AGENDA
AIR QUALITY ADVISORY COMMITTEE*
TUESDAY July 28, 2015
10:00 a.m. - 12:00 noon
East-West Gateway Board Room

I. Call to Order
   -Michael Coulson, Chair, East-West Gateway Council of Governments
   A. Minutes of June 23, 2015 Meeting

II. Regional Air Quality Issues in the Midwest
    - Rob Kaleel, Lake Michigan Air Directors Consortium

III. State Carbon Rule/Plan
     - Stacy Allen, Missouri Department of Natural Resources

IV. Federal Highway Administration Technical Assistance Project for
Mobile Source Greenhouse Gas Emissions Inventory
    - John Posey, Pd.D., East-West Gateway Council of Governments

V. American Fuel Group Report
    - St. Louis Regional Clean Cities Program

VI. Update Activities of the States
    - Illinois Environmental Protection Agency
    - Missouri Department of Natural Resources

VII. Other Business - Next Meeting Date September 29, 2015

VIII. Adjournment

*Please note that this meeting will serve as a part of the Inter-Agency Consultation Process as detailed in the Missouri Transportation Conformity SIP.
MINUTES
AIR QUALITY ADVISORY COMMITTEE
Tuesday, June 23, 2015
East-West Gateway Board Room

Members Present:
Michael Coulson, Chair, East-West Gateway Council of Governments
Mike Henderson - Missouri Department of Transportation
Susannah Fuchs - American Lung Association
Betsy Tracy - Federal Highway Administration, Illinois
Stacy Allen - Missouri Department of Natural Resources (telephone)
Mike Right - AAA Auto Club of Missouri
Joe Gray - Illinois Department of Transportation, District 8
Jeanine Arrighi - City of St. Louis Department of Health

Others Present:
David Shanks - Boeing
Curtis Jones - Illinois Department of Transportation
Segolene Rehaze - Sierra Club
Andy Knott - Sierra Club
Jalil Kianfar - St. Louis University
Stephen Hall - Missouri Department of Natural Resources
Heather Hamilton - U.S. Environmental Protection Agency Region 7 (telephone)
Amy Bhesania - U.S. Environmental Protection Agency Region 7 (telephone)

Staff:
Paul Hubbman        Lubna Shoaib        Carol Lawrence        Ajdin Hamzagic

I. Call to Order
   - Michael Coulson, Chair, East-West Gateway Council of Governments

The meeting of the Air Quality Advisory Committee (AQAC) was called to order by Chair Michael Coulson, East-West Gateway Council of Governments (EWG). The minutes of the May 26, 2015 AQAC meeting were approved as circulated. Mr. Coulson, EWG, announced that Mr. Herdler, St. Louis Regional Clean Cities Program, and Illinois Environmental Protection Agency were unable to attend the meeting today.

II. Great Streets Initiative Update
   - Paul Hubbman, East-West Gateway Council of Governments

East-West Gateway’s Great Streets Initiative is a corridor planning exercise. The project usually looks at an arterial roadway corridor. Gateway’s role is to provide technical planning assistance and to help identify financial resources. Great Streets is funded through Missouri Regional Planning funds. EWG works with communities to help them identify their goals and vision for their community/corridor and provides them with technical planning assistance program. Then bring in technical expertise of transportation planning (car, foot, bike, truck, transit). All levels of mobility are considered and take into account people movements to, in or through an area. Starts with a land
use plan including ordinances and zoning overlays and identifying specific environmental infrastructure (stormwater, sound, lighting) for an area. The end product is a long term master plan with recommendations for: implementation strategies; phasing of strategies; and financial strategies.

Since 2007 the Great Streets Initiative has completed eight projects. Maryland Heights is still working on the Dorsett Road project. The South Grand project focused on six blocks of traditional urban commercial use in the City of St. Louis. The Labadie project centered on 1 ½ blocks of the main street of this rural hamlet in Franklin County. There have been three rounds of projects after this.

