



TRANSPORTATION POLICY COMMITTEE
1:00 p.m., Thursday, July 28, 2011
Paroquet Springs Conference Centre
Adam Shepherd Room
395 Paroquet Springs Drive
Shepherdsville, KY 40165

AGENDA

Kentucky
Member
Counties

Bullitt
Henry
Jefferson
Oldham
Shelby
Spencer
Trimble

Indiana
Member
Counties

Clark
Floyd

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1. *Call to Order, Welcome, Introductions*
2. *May 26 Meeting Minutes* – Review and approval (see enclosed). **Action is requested.**
3. *Public Comment Period*
4. *Public Meeting Report* – Staff will report on public involvement activities.
5. *Indiana STP-Urban Funding Priorities* – Staff will present the recently developed priorities for the use of dedicated STP funds in Indiana (see enclosed). **Action is requested.**
6. *Indiana Highway Safety Improvement Program (HSIP) Funding Eligibility* – Staff will present projects recently declared eligible for the use of dedicated HSIP funds in Indiana (see enclosed). **Action is requested.**
7. *Horizon 2030 Metropolitan Transportation Plan (MTP)* - Staff will present a proposed amendment to the document (see enclosed). **Action is requested.**
8. *FY 2011-2015 Transportation Improvement Program (TIP)* – Staff will present a proposed amendment to the document (see enclosed). **Action is requested.**
9. *FY 2011-2015 Transportation Improvement Program (TIP)* – Staff will present information on Administrative Modifications to the short range funding document (see enclosed).
10. *Other Business*
11. *Adjourn*

Auxiliary aids/services are available when requested 3 business days in advance.



See
<http://www.ridetarc.org/triplan/>
for TARC service

MINUTES
TRANSPORTATION POLICY COMMITTEE (TPC)
Thursday, May 26, 2011, 1:00 p.m.
KIPDA Burke Room
11520 Commonwealth Drive
Louisville, Kentucky 40299

Call to Order

Chair Tom Galligan called the meeting to order at 1:09 p.m. It was determined there was not a quorum present at the start of the meeting. No motions were made on action items until a quorum was present.

Review and Approval of Minutes

Patricia Fraser, Town of Clarksville, made a motion to approve the minutes of the April 28 meeting (see May meeting packet). Bill Dieruf, City of Jeffersontown, seconded the motion and it carried with a unanimous vote.

Public Comment Period

There were no public comments.

Public Meeting/Comment Report

Josh Suiter, KIPDA staff, reported on the following recent and upcoming public involvement activities:

- May 9 – Louisville Metro’s Talk to Greg, Southern High School
- May 11 – Home Builders Association of Louisville Land Development Committee, Home Builders Association of Louisville
- May 12 – One Southern Indiana Network of Champions, Holiday Inn in New Albany
- May 14 – Louisville Metro Parks Discover the Loop Event, Lannan Park
- May 17 – City of Jeffersonville Canal Landscape and Master Plan Meeting, City of Jeffersonville Council Chamber
- May 19 – One Southern Indiana Business Awards, Horseshoe Casino
- May 23 – Shawnee Neighborhood Association Advisory Committee Master Plan for Western Louisville Public Meeting, Shawnee Arts and Culture Center
- May 26 – One Southern Indiana 5 O’clock Network, Sellersburg Health and Rehabilitation Center
- June 1 – Home Builders Association of Louisville Land Development Committee, Home Builders Association of Louisville
- June 4 – Americana World Festival, Americana Community Center
- June 9 – One Southern Indiana Network of Champions, Office Depot in Clarksville
- June 10-11 – Lyndon Area Fair, Robsion Park
- June 15 – Young Community and Business Ambassadors of Southern Indiana, Sheraton Louisville Riverside

FY 2011-2015 Transportation Improvement Program

Mary Lou Hauber, KIPDA staff, presented information on administrative modifications to the short range funding document. There was discussion. No action was required.

Transportation Planning Overview

Larry Chaney and Stacey Burton, KIPDA staff, presented information on what alternate modes of transportation are and how they influence and impact the metropolitan transportation planning process. There was discussion.

