



U.S. Department  
of Transportation

**Federal Highway  
Administration**

**Federal Highway  
Administration  
(Missouri and  
Illinois Divisions,  
Office of Natural  
Environment)**

**Federal Transit  
Administration  
Region VII**

**U.S.  
Environmental  
Protection  
Agency Regions  
V & VII**

# Program Review

Baseline Assessment Review of the  
Regional Emissions Analysis and  
Transportation Conformity Determination Process  
at East West Gateway Council of Governments  
(EWGCOG)

St. Louis Metropolitan Planning Area

**March 5, 2012**

**FINAL REPORT**



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## **Executive Summary**

The U.S. Environmental Protection Agency (EPA) has designated the St. Louis area as a “nonattainment area” for the 1997 Ozone (O<sub>3</sub>) National Ambient Air Quality Standards (NAAQS) and the 1997 Fine Particulate Matter (PM<sub>2.5</sub> micrograms per cubic meter) NAAQS; the area is also a limited “maintenance area” for Carbon Monoxide (CO). Regulations require a consultation process involving appropriate local, state, and federal air agencies, and agencies charged with transportation planning. Under the 1990 Clean Air Act Amendments (CAAA), the United States Department of Transportation (USDOT) cannot fund, authorize, or approve federal actions to support transportation programs or projects, which are not first found to conform to requirements of the Clean Air Act and the State Implementation Plan (SIP). With USDOT concurrence, the United States Environmental Protection Agency (USEPA) has issued regulations pertaining to the criteria and procedures for transportation conformity.

The metropolitan planning organization (MPO) for the St. Louis region is the East-West Gateway Council of Governments (EWGCOG). This Baseline Assessment reviewed the EWGCOG’s efforts and accomplishments for ensuring that the region is meeting the transportation conformity requirements, including conducting the regional emissions analysis for the region’s metropolitan transportation plan and transportation improvement program in the St. Louis nonattainment and maintenance areas. It also focused on verifying the EWGCOG’s compliance with current transportation law and planning regulations.

This review is also intended to serve as a catalyst to highlight noteworthy practices and a tool to improve the effectiveness and efficiency of the MPO’s transportation conformity determination process and IACG processes. The review team’s work effort consisted of both office/desk and on-site review work segments. In addition to the assessment, the Review Team checked the EWGCOG’s progress in addressing management findings from the April 2011 EPA/FHWA/FTA Manager’s Meeting, and recommendations from a previous Modeling Teleconference. The Review Team identified a number of recommendations for the EWGCOG to improve the current process. A detailed summary of commendations and recommendations is shown in Section IV of the report. The Federal Review Team will continue to work effectively with EWCOG to confirm the joint completion of recommendations from this final report.

### **CONCLUSION**

The Federal Highway Administration, Federal Transit Administration Region VII and the Environmental Protection Agency Region V & VII have a number of recommendations to improve the current process but have found that, overall, the East West Gateway Council of Government’s regional emissions analysis and transportation conformity process for the St. Louis metropolitan area is being conducted in accordance with applicable requirements of sections 176 (c) of the Clean Air Act, as amended (42 U.S.C 7506 (c) and 40 CFR Part 93. The EWGCOG’s conformity determination process provides adequate representation and input from all levels of state and local government and individual groups on the air quality and transportation needs of the metropolitan area. Overall, the EWGCOG’s transportation and air quality planning activities provide for a transportation planning process that results in the support and development of transportation investments for the entire bi-state metropolitan area.



## **I. Introduction**

### **A. Background**

The metropolitan planning organization (MPO) for the St. Louis region is the East-West Gateway Council of Governments (EWGCOG). The EWGCOG is responsible for meeting the transportation conformity requirements, including conducting the regional emissions analysis for the region's metropolitan transportation plan and transportation improvement program in the St. Louis nonattainment and maintenance area. The EWGCOG is also responsible for the Interagency Air Quality Consultation Group (IACG) process. The U.S. Environmental Protection Agency (EPA) has designated the St. Louis area as a "nonattainment area" for the 1997 Ozone (O<sub>3</sub>) National Ambient Air Quality Standards (NAAQS) and the 1997 Fine Particulate Matter (PM<sub>2.5</sub> micrograms per cubic meter) NAAQS; the area is also a limited "maintenance area" for Carbon Monoxide (CO). Regulations require a consultation process involving appropriate local, state, and federal air quality agencies, and agencies charged with transportation planning on the development of the State Implementation Plan (SIP), the metropolitan transportation plan, the transportation improvement program (TIP), and associated transportation conformity determinations. Under the 1990 Clean Air Act Amendments (CAAA), the U.S. Department of Transportation (USDOT) cannot fund, authorize, or approve federal actions to support transportation programs or projects, which are not first found to conform to the purpose of the SIP. With USDOT concurrence, the USEPA has issued regulations pertaining to the criteria and procedures for transportation conformity.

The FHWA and the FTA jointly make review for approval conformity determinations on the transportation plans and TIPs within non-attainment and maintenance areas to ensure that federal actions conform to the SIPs. The transportation conformity process is intended to ensure transportation plans, programs, and projects will not create new violations of the National Ambient Air Quality Standards (NAAQS); increase the frequency or severity of existing NAAQS violations; or delay the attainment of the NAAQS in designated non-attainment or maintenance areas.

A conformity determination has been successfully made for the St. Louis region with the approval of a Regional Transportation Plan (RTP) 2040, EWGCOG's long range transportation plan. A conformity determination is conducted annually with the adoption of a new TIP. However, over the last 24 months, the FHWA, FTA and EPA have observed possible deficiencies or areas for improvement in particular areas of the regional emissions analysis and transportation conformity process, including the interagency consultation and the EWGCOG modeling processes.

The EWGCOG and the two State DOTs (SDOTs) annually self-certify, in accordance with Federal regulatory procedures, that EWGCOG and the SDOT's are following the Federal transportation planning regulations in carrying out the metropolitan transportation planning process. They also certify meeting the conformity requirements in nonattainment and maintenance areas, according to sections 176 (c) of the Clean Air Act, as amended (42 U.S.C 7506 (c) and 40 CFR Part 93. This baseline assessment review will focus on documenting their efforts and accomplishments in meeting these requirements.



## **B. Purpose of Review**

The purpose of the FHWA/FTA/EPA Baseline Assessment Review is to determine to what extent the regional emissions analysis and transportation conformity determination process in the St. Louis metropolitan area is meeting the requirements of all applicable provisions of Federal law (23 USC and the 1990 Clean Air Act Amendments) and regulations (23 CFR Part 450 & 40 CFR Part 93) and applicable State laws and regulations in Missouri and Illinois. This review will cover both the Missouri and Illinois portions of the St. Louis Metropolitan Planning Area (MPA) and the nonattainment area. It will include all facets (i.e. emissions analysis, public involvement, the IACG process, etc.) of the EWGCOG's regional emissions analysis and conformity determination process completed in connection with the TIP development, TIP amendments and modifications, LRTP development and LRTP modifications.

The review effort will conclude with the issuance of this Final Report documenting the Review Team's observations and findings including specific recommendations for improvements including expectations for follow-up. This report also highlights strengths of the EWGCOG's overall conformity determination process.

### Review Objective(s):

1. Map out and document the existing processes for performing the regional emissions analysis and transportation conformity determination for the St. Louis metropolitan non-attainment and maintenance areas.
2. Determine the extent that EPA/FHWA/FTA developed "Action Items" for enhancing the delivery of the St. Louis conformity determination process have been implemented by EWGCOG and other applicable planning partners. This list of 12 "Action Items" was collaboratively developed at the EPA/FHWA/FTA/EWGCOG Manager's Meeting held on April 14, 2011.
3. Determine if inefficiencies/gaps in complying with federal and state air quality and transportation planning laws and regulations exist in the EWGCOG regional air quality conformity determination process and identify opportunities to enhance and improve the process. Address any relevant recommendations from the 2009 Federal Certification Review of the St. Louis Metropolitan Area Transportation Planning Process.
4. Determine if inefficiencies/gaps in complying with federal and state air quality and transportation planning laws and regulations exist in the MoDOT/IDOT process for providing guidance and oversight of the EWGCOG regional air quality conformity determination process and identify opportunities to enhance and improve the process.
5. Assess the ONE DOT process for reviewing and making an air quality conformity determination on EWGCOG's plan and TIP (including the EPA review phase) and identify opportunities to enhance and improve the process.
6. Identification of noteworthy practices, which can be shared with other states, Metropolitan Planning Organizations (MPOs), and transit operators.



**C. Federal Review Team & Review Participants**

**Federal Review Team:**

FHWA MO. Division

Brad McMahon, Transportation Specialist  
Mike Latuszek, Community Planner

FHWA IL. Division

Betsy Tracy, Transportation Planning Specialist

FTA Region VII

Mark Bechtel, Community Planner

EPA Region VII

Michael Jay, Chief, Atmospheric Programs  
Elizabeth Kramer, Lead Environmental Protection Specialist

EPA Region V

Michael Leslie, Environmental Engineer

FHWA Office of Natural Environment

Cecilia Ho, Team Leader, Air Quality and Transportation Conformity Team

**Local and State Review Participants:**

EWGCOG

Jim Wild, Senior Manager  
Mike Coulson, Manager of Environmental Services  
Lubna Shoaib, Manager of Systems Evaluation  
Jason Lange, Transportation Planner  
Jerry Blair, Director of Transportation  
Carol Lawrence, Senior Environmental Planner



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**Federal Highway  
Administration**

MoDOT

Michael Henderson, Transportation Planning Specialist  
Troy Pinkerton, Long Range Transportation Planning Coordinator  
Carol Kliethermes, Senior Transportation Planner  
Wesley Stephen, Transportation Planning Manager  
Lisa Kuntz, Transportation Planning Specialist

IDOT

James Stack, Urban Planning Chief, District 8  
Curtis Jones, Urban Programming Metro Manager, Central Office  
Tiffany Brase, Program Engineer, District 8

MoDNR

Wendy Vit, P.E., Section Chief – Air Quality Planning  
Joe Winkelmann, Environmental Engineer – Air Quality Planning Section  
Nathan O’Neil, Environmental Specialist – Air Quality Analysis Section

IEPA

Mike Rogers, Environmental Protection Specialist  
Rob Kaleel, Manager, Air Quality Planning Section



## **D. Review Approach**

An EPA/FHWA/FTA/EWGCOG Manager's Meeting was held on April 14, 2011 for the purpose of Federal, State and local program managers collaboratively identifying and discussing which elements of the transportation conformity determination process in St. Louis metropolitan planning area were working well and which areas were in need of improvement.

During the office/desk segment of this baseline review, information about the regional emissions analysis and transportation conformity determination process was collected by means of a Review Guideline Question and Answer exercise (see Appendix A),<sup>1</sup> a review of the EWGCOG website, and review of EWGCOG planning process and work products. Information obtained in the office/desk review segment served as the foundation for the Review Team's successful delivery of the Modeling Teleconference on October 28, 2011 and the on-site segment of the review. Additional information about EWGCOG's Regional Emissions Analysis can be found in Appendix B and C.

The EWGCOG in collaboration with the State agencies provided the Review Team responses to review guideline questions prior to the Modeling Teleconference. The on-site sessions were conducted on November 2-3, 2011 at the EWGCOG office. The on-site sessions were facilitated by Sarah Siwek, Sarah J. Siwek & Associates, Inc. Sarah has been working as a contractor to FHWA Headquarters on air quality issues since 1994 and has taught conformity for the National Transit Institute for over ten years.

The on-site sessions were characterized by roundtable discussion that afforded opportunity for additional questions and answers, exchange of ideas, recognition of best practices, and identification of ways to improve both the transportation conformity determination planning process and existing Local, State and Federal Agency partnerships.

## **II. OVERVIEW OF THE REGIONAL AIR QUALITY EMISSIONS ANALYSIS AND TRANSPORTATION CONFORMITY DETERMINATION PROCESS**

The FHWA and the FTA jointly make conformity determinations within air quality non-attainment and maintenance areas to ensure that federal actions conform to the "purpose" of SIPs. The transportation conformity process is intended to ensure transportation plans, programs, and projects will not create new violations of the [National Ambient Air Quality Standards](#) (NAAQS); increase the frequency or severity of existing NAAQS violations; or delay the attainment of the NAAQS in designated non-attainment (or maintenance) areas.

The St. Louis Transportation Management Area (TMA) is classified as a moderate nonattainment area for tropospheric or ground-level ozone (1997 NAAQS) and a nonattainment area for the 1997 fine particulate matter (PM<sub>2.5</sub>) NAAQS. Jersey County, Illinois is included within the ozone nonattainment boundary and Baldwin Township in Randolph County, Illinois is included within the PM 2.5 nonattainment boundary. St. Louis is also a maintenance area for Carbon Monoxide.

The region has an established consultation process that consists of regular meetings of the Air Quality Advisory Committee (AQAC) and the Inter-Agency Consultation Group (IACG). AQAC

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<sup>1</sup> See Appendix A: Baseline Assessment Review Question and Answer documentation provided by the review team.



represents a broad range of environmental interests ranging from all levels of government to advocacy groups. Through AQAC meetings, EWGCOG staff coordinates and facilitates air quality planning activities between Illinois and Missouri agencies and assists the states in preparing necessary revisions to the mobile source components of SIPs. IACG is comprised of EWGCOG and federal, state and local transportation and air quality partners. One of the primary functions of IACG is to coordinate planning assumptions and data collection between EWGCOG, the Missouri Department of Natural Resources (MoDNR), and the Illinois Environmental Protection Agency (IEPA). Other items considered by the IACG include LRTP/TIP updates, planning assumptions for regional emissions analysis, test(s) to be performed as part of the Conformity process, emissions budgets and base year inventories, and review and comment on Conformity Determinations. Decisions needed by the IACG are reached through consensus within the requirements of all applicable regulations.

The Final Report developed in connection with the April 13, 2009 Federal Certification Review of the St. Louis Metropolitan Transportation Planning Process<sup>2</sup> determined that the Air quality conformity requirements had been adequately satisfied since the last 2004 certification review. The final report from the 2009 Certification Review included recommendations for the Air Quality/Regional Emissions Analysis at EWGCOG (see Recommendations #3 and #4 below).

### **III. STATUS OF ACTION ITEMS FROM THE EPA/FHWA/FTA/EWGCOG MANAGERS MEETING**

#### **Findings and Recommendations for Improvement and Actions Taken:**

##### **Active Participation in Interagency Process**

1. Develop an approach to provide for regularly scheduled meetings and provide advance notice complete with detailed agenda to all IACG members such that travel plans or other arrangements can be made.

Responsible Agency: EWGCOG

Action Status: For the convenience of IACG members, IACG meetings are scheduled directly after the AQAC meetings. Also, the IACG meetings are linked to the development of the Transportation Improvement Program (TIP) and staff has the discretion of calling special sessions to coordinate any modeling and TIP issues. At least seven (7) days prior to meeting, the meeting notice and potential agenda will be distributed via e-mail. In the body of the e-mail, IACG participants will be asked to contact EWGCOG: if there are any items they wish to add to the agenda; or if they want to participate by conference call. Generally, staff has attempted to provide a 10-12 day advance notice of IACG meetings.

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<sup>2</sup> See the OneDOT Final Report Certification Review of the Metropolitan Transportation Planning Process for the St. Louis, MO-IL Transportation Management Area (September 2008), April 13, 2009.



2. Develop an approach by which materials which are planned for discussion at the IACG meetings are provided in advance of the meeting on a timeline that is agreed to by all IACG members.

Responsible Agency: EWGCOG

Action Status: Generally, meeting materials will be provided to IACG members at least seven (7) days in advance of the meeting. All efforts will be expended to provide these materials in the 10-12 day advance meeting notification, where possible. IACG participants will be asked to provide (four days) in advance of an upcoming IACG meeting any materials they intend to distribute at said meeting in order that these materials can be sent out (via e-mail) to IACG participants and copies can be made prior to the meeting.

3. IACG members will provide recommendations about the nature and frequency of periodic conformity management meetings to coordinate and review the effectiveness of the collaboration and the systems that support it.

Responsible Agency: IACG Members

Action Status: At the beginning of the calendar year, IACG members will be asked to consider the content and frequency of periodic conformity management meetings and provide recommendations. This will be done via e-mail and also will be a discussion item for an IACG meeting. Also, at the same meeting members will be asked to review the effectiveness of previous collaborations and the IACG process that supports it.

4. EWGCOG will ensure that phone access is available to all meetings when one or more IACG members are unable to participate in person.

Responsible Agency: EWGCOG

Action Status: The EWGCOG has made phone access available to IACG members that are not able to participate in person. Appropriate individual/agency requiring use of the conference call option are asked to notify EWGCOG staff (Mike Coulson or Carol Lawrence) no later than close of business the day before the meeting to ensure the equipment and services are set-up for the meeting. Conference call access available: Phone #: 1-800-444-2801 / Conf Code: 8137849.

During the Baseline Assessment Review, the Review Team recommended that a room with better acoustics and/or conference phone be used for IACG meetings. It is very hard to hear the discussion over the phone in the large conference room.

### **Clarity in Expectations**

5. EPA will work with FHWA/FTA and other IACG members to provide strong examples of TIP amendments and other conformity actions so that a template can be created by the IACG to ensure all needs are met and to ensure all IACG members have a common understanding of what an acceptable product "looks like".

Responsible Agency: FHWA, FTA, EPA



Action Status: The EPA/FHWA/FTA will provide EWGCOG and the IACG “best practice” examples of TIP amendments and other conformity actions by March 1, 2012. The IACG is encouraged to develop a template checklist to ensure all needs are met and that all IACG members have a common understanding of what an acceptable work product “looks like”.

### **Timely Process and Timely Feedback**

6. EWGCOG will develop standardized timelines and schedules for internal review, IACG review and comment, public notices, response to public comments and final approval. Special attention will be given to identifying procedures for mid-term TIP amendments since these seem to occur on very tight timelines.

Responsible Agency: EWGCOG, IACG

Action Status: In April 2011 the EWGCOG’s staff developed, and circulated for review, a proposed schedule for the update of the Conformity Determination for the *2040 Regional Transportation Plan* and the *FY 2012 Transportation Improvement Program*. The schedule also included a proposed future schedule for an annual and semi-annual (if needed) update of the Conformity Determination. Also, possible enhancements to the TIP/LRP development/amendment processes were outlined (see Appendix D). The process (although evolving) has already been adjusted to present the IACG with proposed mid-year amendment materials (via email) for review and comment prior to Board approvals (See Appendix D).

At the Baseline Assessment Review, the EWGCOG agreed to take the needed steps to implement this process with the state DOTs and work with partners to remove obstacles to implementation of the annual Conformity Determination schedule for annual and mid-year determinations.

7. Early review enables IACG members to provide timely feedback. The IACG will explore opportunities and provide recommendations regarding early review of certain materials even if only in draft form.

Responsible Agency: IACG, EWGCOG

Action Status: Generally, meeting materials will be provided to IACG members at least seven (7) days in advance of the meeting. All efforts will be expended to provide these materials in the 10-12 day advance meeting notification, where possible. Additionally, IACG participants will be asked to provide (four days) in advance of an upcoming IACG meeting any materials they intend to distribute at said meeting in order that these materials can be sent out (via e-mail) to IACG participants and copies can be made prior to the meeting.

8. IACG members will commit to attend meetings prepared to provide definitive comments which have management support along with recommendations for remedies contingent upon sufficient review time as identified in item A (Action Item 6).

Responsible Agency: EWGCOG, FHWA, FTA, EPA, IDOT, MoDOT, IACG Members



Action Status: The IACG members are committed to participating in scheduled IACG meetings. Participation of federal agency members has increased since the April Manager's Meeting. The availability of teleconferencing has enhanced the level of participation. A continued effort is needed for all participating IACG members to provide timely reviews during the IACG review phase. It is also recognized that IACG meeting protocol, including an update of the member's roles and responsibilities in the delivery of IACG review for conclusion, needs to be collaboratively developed to ensure enhanced IACG participation in the future.

### **Version Control of IACG Documents**

9. EWGCOG will recommend a system for ensuring availability of critical baseline documents, tracking TIP amendments, summarizing or highlighting the amendments which are up for review, tracking changes made in response to comments and tracking or controlling amended versions of baseline documents. This system should support all documents issued regarding conformity and will be consistent for all media forms including hard copy, email or web posted documents.

Responsible Agency: EWGCOG, IACG

Action Status: Each TIP amendment is tracked by giving new projects an amendment number to go along with the other required information (i.e. TIP #, conformity status, type of work, termini, length, sponsor, etc.). The EWGCOG staff compiles a memo to the Board of Directors that details each amendment/modification to the TIP. This information is made available on the EWGCOG website prior to the Board acting on the amendment/modification. Staff also compiles a memo for the IACG that includes more detailed information (i.e. number of through lanes being added, addition of bi-directional turn-lane, etc.) to assist them in determining whether any proposed project requires a revision to the existing conformity determination. Public comments to amendments/modifications are subject to the Public Engagement process. The EWGCOG's staff will provide an answer to any direct question regarding a project from a regional citizen or group.

### **General Update to St. Louis InterAgency Consultation Guide**

10. Staff from the IACG will work together to update the Guide to improve the process to address topics like:
  - Project exemptions
  - NEPA interaction
  - Regionally significant projects
  - Regional Emissions Analysis and Related Documentation
  - Documenting TIP and LRTP Projects
  - Documenting TCMs and Credits
  - Delineation of Adequate Documentation
  - Project Level Air Quality Documentation
  - References to Current Applicable Policy and Regulations
  - IACG MOU



Responsible Agency: IACG Members

Action Status: Progress in the development of the draft updated Interagency Consultation Guide is ongoing and continuous. The updates to this guide have been a topic of discussion at every IACG meeting since the April Manager's Meeting. The IACG has determined that the transportation conformity determination process can be appropriately streamlined by assigning tasks to relevant technical subgroups which would present their findings, drafts and recommendations to the IACG as a whole. The goal of the current effort to update the guide is to outline in a more detailed fashion, the roles, technical expertise and expected functions of each participating member agency and greatly improve coordination on relevant issues. The IACG will request that each participating member agency review their pertinent sections of the guide and submit appropriate comments, revisions, edits and additions for collation. A decision on whether to include other items beyond the defining of members' roles and responsibilities, as presented in this action item, will not be made until the conclusion of the current federal baseline assessment review. See the Review recommendations section about the development of the Guide.

#### **Training for All Conformity Partners**

11. The IACG will explore conformity training needs and opportunities and make recommendations to the conformity managers at EWGCOG, MoDOT and IDOT regarding how to meet these needs.

Responsible Agency: IACG

Action Status: EPA and FHWA are exploring training options for PM2.5 Hot-Spot Analysis requirements as a result of the Review. See recommendations section.

#### **IACG Report Out to Conformity Managers**

12. IACG will report-out to Conformity Managers as part of the close-out for the FHWA Baseline Assessment and to address any issues outlined in these notes that are beyond the scope of the baseline assessment. The Baseline Assessment Report-Out meeting was tentatively agreed upon for September 2011 in St. Louis, Missouri.

Responsible Agency: IACG

Action Status: The on-site segment of the FHWA/FTA/EPA Regional Emissions Analysis and Conformity Determination Process Review was completed on November 3, 2011. A current status report of the action item implementation effort was provided to the Review Team prior to the start of the on-site sessions. The action items were discussed at length, including the exchange of ideas for maximizing the process improvement benefits. In the on-site closeout meeting the Review Team presented the following preliminary recommendation:

- The EWGCOG staff and the IACG members implement the Manager Meeting action items, as applicable, by March 1, 2012. The EPA/FHWA/FTA will provide EWGCOG and the IACG "best practice" examples of TIP amendments and other conformity actions



by March 1, 2012. The IACG is encouraged to develop a template checklist to ensure all needs are met and that all IACG members have a common understanding of what an acceptable work product "looks like". This recommendation is presented as Recommendation #12 in this Final Report.

#### **IV. BASELINE ASSESSMENT REVIEW OBSERVATIONS**

It is important to understand the specific meaning for terms that specify the outcome of the Baseline Assessment Review. These terms are defined as follows:

##### **Key Definitions:**

**Commendations/Noteworthy Practices:** Elements that demonstrate well thought out procedures for implementing the planning requirements. Elements that address items that have been difficult nationwide could be cited as noteworthy practice. Also FHWA and FTA may wish to offer commendations on significant improvements and/or resolution of past findings.

**Corrective Actions:** Those items that fail to meet the requirements of the Federal regulations seriously impacting the outcome of the overall process.

**Recommendations:** Less substantial items not requiring action, but holds relevancy to FHWA and FTA, with expectation that State and local officials may consider a federal request. Typically the recommendations involve adopting the state of the practice instead of regulatory requirements.