Mr. Coulson, EWG, observed that the South Grand project is an outstanding example of what the Great Streets Initiative is all about with the traffic calming efforts and developing a sense of place. It appears that both homeowners and business owners are very happy with the outcome. Mr. Hubman, EWG, said that the business community was bumping up against infrastructure in that sidewalks were narrow and deteriorating. Average speed on South Grand was 42 mph, making it challenging for pedestrians. As part of the Great Streets effort, the City implemented a “road diet”, reducing the number of traffic lanes and improved the sidewalks. Since the project, the average speed is now 32 mph, the sidewalks work better, curb bump outs have been installed and environmental infrastructure is in place (rain gardens for stormwater drainage). The commercial district is thriving, they are now hosting more activities than they used to. Great Streets has been a boon to the area.

The Manchester Road project is 7.5 miles extending from State Route 141 in Manchester to State Route 109 in Wildwood. Involved in the initial planning stages were Ballwin, Ellisville, Wildwood, Manchester and Winchester. These communities have been competing with each other for business. It was a challenge for them to work together. Development was based on a mid-century model and it was difficult to easily walk between stores. The ultimate goal was to take congestion off of Manchester Road. Ballwin, Ellisville and Wildwood have adopted the plan and are collaborating on implementation. Private developments are held to new plan standards such as use of back street right-of-ways. On the land use side the strategy is to reign in the amount of commercial space which is untenable. For the first transportation action here, MoDOT added $5 million to a regularly scheduled resurfacing project. Improvements include: median improvements; contiguous ADA access along the length of the corridor; wayfinding; signage; pedestrian-scale lighting; and landscaping. In addition, premium bus stops will be installed. Aim is to make these communities an attractive place where people will want to be.

The Natural Bridge Road Great Streets corridor extends from Lucas & Hunt Road to Hanley Road in north St. Louis County. There is a lot of institutional frontage on Natural Bridge including the University of Missouri St. Louis (UMSL) main campus. A business district (community development corporation) has been formed to focus on land use and revitalization of the area. The Natural Bridge project is under full construction at a cost of $14 million. Improvements are paralleling the highway to take traffic volume off the road. Utilities are being buried along the road as well as the installation of a mixed use path and bike lanes. Stormwater and sound-related infrastructure is under construction. Where Florissant Road squares off from Natural Bridge, a round-about is being installed. The intent is that the surrounding area will become a place for pedestrian activity and have dining/retail opportunities. The project will be completely done by the end of 2015.
The Grand Center District project in the City of St. Louis was not a typical corridor effort for the Great Streets Initiative. Grand Center has a strong organization in place, Grand Center Inc., with financial and administrative capacity to advance multiple implementation efforts. Grand Center was looking for a well thought out, well-considered multi-disciplinary plan to give their redevelopment efforts more focus and make the District work better. Key first steps are parking and development of a pedestrian promenade along Grand between Powell Hall and the Fox Theater. The first Great Streets project is the construction of a multi-level parking structure on Washington Avenue between the Sheldon Concert Hall and Grand Avenue. Grand Center is working closely with Metropolitan St. Louis Sewer District (MSD) to improve the stormwater infrastructure within the District.

A project completed in 2013 focused on Page Avenue in Pagedale in north St. Louis County. Pagedale and Beyond Housing, a community development corporation, worked together on this effort. Beyond Housing was looking to develop a more cohesive plan. Both want the corridor to work well for the surrounding neighborhoods. New to this corridor are: medical clinic; corporate retail; movie theater; senior center; grocery store; and a greenway connector to the St. Vincent’s greenway. Before the start of the Great Streets planning process, Pagedale had received transportation enhancement funds for sidewalk and pedestrian improvements on the south side of Page Avenue. It was decided to delay this project until their plan was formulated so it could be consistent. Construction is now underway on this enhancement project. Pagedale has applied for Surface Transportation Program (STP) funding to rebuild the Page and Ferguson intersection. Preliminary engineering will occur in 2016 then right-of-way acquisition in 2017 and construction in 2018.