Strategic Plan for the Bluegrass Industrial Park

Larry Chaney, KIPDA staff, presented the City of Jeffersontown's request for TPC support of the implementation of the Strategic Plan for the Bluegrass Industrial Park as they pursue Transportation, Community and System Preservation (TCSP) Program funding. **J. Byron Chapman, Jefferson County League of Cities, made a motion to provide a letter of support. Bernard Bowling, City of St. Matthews, seconded the motion and it carried with a unanimous vote.**

Other Business

Larry Chaney, KIPDA staff, presented Louisville Metro's request for TPC support of the implementation of the Louisville Metro Multimodal Transportation Plan as they pursue Transportation, Community and System Preservation (TCSP) Program funding. **Matt Bullock, Kentucky Transportation Cabinet, made a motion to provide a letter of support. Bernard Bowling, City of St. Matthews, seconded the motion and it carried with a unanimous vote.**

Larry Chaney, KIPDA staff, provided an update on the proposed conformity budgets in the Indiana State Implementation Plan (SIP). There was discussion.

Adjournment

The meeting was adjourned at 1:56 p.m.

Larry D. Chaney
Recording Secretary

Members Present:

Bill Dieruf	City of Jeffersontown
Tom Galligan	City of Jeffersonville
Bernard Bowling	City of St. Matthews
*Greg Rawlings	Federal Highway Administration – Kentucky
Robert Frederick	Floyd County
J. Byron Chapman	Jefferson County League of Cities
Matt Bullock	Kentucky Transportation Cabinet
*Tom Hall	Kentucky Transportation Cabinet – District 5
Patricia Fraser	Town of Clarksville

Members Absent:

Melanie Roberts	Bullitt County
Doug England	City of New Albany
Sherry Conner	City of Shively

Agenda Item #2

Ed Meyer	Clark County
*Tommy Dupree	Federal Aviation Administration – Memphis
*Michelle Allen	Federal Highway Administration – Indiana
*Robert Buckley	Federal Transit Administration – Region 4
Karl Browning	Indiana Department of Transportation
Kathy Eaton-McKalip	Indiana Department of Transportation – Seymour
Greg Fischer	Louisville Metro Government
*James Mims	Louisville Metro Planning & Design
John Black	Oldham County
Philip Lynch	Regional Airport Authority
Cedric Merlin Powell	Transit Authority of River City
*Krista Mills	US Department of Housing & Urban Development

Others Present:

Marcie Mathews	DLZ
David Burton	KIPDA
Stacey Burton	KIPDA
Larry Chaney	KIPDA
Gina Marie Guiles	KIPDA
Mary Lou Hauber	KIPDA
Lori Kelsey	KIPDA
Andy Rush	KIPDA
Josh Suiter	KIPDA
Braden Lammers	News & Tribune
Carrie Butler	TranSystem
Tim Emington	TRIMARC

* Denotes Advisory Members



MEMORANDUM

Kentucky
Member
Counties

TO: Transportation Policy Committee

Bullitt

FROM: Mary C. Hauber

Henry

DATE: July 20, 2011

Jefferson

SUBJECT: Review and approval of revised STP-Urban project priorities

Oldham

Shelby

Spencer

Trimble

INDOT allocates approximately \$2,845,000 of STP-Urban funds annually to KIPDA to be used on surface transportation projects in the urbanized area. These funds are programmed by the MPO and are included in the Transportation Improvement Program, but the program must be fiscally constrained. The Indiana project sponsor working group met on July 5 to review projects currently programmed with Indiana STP-Urban funds. Changes were made to project costs and schedules, and a revised list of project priorities is included in this packet for your review and approval.

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Action is requested.

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**FY 2011 - FY 2015 Transportation Improvement Program
STP-Urban Priorities - Indiana Projects
July 5, 2011**

Federal Funds Only - In Year of Expenditure

Project	Project Description	KIPDA ID	Project Sponsor	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		Future		
				Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	
Bethany Rd.	Widen existing lanes, provide turning lanes at 4 intersections, and realign vertical/horizontal curves from IN 62 to IN 403	965	Clark Co.	PE	\$ 150,000	R	\$ 720,000							U	\$ 200,000	Will seek other funds for Construction C \$4,679,434
Blackiston Mill Rd Bridge #51	Replacement of Bridge #51 over Silver Creek and reconstruction of approaches on Blackiston Mill Rd.	1558	Clarksville/New Albany													P \$200,000 R \$264,600 U \$233,972 C \$2,807,661
Brown Station Way	Reconstruction of Brown Station Way from Randolph Ave. to existing bridge over Silver Creek, a distance of approx. 1.7 miles. Scope includes the rehabilitation of an existing pedestrian overpass	1572	Clarksville			P	\$233,972									U \$187,177 C \$3,369,193
CR 12, Old Vincennes Rd.	Phase 2 road reconstruction beginning at the east end of the completed Phase 1 and runs eastward 1 mile to a point east of Luther Rd.	550	Floyd Co.	add'l R	\$230,000											
IN 111 (Grantline Rd.)	Reconstruct Grant Line Rd. from McDonald Ln south to Beechwood Ave. for a distance of 1.6 miles	1586	New Albany	Oblig. PE	\$300,000	R	\$250,000							C	\$2,339,717	
Grantline Rd.	Improve/construct approx. 5,000' of street on Grantline Rd. between E. 4th St. & Vincennes St. Improve existing section with lane widening, curb/gutter & sidewalks. Improve & relocate a section of arterial street & build a new section of road to connect to E. 4th St.	2	New Albany													PE \$300,000 R \$243,101 C \$1,169,859
Grantline Rd.	Install sidewalks from University Woods Dr. to north of Klerner Ln.	986	New Albany													PE \$200,000 R \$140,000 C \$1,750,000