##### **A. COMMENDATIONS - NOTEWORTHY PRACTICES**

1. Good communication between EWGCOG/SDOTs/IEPA/MoDNR/LPAs on conformity requirements
2. The Conformity Determination report is comprehensive and well organized (e.g. FHWA will post the most recent Conformity Determination report from EWGCOG as a good practice example for a complex, multi-jurisdictional nonattainment or maintenance area )
3. The EWGCOG has a well informed and professional modeling staff.
4. The EWGCOG, SDOTs and IACG members are committed to improving the IACG process.

##### **B. CORRECTIVE ACTIONS**

None

##### **C. RECOMMENDATIONS**

1. Currently, EWGCOG is required to use MOVES2010 for new regional emissions analyses for transportation conformity started after March 2, 2013. It is recommended that the EWGCOG and the MoDNR continue to work together to complete the task of transitioning to the MOVES2010 model in a timeframe that ensures the EWGCOG's use of MOVES2010 for new regional emissions analyses for transportation conformity by March 2, 2013. EWGCOG continue the efforts to update the mobile model with the most recent planning assumptions and vehicle fleet data.



2. Complete the ongoing work effort to ensure that the EWGCOG's updated Regionally Significant Project Screening Criteria document is in accordance with the requirements of the Transportation Conformity Regulations (including the Regional Emissions Analysis requirements) by March 1, 2012. (Note: The updated Regionally Significant Project Screening Criteria document was approved by the IACG on 2/28/12.)
3. EWGCOG be transparent in providing the documentation and examples of any off-model methods to calculate VMT or emissions in an Air Quality Conformity Determination and Regional Emissions Analysis (whether the MPO determines that the project has an impact and affects emissions or not). EWGCOG's travel demand model has already been established to model all projects (including non-regionally significant, non-exempt projects).
4. The EWGCOG and SDOTs continue to follow-up on the recommendations from the 2009 Certification Review. For example, the following recommendations related to Air Quality and the Regional Emissions Analysis (recommendations #6, #7, #8, and #14) were in the final report.<sup>3</sup>
5. To build upon recommendation number six from the certification review, it is recommended that the EWGCOG continue their effort to update the base year of the Travel Demand Model (currently has a base year of 2002). Network-based travel models must be validated against observed counts for a base year that is not more than 10 years prior to the date of the conformity determination. Model forecasts must be analyzed for reasonableness and compared to historical trends and other factors, and the results must be documented. The model is required to be sensitive to changes in time(s), cost(s) and other factors affecting travel choices. Updates could also include the new 2010 Census Data, rising fuel costs, pricing schemes, land use designs.
6. The EWGCOG staff provided a list of projects to the IACG 30-days prior to initiation of the regional emissions analysis (REA) and including travel demand model and mobile emissions modeling.
7. During the Baseline Assessment Review, recommendations were made that the EWGCOG plan the annual calendar for the IACG meetings schedule at the start of the year and share it with the IACG for effective coordination and travel planning.
8. The EWGCOG continue updating the air quality sections of their website with key information about conformity and links to the most recent information, planning assumptions and relevant IACG documentation. In the future, this IACG documentation would include IACG meeting notes (such as the meeting notes that EWGCOG posts from the AQAC meetings), records of key IACG decisions, any policy documents and important reference materials for this unique bi-state area.
9. The EWGCOG, in consultation with the IACG, update the Interagency Consultation Guide (based on the new MoDNR Conformity SIP) by July 1, 2012.

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<sup>3 3</sup> See the OneDOT Final Report Certification Review of the Metropolitan Transportation Planning Process for the St. Louis, MO-IL Transportation Management Area (September 2008), April 13, 2009.



10. The draft conformity determination (CD) be provided by EWGCOG to the IACG 30-days prior to the start of the public comment period. The IACG should adopt a consultation policy that calls for the IACG review to be completed within 15 days of the IACG's receipt of the draft document.
11. All proposed MTP and TIP modifications that require the EWGCOG Board approval of a formal amendment, should be provided to the IACG for review and comment, as soon as possible, but at least 15-days prior to Board approval.
12. That MoDOT and IDOT develop a written process that outlines how each SDOT will deliver its stewardship and oversight of the conformity determination process in the St. Louis non-attainment area.
13. At the Baseline Assessment Review, it was recommended that EWGCOG take the needed steps to implement their new annual and mid-year Conformity Determination Schedule. This schedule should be established with the SDOTs and formalized in a process document and in the Interagency Consultation Guide. The IACG will work with SDOTs to remove obstacles to implementation of the EWGCOG plan.
14. The SDOTs, in coordination with EWGCOG and the IACG, develop a process to determine the projects that require hot spot analyses for conformity purposes.
15. For projects that require hot spot analyses, the SDOTs, in coordination with EWGCOG and the IACG, develop a process for the IACG to evaluate and choose a model (or models) and associated methods and assumptions to be used in hot-spot analyses to make a recommendation to the project sponsor on projects of air quality concern. 40 CFR §§93.105, 93.116 and 93.123.
16. PM 2.5 Hot-Spot training should be provided to the IACG and agencies that sponsor projects in the St. Louis area, and that the EWGCOG take the lead to deliver outreach and education on the "hot spot" and project level requirements to state and local environmental staffs. Free training is available through FHWA/EPA on project-level hot-spot analysis.  

The Review Team encourages the EWGCOG to partner with EPA and FHWA to host a PM 2.5 hot-spot analysis webinar in early 2012 and to schedule the 3-day hands-on PM2.5 hot-spot analysis training at a later date for the IACG members.
17. The ONE DOT and the EPA continue to seek ways to enhance the efficiency, effectiveness and timeliness of the Federal Interagency process for reviewing and approving the conformity determination for the TIP and MTP updates and amendments. Given the other recommendations in this Baseline Assessment including agreed upon IACG review schedules, regularly scheduled meetings and advance transmittal of materials to IACG participants, this recommendation should be easily accomplished.
18. The EWGCOG staff and the IACG members implement the Manager's Meeting action items, as applicable, by April 1, 2012. The EPA/FHWA/FTA will provide EWGCOG and the IACG "best practice" examples of TIP amendments and other conformity actions by April 1, 2012. The IACG is encouraged to develop a template checklist to ensure all needs are met and that all IACG members have a common understanding of what an acceptable work product "looks like".



## **D. OVERVIEW OF OBSERVATIONS & RELATED RECOMMENDATIONS:**

### **State Implementation Plan (SIP)**

#### **Background/Overview:**

**The State Implementation Plan (SIP)** is the State air quality plan for meeting the NAAQS or air quality standards. It is a compilation of legally enforceable rules, regulations and plans prepared by a State or local air quality agency and submitted to EPA for approval. A SIP is designed to attain the NAAQS, making progress toward attaining (e.g. Reasonable Further Progress), or maintaining the NAAQS. The CAA requires that metropolitan transportation plans, TIPs and Federal projects conform to the purpose of the SIP. Conformity to the purpose of a SIP means that such activities will not cause or contribute to any new violations of the national ambient air quality standards (NAAQS); increase the frequency or severity of NAAQS violations; or delay timely attainment of the NAAQS or any required interim milestone.

The SIP accounts for emissions of each pollutant for each source type. There are four types of sources: on-road mobile, non-road mobile, stationary (i.e., refineries), and area (i.e., dry cleaners). The SIP establishes the motor vehicle emissions budget ("budget") that sets a limit on emissions from on-road sources. This budget cannot be exceeded in order for an area to make a conformity determination. A motor vehicle emissions budget is that portion of the total allowable emissions in the SIP that is allocated to on-road mobile sources, such as cars, trucks, and buses. It is the level of on-road emissions that the area can have and still meet the SIP's goals. For transportation conformity, projected emissions from highway and public transportation use must be less than or equal to the budgets. The SIP budget acts as a ceiling on emissions from the on-road mobile sector.

#### **Observation:**

SIPs are prepared on a state by state basis. Given that the St. Louis non-attainment and maintenance areas are bi-State in nature, there are two SIPs required; one for each state.

The MoDNR and the IEPA are the State air quality and environmental agencies responsible for the development of the entire SIP. Emissions budgets are established in the applicable SIP as part of the air quality planning process by the MoDNR and IEPA and approved by EPA. The MoDOT, IDOT and the EWGCOG participate in this process in accordance with the required interagency consultation procedures outlined in MoDNR Conformity SIP. The EWGCOG staff works closely with MoDNR, IEPA, Air Quality Advisory Committee (AQAC) and IACG in preparation of SIPs and various modeling (i.e. provide mobile source and travel data information, i.e., VMT growth rate) work efforts and SIP development committees. These agencies identify how pollution from all sources will be reduced sufficiently to achieve the purpose of the SIP. The EWGCOG's forecasts of regional emissions through models are compared to the motor vehicle emissions budget ("budget") from the SIP to ensure that the SIP budget is not exceeded.

#### **Missouri SIP**

The St. Louis area Transportation Conformity SIP resides in Missouri State rule 10 CSR 10-5.480 *St. Louis Area Transportation Conformity Requirements*. The MoDNR's coordination of the development of the SIP with the EWGCOG's is an ongoing and continuous process through numerous conference calls, staff-level discussions, email correspondences and IACG



coordination meetings. When developing motor vehicle emissions budgets (MVEB), expected for adequacy determinations in the near future, the MoDNR relied heavily on MODOT for traffic count information. The MoDNR coordinates vehicle miles travel (VMT) data with the EWGCOG and the MoDOT. The MoDNR and MODOT worked closely with EWG in the development of VMT growth averages used as inputs to the mobile emissions modeling upon which the budgets are based. Model inputs such as VMT growth rate, as well as the MVEBs themselves, were quite often the topic of discussion at St. Louis Interagency IACG meetings. Lastly, as mentioned previously, the MVEBs, via their respective SIP revisions, were vetted through a vigorous public comment and hearing process including the posting of all plan documents on MoDNR's website for a minimum of 30 days, response to comments and adoption by the Missouri Air Quality Commission (MACC).

In February 2009, the EPA released a transportation conformity guidance document for revising state conformity SIPs. Consequently, the MoDNR Air Program developed an amendment to the St. Louis Area Transportation Conformity SIP in close coordination with EPA staff and with the cooperation and consultation of the IACG through email correspondences and consensus discussions at meetings. The purpose of the amendment was to revise the state rule to provide a greater level of specificity in the consultation process to meet the new guidance requirements. The amendment to 10 CSR 10-5.480 underwent a public hearing on September 30, 2010 after being posted on MDNR Air Program's website for 30 days, allowing for public comment. The Missouri Air Conservation Commission (MACC) adopted the rule amendment on October 28, 2010 and the amended rule became effective on February 28, 2011. The amended rule was submitted to the EPA as a revision to the SIP on March 17, 2011. On September 22, 2011, MDNR received a letter from the EPA deeming the SIP revision to be completed.

### **Illinois SIP**

Based on air quality monitoring data for 2007-2009, the Illinois EPA requested USEPA to redesignate the Metro-East St. Louis area from "Nonattainment" to "Attainment." This request, submitted to USEPA in September 2011, included a Maintenance Plan which demonstrates how Illinois intends to maintain the standard for an initial 10 year period. The plan also includes MOVES-based motor vehicle emissions budgets for volatile organic compound (VOC) and oxides of nitrogen (NOx) for the attainment year 2008 and the end of the initial maintenance period, 2025. The Maintenance Plan is under review by USEPA and approval is expected in early 2012.

The Metro-East St. Louis area was designated nonattainment for the 1997 annual PM2.5 standard. A base year 2002 inventory was developed by the Illinois EPA and submitted to USEPA in 2006. The base year inventory included annual motor vehicle emissions of NOx and PM2.5 which are required to be used as interim motor vehicle emissions budgets until a control strategy SIP is submitted. Prior to the finalization and submissions of the Metro-East St. Louis PM2.5 Attainment Demonstration SIP, monitored air quality between 2007 and 2009 indicated that the region had attained the annual PM2.5 standard. Therefore, the USEPA issued a "clean data finding" which removed the requirement for the submission of an attainment demonstration. For this reason, the year 2002 base year emissions estimates are still being used as the interim budgets for transportation conformity purposes.

### **Regional Emissions Analysis to Support Conformity Determination**

#### **Background/Overview:**



The regional emissions analysis is an estimate of projected emissions from on-road mobile sources in the future. The regional emissions analysis must meet certain requirements as described in the transportation conformity rule (40 CFR 93.122). It must be based on latest planning assumptions, must use the latest EPA-approved emissions model, and meet specific modeling requirements, such as use of a network-based travel demand model in some nonattainment and maintenance areas. The regional emissions analysis is the basis for the plan and TIP conformity determination.

The regional emissions analysis for the transportation plan, TIP, or project not from a conforming plan and TIP must include all regionally significant projects as defined in the rule regardless of funding source and must include all FHWA/FTA projects. 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 §93.105. 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 according to 40 CFR 93.122 Procedures for determining regional transportation-related emissions.. EWGCOG's travel demand model has already been established to model all projects down to the local street level and that all projects (including Non-regionally significant, non-exempt projects) are included in the travel demand model and will be included in the Regional Emissions Analysis. 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. In the future and as applicable, the EWGCOG will consult with the IACG and document the use of any "off model" methods for determining VMT and/or emissions in Transportation Conformity Determination documentation.

Including projects in the regional emissions analysis is not required for "exempt" projects (40 CFR 93.126) or for projects specifically "exempt from regional analysis" (40 CFR 93.127) unless the interagency consultation group agrees that an exempt project is not air quality neutral and should be included in the Regional Emissions Analysis. In areas with limited maintenance plans regional emissions analysis is not required (40 CFR 93.109(l)) (St. Louis is a limited maintenance area for Carbon Monoxide).

The conformity rule also allows that a conformity determination be based on a previous regional emissions analysis if certain requirements are met (40 CFR 93.122(g)). These requirements include; 1) no regionally significant projects are being added or changed, 2) no significant changes are made to the design concept and scope of each regionally significant project, 3) no additional years are being added to the plan or TIP, 4) and the previous 20-year analysis is not more than 4 years old. It is important to use the interagency consultation process to determine whether to rely on a previous regional emissions analysis pursuant to section 93.122(g) of the conformity rule.

### **Transition to Motor Vehicle Emission Simulator (MOVES) Modeling**

#### **Observation:**

The MoDNR Environmental Services Section of the Community Planning Department, operates and maintains the Mobile6.2 emissions estimation model and along with Systems Analysis Section is transitioning to the Motor Vehicle Emission Simulator (MOVES) model. The MOVES model is the USEPA's state-of-the-art tool for estimating emissions from highway vehicles. The



model is based on analysis of millions of emission test results and considerable advances in the Agency's understanding of vehicle emissions. Several MoDNR staff in both the Air Quality Planning Section and the Air Quality Analysis section who have received training from the USEPA in MOVES. The MoDNR has recently developed and completed a St. Louis area PM 2.5 and an Ozone Maintenance Plan using the MOVES model. The EWGCOG also has staff members who have completed MOVES training and has coordinated (i.e. staff-level conference calls, informal discussions, and email correspondences) closely with the MoDNR on the transition to MOVES.

EPA's approval of the MOVES2010 emissions model for SIPs and regional emissions analyses for transportation conformity became effective on March 2, 2010. The approval also started a two-year transportation conformity grace period which ends on March 2, 2012, after which MOVES2010 is required to be used for new regional emissions analyses for transportation conformity.

On October 13, 2011, EPA published a proposed rule to extend the grace period before the Motor Vehicle Emission Simulator model (currently MOVES2010a) is required for regional emissions analyses for transportation conformity determinations ("regional conformity analyses"). This proposal, if finalized, would provide an additional year to the previously established two-year conformity grace period. However, on December 5, 2011, EPA [withdrew](#) the parallel direct final rule which was also published October 13, 2011 (76 FR 63554) due to an adverse comment. We do not yet know if or when EPA will finalize this rulemaking to further extend the grace period.

**Recommendation 1:** Currently, EWGCOG is required to use MOVES2010 for new regional emissions analyses for transportation conformity started after March 2, 2013. It is recommended that the EWGCOG and the MoDNR continue to work together to complete the task of transitioning to the MOVES2010 model in a timeframe that ensures the EWGCOG's use of MOVES2010 for new regional emissions analyses for transportation conformity by March 2, 2013. EWGCOG will need to continue the efforts to update the mobile model with the most recent planning assumptions and vehicle fleet data.

### **Regionally Significant Project Screening Criteria**

#### **Observation:**

The EWGCOG and the IACG have agreed to follow the federal definition in the federal Transportation Conformity Rule (40 CFR 93.101) to define regionally significant projects in the St. Louis non-attainment areas. However, the IACG, through consensus, has decided to create more specific screening criteria for use in implementing this federal definition with examples of projects that tend to be more regionally significant. Currently the IACG is developing a document to update the Regionally Significant Project Screening Criteria. These criteria and the corresponding draft updated document have been discussed several times at IACG coordination meetings. As a result, a subcommittee was convened at the July 2011 meeting for the purposes of drafting a Regionally Significant Project Criteria document and submitting it to the full IACG panel for review and approval. Further discussion of a draft RSP Criteria document occurred at the September 27, 2011 IACG meeting with an invitation for further comments from all members. A final proposal is expected to be vetted before the IACG at the next meeting.



**Recommendation 2:** Complete the ongoing work effort to ensure that the EWGCOG's updated Regionally Significant Project Screening Criteria document is in accordance with the requirements of the Transportation Conformity Regulations (including the Regional Emissions Analysis requirements) by March 1, 2012. (Note: The updated Regionally Significant Project Screening Criteria document was approved by the IACG on 2/28/12.)

**Recommendation 3:** EWGCOG be transparent in providing the documentation and examples of any off-model methods to calculate VMT or emissions in an Air Quality Conformity Determination and Regional Emissions Analysis (whether the MPO determines that the project has an impact and affects emissions or not). EWGCOG's travel demand model has already been established to model all projects (including non-regionally significant, non-exempt projects).

### **Regional Emissions Analysis and Air Quality Recommendations from 2009 Certification Review**

#### **Observation:**

#### **Summary of 2009 Federal Certification Review**

Section 134 of Title 23 United States Code requires that the Federal Highway Administration and the Federal Transit Administration jointly review at least every four years the metropolitan transportation planning process for each urbanized area with a population of over 200,000 persons. The East-West Gateway Council of Governments is the designated Metropolitan Planning Organization for the St. Louis region and works with the Missouri and Illinois Departments of Transportation as well as the region's public transit operators to implement the federally required planning process.

The most recent Certification Review included a review of the products of the planning process, the ongoing oversight activities conducted by the FHWA and the FTA, and included an on-site review conducted September 16-18, 2008 where discussions were held. In addition to assessing the progress in addressing recommendations from the last certification review in 2004, the on-site review focused on compliance with current transportation law, planning regulations, current issues, best practices, and opportunities to enhance the planning process. The final report summarized the various discussions from the site visit, provided a series of review findings, and highlighted noteworthy practices and significant improvements in the planning process in a number of areas.

Based on the review, a number of recommendations were been made throughout the final report for enhancement of the planning process. A detailed summary of commendations and recommendations is shown in the Process Review Findings section of the final report. The next Certification Review of the East West Gateway Council of Governments MPO will be in the fall of 2012 with a final report in the spring of 2013. Therefore, the MPO and State DOTs will continue to follow-up on any remaining recommendations from the April 2009 Certification Review.

**Recommendation 4:** The EWGCOG and SDOTs continue to follow-up on the recommendations from the 2009 Certification Review. For example, the following recommendations related to Air Quality and the Regional Emissions Analysis (recommendations #6, #7, #8, and #14) were in the final report.



**Recommendation 5:** To build upon recommendation number six from the certification review, it is recommended that the EWGCOG continue their effort to update the base year of the Travel Demand Model (currently has a base year of 2002). Network-based travel models must be validated against observed counts for a base year that is not more than 10 years prior to the date of the conformity determination. Model forecasts must be analyzed for reasonableness and compared to historical trends and other factors, and the results must be documented. The model is required to be sensitive to changes in time(s), cost(s) and other factors affecting travel choices. Updates could also include the new 2010 Census Data, rising fuel costs, pricing schemes, land use designs.

### **Interagency Consultation**

#### **Background/Overview:**

The conformity rule requires formal procedures to ensure interagency coordination on critical issues such as developing SIPs, metropolitan transportation plans (MTP), TIPs, and making conformity determinations, and includes the Environmental Protection Agency (EPA), FHWA, FTA, and State and local transportation and air quality agencies. In addition, public transportation operators are often active participants in interagency consultation. Interagency consultation is a forum for discussing key assumptions to be used in conformity analyses, strategies to reduce mobile source emissions, specific impacts of major projects, issues associated with travel demand and emissions modeling, and the development of motor vehicle emissions budgets. The specific process that will be followed in each area must be adopted as part of the SIP and must be used to develop the MTP, TIP and the SIP. These adopted interagency consultation procedures are also included in the "conformity SIP."

The requirements for interagency consultation are documented in Missouri State rule 10 CSR 10-5.480 *St. Louis Area Transportation Conformity Requirements* which was recently updated to be consistent with all recent transportation conformity rule amendments.

The St. Louis region has an established consultation process that consists of regular meetings of the Air Quality Advisory Committee (AQAC) and the IACG. The AQAC represents a broad range of environmental interests ranging from all levels of government to advocacy groups. Through AQAC meetings, EWGCOG staff coordinates and facilitates air quality planning activities between Illinois and Missouri agencies and assists the states in preparing necessary revisions to the mobile source components of SIPs. IACG is comprised of EWGCOG and federal, state and local transportation and air quality partners. One of the primary functions of IACG is to coordinate planning assumptions and data collection between EWGCOG, the Missouri Department of Natural Resources (MoDNR), the Illinois Environmental Protection Agency (IEPA), MoDOT and IDOT. Other items considered by the IACG include LRTP/TIP updates, planning assumptions for regional emissions analysis, test(s) to be performed as part of the regional emissions analysis, emissions budgets and base year inventories, and review and comment on Conformity Determinations. All decisions made in accordance with applicable federal regulations are reached by the IACG through consensus.

#### **Early Opportunity and Meaningful Involvement for IACG Review and Comment**

##### **Observation:**

Historically, the EWGCOG staff's initiation of the regional emissions analysis and modeling work efforts begin without the opportunity for the project list to be reviewed and commented on by the



IACG. The timing of the current process does not allow the IACG's early input into the decision-making that ensures that any regionally significant, non Federal projects are included in the analysis (including VMT and the REA). The on-site participants discussed at what point in time is it best that this list of projects be vetted through the IACG. A preliminary timeframe for vetting the list of projects with the IACG before the EWGCOG staff begin the regional emissions analysis and modeling was identified as possibly sometime between April 1- April 15 (for annual updates) and no later than 30 days prior to initiation of a regional emissions analysis, where needed for the mid-year amendments.

**Recommendation 6:** The EWGCOG staff provides a list of projects to the IACG 30-days prior to initiation of the regional emissions analysis (REA) and including travel demand model and mobile emissions modeling.

**Recommendation 7:** During the Baseline Assessment Review, recommendations were made that the EWGCOG plan the annual calendar for the IACG meetings schedule at the start of the year and share it with the IACG for effective coordination and travel planning.

**Recommendation 8:** The EWGCOG continue updating the air quality sections of their website with key information about conformity and links to the most recent information, planning assumptions and relevant IACG documentation. In the future, this IACG documentation would include IACG meeting notes (such as the meeting notes that EWGCOG posts from the AQAC meetings), records of key IACG decisions, any policy documents and important reference materials for this unique bi-state area.

### **Interagency Consultation Guide**

#### **Observation:**

An EPA/FHWA/FTA/EWGCOG Manager's meeting was held on April 14, 2011 for the purpose of collaboratively developing process improvement opportunities for enhancing the interagency consultation process. In the meeting the managers recognized that the St. Louis Conformity process has historically been effective. The action items developed for enhancing the effectiveness of the process during the transitioning of new members to the IACG and the likelihood of new NAAQS standards on the horizon. It was noted that that the EWGCOG should develop standardized timelines and schedules for the IACG review and comment, public notices, response to public comments and final approval. These review procedures should include the coverage of mid-program year TIP amendments since these seem to occur on very tight timelines. The Manager's agreed that the enhanced interagency consultation process will be clearly described in the Interagency Consultation Guide. The current Guide was last updated in April 2009. EWGCOG staff and the IACG members have committed to work together to update the Interagency Consultation Guide. In recent IACG meetings, members have clarified their intention to produce an updated Guide that provides guidance for interagency consultation members to more effectively carry out their roles and responsibilities, including solidifying the understanding that if a member of the IACG makes a motion to approve a document, policy, or any other issue (as long as there is a quorum) that the will of the group be followed and the matter be resolved. During the on-site discussions the IACG members and the EWGCOG staff reemphasized to the Review Team their intention to limit the updated Guide to this scope of work.



The value of developing a Conformity Determination Process Handbook that clarifies the policy and procedures for delivering the process in the St. Louis metropolitan planning area, including the consultation process, was discussed at length. The extent to which the EWGCOG staff, IACG members and SDOT's recognized value in developing a Conformity Determination Process Handbook was varied. However, all review participants expressed their desire that such a Handbook, if developed, be a stand-alone resource document

**Recommendation 9:** The EWGCOG, in consultation with the IACG, update the Interagency Consultation Guide (based on the new MoDNR Conformity SIP) by July 1, 2012.