The plan for the West Florissant corridor was completed on June 30, 2014. It was adopted by Dellwood and Ferguson. St. Louis County owns the road and is defining Complete Streets policy implementation. The two communities have formed a business association which will help to guide some of the activities and investments. However, plan implementation took a back seat with the death of Michael Brown and subsequent events in Ferguson and Dellwood. Since then, $2 million has been acquired through EWG coupled with $500,000 match from St. Louis County to perform preliminary engineering and final design for W. Florissant Road between Chambers Road and the Norfolk & Southern railroad trestle. Dellwood is interested in having the Chambers Road and W. Florissant intersection evolve into a town center. Completion of preliminary engineering will allow the communities to be able to apply for funding for construction of an off street, off curb mixed use path. This month the EWG Board will approve funding for the preliminary engineering. This process should take a year or less. Completion of preliminary engineering will allow these communities to apply for future transportation funding.

EWG staff is currently working with St. Louis County planning staff to evaluate candidate sites for future efforts. Looking for areas suitable transit oriented design development. St. Louis County is examining different map data sets to identify areas where strategic planning and input might help in redevelopment. There could be one large project or several smaller projects. A smaller project may be more cost-effective for a community. Communities selected would need to have the local will and capacity to implement. EWG would bring in individual consultants with expertise in marketing, landscape/environmental and transportation planning. A four day onsite charrette would be conducted as well as focus groups and open public meetings every night. With these activities
the community would identify priorities, vision and options. A report would be produced highlighting priorities, vision and options as well as specific strategies to achieve them. This approach would take about three months compared to one year for the typical Great Streets project.

Mr. Right, AAA Automobile Club of Missouri (AAA), asked how the Great Street projects are evaluated. In a recent visit to Labadie about 60 percent of the structures looked vacant. Mr. Hubman, EWG, replied that there is no one way to evaluate all projects. For example, Pagedale and South Grand collect data on rental rates and revenue of local businesses. With Labadie it is more anecdotal. Commercial spaces have been added, two buildings were renovated and the business community is pleased with actions that have occurred. Evaluation always ties back to the priorities defined during the project, economic activity and improvements to environmental infrastructure.

III. Missouri Emissions Inventory Trends

- Stephen Hall, Missouri Department of Natural Resources

Overview of 2001 - 2014 emission trends from point sources and non-point (on-road and off-road) source from the state level. Depending on the pollutant, facilities emitting between 250 and 2,500 tons per year of emissions are required to report their emissions annually to Missouri Department of Natural Resources (MoDNR). Another subset of facilities emitting more than 100 tons per year are required, depending on the pollutant, to report every three years. MoDNR then estimates annual statewide emission trends by pollutant. Most of the sulfur dioxide (SO₂) emitted in the state of Missouri comes from large power plants. Since 2001, SO₂ emissions have been cut more than half due to facilities adding scrubbers in order to comply with federal regulations. A continued decline in SO₂ emissions from point sources is anticipated. Since 2001 there has been a decline in nitrogen dioxide (NO₂) emissions from point sources. State rules promulgated as part of nitrogen oxide (NOₓ) State Implementation Plan (SIP) calls have helped to reduce point source contribution to ozone and fine particulate material (PM₂.₅) non-attainment area over the years. Statewide, volatile organic compounds (VOC) emissions from point sources have also had a similar downward trend. VOC rules for those areas with ozone issues have helped to reduce amount of VOC emitted by point sources. There have not been carbon monoxide (CO) National Ambient Air Quality Standard (NAAQS) compliance issues since the 1970s-1980s when catalytic converters were put into use on automobiles. This took care of CO emissions. Lead is primarily a point source emission related to large industrial facilities. Emission trends have been decreasing over time. There was an increase in 2013 but that is assumed to be an anomaly associated with the shut down of the Doe Run primary lead smelter in Herculaneum. In 2014, anticipate statewide lead emissions of between 7-20 tons per year and continued drop in emission levels over time. Missouri has not had any area-wide issues with coarse particulate matter (PM₁₀) emissions non-attainment issue. State uses minimum permit requirements as control strategy.

