final Project List

Attached are the project lists for the conformity analysis for the Amended 2030 LRTP and FY 09-12 TIP.

Hampton Roads
DRAFT 2030 Amended LRTP
Conformity Project List

TPO i.d.	Project Type	Facility	Project Location		Improvement Type	# Lanes		FY09 TIP	UPC	Analysis Years			
			From	To		From	To			2011	2018	2020	2030
	REGIONAL												
66	I	**I-64 Peninsula- PE only**	Jefferson Ave (exit 255)	Rte. 199(Exit 242)	Widen	4	6+2	Partial	57313/57580	n/a	n/a	n/a	n/a
69	P	**U.S. 460- HR portion- PE only**	Bowers Hill	S'hamp. Co. at Zuni	New Alignment	0	4	Partial	56638/84272	n/a	n/a	n/a	n/a
70	U	**Southeastern Parkway- PE only**	I-264	Oak Grove Connector	Construct/Widen	see note 1		Partial	16556/64058	n/a	n/a	n/a	n/a
70	U	**Dominion Blvd**	South of Cedar Rd	Oak Grove Interchange	Widen	2	4	Y	56187/84354		x		
244	I	**HR Third Crossing - Phase I(I-664)- PE Only**	I-264/ I-64 at Bowers Hill	I-64 at Hampton Col	Construct		8	Partial	12834	n/a	n/a	n/a	n/a
242	P	**Rte. 60 relo. - PE/RW only - JCC**	Newport News CL	0.9 mi. W of NN CL	New Alignment	n.a.	n.a.	Partial	13496/87201	n/a	n/a	n/a	n/a
243	P	**Rte. 60 relo. -PE/RW only - NN**	JCC CL	Ft. Eustis Blvd.	New Alignment	n.a.	n.a.	Partial	14598/87201	n/a	n/a	n/a	n/a
98	I	**I-264 EB Ramp from I-64 WB**	Curlew Dr	thru Witchduck Rd	Modify Interchange	n.a.	n.a.	Y	57048		x		
144	I	**I-264 / Witchduck Rd Interchange**	n.a.	n.a.	Int. Imp.	n.a.	n.a.	Y	17630		x		
68	P	**Midtown Tunnel/ MLK/Downtown Tunnel**	Hampton Blvd	I-264	Widen/ New Alignment	2,0	4	Partial	95149/76642/77245		x		
62	P	**Ft Eustis Blvd**	0.54 mi. E of Jefferson Ave	Rte 17	Widen	2	4	Y	13497	x			
	R	**High Speed & Intercity Passenger Rail**	Richmond	Hampton Roads	Conventional rail, Norf. to Rich.	n.a.	n.a.	Y			x		
	I	**I-564 Intermodal Connector**	I-564	Norfolk Naval Base/N.I.T	New Alignment	0	4	Y	18968		x		
	P	**Lesner Bridge**	East Stratford Road	Vista Circle	Bridge Replacement	4	4	N	n.a.		x		
	R	**Naval Station Norfolk Transit Extension- PE only**	Newtown Road	NOB Norfolk	New Alignment	n.a.	n.a.	N	T1821	n/a	n/a	n/a	n/a
	P	**Route 58- PE only**	Route 58 Bypass	0.9 mi. W of Manning Bridge Road	Widen	4	6	N	n.a.	n/a	n/a	n/a	n/a
	R	**Virginia Beach Transit Extension**	Newtown Road	Oceanfront	New Alignment	n.a.	n.a.	N	T137		x		
	CHESAPEAKE												
2	U	**Cedar Rd**	Albemarle Dr	Battlefield Blvd	Widening	3	4	N	n.a.				x
7	U	**GW Hwy (in Deep Creek, south)**	Sawyers Arch	Cedar Rd	New Alignment	0	4	N	city proj.		x		
9	U	**Hanbury Rd**	Johnstown Rd	Battlefield Blvd	Widening	2	4	N	n.a.		x		
10	I	**I-64**	I-464	Greenbrier Pkwy	Widening	6	6+2	Y	12379	x			
12	U	**Lynnhaven Pkwy - Volvo Pkwy**	Kempsville Rd	VB CL	New Alignment	0	4	Y	13485	x			
14	U	**Military Hwy (Gilmerton Bridge)**	n.a.	n.a.	Replacement	4	4	Y	1904		x		
15	U	**Mt Pleasant Rd (incl'g Byp intx impr'ts)**	Great Bridge Bypass	Centerville Tnpk	Widening	2	4	N	n.a.		x		
16	U	**Nansemond Pkwy - Portsmouth Blvd**	Suff CL	Joliff Rd	Widening	2	4	Y	18591		x		
5	U	**Greenbrier Pkwy**	Volvo Pkwy	Eden Way	Widening	5	6	Y	72796	x			
226	U	**GW Hwy**	Mill Creek Pkwy	Willowood Dr	Widening	2	4	N	local		x		
227	U	**Long Bridge (GW Hwy, near fire station)**	n.a.	n.a.	Widening	2	4	Y	83509 (T4154)	x			
	HAMPTON												
31	U	**Cmdr Shepard Blvd Ext- Phase I**	Middle Rd	Magruder Blvd	New Alignment	0	4	N	66846	x			
71	U	**Cmdr Shepard Blvd Ext- Phase II**	Big Bethel Rd	Middle Rd	New Alignment	0	4	Y	60970		x		
39	I	**I-64 @ LaSalle Ave**	n.a.	n.a.	Add Movement	n.a.	n.a.	Y	76682	x			
47	U	**Saunders Rd**	NN CL	Big Bethel Rd	Widening	2	4	Y	57047		x		
28	U	**Armistead Ave**	Pine Chapel Rd	Mercury Blvd	Widening	2	4	Y	67200	x			
27	U	**Armistead Ave Conn**	Armistead Ave	Coliseum Dr/ Pine Ch Rd	New Alignment	0	4	Y	71697	x			
236	U	**Wythe Creek Rd (including bridge widening)**	Comm Shepard Blvd	Poquoson CL	Widening	2	4	N	n.a.			x	
	Isle of Wight												
99	**P**	**Blackwater Bridge Replacement**	near IW/Franklin CL	Near IW/Franklin CL	Replacement	n.a.	n.a.	Y	17142	x			
	JAMES CITY CO.												
72	U	**Ironbound Rd**	Longhill Conn Rd	Strawberry Plains	Widening	2	4	Y	50057		x		
188	P	**Chickahominy Bridge Replacement**	near JCC/ CCC CL	near JCC/ CCC CL	Replacement	n.a.	n.a.	Y	71883	x			
	NEWPORT NEWS												
77	U	**Atkinson Blvd**	Warwick Blvd	Jefferson Ave	New Alignment	0	4	Partial	4483				x
81	U	**Jefferson Ave**	Buchanan Dr	Green Grove Ln	Widening	4	6	Y	13429	x			
83	U	**Middleground Blvd**	Jefferson Ave	Warwick Blvd	New Alignment	0	4	Y	11816		x		
88	U	**Warwick Blvd**	Nettles Dr	J Clyde Morris Blvd	Widening	4	6	Y	10797	x			
82	U	**Jefferson Ave**	Grn Grove Ln/ Atkinson	Ft. Eustis Blvd	Widening	4	6	N	67673				x
214		**Peninsula Fixed Guideway (Transit)**	Christopher Newport Univ.	Mary Immaculate Hosp.	Capital Cost	n.a	n.a	N	T137				x
85	U	**Rte 17 (J Clyde Morris Blvd)**	I-64	Harpersville Rd	Widening	4	6	N	city project				x

Hampton Roads
DRAFT 2030 Amended LRTP
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TPO i.d.	Project Type	Facility	Project Location		Improvement Type	# Lanes		FY09 TIP	UPC	Analysis Years			
			From	To		From	To			2011	2018	2020	2030
	NORFOLK												
213	U	**Light Rail**	Newtown Rd	Norfolk General	Capital Cost	n.a.	n.a.	Y	T1822	x			
102	U	**Little Creek Rd**	Tidewater Dr	Military Hwy	Widening	4	6	N	n.a.				x
103	U	**Military Hwy**	Lowery Rd	Northampton Blvd	Widening	4	8	Y	9783		x		
104	U	**Military Hwy**	Northampton Blvd	Robin Hood Rd	Widening	4	6	Y	1765/84243		x		
107	U	**VB Blvd**	Jett St	Briar Hill Rd	Widening	4	6	Y	17546	x			
109	U	**Wesleyan Dr**	Northampton Blvd	VB CL	Widening	2	4	Y	52147		x		
244	U	**Intermodal/ Chambers Interchange on I-564**	n.a.	n.a.	New Interchange	n.a.	n.a.	Y	59175		x		
97	U	**Hampton Blvd & R/R Grade Separation**	Rogers Ave	B Ave	Reconstruct underpass	n.a.	n.a.	Y	14672		x		
241	I	**I-64/ Norview Ave Interchange**	n.a.	n.a.	Add Movement	n.a.	n.a.	Y	17824		x		
106	U	**Navy Recreational Facilities**	n.a.	n.a.	Env. Related	n.a.	n.a.	Y	61322	x			
	POQUOSON												
111	U	**Wythe Creek Road (w/o br. Widening)**	Alphus Street	Hampton CL	Widening	2	4	Y	13427			x	
	PORTSMOUTH												
115	U	**Maersk Interchange (Western Frwy.)**	n.a.	n.a.	New Interchange	n.a.	n.a.	Y	70552	x			
	U	**Craney Island Access Road**	Rte 164	Craney Island	New Roadway	0	2				x		
	U	**Turnpike Road**	W. of Frederick Blvd	Constitution Ave	Widening	2	4	Y	65655/3950		x		
	SUFFOLK												
240	U	**Finney Ave.**	East Washington Street	Finney Ave.				Y	15826				x
126	U	**Nansemond Pkwy.**	ECL Suffolk	Shoulders Hill Rd	Widen	2	4	Y	17568		x		
	VIRGINIA BEACH												
146	I	**I-264/Lynnhaven Pkwy Interchange**	Add Ramps at Great Neck		Add Ramps/Reconstruct			Y	80157/94544/95554		x		
131	U	**Birdneck Rd**	Gen Booth Blvd	Southern Blvd	Widening	2	4	Y	11754	x			
133	U	**Centerville Tnpk**	Ches CL	Kempsville Rd	Widening	2	4	N	n.a.			x	
134	U	**Centerville Tnpk**	Kempsville Rd	Indian River Rd	Widening	2	6	N	n.a.			x	
136	U	**Constitution Dr ext'd**	Columbus St	Bonney Rd	New Alignment	0	4	N	n.a.		x		
138	U	**Elbow Rd / Dam Neck Rd**	Indian River Rd	GTE VB Amphitheater	Widening	2	4	Y	15828		x		
229	U	**First Colonial Rd**	Old Donation Rd	Republic Rd	Widening	4	6	N	n.a.		x		
141	U	**Holland Rd**	Nimmo Pkwy	Dam Neck Rd	Widening	2	4	Y	15827		x		
142	U	**Holland Rd**	Dam Neck Rd	Rosemont Rd	Widening	4	6	N	n.a.				x
149	U	**Indian River Rd**	Centerville Tnpk	Ferrell Pkwy	Widening	6	8	N	City				x
150	U	**Indian River Rd**	Lynnhaven Pkwy	Elbow Rd	Widening	2	4	Y	15829		x		
151	U	**Indian River Rd**	Elbow Rd	North Landing Rd	Widening	2	4	N	n.a.			x	
153	U	**Jeanne St**	Constitution Dr	Independence Blvd	Widening	2	4	N	n.a.			x	
154	U	**Kempsville Rd / PA Rd Intersection**	n.a.	n.a.	New Alignment	n.a.	n.a.	Y	51866		x		
155	U	**Laskin Rd**	First Colonial Rd	Birdneck Rd	Widening	4	6	Y	12546		x		
222	U	**Laskin Rd**	Birdneck Rd	Pacific Ave	Widening	4	6	Y	14601			x	
158	U	**Lynnhaven Pkwy**	Holland Rd	Lishelle Pl	Widening	4	6	Y	12549	x			
159	U	**Lynnhaven Pkwy - Volvo Pkwy**	Ches CL	Centerville Tnpk	New Alignment	0	4	N	13487	x			
223	U	**Lynnhaven Pkwy**	Centerville Tnpk	Indian River Rd	New Alignment	0	4	Y	14603		x		
231	U	**Nimmo Pkwy**	Indian River Rd @ N. Landing I	West Neck Rd ext'd	New Alignment	0	4	N	n.a.			x	
161	U	**Nimmo Pkwy**	Holland Rd	Gen Booth Blvd	New Alignment	0	4	Y	52058		x		
163	U	**Princess Anne Rd and Nimmo Pkwy**	Dam Neck Rd	Holland Rd	Widening	2,0	4	Y	13482		x		
168	U	**Princess Anne Rd**	Upton Dr	General Booth Blvd	Widening	2	4	N	n.a.		x		
169	U	**Providence Rd**	Kempsville Rd	Princess Anne Rd	Widening	2	4	N	n.a.				x
170	U	**Rosemont Rd**	VB Blvd	Holland Rd	Widening	4	6	N	n.a.				x
172	U	**Salem Rd**	Elbow Rd	Independence Blvd	Widening	2	4	N	n.a.				x
173	U	**Sandbridge Rd**	Princess Anne Rd	Atwoodtown Rd	Widening	2	4	N	n.a.				x
174	U	**Seaboard Rd**	Nimmo Pkwy	PA Rd (near PA Elem Sch)	Widening	2	4	Y	City		x		
177	U	**Wesleyan Dr**	Norf CL	Baker Rd	Widening	2	4	Y	52148		x		
178	U	**West Neck Pkwy ext'd**	Elbow Rd	North Landing Rd	New Alignment	0	4	N	n.a.			x	
179	U	**West Neck Pkwy ext'd**	North Landing Rd	Indian River Rd	New Alignment	0	4	N	n.a.			x	
180	U	**West Neck Rd**	North Landing Rd	Indian River Rd	Widening	2	4	N	n.a.			x	
181	U	**Witchduck Rd**	I-264	VB Blvd	Widening	4	6	Partial	55202			x	
182	U	**Witchduck Rd**	Princess Anne Rd	I-264	Widening	4	6	Y	55200		x		
230	U	**General Booth Blvd**	Princess Anne Rd	Dam Neck Rd	Widening	4	6	N	n.a.				x
238	U	**Holland Rd**	Rosemont Rd	Independence Blvd	Widening	4	6	N	n.a.				x
145	I	**I-264/ Independence Blvd Interchange**	n.a.	n.a.	Interchange Imp.	n.a.	n.a.	N	n.a.				x
146	I	**I-264/ Lynnhaven Pkwy Interchange**	n.a.	n.a.	Interchange Imp.	n.a.	n.a.	Y	19005				x

Hampton Roads
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TPO i.d.	Project Type	Facility	Project Location		Improvement Type	# Lanes		FY09 TIP	UPC	Analysis Years			
			From	To		From	To			2011	2018	2020	2030
143	I	**I-64/ City Line Interchange & Arterial**	I-64	Centerville Tnpk	New Interchange & Road	0	4	Y	80029				x
148	U	**Independence Blvd**	Haygood Rd	Northampton Blvd	Widening	4	6	N	n.a.				x
164	U	**Northampton Blvd/ Shore Drive Interchange**	n.a.	n.a.	Interchange Imp.	n.a.	n.a.	N	n.a.				x
	WILLIAMSBURG												
187	U	**Richmond Rd**	Brooks St	New Hope Rd.	Reconstruct/ Widening	2	4	Y	14750	x			
190	U	**Treyburn Dr Ext**	Monticello Ave	Ironbound Rd	New Alignment	0	2	Y	16054	x			
	YORK COUNTY												
191	S	**Ft Eustis Blvd Ext (Rte 1050)**	Rte 17	Old York-Hampton Hwy	New Alignment	0	4	N	14627	x			
193	P	**Rte 17 (York Co.)**	Hampton Hwy	Goodwin Neck/ Denbigh Blvd	Widening	4	6	Y	60843		x		

1) SP&G design- I-264 to Great Bridge Bypass: 4 lanes; Oak Grove Conn: 8 lanes

2) PE only projects are not run for air quality conformity because funding for Construction is not identifiable