### **IACG Review of Draft Conformity Determination**

#### **Observation:**

The value of a consultation process that allows for IACG members to complete their review and comment on the conformity determination and transportation planning work products earlier in the product development process was highlighted during the April Manager's Meeting. In the past, the IACG was e-mailed the draft conformity determination when it was released for the 30 day public comment period. Following the Manager's Meeting the EWGCOG and the IACG collaboratively developed the following process changes.

- The EWGCOG will provide (via e-mail) the IACG with the draft conformity determination (pdf format) approximately 14 days before the start of the 30 day public comment period. The IACG will be asked to examine the draft and provide EWGCOG their review comments, including proposed revisions.

During the last conformity determination process (July 2011) there were 15 days scheduled for IACG review prior to the start of the public comment period. During the on-site session there was lengthy discussion of the process change that will ensure that there will be time for EWGCOG to make modifications to the conformity determination document, resulting from the IACG comments, prior to the start of the public comment period. All agreed that the best approach to enhancing the quality and effectiveness of the IACG review effort is to provide the IACG a copy of the draft conformity determination document no less than 30 days prior to the start of the public comment review period. This earlier start of the IACG review and comment period would require the IACG to provide their review comments to the EWGCOG within 15 days of the IACG's receipt of the draft document to ensure that the EWG is allowed the time to implement modifications, as necessary. This 15-day timeline for IACG completing its review and comment should be identified in the updated IACG Consultation Guide.

**Recommendation 10:** The draft conformity determination (CD) be provided by EWGCOG to the IACG 30-days prior to the start of the public comment period. The IACG should adopt a consultation policy that calls for the IACG review to be completed within 15 days of the IACG's receipt of the draft document.

### **MTP and TIP Update and Modifications:**

#### **Observation:**

The Review Team and all review participants agreed that the EWGCOG needs to develop standardized timelines and schedules for internal review, IACG review and comment, public notices, response to public comments and final approval. It has been observed in the past that mid-program year TIP and MTP amendments occur on very tight timelines that are heavily



influenced by SDOT construction project letting schedules. Consequences of not completing the process, including the FHWA and FTA (ONE DOT) approval of the action, include delayed project letting schedules. Impacts can also include compromises to the time that is required for the Federal agencies to complete the ONE DOT review and approval process.

**Recommendation 11:** All proposed MTP and TIP modifications that require the EWGCOG Board approval of a formal amendment, should be provided to the IACG for review and comment, as soon as possible, but at least 15-days prior to Board approval.

## **Conformity & the SDOTS**

### **Background/Overview:**

The SDOT's are expected to collaborate and coordinate with the MPO and state air quality and environmental agencies throughout the conformity determination process, provide for public involvement and respond to significant comments, and consult on the development of the SIP and motor vehicle emissions budgets. In CO and PM nonattainment and maintenance areas, the SDOT's (as project sponsors) are required to ensure the conduct of "hot-spot" analysis, if necessary as part of a project-level conformity determination. The SDOTs are also responsible for the review and approval of local project sponsor's regional and hot-spot analysis.

### **SDOT's Oversight of the Conformity Determination Process**

#### **Observation:**

The MoDOT and the IDOT consult with the EWGCOG, MoDNR and IEPA throughout the conformity determination process. Both MoDOT and IDOT serve on the Transportation Planning Committee, AQAC and IACG. These forums provide opportunities for interaction and information exchange. The EWGCOG and both SDOTs feel that they have excellent working relations with each other. Both the MoDOT and the IDOT believe that the collaborative process is working better now than at any time over the last two years. The need for improvements to be made to the process surfaced during the time of the ARRA funding. Since that time various changes have been made to both the MoDOT and the IDOT planning processes and to the approach each SDOT takes to overseeing the conformity determination processes. Increased participation by all agencies has been recognized as the biggest improvement. MoDOT cites the fact that little, if any, personnel turnover in the transportation planning program area has contributed to MoDOT's success in building more continuity into their processes. Highlighted elements of each SDOT's oversight process are as follows:

#### **MoDOT**

- MoDOT submits its program to the EWGCOG staff based on a deadline set by EWGCOG in connection the annual TIP update. Because of past issues, MODOT will not submit changes to its program past a certain date determined by EWGCOG. In those cases, late changes to the MoDOT program will be incorporated by amendment after the Board has approved the TIP update.
- During the program year, MoDOT submits monthly, a list of changes to its program. This is done with the understanding that the submittal must be timely in order for the EWGCOG staff to prepare the information for presentation to all committees and the Board.



- The MoDOT Central Office and the MoDOT District coordinate TIP amendments involving MoDOT projects before submittal to the EWGCOG. The EWGCOG and MoDOT reconcile any issues with the amendments prior to the planning work product presentation to the EWG Executive Advisory Committee and Board of Directors. The balance of this coordination occurs prior to the EWGCOG Board of Directors' approval action.
- MoDOT's enhanced awareness and increased knowledge of the regional air quality analysis and conformity determination process and commitment to ensuring early collaboration and coordination, has resulted in a more streamlined and efficient MoDOT review of the EWGCOG Board approved conformity determination and the process for soliciting ONE DOT review and approval of the conformity determination and MTP and TIP update or amendment action.
- MoDOT's improved project development and review process that calls for effective partnering between the MoDOT Central Office, the MoDOT District and the MoDNR, has resulted in proposed MoDOT projects being added into the STIP and TIP programming process early enough that comments are being fully addressed, necessary clarification is being documented and changes, as needed, are being realized without slowing the process or delaying a project letting date.
- With regard to local projects, the early coordination is lead by the MoDOT District Office local roads group. Collaboration and coordination between the MoDOT District Office and the EWGCOG staff occurs prior to when the action to add new local public agency (LPA) projects to the TIP is presented to the EWGCOG Executive Advisory Committee and Board of Directors. The MoDOT Central Office involvement with the EWGCOG, in cases when the amendment involves only the addition of LPA sponsored projects, for the most part is initiated when the EWGCOG submits its formal request to MoDOT, for the Governor and the ONE DOT approval.
- MoDOT submits the STIP amendment for the TIP update and the final Conformity Determination, at the same time, with the request for the ONE DOT approval of each work product. The process for completing these Federal approval actions is outlined in the current FHWA/FTA/MoDOT Planning Partnership Agreement.
- MoDOT has initiated the conduct of Partnering to Achieve Results (PAR) meetings that ensure that there is continuous and consistent communication. This ongoing internal collaboration and coordination reduces the chances for surprises along the path to completing the task of realizing an "on-time" project submittal action in connection with advertising the project for letting.
- MoDOT reviews the Board approved conformity determinations then forwards to ONE DOT with a request for the federal partners review and approval.

### **IDOT**

- At the IDOT District level all projects determined to be regionally significant are reviewed and submitted through the NEPA process by Phase I personnel. This includes all coordinating agencies. These include the Office of Planning and Programming Urban Program Planning (OP&P) statewide, IEPA, FHWA and Region V USEPA.



- When submitting all new IDOT projects to EWGCOG during the annual TIP update process or an amendment of the TIP, IDOT recommend the conformity classification for the project. The IDOT's recommendation is reviewed and discussed with EWGCOG staff before being vetted through the IACG.
- IDOT releases a five-year multiyear program every year with the first fiscal year being the current TIP year. In most cases, and especially with regionally significant non-exempt projects, IDOT's year-one projects have been introduced to the conformity process long before the initiation of the TIP project development and selection process.
- IDOT projects in connection with TIP updates and TIP amendments are submitted to EWGCOG at least 10 days before the Executive Advisory Committee meeting. Historically, most major regionally significant IDOT projects have already been included in the modeling completed for the current conformity determination. In the few cases when a regionally significant project has not yet been modeled for conformity, that project is discussed and reviewed by the IACG for concurrence on the conformity classification, and modeled accordingly.
- IDOT, IEPA, Baldwin Township in Randolph County, and EWGCOG has in place since June 21, 2007, a "Memorandum Of Agreement" for the purpose of conducting cooperative transportation planning and analysis of , and determining conformity for, all transportation projects outside the St. Louis (Missouri-Illinois) Metropolitan Planning Area, but within the designated non-attainment or maintenance area, (PM2.5 donut area). There is also a "Memorandum of Agreement" in place between the IDOT, IEPA, Jersey County and EWGCOG for Ozone non-attainment area outside the MPA in Jersey County.
- Upon receipt of the Board approved TIP update and the conformity determination from the EWGCOG, for inclusion in the Illinois STIP by reference, the IDOT submits a STIP amendment request to the Illinois Division. This submittal is transmitted with the understanding that the FHWA Illinois Division Office will not issue their approval of the STIP amendment until they receive a copy of the ONE DOT (FHWA Missouri Division & FTA Region VII) conformity determination letter.

It is obvious to the Review Team that MoDOT and IDOT display an attitude that continually strives to enhance the efficiency and effectiveness of their transportation planning processes, including their oversight of the conformity determination process in the St. Louis metropolitan planning area. At the same time neither SDOT has their current process for overseeing the conformity determination process formally documented in their SDOT Policy Guides. As previously noted, little, if any, personnel turnover in the transportation planning program area has contributed to MoDOT's success in building more continuity into their processes. Recognizing the SDOT's current direction to reduce staffing, both the MoDOT and IDOT agree that there is value in formalizing the process for delivering the SDOT's oversight of the conformity determination process and memorializing the process in each SDOT's Transportation Program Standard Operating Procedures or Policy Guide.

**Recommendation 12:** That MoDOT and IDOT develop a written process that outlines how each SDOT will deliver its stewardship and oversight of the conformity determination process in the St. Louis non-attainment area.



**Recommendation 13:** At the Baseline Assessment Review, it was recommended that EWGCOG take the needed steps to implement their new annual and mid-year Conformity Determination Schedule. This schedule should be established with the SDOTs and formalized in a process document and in the Interagency Consultation Guide. The IACG will work with SDOTs to remove obstacles to implementation of the EWGCOG plan.

### **Project Level Conformity Documentation**

#### **Background/Overview:**

The Clean Air Act prohibits the Federal government from providing financial assistance to any activity that does not conform to a state implementation plan SIP. Therefore, transportation projects in nonattainment and maintenance areas may only be approved, accepted or funded by the USDOT (Federal Highway Administration (FHWA) or Federal Transit Administration (FTA)) if the project meets Clean Air Act requirements. Conformity to a SIP means that activities will not: create or contribute to any new violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS. Project-level conformity requirements only apply to non-exempt, Federally-approved or funded projects in nonattainment and maintenance areas. Project-level conformity determinations for such projects are required to come from a conforming plan and TIP; the design concept and scope of the project must not be significantly different than what was included in the MTP and TIP; and in carbon monoxide (CO) and PM nonattainment and maintenance areas, a hot-spot analysis must be completed for certain projects. Often, project-level conformity is completed as part of the NEPA process where the conformity determination must be made prior to the issuance of a categorical exclusion (CE), a finding of no significance (FONSI), or a Record of Decision (ROD) by FHWA or FTA. In the St. Louis PM<sub>2.5</sub> nonattainment area, projects that are described under 40 CFR §93.123 (b)(1) are subject to PM<sub>2.5</sub> hot-spot analysis requirements. In the St. Louis CO maintenance area, projects that are described under 40 CFR 93.123(a) are subject to CO hot-spot analysis requirements. 40 CFR §§93.116 and 93.123.

### **Projects of AQ Concern (Hot-Spot Analysis) & PM 2.5 Hot-Spot Training**

#### **Observation:**

The St. Louis area is nonattainment for the annual PM 2.5 NAAQS. Although the region does not have a process in place to determine whether a project is of air quality concern, through the interagency consultation process, IDOT is sponsoring research to help define what a project of air quality concern is in Illinois. The review participants agreed that they would consult with IDOT and review whether the results from the IDOT research can be applied in the St. Louis, Missouri portion of the nonattainment area. Other states (e.g., North Carolina, Kentucky, and California) have developed screening criteria that could be considered for use in the St. Louis nonattainment area.

Each project sponsor is responsible for conduct analysis to support project level conformity. Hot-spot analyses are conducted as part of the NEPA process. The IDOT District 8 was involved with a hot-spot analysis on the New Mississippi River Bridge project in 2006. The EWGCOG, MoDOT and IDOT are not aware of any other state or local project that required hot-spot analysis.



**Recommendation 14:** The SDOTs, in coordination with EWGCOG and the IACG, develop a process to determine the projects that require hot spot analyses for conformity purposes.

**Recommendation 15:** For projects that require hot spot analyses, the SDOTs, in coordination with EWGCOG and the IACG, develop a process for the IACG to evaluate and choose a model (or models) and associated methods and assumptions to be used in hot-spot analyses to make a recommendation to the project sponsor on projects of air quality concern. 40 CFR §§93.105, 93.116 and 93.123.

**Recommendation 16:** PM 2.5 Hot-Spot training should be provided to the IACG and agencies that sponsor projects in the St. Louis area, and that the EWGCOG take the lead to deliver outreach and education on the “hot spot” and project level requirements to state and local environmental staffs. Free training is available through FHWA/EPA on project-level hot-spot analysis.

The Review Team encourages the EWGCOG to partner with EPA and FHWA to host a PM 2.5 hot-spot analysis webinar in early 2012 and to schedule the 3-day hands-on PM2.5 hot-spot analysis training at a later date for the IACG members.

## **ONE DOT Transportation Conformity Process**

### **Background/Overview:**

The transportation conformity process is intended to ensure transportation plans, programs, and projects will not create new violations of the NAAQS; increase the frequency or severity of existing NAAQS violations; or delay the attainment of the NAAQS in designated non-attainment (or maintenance) areas. The FHWA and the FTA jointly make conformity determinations within non-attainment and maintenance areas to ensure that federal actions conform to the SIPs.

The FHWA Missouri Division and the FTA Region VII (ONE DOT) are responsible for reviewing and making the EWGCOG’s conformity determination for the metropolitan transportation plan and transportation improvement program, including updates and amendments. Once the updated LTRP and TIP have been approved by the MPO Executive Advisory Committee (EAC) and the Board of Directors, the EWGCOG submits the TIP and the conformity determination to the MoDOT Central Office with a request for MoDOT’s facilitation of ONE DOT approval. At the same time, EWGCOG also sends a copy of the updated TIP to IDOT for inclusion in the Illinois STIP by reference. In most cases, IDOT goes ahead with a submittal of a STIP amendment request to the Illinois Division to include the EWG TIP by reference. The FHWA Illinois Division Office holds this STIP amendment approval action until they receive a copy of the ONE DOT review for approval conformity determination letter.

The FHWA / FTA Region VII (ONE DOT) and MoDOT Partnership Agreement outlines the general operating procedures for reviewing, processing and approving required metropolitan and statewide planning products and processes, including STIP amendments for TIP updates and conformity determinations.

### **Roles and Responsibilities (Partnership Agreement dated 1/5/09):**



1. The MPO shall submit its "Air Quality Conformity Determination and Documentation" along with a draft LRTP (including amendments) and/or TIP to ONE DOT for its review comments and approval. The MPO will provide copies of the submitted documents to MoDOT and the U.S. Environmental Protection Agency Region 7 (EPA-7) for its concurrent review.
2. The ONE DOT shall formally request EPA-7 to review and comment on the conformity determination within 30 days of its receipt of the written ONE DOT request.
3. Through the air quality consultation process, ONE DOT and EPA-7 shall discuss and resolve any comments or concerns that arise during the review of the document. ONE DOT shall clearly identify comments based on regulatory requirements and comments based on best practice. Regulatory comments that ONE DOT expects to be addressed in the MPO's current conformity determination will be noted.
4. Upon receipt of a concurrence letter from EPA-7, ONE DOT shall issue the joint conformity determination memorandum to the MPO. MoDOT and all other appropriate parties shall be copied on the action.

**Observation:**

The ONE DOT formal review and approval process is completed in collaboration and coordination with the EPA Region VII. The ONE DOT formal approval of the conformity determination is transmitted to the EWGCOG immediately following ONE DOT's receipt of an affirming review for conclusion from EPA Region VII. The entire review and approval process typically takes from 4 to 5 weeks. This timeframe is 2 to 3 weeks longer than approval actions completed during the 2004 – 2009 time period.

During the on-site session the EWGCOG and the MoDOT expressed their concern with the EPA Region VII's recent practice of taking the "full 30 days allowed" to review and respond to ONE DOT's review for conclusion request even though the conformity determination document has available to them for at least 45-60 prior to receiving the ONE DOT's review for conclusion request. Review Team and review participants discussed in length the continuous collaborative efforts by the local, state and Federal agencies to improve consultation, SDOT and EWGCOG coordination schedule changes, early distribution of project lists and conformity determination, work product version control and streamlined Federal agency administrative processes, for the purpose of reducing the amount of time it takes to complete the ONE DOT review and approval action while at the same time enhancing the quality of the conformity determination development and review process.

**Recommendation 17:** The ONE DOT and the EPA continue to seek ways to enhance the efficiency, effectiveness and timeliness of the Federal Interagency process for reviewing and approving the conformity determination for the TIP and MTP updates and amendments. Given the other recommendations in this Baseline Assessment including agreed upon IACG review schedules, regularly scheduled meetings and advance transmittal of materials to IACG participants, this recommendation should be easily accomplished.

**EPA/FHWA/FTA/EWGCOG Managers Meeting Action Item Update**

**Background/Overview:**



On April 14, 2011 the EPA /FHWA/FTA /EWGCOG Manager's Meeting was held for the purpose of Federal, State and local program managers collaboratively identifying and discussing what elements of the transportation conformity determination process in St. Louis metropolitan planning area are working well and what areas are in need of improvement. The manager's produced a list of 12 "Action Items" for enhancing the delivery of the St. Louis conformity determination process. The action items are to be implemented by EWGCOG, the IACG and the Federal agencies. A list of the 12 action items along with the implementation status of each action item are presented in Section III of this Final Report.

**Observation:**

Several of the Managers meeting action items have been partially implemented at the time of the on-site session. There was discussion about each action item during the on-site session, including the exchange of ideas for maximizing the benefits of improving the process.

**Recommendation 18:** The EWGCOG staff and the IACG members implement the Manager's Meeting action items, as applicable, by April 1, 2012. The EPA/FHWA/FTA will provide EWGCOG and the IACG "best practice" examples of TIP amendments and other conformity actions by April 1, 2012. The IACG is encouraged to develop a template checklist to ensure all needs are met and that all IACG members have a common understanding of what an acceptable work product "looks like".

**V. CONCLUSION**

The Federal Highway Administration, Federal Transit Administration Region VII and the Environmental Protection Agency Region V & VII have a number of recommendations to improve the current process but have found that, overall, the East West Gateway Council of Governments regional emissions analysis and transportation conformity process for the St. Louis metropolitan area is being conducted in accordance with applicable requirements of sections 176 (c) of the Clean Air Act, as amended (42 U.S.C 7506 (c) and 40 CFR Part 93. The EWGCOG's conformity determination process provides adequate representation and input from all levels of state and local government and individual groups on the air quality and transportation needs of the metropolitan area. Overall, the EWGCOG's transportation and air quality planning activities provide for a transportation planning process that results in the support and development of transportation investments for the entire bi-state metropolitan area.



## **VI. APPENDICES**

**Appendix A:** Review Work Plan

**Appendix B:** Review Guideline Questions and Answers (All)

**Appendix C:** Regional Emissions Analysis: Supporting Documentation from EWGCOG, "Defining the Time When the Conformity Analysis Begins"

**Appendix D:** Regional Emissions Analysis: Supporting Documentation from EWGCOG, "TransEval Model Documentation: Model Development and Validation Summary Report"

**Appendix E:** EWGCOG's New Schedule for Annual / Semi-Annual (if needed) Conformity Determinations] including consultation enhancements to the TIP/LRP development /amendment processes.

# Appendix A



**FHWA/FTA/EPA Baseline Assessment Review  
Regional Air Quality Analysis and Transportation Conformity Determination Process  
East West Gateway Council of Governments (EWGCOG)  
St. Louis Metropolitan Planning Area  
Federal FY 2012 - Anticipated Completion Date: 1/13/12**

**REVIEW WORK PLAN**

**Background:**

The metropolitan planning organization (MPO) for the St. Louis region is the East-West Gateway Council of Governments (EWGCOG). The EWGCOG is responsible for the delivery of the regional emissions analysis and transportation conformity process for the St. Louis metropolitan planning area. The EWGCOG is also responsible for the Interagency Air Quality Consultation Group (IACG) process. The St. Louis region has been designated as a “nonattainment area” for ozone and PM<sub>2.5</sub>, and as such, regulations require that there be a consultation process involving appropriate local, state, and federal air agencies, and agencies charged with transportation planning. Under the 1990 Clean Air Act Amendments (CAAA), the U.S. Department of Transportation (USDOT) cannot fund, authorize, or approve federal actions to support transportation programs or projects, which are not first found to conform to the Clean Air Act requirements. With DOT concurrence, the U.S. EPA has issued regulations pertaining to the criteria and procedures for transportation conformity.

The FHWA and the FTA jointly make conformity determinations within non-attainment and maintenance areas to ensure that federal actions conform to the State Implementation Plans (SIPs). The transportation conformity process is intended to ensure transportation plans, programs, and projects will not create new violations of the National Ambient Air Quality Standards (NAAQS); increase the frequency or severity of existing NAAQS violations; or delay the attainment of the NAAQS in designated non-attainment (or maintenance) areas.

A conformity determination has been successfully made for the St. Louis region with the approval of Legacy 2035, EWGCOG’s long range transportation plan. A conformity determination is also done annually with the adoption of a new TIP. However, over the last 24 months the FHWA, FTA and EPA has observed deficiencies in several areas of the regional emissions analysis and transportation conformity process, including the interagency consultation and the EWG modeling processes.

The EWGCOG and the two State DOTs (SDOTs) annually self-certify, in accordance with Federal regulatory procedures, that EWGCOG and SDOT’s are following the Federal regulations in carrying out the metropolitan transportation planning process, as well as meeting the conformity requirements in nonattainment and maintenance areas, according to sections 176 (c)



of the Clean Air Act, as amended (42 U.S.C 7506 (c) and 40 CFR Part 93. This baseline assessment review will focus on documenting their efforts and accomplishments of this process.

This discretionary joint FHWA/FTA/EPA Baseline Assessment Review is the first of its kind in Missouri to focus squarely on the regional emissions analysis and transportation conformity process in the St. Louis metropolitan planning area. The last Federal Certification Review of the St. Louis metropolitan area transportation planning process was completed on April 13, 2009. The final MPO Certification Review Report provided a series of review findings, commendations, recommendations for the MPO to improve the metropolitan planning process and issued the FHWA/FTA certification action. No corrective actions were identified as a result of this Federal certification review.

### **Purpose of the review:**

The purpose of the FHWA/FTA/EPA Baseline Assessment Review is to determine to what extent the regional emissions analysis and transportation conformity determination process in the St. Louis metropolitan planning area is meeting the requirements of all applicable provisions of Federal law (23 USC and the 1990 Clean Air Act Amendments) and regulations (23 CFR Part 450 & 40 CFR Part 93) and applicable State laws and regulations in Missouri and Illinois. This review will cover both the Missouri and Illinois portions of the St. Louis Metropolitan Planning Area (MPA) and include all facets (i.e. emissions analysis, public involvement, the IACG process, etc.) of the EWGCOG's regional emissions analysis and conformity determination process completed in connection with the TIP development, TIP amendments and modifications, LRTP development and LRTP modifications.

The review effort will conclude with the issuance of a Final Report that documents the Review Team's observations and findings including specific recommendations for improvement, as well as strengths of the EWGCOG's overall conformity determination process.

### **Review Objective(s):**

1. Map out and document the existing processes for performing the regional emissions analysis and transportation conformity determination for the St. Louis metropolitan non-attainment and maintenance areas.
2. Determine the extent that EPA/FHWA/FTA developed "Action Items" for enhancing the delivery of the St. Louis conformity determination process have been implemented by EWGCOG and other applicable planning partners. This set of 12 "Action Items" was collaboratively developed at the EPA/FHWA/FTA/EWG Managers Meeting held on April 14, 2011.
3. Determine if inefficiencies/gaps in complying with federal and state air quality and transportation planning laws and regulations exist in the EWGCOG regional air quality



conformity determination process and identify opportunities to enhance and improve the process. Address relevant recommendations from the 2009 Federal Certification Review of the St. Louis Metropolitan Area Transportation Planning Process.

4. Determine if inefficiencies/gaps in complying with federal and state air quality and transportation planning laws and regulations exist in the MoDOT/IDOT process for providing guidance and oversight of the EWGCOG regional air quality conformity determination process and identify opportunities to enhance and improve the process.
5. Assess the ONE DOT process for reviewing and making air quality conformity determination on EWGCOG's plan and TIP (including the U.S. EPA review phase) and identify opportunities to enhance and improve the process.
6. Identification of noteworthy practices, which can be shared with other states, Metropolitan Planning Organizations (MPOs), and transit operators.