The U.S. Environmental Protection Agency’s (EPA) 2011 National Emissions Inventory Version 2 (NEIV2) collects and presents estimates of air emissions from all sources including point sources and non-point sources (mobile, fires, miscellaneous, solvents, etc.). Information is assembled by state and individual counties. For Missouri, the main (97 percent) emitters of SO₂ are regulated sources such as fuel combustion and industrial processes. The contribution of large point sources like fuel combustion and industrial processes to total NOₓ emissions is relatively small (23 percent).
Urban areas like Kansas City, St. Louis, Springfield, Jefferson City and Columbia collectively contribute a significant amount of NOx emissions per year due to emissions from mobile sources (cars, trucks, off-road vehicles). EPA estimates that there is a significant amount of biogenic VOC emissions. With the NEIV2, it is possible to identify county by county biogenic emissions. Large forests emit isoprene. VOC emissions from controlled sources, like solvents, are relatively low (about 5 percent of total VOC emissions in Missouri). But they are localized and are found in areas with ozone problems. This is why EPA has promulgated ozone rules controlling sources. When look at total statewide CO, mobile source is large portion of total emissions. Fire contributes a significant number. For fire, EPA has a protocol in which estimate the acres burned in each county and factor in how many CO emissions are attributable to fire statewide.

Mr. Knott, Sierra Club, asked about biogenic and solvent emission source categories. Mr. Hall, MoDNR, said that there are non-anthropogenic VOC emissions. Biogenic comes from natural processes like decomposition of vegetation like trees. Mr. Coulson, EWG, pointed out that the St. Louis area is downwind of the largest stand of oak-hickory forest in North America, a significant source of isoprene, a precursor of ozone. Mr. Hall, MoDNR, said that EPA will promulgate a monitoring requirement with the 2015 ozone NAAQS. There will likely be a photo-chemical assessment monitoring requirement for St. Louis area and one of the VOCs that will be part of this program is isoprene. Issue run into is that when have ozone episode can always put a concentration for isoprene in a model but do not always know how much of it (isoprene) was actually there when the episode occurred. This is an issue that EPA is struggling with in those areas having problems maintaining the ozone NAAQS. Need to find out what is really causing the problem and how much can be attributed to anthropogenic sources and to biogenic sources by episode.

Statewide, area wide monitoring indicate criteria pollutants concentrations are decreasing over time. Revisions to the SO2, NO2, lead and ozone NAAQS and revised monitoring network requirements has ‘lowered the bar’ for some areas. As make improvements to air quality, health science shows that a particular standard should be lowered. When this occurs, all these issues are then revisited.

In 2013 near-roadway monitor sites were deployed in Kansas City and St. Louis areas. A second near-roadway site near the I-70 and I-270 interchange in St. Louis County began operating in 2015. Equipment to monitor NO2, PM2.5 and trace levels of CO was located at these sites. No significant issues have been identified at these near-roadway sites.

No Missouri monitor sites violate the 2010 one-hour NO2 standard (100 parts per billion [ppb]) or the 2010 annual NO2 standard (53 ppb). For NO2, even with the new near-roadway sites, NO2 levels/concentrations are about the same as before the extent of the NO2 monitor network was reduced. EPA changed monitoring regulations and state wanted to reduce network operation costs. Operation of those monitoring sites with the lowest NO2 levels was discontinued to help pay operation and maintenance costs for the near-roadway monitoring sites. Concentrations are below standard. The MoDNR permit group needed to have information on what background NO2 levels were in certain non-urban areas. Recently NO2 monitoring equipment was installed at the Mark Twain State Park monitoring site in northeast Missouri. To issue permit, background level information has to be included in modeling for NAAQS compliance demonstration.
No Missouri monitor sites are currently in violation of the following PM$_{2.5}$ standards: 1997 annual; 2006 24-hour; 2012 annual (12 micrograms per cubic meter [ug/m$^3$]; or the 2012 24-hour (35 ug/m$^3$).