DRAFT Amended FY 09 -12 TIP Conformity Project List

UPC	Jurisdiction	Facility	From	To	Improvement Type	Exist.	Prop.	Analysis Year 1st	TIP	LRP	Reg. Sig.
1765	Norfolk	MILITARY HIGHWAY	0.307 MILES SOUTH OF NORTHAMPTON BOULEVARD	0.289 MILES NORTH OF NORTHAMPTON	MAJOR WIDENING	4	6	2018	x	x	YES
1877	York County	RTE 646 - RECONSTRUCTION -	0.16 KILOMETER NORTH I-64	0.16 KILOMETER SOUTH OF JAMES CITY COUNTY LINE	RECONSTRUCTION		x	Exempt	x		NO
1904	Chesapeake	MILITARY HIGHWAY-GILMERTON BRIDGE	0.417 MILE WEST OF GILMERTON BRIDGE	0.356 MILE EAST OF GILMERTON BRIDGE	BRIDGE REPLACEMENT	4	4	2018	x	x	YES
1926	Suffolk (rural)	RTE 651-BARNES ROAD	ROUTE 655	ROUTE 58	RECONSTRUCTION		x	Exempt	x		NO
2024	Norfolk	RTE 264 - WIDEN FOR HOV LANES	0.442 MILE WEST OF BRAMBLETON AVENUE (ROUTE 460)	0.352 MILE WEST OF MILITARY HIGHWAY (ROUTE 13)	SAFETY/TRAFFIC OPERS/TSM	x		Complete		x	YES
2058	James City County	RTE 64 - CONSTRUCT INTERCHANGE	GROVE INTERCHANGE	AT ROUTES 143 AND 60	NEW CONSTRUCTION	x		Complete			NO
2067	Hampton	ARMISTEAD AVENUE-PE FOR PHASES 1A & 1B; A	MERCURY BOULEVARD	CROSSROADS PARKWAY	NEW CONSTRUCTION		x	Exempt			NO
3000	Isle of Wight County	WHISPERING PINES TRAIL	2.2 MILES WEST OF ROUTE 637	ROUTE 637	RESURFACING	x		Complete			NO
3089	James City County	CROAKER ROAD	0.05 MILE SOUTH OF ROUTE 1601 (WOODLAND ROAD)	0.05 MILE NORTH OF ROUTE 605 (CROAKER LANDING ROAD)	RECONSTRUCTION		x	Exempt			NO
3582	Gloucester County	HICKORY FORK RD	ROUTE 631	ROUTE 633	RECONSTRUCTION	x		Complete			NO
3811	Hampton	EAST-WEST EXPW	WCL HAMPTON	BIG BETHEL ROAD	NEW CONSTRUCTION	x		Complete	x		NO
3812	Newport News	EAST-WEST EXPW.	JEFFERSON AVENUE	WCL HAMPTON/ECL NEWPORT NEWS	NEW CONSTRUCTION	x		Complete			NO
3950	Portsmouth	RTE 337 (TURNPIKE ROAD)	PORTSMOUTH BOULEVARD	CONSTITUTION AVENUE (INCLUDING OUTFALL)	MAJOR WIDENING		x	Exempt			NO
4018	Hampton Roads District-wide	DISTRICTWIDE BRIDGE STRENGTHENING AND WIDENING	PRIMARY SYSTEM	SUFFOLK DISTRICT	PROGRAMMING ITEM		x	Exempt			NO
4024	Fredericksburg District-wide	DISTRICTWIDE BRIDGE STRENGTHENING AND WIDENING	AT GLOUCESTER COURTHOUSE		PROGRAMMING ITEM		x	Exempt			NO
4139	Isle of Wight County	MUDDY CROSS ROAD	ROUTE 644 (TURNER DRIVE)	0.2 MILE WEST OF ROUTE 10	RECONSTRUCTION		x	Exempt	x		NO
4388	Norfolk	SHORE DRIVE	0.094 MILE NORTH OF DUNNING ROAD	0.069 MILE SOUTH OF PLEASANT AVENUE	BRIDGE REPLACEMENT	x		Complete			NO
4464	Chesapeake	RTE 64 - WIDEN TO 6 LANES WITH HOV LANES	VIRGINIA BEACH/CHESAPEAKE CORPORATE LIMITS	BATTLEFIELD BOULEVARD	MAJOR WIDENING	x		Complete	x		NO
4483	Newport News	ATKINSON BLVD.	WARWICK BOULEVARD (ROUTE 60)	JEFFERSON AVENUE (ROUTE 143)	NEW CONSTRUCTION	0	4	2030	x	x	YES
4577	Suffolk	RTE 13/32 - 4 LANES ON 4-LANE RIGHT OF WAY	0.071 MILE EAST ROUTE 13/32 SOUTH (CAROLINA ROAD)	BUSINESS/BYPASS (HOLLAND ROAD)	NEW CONSTRUCTION	x		Complete			NO
4695	Isle of Wight County	DUCK TOWN ROAD	0.40 MILE NORTH ROUTE 643	ROUTE 641	RECONSTRUCTION	x		Complete			NO
4702	Isle of Wight County	CAMPBELL'S CHAPEL DRIVE	ROUTE 258	ROUTE 711	RESURFACING	x		Complete			NO
4710	Suffolk (rural)	COPELAND ROAD	ROUTE 643	ROUTE 13	RECONSTRUCTION	x		Complete			NO
6764	York County	BURTS RD	ROUTE 621	0.3 MILE SOUTH ROUTE 17 ON ROUTE 709	NEW CONSTRUCTION		x	Exempt	x		NO
7913	Gloucester County	CAPPAHOSIC RD.	END OF MAINTENANCE	ROUTE 614	RECONSTRUCTION		x	Exempt	x		NO
8314	Isle of Wight County	SANDY RIDGE ROAD	ROUTE 602	SUFFOLK CORPORATE LIMITS		x		Complete			NO

DRAFT Amended FY 09 -12 TIP Conformity Project List

UPC	Jurisdiction	Facility	From	To	Improvement Type	Exist.	Prop.	Analysis Year 1st	TIP	LRP	Reg. Sig.
8321	Isle of Wight County	ROUTE 647 - Pope Swamp Trail	ROUTE 645	ROUTE 644			x	Exempt	x		NO
8322	Isle of Wight County	RTE 704 - RESCUE RD OVER JONES CREEK	0.456 MILE WEST ROUTE 1005	ROUTE 1005	BRIDGE REPLACEMENT	x		Complete			NO
8327	Suffolk (rural)	RTE 629 - Sleepy Hole Road	ROUTE 125	ROUTE 337	RECONSTRUCTION	x		Complete			NO
8338	Suffolk (rural)	RTE 759	0.038 MILE NORTH ROUTE 666 (GATES ROAD)	0.002 MILE NORTH ROUTE 668 (PITTMANTOWN ROAD)	MINOR WIDENING	x		Complete			NO
8815	Chesapeake	BATTLEFIELD BLVD	3.122 MILES NORTH OF INDIAN CREEK RD	0.253 MILE SOUTH OF INDIAN CREEK RD	NEW CONSTRUCTION	x		Complete	x		NO
9783	Norfolk	RTE 13 - MILITARY	0.012 MILE SOUTH OF LOWERY ROAD	0.307 MILE SOUTH OF NORTHAMPTON BOULEVARD	NEW CONSTRUCTION	4	8	2018	x	x	YES
9786	Smithfield	RTE 10 - SOUTH CHURCH ST	0.054 MI. NORTH OF TALBOT DRIVE	BATTERY PARK ROAD (ROUTE 704)	RECONSTRUCTION		x	Exempt	x		NO
9799	James City County	RTE 199	0.006 MILE SOUTH ROUTE 615	0.158 MILE SOUTH ROUTE 612	NEW CONSTRUCTION	x		Complete			NO
9865	Isle of Wight County	RTE 58/258 CONNECTOR	2.689 KILOMETERS SOUTH OF ROUTE 58 & ROUTE 258	ROUTE 58 & ROUTE 258	NEW CONSTRUCTION	x		Complete			NO
10797	Newport News	RTE 60 WARWICK BLVD	0.304 KM SOUTH OF ROUTE 312	0.319 KM NORTH OF NETTLES DRIVE	MAJOR WIDENING	2	6	2011	x	x	YES
10798	York County	RTE 603 - INTERNATIONAL PK	ROUTE 199 (ROCHAMBEAU DRIVE)	1.54 MILES NORTH ROUTE 645	NEW CONSTRUCTION	x		Complete	x		NO
11267	York County	BIG BETHEL ROAD	INTERSECTION IMPROVEMENTS AT ROUTES 134 & 171	(CONSTRUCT TURN LANES WITH 1.2 METER BICYCLE LANES)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
11475	Isle of Wight County	BLUERIDGE TRAIL	ROUTE 606	0.4 MILE WEST OF ROUTE 637 (ORBIT ROAD)	RESURFACING	x		Complete			NO
11480	Isle of Wight County	RTE 620 - WIDENING	0.070 KILOMETER WEST ROUTE 647	0.101 KILOMETER EAST ROUTE 652 EAST	RECONSTRUCTION	x		Complete			NO
11481	Isle of Wight County	FOURSQUARE ROAD	ROUTE 637	0.039 KILOMETER WEST OF ROUTE 647	MINOR WIDENING	x		Complete			NO
11750	Portsmouth	PINNER'S POINT	0.616 MILE WEST OF EAST END OF WEST NORFOLK BRIDGE	0.060 MILE EAST OF WEST END OF MIDTOWN TUNNEL	NEW CONSTRUCTION	x		Complete	x	x	YES
11752	Portsmouth	LEE AVE./VA. AVE	LEE AVENUE	VIRGINIA AVENUE	NEW CONSTRUCTION	x		Complete	x		NO
11754	Virginia Beach	BIRDNECK ROAD	0.011 MILE EAST OF GENERAL BOOTH BOULEVARD	0.016 MILE NORTH OF SOUTHERN BOULEVARD	MAJOR WIDENING	2	4	2011	x	x	YES
11756	Virginia Beach	LONDON BRIDGE ROAD	INTERNATIONAL PARKWAY	VIRGINIA BEACH BOULEVARD (ROUTE 58)	MAJOR WIDENING	x		Complete	x		NO
11816	Newport News	MIDDLE GROUND BLVD	0.1929 KILOMETERS EAST OF JEFFERSON AVENUE	0.1239 KILOMETERS WEST OF WARWICK BOULEVARD	NEW CONSTRUCTION	0	4	2018	x	x	YES
12379	Chesapeake	I-64	1.17 MILES EAST BATTLEFIELD BLVD	.77 MILE WEST BATTLEFIELD BLVD	MAJOR WIDENING	4	8	2011	x	x	YES
12542	Chesapeake	KEMPSVILLE ROAD	0.210 MILE EAST OF GREENBRIER PARKWAY	0.151 MILE WEST OF VOLVO PARKWAY	RECONSTRUCTION	x		Complete			NO
12543	Chesapeake	KEMPSVILLE ROAD	BATTLEFIELD BOULEVARD	0.210 MILE EAST OF GREENBRIER PARKWAY	RECONSTRUCTION	x		Complete			NO
12546	Virginia Beach	LASKIN ROAD	0.449 KILOMETER WEST OF FIRST COLONIAL ROAD	0.515 KILOMETER EAST OF BIRDNECK ROAD	MAJOR WIDENING	4	6	2018	x	x	YES
12549	Virginia Beach	LYNNHAVEN PKWY	0.2179 KM WEST OF HOLLAND ROAD	0.0632 KM EAST OF LISHELLE PLACE	RECONSTRUCTION	4	6	2011	x	x	YES
12827	Hampton	RTE 64 - BRIDGE DECK REHABILITATION	HAMPTON ROADS BRIDGE TUNNEL	SOUTHWEST AND NORTHWEST APPROACH STRUCTURES	MAJOR BRIDGE REHAB	x		Complete			NO

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12962	York County	RTE 17	INTERSECTION ROUTES 17 & 620 (LAKESIDE DRIVE)		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
12970	Newport News	RTE 60	AT OYSTER POINT ROAD		MAJOR WIDENING	x		Complete			NO
13199	Isle of Wight County	WEST BLACKWATER ROAD	0.098 KILOMETERS WEST ROUTE 641	0.027 KILOMETERS WEST ROUTE 657	RECONSTRUCTION	x		Complete			NO
13272	Norfolk	EXTENSION OF TRAFFIC MANAGEMENT SYSTEM	BAY VIEW BOULEVARD	4TH VIEW STREET	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
13325	Suffolk (rural)	WHITE MARSH ROAD	ROUTE 337	0.1 MILE SOUTH ROUTE 1332	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
13326	Suffolk (rural)	CYPRESS CHAPEL ROAD	ROUTE 32	ROUTE 642 SOUTH	RECONSTRUCTION		x	Complete	x		NO
13427	Poquoson	RTE 172 (WYTHE CREEK ROAD) -	ALPHUS STREET	SCL POQUOSON	MAJOR WIDENING	2	4	2020	x	x	YES
13428	Hampton	RTE 172 (WYTHE CREEK ROAD) -	0.258 KILOMETER EAST OF NASA'S MAIN GATE	INTERSECTION MAGRUDER BOULEVARD (ROUTE 134)	RECONSTRUCTION	2	4	2020	x	x	YES
13429	Newport News	RTE 143 (JEFFERSON AVENUE)	0.077 KILOMETERS NORTH OF BUCHANAN DRIVE	0.126 KILOMETERS NORTH OF GREEN GROVE LANE	MAJOR WIDENING	4	6	2011	x	x	YES
13431	Hampton	RTE 351 (PEMBROKE AVENUE)	0.041 KILOMETER EAST MARSHALL STREET	HOLLY STREET	BRIDGE REPLACEMENT	x		Complete			NO
13478	Newport News	J. CLYDE MORRIS BOULEVARD CORRIDOR - BIKE TRAIL	JEFFERSON AVENUE	MARINERS MUSEUM	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
13482	Virginia Beach	PRINCESS ANNE ROAD - 4 LANES ON 8-LANE RW	0.17 MILE EAST OF DAMNECK ROAD	0.02 MILE EAST OF HOLLAND ROAD	RECONSTRUCTION	2,0	4	2018	x	x	YES
13485	Chesapeake	VOLVO PARKWAY	0.128 KILOMETER EAST OF KEMPSVILLE ROAD	EAST CORPORATE LIMITS CHESAPEAKE	MAJOR WIDENING	0	4	2011	x	x	YES
13486	Suffolk	RTE 460 (NORTH MAIN STREET)	0.294 KILOMETER NORTH ROUTE 58 BUS.(CONSTANCE ROAD)	1.084 KILOMETERS NORTH ROUTE 58 BUS.(CONSTANCE ROAD)	MAJOR WIDENING	x		Complete			NO
13487	Virginia Beach	LYNNHAVEN PARKWAY	WEST CORPORATE LIMITS OF VIRGINIA BEACH	0.736 KILOMETER EAST OF CENTERVILLE TURNPIKE	MAJOR WIDENING	0	4	2011		x	YES
13496	James City County	POCAHONTAS TRAIL	WEST APPROACH OF SKIFFES CREEK BRIDGE	1.9 MILE WEST OF WCL CITY OF NEWPORT NEWS	NEW CONSTRUCTION	na	na	Exempt	x	x	YES
13497	York County	RTE 105 FT. EUSTIS BOULEVARD	0.721 KILOMETER EAST OF ROUTE 143	0.235 KILOMETER WEST OF ROUTE 17	MAJOR WIDENING	2	4	2011	x	x	YES
13500	Hampton Roads MPO	MONTICELLO AVE.- REGIONAL BIKEWAY NETWORK	ROUTE 615	COMPTON DRIVE (ENTRANCE TO WILLIAM & MARY COLLEGE)	ENVIRONMENTALLY RELATED	x		Complete			NO
13714	York County	LAKESIDE DRIVE	0.021 KILOMETER EAST INTERSECTION ROUTE 17	0.003 KILOMETER SOUTH INTERSECTION ROUTE 621	MAJOR WIDENING		x	Exempt	x		NO
13718	James City County	RTE 615-IRONBOUND	ROUTE 612	ROUTE 322	MAJOR WIDENING		x	Exempt			NO
13719	James City County	RTE 612 - TRAIL	ROUTE 614 (CENTERVILLE RD)	ROUTE 199	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
13731	Norfolk	RTE 264 - WIDEN FOR HOV LANES	0.352 MILE WEST MILITARY HIGHWAY (ROUTE 13)	0.744 MILE EAST MILITARY HIGHWAY (ROUTE 13)	MAJOR WIDENING	x		Complete			NO
13765	Hampton Roads District-wide	PHASE I:CONSTR BIKEWAYS & INST.BIKE LOCKERS-WALLER MILL TR.	BARLOW ROAD - MOORETOWN ROAD	ROUTE 143 - ROCHAMBEAU DRIVE	MINOR WIDENING	x		Complete	x		NO
13979	Newport News	RTE 143 (JEFFERSON AVE)	FROM DENBIGH BOULEVARD TO FORT EUSTIS BOULEVARD	& INTERSECTION REALIGNMENT AT INDUSTRIAL PARK DRIVE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
14598	Newport News	WARWICK BOULEVARD (PE ONLY IN SYP)	ROUTE 105 (FORT EUSTIS BOULEVARD)	EAST END OF BRIDGE OVER SKIFFES CREEK	NEW CONSTRUCTION	na	na	Exempt	x	x	YES
14600	Virginia Beach	LASKIN ROAD (PE/RW Only)	0.66 MILES EAST GREAT NECK ROAD	0.279 MILES WEST FIRST COLONIAL ROAD	MAJOR WIDENING	na	na	Exempt	x		NO