#### **Review Outcomes:**

- A. Formalize the Review Team's observations in a Final Report that provides findings and any corrective actions (if needed) and recommended process improvements for the EWGCOG's regional emissions analysis and transportation conformity determination processes.
- B. Establish an action plan with timelines for monitoring the EWGCOG, MoDOT, and IDOT progress in addressing and implementing any Review Team recommendations and corrective actions. The Review Team will also provide assistance, as needed, to help bring any corrective actions to a point of successful resolution and to implement process improvement recommendations.
- C. Update Interagency Consultation Group (IACG) procedures for communication, consultation, public notice and review.

#### **Identification of Review Team Members:**

Brad McMahon, Transportation Specialist, FHWA Missouri Division  
Mike Latuszek, Community Planner, FHWA Missouri Division  
Betsy Tracy, Transportation Planning Specialist, FHWA Illinois Division  
Cecilia Ho, Team Leader, Air Quality and Transportation Conformity Team, FHWA HQ  
Mark Bechtel, Community Planner, FTA Region VII  
Joni Roeseler, Planning and Program Development Team Leader, FTA Region VII  
Elizabeth Kramer, Environmental Scientist, EPA Region VII  
Michael Leslie, Environmental Engineer, EPA Region V



### **The Review Team, Their Roles and Responsibilities:**

The review team is made up of individuals from Federal Highway (FHWA) Missouri and Illinois Divisions, FHWA Headquarters, Federal Transit Agency (FTA) Region 7, and the U.S. Environmental Protection Agency (EPA) Region V & Region VII. Team members exhibit a high level of oversight expertise in connection with the overall metropolitan transportation planning process, as well with the specialized planning program areas of air quality conformity. Brad McMahon, FHWA-MO Transportation Specialist will serve as the Review Team Leader.

As a part of the office/desk segment of the review, the Review Team will develop a set of review guideline questions. The guideline questions covering defined “focus areas” of the regional emissions analysis and transportation conformity process will be sent to EWGCOG at least 45 days prior to the start of the on-site segment of the review. The EWGCOG’s response to guideline questions will be reviewed by all team members and utilized as a resource for developing the framework for delivering the on-site segment of review.

Team members will be aligned with “focus areas” that match up with their knowledge and experience strengths. It is envisioned that each team member will be responsible for leading one or more assigned question and answer sessions during the on-site review period. The certification Review Team Leader will be responsible for facilitating the communication and exchange of information during these on-site sessions.

Review Team members will be responsible for maintaining effective coordination and communication with MoDOT, IDOT, MODNR, IPEA review participants in a manner that enhances the contribution of their input as it relates to the quality of the review team’s assessment of the metropolitan the regional air quality analysis and transportation conformity determination process.

All team members will play an active role in the development of the written summary report that is generated at the conclusion of the review. The Certification review team leader will be responsible for coordinating the work effort to produce a final draft of the written summary report.

### **Information Collection Guidelines:**

During the office/desk segment of the review, information about the regional air quality analysis and transportation conformity determination process is to be collected by means of a review guideline question exercise, review of the EWGCOG website, and review of EWGCOG planning process and work products. Information obtained in the office/desk review segment will serve as the foundation for the Review Team’s successful delivery of the on-site segment of the review. The one day on-site review period will be characterized by roundtable discussion that affords opportunity for additional question and answering, exchange of ideas, recognition of best



practices, and identification of ways to improve both the conformity determination process and existing MPO, MoDOT, IDOT and Federal Agency partnerships and product review processes.

### **Anticipated Sources of Information:**

Review Guideline Q&As, interviews, direct observations, prior reviews, sample work products, written policy guidance, public involvement etc...

### **Anticipated Review Schedule:**

#### **Office/Desk Segment**

EPA/FHWA/FTA/EWGCOG Manager's Meeting held for the purpose of Federal, State and local program managers collaboratively identifying and discussing what elements of the transportation conformity determination process in St. Louis metropolitan planning area are working well and what areas are in need of improvement. (Target date – 4/14/11)

Review Team letter to EWGCOG confirming the schedule of the FHWA/FTA/EPA process review sent to EWGCOG no later than six weeks prior to the on-site review start date. (Target date: 9/23/11)

Review guideline questions developed by team and provided to EWGCOG electronically no less than 45 days prior to the start of the on-site segment of review. (Target date – 9/23/11)

Review teams receipt of EWGCOG answers to guideline questions within a 30 day period. (Target date – 10/19/11)

Certification review team teleconference meetings will be held as needed. (Anticipated minimum – two)

#### **On-Site Segment**

November 2, 2011      Start Time:      1:00 pm (EWGCOG Offices)  
                                 End time:          4:30 pm

November 3, 2011      Start Time:      8:00 am (EWGCOG Offices)  
                                 End time:          10:00 am (Conclusion of roundtable sessions)

#### **Federal Review Team Meeting**

Start time:      10:15 am (EWGCOG Offices)  
End time:        11:30 am (Or as needed)





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

# Appendix B



## **FHWA/FTA/EPA Baseline Assessment Review (Fiscal Year 2012) Regional Emissions Analysis and Transportation Conformity Determination St. Louis Metropolitan Planning Area**

**Introduction:** The following questions are being asked of the St. Louis Metropolitan Planning Organization of East West Gateway Council of Governments (EWG) for the federal review team to gain greater insight and understanding of the processes and procedures in the Transportation Conformity process in St. Louis. These questions are being asked for informational purposes. Under each section, please provide a description of the current process. Also, for each question, please provide specific details, wherever possible, including how or where information is documented. Please note that several questions pertaining to SDOT actions and processes will require EWG and SDOT cooperatively developed responses. These questions were answered by EWGCOG, the State DOTs and, where applicable, the State Environmental Agencies (i.e. MDNR).

### Review Guideline Questions

#### **Regional Emissions Analysis (REA) and Modeling (including the Travel Demand Model (TDM) and Mobile Emissions Model) –**

- 1. Explain how the MPO modeling staff runs transportation conformity by providing an overview of that process, Describe actual models and methods used; please be specific.**

**RESPONSE:**

**EWGCOG:**

The Systems Analysis Section of the Transportation Department developed and maintains a travel demand model utilizing the CUBE (TransEval) modeling platform. TransEval is a traditional four-step trip-based model that is implemented for the entire region, including the City of St. Louis, the Missouri counties of St. Louis, St. Charles, Franklin, Jefferson and the Illinois counties of Madison, St. Clair and Monroe. Primary inputs for TransEval model include regional land use and demographic data as well as the highway and transit networks. For forecasting purposes, the St. Louis region is disaggregated into 2,527 traffic analysis zones (TAZ) aggregated into either a 35 district or 17 super-district systems. Land use, population, and economic activities in each TAZ is estimated for each forecast year. Highway networks are directionally coded for divided highways and arterials and include any roadway functionally classified as a collector or higher. Transit networks include bus and light rail systems operated by Metro, St Clair County Transit District, and Madison County Transit District, and includes park and ride lots as well. Each of TransEval's sub-models is calibrated and validated using household travel and on-board passenger data collected in 2002 and the region's concurrent socioeconomic data.

The Environmental Services Section of the Community Planning Department, operates and maintains the Mobile6.2 emissions estimation model and along with Systems Analysis Section is transitioning to the MOVES model. For Mobile6.2 communicate and coordinate with Mobile modeler at IL and MO air agencies. This is to ensure that inputs are consistent and most recent.



**2. Describe how the emissions analysis requirements in 93.122 (b) are met. Please describe the MPO's specific steps that are followed. Please describe how and where it is documented. Please describe how the process works to calculate VMT within the TDM.**

**RESPONSE:**

**EWGCOG:**

The attached "**Model Development and Validation Summary Report**" provides additional details. Additionally, detailed travel demand model related documentation, development and calibration, is available for download from our web site at:

<http://www.ewgateway.org/download/TransEval%20Documentation%20Upload/>

**3. Describe the process used to determine and document the set of latest planning assumptions used in the regional emissions analysis (93.111), especially the coordination between two States.**

**RESPONSE:**

**EWGCOG:**

Typically, regional emission analysis components are submitted (at meeting and e-mail) to the Inter Agency Consultation Group (IACG) for review in January at the beginning of the Transportation Improvement Program (TIP) development process. State air agencies are part of the IACG. Planning Assumptions are reviewed internally and documented in the Conformity Determination document appendices. Appendices include: transportation planning assumptions; population and employment forecasts; travel demand modeling procedures, assumptions and forecasts; and mobile source emissions modeling and forecasts.

**4. What is your plan on transitioning to the MOVES model? Please describe the current mobile modeling process (Mobile 6.2).**

**RESPONSE:**

**EWGCOG:**

Working with Missouri, Illinois and federal agencies to transition to use of MOVES model and to insure that input files are consistent, approach similar and output format consistent. Two EWG staff have attended USEPA MOVES training workshop

For Mobile6.2 – Staff reviews and updates Mobile6.2 ozone and PM2.5 input files in consultation with Mobile modelers from MO and IL air agencies to make sure inputs and supporting files (I/M program, vehicle registration distribution, VMT by speed, etc.) are consistent with what each respective state is utilizing and the most recent information is used. Mobile6.2 model runs are performed for: MO ozone for Jefferson, St. Charles and St. Louis counties and City of St. Louis; MO ozone for Franklin county; IL ozone for area with I/M program; IL ozone for area outside of I/M program; IL ozone Jersey County; MO PM2.5 for January (subsections for Jefferson, St. Charles and St. Louis counties and City of St. Louis and for Franklin county); MO PM2.5 for July (subsections for Jefferson, St. Charles and St. Louis counties and City of St. Louis and for Franklin county); IL PM2.5 12 month (subsections for area in I/M program and area outside I/M program); and IL PM2.5 12 month for Baldwin Township, Randolph County). Because the IL PM2.5 are for 12 months, a model run is done for each analysis year. Model output is then entered into a set of post-processing spreadsheets (ozone and PM2.5)

**MoDNR-Air:**

MDNR has staff in both the Air Quality Planning Section and the Air Quality Analysis section that have



been EPA-trained in MOVES. The MDNR has recently developed and completed both a St. Louis area PM<sub>2.5</sub> and an Ozone Maintenance Plan using the MOVES model. The MPO (East-West Gateway) also has staff trained in MOVES and has coordinated closely on the transition to MOVES with MDNR during numerous ongoing staff-level conference calls, informal discussions, and email correspondences. Furthermore, the necessity and schedule for the transition to MOVES has been a recurring topic during IACG coordination meetings. As an example, recently there has been a flurry of communication between EWGW and MDNR (as well as other IACG members) in regards to the newly-proposed EPA regulation extending the transition to MOVES one more year. Through this cooperative communication it has been learned that the MOVES extension will NOT affect the Conformity Determination process in the St. Louis metro area because it is very likely that two new budgets based on MOVES modeling (Ozone & PM<sub>2.5</sub>) will soon be deemed adequate requiring the immediate implementation of the MOVES model for any subsequent TIP conformity analyses.

**5. How does the MPO ensure that the TIP includes all proposed Federally and non-Federally funded regionally significant transportation projects, including intermodal facilities?**

**RESPONSE:**

**EWGCOG:**

Staff works closely with IDOT, MoDOT, Metro, and Madison County transit to ensure their projects are included in the regional travel model (where possible). Federally funded projects through the STP-S, STP-E, CMAQ and other programs are also vetted for impact to air quality. Regarding non-federally funded regionally significant projects, local public agencies are required to notify staff of any major new roadways or expansion of roadway using local funds, and staff includes such projects in the travel demand model.

**6. How does the MPO ensure that all TIP changes and projects are clearly presented, listed or cross-referenced in the TIP and Conformity Determination documentation? How are the complete documents and project lists presented to the public as part of the IACG review and public comment period?**

**RESPONSE:**

**EWGCOG:**

TIP changes are summarized quarterly as supplements to the TIP and published on EWGCOG website. Documents and project lists are posted on the EWGCOG website as part of the agenda for the upcoming Board of Directors meeting. The IACG receives an email documenting the proposed changes for their review and comment prior to Board action.

**7. How do you define regionally significant projects? What has been the process in the past, what is it currently and describe the current effort to modify it in the future? How are these projects programmed and how are they treated in the regional emissions analysis?**

**RESPONSE:**

**ALL:**

Regionally Significant Projects are defined only by the definition in the federal Transportation Conformity Rule (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 guide way transit facilities that offer an alternative to regional highway travel.*

However, the IACG, through consensus, has the discretion to create more specific Criteria for implementing this definition. Currently the IACG is developing a document to update Regionally Significant Project Criteria. These criteria and the corresponding document have been discussed several times at IACG coordination meetings. As a result, a subcommittee was convened at the July 2011 meeting for the purposes of drafting a RSP Criteria document and submitting it to the full IACG panel for review and approval. Further discussion of a draft RSP Criteria document occurred at the September 27, 2011 IACG meeting with an invitation for further comments from all members. A final proposal is expected to be vetted before the IACG at the next meeting.

**8. Please describe how you calculate VMT. Use specifics. How is this method included in the Regional Emissions Analysis? How is it documented at EWG and in the Conformity Determination document?**

**RESPONSE:**

**EWGCOG:**

In order to demonstrate conformity, the EWGCOG is required to follow the specific criteria as stated in the conformity rule 40 CFR § 93.122 (b). The ruling further specifies under section 40 CFR § 93.122 (b) (3) details regarding VMT (Vehicle Miles of Travel) calculations. It states that Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within the non-attainment or maintenance area for the functional classes of roadways included in HPMS. It further states the methodology to be followed by areas with network-based travel models for developing factors to reconcile and calibrate the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period. EWG COG follows these guidelines in the rule and documents this methodology in Air Quality Conformity Determination document under Appendix C, "Latest Planning Assumptions", where the Travel Demand Model (TDM) is discussed. The reconciliation factor is determined using the following:

$$\text{HPMS Adjustment Factor}_i = \text{HPMS VMT}_i / \text{MODEL VMT}_i$$

where  $i$ =HPMS functional class

The link based VMT is then summed to provide VMT by functional classification, county, state, and the planning region for each analysis year as required.

**9. Is the MPO claiming any vehicle miles traveled (VMT) or emissions credit per 93.122 (a)(3) and (4)? If yes, please describe the process and coordination with the appropriate agencies.**

**RESPONSE:**

**EWGCOG:**

No

**10. What methods or analytical tools do you use to estimate VMT from projects that are not modeled (e.g., projects that are not regional significant)? Please describe any off-model method(s) to calculate VMT and/or emissions and please be specific. What is your process/**



**method to ensure that non-regionally significant (non-exempt) projects are included in the analysis.**

**RESPONSE:**

**EWGCOG:**

All projects that have an impact on the VMT are included in the conformity determination. Projects that affect changes to physical characteristics in the roadway database, like new construction, interchange reconfigurations, number of lanes, horizontal realignments, and continuous left-turn lanes, are included in the agency's TDM to ensure their impact is captured. Projects that involve significant change in the transit system and mode choice, such as addition of new rail service, are also included in the conformity determination. Also see response to #13.

**11. What is your process/ method for ensuring that any regionally significant, non Federal projects are included in the analysis (including VMT and the REA)?**

**RESPONSE:**

**EWGCOG:**

Staff evaluates each project included in the TIP and determines whether or not the project is regionally significant, not regionally significant, or exempt and if it affects VMT.

**12. Explain the off-model process that is used for CMAQ projects. The CMAQ program requires that projects demonstrate an emissions reduction benefit. When do you require the emissions reduction benefit to be provided? Are the emissions benefits from CMAQ funded projects routinely included in the regional emission analysis for conformity purposes. Please describe. Also, how does the MPO determine project status/type of CMAQ projects when determining regional significance or non-regional significance (non-exempt) status?**

**RESPONSE:**

**EWGCOG:**

CMAQ projects are evaluated in the same manner as other projects to determine whether or not they are regionally significant. As part of the evaluation to determine priority for funding, and eligibility, each project is evaluated to estimate the emission reductions (hydrocarbons and oxides of nitrogens) should that project be implemented. To make this determination, staff requests that specific data be provided by the project sponsor and utilizes output from the mobile 6.2 model. Estimated emission benefits for each CMAQ project is included in the conformity for reference purposes only. **No credit is taken with regards to the regional budgets.**

**13. What methods do you use to capture emissions from projects that are not modeled?**

**RESPONSE:**

**EWGCOG:**

Since there is a wide range of such projects, the first determination is if the project affects emissions or not. If it does then the IACG, through consensus, has the discretion to determine the specific methodology for those off-model projects. Currently the IACG is developing a document to update Regionally Significant Project Criteria, this document also addresses the role of IACG in dealing with projects that cannot be modeled. These criteria and the corresponding document have been discussed several times at IACG coordination meetings. As a result, a subcommittee was convened at the July 2011 meeting for the purposes of drafting a RSP Criteria document and submitting it to the full IACG panel for review and approval. Further discussion of a draft RSP Criteria document occurred at the



September 27, 2011 IACG meeting with an invitation for further comments from all members. A final proposal is expected to be vetted before the IACG at their next meeting.

**14. Describe the process used to ensure projects in the donut area are included in the regional emissions analysis.**

**RESPONSE:**

**EWGCOG:**

Jersey County and Baldwin Township (Randolph County) IL are the donut areas. MOU's for both areas are in effect. EWG coordinates/communicates with the Illinois Department of Transportation (IDOT) Springfield and District office. IDOT participates in the IACG. Project coordination for these areas occurs at IDOT.

**15. How are all the new and modified projects (exempt and regionally significant) adequately included in the Conformity Determination and regional emissions analysis?**

**RESPONSE:**

**EWGCOG:**

All projects that have an impact on the VMT are included in the conformity determination. Projects that affect changes to physical characteristics in the roadway database, like new construction, interchange reconfigurations, number of lanes, horizontal realignments, and continuous left-turn lanes, are included in the agency's TDM to ensure their impact is captured.

All projects included in the LRP, TIP, and regionally significant project being implemented without federal funds (that we are aware of) are included in Appendix A of the AQCD.

**16. Does the TIP include a list of all projects found to conform in a previous TIP that are now part of the air-quality-planning base case? If so, what projects are included on the list?**

**RESPONSE:**

**EWGCOG:**

The TIP does not include a list of projects from previous TIPs that are part of the base. Once a project obligates all of its federal funding the project is not listed in the TIP.

**17. What assurances are there that the MTP incorporates travel demand and operational management strategies, and that necessary demand reduction and operational management commitments are made for new SOV projects?**

**RESPONSE:**

Incorporating travel demand and operational management strategies, and that necessary demand reduction and operational management commitments for new SOV projects are included in the MTP as a matter of the metropolitan planning process.

**18. Does the MTP include design concept and scope descriptions of all existing and proposed transportation facilities in sufficient detail, regardless of funding source, to permit conformity determinations? What is the content of the design concept and scope descriptions?**

**RESPONSE:**

**EWGCOG:**

Yes. *RTP 2040* includes the route, limits, sponsor, type of improvement, as well as the estimated cost (YOE).

**19. How long does the modeling effort generally take to complete each time it is done and explain**



### **what goes into the process?**

#### **RESPONSE:**

#### **EWGCOG:**

Conformity regulation 40 CFR § 93.110 (a) states that the time the conformity analysis begins for a transportation plan or TIP determination is the point at which the MPO begins to model the impact of the proposed transportation plan or TIP on travel and/or emissions. In line with this ruling, at the February 2009 meeting, the IACG reached consensus that the start of the Conformity Analysis would be defined as the date the travel demand model began to generate data for Conformity Determination purposes.

However, before the travel and emission models can be run and start generating outputs, significant work is required. There are various input files that need to be reviewed and updated.

For the travel demand model (TDM), there are two important components that have to be updated before running the model. One is the land use and demographic component and the other is the networks, both highway and transit.

Section §93.110 (b) of the Federal Conformity Regulations outlines that the most recent planning assumptions in place at the time of conformity determination must be used. These assumptions should be based on the latest estimates of existing and future population, households and employment developed by the MPO. EWG COG reviews the planning data, which forms the basis for the TDM, before any runs are made and ensures that the latest planning information is being used for the various analysis years. EWG COG is using state of the art methods for generating employment and population forecasts, using LEAM model. For details, please refer to Appendix B, "Population and Employment Forecasts", of the Air Quality Conformity document.

The development of a TDM network begins with the identification of type and location of the recommended capacity modifying transportation projects selected for inclusion in the current TIP and the latest Long-Range Transportation Plan for the St. Louis Region, for each non-attainment area in each state. The projects included in the long-range plan were drawn from past long-range planning efforts, Major Transportation Investment Analysis (MTIA), other corridor and sub-area planning studies, and an assessment of future network conditions. The most recent planning assumptions regarding the design and scope of the various projects are included in the TDM network. Projects are categorized by anticipated year of completion, and built into a network representing each of the analysis years required for the conformity analysis. Appendix A, "Latest Planning Assumptions", of the Air Quality Conformity document identifies projects that are included in the network development. The TDM, and any off-model approaches used, provide the adjusted VMT for the various analysis years, by county and roadway functional class for use in the emissions model.

The estimation of mobile source emissions is performed in two stages. The first uses the Mobile 6.2 emissions model to calculate a set of emission factors for each pollutant. Mobile 6.2 is a version of the model currently approved by USEPA for regional emissions modeling and conformity analysis. The second stage applies these emission factors to the projections of vehicle miles of travel generated by the



regional travel demand model discussed in the preceding section. The resulting estimates of mobile source emissions are then modified by the application of emissions credits attributable to control measures before being used in the various tests required to demonstrate conformity.

The duration of time required also depends on the number of analysis years and pollutants being tested for conformity. Generally, it a fair estimate would be about 3-4 months.

### **Interagency Consultation –**

#### **20. Describe the EWG & IACG consultation process used prior to making conformity determinations.**

**RESPONSE:**

**EWGCOG:**

Conformity determination schedule is tied to the TIP development cycle (January – June). At the January IACG meeting, EWG staff would present planning assumptions and components of regional emissions analysis for review and feedback. EWG staff consults individually with the mobile modelers from the respective state air agencies. There are IACG meetings during the conformity determination/Tip development cycle at which updates are given. In the past, the IACG was e-mailed the draft conformity determination when it was released for the 30 public day comment period. Moving forward, it is the intent of EWG to provide (via e-mail) the IACG with the draft (pdf format) approximately two weeks before the release to the public. That way the IACG can examine the draft and make comments and revisions can be made by EWG, if necessary. Together, the draft conformity determination and draft TIP (and amendment to the long range transportation plan) are released for a 30 day comment period. During this comment period, a series of open houses in locations around the St. Louis region are held. Comments received are included in the conformity determination document as are responses. The 2010 Missouri Transportation Conformity Rule sets out the time requirements for communicating and consulting with the IACG.

#### **21. Describe the education/outreach that the EWG plans to go through with the State DOT's and other project sponsors when the transportation conformity cycle will be generally run on an anticipated twice a year schedule.**

**RESPONSE:**

**EWGCOG:**

Assuming the “anticipated twice a year schedule” is incorporated the “education process” would include notifying MoDOT and IDOT (already discussing) so they can educate their own staff from within, informing other/current project sponsors during the several educational workshop EWGCOG conducts throughout the year, publishing the process on the EWGCOG website as part of the TIP/Project development process.

#### **22. Describe the work completed to-date to update the overview resource document(s) (Transportation Conformity Guide including the “IACG Consultation” process) for the Interagency Consultation group members.**

**RESPONSE:**

**EWGCOG:**

The baseline assessment process will have a key role in the development of such a guide. This topic has been discussed at the July and September 2011 IACG meetings. USEPA Region 7 presented a draft



outline for discussion at the September 2011 IACG meeting. Starting summer 2011, a subgroup of the IACG has been working to develop Regionally Significant Project Screening Criteria.

**MoDNR –Air:**

The Interagency Consultation Guide was original issued in June 2004 and has since been updated in December 2007 and again in April 2009. A current update and revision has been ongoing but needed to wait for the finalizing of the amendment to the St. Louis area Transportation Conformity SIP which resides in state rule 10 CSR 10-5.480 (See response to #32 & 32 for more info). This state rule was amended to be consistent with recent federal Transportation Conformity regulatory changes. The revised state rule went into effect on February 28, 2011. Since then there has been several discussions starting the process of revising this guide during IACG meetings.

**23. As a bi-state area, describe the institutional arrangements made for meeting the conformity requirements for the St. Louis area (e.g., signed MOU/MOAs)**

**RESPONSE:**

**EWGCOG:**

The IACG has deferred to the Missouri Transportation Conformity SIP for meeting conformity requirements for the St. Louis metropolitan area.

**MoDNR-Air:**

The Transportation Conformity SIP governs and outlines the institutional arrangements necessary to meet the conformity requirements. This plan resides in Missouri State rule 10 CSR 10-5.480 *St. Louis Area Transportation Conformity Requirements* which was recently updated to be consistent with all recent federal regulatory amendments. The amendment to 10 CSR 10-5.480 was developed by the MDNR in close coordination with EPA staff and with the cooperation and consultation of the IACG through email correspondences and consensus discussions at meetings. For more information on the St. Louis area Transportation Conformity SIP, see response to #32 below.