There were some issues with PM$_{2.5}$ data from the Illinois monitor network. If look at Missouri trends, by the time these issues are resolved by 2017, anticipate that the St. Louis area should meet the 2012 annual and 2012 24-hour PM$_{2.5}$ standards. In the St. Louis area the ambient air monitoring trends (2003-2014) for 24-hour PM$_{2.5}$ are, for the short term, comfortably below the 24-hour standard. Over the years have been closer to the annual PM$_{2.5}$ standard but in the recent past have observed a significant decline. Based on 2012-2014 monitor data, the highest PM$_{2.5}$ design value is around 11 ug/m$^3$.

One small area located near the Branch St. monitor in the north riverfront of City of St. Louis violates the 24-hour PM$_{10}$ standard (150 ug/m$^3$). It is a small area of impact with a single source or cluster of sources. In this area are Grossman Steel and metal recycling businesses. The Beelman river terminal was in this area but has relocated. This terminal had bulk loading and unloading of salt and other aggregate materials which tend to generate fugitive emissions. These emissions were likely being monitored at Branch St. site. Even though this site is currently in violation, the recent monitoring trend since mid-2014 appears to indicate that the PM$_{10}$ concentration is coming down significantly. MoDNR is not currently monitoring any issues in that area. The PM$_{10}$ standard is based on the three year average of expected exceedances of the standard.

No Missouri monitor sites violate the one-hour (35 parts per million [ppm]) or the eight-hour (99 ppm) CO standard. Since the 1970s CO levels have declined and positive downward trend continues. For both the second highest 8-hour average concentration and one-hour average concentrations, the maximum concentration is between 1-2 ppm.

The Herculaneum area in Jefferson County, the Buick area in Dent and Iron Counties and part of Holt County (Exide facility) violate the 2008 3-month lead standard of 0.15 ug/m$^3$. Attainment Demonstrations for each has have been submitted to EPA for SIP revisions. The control strategies implemented at these lead smelters have been effective. Once the controls were in place, have not monitored any episodes that would contribute to a NAAQS violation. Exide is one of the smaller secondary lead smelters in Missouri located in Holt County north of St. Joseph. There were controls on the blast furnace and the scrubber, but the entire structure was not under negative pressure. The facility installed baghouses to collect all the fugitive emissions/dust coming off the battery break-up process. Once baghouses were in use, fugitive emissions were not monitored. It is likely that Missouri will monitor compliance with the lead standard at this location.

Based on 2012-2014 data, the Orchard Farm, West Alton and Maryland Heights monitor sites in the St. Louis area violate the 2008 eight-hour ozone standard (75 ppb). The hot, dry 2012 ozone season is influencing the design values for the monitors. If the weather remains moist and cool this summer, it is possible that using 2013-2015 ozone season design values, the St. Louis area could reach attainment. Mr. Coulson, EWG, added that staff had looked at different weather scenarios and were comfortable that even with a warmer than usual 2015 summer, the area could make the ozone standard.

Part of Jackson County and part of Jefferson County violate the 2010 one-hour SO$_2$ standard. SIPs and Attainment Demonstrations are being developed for these areas. The Mott St. monitor in
Jefferson County and the Buick North East monitor are anticipated to be in compliance by the end of 2015.

Over time, SO₂ emissions have decreased significantly. The greatest drop occurred when the Doe Run lead smelter in Herculaneum ceased primary smelting operations. Missouri is working on a control strategy for an area in downtown Kansas City near the Troost monitor. An older, coal-fired power generating station (not an electrical generating unit) is located in this area.