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14601	Virginia Beach	LASKIN ROAD	0.32 MILES EAST OF BIRDNECK ROAD	0.247 MILES WEST OF PACIFIC AVENUE	MAJOR WIDENING	4	6	2020	x	x	YES
14603	Virginia Beach	LYNNHAVEN PARKWAY	0.736 KILOMETER EAST OF CENTERVILLE TURNPIKE	0.262 KILOMETER WEST OF INDIAN RIVER ROAD	MAJOR WIDENING	0	4	2018	x	x	YES
14625	Newport News	RTE 17 - OYSTER POINT BUSINESS PARK SIDEWALK (PHASE 3)	ROCK LANDING DRIVE/DILIGENCE DRIVE INTERSECTION	CANNON BOULEVARD	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
14627	York County	RTE 1050 - EXTENSION OF FORT EUSTIS BOULEVARD	INTERSECTION ROUTE 17	INTERSECTION ROUTE 634	NEW CONSTRUCTION	0	4	2011		x	YES
14672	Norfolk	RTE 337(HAMPTON BLVD)	0.005 KILOMETER NORTH OF ROGERS AVENUE	0.011 KILOMETER SOUTH OF "B" AVENUE	RECONSTRUCTION	na	na	2018	x	x	YES
14746	Norfolk	EXPANSION OF COMPUTERIZED SIGNAL SYSTEM	PHASE II		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
14750	Williamsburg	RTE 60 (RICHMOND ROAD) - WIDENING TO 4 LANES W/C, G, & S	0.097 KILOMETER SOUTH OF BROOKS STREET	0.070 KILOMETER NORTH OF NEW HOPE ROAD	RECONSTRUCTION	2	4	2011	x	x	YES
14952	Newport News	WARWICK BOULEVARD	AT CSX RAILROAD - DOT #224-170P	INTERSECTION OF FORT EUSTIS BOULEVARD	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
14989	Isle of Wight County	RTE 603 - W. BLACKWATER RD	3.026 KILOMETER WEST ROUTE 258	ROUTE 258	RECONSTRUCTION	x		Complete			NO
14990	Isle of Wight County	RTE 603 - W. BLACKWATER RD	0.045 MILE WEST OF ROUTE 642 (PEAR TREE ROAD)	0.049 MILE WEST OF ROUTE 641 (BARRET TOWN ROAD)	MINOR WIDENING	x		Complete	x		NO
14991	Isle of Wight County	RTE 603 - W. BLACKWATER RD	ROUTE 642 (PEAR TREE ROAD)	ROUTE 643(WOOD DUCK DRIVE)	RECONSTRUCTION		x	Exempt	x		NO
14992	Isle of Wight County	RTE 603 - W. BLACKWATER RD	ROUTE 643	SOUTHAMPTON COUNTY LINE	RECONSTRUCTION		x	Exempt	x		NO
14994	Isle of Wight County	BROADWATER ROAD	ROUTE 681	ROUTE 637	RECONSTRUCTION		x	Exempt	x		NO
15123	Suffolk (rural)	MINERAL SPRING ROAD	INTERSECTION ROUTE 13	0.4 MILE WEST OF INTERSECTION RTE 13	MINOR WIDENING		x	Exempt	x		NO
15128	Newport News	RTE 64 - WIDEN FROM 4 TO 6 LANES W/NOISE ABATEMENT WALL	1.471 MILES WEST OF ROUTE 143 (JEFFERSON AVENUE)	0.911 MILE EAST OF ROUTE 143 (JEFFERSON AVENUE)	MAJOR WIDENING	x		Complete			NO
15148	Chesapeake	5' PAVED BIKE LANES	PORTSMOUTH BLVD TO NEAR DEVON DRIVE;	DRIVE TO PORTSMOUTH BOULEVARD	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
15149	Virginia Beach	RESTORATION OF CAPE HENRY LIGHTHOUSE			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
15150	Virginia Beach	ARTS CENTER/OCEANFRONT CONNECTOR TRAIL	TRAIL ALONG EXISTING SALT-MARSH ENVIRONMENT		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
15246	Gloucester County	HICKORY FORK RD	ROUTE 616	ROUTE 631	RECONSTRUCTION		x	Exempt	x		NO
15791	Norfolk	RTE 264 - WIDEN FOR HOV LANES	0.5 MILE WEST ROUTE 64	0.7 MILE EAST ROUTE 64	RECONSTRUCTION		x	Exempt			NO
15822	Newport News	JEFFERSON AVENUE	AT INTERSECTION OF SHIELDS ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
15826	Suffolk	FINNEY AVENUE	EAST WASHINGTON STREET	FINNEY AVENUE	NEW CONSTRUCTION	0	2	2030	x	x	YES
15827	Virginia Beach	HOLLAND ROAD	0.207 MILE NORTH OF DAM NECK ROAD	0.152 MILE SOUTH OF NIMMO PARKWAY	MAJOR WIDENING	2	4	2018	x	x	YES
15828	Virginia Beach	ELBOW ROAD	INDIAN RIVER ROAD	0.5 MILE WEST OF PRINCESS ANN ROAD	NEW CONSTRUCTION	2	4	2018	x	x	YES
15829	Virginia Beach	INDIAN RIVER ROAD	LYNNHAVEN PARKWAY	ELBOW ROAD	MAJOR WIDENING	2	4	2018	x	x	YES
16042	Hampton	RTE 64 - TRAFFIC MANAGEMENT SYSTEM	MAGRUDER BOULEVARD	ROUTE 199(INCLUDES NEWPORT NEWS, HAMPTON & YORK COUNTY)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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16043	Chesapeake	RTE 64 - TRAFFIC MANAGEMENT SYSTEM	ROUTE 264 (BOWERS HILL)	ROUTE 464	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
16045	Hampton Roads District-wide	RTE 264 - TRAFFIC MANAGEMENT SYSTEM	BRAMBLETON AVENUE	ROUTE 64 (BOWERS HILL)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
16046	Hampton Roads District-wide	RTE 464 - TRAFFIC MANAGEMENT SYSTEM	ROUTE 64	ROUTE 264	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
16047	Hampton Roads District-wide	RTE 664 - TRAFFIC MANAGEMENT SYSTEM	NORTH END MONITOR-MERRIMAC TUNNEL	ROUTE 264 (BOWERS HILL)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
16054	Williamsburg	THREE LANES, BIKEWAY, SIDEWALKS, CURB & GUTTER	MONTICELLO AVENUE	IRONBOUND ROAD	NEW CONSTRUCTION	0	2	2011	x	x	YES
16102	Hampton	SIGNAL SYSTEM UPGRADE	CITYWIDE		SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
16103	Newport News	J CLYDE MORRIS BOULEVARD CORRIDOR (BIKEWAY PHASE IV)	CANNON BOULEVARD	OYSTER POINT ROAD	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
16106	Virginia Beach	SIGNAL RE-TIMING AT 70 LOCATIONS	AT 70 LOCATIONS IN THE CITY		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
16109	Chesapeake	SIGNAL INTERCONNECT	CEDAR LANE	STEEL BRIDGE	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
16110	Chesapeake	BIKEWAY	DOCK LANDING ROAD	JOLLIFF ROAD	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
16196	Portsmouth	SIGNAL SYSTEM UPGRADE - PHASE II	PORTSMOUTH CITYWIDE		SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
16218	Norfolk	RTE I-264 - URBAN INTERSTATE LANDSCAPING	MILITARY HIGHWAY		ENVIRONMENTALLY RELATED	x		Complete			NO
16314	York County	RTE 641 - PENNIMAN ROAD	ROUTE 723	INTERSECTION OF ALEXANDER LEE PARKWAY	RECONSTRUCTION		x	Exempt	x		NO
16316	York County	COOK ROAD	ROUTE 634	ROUTE 238	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
16403	Norfolk	AZALEA GARDEN ROAD	AT NORFOLK SOUTHERN RAILROAD -- DOT #735343N	(0.09 MILE SOUTH WEST ROUTE 194)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
16414	Virginia Beach	LONDON BRIDGE ROAD	INTERNATIONAL PARKWAY	VIRGINIA BEACH BOULEVARD (ROUTE 58)	MAJOR WIDENING	x		Complete	x		NO
16463	Hampton Roads MPO	SIGNAGE FOR BIKEWAY NETWORK	JAMES CITY AND YORK COUNTIES		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
16531	Virginia Beach	COMPUTER SYSTEM UPGRADE			SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
16554	Gloucester County	COLONIAL COURTHOUSE VILLAGE ENHANCEMENT	BEGINS AT HISTORIC COURT CIRCLE AND CONTINUES FOR	APPROXIMATELY 1200 LINEAR FEET ALONG MAIN STREET			x	Exempt	x		NO
16556	Virginia Beach	SOUTHEASTERN PARKWAY AND GREENBELT - 4 LANES-PHASE I	I-64 (AT OAK GROVE CONNECTOR)	I-264	NEW CONSTRUCTION	0	4	Exempt	x	x	NO
16557	Norfolk	BLVD.INTERCHANGE/INTERNAT.TERMINAL BLVD.	TROUTVILLE AVENUE	PORTOR STREET	NEW CONSTRUCTION			Exempt	x		NO
16843	Hampton Roads District-wide	RUMBLE STRIPS					x	Exempt	x		NO
17142	Isle of Wight County	ROUTE 58 - BRIDGE & APPROACH OVER BLACKWATER RIVER	0.32 KILOMETER W.CORP. LIMITS CITY OF FRANKLIN	0.32 KILOMETER EAST ISLE OF WIGHT COUNTY LINE	BRIDGE REPLACEMENT	na	na	2011	x	x	YES
17365	York County	RTE 60 (BOTH DIRECTIONS)	0.10 MI. W. JAMES CITY CO. LINE	(DOT #224-178U)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
17368	Hampton	RTE 64 - WIDEN FROM 6 TO 8 LANES	HAMPTON ROADS CENTER PARKWAY	RAMP B - ROUTE I-664	MAJOR WIDENING	6	8	Complete			NO
17522	Newport News	CHESTNUT AVENUE	AT INTERSECTION WITH BRIARFIELD ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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17545	Portsmouth	CLIFFORD ST - BRIDGE REPLACEMENT & APPROACHES	INTERSECTION OF CITY PARK AVENUE & CLIFFORD STREET	INTERSECTION OF CLIFFORD STREET & POWHATAN STREET	BRIDGE REPLACEMENT	x		Complete			NO
17546	Norfolk	RTE 58	0.023 KM West of JETT STREET	0.216 KM East of BRIAR HILL ROAD	MAJOR WIDENING	4	6	2011	x	x	YES
17568	Suffolk	RTE 337 - DEVELOP TO 4 LANE DIVIDED FACILITY	0.278 Mile W. of Shoulder Hill Road (Rte. 626)	0.398 Mile E. of Shoulder Hill Road (Rte. 626)	RECONSTRUCTION	2	4	2018	x	x	YES
17591	Norfolk	ATTUCKS HISTORIC PEDESTRIAN WALKWAY	PEDESTRIAN WALKWAY ALONG CHURCH STREET, HENRY STREET,	VIRGINIA BEACH BOULEVARD AND PRINCESS ANNE ROAD			x	Exempt	x		NO
17630	Virginia Beach	RTE 264 - INTERCHANGE IMPROVEMENT	0.426 MILE EAST OF WBL I-64	0.473 MILE EAST OF WITCHDUCK RD	MAJOR WIDENING		x	2018	x	x	YES
17632	James City County	BIKEWAY - COLONIAL PARKWAY CONNECTION	COLONIAL PARKWAY	RD(RTE.682)&TREASURE ISL.RD(RTE.617)	R/W OR ENG	x		Complete			NO
17633	James City County	CLASS I BIKEWAY/PEDESTRIAN ROUTE 60 & CROAKER ROAD	Croaker Rd: Norge Library to Richmond Rd	Richmond Rd: Croaker Rd to Old Church Rd	R/W OR ENG		x	Exempt	x		NO
17635	York County	GOODWIN NECK BIKE LANES	FREEDOM BOULEVARD	BACK CREEK ROAD	R/W OR ENG	x		Exempt			NO
17636	Chesapeake	RTE 13 MILITARY HWY	AT GREENBRIER PARKWAY		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
17637	Chesapeake	GREENBRIER PARKWAY - INTERSECTION IMPROVEMENTS	EDEN WAY NORTH	CROSSWAY BOULEVARD	MINOR WIDENING	x		Complete	x		NO
17736	Hampton	MERCURY BLVD	AT JEFFERSON AVENUE AND	NEW MARKET BOULEVARD	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
17821	Norfolk	I-564 - LANDSCAPING	AT TERMINAL BOULEVARD INTERCHANGE		ENVIRONMENTALLY RELATED	x		Complete			NO
17824	Norfolk	I-64 EB RAMP IMPROVEMENT	0.313 MI. WEST OF NORVIEW AVENUE	0.215 MI. EAST OF NORVIEW AVENUE	MINOR WIDENING	na	na	2018	x	x	YES
17827	Chesapeake	RTE 165 - BIKE PATH ON CEDAR ROAD	ROUTE 104	ALBERMARLE DRIVE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
17828	Chesapeake	CITY WIDE CLOSED LOOP SIGNAL UPGRADE			SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
17935	York County	RTE 782 - INTERSECTION IMPROVEMENTS	0.285 KILOMETER SOUTH ROUTE 171	0.271 KILOMETER NORTH ROUTE 171	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
18190	Hampton Roads District-wide	SOFTWARE/HARDWARE DEVELOPMENT & INTEGRATION	AT HAMPTON ROADS SMART TRAVEL CENTER		SAFETY/TRAFFIC OPERS/TSM	x		Exempt	x		NO
18202	James City County	IRONBOUND ROAD			NEW CONSTRUCTION	x		Complete			NO
18207	Virginia Beach	OCEANA BOULEVARD & FIRST COLONIAL ROAD EXTENSION - 4 LANES	0.80 MILE SOUTH OF VIRGINIA BEACH BOULEVARD	VIRGINIA BEACH BOULEVARD	NEW CONSTRUCTION	x		Complete			NO
18591	Chesapeake	RTE 337 - WIDEN TO 4 LANES	WCL CHESAPEAKE	JOLLIFF ROAD	MAJOR WIDENING	2	4	2018	x	x	YES
18592	Chesapeake	BRIDGE AND APPROACHES OVER INTERCOASTAL WATERWAY - 5 LANE	WAYNE AVENUE	ALBEMARLE DRIVE	BRIDGE REPLACEMENT		x	Exempt	x		NO
18705	Newport News	RTE 238 -	YORKTOWN ROAD	(0.03 MILE NORTHEAST ROUTE 60-WARWICK RD-DOT# 224-171W CSX)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
18708	Norfolk	BOUSH ST. - RECONSTRUCTION - 4 LANE	CITY HALL AVENUE	BRAMLETON AVENUE	MAJOR WIDENING	x		Complete			NO
18824	Chesapeake	ROUTE 13	AT RAILROAD - DOT #643-352G	(0.01 MILE SOUTHWEST OF MILITARY HIGHWAY	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
18825	Chesapeake	DEEP CREEK BOULEVARD	AT RAILROAD CROSSING - DOT #467-707W	(0.60 MILE NORTH OF GUST LANE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
18827	Newport News	ROUTE 143	0.01 MILE SOUTH INDUSTRIAL AVENUE	DOT# 224-164L	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO

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18830	Suffolk	LIBERTY ST	AT RAILROAD - DOT #467-399T	(0.08 MILE NORTH OF WASHINGTON STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
18968	Norfolk	I-564 INTERMODAL CONNECTOR	I-564	NORFOLK NAVAL BASE/N.I.T.	NEW CONSTRUCTION	0	4	2018	x	x	YES
18969	Hampton Roads District-wide	AREA TUNNELS HURRICANE PREPAREDNESS	REGIONWIDE HAMPTON ROADS		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
18970	Virginia Beach	RTE 264 - INTERCHANGE IMPROVEMENTS (PE & RW ONLY)	AT ROSEMONT ROAD		RECONSTRUCTION		x	Exempt			NO
19005	Virginia Beach	RTE 264 - INTERCHANGE IMPROVEMENTS - PHASE II	LYNNHAVEN		NEW CONSTRUCTION	na	na	2030	x	x	YES
19008	Newport News	ROUTE 60 (WARWICK BLVD) - CHANNELIZATION	INTERSECTION OF 37TH STREET		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
19010	Newport News	CANON BOULEVARD - LEFT TURN LANE & MODIFY EXISTING SIGNAL	INTERSECTION MIDDLE GROUND BOULEVARD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
19011	Suffolk	RTE 460 - PEDESTRIAN AND BIKE PATH	1.1 KILOMETERS NORTH OF ROUTE 58	ROUTE 10 AND ROUTE 32	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
19012	Virginia Beach	INTERSECTION IMPROVEMENTS	AT DAM NECK ROAD AND GENERAL BOOTH BOULEVARD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
19013	Virginia Beach	RTE 58 - INTERSECTION IMPROVEMENTS	AT ROSEMONT ROAD		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
19014	Virginia Beach	RTE 165 - INTERSECTION IMPROVEMENTS	AT WITCHDUCK ROAD AND PRINCESS ANNE ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
19015	Virginia Beach	INTERSECTION IMPROVEMENTS	0.0350 KM SOUTH OF LYNNHAVEN PKWY CONSTR. B/L	0.1660 KM SOUTH OF LYNNHAVEN PKWY CONSTR. B/L	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
19022	Newport News	J. CLYDE MORRIS BLVD - INTERSECTION IMPROVEMENT	AT DILIGENCE DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
19023	Newport News	RTE 143 - INTERSECTION IMPROVEMENT	0.128 MILES SOUTH OF THIMBLE SHOALS BOULEVARD	0.188 MILES NORTH OF THIMBLE SHOALS BOULEVARD	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
31665	Isle of Wight County	BUDGET ITEM	DRAINAGE AT WINDSOR	YEARLY PROJECT FOR ISLE OF WIGHT	ENVIRONMENTALLY RELATED		x	Exempt			NO
50012	Suffolk	SIGNAL COORDINATION IN DOWNTOWN (PE ONLY)	DOWNTOWN AREA		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
50013	Virginia Beach	CITYWIDE SIGNAL RETIMING			SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
50015	York County	GRAFTON DRIVE BIKEWAY (BIKEWAY AND SIDEWALK)	GRAFTON DRIVE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
50041	Hampton Roads District-wide	CONSTRUCT/INSTALL BUS SHELTERS	BUS SHELTERS		NEW CONSTRUCTION		x	Exempt	x		NO
50057	James City County	RTE 615 - RECONSTRUCT TO 4 LANES	0.052 MILE SOUTH OF INTERSECTION ROUTE 616	0.303 MILES NORTH OF ROUTE 747	RECONSTRUCTION	2	4	2018	x	x	YES
50119	Newport News	CONSTRUCTION OF PEDESTRIAN IMPROVEMENTS	WARWICK BOULEVARD		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
50519	Williamsburg	TRANSPORTATION STUDY	WILLIAMSBURG 2007		STUDY		x	Exempt	x		NO
50651	Hampton Roads District-wide	HOV MARKETING & ANALYSIS - REGIONWIDE	HOV MARKETING & ANALYSIS		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
51803	Isle of Wight County	RTE 1603 -	AT CSX RAILROAD - DOT # 623-810N	(0.01 MILE SOUTH OF ROUTE 58)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
51863	Portsmouth	VICTORY BLVD	GREENWOOD DRIVE	CAVALIER BOULEVARD	RECONSTRUCTION		x	Exempt	x		NO
51866	Virginia Beach	RTE 165 PRINCESS ANNE	0.389 MILES WEST OF KEMPSVILLE ROAD	0.275 MILES EAST OF KEMPSVILLE ROAD	RECONSTRUCTION	na	na	2018	x	x	YES

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52005	Chesapeake	CONSTRUCTION OF 1.4 MILE MULTI-USE PATH IN WESTERN BRANCH	Portsmouth Boulevard (Rte 337)	Deerfield Crescent	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52006	Suffolk	DOWNTOWN SUFFOLK INITIATIVES	DOWNTOWN AREA		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52008	York County	RESTORE WHARF WAREHOUSE/FERRY TERMINAL			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52015	Gloucester County	GLOUCESTER COUNTY - PHASE II ENHANCEMENTS	IMPLEMENTATION OF AN ON-GOING PROJECT TO PROVIDE HISTORIC	STREETSCAPE ENHANCEMENTS	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52058	Virginia Beach	NIMMO PARKWAY(R/W & CONST ONLY)	0.02 Miles East of Holland Road	0.43 Miles West of General Booth Boulevard	NEW CONSTRUCTION	0	4	2018	x	x	YES
52059	Norfolk	ROUTE 337 - LANDSCAPING	AT MIDTOWN TUNNEL		ENVIRONMENTALLY RELATED		x	Exempt			NO
52074	Hampton	RTE 134 - (ARMISTEAD AVENUE) 4 LANE	0.25 MILE WEST OF ROUTE 167 (LASALLE AVENUE)	0.09 MILE EAST OF ROUTE 167 (LASALLE AVENUE)	BRIDGE REPLACEMENT	x		Complete			NO
52075	Suffolk	RTE 1003 - BATTERY AVENUE	ROUTE 1007	END OF STATE MAINTENANCE	RECONSTRUCTION		x	Exempt			NO
52080	James City County	BARNES ROAD	0.50 MILE EAST ROUTE 60	0.85 MILE EAST ROUTE 60	RECONSTRUCTION		x	Exempt			NO
52081	James City County	MOUNT LAUREL ROAD	0.20 Mi SOUTH ROUTE 606	0.90 MILE SOUTH 606	RECONSTRUCTION	x		Complete	x		NO
52082	York County	YORKVILLE RD	0.2 MILE WEST ROUTE 1522	0.3 MILE EAST ROUTE 620	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52147	Norfolk	WESLEYAN DRIVE - 4 LANE	NORTHAMPTON BOULEVARD	ECL	MAJOR WIDENING	2	4	2018	x	x	YES
52148	Virginia Beach	WESLEYAN DRIVE - 4 LANE	WCL	BAKER ROAD	MAJOR WIDENING	2	4	2018	x	x	YES
52149	Norfolk	CITYWIDE URBAN TRANSPORTATION			ENVIRONMENTALLY RELATED		x	Exempt			NO
52150	Norfolk	RTE 166 - PRINCESS ANNE RD	0.07 MILE EAST OF INT PRINCESS ANNE RD/KILMER LANE	0.107 MILE WEST OF INT PRINCESS ANNE RD/KILMER LANE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52151	Chesapeake	RTE 165 - MOUNT PLEASANT ROAD - LEFT TURN LANE	AT FENTRESS AIRFIELD ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52152	Chesapeake	RTE 13 -MILITARY HWY	AT BAINBRIDGE BOULEVARD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52303	Isle of Wight County	RTE 460 - CONSTRUCT TURN LANES	INTERSECTION ROUTE 258	0.87 MILE EAST INTERSECTION ROUTE 258	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52305	Virginia Beach	RTE 44/264 - SURFACE REPAIR & REHABILITATION OF ROADWAY			RESTORATION & REHAB		x	Exempt	x		NO
52324	Hampton Roads District-wide	SMART TRAFFIC CENTER	REGIONAL ROADWAY INFORMATION SYSTEM	(COMPUTER SYSTEM)	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52342	York County	GRAFTON DRIVE	0.486 MILES SOUTH OF ROUTE 630 (AMORY LANE)	0.298 MILES SOUTH OF ROUTE 630 (AMORY LANE)	RECONSTRUCTION		x	Exempt	x		NO
52343	Newport News	RIVERMONT BIKE TRAIL			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52346	Newport News	ITS FIBER LINK	TRAFFIC OPERATIONS CENTER	I-64 AT JEFFERSON AVENUE	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52347	Newport News	ITS FIBER LINK	CITY HALL	I-664	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52348	Newport News	CITYWIDE SIGNAL RETIMING (PE ONLY)	AT SIGNALIZED INTERSECTIONS		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52349	Newport News	OAKLAND INDUSTRIAL PARK/SIDEWALK			SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO

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52350	Newport News	CITYWIDE SIGNAL SYSTEM UPGRADE	225 INTERSECTIONS		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52351	Hampton Roads MPO	RTE 17 - ARTERIAL SIGNAL SYSTEM UPGRADE	I-64 (NEWPORT NEWS)	ROUTE 105 (YORK COUNTY)	ENVIRONMENTALLY RELATED		x	Exempt			NO
52353	Norfolk	STC OPERATIONS	CITYWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52355	Virginia Beach	CITYWIDE SIGNAL SYSTEM UPGRADE (PHASE I)	NEW ADDITION FOR TRAFFIC MANAGEMENT CENTER		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52357	Chesapeake	I-64 RAMP CONNECTION	I-64 EAST OFF RAMP	WOODLAKE DRIVE	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52360	Hampton	CITY TMS/VDOT CONNECTION	CITY TMS CONTROL CENTER	VDOT SMART TRAVEL CENTER	ENVIRONMENTALLY RELATED		x	Exempt			NO
52363	Hampton	SIGNAL SYSTEM RETIMING	AT VARIOUS INTERSECTIONS		ENVIRONMENTALLY RELATED		x	Exempt			NO
52364	Hampton	INTERSECTION IMPROVEMENTS	AT FOX HILL ROAD & WOODLAND ROAD		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52365	Norfolk	NORVIEW AVENUE - INTERSECTION IMPROVEMENT	AT AZALEA GARDEN ROAD	ADD EASTBOUND LEFT TURN LANE	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52366	Norfolk	CCTV LINKS	NORFOLK STC	VDOT STC	ENVIRONMENTALLY RELATED		x	Exempt			NO
52367	Norfolk	SIGNAL OPTIMIZATION - HAMPTON BOULEVARD	REDGATE AVENUE	TAUSSIG BOULEVARD	ENVIRONMENTALLY RELATED		x	Exempt			NO
52368	Norfolk	SIGNAL OPTIMIZATION - VA BEACH BOULEVARD(PE ONLY)	BALLENTINE BOULEVARD	NEWTOWN ROAD	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52370	Suffolk	ARTERIAL SIGNAL SYSTEM - ROUTE 58 BUSINESS	ECL	SUBURBAN DRIVE	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52371	Suffolk	RTE 58 - ARTERIAL SIGNAL SYSTEM	WCL	KENYON ROAD	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52372	Suffolk	ARTERIAL SIGNAL SYSTEM - ROUTE 10	ROUTE 460	KINGS FORD ROAD	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52373	Suffolk	RTE 460 - ARTERIAL SIGNAL SYSTEM	WCL	KINGS FORD ROAD	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52378	HRT - DRPT	ATLANTIC AVENUE TROLLEY, ITS, SPECIAL EVENT SIGNALS			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52381	Suffolk	RTE 13 - CAROLINA RD ARTERIAL SIGNAL SYSTEM	SCL	TURLINGTON ROAD	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52382	Suffolk	RTE 337 - ARTERIAL SIGNAL SYSTEM	ECL	PORTSMOUTH BLVD.	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
52387	Hampton	ADDITIONAL LANES	CASH DRIVE/ENTERPRISE PARKWAY		ENVIRONMENTALLY RELATED	x		Complete			NO
52389	Newport News	ARTERIAL SIGNAL SYSTEM UPGRADE	HAMPTON	NEWPORT NEWS	ENVIRONMENTALLY RELATED		x	Complete	x		NO
52521	York County	RTE 143 - REPLACE WARNING SIGNS & INSTALL LTL	0.007 MILE NORTH INTERSECTION ROUTE F-137	0.076 MILE NORTH INTERSECTION ROUTE F-137	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
52523	Newport News	ROUTE 143 - JEFFERSON AVE SIGNAL MODIFICATION	AT INTERSECTION OF DRESDEN DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
52524	Newport News	ROUTE 143 -JEFFERSON AVE INSTALL TRAFFIC SIGNAL	AT INTERSECTION OF ST THOMAS DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52525	Norfolk	RTE 165 - LITTLE CREEK RD INST SUPPL SIGNAL DISPLAY	AT I-564/I-64		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
52526	Newport News	ROUTE 173 -DENBIGH BLVD INSTALL TRAFFIC SIGNAL	AT INTERSECTION WOODSIDE DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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52528	Newport News	ROUTE 312 - J CLYDE MORRIS INSTALL TRAFFIC SIGNAL	AT WEST ENTRANCE TO RIVERSIDE REGIONAL HOSPITAL		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
52530	Norfolk	BALLENTINE BLVD - INSTALL OVERHEAD SIGN & SUPPL SIGNING	AT INTERSECTION VIRGINIA BEACH BOULEVARD	(HAZARD ELIMINATION SAFETY PROJECT)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
52557	Chesapeake	CHESAPEAKE AVE	0.01 MILE SOUTH SEABOARD	(DOT# 467-699G)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52559	Newport News	CHESTNUT AVE	0.03 MILE EAST 39TH STREET	(DOT# 224-891P)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
52560	Newport News	39TH ST	0.13 MILE EAST CHESTNUT AVENUE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
52562	Portsmouth	LEE AVE	0.07 MILE SOUTH CLEVELAND	(DOT# 626-080C)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
52563	Portsmouth	WOODROW ST	AT RAILROAD CROSSING - DOT # 856-091Y	(0.03 MILE EAST VIRGINIA)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
53008	Hampton	SANDY BOTTOM WETLAND COMPENSATION SITE	WCL HAMPTON	BIG BETHEL ROAD	ENVIRONMENTALLY RELATED		x	Exempt			NO
53107	Chesapeake	PLAZA & APPROACHES, ADMIN BLD & ACCESS RD	0.253 MILE SOUTH INDIAN CREEK ROAD	0.329 MILE SOUTH INDIAN CREEK ROAD	NEW CONSTRUCTION		x	Exempt	x		NO
54277	Suffolk	RTE 1004 - RECONSTRUCTION	ROUTE 1008	END OF STATE MAINTENANCE	MAINTENANCE		x	Exempt			NO
54310	Fredericksburg District-wide	STOSIP ALLOCATIONS	ROUTE 1205 MP 70.18	ROUTE 1306 MP 73.21	MONITORING		x	Exempt			NO
54759	James City County	RTE 5 - GREENSPRINGS TRAIL	ROUTE 1190/EAGLE WAY ROAD	ROUTE 359/ENTRANCE TO JAMESTOWN FESTIVAL PARK	NEW CONSTRUCTION	x		Complete			NO
54868	Chesapeake	RTE 17 - CONSTRUCT FROM 2 TO 4 LANES	NORTH CAROLINA STATE LINE	ROUTE 104 (DOMINION BLVD.)	MAJOR WIDENING	2	4	Complete			NO
55039	Gloucester County	RTE 17 - BRIDGE REPLACEMENT OVER FOX MILL RUN			BRIDGE REPLACEMENT		x	Exempt	x		NO
55051	Statewide	RTE 5 - VIRGINIA CAPITAL TRAIL-EASTERN SECTION	CHICKAHOMINY RIVER BRIDGE, SOUTH OF EXISTING ROUTE 5	GREENSPRING TRAIL, 1000' EAST OF ROUTE 614	NEW CONSTRUCTION	x		Complete	x		NO
55200	Virginia Beach	WITCH DUCK RD - 6 LANES (PE ONLY IN SYIP)	BONNEY ROAD	GRAYSON ROAD	RECONSTRUCTION	4	6	2018	x	x	YES
55202	Virginia Beach	WITCH DUCK RD - 6 LANES (PE ONLY)	I-264	VIRGINIA BEACH BLVD	RECONSTRUCTION	4	6	2020	x	x	YES
56187	Chesapeake	RTE 17 - REPLACE BRIDGE OVER SO. BRANCH ELIZABETH RIVER	INTERSECTION OF CEDAR RD (RT 165)(ENV DOC FOR 5.6 MI)	OAK GROVE INTERCHANGE	BRIDGE REPLACEMENT	2	4	2018	x	x	YES
56430	Norfolk	CONSTRUCT A PEDESTRIAN/BICYCLE PATH	RIGHT OF WAY IN THE ATLANTIC CITY	SECTION OF SOUTHWEST NORFOLK	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
56432	Chesapeake	LANDSCAPING, UTILITY AND GENERAL SIDEWALK	I-464	LIBERTY STREET	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
56433	Suffolk	PROPOSAL TO STUDY LANDSCAPING TO ROUTE 58 CORRIDOR - PE ONLY	BETWEEN THE CITY LINE	DOWNTOWN SUFFOLK EXIT	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
56466	Portsmouth	LONDON BLVD - BRIDGE PAINTING AND REPAIR	0.1 MILE WEST OF VIRGINIA AVENUE	0.1 MILE EAST OF CONSTITUTION AVENUE	MINOR BRIDGE REHAB		x	Exempt	x		NO
56604	Newport News	WARWICK BLVD.	AT CSX RAILROAD - DOT #224-173K	(0.24 MILE NORTH OF ROUTE 238)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
56606	Chesapeake	KEATON WAY	AT CSX RAILROAD - DOT # 633-923W	(0.16 MILE SOUTH OF AIRLINE)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
56607	Chesapeake	PROVIDENCE ROAD	AT NORFOLK SOUTHERN RAILROAD - DOT # 465-445K	(0.17 MILE EAST OF ROUTE 168)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
56608	Norfolk	WYOMING AVENUE	AT ESHR RAILROAD - DOT #465-207S	(0.02 MILE SOUTHEAST OF CAPE HENRY DRIVE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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56610	Chesapeake	POINDEXTER STREET -	AT NPB CROSSING - DOT # 856-075P	(0.36 MILE WEST OF ROUTE 460)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
56611	Norfolk	HANBURY STREET	AT NORFOLK SOUTHERN RAILROAD - DOT #467-670J	(0.04 MILE EAST OF CROMWELL)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
56623	Chesapeake	LIBERTY ST	AT NPB RAILROAD - DOT #856-069L	(0.01 MILE NORTH OF SEABOARD STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
56638	Hampton Roads District-wide	RTE 460 - LOCATION & ENVIRONMENTAL STUDY (PE ONLY)	SUFFOLK BYPBASS (ROUTE 58)	INTERSTATE 295	STUDIES ONLY		x	Exempt	x		NO
56656	Portsmouth	RTE 337 - CONSTRUCTION OF OUTFALL	CONSTITUTION AVE	SCOTT'S CREEK	RECONSTRUCTION	x		Complete			NO
56775	Hampton Roads District-wide	SMART TRAFFIC CENTER	ADVANCED TRAVELER INFORMATION SYSTEM (ATIS)		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56788	Newport News	RTE 173 - DENBIGH BLVD	AT INTERSECTION OF OLD DENBIGH BOULEVARD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56789	Hampton	RTE 258 - MERCURY BLVD	AT INTERSECTION SELDENDALE ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56791	Hampton	RTE 258 - MERCURY BLVD	AT INTERSECTION WICKHAM AVENUE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56793	Newport News	48TH STREET-INSTALL HAZ. WARNING BEACON & "STOP SIGN AHEAD"	AT ROANOKE AVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56795	Hampton	INSTALL TRAFFIC SIGNAL	AT INTERSECTION OF HAMPTON HARBOR AVENUE		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
56798	Hampton	INT. BIG BETHEL RD INSTALL TRAFFIC SIGNAL	AT OLD BIG BETHEL RD.		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56832	York County	Water Country Drive	ROUTE 199	ROUTE 641	RECONSTRUCTION		x	Exempt			NO
56934	Gloucester County	RTE 17 - WIDENING & INSTALL RAISED CONCRETE MEDIAN	0.686 MILE NORTH YORK COUNTY LINE	1.330 MILE NORTH YORK COUNTY LINE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
56942	Gloucester County	RTE 17 - CONSTRUCT 2ND LEFT TURN LANE ON SOUTHBOUND LANE	RECEIVER LANE & RIGHT TURN LANE ON RTE. 216.	AT ROUTE 216	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
57022	York County	RTE 603 - INSTALL LTL & TRAFF. SIGNAL	0.100 MILE NORTH ROUTE 645	0.103 MILE SOUTH ROUTE 645	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
57047	Hampton	SAUNDERS ROAD	BIG BETHEL ROAD	CITY OF HAMPTON WCL	NEW CONSTRUCTION	2	4	2018	x	x	YES
57048	Norfolk	RTE 264 - INTERCHANGE IMPROVEMENTS 64WB RAMP TO 264EB	0.4 MILE SOUTH OF CURLEW DRIVE	0.426 MILE EAST OF WBL I-64	RECONSTRUCTION	na	na	2018	x	x	YES
57204	Suffolk (rural)	RTE 645	AT NORFOLK SOUTHERN RAILROAD - DOT # NS 464-160V	(1.50 MILES SOUTHWEST ROUTE 58)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
57213	Suffolk (rural)	RTE 613	AT NORFOLK SOUTHERN RAILROAD - DOT # NS 464-182V	(0.40 MILE NORTH ROUTE 651)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
57364	James City County	RTE 614 - BIKEWAY - CMAQ	1.03 MILE SOUTH OF ROUTE 612 (LONGHILL ROAD)	0.02 MILE NORTH OF ROUTE 612 (LONGHILL ROAD)	ENVIRONMENTALLY RELATED	x		Complete			NO
57546	York County	RTE 64 - KING CREEK RESTORATION	1.048 MILES EAST INT EBL ROUTE 64 & ROUTE 199		RESTORATION & REHAB	x		Complete			NO
57580	Hampton Roads District-wide	ROUTE 64 - WIDEN FROM 4 TO 8 LANES WITH PEAK HOV	WEST ROUTE 143 INTERCHANGE	ROUTE 199	RECONSTR. WITH ADDED CAPACITY	4	8	Exempt	x	x	NO
58297	Isle of Wight County	RTE 258 - WIDENING 2 TO 3 LANES WITH CURB & GUTTER	0.20 MILE WEST OF ROUTE 620	SMITHFIELD MIDDLE SCHOOL	RECONSTRUCTION		x	Exempt	x		NO
58428	Chesapeake	RTE 17 - GEORGE WASHINGTON HWY-	AT NORFOLK SOUTHERN RAILROAD - DOT #467-706P	(0.14 MILE NORTH OF SPRINGDALE)			x	Exempt	x		NO
58456	York County	RTE 171 - VICTORY BOULEVARD REPLACE CULVERT	0.18 MILE WEST RTE 134	0.21 MILE WEST RTE 134	ENVIRONMENTALLY RELATED		x	Exempt			NO