**24. How much time do you include in the schedule between the IACG comment period and the beginning of the public comment period for document review? Also, how much time do you include in the schedule between the close of the comment period and MPO adoption of the conformity determination?**

**RESPONSE:**

**EWGCOG:**

During the last conformity determination process there was 15 days scheduled for IACG review prior to the public comment period. In the past the IACG has also used the 30+ days for public comment to review the document. During the last conformity determination process there was 10 days scheduled between the close of the public comment period and adoption of the document by our Board of Directors.

**25. Does your agency make draft and final conformity determinations accessible via your website? Are the conformity determination documents visible on your home page? How is the most recent version posted with any supplemental documentation included? How does the EWG control, document and post different versions of the same document (including the most recent version) for public viewing?**

**RESPONSE:**

**EWGCOG:**

Yes, the draft and final conformity determinations accessible via our website. When a draft conformity



determination is out for public comment the conformity determination document is accessible from our home page. Once the conformity is approved and in final form the final document is accessible from the home page. The draft and final conformity documents are also accessible from the Air Quality, LRP, and TIP portions of the website.

The most recent version of the final conformity determination is posted on our website with any supplemental documentation. With respect to “version control” only the most recent Board approved version of the document is accessible from our homepage with the exception of draft documents that are undergoing public involvement which are also accessible from the homepage. Additionally, the final, Board approved version, for each year is posted on the Air Quality section of the website. If multiple conformity documents are produce during a year only the one most recently approved by the Board is posted on the website.

**26. How have you and how have other agencies responded to your requests for technical assistance or technical supplements and documentation in the conformity process in your experience? Where does EWG document such additional technical information and it is made available for public viewing?**

**RESPONSE:**

**EWGCOG:**

Question unclear.

EWG will respond and assemble information requested. It is the requester’s responsibility to document this information and make it available to the public. If the request for information is made during the review and comment period, it will be included as an appendix in the conformity determination document. Also included will be the response by EWG and actions taken, if necessary.

**27. Have agencies provided timely reviews of draft conformity determinations (during the IACG review phase, the public comment period phase, and the post-public comment period phase)?**

**RESPONSE:**

**EWGCOG:**

We do not feel all IACG member agencies have provided timely reviews during the IACG review phase, the public comment period phase, or the post-public comment period phase. With respect to the IACG review phase the USEPA Region 7 office (although theoretically part of process) takes a perceived veto position, during the public comment period the USEPA Region 7 office has taken a noticeably different stance over the past few cycles and submitted “last-minute”(emailed at the very end of the last day for public comment) “formal” comments to the record as compared to previous years comments which were “informal” and kept to the nature of comments made by other members of the IACG, and finally, during the post-public comment period (document approval period) it seems as though the USEPA Region 7 office has taken the “full 30 days allow” to review and respond to FHWA even though the document has available to them for at least 45-60 prior to receiving the request to review/approve from FHWA.

**28. Would the EWG, SDOTs and State Environmental Departments see value in a ONE DOT effort to maintain a statewide air quality interest e-mail group? Does EWG have other suggestions or plans to improve Interagency Consultation in the future? If so, please describe.**

**RESPONSE:**



**EWGCOG:**

Yes, however it would be difficult to develop a statewide group and logistics would be challenging. Does statewide refer to just Missouri or just Illinois or would this cover both states and all affected areas?

It should be noted that we are in a fairly unique situation in that the MPO coordinates a transportation conformity process spanning nine ( 9) counties, two (2) states, two (2) Federal Highway administration districts, two (2) EPA regions and countless municipal political subdivisions.

**MoDNR-Air:**

MDNR, as the state environmental department, is very interested in participating in any email group that provides education, outreach, awareness and coordination for transportation conformity and air quality related topics and issues.

**29. Many states with air quality issues have regularly scheduled meetings (annually or quarterly) with MPOs, the DOT, the state DEQ, US EPA and US DOT as a forum to discuss ongoing air quality issues as well as developing issues. Would you see this as a potentially beneficial forum? How does EWG gain access to needed information from other agencies (federal, state and local in the IACG)?**

**RESPONSE:**

**EWGCOG:**

EWG has the Air Quality Advisory Committee (AQAC), an advisory committee to the EWG Board of Directors. The AQAC has meet eight times in 2011. For each AQAC meeting there is a standing Update Activities of the States (air agencies) agenda item. MO and IL have the opportunity to discuss current and future activities (projects, rules in development, SIPs, etc.) At AQAC meetings, representatives from USEPA are also asked if they have any information they wish to communicate. These discussions are noted in the AQAC minutes. As for the IACG, EWG communicates with various agencies via telephone, e-mail and at meetings such as the IACG or AQAC.

**30. Describe the public comment process in connection with the development of the conformity determination.**

**RESPONSE:**

**EWGCOG:**

The public comment process, in connection with the development of the conformity determination, is typically done in conjunction with the development/update of the LRP and TIP. The process as described below for the development of the FY 2012-2015 TIP, RTP 2040, and the associated Air Quality Conformity determination show the typical amount of public participation.

Excerpted for the Board approved FY 2012-2015 Transportation Improvement Program - -

*Federal legislation and the metropolitan transportation planning regulations require MPOs to have an enhanced public participation process. Citizen interest in transportation planning has continued to grow as EWGCOG has taken actions to increase public awareness of the transportation decision-making process. EWGCOG uses a variety of methods to achieve greater public participation. Among these are extensive use of all types of media to explain the planning process, face-to-face meetings with citizens' groups, and easy-to-understand publications that are distributed via mail, email and on the EWGCOG*



*web site. The underlying premise of the public participation process is that more citizens will participate in the planning process if they understand the factors that influence transportation decisions.*

*The Public Participation Plan, adopted by the EWGCOG Board in April 2009 establishes the mechanisms by which EWGCOG reaches out to its many stakeholders and the public.*

*The EWGCOG web site, [www.ewgateway.org](http://www.ewgateway.org), includes information about EWGCOG, its planning partners, MPO activities and opportunities for citizens to learn and participate in transportation decisions. Meetings of all EWGCOG committees, task forces and other groups, as well as notes from past meetings are regularly posted on the site. The Web site also includes links to many other transportation resources. Additionally, all implementing agencies have citizen participation mechanisms that allow public input throughout the transportation planning process.*

*The official public comment period was from May 17, 2011 to June 17, 2011. Consistent with regulatory requirements (23 CFR 450.316 and 23 CFR 450.324 (b)) and policies established in Legacy 2035, public review of the draft Transportation Plan, FY 2012-2015 Transportation Improvement Program and air quality conformity determination took place through several different means. Eight public open house meetings were held throughout the region in May and June. Also, a virtual public open house was available on the Council's website ([www.ewgateway.org](http://www.ewgateway.org)) throughout the public comment period.*

*At the public open houses, copies of the draft Transportation Plan, FY 2012-2015 TIP and the air quality conformity determination document, as well as supplemental materials such as tables, charts, and maps, were available for review, discussion, and comment. These same materials were available on the virtual public open house page on the Council's website. Citizens and members of organizations were invited to attend the public open house meeting that is most convenient for them.*

*The schedule for the public open house meetings for the draft Transportation Plan, FY 2012-2015 TIP and air quality conformity determination document is shown below as well as the total number attendees (not including EWG Staff). The schedule was available on postcards that were distributed throughout the region, on the Council's website, in the Council's Local Government Briefings newsletter, and in local newspapers (St. Louis Post-Dispatch, St. Louis American, Suburban Journals, Ladue News, Alton Telegraph, Belleville News-Democrat).*

- *Wednesday, May 18, 2011: 11 AM to 1 PM - St. Louis County – Center of Clayton, 50 Gay Ave, Clayton, MO 63105 - (33 Attendees)*
- *Wednesday May 18, 2011: 4 PM to 7 PM - St. Louis County – Maryland Heights Government Center, 11911 Dorsett Rd, Maryland Heights, MO 63043 – (26 Attendees)*
- *Thursday, May 19, 2011: 4:30 PM to 7 PM - St. Charles County - St. Peters Government Center, One St. Peters Centre Boulevard, St. Peters, MO 63376 – (130 Attendees)*
- *Tuesday, May 24, 2011: 4 PM to 7 PM - Jefferson County - Hillsboro City Hall – Board Room, 101 Second Street, Hillsboro, MO 63050 – (26 Attendees)*
- *Wednesday, May 25, 2011: 4 PM to 7 PM - Madison, Monroe, and St. Clair Counties - IDOT District 8*



*Headquarters - Regional Conference Room, 1102 Eastport Plaza Drive, Collinsville, IL 62234 – (8 Attendees)*

- *Wednesday, June 1, 2011: 4 PM to 7 PM - Franklin County – Union City Hall - Room 3, 500 East Locust St, Union, MO 63084 – (14 Attendees)*
- *Thursday, June 2, 2011: 11 AM to 1 PM - St. Louis City – Downtown – East West Gateway Council of Governments – Board Room – One S. Memorial Drive, Ste 1600, St. Louis, MO 63102 – (18 Attendees)*
- *Thursday, June 2, 2011: 4 PM to 7 PM - St. Louis City - St. Louis Library, Schlafly Branch – Meeting Room, 225 North Euclid Avenue, St. Louis, MO 63108 – (12 Attendees)*

*Council staff, as well as representatives of state DOT's, transit service providers, and local project sponsors were available at the public open house meetings to provide information and answer questions from citizens, members of organizations, and elected officials. Council staff provided comment sheets to enable participants to submit comments at the open house meetings or by other means (mail, email, fax).*

*The public review and comment period for the draft FY 2012-2015 TIP and the Air Quality Conformity Determination document lasted 32 days – from May 17, 2011 through June 17, 2011. In all staff received 79 comment sheets/emails/letters from individuals or groups.*

**31. Does the MPO provide a response to persons or agencies that comment during the public comment period? Describe the process for addressing comments and implementation of changes that may have occurred as a result of the comments? What forums does EWG host to address public interests?**

**RESPONSE:**

**EWGCOG:**

Yes, the MPO provides a response to persons or agencies that comment during the public comment period where it is evident that a response is desired and where contact information is available. All public comments, responses to those comments, and changes made to appropriate documents are made as a result of the comments are documented (see attached), and provided to the Board of Directors prior to approval (minor non-substantive modifications – “typos” – are not listed).

In addition to the response to Question #30 EWGCOG hosts a monthly meeting of the Air Quality Advisory Committee (AQAC) that serves as a forum to address public interests related to air quality and conformity issues.

**State Implementation Plan (SIP) –**

**32. What is the status of the transportation conformity SIP for St. Louis?**

**RESPONSE:**

**EWGCOG:**

For the Missouri part of the region, the procedures have also followed the guidelines in the St. Louis Metropolitan Area Ozone and Carbon Monoxide Transportation Conformity State Implementation Plan, adopted as State Regulation 10 CSR 10-5.480. As a consequence of Court decisions in 1999, the USEPA returned Missouri's second amendment to this SIP on March 31, 1999. However, in accordance with local Inter Agency agreement, this Conformity Determination has followed the applicable administrative procedures contained in the original Missouri Conformity SIP, effective December 1996.



In October 2010, the Missouri Air Conservation Commission approved changes to the St. Louis Transportation Conformity Rule based on the January 2009 “Guidance for Developing Transportation Conformity State Implementation Plans (SIPs)” by USEPA. The updated rule was effective February 28, 2011. Until USEPA approves this revision, the March 2007 St. Louis Transportation Conformity Rule (approved December 2007) is still in effect. As the Illinois Transportation Conformity SIP is still under review by USEPA, the Illinois part of the region remains subject to the provisions of the Federal Transportation Conformity Rule.

**MoDNR-Air:**

The St. Louis area Transportation Conformity SIP resides in Missouri State rule 10 CSR 10-5.480 *St. Louis Area Transportation Conformity Requirements* which was recently updated to be consistent with all recent federal regulatory amendments:

EPA published a final rule (“Transportation Conformity Rule Amendments to Implement Provisions Contained in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU),” page 4420) in the *Federal Register* on January 24, 2008. In February 2009, the EPA released a transportation conformity guidance document for revising state conformity plans. Consequently, the MDNR Air Program developed an amendment to the St. Louis Area Transportation Conformity in close coordination with EPA staff and with the cooperation and consultation of the IACG through email correspondences and consensus discussions at meetings. The purpose of the amendment was to revise the state rule to provide a greater level of specificity in the consultation process to meet the new guidance requirements. The amendment to 10 CSR 10-5.480 underwent a public hearing on September 30, 2010 after being posted on MDNR Air Program’s website for 30 days, allowing for public comment. The Missouri Air Conservation Commission (MACC) adopted the rule amendment on October 28, 2010 and the amended rule became effective on February 28, 2011. The amended rule was submitted to the EPA as a revision to the SIP on March 17, 2011. On September 22, 2011, MDNR received a letter from the EPA deeming the SIP revision to be complete. The plan is pending EPA approval.

**33. What TCMS, if any, are in the SIP and how are they triggered? What is the status of the TCMS for Ozone, PM2.5 and CO?**

**RESPONSE:**

**EWGCOG:**

There are no TCMS for PM2.5 and CO. The IL and MO one-hour ozone SIPs identified TCM categories but no specific TCM projects were identified in either.

The 1999 TCM Completion Report (EWG) described the status of projects which fell into these categories. All projects had been completed at this time.

**MoDNR-Air:**

There are no active TCMS in the SIP. The only mention of TCMS in the SIP occurred in the MDNR-developed 1999 St. Louis Ozone Nonattainment Area Rate of Progress Plan (ROPP) for the 1-hour ozone standard in Section 3.0 of that document. These TCMS were planned for fiscal years 2000-2002 only. Moreover the 1-hour ozone National Ambient Air Quality Standard (NAAQS) upon which this ROPP was developed has since been revoked. We are currently NOT taking any credit for any TCMS in the Transportation Conformity process. Any reference to TCMS in St. Louis area Transportation Conformity



process documents are for historical or informational purposes only. . The 1997 St. Louis area CO Maintenance Plan (discussed in greater detail in the response to #39) refers to the potential development of TCMs for CO as a contingency measure in case of a violation of that standard. Since there has been no violation of this standard, these TCMs were never investigated for development or quantified , making this reference not applicable.

**34. If so, are Transportation Control Measures appropriately categorized in the TIP and in the Conformity Determination?**

**RESPONSE:**

**EWGCOG:**

An element of a Conformity Determination is an assessment of progress in implementing Transportation Control Measures (TCMs). These measures are intended to reduce emissions or concentrations of pollutants from transportation sources by reducing vehicle use or otherwise reducing vehicle emissions. For the St. Louis region, the 15 Percent Rate-of-Progress SIPs included **categories** of control measures, together with estimates of the anticipated emissions benefits. The 1997 report: *Transportation Control Measures in the St. Louis Region: Completion Report* documents the implementation of TCMs by general SIP category of control measures. There are currently no active TCMs in the SIP.

In order to better understand the regional impact of surface transportation on air quality in the St. Louis region, project specific analysis of those Congestion Mitigation and Air Quality (CMAQ) transportation projects whose impacts are outside the traditional travel demand model estimation is used. These transportation projects and/or programs are physical improvements and management strategies intended to reduce emissions or concentrations of pollutants from transportation sources by reducing vehicle use or otherwise reducing vehicle emissions. All of these projects have been evaluated as part of the travel demand model but not all of the projects can be placed into the travel demand model.

Although the final estimation of regional ozone-related volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) emissions **does not include credit for CMAQ project specific calculations**, the identification and understanding of those projects is a necessary element in the understanding of the regional assessment of the impact of surface transportation on air quality in the St. Louis region

**MoDNR-Air:**

There are currently no active TCMs in the SIP. Any reference to TCMs in St. Louis area Transportation Conformity process documents are for historical or informational purposes only. See response to #33.

**35. If applicable, how does the MPO ensure priority programming and expeditious implementation of TCMs from the SIP? Does the TIP describe progress in implementing required TCMs?**

**RESPONSE:**

**MoDNR-Air:**

There are no TCMs in the SIP requiring implementation. See response to #33.

**36. How does the EWG coordinate the development of the MTP with SIP development and the development of TCMs? How do the Transportation Plan and SIP reflect this coordination?**

**RESPONSE:**



**EWGCOG:**

Work closely with state air agencies in preparation of SIPs through AQAC and various modeling and SIP development committees. Provide mobile source and travel data information, i.e., VMT growth rate.

**MoDNR-Air:**

There are currently no plans for the development of any TCMs for the SIP or any SIP revision currently in development. However, we do reserve the right to revisit TCM development upon the future promulgation by the EPA of any new or revised NAAQS requiring SIP revision and control strategy development. EWG's coordination of the development of the SIP with the MDNR is an ongoing and continuous process through numerous conference calls, staff-level discussions, email correspondences and IACG coordination meetings.

**37. How does the MPO coordinate the development of the TIP with the SIP?**

**RESPONSE:**

**All:**

Interagency Consultation Group coordination, St. Louis area Transportation Conformity and all corresponding Conformity Determination processes are the means by which the MPO coordinates the TIP with the SIP.

**38. When state implementation plans have been developed in your area, has your agency been involved at the appropriate level?**

**RESPONSE:**

**EWGCOG:**

Yes, the AQAC acts as a facilitator bringing together IL air and transportation agencies and MO air and transportation agencies. Have helped to coordinate interstate modeling activities and the settlement of issues arising out of the SIP development process

**MoDNR-Air:**

Yes, EWG's coordination of the development of the SIP with the MDNR is an ongoing and continuous process through numerous conference calls, staff-level discussions, email correspondences and IACG coordination meetings.

**39. What is the status of the MVEBs? Are you anticipating a SIP revision to revise the MOBILE-based emissions budgets? If yes, please describe the process and status.**

**RESPONSE:**

**EWGCOG:**

**Ozone**

IL 2009 8-hr ozone MVEBs from Attainment Demonstration were found adequate by USEPA in February 2008

MO 2014 1-hr ozone MVEBs from Maintenance Plan were found adequate by USEPA February 2005  
2011 – USEPA adequacy review underway for IL MVEBs from 8-hr ozone redesignation request and MVEBs were revised based on MOVES

Summer 2009 – USEPA adequacy review began for MO MVEBs from 8-hr Attainment Demonstration and Reasonable Further Progress.

**PM2.5**

At this time, for MO and IL PM2.5 MVEBs have not undergone adequacy review or SIPs approved. IACG and AQAC are ways for EWG to stay apprised of MVEBs and any forthcoming SIP revisions.



## **MoDNR-Air:**

### **Missouri Side MVEBs**

**Ozone:** Currently the St. Louis area conformity determination process is using an MVEB for the ozone precursors of oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) included in the Maintenance Plan for the Missouri Portion of the St. Louis Nonattainment Area under the 1-hour ozone standard for the year 2014, the last year of the plan. This maintenance plan was approved on May 12, 2003 (68 FR 25418).

In June 2007, MDNR submitted to the EPA an attainment demonstration SIP revision for the 1997 8-hour ozone NAAQS including appropriate ozone precursor budgets. This SIP revision proved to be unapprovable by the EPA due to some subsequent, vacatur and subsequent remanding of the federal Clean Air Interstate Rule (CAIR) upon which the state's interstate transport control measures (a necessary SIP element) rested. These issues are not relevant to transportation conformity or on-road mobile source emissions. Since federal transportation conformity regulations allow budget adequacy determinations to be made independently of a SIP approval, it is unclear why the EPA never proposed to deem these budgets adequate. Subsequently, Missouri has requested and received from EPA a Clean Air Data Determination based on three consecutive years worth of compliant air quality monitoring values under the 1997 8-hour ozone standard for the St. Louis metro area.

As a result, MDNR has developed a proposed Maintenance Plan and Redesignation Request for St. Louis under the 8-hour standard. This proposed plan includes ozone precursor MVEBs based on the MOVES model and was discussed at EWG's Air Quality Advisory Committee and St. Louis area Transportation Conformity IACG meetings. As with all SIP revisions, the plan was posted on the MDNR's website for at least 30 days to receive public comments and was presented to the Missouri Air Conservation Commission (MACC) for public hearing (September 29, 2011). MDNR will respond to all comments and adoption of the plan by the MACC is expected for October 27, 2011. MDNR intends to submit the plan to EPA for approval and budget adequacy determination very shortly thereafter.

### **Fine Particulate Matter (PM<sub>2.5</sub>):**

Currently EWG has no PM<sub>2.5</sub> MVEB and is not using a budget-based test in its conformity determination analysis.

In October 2009, MDNR submitted to the EPA an attainment demonstration SIP revision for the 1997 Annual PM<sub>2.5</sub> NAAQS including MVEBs. This SIP revision proved to be unapprovable by the EPA due to some subsequent litigation, vacatur and subsequent remanding of the federal Clean Air Interstate Rule (CAIR) upon which the state's interstate transport control measures (a necessary SIP element) rested. These issues are not relevant to transportation conformity or on-road mobile source emissions. Since federal transportation conformity regulations to allow budget adequacy determinations to be made independently of a SIP approval, it is unclear why the EPA never proposed to deem this budget adequate. Subsequently, Missouri has requested and received from EPA a Clean Air Data Determination based on three consecutive years worth of compliant air quality monitoring values under the 1997 Annual Fine Particulate Matter standard for the St. Louis metro area.



As a result, MDNR has developed a Maintenance Plan and Redesignation Request for St. Louis under this standard.

This plan includes an MVEB based on the MOVES model and was discussed at EWG's Air Quality Advisory Committee and St. Louis area Transportation Conformity IACG meetings. The plan was posted on the MDNR's website for at least 30 days to receive public comments and was presented to the MACC for public hearing on April 28, 2011. MDNR responded to all comments and the plan was adopted by the MACC on August 25, 2011. The plan was submitted to the EPA for approval and budget adequacy determination on August 26, 2011.

Carbon Monoxide (CO):

The 1990 Clean Air Act Amendments required that areas be classified on current air quality data. Since the St. Louis area was already showing attainment of the 8-hour CO standard at the time, it became an unclassifiable nonattainment area pending a maintenance plan and Redesignation request. As a result of this two years' worth (1994-1995) of clean air quality data, the MDNR submitted a request to redesignate the area to attainment in 1997 and prepared a plan to maintain the standard. The plan was approved on January 26, 1999 (64 FR 355).

For more information on the St. Louis Area CO limited maintenance area:

<http://www.epa.gov/region7/air/rules/missouri/stlouisco.htm>

Within this plan, CO emission projections, including those for mobile sources, were developed. This approved maintenance plan addresses the CO MVEB in Section 7.0 (page 34) of the document:

*Emission budgets in the limited maintenance areas may be treated as essentially not constraining for the length of the initial maintenance period because it is unreasonable to expect that such an area will experience so much growth in that period that a violation of the CO NAAQS would result. In other words, EPA would be concluding that emissions need not be capped for the maintenance period. Therefore, in areas with approved limited maintenance plans, federal actions requiring conformity determinations under both the transportation conformity rules and the general conformity rule could be considered to satisfy the "budget test."*

Budget / SIP Revision Development Process

EWG's participation in the development of MVEBs via MDNR-developed SIP revisions is an ongoing and continuous process through numerous conference calls, staff-level discussions, email correspondences and IACG coordination meetings. Moreover, for the recently developed MVEBs mentioned above, expected for adequacy determinations in the near future, MDNR relied heavily on MODOT for all traffic count info while VMT data is coordinated in conjunction with EWG and MODOT. Similarly, MDNR and MODOT worked closely with EWG in the development of VMT growth averages used as inputs to the mobile emissions modeling upon which the budgets are based. Model inputs such as VMT growth rate, as well as the MVEBS themselves, were quite often the topic of discussion at St. Louis area Transportation Conformity Interagency Consultation Group coordination meetings. Lastly, as mentioned previously, the MVEBs, via their respective SIP revisions, were vetted



through a vigorous public comment and hearing process including the posting of all plan documents on MDNR's website for a minimum of 30 days, response to comments and adoption by the MACC.

**40. How do the EWG and SDOTs participate and comment on SIPs within the state? How does the MPO coordinate the development of the TIP within the state?**

**RESPONSE:**

**EWGCOG:**

Where appropriate, participate through activities of AQAC.

**MoDNR-Air:**

See response to #39 for more information on SIP revision development affecting St. Louis area transportation conformity MVEBs.

MODOT and EWG work closely with MDNR during the development of SIP revisions especially the MVEB portion. Their participation is an ongoing and continuous process through numerous conference calls, staff-level discussions, email correspondences and IACG coordination meetings. Moreover, for the recently developed MVEBs, detailed in the response to #39, MDNR relied heavily on MODOT for all traffic count info while VMT data was coordinated in conjunction with EWG and MODOT. Similarly, MDNR and MODOT worked closely with EWG in the development of VMT growth averages used as inputs to the mobile emissions modeling upon which the budgets are based. Model inputs such as VMT growth rate, as well as the MVEBS themselves, were quite often the topic of discussion at St. Louis area Transportation Conformity Interagency Consultation Group coordination meetings. Lastly, the SIP revisions were vetted through a vigorous public comment and hearing process (including the posting of all plan documents on MDNR's website for a minimum of 30 days, response to comments and adoption by the MACC) allowing for participation from any interested stakeholder including MODOT, EWG, or any other IACG participant.