MoDNR is working with EPA to evaluate the XACT continuous metals monitoring equipment at the Blair St. site in the City of St. Louis and the Sunset organic and elemental carbon (component of PM₂.₅) monitoring equipment. Information on monitor design values and the proposed 2015 Monitor Network Plan are on the MoDNR website. The comment period ends July 20, 2015.

Mr. Right, AAA, observed that fire was a significant contributor to some of the pollutants and asked how is fire defined. Mr. Hall, MoDNR, replied that it could be a prescribed fire, wildfire or a structural fire. Burning of anything will contribute to air quality issues. Good news is that despite the fact that fires in Missouri occur regularly, they are not occurring frequently enough or in areas populated enough for monitors to have an area wide NAAQS compliance issue. On occasion there have been elevated PM₂.₅ values at St. Joseph and Kansas City monitors due to prescribed burning in the Flint Hills of Kansas. Typically this does not yield a 24-hour PM₂.₅ violation but there have been 24-hour values observed at 20 ug/m³ (standard is 35 ug/m³). Does not trigger exceedance but does count toward the 365 daily concentrations used for the annual average. State does have some tools to manage one time, exceptional events like this.

IV. St. Louis Regional Clean Air Partnership Activities
   - Susannah Fuchs, American Lung Association

The primary messages of the St. Louis Regional Clean Air Partnership (SLRCAP) focus on how to reduce air pollution and promoting the health benefits of reducing air pollution. SLRCAP continues to work on idle reduction with school districts. It is easier to get the school district to adopt if there is interest from somebody inside that district. SLRCAP places anti-idling signs in front of schools where people idle their cars. Customized bookmarks and handouts for parents are prepared. A similar anti-idling effort is underway with municipalities. SLRCAP can provide free signs with a neutral message. It is better if actions to reduce idling appears to be voluntary.

SLRCAP is doing outreach in a more collaborative way. Coordinate with other organizations like Citizens for Modern Transit or RideFinders hosting events with a clean air focus. In the Fall, SLRCAP will host “lunch and learn” events with local businesses and colleges. In March, sent out bids for a public relations firm to assist SLRCAP. The selection should be finalized shortly. There is also a bid out to refresh and update the SLRCAP website.

The ozone season forecasting began May 1 and will continue until the end of September. The forecasting continues to be performed by the KMOV meteorologists (SLRCAP partner).
V. Update Activities of the States
   - Stacy Allen, Missouri Department of Natural Resources

The Missouri Air Conservation Commission (MACC) meets June 25 in Jefferson City. At this meeting there will be a public hearing on the SO₂ SIP for the Jackson County non-attainment area. MoDNR also is going to present the stakeholder proposals for the asbestos fee. MoDNR is continuing to receive feedback from stakeholders on possible strategies for permit fee. Since it was difficult to form a quorum for the July 30 MACC meeting, the meeting has been rescheduled for Monday, August 3 at 1:30 p.m. at the Elm St. Conference Center in Jefferson City. There will be a public hearing on three state rules concerning nitrogen oxide and sulfur oxide allowances under the national trading program set out in the federal Cross State Air Pollution Rule (CSAPR). At the August 27 MACC meeting in Jefferson City there is to be a public hearing on the attainment, non-attainment and unclassifiable boundary recommendations for the SO₂ standard (coming out of the March 2015 EPA consent decree). It is anticipated that the three CSAPR-related rules will be adopted by the MACC. At the last AQAC meeting there was a question about the Arkansas Regional Haze rule. The MoDNR regional haze staff person has read this rule and MoDNR does not plan to comment on it.

VI. Other Business

Ms. Shoaib, EWG, announced that the National Transit Institute has agreed to host the Introduction to Transportation Conformity course here at East-West Gateway on September 9 - 11. She also introduced Dr. Kianfar who is an assistant professor of civil engineering at St. Louis University with a focus on transportation engineering and modeling.

The next meeting of the AQAC was scheduled for July 29, 2015. There being no other business, the meeting of the Air Quality Advisory Committee was adjourned.