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58481	Newport News	RTE 143 - INSTALL TRAFFIC SIGNAL W/PEDESTRIAN INDICATORS	AT INTERSECTION OF 74TH STREET		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
58482	Norfolk	RTE 194 - IMPROVE SIGNING AND PAVEMENT MARKINGS	5 POINTS INTERSECTION AT CHESAPEAKE BOVD	(CHESAPEAKE BLVD, SEWELLS POINT ROAD & NORVIEW AVENUE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
58483	Chesapeake	RTE 168 - INSTALL TRAFFIC SIGNALS	BATTLEFIELD BOULEVARD		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
58484	Chesapeake	VOLVO PARKWAY - INSTALL TRAFFIC SIGNAL W/VIDEO DET	AT PROGRESSIVE DRIVE		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
59175	Norfolk	INTERMODAL CONNECTOR - PROPOSED INTERCHANGE	AT CHAMBERS FIELD AIR STATION		NEW CONSTRUCTION	na	na	2018	x	x	YES
59228	Newport News	RTE 60 - RELOCATE SHOE LANE	ROUTE 60 & ROUTE 312 INTERSECTION	0.064 KILOMETER NORTH OF EXISTING SHOE LANE	RELOCATION	x		Complete			NO
59767	James City County	RELOCATE AND RESTORATE NORGE DEPOT FOR USE AS COMMUNITY CNTR			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
59768	James City County	CONSTRUCT PATHWAYS AT JAMESTOWN SETTLEMENT					x	Exempt			NO
59769	Newport News	RELOCATE AND RESTORE LEE HALL DEPOT	LEE HALL DEPOT		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
59770	Norfolk	CONSTRUCT HULL FOR THE PILOT SCHOONER VIRGINIA					x	Exempt	x		NO
59771	Suffolk	DESIGN MULTI-MODAL TRAIL SYSTEM IN ABANDONED RAILROAD R/W	TRAIL TO CONNECT DOWNTOWN SUFFOLK TO AN EXISTING FACILITY	IN CHESAPEAKE	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
59772	Virginia Beach	CONSTRUCT MULTI-USE TRAIL	Treasure Island Road	Marlin Bay Drive	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
60003	Chesapeake	RTE 168 - APPROACHES OVER INTERCOASTAL WATERWAY - 5 LANE	WAYNE AVENUE	ALBEMARLE DRIVE		x		Complete	x		NO
60034	James City County	RTE 321 - WIDEN APPROACHES FROM 2 TO 4 LANES	AT INTERSECTION WITH ROUTE 615 (IRONBOUND ROAD)		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
60408	James City County	RTE 60 - ADD RIGHT TURN LANE ON ROUTE 607 APPROACH	AT ROUTE 607		NEW CONSTRUCTION	x		Complete			NO
60670	Suffolk (rural)	RTE 647	AT NORFOLK SOUTHERN RAILROAD - DOT # 464-166L	(0.17 MILE SOUTHEAST ROUTE 649)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
60843	York County	RTE 17 - WIDEN FROM 4 TO 6 LANES	1.267 MILE SOUTH ROUTE 620 (LAKESIDE DRIVE)	1.517 MILE NORTH ROUTE 620 (LAKESIDE DRIVE)	MAJOR WIDENING	4	6	2018	x	x	YES
60852	Portsmouth	RTE 164 - PINNER'S POINT	0.616 MILE WEST EAST END OF WEST NORFOLK BRIDGE	MIDTOWN TUNNEL (TMS SOFTWARE)	NEW CONSTRUCTION	x		Complete	x		NO
60912	Chesapeake	RTE 168 - TOLL PLAZA EXPANSION	INDIAN CREEK ROAD	0.13 MILE NORTH OF SAINT BRIDES ROAD	MAJOR WIDENING	x		Complete			NO
60970	Hampton	COMMANDER SHEPARD BOULEVARD PHASE II 4 LANE DIVIDED	NORTH CAMPUS PARKWAY	BIG BETHEL ROAD	NEW CONSTRUCTION	0	4	2018	x	x	YES
61322	Norfolk	NAVY RECREATIONAL FACILITY	NAVY RECREATIONAL FACILITY		ENVIRONMENTALLY RELATED	na	na	2011	x	x	YES
61407	Suffolk	RTE 337 - WIDEN TO 4 LANES	0.37 Mile E. of Shoulder Hill Road (Rte. 626)	0.748 Mile E. of Shoulder Hill Road (Rte. 626)	RECONSTRUCTION	2	4	2018	x	x	YES
61447	Newport News	SAUNDERS RD - INSTALL LIGHTING, PAVEMENT MARKERS	WEST OF EAPHIA CIRCLE	EAST OF SPRING TRACE LANE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
61451	Newport News	25TH, 26TH, 27TH & 28TH STS - UPGRADE TRAFFIC SIGNALS	MADISON AVENUE	OAK AVENUE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
61452	Chesapeake	MILITARY HWY - INSTALL DIRECTIONAL MEDIAN OPENING	AT SMITH AVENUE		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
61453	Norfolk	RTE 58 (BRAMBLETON AVE)-IMPROVE ALIGNMENT & INCREASE RADIUS	AT SAINT PAUL'S BOULEVARD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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61455	Poquoson	WYTHE CREEK ROAD	AT CARY'S CHAPEL ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
62308	Chesapeake	ADD GATES, INSTALL LED LENS & HI-TYPE CROSSING SURFACE	0.93 MILE EAST ROUTE 190	(DOT #465438A)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
62312	Norfolk	BARRE STREET	AT RAILROAD CROSSING - DOT #467-356A	(31 FEET NORTHEAST OF GALT STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
62325	Chesapeake	VOLVO PKWY	SIMULTANEOUS PRE-EMPTION INTERCONNECT AT RR CROSSING	(0.40 MILE EAST ROUTE 168) - DOT #465-440B	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
62326	Chesapeake	RTE 13	AT NPB RAILROAD CROSSING - DOT #855-986P	(0.19 MILE WEST ROUTE 166)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
62327	Portsmouth	DEEP CREEK BLVD	FREDERICK BLVD - DOT # NPB 856-051B		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
62328	Portsmouth	RTE 337-	AT RAILROAD CROSSING - DOT # 856-101C	(0.65 MILE EAST OF FREDERICK BOULEVARD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
62329	Portsmouth	RTE 337	AT RAILROAD CROSSING - DOT # 856-052H	(49 FEET EAST OF FREDERICK BOULEVARD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
62410	Isle of Wight County	RTE 669	AT ROUTE 704		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
62438	Chesapeake	RTE 13 - MILITARY HWY - INSTALL TRAFFIC SIGNAL	AT ROUTE I-64 RAMP		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
62854	Chesapeake	ROUTE 64 - VARIABLE MESSAGE SIGNS	ROUTE 464	ROUTE 17	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
63564	Chesapeake	GREAT BRIDGE BATTLEFIELD & WATERWAY VISITOR CENTER & TRAIL	CONSTRUCTION OF A VISITOR CENTER AND TRAIL		ENVIRONMENTALLY RELATED		x	Exempt			NO
63568	Suffolk	HOLLAND HISTORIC DISTRICT TRAIN STATION	ACQUISITION & RESTORATION OF TRAIN STATION		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
63569	Suffolk	STREETSCAPING IMPROVEMENTS	NORTH MAIN STREET	EAST WASHINGTON STREET	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
63840	Hampton Roads District-wide	GENERAL R/W EXPENSES, VARIOUS LOCATIONS DISTRICTWIDE	DISTRICTWIDE				x	Exempt	x		NO
64058	Chesapeake	SOUTHEASTERN EXPRESSWAY - 4 LANE	OAK GROVE CONNECTOR	ECL	NEW CONSTRUCTION		x	Exempt	x	x	NO
64113	Gloucester County	PLANTATION ROAD	ROUTE 610	END OF STATE MAINTENANCE	RESURFACING	x		Complete			NO
64196	Isle of Wight County	MAPLE LANE	0.11 MILE SOUTH ROUTE T-603	ROUTE T-603	RECONSTRUCTION	x		Complete			NO
64216	Norfolk	RTE 168 - TIDEWATER DRIVE	AT WEBSTER AVENUE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
65146	James City County	RTE 603	AT CSX RAILROAD - DOT# 224-249N	(0.49 MILE SOUTH ROUTE 601)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
65191	James City County	RTE 199 - JAMESTOWN CORRIDOR - PARALLEL LANE - PPTA SEGMT #1	3.2 KILOMETERS WEST ROUTE 60	0.5 KILOMETER WEST ROUTE 60	MAJOR WIDENING	x		Complete	x		NO
65273	James City County	RTE 199 - PARALLEL LANE (PPTA SEGMENT # II)	1.0 KM EAST ROUTE 31 (JAMESTOWN ROAD)	2.8 KM EAST ROUTE 31 (JAMESTOWN ROAD)	MAJOR WIDENING	x		Complete	x		NO
65275	Williamsburg	RTE 199 - INTERSECTION IMPROVEMENT (PPTA SEGMENT # III)	ROUTE 5	BROOKWOOD DRIVE	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
65276	James City County	RTE 359 - RELOCATION (PPTA SEGMENT # IV)	ENTRANCE TO JAMESTOWN SETTLEMENT		RELOCATION	x		Complete			NO
65370	Gloucester County	COLONIAL COURTHOUSE VILLAGE STREETSCAPE IMPROVEMENTS			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
65655	Portsmouth	RTE 337 - 4 LANE	0.134 MILES EAST OF FREDERICK BOULEVARD	CONSTITUTION AVENUE	RECONSTRUCTION		x	Exempt	x		NO