**Conformity & the SDOTs –**

**41. What role does MoDOT & IDOT regularly play in the St. Louis metropolitan area conformity determinations? Please describe.**

**RESPONSE:**

**EWGCOG:**

Both MoDOT and IDOT serve on the Transportation Planning Committee, AQAC and IACG. There are opportunities for interaction and information exchange.

**IDOT:**

In submitting all projects to EWGateway during the annual TIP process or an amendment of the TIP, we always recommend the conformity classification for the project and our recommendation is reviewed and discussed with EWG personnel, and, if there is any question on our recommendation, with IACG.

**MoDOT:**

MODOT regularly coordinates with all agencies in the conformity process through the IACG. MoDOT consults and coordinates with all agencies regarding the public involvement aspects of the conformity process. MoDOT provides VMT to MoDNR for use in the development of emissions budgets. MoDOT reviews conformity determinations then forwards to federal partners for approval.



**42. Describe the DOT's processes for adding new projects to a TIP including timelines and documentation submitted to specific agencies for approval. Please describe the process and timing between the State DOT projects and the incorporation of the projects into the TIP for EWG approval (both updates and amendments).**

**RESPONSE:**

**EWGCOG:**

During the annual development of the TIP new projects are presented to EWGCOG. All of the projects are screened for air quality modeling and other purposes. The projects are called out as new projects in the TIP document and the Air Quality determination document. Each month when there is a Board meeting, staff accepts amendments to the TIP. These are due to EWG by the beginning of the month so staff can make conformity determinations and to draft memos to the IACG, EAC, and Board. If a project is regionally significant and requires a new conformity it will not be taken to the Board for approval until after the project has been included in a revised conformity and made available for public comment.

**IDOT:**

In the annual TIP process, we submit our program as noted above. By Illinois law, IDOT cannot release this information to the MPO until the Governor officially releases the Multi-Year Program, typically in April.

Updates and Amendments are usually sent to EWG at least two weeks prior to the monthly cycle of meetings required for review and consideration before final approval is made by the Board Of Directors.

**MoDOT:**

MoDOT submits its program to EWG based on a deadline set by EWG yearly. Because of past issues MODOT will not submit changes to its program past a certain date determined by EWG but rather will wait until the new TIP is in effect and make the changes by amendment. MoDOT submits, monthly, a list of changes to its program. This is done with the understanding that the submittal must be timely in order for EWG to prepare the information for presentation to all committees and the board.

**43. How is the conformity process in the St. Louis metropolitan area working with the State DOT? Please provide examples of how the process works well and/or opportunities for improvement.**

**RESPONSE:**

**EWGCOG:**

In order to provide the IACG ample time to comment on amendments/modifications to the TIP, staff is requiring that the State DOT's submit their amendment requests one week earlier than in the past. This has not been difficult to achieve as EWG and the State DOT's have an excellent partnership.

**IDOT:**

The staff at EWG has always been extremely helpful in resolving any issues or questions during the planning process. From the completion of the I-255 facility, to the ongoing IL-255 project, and of course, the current major Regionally Significant New Mississippi River Bridge project. The NMRB project included completing the required "Hot Spot Analysis".

IDOT District-8 is quite satisfied with the process, and feels the recently drafted "Regionally Significant Project Selection Criteria Policy" will make well defined improvements.

**MoDOT:**

MoDOT central office transportation planning, MoDOT St. Louis district and EWG have worked hard on



improving the coordination between all. Since we have had a few years in a row of little or no personnel turnover we have been able to build some continuity into our processes which has helped. The struggle remains with how we bring the federal partners along with us so that all partners agree on how the process should shake out.

**44. Describe the interagency consultation process that your agency uses when making conformity determinations in the donut area? What constitutes IDOT's final adoption of a conformity determination for the donut area which IDOT is responsible for conformity? Do you think there are areas that could be improved in the conformity processes for the metropolitan or rural donut area? Please describe.**

**RESPONSE:**

**EWGCOG:**

Through their respective MOUs, the Illinois donut areas understand that their interests are represented by IDOT in the conformity determination process.

**IDOT:**

IDOT, IEPA, Baldwin Township in Randolph County, and EWGatewayCOG has in place since June 21, 2007, a "Memorandum Of Agreement" for the purpose of conducting cooperative transportation planning and analysis of , and determining conformity for, all transportation projects outside the St. Louis (Missouri-Illinois) Metropolitan Planning Area, but within the designated non-attainment or maintenance area, (PM2.5 donut area) This agreement is to comply with the coordination provisions of Section 174(b) of the Clean Air Act as specifically called for by the federal Metropolitan Transportation Planning and Programming rule 23 CFR450.310 (f)

IDOT Office of Planning and Programming and District Eight coordinates with Baldwin Township, Road District 1, Randolph County and appropriate IDOT central Office staff to provide project submittals and revisions to EWGateway for inclusion in all analysis including conformity determination of the TIP and Regional Plan.

There are provisions in the aforementioned MOA that allows for any conflict that may arise in the future in carrying out out this agreement.

IDOT, IEPA Jersey County and EWGatewayCOG have the same MOA in place for Ozone non-attainment area outside the MPA in Jersey County.

**MoDOT:**

Missouri has no donut areas.

**45. Describe the process and timing between TIP conformity determinations and the incorporation of the conforming TIP into the STIP (for both updates and amendments).**

**RESPONSE:**

**EWGCOG:**

EWG updates the TIP/conformity at least one time a year, but no more than two. The TIP/conformity is updated in May/June each year and then made available to the public for their comment. *If necessary*, the conformity will updated in January/February to include any projects that are regionally significant.

**IDOT:**

IDOT releases a five-year Multiyear program every year with the first fiscal year being the implementation year of the TIP. Normally most of these first year projects have been introduced to the conformity process long before they are programmed for implementation, especially Regionally



Significant non-exempt projects. Amendments and/or updates are submitted to EWG at least 10 days before the EAC meeting and if there are any that are Reg. Significant and have not been modeled for conformity, those project have and will be discussed and reviewed by the IACG for concurrence on the conformity classification, and modeled accordingly. All major Reg. significant projects are modeled by EWGateway several years prior to implementation.

**MoDOT:**

MoDOT submits the TIP and conformity determination to the federal partners for approval at the same time. EWG submits both at the same time to MoDOT. Once the conformity determination is concurred with by EPA, OneDOT issues approval of the conformity determination and the TIP at the same time.

**46. Describe the SDOT process for reviewing STIP amendments for TIP modifications before submitting to the ONE DOT for approval?**

**RESPONSE:**

**IDOT:**

At the district level all projects determined to be Reg. Sign. are reviewed and submitted through the NEPA process by Phase I personnel. This includes all coordinating agencies. These include OP&P statewide, IEPA, FHWA and Region V USEPA.

**MoDOT:**

MoDOT central office and MoDOT district office coordinate amendments before submittal to the MPO. EWG and MoDOT hash out any issues with the amendments prior to presentation to committees and the board. The biggest part of this coordination happens prior to board approval. MoDOT's review following board approval is less involved because of this. With regard to local projects, the coordination usually takes place after submittal with MoDOT central office but MoDOT's local roads group is usually involved prior to submittal to the committees and the board.

**47. How have other agencies responded to your requests for technical assistance in the conformity process? IACG**

**RESPONSE:**

**EWGCOG:** EWGCOG has not experienced any difficulties.

**MoDNR-Air:** IACG members coordinate very closely. Technical assistance is provided by all members of the IACG upon request through numerous conference calls, staff-level discussions, email correspondences and IACG coordination meetings.

**48. When state implementation plans have been developed, have the SDOTs been involved at the appropriate level? Please describe.**

**RESPONSE:**

**IDOT:**

Yes, through the participation and with both IEPA and EWGCOG the assumptions, inputs used in developing the SIP motor vehicle emissions budgets as well as the proposed budgets in advance of the formal proposal. Discussion and comments from both agencies have been incorporated into final SIPs and budgets.

**MoDNR-Air:**

Yes! See responses to #39 & #40 for similar information. MODOT and MDNR coordinate closely on the development of transportation related SIP revisions. For example, MDNR relies heavily on MODOT



for traffic count info while VMT data is coordinated in conjunction with EWG and MODOT. MODOT's involvement in SIP revisions is an ongoing and continuous process through numerous conference calls, staff-level discussions, email correspondences and IACG coordination meetings.

### **Project Level Conformity Documentation –**

**49. What role does the MPO play, if any, in project level conformity?**

**RESPONSE:**

**EWG/COG:**

Project sponsor is responsible for project level conformity. Hot-spot analyses are conducted as part of the NEPA process. EWG can provide basic mobile source and travel demand model data, if needed.

**50. Describe the process SDOTs and local public agency project sponsors use to document project level conformity determinations. If they are completed by project sponsors, how is that relayed to the IACG group and included in documentation related to the Conformity Determination process in St. Louis?**

**RESPONSE:**

**All:**

Project sponsor is responsible for project level conformity. Hot-spot analyses are conducted as part of the NEPA process. .

**51. Describe how the appropriate level of analysis required for CO and PM2.5 hot-spot analysis is determined. What guidance and regulations are followed? Does the MPO provide technical assistance to project sponsors or vice versa?**

**RESPONSE:**

**All:**

Project sponsor is responsible for project level conformity. Hot-spot analyses are conducted as part of the NEPA process.

**52. Have the SDOTs and local public agency project sponsors conducted any qualitative PM2.5 hot-spot analysis?**

**RESPONSE:**

**All:**

Project sponsor is responsible for project level conformity. Hot-spot analyses are conducted as part of the NEPA process.

**IDOT:**

The District was involved with an Analysis on the New Mississippi River Bridge in 2006. To our knowledge no other Analysis has been necessary on either IDOT or Local projects.

**MoDOT:**

No

**53. Has a process been developed to determine “projects of air quality concern”? Please describe.**

**RESPONSE:**

**IDOT:**

Through internal coordination meetings and the scope–schedule–budget process, preliminary air quality determinations are made and included in the Phase I process.

**MoDOT:**



Not specifically -- this is through the conformity determinations.

**54. Is there a PM2.5 or CO hot-spot analysis protocol? Please describe.**

**RESPONSE:**

**IDOT:**

To our knowledge not at the District level.

**MoDOT:**

MoDOT is not aware of this.

**55. Is the project sponsor of a RSP located inside the planning area, not proceeding past the design/scope stage needed to support the NEPA determination until the final design and construction phase of the project has been included in the non-attainment/maintenance area's fiscally constrained and conforming LRTP and TIP?**

**RESPONSE:**

**All:**

Question is not clear. Will provide response upon clarification of the question.

**56. Is there any assistance or training that the federal review team we can provide regarding project-level conformity documentation for the MPO, IACG and/or project sponsors?**

**RESPONSE:**

**IDOT:**

IEPA usually keeps us well informed of any new requirements and needed assistance.

**MoDOT:**

Would depend on what the requirements were for conducting these types of analyses.

**57. Would standardized air quality document and analysis procedures for conducting project conformity analysis in NEPA be helpful?**

**RESPONSE:**

**IDOT:**

IDOT relies on the IEPA and their abilities as the environmental agency with not only the St. Louis region non-attainment area, but also, the Chicago region non-attainment area, as the air quality conformity specialist.

**MoDOT:**

MoDOT is currently using the analysis done by the MPO to include in documents.

**58. Describe how the EWG determines and documents conformity determinations for TIP and RTP amendments?**

**RESPONSE:**

**59. Do you think that the conformity process is working well? Describe what works well.**

**RESPONSE:**

**IDOT:**

Yes. The SDOT's, as well as EWGateway, IEPA, MoDNR, and FHWA have always coordinated very well. It appears that since SAFETEA-LU required more involvement by the IACG's, the USEPA Regions have become more involved.

**MoDOT:**

MoDOT, IDOT, the state air agencies and EWG, are coordinating better now than in recent years. FHWA has attended more meetings in the last year than the last several years. Everybody wants to



provide quality products that matter in the grand scheme of things. Air Quality is improving in St. Louis, there is no arguing that, so we are accomplishing what we are ultimately tasked with doing.

**60. Do you think there are areas that could be improved? Please describe.**

**RESPONSE:**

**IDOT:**

IDOT completely agrees with MoDOT's response on this question.

**MoDOT:**

We seem to have trouble getting expert participation in the IACG. Program funding and frustration with the process have driven off some local participation in the IACG. All the effort to increase participation is actually causing less.

In the past, members of the group would vote a given way based on their perception of who is the expert, and what does he/she say about the issue? It seems recently that some partners expect everyone to be an expert on every aspect of the conformity process and we'll never get there. We need to solidify the authority of the group to vote on an issue and move it through to approval without the threat of a partner using its approval authority on conformity documents or other work products to further their will. All agencies need to have representatives authorized to make decisions at the meetings. We get nowhere when an IACG member can't vote because they need to talk to their management first. If the group has the authority it should have this would not be an issue...that person would simply not vote. It appears that some members feel the outcome rides on their vote and all other votes don't matter.

**61. Are there any specific conformity issues related to SAFETEA-LU or the Transportation Conformity process that the EWG or SDOT's would like to discuss? Please describe.**

**RESPONSE:**

**IDOT:**

IDOT concurs with MoDOT's response.

**MoDOT:**

MoDOT would like to solidify the understanding that if a member of the IACG makes a motion to approve a document, policy, or any other issue (as long as there is a quorum) that the will of the group be followed and the matter be resolved.

**62. Are there other conformity or SIP issues not included in this questionnaire you would like to discuss? Please describe.**

**RESPONSE:**

**EWGCOG:**

Better coordination in terms of MVEB adequacy reviews and findings by USEPA. Especially since PM2.5 test is a regional test.

**63. Do you have any requests for assistance related to transportation conformity? Please describe.**

**RESPONSE:**

**EWGCOG:**

Assistance with transition from Mobile6.2 to MOVES and determining what would be proper MOVES



documentation.

**64. How are the public, local transit operators, and air-quality agencies involved in the prioritization and selection of possible CMAQ program-funded projects?**

**RESPONSE:**

Through the TIP development process.

**65. Is your agency interested in participating in efforts to establish guidelines for estimating emissions reductions?**

**RESPONSE:**

**EWGCOG:**

May be of interest, depends on frequency of meetings and level of staff resources required.

**MoDNR-Air:**

Yes.



**FHWA/FTA/EPA Baseline Assessment Review  
Regional AQ Analysis and Transportation Conformity Determination Process  
St. Louis Metropolitan Planning Area  
Modeling Teleconference (FOCUS AREAS/SUPPLEMENTAL QUESTIONS)  
October 28, 2011 (9:30 AM – 11:30 AM CST)**

Modeling Teleconference Focus Areas:

- A. Regional emissions modeling process overview
- B. Defining projects
- C. Latest planning assumptions (40 CFR 93.110:
- D. Latest emissions model (40 CFR 93.111)
- E. Regional emissions analysis (40 CFR 93.122)

Supplemental “Modeling” Questions

1. What is the process of deciding whether a project is exempt?

RESPONSE: Staff utilizes **40 CFR § 93.126 - Exempt projects, 40 CFR § 93.127 - Projects exempt from regional emissions analyses, and 40 CFR § 93.128 Traffic signal synchronization projects** in “deciding whether a project is exempt.” Additionally, when presenting the Draft Air Quality Conformity Determination to the IACG, for their review and comment, a complete listing of the projects (Appendix A) lists projects considered as part of the regional travel demand model including whether the projects are considered exempt, not regionally significant, or regionally significant. Similarly, when mid-year amendments to the TIP are considered the IACG is presented (they are given one week to review and comment), a listing of the modifications being considered including whether the projects are considered exempt, not regionally significant, or regionally significant.

2. How was the “the time the conformity analysis begin” defined?

RESPONSE: Per USEPA Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, December 2008 related to 40 CFR § 93.110, that defines the “Time the conformity begins”- - At the February 2009 meeting, the IACG reached consensus that the start of the Conformity Analysis would be defined as the date the travel demand model began to generate data for Conformity Determination purposes. For this Determination, that date is April 26, 2011. (see attached - - USEPA Guidance - Define Time the Conformity Analysis Begins)

3. 40 CFR 93.110 listed some very specific transit related assumptions. Is the MPO or the transit agency responsible for keeping those assumptions current? Please describe.

RESPONSE: 40 CFR 93.110 highlights the inclusion of transit operating policies, such as fares and service levels. EWG COG works closely with our local transit agency Metro. There are frequent meetings and information exchange sessions



throughout the year. Especially before the conformity determination begins, we request and receive from Metro the latest and most representative network for existing conditions. We ensure that there is dialogue and agreement between the two agencies regarding the future Metro vision and network for inclusion in the various analysis years. Appendix C of the Conformity Document also discusses this as well as the recent changes in the transit network. The transit network used is also documented there.

The changes in the transit network and operations are also reflected in the travel demand model. For example the 2009 increase in transit fares is also reflected in the model run for Conformity determination. The service patterns also reflect the Metro bus frequencies for both the peak and off peak travel conditions.

The two agencies work very closely, in fact there was a lot of collaboration during the surveys conducted in 2002 (on-board transit surveys by EWGCOG) EWGCOG staff shared offices with Metro to ensure success of the surveys. In 2008 Metro conducted transit surveys in close collaboration with EWGCOG, with staff was involved in the pilot testing of the survey instruments. Also, EWGCOG had requested FTA involvement at that stage and Metro had agreed to regular three-way interaction. In order to allow smooth exchange of data and information between the two agencies, Metro has set up an ftp site for this purpose.

4. Has the MPO adopted a formal process to update the list of latest planning assumptions on a regular basis?

**RESPONSE:** EWGCOG regularly updates the planning assumptions by tracking developments and conducting regular data reviews. For every Long Range Plan update, the planning assumptions are communicated to all the counties and their comments are solicited. Between these updates, annual reviews are conducted using the various sources of information available. Census data is also used, as it becomes available, for various purposes including population. Details are available in Appendix C of the June 29, 2011 Air Quality Conformity Determination. Also see response to #3 in the other list of 65 questions.

5. How the method to calculate VMT within the TDM included in the Regional Emissions Analysis? How is it documented at EWG and in the Conformity Determination document?

**RESPONSE:** In order to demonstrate conformity, the EWG COG is required to follow the specific criteria as stated in the conformity rule 40 CFR § 93.122 (b). The ruling further specifies under section 40 CFR § 93.122 (b) (3) details regarding VMT (Vehicle Miles of Travel) calculations. It states that Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within the non-attainment or maintenance area for the functional classes of roadways included in HPMS. It further states the



methodology to be followed by areas with network-based travel models for developing factors to reconcile and calibrate the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period. EWG COG follows these guidelines in the rule and documents this methodology in June 29, 2011 Air Quality Conformity Determination document under Appendix C, "Latest Planning Assumptions", where the Travel Demand Model (TDM) is discussed. The reconciliation factor is determined using the following:

HPMS Adjustment Factor<sub>i</sub> = HPMS VMT<sub>i</sub> / MODEL VMT<sub>i</sub>, where i = HPMS functional class. The link based VMT is then summed to provide VMT by functional classification, county, state, and the planning region for each analysis year as required.

6. Different agencies may calculate different VMT growth rates and factors. If so, how do the different agencies, such as MoDOT, IDOT and EWG, calculate different VMT growth rates and factors?

RESPONSE: EWGCOG works jointly with MODOT and IDOT regarding the future traffic growth at the state wide level. Since the States are responsible for maintaining the respective state-wide models, it is deemed appropriate to get the information at the external stations from them, both for existing year and forecasts. VMT growth within our planning area is driven by the planning data fed to the model, no pre-determined percentage is applied. These planning data files are generated by using the Land Use Evolution and Assessment Model (LEAM). Details are available in Appendix C of the June 29, 2011 Air Quality Conformity Determination.

7. How are these regional emissions analysis related issues discussed and decided?

- a. Situations where conformity determination can rely on previous regional emissions analysis (40 CFR 93.122 (g))

RESPONSE: We have not done this in the past. Regional emissions analysis are conducted with each new LRP or TIP. If we were to do this it would be discussed by the IACG and a consensus on the decision would need to be achieved.

- b. Types of conformity tests (especially for interim emissions test)

RESPONSE: In accordance with current USEPA guidance, and in consultation with the IACG, EWGCOG utilizes the mobile source emissions tests for determining conformity on the Plan and TIP by using the most current planning assumptions as agreed to by the IACG in January of each year.

- c. Analysis years



**RESPONSE:** In accordance with current USEPA guidance, and in consultation with the IACG, EWGCOG utilizes the mobile source emissions tests for determining conformity on the Plan and TIP by using the most current planning assumptions as agreed to by the IACG in January of each year.

**d. What precursors to include (for PM<sub>2.5</sub> analysis)**

**RESPONSE:** The May 2005 Final Conformity Rule also stated that before SIP motor vehicle emissions budgets are found adequate or approved by USEPA, inclusion in the regional emissions analysis is not required for VOC, SO<sub>x</sub> and NH<sub>3</sub> unless the state air agency or the USEPA Regional Office finds that the on-road emissions of any of these pollutants/precursors are a significant contributor to the PM<sub>2.5</sub> problem of an area. Since such a finding has not been made for either the Missouri portion or the Illinois portion of the St. Louis PM<sub>2.5</sub> non-attainment area, these precursors have not been included in this interim PM<sub>2.5</sub> Conformity Determination. However, they may be included in future Conformity Determinations depending on the outcome of further computer modeling and monitored data analysis.

**8. How is East West Gateway validating data in the Travel Demand Model?**

**RESPONSE:** See the attached summary Model Development and Validation Summary Report. Detailed travel demand model related documentation, development and calibration, is available for download from our web site below:  
<http://www.ewgateway.org/download/TransEval%20Documentation%20Upload/>

The documentation under Task 8 provides this information in detail.

**9. How is EWG incorporating actual HPMS data into the model?**

**RESPONSE:** In order to demonstrate conformity, the EWG COG is required to follow the specific criteria as stated in the conformity rule 40 CFR § 93.122 (b). The ruling further specifies under section 40 CFR § 93.122 (b) (3) details regarding VMT (Vehicle Miles of Travel) calculations. It states that Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within the non-attainment or maintenance area for the functional classes of roadways included in HPMS. It further states the methodology to be followed by areas with network-based travel models for developing factors to reconcile and calibrate the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period. EWG COG follows these guidelines in the rule and documents this methodology in Air Quality Conformity Determination document under Appendix C,



“Latest Planning Assumptions”, where the Travel Demand Model (TDM) is discussed. The reconciliation factor is determined using the following:

HPMS Adjustment Factor<sub>i</sub>= HPMS VMT<sub>i</sub> / MODEL VMT<sub>i</sub>, where i=HPMS functional class.

The HPMS adjusted link based VMT is then summed to provide VMT by functional classification, county, state, and the planning region for each analysis year as required.

HPMS data is also used for model calibration and validation purposes. Please refer to “Model Development and Validation Summary Report” for additional details.

10. When is the last time that EWG conducted an update with all of the latest planning assumptions?

**RESPONSE:** The latest major update of the planning assumptions was done for the June 29, 2011 Air Quality Conformity Determination model runs. Please refer to Appendix C for additional details.

11. What is EWG’s schedule for looking at the new Census data?

**RESPONSE:** Planning assumptions and the model are live documents and tools. EWGCOG is already using the census data in its latest planning assumptions. Please refer to Appendix C of the Air Quality Conformity Determination for additional details on how the Census data is used currently. As we move ahead and ACS releases additional information, we review it and incorporate it in our work. We have also initiated the review and update of our current data in light of additional information available. As more data is released, EWGCOG will be using it as appropriate in our work.



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# Appendix C



## **Regional Emissions Analysis: Supporting Documentation from EWGCOG, “Defining the Time When the Conformity Analysis Begins”**

February 26/2009

USEPA- Guidance for the Use of Latest Planning Assumptions in Transportation  
Conformity  
Determinations/December 2008

Required to use the latest planning assumptions in place at the time the Conformity  
Analysis begins

### **How to define "time the Conformity Analysis begins"?**

Example in Guidance

Point at which the travel demand model begins to generate the VMT and speed data that  
will be used to calculate emissions estimates.

To be decided through the consultation process/ i.e./ IACG.

### **What planning assumption information should be documented?**

How time Conformity Analysis begins has been defined.

Calendar date Conformity Analysis began.

Planning assumptions used in Conformity Analysis.

### **Review and update planning assumptions every five years.**

Population/ employment and vehicle registration were highlighted.

Conformity Determinations that are based on planning assumptions older than five years  
should include written justification for not using more recent information.

Vehicle registration data?



INTER AGENCY CONSULTATION GROUP  
Thursday, February 26, 2009  
East-West Gateway Board Room

Members Present:

Michael Coulson, Chair – East-West Gateway Council of Governments  
Ron Jeffries – Missouri Department of Natural Resources  
Mike Henderson – Missouri Department of Transportation  
Gene Baker – Illinois Department of Transportation  
Tyler Harris – St. Louis Air Pollution Control Program  
Mike Zlatic – St. Louis County Department of Health  
Amy Bhesania – U.S. Environmental Protection Agency Region 7 (telephone)

Staff:

Lubna Shoiab          Carol Lawrence

I.        Call to Order

The meeting of the Inter Agency Consultation Group (IACG) was called to order by Michael Coulson, East-West Gateway Council of Governments (EWGCOG).

2.        Amendment to FY 2009-2012 Transportation Improvement Program and Related Amendments to *Legacy 2035* and Conformity resulting from American Recovery and Reinvestment Act of 2009

Mr. Coulson, EWGCOG, said that East-West Gateway staff is pulling together a special Conformity Determination for American Recovery and Reinvestment Act of 2009 (ARRA) projects which the EWGCOG Board of Directors approved yesterday. It appears that all the projects are exempt except for the Maryland Heights Expressway (Rte 141 extension) project from Page to Olive in St. Louis County. This five to six mile capacity expanding extension has been modeled in different scenarios in the travel demand model. EWGCOG is working with MoDOT to determine when this project would start and would it cross an analysis year thereby triggering a Conformity Determination.

Mr. Henderson, Missouri Department of Transportation (MoDOT) said that for projects out that far, MoDOT has put a general letting date of 2010. MoDOT has not submitted their project list to EWGCOG is because there are still some issues that need to be resolved. It is his understanding that the Rte 141 project has been held back because MoDOT is looking at funding a bigger stretch of road.

Mr. Coulson, EWGCOG, said that if it is determined that this project does not cross an analysis year, it may be that EWGCOG is able to issue a declaration of Conformity. If a Regional Emissions Analysis is needed, it will be done in a timely manner. Staff is moving



ahead on preparing a complete Conformity Determination. It will be part of an amendment to the FY 2009-2012 Transportation Improvement Program (TIP) and Legacy 2035 (long range transportation plan).

Ms. Shoab, EWGCOG, said that staff is researching how Rte 141 has been modeled in the Travel Demand Model but have to identify which version. It is assumed that MoDOT is going to fund the other segment. Mr. Henderson, MoDOT, said that it is his understanding that MoDOT wants to fund more.

3. Analysis Years, Tests and Budgets to use in the Conformity Determination for the Amendment to the FY 2009-2012 Transportation Improvement Program and the FY 2010-2013 Transportation Improvement Program and Related Amendments to *Legacy 2035*

Mr. Coulson, EWGCOG, said that in addition to the Conformity Determination for the TIP Amendment, staff is also working on the components of the Regional Emissions Analysis for Conformity Determination for the FY 2010-2013 TIP. Mike Rogers of the Illinois Environmental Protection Agency (IEPA) could not be here today but called before the meeting. Mr. Rogers indicated that for ozone, it was okay to use the adequate 2009 budgets from the eight-hour ozone Attainment Demonstration SIP for the 2009 analysis year. However, for all other analysis years the one-hour budgets from the approved one-hour ozone Maintenance Plan should be used. EWGCOG will review this information and incorporate it into the Regional Emissions Analysis.

Ms. Lawrence, EWGCOG, delineated the proposed analysis years and budgets to be used in both Regional Emissions Analyses. These tables were e-mailed to the IACG in early February. For Missouri for ozone, the analysis years are 2014, 2020, 2030 and 2035. The 2014 VOC and NOx budgets from the approved One-Hour Ozone Maintenance Plan will be used in the action/budget test. For Illinois for ozone, the analysis years are 2009, 2014, 2020, 2030 and 2035. Illinois has adequate 2009 budgets for VOC (13.440 tons per day [tpd]) and NOx (31.940 tpd) budgets which will be used with the 2009 analysis year. According to IEPA, the 2014 budgets from the one-hour ozone Maintenance Plan (VOC 10.130 tpd and NOx 18.720 tpd) are to be used with the 2014, 2020, 2030 and 2035 analysis years. Fine particles (PM<sub>2.5</sub>) is analyzed on a regional basis and will use the 2002 baseline emissions inventory. The analysis years are 2014 (first analysis year can be from one to five years from the year the Regional Emissions Analysis is performed), 2020, 2030 and 2035.

NOTE -After reviewing USEPA/FHWA Conformity Guidance and talking with IEPA, it was determined that since USEPA had found the 2008 and 2009 budgets from the Illinois eight-hour ozone Attainment Demonstration SIP to be adequate, those budgets supersede the budgets from the approved one-hour ozone Maintenance Plan. For the Illinois portion of the ozone Regional Emissions Analysis, the 2009 budgets will be used for all analysis years.



#### 4. Discussion USEPA Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determination

Mr. Coulson, EWGCOG, said that in December 2008 USEPA had issued Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determination. Items of interest are: how to define "time the Conformity Analysis begins"; what planning assumptions should be documented; and the review and update planning assumptions every five years. He observed that with a TIP done every year (or more often), planning assumptions used in the Conformity Determination are revisited on a regular basis.

Ms. Lawrence, EWGCOG, said that the Guidance recommends that the "time the Conformity Analysis begins" is when the travel demand model begins to generate VMT and speed data which will be used to calculate emissions estimates. USEPA would like to see an actual date identified in the Conformity Determination document and whether the IACG agreed to definition and process. For example, with the upcoming Conformity Determination for the FY 2010-2013 TIP, this time would be sometime at the end of April to the beginning of May.

It was the consensus of the IACG that EWGCOG staff can document when the Regional Emissions Analysis begins. This will be considered "time the Conformity Analysis begins" and noted as such in the Conformity Determination document. Gateway's Transportation Systems Evaluation section will provide this information.

Mr. Coulson, EWGCOG, observed that this is important because in the past new planning assumptions have come up after the model has already been run for the Conformity Determination and the Determination would have to be redone. By having a specific date, can say that any new assumptions or data will be included in the next Conformity Determination. He added that guidance states that planning assumptions need to be reviewed and updated every five years but we usually update planning assumptions on an annual basis.

Mr. Coulson, EWGCOG, said a new planning assumption is the Illinois 2008 vehicle registration distribution file prepared by IEPA. Mr. Rogers reported that when IEPA used this file in modeling for the Chicago area, emission rates went up. According to him, this file shows that because of the economic downturn, people have stopped buying new cars and are driving their older cars longer. Since the Illinois 2008 vehicle registration distribution file contains the most recent information, EWGCOG has to use it in the Illinois Mobile6.2 model runs. The Missouri vehicle registration distribution file is based on 2002 information and MoDNR did not send any updated information. Mr. Jeffries, MoDNR, said he will talk with staff. Ms. Lawrence, EWGCOG, said that if 2002 is the most recent information for Missouri, then would just have to document that in the Conformity Determination. Ms. Shoaib, EWGCOG, said that the travel demand model has an automobile usage (price) factor which is held pretty constant in terms of the dollar amount. This is done because economic condition



like now are little blips and the model is looking out 20 to 30 years. In that way these smaller, more temporal things do not really affect the long range plan. If Gateway is asked to look at something for 2008, the price factor can be adjusted so there can be comparison with existing conditions. However, for the long term (2020 or 2030) it is preferred to hold the automobile usage price constant.

Ms. Shoaib, EWGCOG, asked if the 2008 vehicle registration distribution data will be used for the analysis years after 2009. Ms. Lawrence, EWGCOG, said that in past analyses the same vehicle registration distribution file has been used and assumed it held true for all years. Mr. Coulson, EWGCOG, said that this item needs to be looked into further. Analysis could be based on the worst case. However, the updated Illinois file probably will have to be used. Mr. Harris, City of St. Louis, observed that perhaps the states could update these files more often. Mr. Coulson, EWGCOG, said that maybe next year could get updated file from both states.

## 5 Other Business

### A. FY 2010-2013 TIP Schedule

Ms. Lawrence, EWGCOG, said that the schedule for the FY 2010-2013 TIP was sent out with the meeting notice. The draft TIP and Conformity Determination will be presented to the Board in May 2009. They will then go out for review with adoption in July. The Mobile6.2 input files were sent to MODNR and IEPA for review. Last December, 1/M program specifics were updated by Missouri (date program started, type of evaporative program) and Illinois sent the updated vehicle registration distribution file.

Mr. Jeffries, MoDNR, asked if this ARRA TIP could be considered the annual TIP. Ms. Lawrence, EWGCOG, replied that it is considered an amendment to the FY 2009-2012 TIP. Mr. Coulson, EWGCOG, pointed out that any time there is a TIP amendment, it is also an amendment to the long range transportation plan which trips the requirement to do a Conformity Determination. He added that with the anticipated increase in the emission factors for Illinois, staff will do some preliminary research to see how close projected emissions will be to the motor vehicle emissions budgets.

Mr. Baker, Illinois Department of Transportation (IDOT), asked if the idling of Granite City Steel will affect the non-attainment situation. Mr. Coulson, EWGCOG, said that the State is not allowed to take SIP credit for an economic downturn (reducing emissions). In the future the State could revise their emissions inventory as part of a SIP update. Mr. Jeffries, MoDNR, pointed out that the plant closing will show up in the monitoring data. Mr. Harris, City of St. Louis, asked since cannot use economic downturn as an argument for Attainment Demonstration, could not that argument be used to not utilize the Illinois 2008 vehicle registration information. Mr. Jeffries, MoDNR, said that a few years ago there were annual grassland burnings in Kansas which affected the readings of monitors in Missouri. In that case, after discussions with USEPA Missouri was able to throw out all of those affected readings.



Mr. Coulson, EWGCOG, added that with what Ms. Shoaib was saying that in the travel demand model such temporal impacts are smoothed out because we are looking at analysis years that go out to 2035. The vehicle data for 2008 seems like an anomaly due to the severe economic crisis. Ms. Bhesania, USEPA Region 7, said that she can check with headquarters and see how such a concern might be addressed. It seems like a question many areas would have.

**B. Issues with Federal Stimulus Program**

Ms. Bhesania, USEPA Region 7, asked if there are any potential Transportation Air Quality Conformity issues are anticipated related to the federal stimulus program. Mr. Coulson, EWGCOG, said that there is one project in Missouri that would be capacity adding and the rest are exempt. However, that one project has been analyzed in a number of ways with different scenarios in past Conformity Determinations. It may be crossing an analysis year. EWG is working with MoDOT to resolve this issue.

**C. Remand of the Annual PM2.5 Standard**

Mr. Zlatic, St. Louis County, asked what would be the impact on Conformity of the decision by the U.S. Court of Appeals to remand the revised annual PM2.5 standard back to USEPA. Mr. Jeffries, Missouri Department of Natural Resources, provided a summary of the Court's action taken from the National Association of Clean Air Agencies (NACM) website ([www.cleanairworld.com](http://www.cleanairworld.com)).

**DC Circuit Court Remands PM2.5 NAAQS to EPA for Reconsideration of Level of Annual Standard and Level of Secondary Standard (February 24, 2009)**

The U.S. Court of Appeals for the D.C. Circuit remanded the National Ambient Air Quality Standards (NMQS) for fine particulate matter (PM2.5) to EPA for reconsideration of the annual level of the standard (which EPA left at 15 micrograms per cubic meter (ug/m3)) and reconsideration of the secondary PM2.5NMQS. With respect to the annual PM2.5 NMQS, the court held that the agency "failed to explain adequately why an annual level of 15 ug/m3 is 'requisite to protect the public health.' including the health of vulnerable subpopulations, while providing 'an adequate margin of safety.' 42 U.S.C. 7409(b)(1) ." For the secondary standards, the court held that EPA "unreasonably concluded that the NMQS are adequate to protect the public welfare from adverse effects on visibility." The court denied petitions for review of the primary daily standard for coarse PM and the petition for review of EPA's revocation of the primary annual standard for coarse PM.

Mr. Coulson/EWGCOGI observed that it appears that the primary annual PM2.5 standard was sent back to USEPA because the agency did not properly demonstrate that the revised primary standard was protective of human health.



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Mr. Coulson/ EWCOGI announced that at the March 24 Air Quality Advisory Committee (AQAC) meeting IEPA and Dr. Turner will give a presentation on the results of the Granite City local scale PM2.5 analysis.

D. Conformity Guidance for Daily PM2.5 Standard

Ms. Bhesanial USEPA Region 7 said that USEPA Headquarters is working on Conformity Determination guidance for the daily PM2.5 standard. She asked if there was interest in training concerning how the Conformity process might be affected by daily PM2.5. *Mr. Coulson/EWGCOG* said that there is interest. Ms. Bhesanial USEPA Region 7 said that she will forward that information and would help to coordinate such training.

There being no other business the meeting of the Inter Agency Consultation Group was adjourned.



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# Appendix D

Baseline Assessment Review, 2012

Appendix C: TransEval Model Documentation: Model Development and  
Validation Summary Report

## **TransEval Model Documentation**

### **Model Development and Validation Summary Report**

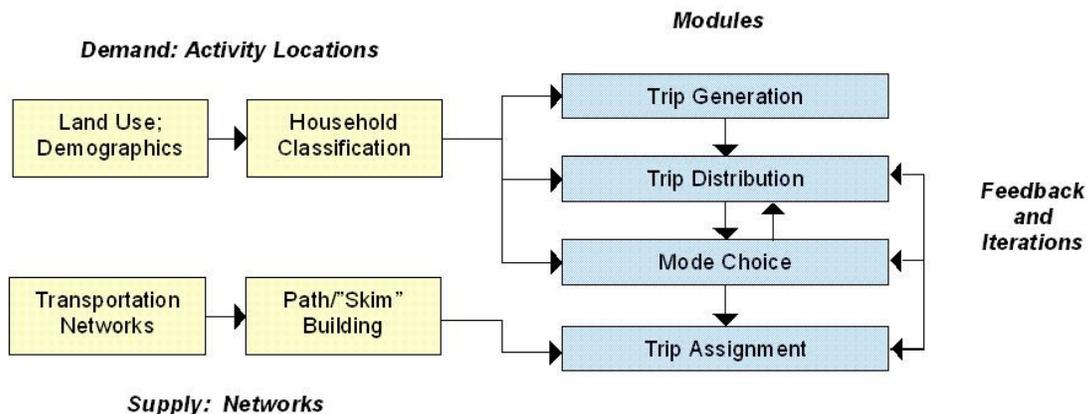
October 2011

# 1. Introduction

Among EWG COG's responsibilities is the development and maintenance of a regional travel demand model. The St. Louis regional travel demand model, known as "TransEVAL", has been developed for use in regional transportation planning and corridor planning. It provides multi-modal travel demand forecasts for motorized and non-motorized modes for the entire East West Gateway planning area. This documentation is intended to provide an overview of the model and its validation.

As the first step for any travel model development, local travel patterns are surveyed and documented. In 2002, EWG initiated a household survey that formed the basis of the new travel model, this effort was paralleled by an on-board passenger survey to observe and document transit travel patterns. These local travel patterns and conditions form the basis for model development and guide the process.

TransEVAL is a traditional four-step trip-based model, as shown in Figure 1, that is implemented for the entire region, including the City of St. Louis, the Missouri counties of St. Louis, St. Charles, Franklin, Jefferson and the Illinois counties of Madison, St. Clair and Monroe. Figure 2 shows the entire EWG COG planning area included in the model.



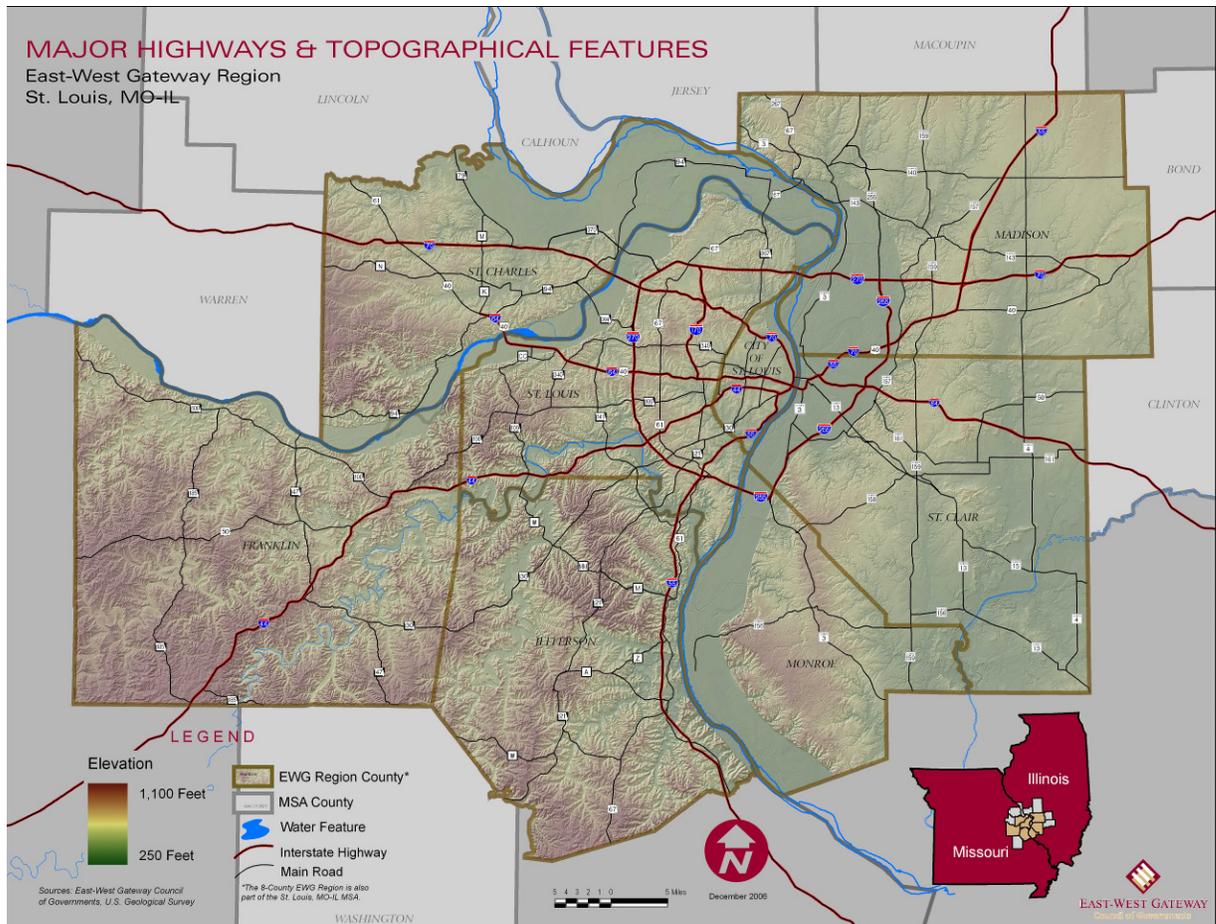
**Figure 1: TransEVAL—Four Step Trip Based Model**

Primary inputs for TransEVAL model include regional land use and demographic data as well as the highway and transit networks. For forecasting purposes, the St. Louis region is disaggregated into 2,527 traffic analysis zones (TAZ) aggregated into either a 35 district or 17 super-district systems. Land use, population, and economic activities in each TAZ is estimated for each forecast year. Highway networks are directionally coded for divided highways and arterials and include any roadway functionally classified as a collector or higher. Transit networks include bus and light rail systems operated by Metro, St Clair County Transit District, and Madison County Transit District and includes park and ride lots as well.

As part of its effort to improve and enhance its travel demand model, EWG COG invited a panel of travel demand modeling experts from around the country to evaluate the

model. In December 2006, the model was the subject of a peer review of independent modeling experts. The peer review panel was sponsored by the Federal Highway Administration Travel Model Improvement Program. Documentation of the independent peer review is available from EWG COG.

Each of TransEval’s sub-models is calibrated and validated using household travel and on-board passenger data collected in 2002 and the region’s concurrent socioeconomic data.



**Figure 2: EWG COG Planning Area**

## 2. Model Summary

### 2.1. Population and Land-Use Forecasts

Population and employment projections are a key input into the travel demand model. These projections are used to determine future travel demand and travel patterns and the effect these will have on the various travel options available.

The baseline for 2002 population incorporates population counts from the 2000 Census. Employment baselines were created using a blending of sources, including the Census Transportation Planning Package (CTPP), the Longitudinal Employer-Household Dynamics (LEHD) data set, and commercial business lists, as well as county and regional employment estimates from the U.S. Bureau of Labor Statistics and the U.S. Bureau of Economic Analysis.

## **2.2. Traffic Analysis Zones**

In TransEval, the eight county St. Louis region is disaggregated into 2,527 traffic analysis zones (TAZ), with land use, population, and economic activities in each TAZ estimated for each forecast year. The size for each TAZ is related to the land use, for areas that have dense land use, either in terms of population or economic activity, the TAZ size is smaller. Figure A-1 in Appendix A shows the 2527 zones in the model.

The TAZs are aggregated into 35 districts for the purpose of summarizing model outputs and conducting reasonableness checks. The model has six area types—rural, suburban, urban, core, business and entertainment, and central business district—that are used for calibration and highway link capacity calculations.

## **2.3. Data**

In 2002, EWCGC conducted a travel survey of 5,094 households. The survey included household residents' personal 24-hour travel journals. These surveys generated data on the following variables:

- Trip purpose
- Mode
- Household automobile ownership
- Household size
- Household income group
- Number of household residents employed
- Origin and destination zones
- Time of day

In the same year, a transit-on-board survey was conducted. Passengers over 16 years old on all fixed-route transit services were given a survey form to mail in. The 68 percent response rate comprised 13,535 bus-service and 1,786 rail-service respondents. Data on these variables were then used for the model development. These data were also supplemented by information from the 2000 census, including PUMS (Public Use Microdata Sample) and CTPP (Census Transportation Planning Package).

## **2.4. Highway Network**

The 2002 highway network encompasses the eight county planning area. The network generally goes down to the collector level, although it contains a few smaller roads to accommodate the transit network. Also a limited number of local roads are included in the highway network. The highway network has 14,916 centroid connectors, and 68

external stations. Figure A-2, Appendix A shows the 2002 highway network used in the model.

The network includes posted speed limits, number of lanes, distance, functional class, and average annual daily traffic (AADT). The distances for all centroid connectors for a zone represent the average distance required for a person to travel in or out of a zone. The free-flow speed is equal to the posted speed limit. The model estimates lane capacity based on level-of-service E, using design criteria from the 2000 edition of the Highway Capacity Manual. Capacity estimates are based on functional class, area type, posted speed, and number of lanes.

## **2.5. Transit Network**

The St. Louis area transit network currently comprises three modes: local buses, express buses, and MetroLink light rail. TransEval includes a detailed network of the transit facilities including all local and express bus routes, MetroLink rail lines, walk access and egress routes are also generated. Bus routes follow the highway links and their speeds are a function of highway link speed adjusted for dwell time at stops. MetroLink rail speed is schedule based. Besides walk to transit, drive to transit or travel to Park and Ride Lots is also modeled. Figure A-3 Appendix A shows the 2002 Transit network used in the model.

The network has two transit networks; for morning peak travel (6 to 9 a.m.) and for off-peak travel (9 a.m. to 2 p.m.). Transit fares are also used in mode selection.

## **2.6. Trip Generation**

The model uses a cross-classification trip production technique that calculates productions using household size and automobile availability. There are a total of 17 trip purposes, detailed trip purpose list is included in Table A-T1, Appendix A. In determining the auto ownership, transit accessibility is taken into account as well. For home-based work trips, the model also uses the number of workers in a household and household income group. In addition to the core calculations of productions, several submodels are employed to provide information necessary to support the trip production calculations. These submodels are shown in Figure 3:

- Area type
- Automobile ownership
- Household size distribution
- Household worker distribution
- Household income distribution
- Joint distribution

The trip attraction model is based on a set of linear equations using aggregated zone-based socioeconomic data, which generate independent estimates of attractions. Employment and household data are used as attractor variables.

There are also three asserted models: airport trips, university trips and a truck model. External trips are fixed percentages for truck trips, through-traffic trips, work trips, and non-work-based trips, based off of a external station volume forecast.