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66846	Hampton	COMMANDER SHEPARD BOULEVARD PHASE 1	MIDDLE ROAD	0.205 MI EAST MAGRUDER BLVD NBL	NEW CONSTRUCTION	0	4	2011	x	x	YES
67134	James City County	RACEFIELD ROAD	0.56 MILE WEST ROUTE 1040	1.00 MILE WEST ROUTE 1040	RECONSTRUCTION		x	Exempt	x		NO
67200	Hampton	ARMISTEAD AVENUE - WIDENING (PHASE 1B)	CROSSROADS PARKWAY	MERCURY BLVD	MINOR WIDENING	2	4	2011	x	x	YES
67584	James City County	RTE 612 - PEDESTRIAN SIGNALS, CROSSWALKS, ISLANDS	AT INTERSECTION OF ROUTE 612	ROUTE 658 (OLD TOWNE ROAD)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
67595	Chesapeake	ROBERT HALL BLVD - MID-BLOCK PEDESTRIAN CROSSING,MODIFY MED	AT ENTRANCE TO CHESAPEAKE SENIORS CROSSING #2		SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
67637	James City County	ROUTE 5 - INSTALL PEDESTRIAN SIGNALS,CROSSWALKS & ISLANDS	AT INTERSECTION OF ROUTE 5	KINGS WAY	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
67638	James City County	ROUE 321 - INSTALL PEDESTRIAN SIGNALS, CROSSWALKS & ISLANDS	AT INTERSECTION OF ROUTE 321	ROUTE 613 (NEWS ROAD)	SAFETY/TRAFFIC OPERS/TSM	x		Complete			NO
67673	Newport News	RTE 143 - JEFFERSON AVE (PE)	GROVE LANE	FORT EUSTIS BOULEVARD	MAJOR WIDENING	4	6	2030		x	YES
67744	Chesapeake	RELOCATE SOUTHBOUND RIGHT TURN LANE	AT WATERS ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
67746	Newport News	JEFFERSON AVENUE - ADD LEFT TURN LANE	39TH STREET	35TH STREET	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
67912	James City County	ROUTE 64 - PAVEMENT REHABILITATION AT SELECTED LOCATIONS	MILEPOST 237.2	MILEPOST 253.5	RESURFACING		x	Exempt	x		NO
68067	Chesapeake	DEEP CREEK BLVD.	0.60 MILE NORTH GUST LANE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68068	Chesapeake	GEORGE WASHINGTON HWY	FLASHING LIGHTS AND GATES	0.14 MILE NORTH SPRINGDALE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68069	Chesapeake	MILITARY HWY	INTERCONNECTION WITH TRAFFIC SIGNAL	0.50 MILE NORTH CANAL DRIVE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68071	Norfolk	LAFAYETTE BLVD -	0.05 MILE EAST CROMWELL		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68072	Norfolk	NORVIEW AVE	0.11 MILE EAST SUNSHINE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68073	Portsmouth	HIGH ST. -	LIGHTS WITH LED LENS	66 FEET EAST VIRGINIA AVENUE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68074	Williamsburg	HENRY ST. -	LOCATION 202 FEET NORTH LAFAYETTE STREET		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
68099	Hampton	BIG BETHEL ROAD - INSTALL FULLY ACTUATED, INTERCONNECTED	AT ROBERTA ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68118	Norfolk	ELIZABETH RIVER TRAIL - PHASE II					x	Exempt	x		NO
68128	Chesapeake	PORTLOCK ROAD	0.39 MILE EAST FRANKLIN		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68265	Williamsburg	PEDESTRIAN CROSSWALK IMPROVEMENTS	AT ROUTE 31		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
68346	Chesapeake	BARNES ROAD	WITH LED LENS	0.45 MILE WEST BAINBRIDGE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
68684	Hampton Roads District-wide	RTE 199 - PPTA MONITORING OF FUNDS-DEVELOPMENT & MANAGEMENT	DISTRICTWIDE				x	Exempt	x		NO
68877	Chesapeake	PORTLOCK RD	0.39 MILE EAST OF FRANKLIN	(DOT# 467381H)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
69008	Hampton Roads District-wide	FY04 WILDFLOWER MANAGEMENT PROJECT	AT VARIOUS LOCATIONS ON VARIOUS ROUTES	HAMPTON ROADS DISTRICTWIDE			x	Exempt			NO

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69050	Suffolk (rural)	SHOULDERS HILL ROAD	ROUTE 337	ROUTE 17	RECONSTRUCTION		x	Exempt	x		NO
70030	Hampton Roads District-wide	RTE 58 - EMERGENCY REPAIRS TO MIDTOWN TUNNEL			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
70276	Norfolk	RTE 58 - CONSTRUCT EASTBOUND LEFT TURN LANE ON RTE 58	VIRGINIA BEACH BOULEVARD AT NEWTOWN ROAD		MINOR WIDENING		x	Exempt	x		NO
70277	Hampton Roads District-wide	COMMUTER PARKING LOT IMPROVEMENTS (REGION WIDE)	SMITHFIELD LOT(ISLE OF WIGHT CO)	MAGNOLIA LOT (CITY OF SUFFOLK) AND VARIOUS (DISTRICTWIDE)	RESTORATION & REHAB		x	Exempt			NO
70278	Hampton Roads District-wide	TELECOMMUTING	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70279	Hampton Roads District-wide	HAMPTON/NORFOLK SERVICE	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70280	Hampton Roads District-wide	NEWPORT NEWS/WILLIAMSBURG COMMUTER SERVICE	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt			NO
70281	Hampton Roads District-wide	NEWPORT NEWS/SMITHFIELD COMMUTER SERVICE	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70282	Hampton Roads District-wide	HRT BIKE RACKS FOR HRT BUS PROJECT	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70284	Hampton Roads District-wide	HART VAN REPLACEMENT	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70285	Hampton Roads District-wide	CROSSROADS COMMUTER SERVICE CAPITAL AND OPERATING	REGIONWIDE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70305	Virginia Beach	FERRY PLANTATION HOUSE RESTORATION			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70306	Smithfield	SMITHFIELD DOWNTOWN REVITALIZATION	STREETSCAPING		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70322	James City County	REPLICA SHIPS - LIVING MUSEUMS			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
70494	Chesapeake	BALANCE ENTRY ACCOUNT			BALANCE ENTRY		x	Exempt			NO
70516	Hampton	BALANCE ENTRY ACCOUNT			BALANCE ENTRY		x	Exempt			NO
70552	Portsmouth	RTE 164 - NEW MARINE TERMINAL APM			NEW CONSTRUCTION	na	na	2011	x	x	YES
70560	Suffolk	BALANCE ENTRY ACCOUNT			BALANCE ENTRY		x	Exempt			NO
70564	Portsmouth	RTE 164 - REIMBURSEMENT OF TOLL FACILITIES REVOLVING	FUNDS FOR PROJECT UPC 11750		MISC FUNDS/MONITORING		x	Exempt	x		NO
70569	Williamsburg	BALANCE ENTRY ACCOUNT			BALANCE ENTRY		x	Exempt			NO
70615	Hampton Roads District-wide	HAMPTON ROADS INTERSTATE DISTRICTWIDE GUARDRAIL	VARIOUS ROUTES		MISC FUNDS/MONITORING		x	Exempt	x		NO
70618	Hampton Roads District-wide	HAMPTON ROADS INTERSTATE DISTRICTWIDE SIGNS	VARIOUS ROUTES		MISC FUNDS/MONITORING		x	Exempt	x		NO
70619	Hampton Roads District-wide	HAMPTON ROADS PRIMARY DISTRICTWIDE GUARDRAIL	VARIOUS ROUTES		MISC FUNDS/MONITORING		x	Exempt			NO
70620	Hampton Roads Districtwide	HAMPTON ROADS PRIMARY DISTRICTWIDE PAVEMENT MARKERS			MISC FUNDS/MONITORING		x	Exempt			NO
70621	Hampton Roads District-wide	HAMPTON ROADS PRIMARY DISTRICTWIDE SIGNALS	VARIOUS ROUTES		MISC FUNDS/MONITORING		x	Exempt	x		NO
70622	Hampton Roads District-wide	HAMPTON ROADS PRIMARY DISTRICTWIDE SIGNS	VARIOUS ROUTES		MISC FUNDS/MONITORING		x	Exempt			NO