## 2.7. Trip Distribution

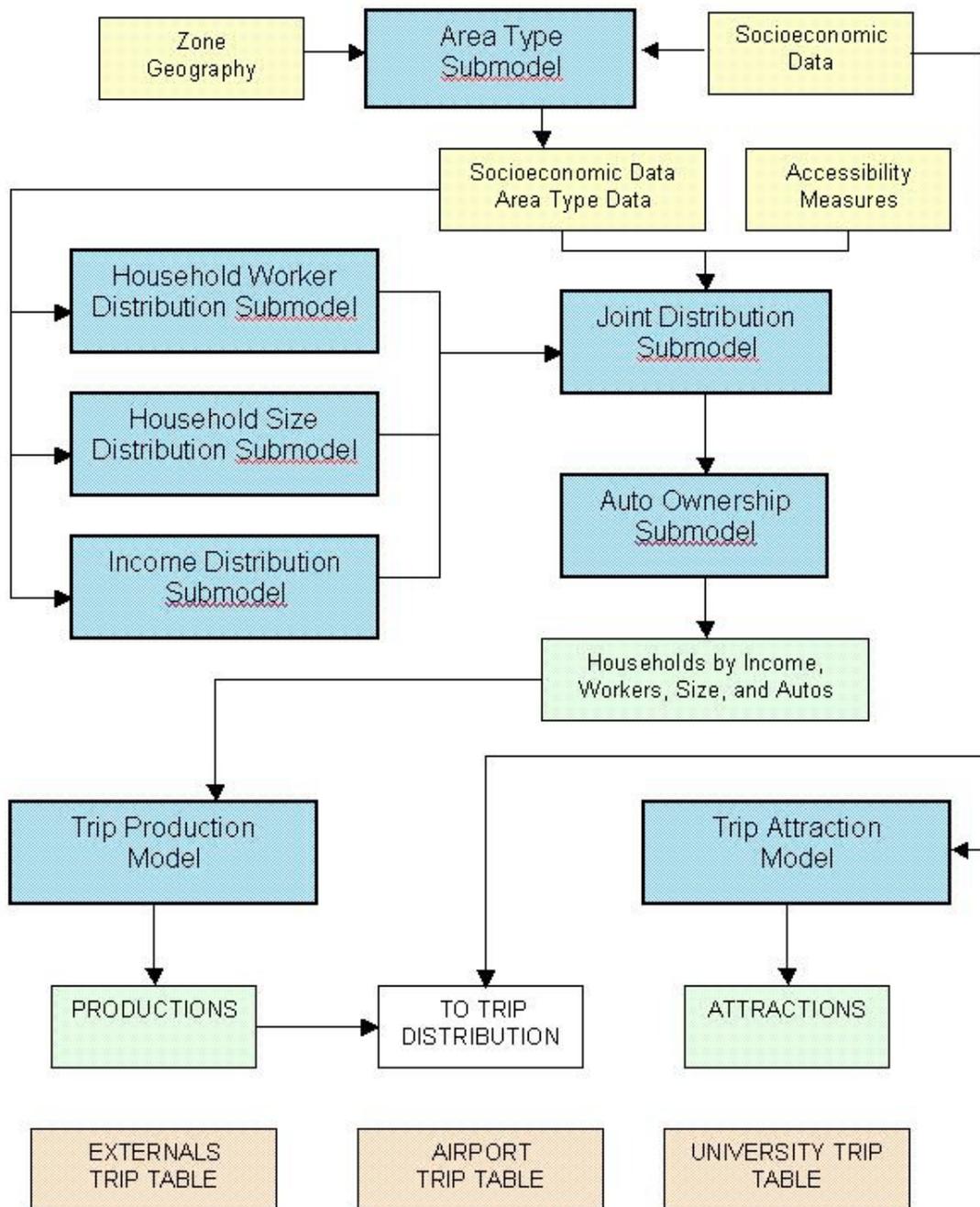
The destination choice (trip distribution) and mode choice modules are the second and third major program steps within the 4-step model process. In TransEval application, both the mode choice and the destination choice steps are computed jointly by production zone. The logsum from mode choice is used as the primary variable to determine impedance.

The destination choice model estimates the probability of selecting a particular attraction zone for a given zone of production, as defined by the regional network and zone system. The model is a “destination choice” type because it is based on behavioral data describing individual choice behavior and uses a logit-based formulation to estimate the probability of a traveler selecting a particular attraction zone.

The model also uses a series of standard gravity distribution models to estimate the distribution of special-purpose trips, including airport trips, truck trips, on-campus university trips, and external trips. A gravity model assigns larger numbers of trips between zones with a lot of development and that are close together, and fewer trips between smaller zones with a small amount of development and that are farther apart.

To better predict destination choice behavior, the model includes a distance variable and transformations of the distance variable (2nd and 3rd power, natural log). Other variables in the distribution model are dummy variables and associated constants for intrazonal trips, river crossings, intercounty movements, inter-state travel, and movements between specific destination and production area types. The destination choice model includes the following variables:

- Relative attractions based on employment
- Mode choice logsums
- Distance impedance
- Area type at production and attraction ends
- Intrazonal factors
- Illinois-Missouri crossing
- County crossing
- Income group (for home-based work trips)



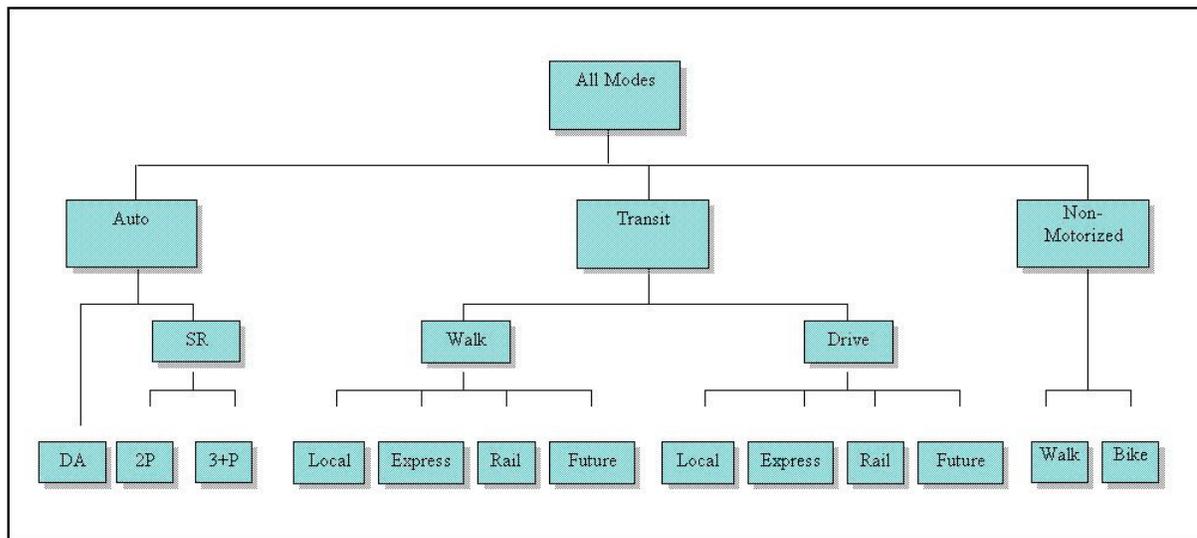
**Figure 3: Trip Generation Sub-models Flow Chart**

## 2.8. Mode Choice

The mode choice model uses a nested logit structure comprising 13 mode alternatives and a future-mode alternative, as well as a joint mode choice/destination choice algorithm. Productions are distributed simultaneously to zones and are split into modes. Mode choice variables include:

- Trip purpose
- Income
- In-vehicle time (transit and autos)
- Egress and access times
- Transfer time
- Wait time
- Transit fare (stratified by income)
- Auto operating cost (stratified by income)
- Parking cost (stratified by income)
- Area Type

The mode choice nesting structure is shown in Figure 4.



**Figure 4: Mode Choice Nested Logit Structure**

Where:

*SR=Shared Ride*

*DA=Drive Alone*

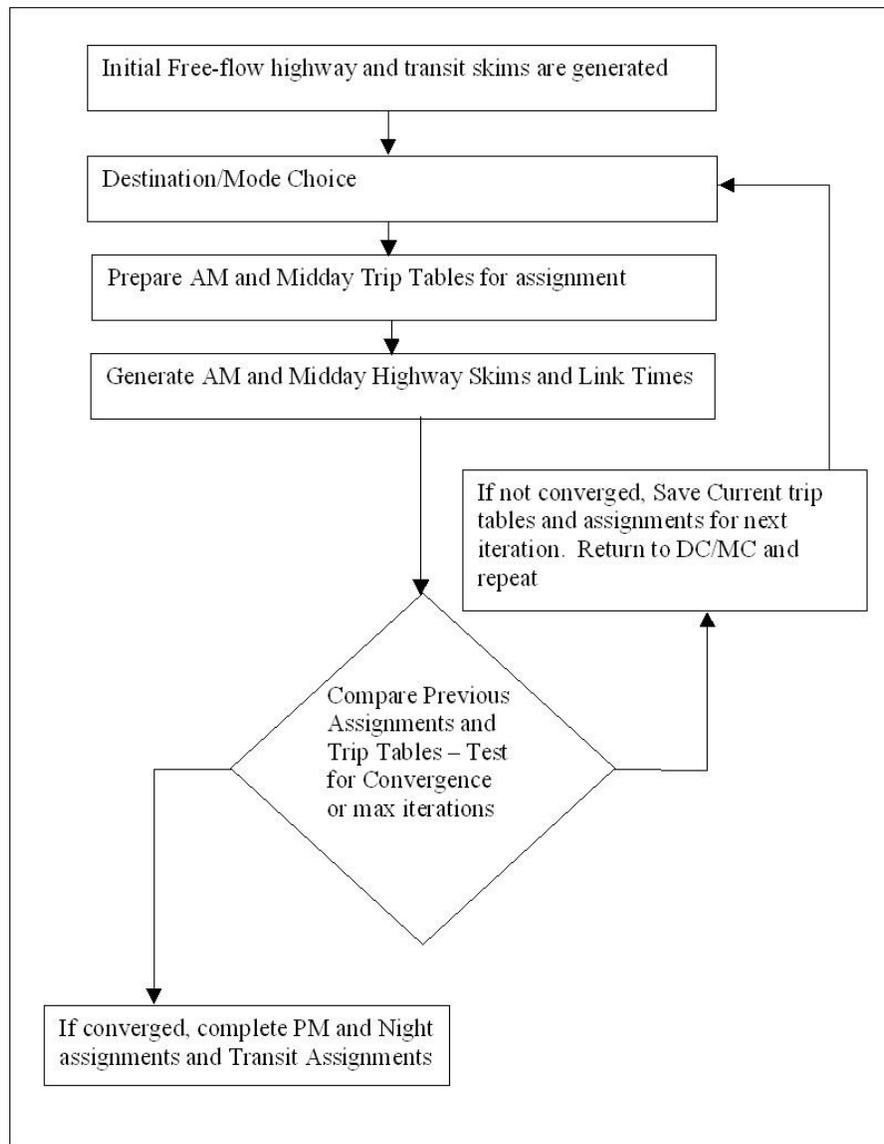
*2P=2 Persons in car*

*3+P= 3 or more Persons in Car*

## 2.9. Feedback Loop

In TransEval there is a feed back loop from assignment to trip distribution step, with a tight convergence criteria. This step feeds back the congested travel time, both highways and transit, into the distribution step as zone to zone congested travel time skims to ensure equilibration between travel times going into the destination choice model and what is coming out of the same step to ensure that there is stability in the choice of mode and destination.

In TransEval there are both highway and transit skims, for peak congested conditions as well as for off-peak conditions, that are fed back to the distributions step. This is to ensure that the model is sensitive to changes in travel time, cost, and other factors affecting travel choices in the different time periods of the day and by mode. Figure 5 shows the feed back loop.



## Figure 5: TravsEval Feedback Loop

### 2.10. Time of Day

The time of day model is applied before the traffic assignment step. Inputs include all of the purpose-specific person-trip tables and both the hourly and directional factors by trip purpose. The resulting output is tables by time period prepared for assignment, both for highways and transit networks.

The time periods estimated by the model include:

- AM: 6:00am – 9:00am
- Midday: 9:00am – 2:00pm
- PM: 2:00pm – 7:00pm
- Night: 7:00pm – 6:00am

In addition to the diurnal factors, another set of factors is used to estimate the peak hour share of each period. The peak hour factors are:

- AM Peak: 0.423 (3 hour period)
- Midday Peak: 0.224 (5 hour period)
- PM Peak: 0.237 (5 hour period)
- Night Peak: 0.273 (11 hour period)

The hourly diurnal and peak hour factors were developed based on the 2002 Home Interview Survey linked trips and reported start and end times. The actual shares were based on “trips in motion” which uses the number of trips reported in motion during any given hour, which is consistent with the way in which trips are assigned in the model.

### 2.11. Assignment

Highway and transit assignments are carried out separately. For highways, the 24 hour day is divided into 4 time periods, each period is assigned separately. Within each period, the peak hour flows are also calculated. To assign trips to the highway network, TravsEval employs the user equilibrium process. The user equilibrium process assigns the trips between each origin and each destination zone in such a way that, at the end of the process, no trip can reduce its travel time by changing its path. In other words, taking into account the congestion produced by all other trips in the region, each trip is taking the shortest path. There are three user classes that are assigned simultaneously:

- Single occupancy vehicles
- High occupancy vehicles
- Trucks

Highway route choice also takes into account any tolls costs involved. Volume for each user class is tracked and saved. Highway assignment uses the Conical Volume Delay functions for calculating the congested travel times, with the parameters being calibrated to the locally observed speed-delay data.

Transit assignment is performed for both the peak and off-peak. Transit assignment uses the all-or-nothing algorithm, where the path is selected based on the minimum cost. Route selection includes driving to a park and ride lot then transferring to a transit line.

### 3. Calibration and Validation

The calibration and validation of the TransEval model involves the comparison of base year 2002 model results with observed data from home interview and transit on-board surveys. The goal is to match, with reasonable accuracy, the model-estimated results with those observed from survey data while maintaining a logical and defensible model design. Ultimately, an additional comparison is made with observed traffic counts and transit boardings. This is achieved through systematic and justifiable adjustments to model parameters, including trip rates, distribution impedance parameters, mode choice coefficients and volume-delay functions.

The calibration and validation process is an on-going, systematic analysis of each model step as that step was being developed. This is important since errors in initial steps will be propagated to subsequent model steps due to the sequential nature of the modeling process. Therefore, available observed data has been used to compare trip generation, distribution and mode choice results, in addition to comparing assigned highway volumes against observed counts.

HPMS	Modeled	% Difference	Observed on Links with Counts	Modeled on Links with Counts	% Difference
66,060,000	61,460,000	-7%	16,920,000	16,270,000	-4%

An important aspect of calibration and validation is the development and use of observed target values. Observed traffic counts, transit ridership and travel time surveys were used in the validation process. The conformity regulation 40 CFR §§ 93.122 (b) (3) states that Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT for the classes of roadways included in HPMS. The regulation also allows the use of locally developed count-based programs. EWG COG used both these sources as a part of calibration and validation.

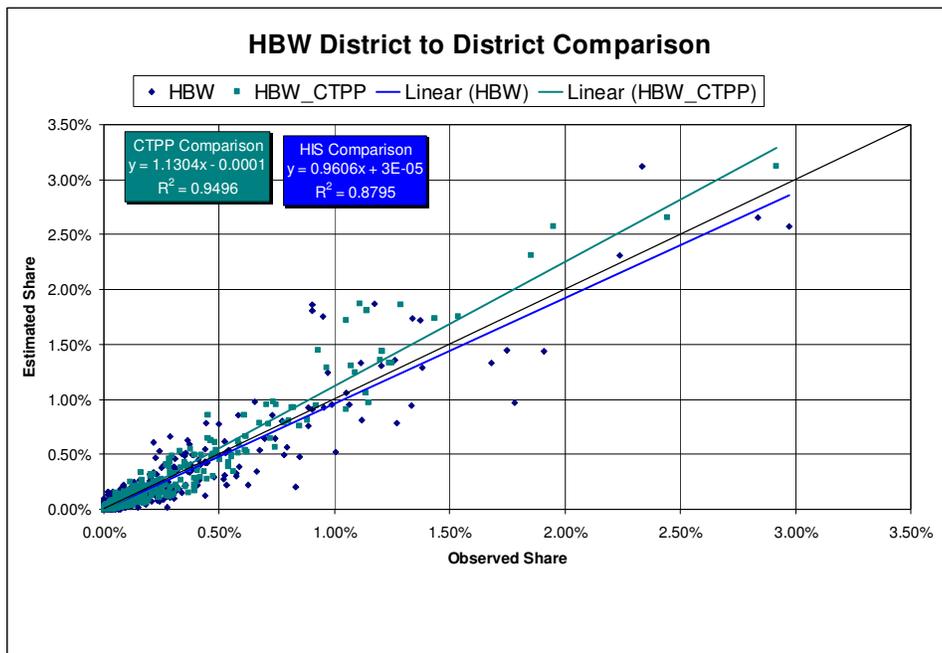
A total of 920 directional AM speeds were available and 846 PM peak hour directional speeds were used for the AM and PM peak speed comparison. These speeds were obtained from speed surveys collected by EWG COG staff.

Purpose	Time (mins)			% Intrazonal Trips	
	Observed	Modeled	Correlation	Observed	Modeled
hbw	19.0	18.0	0.99	2.5%	3.1%
whbo	12.6	11.3	0.98	5.9%	4.2%
wnhb	13.4	12.6	0.98	5.7%	5.6%
awnhb	8.4	9.1	0.98	10.7%	8.3%
hbuniv	8.5	10.6	0.90	11.0%	3.5%

hbk12	6.3	6.5	0.97	11.3%	9.3%
hbshop	8.9	8.8	0.97	6.8%	4.8%
nwhbo	9.4	8.7	0.99	12.5%	9.7%
nwnhb	8.4	8.5	0.98	10.6%	10.5%
<b>All</b>	<b>10.6</b>	<b>10.3</b>		<b>8.6%</b>	<b>7.2%</b>

The TransEval model has been extensively tested and validated by EWG COG staff and other agencies that have used this model. The best practices in modeling field were reviewed and applied appropriately in the development, calibration and validation of the TransEval. The validation criteria listed in the FHWA TMIP released handbook "Travel Model Validation and Reasonableness Checking Manual" has been followed. Over all, the model estimates of VMT are on the lower side, compared to the HPMS. However, it is the preferred professional view that the model should not be over-specified and that approach has been adopted. This is inline with the FHWA approach, where under section 40 CFR §§ 93.122 (b) (3) developing factors to reconcile the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period has been discussed. These factors are to be used for VMT forecasting for air quality conformity determination.

**Figure 6: TransEval 2002 HBW District to District Comparison**



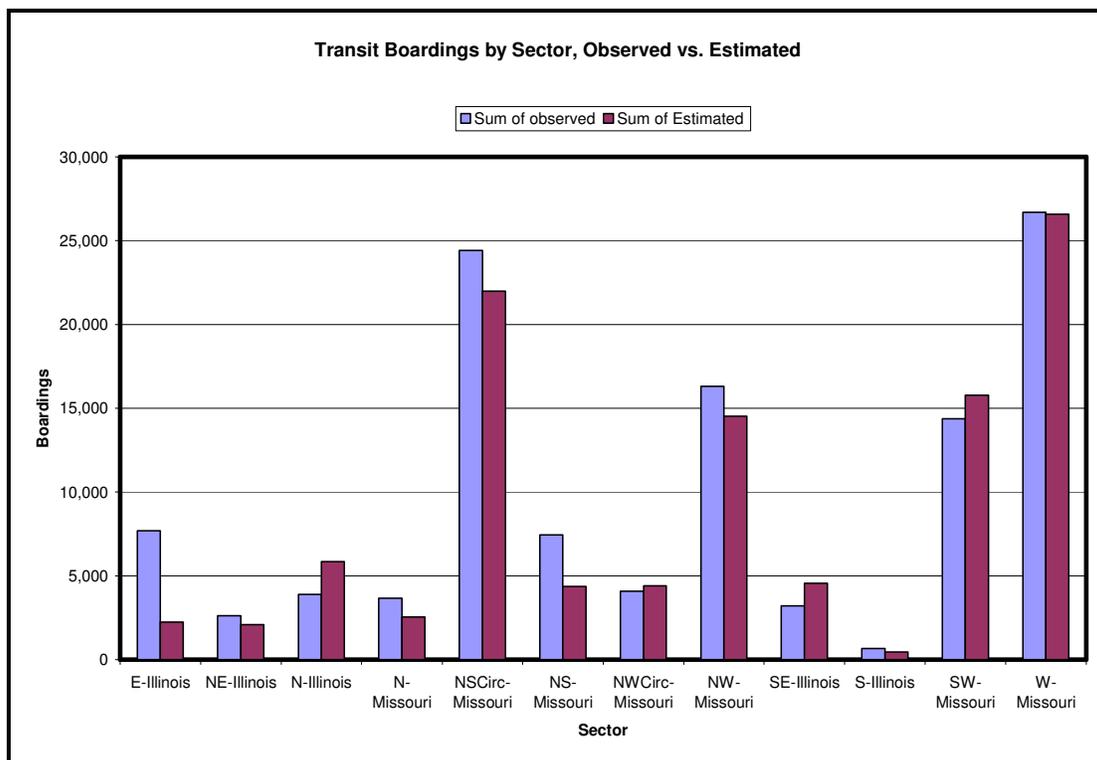
Detailed reports documenting the model calibration and validation results, as well as analysis for reasonableness and comparison to observed trends are available for download from EWG COG web site below:

<http://www.ewgateway.org/download/TransEval%20Documentation%20Upload/>

Mode	Obs HBW	Est HBW	Obs HBO	Est HBO	Obs NHB	Est NHB	Obs HBUN	Est HBUN	Obs HBK12	Est HBK12
DA	82.3%	81.4%	45.2%	44.6%	55.7%	54.1%	51.5%	51.7%	4.4%	4.2%
SR2	8.0%	7.9%	28.3%	29.3%	23.4%	24.1%	22.8%	22.9%	16.2%	15.4%
SR3	4.3%	4.3%	19.7%	19.5%	14.7%	15.1%	13.5%	13.5%	28.2%	26.9%
ABUS	0.3%	0.6%	0.1%	0.1%			0.3%	1.6%		
ALRT	0.5%	0.7%	0.1%	0.0%			0.4%	1.1%		
WBUS	2.1%	2.2%	0.5%	0.5%	0.3%	0.3%	2.6%	1.0%	0.29%	0.33%
WLRT	0.2%	0.7%	0.1%	0.1%	0.1%	0.1%	0.3%	0.3%	0.02%	0.02%
BIKE	0.3%	0.4%	0.5%	0.5%	0.2%	0.2%	0.4%	0.5%	0.3%	0.3%
WALK	1.8%	1.8%	5.5%	5.4%	5.7%	6.0%	8.4%	7.4%	12.8%	13.2%
SCHB									37.8%	39.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The calibration and validation report discusses the model development and coefficient estimation process as well. Detailed validation comparisons between model results and observations are included there.

**Figure 7: Transit Line Boarding Comparison**



The validation report also discusses other issues regarding the model and identifies the areas that need attention in the next round of calibration and the way forward. Detailed reports for the sub-model estimations are also available at this site.

## **4. Conclusion and Recommendation**

The EWG COG travel demand model TransEval, which was used to develop transportation-related emissions for the EWG COG planning, currently meets all the modeling requirements, as set forth in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A and is suited for use in Conformity Determination.



## **4. Conclusion and Recommendation**

The EWG COG travel demand model TransEval, which was used to develop transportation-related emissions for the EWG COG planning, currently meets all the modeling requirements as set forth in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A and is suited for use in Conformity Determination.



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# Appendix E

# DRAFT FOR DISCUSSION ONLY

## *Conformity Determination for the Regional Transportation Plan and Transportation Improvement Program (TIP)*

### *Air Quality Project Process Enhancements*

- Consensus by the Interagency Group on the definition of regionally significant projects.
- Interagency Group processes and schedules for project reviews and document reviews.

### *Transportation Improvement Program (TIP) Process Changes/Enhancements*

#### **Enhancement 1 – Semi-Annual Conformity Determination**

Staff will propose a Semi-annual Conformity Determination Schedule to help control the number of Conformity Determination documents developed and approved each year due to the amount of time involved in document preparation and public participation.

<b>Proposed Semi-Annual Conformity Determination Schedule</b>		
	<b>Annual</b>	<b>Semi-Annual<sup>1</sup></b>
Projects Due	Mar 31	Oct 15
Prep/Model/Document	Apr 1 – Apr 30	Oct 16 – Nov 15
Interagency Review	May 1 – May 15	Dec 1 – Dec 15
Public Participation	May 16 – Jun 15	Dec 16 – Jan 15
Board Approval	Jun (last Wed)	Jan (last Wed)
OneDOT Approval	Jul 1- Jul 31	Feb 1 – Feb 28
<b>NOTES:</b>		
1. Will only be conducted if there are projects submitted by the Project Due Date.		
2. All dates are illustrative and subject to change based on which day of the week they fall (i.e. weekend or holidays).		
3. A revised Schedule will be provided at the beginning of each year.		

#### **Enhancement 2 – TIP Amendments**

Staff will propose that TIP amendments be submitted one week earlier than the usual first of the month to allow the projects to be reviewed by the Interagency Group for concurrence in Air Quality Classification (i.e. regionally significant, not regionally significant, exempt) and to determine if the project will require modeling for air quality purposes.

Transmittal of the project information, and comments back, will be done via email and the Interagency members will have one week to concur/respond to the EWGCOG staff's determination project classification. No response by an Interagency Group member will be considered an affirmative response to the project and the staff's determination.



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