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70642	Fredericksburg District-wide	FREDERICKSBURG INTERSTATE DISTRICTWIDE SIGNS	CAROLINE COUNTY LINE	PRINCE WILLIAM COUNTY LINE	MISC FUNDS/MONITORING		x	Exempt			NO
70665	Hampton Roads Districtwide	HAMPTON ROADS INTERSTATE DISTRICTWIDE ITS			MISC FUNDS/MONITORING		x	Exempt			NO
70666	Hampton Roads District-wide	HAMPTON ROADS PRIMARY DISTRICTWIDE TECHNOLOGY	VARIOUS ROUTES		MISC FUNDS/MONITORING		x	Exempt	x		NO
70714	Hampton Roads District-wide	HAMPTON ROADS DISTRICT CMAQ BALANCE ENTRY			BALANCE ENTRY		x	Exempt			NO
70715	Hampton Roads District-wide	HAMPTON ROADS DISTRICT REGIONAL STP (RSTP) BALANCE ENTRY			MISC FUNDS/MONITORING		x	Exempt			NO
70765	Hampton Roads District-wide	Operation and Maintenance of George P. Coleman Bridge			PROJECT		x	Exempt			NO
70766	York County	MULTI-MODAL LOT			PROJECT		x	Exempt	x		NO
70821	Suffolk (rural)	RTE 632 - OLD MYRTLE ROAD	AT NORFOLK SOUTHERN RAILROAD - DOT # 467-415A	(0.29 MILE WEST ROUTE 636)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71393	Norfolk	ROUTE 165 (LITTLE CREEK ROAD)	AT NORFOLK SOUTHERN RAILROAD DOT #467-661K	(0.10 MILE EAST OF GRANBY STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71394	Chesapeake	ROUTE 165 (MILITARY HIGHWAY -	AT NPB RAILROAD DOT # 855-986P	(0.19 MILE WEST OF ROUTE 166)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71398	Chesapeake	ROUTE 165 (MOUNT PLEASANT ROAD)	AT CA RAILROAD DOT # 465-436L	(0.27 MILE NORTH OF BACK ROAD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71399	Norfolk	ROUTE 166 (PARK AVENUE) -	AT NORFOLK SOUTHERN RAILROAD DOT # 467-368U	(62 FEET EAST OF HOLT STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71400	Norfolk	ROUTE 166 (PRINCESS ANNE ROAD)	AT NORFOLK SOUTHERN RAILROAD DOT # 467-360P	(0.14 MILE EAST OF TIDEWATER DRIVE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71401	Norfolk	ROUTE 460 (GRANBY STREET)	AT NORFOLK SOUTHERN RAILROAD DOT # 467-660D	(0.10 MILE NORTH OF LITTLE CREEK ROAD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71402	Norfolk	INDIAN RIVER ROAD -	AT NORFOLK SOUTHERN RAILROAD DOT # 467-371C	(121 FEET WEST OF LANSING STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71403	Norfolk	LLEWELLYN AVENUE	AT NORFOLK SOUTHERN RAILROAD DOT # 467-339J	(25 FEET SOUTH OF 23RD STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71405	Norfolk	OLNEY ROAD -	AT NORFOLK SOUTHERN RAILROAD DOT # 467-365Y	(74 FEET EAST OF MAY STREET)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71406	Norfolk	THOLE STREET	AT NORFOLK SOUTHERN RAILROAD DOT # 467-662S	(0.06 MILE EAST OF VIRGINIA AVENUE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71407	Portsmouth	ELM AVENUE	AT NPB RAILROAD DOT # 856-058Y	(0.20 MILE WEST OF VICTORY BOULEVARD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71408	Hampton	ABERDEEN ROAD -	AT CSX RAILROAD DOT # 224-884E	(0.01 MILE NORTH OF PEMBROKE AVENUE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71409	Hampton	POWHATAN PARKWAY	AT CSX RAILROAD DOT # 228-395H	(0.01 MILE NORTH OF PEMBROKE AVENUE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71410	Chesapeake	FENTRESS ROAD -	AT CA RAILROAD DOT # 465-435E	(0.27 MILE WEST OF CENTERVILLE ROAD	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71411	Chesapeake	GUST LANE	AT NORFOLK SOUTHERN RAILROAD DOT # 467-708D	(0.45 MILE NORTH OF DEEP CREEK)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
71453	Newport News	RTE 17 -J CLYDE MORRIS CHANNELIZATION	AT IMPALA DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71455	Hampton	BIG BETHEL ROAD - INSTALL INTERCONNECTED TRAFFIC SIGNAL	AT JOYNES ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71456	Newport News	HARPERSVILLE ROAD - ADD LEFT TURN LANE	AT HUBER ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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71534	Suffolk (rural)	WEST CONSTANCE	AT CSX RAILROAD - DOT # 623-793A	(233 FEET SOUTH OF ROUTE 604)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
71535	Suffolk (rural)	RTE 337 -	AT CSX RAILROAD - DOT #623-783U	(157 FEET SOUTH ROUTE 58)	SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
71564	Hampton Roads Districtwide	HIGHWAY ADVISORY RADIO TRANSMITTER INSTALLATIONS	HAMPTON ROADS DISTRICTWIDE				x	Exempt	x		NO
71598	Hampton Roads District-wide	AREA TUNNEL IMPROVEMENTS	HAMPTON ROADS BRIDGE TUNNEL		RESTORATION & REHAB		x	Exempt	x		NO
71616	James City County	RTE 615 - PAVED SHOULDER ALONG ROUTE 615 & ROUTE 618	ROUTE 31 (JAMESTOWN ROAD)	ROUTE 613 (NEWS ROAD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71617	James City County	RTE 612 - PAVED SHOULDER ALONG LONGHILL ROAD	ROUTE 614 (CENTERVILLE ROAD)	ROUTE 199	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71690	Newport News	RTE 60 - UTILITY WORK & 6 LANES	0.304 KM SOUTH OF ROUTE 312	1.479 KM NORTH OF ROUTE 312			x	Exempt (1)	x	x	YES
71691	Newport News	RTE 60 - UTILITY WORK & 6 LANES	1.479 KM NORTH OF ROUTE 312	0.319 KM NORTH OF NETTLES DRIVE			x	Exempt (1)	x	x	YES
71697	Hampton	ARMISTEAD AVENUE CONNECTOR - PHASE 1A	ARMISTEAD AVENUE	COLISEUM DRIVE	NEW CONSTRUCTION	0	4	2011	x	x	YES
71726	Norfolk	SEWELLS PT RD - PED PUSHBUTTONS, SIGNALS, SIDEWALKS, ETC.	WIDGEON ROAD	MIDDLETON PLACE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71732	Norfolk	THOLE STREET - INSTALL NEIGHBORHOOD GATEWAY ISLANDS	IN 300 AND 600 BLOCKS OF THOLE STREET		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71736	Norfolk	LIBERTY STREET - RAISED REFUGE ISLAND	AT 552 LIBERTY STREET (MID-BLOCK)		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71747	Hampton	PEDESTRIAN INDICATORS & CROSSWALKS	AT MARTHA LEE DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71748	Hampton	PEDESTRIAN INDICATORS & CROSSWALKS	AT ROUTE 351 (PEMBROKE)		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71749	Hampton	RTE 258 (MERCURY BLVD) - INSTALL 4 FOOT RAISED MEDIANS	AT ROUTE 351 (PEMBROKE)		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71750	Hampton	RTE 258 (MERCURY BLVD) - RED LT CAMERA COLLISION AVOID SYS	AT CUNNINGHAM DRIVE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
71787	Virginia Beach	FORMULA CITY PAYMENT					x	Exempt			NO
71789	Hampton	FORMULA CITY PAYMENT					x	Exempt			NO
71883	James City County	RTE 5 - BRIDGE REPLACEMENT	0.06 MILE EAST OF EAST BANK OF CHICKAHOMINY RIVER	0.20 MILE EAST OF EAST BANK OF CHICKAHOMINY RIVER	BRIDGE REPLACEMENT	na	na	2011	x	x	YES
72697	Williamsburg	ACQUISITION & INSTALLATION OF 1 BUS STOP SHELTER	WILLIAMSBURG SHOPPING CENTER		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
72796	Chesapeake	GREENBRIER PARKWAY - 3RD LANE NORTHBOUND	Volvo Parkway	Eden Way North	MINOR WIDENING	5	6	2011	x	x	YES
72797	Chesapeake	NORTHBOUND LEFT TURN LANE EXTENSION	AT WOODLAKE DRIVE		MINOR WIDENING		x	Exempt	x		NO
72798	Chesapeake	HANBURY ROAD - INTERSECTION & RAMP IMPROVEMENTS			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
72799	Chesapeake	CITYWIDE	FIBER OPTIC/CABLE COMMUNICATIONS RING - PHASE II		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
72800	Chesapeake	CITYWIDE	FIBER OPTIC/CABLE COMMUNICATIONS RING - PHASE III		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
73001	Newport News	ITS PORTABLE DYNAMIC MESSAGE DISPLAYS	(PE ONLY)		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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73002	Newport News	OYSTER PT SUBAREA CCTV & STATIC SIGNS	AT OYSTER POINT ROAD, J CLYDE MORRIS BOULEVARD,	AND JEFFERSON AVENUE CORRIDORS	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
73004	Hampton	INTERSECTION IMPROVEMENTS AROUND THE I-64/MERCURY CORRIDOR	ARMISTEAD & HAMPTON RDS CTR PKWY, ARMISTEAD & TIDE MILL,	ARMISTEAD & MERCURY, EXECUTIVE & TOWER	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
73006	Hampton	SIGNAL RETIMING AROUND I-64/MERCURRY CORR	VARIOUS LOCATIONS		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
73234	Hampton	CITY WIDE CCTV CAMERA INSTALLATIONS	VARIOUS LOCATIONS		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
73235	Newport News	WAYWARD STATIC MESSAGE SIGNS	VARIOUS LOCATIONS		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
75266	Virginia Beach	LYNNHAVEN HOUSE TRANSP. MUSEUM	CREATE EXHIBIT ON WATER TRANSPORTATION				x	Exempt	x		NO
75267	Poquoson	POQUOSON MUSEUM					x	Exempt	x		NO
75651	Suffolk (rural)	CYPRESS CHAPEL			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
75657	Suffolk (rural)	RTE 651 - ADD GATES & UPGRADE FLASHING LIGHTS TO 12" LENSES	AT NORFOLK SOUTHERN RAILROAD - DOT 464181N	(16 FT NE ROUTE 655)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
75911	Gloucester County	RTE 614 - RECONSTRUCTION OF ROADWAY	ROUTE 17	ROUTE 633	RECONSTRUCTION		x	Exempt	x		NO
76196	Isle of Wight County	RTE 630 - RURAL RUSTIC SURFACE TREAT NON-HARDSURFACE ROAD	ROUTE 258	ROUTE 611	RECONSTRUCTION		x	Exempt	x		NO
76475	Virginia Beach	BUS SHELTER EXPANSION FOR TICKET BOOTH	AT INDIAN RIVER ROAD COMMUTER LOT		RECONSTR. WITH ADDED CAPACITY		x	Exempt	x		NO
76642	Hampton Roads District-wide	RTE 58 - PPTA PROJECT DEVELOPMENT & MANAGEMENT	MIDTOWN TUNNEL CORRIDOR		R/W OR ENG	2	4	2018	x	x	YES
76680	Hampton	LANDSCAPING OF THE I-64 MERCURY BOULEVARD INTERCHANGE	AT ROUTE 64 INTERCHANGE		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
76682	Hampton	LASALLE AVENUE/I-64 RAMP MODIFICATION	AT LASALLE AVENUE AND I-64 INTERCHANGE		NEW CONSTRUCTION	na	na	2011	x	x	YES
76725	Chesapeake	RTE 64 - SOUND WALL STUDY	Ramp terminal at Rte 190	East side of high rise bridge @Rte 166	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
76952	Newport News	48TH STREET - INSTALL HAZARD WARNING BEACON	AT ROANOKE AVENUE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
76970	Chesapeake	DORDON STREET	AT COMMONWEALTH RAILWAY CROSSING DOT# 464119D	0.07 MILE SOUTH OF TAYLOR			x	Exempt	x		NO
76971	Portsmouth	WESTERN BRANCH	AT COMMONWEALTH RAILWAY CROSSING DOT # 464116H				x	Exempt	x		NO
76972	Portsmouth	TYRE NECK RD.	AT COMMONWEALTH RAILWAY CROSSING DOT# 464114U	0.05 MILES SOUTH OF CHURCHLAND BLVD.			x	Exempt	x		NO
76973	Portsmouth	CHURCHLAND BLVD.	AT COMMONWEALTH RAILWAY CROSSING DOT#464113M	0.20 MILE SOUTH OF NORFOLK			x	Exempt	x		NO
76974	Portsmouth	CEDAR LANE	AT COMMONWEALTH RAILWAY CROSSING DOT# 464108R	385 FEET SOUTH OF WEST NORFOLK			x	Exempt	x		NO
76975	Portsmouth	WYATT DRIVE	AT COMMONWEALTH RAILWAY CROSSING DOT# 464102A	17 FEET WEST OF NORFOLK BYPASS			x	Exempt	x		NO
76976	Portsmouth	LILAC DRIVE	AT COMMONWEALTH RAILWAY CROSSING DOT# 464110S	29 FEET NORTHWEST OF NORFOLK			x	Exempt	x		NO
77019	Newport News	RTE 143 - INTERSECTION IMPROVEMENTS	0.009 MILE EAST JEFFERSON AVENUE	CHANNEL DRIVE	NEW CONSTRUCTION		x	Exempt	x		NO
77065	James City County	RTE 5 - INSTALL SB RTL ON RTE 615 & EB RTL ON RTE 5	INSTALL RTL FROM NB RTE 615 ONTO EB RTE 5		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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77067	Isle of Wight County	RTE 17 - EXTEND LTL ON NBL	AT ROUTE 661 (CEDAR GROVE ROAD)		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
77068	York County	RTE 171 - CONSTRUCT ADDITIONAL THROUGH LANE WESTBOUND	ROUTE 17 (GEORGE WASHINGTON HIGHWAY)	ROUTE 134 (MAGRUDER BOULEVARD)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
77125	York County	RTE 646 - INSTALL TRAFFIC SIGNAL	AT ROUTE 603		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
77144	Gloucester County	RTE 17 - TRENCH WIDN/PAV SHLDRS MIN 4' OUTSIDE, 2' INSIDE	ROUTE 33/198	ROUTE 614			x	Exempt	x		NO
77152	Chesapeake	RTE 168 - INSTALL 5100 LINEAR FEET OF GUARDRAIL	KEMPSVILLE ROAD	NORTH SIDE OF CHESAPEAKE AND ALBERMARLE HIGH RISE BRIDGE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
77153	Chesapeake	TRAFFIC SIGNAL INSTALLATION	JOHNSTOWN ROAD AT WATERS ROAD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
77245	Hampton Roads District-wide	RTE 58 - PPTA PROJECT DEVELOPMENT & MANAGEMENT	MARTIN LUTHER KING EXTENSION	INTERSTATE 264 - LONDON BOULEVARD	R/W OR ENG	0	4	2018	x	x	YES
77277	Virginia Beach	CITYWIDE SIGNAL SYSTEM UPGRADE PHASE II	VARIOUS LOCATIONS		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
77382	Chesapeake	RTE 17 - DOMINION BOULEVARD CORRIDOR STUDY	NORTH CAROLINA LINE	DOMINION BOULEVARD - CEDAR ROAD	STUDIES ONLY		x	Exempt	x		NO
77399	Hampton Roads District-wide	FERRY FOR JAMESTOWN 2007 FESTIVITIES	At ferry pier on Scotland side		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
77400	Hampton Roads District-wide	MID-CHESAPEAKE BAY FERRY	MID-CHESAPEAKE BAY FERRY		SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
77403	Chesapeake	DISMAL SWAMP CREEK TRAIL			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
77428	Newport News	WARWICK BLVD	0.312 KM SOUTH OF J. CLYDE MORRIS BOULEVARD (RTE.312)	INTERSECTION OF NETTLES DRIVE	MAJOR WIDENING		x	Exempt (1)	x	x	YES
77430	Newport News	RTE 60 - WARWICK BLVD	INTERSECTION OF NUTMEG QUARTER	INTERSECTION OF NETTLES DRIVE	MAJOR WIDENING		x	Exempt (1)	x	x	YES
77432	Newport News	RTE 60 - WARWICK BLVD	INTERSECTION OF NUTMEG QUARTER	INTERSECTION OF NETTLES DRIVE	MAJOR WIDENING		x	Exempt (1)	x	x	YES
77566	Suffolk	RTE 125 - DEMO OF EXISTING BRIDGE	1.15 MILES WEST OF RTE 629	1.10 MILES SOUTH OF RTE 620	DEMOLITION OF BLDGS, BRIDGES, ETC		x	Exempt	x		NO
78243	Newport News	USS "MONITOR" CENTER WITHIN THE MARINERS' MUSEUM	Route 60	Mariners Museum/USS Monitor Center	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
78637	Hampton Roads District-wide	Retrofit/upgrade Overhead Sign Structures	OVERHEAD SIGNS/STRUCTURES ON THE NHS		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
78719	Gloucester County	COLONIAL C.H. VILLAGE STREETSCAPE IMPROVEMENTS - PHASE IV	SMITH STREET	EDGE HILL SHOPPING CENTER	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
79114	Norfolk	PHASE III EXPANSION OF COMPUTERIZED SIGNAL SYSTEM	CITYWIDE		NEW CONSTRUCTION		x	Exempt	x		NO
79658	Norfolk	SOUND WALLS PROJECT, PHASE II	0.11 MI SOUTH OF FOURTH VIEW ST.	0.03 MI NORTH OF FIRST VIEW ST.	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
79836	Isle of Wight County	PAVE IN PLACE, FROM RT 258/32 TO .12 MI WEST OF RT 258/32	ROUTE 258/32	0.12 MILE WEST ROUTE 258/32	RESURFACING		x	Exempt	x		NO
79845	Isle of Wight County	RET 1931 MILL GRADE AND PAVE IN PLACE	ROUTE 258/32	0.25 MILE WEST ROUTE 258/32	RESURFACING		x	Exempt	x		NO
80029	Virginia Beach	INTERCHANGE CHESAPEAKE/VIRGINIA BEACH	AT CITY LINE ROAD		NEW CONSTRUCTION	na	na	2030	x	x	YES
80157	Virginia Beach	I-264/LYNNHAVEN INTERCHANGE IMPROVEMENTS - PHASE II (PART 1)	0.37 Mi. east of Lynnhaven Parkway along I-264	0.15 Mi. south of I-264 along London Bridge Road	NEW CONSTRUCTION	0	2	2018	x	x	YES
80382	York County	ELECTRONIC TOLL COLLECTION & VIOL ENFORCE SYSTEM	GEORGE P. COLEMAN BRIDGE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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80480	Norfolk	CATHODIC BRDG PROTECTION FOR VETERANS MEMORIAL BR & BERKLEY			MINOR BRIDGE REHAB		x	Exempt	x		NO
80481	Hampton	PURCHASE SPECIALIZED TUNNEL FIRE SAFETY EQUIP			STUDIES ONLY		x	Exempt	x		NO
80487	Norfolk	ATTUCKS HISTORIC PEDESTRIAN WALKWAY - PHASE II	PRINCESS ANNE ROAD - SIDEWALK IMPROVEMENTS		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
80494	Norfolk	NORVIEW AVENUE - INSTALL CONSTANT WARNING TIME DEVICES	0.11 MILE EAST SUNSHINE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
80496	Norfolk	RTE 165 - LITTLE CREEK ROAD	AT NORFOLK SOUTHERN RAILROAD DOT #467-661K	0.10 MILE EAST OF GRANBY STREET	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
80498	Norfolk	THOLE STREET - INSTALL CONSTANT WARNING TIME DEVICES	AT NORFOLK SOUTHERN RAILROAD DOT #467-662S	(0.06 MILE EAST OF VIRGINIA AVENUE)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
80553	Hampton Roads District-wide	VIRGINIA SCENIC BYWAY			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
81080	Newport News	ROANOKE AVE	101 FT S OF 38TH STREET		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81081	Chesapeake	HEAD OF RIVER RD	.34 MI EAST OF CENTERVILLE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81082	Newport News	SHIELDS RD	524 FT E OF INDUSTRIAL PARK DR		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81441	Hampton	RTE 351 -Pembroke Avenue ADD TURN LANE	AT ROUTE 134		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81442	Norfolk	RTE 165 -	RTE 165	Chesapeake Blvd	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
81443	Norfolk	RTE 13 - VIRGINIA BEACH BLVD. / MILITARY HWY	VIRGINIA BEACH BOULEVARD	MILITARY HIGHWAY (INTERSECTION)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81446	Chesapeake	INSTALL PEDESTRIAN CONTROL TRAFFIC SIGNAL HEADS	INTERSECTION OF GREENBRIER RD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81447	Virginia Beach	RTE 60 - INSTALL SOLAR POWER FLASHING LIGHTS	5TH STREET	43RD STREET	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81448	Virginia Beach	RTE 60 - INSTALL SOLAR POWER FLASHING LIGHTS	KENDILL STREET	VISTA CIRCLE	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
81559	Portsmouth	RTE 164 -CONSTRUCT MAERSK TERMINAL INTERCHANGE	AT MAERSK TERMINAL IN PORTSMOUTH		NEW CONSTRUCTION	na	na	2011	x	x	YES
82111	Hampton Roads District-wide	STUDY - PROJECT DEVELOPMENT SO.EAST PKY GREENBELT	I-464/I-64 - CHESAPEAKE	I-264 SOUTH OF LASKIN RD - VA BEACH	R/W OR ENG	na	na	Exempt	x	x	NO
82112	Virginia Beach	ITS CITY WIDE SIGNAL SYSTEM UPGRADE	CITYWIDE		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
82130	Hampton Roads MPO	EASTERN SEABOARD INTERMODAL TRANSP APPLICATIONS CENTER					x	Exempt	x		NO
82858	Portsmouth	US 58 - AIRLINE BLVD COORDINATED SIGNAL UPGRADE	VICTORY BLVD	GREENWOOD DRIVE	RECONSTRUCTION		x	Exempt	x		NO
82961	James City County	ADD L&RR TURN LANES ON MONTICELLO AVE IRONBOUND RD	ROUTE 199	NEWS ROAD	RECONSTRUCTION		x	Exempt	x		NO
83197	Chesapeake	CONSTRUCT EB RTL ON PUGHSVILLE RD @ TAYLOR RD WITHIN R/W			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
83199	Hampton	ADDING FREE FLW ACCEL LA FR NB BIG BETHEL TO EB HRCP	NORTHBOUND BIG BETHEL	EASTBOUND HAMPTON RDS CENTER PARKWAY	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
83200	Hampton	INSTALL TRAFFIC SIGNAL W PROV FOR COMMUNICATION TO CITY'S CO	BIG BETHEL RD	AT RADFORD DR	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
83246	Chesapeake	COUNTS & DETERM SIGNAL TIM & OFFSET	BATTLEFIELD BLVD PORTSMOUTH BLVD TAYLOR RD		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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83252	Newport News	JEFFERSON AVE SIDEWALK PROJECT			RECONSTRUCTION		x	Exempt	x		NO
83254	Newport News	MARINER'S MUSEUM MULTI-PURPOSE TRAIL			RECONSTRUCTION		x	Exempt			NO
83352	Hampton	CITYWIDE TRAFFIC SIGNAL SYSTEM UPGRADE PHASE II			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
83359	Hampton	CITYWIDE SIGNAL SYSTEM RETIMING 6 CORRIDORS			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
83362	Hampton	INTERSECTION IMPROVEMENTS AT COLISEUM DR	AT CUNNINGHAM DR		RECONSTRUCTION		x	Exempt	x		NO
83370	Hampton	INTERSECTION IMPROVEMENTS AT MERCURY BLVD	AT FOX HILL RD		RECONSTRUCTION		x	Exempt	x		NO
83395	Norfolk	DATA COLLECTION TO COMPLETE RETIMING PLAN CITYWIDE SIGNAL			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
83435	Newport News	J CLYDE MORRIS BLVD CORRIDOR BIKE TRAIL PHASE V			RECONSTRUCTION		x	Exempt	x		NO
83436	Newport News	PERIODIC CITYWIDE SIGNAL SYSTEM RETIMING			RECONSTRUCTION		x	Exempt	x		NO
83437	Newport News	WARWICK BLVD SIDEWALK WIDENING	ALONG WARWICK BLVD FROM J CLYDE MORRIS	LUCAS CREEK	RECONSTRUCTION		x	Exempt	x		NO
83438	Portsmouth	ALEXANDER'S CORNER INTERSECTION SIGNAL UPGRADES	PORTSMOUTH BLVD	AIRLINE BLVD	RECONSTRUCTION		x	Exempt	x		NO
83454	Hampton	WIDEN TODDS LN -ADDITION RIGHT TURN LA LEFT TURN BIG BETHEL			RECONSTRUCTION		x	Exempt	x		NO
83462	James City County	CONSTRUCT SHOULDER BIKEWAY ALONG AIRPORT RD	RICHMOND RD (RTE 60)	MOORETOWN RD (RTE 603)	MINOR WIDENING		x	Exempt	x		NO
83509	Chesapeake	BRIDGE REPLACEMENT	LONG BRIDGE REPLACEMENT		BRIDGE REPLACEMENT	2	4	2011	x	x	YES
83512	York County	ROUTE 17 INTERSECTION IMPROVEMENTS	ROUTE 17 AT RTE 620 (ORIANA RD/LAKESIDE DR)		WIDENING		x	Exempt			NO
83526	Hampton Roads District-wide	REGIONAL CONCEPT FOR TRANSPORTATION OPERATIONS (RCTO)	Regional Concept of Transportation Operations	Regional Concept of Transportation Operations	STUDIES ONLY		x	Exempt	x		NO
84120	Virginia Beach	Citywide Retiming Project, Phase 2	Various Locations		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84132	Virginia Beach	Intersection Improvements - Princess Anne Rd	Intersection of Salem Rd		RECONSTRUCTION		x	Exempt	x		NO
84243	Norfolk	Robin Hood Rd & Military Hwy Phase 1, link w/ UPC 1765 &9783	0.289 mi. North of Northampton Blvd	0.230 mi North of Rte I-64	MAJOR WIDENING	4	8	2018 (2)	x	x	YES
84330	Hampton	Citywide AVL for Emergency Services Vehicles			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84331	Hampton	Wayfinder Signs			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84332	Norfolk	Incident Management Diversion System					x	Exempt	x		NO
84333	Norfolk	Research Partnership w/ Virginia Universities (Regional ITS					x	Exempt	x		NO
84335	Virginia Beach	Intersection Improvements - Rosemont Rd	at Lynnhaven Pkwy		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84338	Virginia Beach	Intersection Improvements - S. Independence Blvd	at Dahlia Dr		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84341	Virginia Beach	Intersection Improvement - General Booth Blvd	at London Bridge Rd		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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84346	Virginia Beach	Intersection Improvements S. Independence Blvd	at Lynnhaven Pkwy		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84354	Chesapeake	US 17 (Dominion Blvd) Widen to 4 lanes	Existing Improved US 17 (2.6 Mi. S. of Cedar Rd)	South of Cedar Road Interchange	WIDENING	2	4	2018	x	x	YES
84359	Chesapeake	Mount Pleasant Rd - Widen to 4-lanes	Chesapeake Expressway (RT 168)	Etheridge Rd	MAJOR WIDENING	2	4	2018	x	x	YES
84361	Norfolk	Intersection Improvements - Princess Anne Rd & Sewells Point	Intersection w/ Sewells Point Rd				x	Exempt	x		NO
84364	Hampton	Citywide CCTV Camera Locations - Phase 2 (10 Locations)			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84365	Newport News	Wayfinding Signs, Phase 2	Cultural & Business District		NEW CONSTRUCTION		x	Exempt	x		NO
84366	Virginia Beach	Intersection Improvements - Indian River Rd & Kempsville Rd	Indian River Rd at Kempsville Rd				x	Exempt	x		NO
84474	Hampton	Coliseum Central Transit Shelters			ENVIRONMENTALLY RELATED		x	Exempt	x		NO
84475	Portsmouth	Equipment Support for Shuttle Bus Service	Equipment support for shuttle Bus Serv. City of Portsmouth	N/A	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84478	Gloucester County	Access Management - Crossover Improvements	Gloucester Point Area	Gloucester Courthouse Area	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84482	York County	Lightfoot Rd Bikeway	Mooretown Rd (Rt 603)	Richmond Rd (Rt 60)	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84484	York County	Capitol Landing Rd Bikeway	E Rochambeau Dr	Queens Creek Br (York/Wmbg CL)			x	Exempt	x		NO
84834	James City County	Bridge - SSYP 08			SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
84905	Williamsburg	Install Traffic Signal - Int. Waltz Farm Dr.	at Richmond Rd.		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84906	Williamsburg	Install Traffic Signal - Intersection 2nd St	at Parkway Drive		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
84908	Williamsburg	Install Traffic Signal - Int. York St	at Quarterpath Road		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
85024	Isle of Wight County	BRIDGE AND APPROACHES OVER PAGAN CREEK	FR: 1.0 MI. N. RTE 600	TO: 1.4 MI. N. RTE.600	BRIDGE REPLACEMENT		x	Exempt	x		NO
85159	Isle of Wight County	RTE620-RECONSTRUCTION	SOUTHAMPTON CL	ROUTE 681	RECONSTRUCTION		x	Exempt	x		NO
85160	Virginia Beach	DEMOLITION OF BUILDINGS			DEMOLITION OF BLDGS, BRIDGES, ETC	x		Complete	x		NO
85554	James City County	JAMESTOWN 2007 TRANSPORTATION SYSTEM	PARKING MGMT & FACS, TRAFFIC MGMT		SAFETY/TRAFFIC OPERS/TSM	x		Complete	x		NO
85732	Gloucester County	Upgrade signal system.	1000' North of Int. of Route 17 & Rte 606	1000' South of Int. of Rte 17 & Rte 1206	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
85793	Norfolk	Install type B, class VI pavement line markings on I-state	.01 Mi E of Downtown Tunnel	WCL City of VA Beach	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
85942	Newport News	Warwick Blvd over Lake Maury Va struc 1806			BRIDGE REPLACEMENT		x	Exempt	x		NO
85945	Chesapeake	22nd Street over Seaboard Av Va struc 1820			BRIDGE REPLACEMENT		x	Exempt	x		NO
85954	Chesapeake	Fentress Airfld Rd over Pocaty Creek Va struc 8017			BRIDGE REPLACEMENT		x	Exempt	x		NO
85955	Newport News	Washington Ave over NNS and DD RWY Va struc 8009	0.04 Mi to Rte. 351	0.04 Mi 41st Street	BRIDGE REPLACEMENT		x	Exempt	x		NO

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86283	Isle of Wight County	Freeman Dr (Rte 612) over stream Va struc 6015			BRIDGE REPLACEMENT		x	Exempt	x		NO
86462	Hampton	Old Aberdeen Rd	38 FT N of Pembroke Ave.		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86464	Newport News	Jefferson Ave	321 FT N of 36th Street		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86478	Hampton	Add Left Turn Lane			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86480	Hampton	Existing Traffic Signal SR351 Pembroke Ave.	at Grimes/Shelton Rd.		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86488	Hampton	Construct Left Turn Lane SR169 Fox Hill Rd	at Clemwood Parkway		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86489	Hampton	Add Left Turn Lane Andrews Blvd	at Woodland Rd.		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86490	Hampton	Construct Left Turn Lane SR 167 (LaSalle Avenue)	West Queen Street		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86491	Norfolk	Upgrade Existing Traffic Signal	Military Highway	Norview Avenue	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86492	Norfolk	Upgrade Existing Traffic Signal	26th Street	Colley Avenue	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86494	Hampton	Increase Left Turn Lane Length Big Bethel Rd	Thomas Nelson Drive	Westpark Lane	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86496	Norfolk	Upgrade Existing Signal and Pavement Markings	26th Street	Intersection	SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
86497	Hampton	Increase Left Turn Lane Length	Armistead Ave	Tide Mill Ln	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86499	Norfolk	Modify Existing Traffic Signal	Military Highway	Azalea Garden Rd	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86500	Hampton	Widen Pavement Executive Dr	at Marcella Rd		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86501	Hampton	Install Traffic Signal Coliseum Drive	at Coliseum Mall		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86502	Chesapeake	Install Left Turn Lane RT 13 Military Highway	at Galberry Rd		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86503	Chesapeake	Construct Sidewalk along Margaret Booker Drive	Galberry Road	George Washington Hwy	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86504	Virginia Beach	Construct sidewalk to existing sidewalk along VA Beach Blvd	First Colonial Road	Birdneck Road	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86505	Virginia Beach	Construct sidewalk along Mill Dam Road			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86506	Virginia Beach	Install Pedestrian Signals and Crosswalk on VA Beach Blvd			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86508	Virginia Beach	Install Pedestrian Signals and Crosswalk on General Booth	London Bridge Rd. & Red Mill Blvd.		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86509	Virginia Beach	Construct sidewalk along Norfolk Ave	9th Street & Pacific Ave		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86607	Chesapeake	Redesign Intersection	Oak Grove Road	at Green Tree Rd.	SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86608	Hampton Roads District-wide	HSIP District-wide High Risk Rural Roads Hampton Roads			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86610	Suffolk	HSIP Proactive Safety Projects City of Suffolk			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO

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86612	Portsmouth	HSIP Proactive Safety Projects City of Portsmouth			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86613	Hampton	HSIP Proactive Safety Projects City of Hampton	City-Wide		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86614	Chesapeake	HSIP Proactive Safety Projects City of Chesapeake			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86615	Newport News	HSIP Proactive Safety Projects City of Newport News	City-Wide		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86616	Norfolk	HSIP Proactive Safety Projects City of Norfolk			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86617	Virginia Beach	HSIP Proactive Safety Projects City of VA Beach			SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
86678	Hampton	Lengthen Acceleration Lane for WB Rt Turn Traffic SR134 Magruder Blvd	at Butler Farm Road		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
87007	James City County	Grade-Separated Crossing for Va Capital	eastern end of Judith S. Dresser Memorial Bridge on Rte. 5		ENVIRONMENTALLY RELATED		x	Exempt	x		NO
87010	Hampton	Pine Chapel Road Pedestrian/Bicycle Trail	Design and construction of the	Pine Chapel Road Pedestrian/Bicycle Trail	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
87011	Suffolk	Multi-Modal Trail along Eclipse Drive	Intersection with Bridge Rd	End at James River	ENVIRONMENTALLY RELATED		x	Exempt	x		NO
87091	Virginia Beach	Citywide Retiming Project - Phase 2	Various Locations		SAFETY/TRAFFIC OPERS/TSM		x	Exempt	x		NO
87438	Chesapeake	Intersection Improvements - Volvo Pkwy	at Executive Blvd		MINOR WIDENING		x	Exempt	x		NO
87439	Chesapeake	Intersection Improvements - Volvo Pkwy	at Progressive Dr		MINOR WIDENING		x	Exempt	x		NO
87944	James City County	Mooretown Rd Bikeway	Airport Rd	Rain Tree Way			x	Exempt	x		NO
T118	HRT - DRPT	Bus Route 45 (FY 96 Operations)					x	Exempt			NO
T132	HRT - DRPT	Regional TDM Program: Traffix					x	Exempt	x		NO
T133	HRT - DRPT	Paratransit Transition Project					x	Exempt			NO
T135	HRT - DRPT	Replacement Buses					x	Exempt			NO
T136		Transportation Complex					x	Exempt	x		NO
T137	HRT - DRPT	Light Rail Transit PE/DEIS				na	na	Exempt			NO
T138	HRT - DRPT	New Buses (22) Implement Enhanced Bus Altern/CSX/MIS					x	Exempt			NO
T140	HRT - DRPT	Programmable Fare Boxes					x	Exempt			NO
T141	HRT - DRPT	Facility Improvements Trans. Centers at Hampton/Newport News					x	Exempt			NO
T142	HRT - DRPT	CSX LRT PE & Land Acquisition for Stations					x	Exempt	x		NO
T146	HRT - DRPT	Purchase New Buses (8) for New Transit Service					x	Exempt			NO
T147	HRT - DRPT	Purchase 12 Buses for New Service (5 Routes from TDP)					x	Exempt			NO

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T148	HRT - DRPT	Purchase 13 Buses for New Service (3 Routes from TDP)					x	Exempt			NO
T149	HRT - DRPT	Purchase 8 Buses for New Service (4 Routes from TDP)					x	Exempt			NO
T162	HRT - DRPT	New Park & Ride Service between Virginia Beach & Downtown No					x	Exempt			NO
T171	HRT - DRPT	Purchase 5 New Buses for York County and X-Roads Service					x	Exempt			NO
T172	HRT - DRPT	Sunday Transit Service					x	Exempt			NO
T175	HRT - DRPT	Transit Service to York County					x	Exempt			NO
T176	HRT - DRPT	Mercury/Central Shuttle					x	Exempt			NO
T177	HRT - DRPT	Purchase 8 Buses for New Service					x	Exempt			NO
T178	HRT - DRPT	Oyster Point Shuttle Service					x	Exempt			NO
T179	HRT - DRPT	Bus Rte #44 thru Midtown Tunnel: Van/Buspool Service from Ch					x	Exempt			NO
T1818	WAT - DRPT	WAT Project - Bus on chassis vehicles - 5 new replacement vehicles					x	Exempt	x		NO
T1819	WAT - DRPT	WAT Project - Mooretown Rd - 2 new buses for the new transit route					x	Exempt	x		NO
T1821	HRT - DRPT	HRT Project - Peninsula LRT Project - Prepare EIS					x	Exempt	x		NO
T1822	HRT - DRPT	HRT Project - Norfolk LRT - 8 mile/11 stations - PE Phase				na	na	2011	x	x	YES
T1823	HRT - DRPT	HRT Project - Regional TDM Program: TRAFFIX					x	Exempt	x		NO
T1824	HRT - DRPT	HRT Project - Replacement of HRT Southside Bus Facility					x	Exempt	x		NO
T1825	HRT - DRPT	HRT Project - Purchase replacement buses					x	Exempt	x		NO
T1829	WAT - DRPT	WAT Project - Mooretown Rd corridor new transit service (Operating funds)					x	Exempt	x		NO
T183	HRT - DRPT	Hampton Roads Center/Magruder Boulevard Corridor Route Servi					x	Exempt			NO
T1831	Newport News	SHUTTLE VEHICLES AND OPERATE A SHUTTLE	PORT WARWICK	OYSTER POINT CITY CENTER			x	Exempt	x		NO
T184	HRT - DRPT	Silverleaf HOV Express Bus Service					x	Exempt			NO
T1849	Hampton Roads District-wide	Outstanding Cost for TMS Consultant Inspections					x	Exempt			NO
T185	HRT - DRPT	HOV Express Bus Service/I-64 Corridor from Hampton to Willia					x	Exempt			NO
T186	HRT - DRPT	Sam's Club HOV Express Bus Service					x	Exempt			NO
T190	HRT - DRPT	Indian River HOV Express Bus Service					x	Exempt			NO
T191	HRT - DRPT	Park and Sail Shuttle Service					x	Exempt			NO

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T193	WAT - DRPT	James City County Transit Shopping Circulator					x	Exempt			NO
T195	HRT - DRPT	Purchase 20 Transit Coaches for New HOV Express Bus Service					x	Exempt			NO
T196	HRT - DRPT	Ridesharing and TDM Program					x	Exempt			NO
T202	HRT - DRPT	Route Deviation/Enhanced Bus Service Hampton and Newport New					x	Exempt			NO
T218	Hampton Roads District-wide	High Speed Rail Study					x	Exempt	x		NO
T283	Hampton Roads District-wide	511 Virginia - Travel Information					x	Exempt	x		NO
T3890	Norfolk	TUNNELS ON THE NORFOLK WESTERN MAI					x	Exempt	x		NO
T4162	WAT-DRPT	Purchase 8 electric/diesel buses to expand Sunday service					x	Exempt	x		NO
T4179	HRT - DRPT	Commuter Route 62, Phase 1					x	Exempt	x		NO
T4182	HRT - DRPT	Commuter Route 62, Phase 2					x	Exempt	x		NO
T4183	HRT - DRPT	Bus Purchase - (13) 40' coach style passenger buses	Bus Purchase - (13) 40ft. Coach Style Passenger				x	Exempt	x		NO
T4184	HRT - DRPT	Norfolk LRT - Operating Assistance					x	Exempt	x		NO
T4186	HRT - DRPT	Route 60 Rapid Express, Phase 1					x	Exempt	x		NO
T4188	HRT - DRPT	Route 60 Rapid Express, Phase 2					x	Exempt	x		NO
T4189	HRT - DRPT	Purchase 15 vans for TRAFFIX vanpool program	Purchase 15 Vans for Traffix vanpool program				x	Exempt	x		NO
T4196	Newport News	Citywide Bus Shelter Program					x	Exempt	x		NO
T4200	Newport News	Newport News Shuttle, Phase 2 Purchase (2) 29' buses					x	Exempt	x		NO
T4210	Portsmouth	Downtown Portsmouth Shuttle Service, Phase 1					x	Exempt	x		NO
T4211	Portsmouth	Downtown Portsmouth Shuttle Service, Phase 2					x	Exempt	x		NO
T4222	WAT-DRPT	Newport News/James City Co Employee Connection, Phase 1	Newport News/James City Co. Employee Connection Phase I				x	Exempt	x		NO
T4223	WAT-DRPT	Newport News/James City Co Employee Connection, Phase 2					x	Exempt	x		NO
T4224	WAT-DRPT	Increase Service Frequency and Add Sunday Service, Phase 1					x	Exempt	x		NO
T4225	WAT-DRPT	Increase Service Frequency and Add Sunday Service, Phase 2					x	Exempt	x		NO
T4226	WAT-DRPT	Mooretown Rd Corridor Service					x	Exempt	x		NO
T4241	Hampton	Coliseum Central Transit Shuttle					x	Exempt	x		NO
T4313	Hampton Roads District-wide	HRT - PURCHASE OF 20 TRANSIT BUSES	HRT - PURCHASE OF 20 TRANSIT BUSES				x	Exempt	x		NO

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T4316	DRPT	YORKTOWN 225th TRANSPORTATION SYSTEM					x	Exempt	x		NO
T4852	Hampton Roads District-wide	System Operations Improvements			SAFETY/TRAFFIC OPERS/TSM		x	Exempt			NO
T5017	Hampton Roads District-wide	Infrastructure improvements for Jamestown 2007				x		Exempt	x		NO
T5018	Hampton Roads District-wide	Transportation improvements to Historic Jamestown 2007				x		Exempt	x		NO
T5713	Williamsburg	IRONBOUND ROAD CORRIDOR STUDY	ROUTE 60	LONGHILL CONNECTOR	STUDY		x	Exempt			NO

Footnotes:

1 UPC 71690, UPC 71691, UPC 77428, UPC 77430 and UPC 77432 are covered under UPC 10797

2 UPC 84243 is covered under UPC 1795 and UPC 9783