**FY 2011 - FY 2015 Transportation Improvement Program
STP-Urban Priorities - Indiana Projects
July 5, 2011**

Federal Funds Only - In Year of Expenditure

Project	Project Description	KIPDA ID	Project Sponsor	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		Future	
				Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars
Jeffersonville-Charlestown Pike	Reconstruct Jeffersonville-Charlestown Pike (Charlestown Pike) existing 2 lane road as a 2 lane road from Hamburg Pike to Holman Ln., adding curbs, gutters & drainage. Add sidewalks to both sides.	973	Jeffersonville											P	\$280,766
														R	\$291,722
Lewis & Clark Trail	Construction of a bicycle and pedestrian trail from George Rogers State Park to Loop Island Wetlands, including interpretive signage, trailheads describing the significance of the historic area, and the cultural resources.	1012	Clarksville		\$707,200										
Market St./Spring St.	Upgrade and designate Market St. and Spring St. as two way streets from IN 111 to State St.	1556	New Albany	D	\$225,000	C	\$1,800,000								
McDonald Ln.	Reconstruct 2 lane road from Grantline Rd. to Charlestown Rd.	95	New Albany			R	\$750,000							C	\$3,000,000
Mt. Tabor	Reconstruct 2 lane road from Grantline Rd. to Charlestown Rd.	309	New Albany			R	\$750,000			C	\$3,000,000				
New Albany Ohio River Greenway	Construct a pedestrian/bicycle path along Water Street and the floodwall from East 8th Street to the Silver Creek Bridge. Project length is 1.7 miles.	1779	New Albany	C	\$1,500,000										
Perry Crossing Rd	Reconstruct as a 2 lane road with left turn lanes from Covered Bridge Country Club to US 31	1185	Clark Co	U	\$180,000										
Salem-Noble Rd.	Reconstruct as a 2 lane road from IN 62 to IN 403	539				R	\$723,200							Will seek other funds for construction	
Salem-Noble Rd. Bridge	Reconstruct as a 2 lane road from IN 62 to IN 403 Breakout Bridge Project	1549	Clark Co											C	\$400,000
St. John Rd.	Reconstruct/realign 0.5 miles of existing road approximately 2 miles west of IN 60	964	Clark Co		\$150,000									Will seek other funds for construction	
				R	\$250,000									C	\$1,834,338

**FY 2011 - FY 2015 Transportation Improvement Program
STP-Urban Priorities - Indiana Projects**

July 5, 2011

Federal Funds Only - In Year of Expenditure

Project	Project Description	KIPDA ID	Project Sponsor	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		Future	
				Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars	Phase	Federal Dollars
10th St.	Reconstruct and widen from 4 to 5 lanes from Penn St. to Reeds Lane.	1557	Jeffersonville	Oblig.										C	\$7,000,000
				Add'l PE	\$320,000	R	\$1,600,000								C
10th St./Thompson Ln	Intersection improvements including installing a traffic signal and constructing left and right turn lanes on 10th St.	1417	Jeffersonville	C	\$520,000										
Ticket to Ride	Regional Rideshare Program	56	KIPDA	X	\$127,000	X	\$127,000	X	\$127,000	X	\$127,000	X	\$127,000	X	\$127,000
Veterans Parkway Phase 2	Widen Charlestown New Albany Pike from 2 to 4 lanes from Veterans Pkwy. to Holman Ln.; Widen Holman Ln from 2 to 3 lanes from 10th St. to Charlestown New Albany Pike	514	Jeffersonville	R	\$800,000									C	\$4,679,434
Total					\$5,459,200		\$6,954,172		\$127,000		\$5,666,717		\$127,000		\$42,540,523
Available Funds					\$12,740,430		\$7,281,230		\$327,058		\$5,890,536		\$223,819		
Balance					\$7,281,230		\$327,058		\$200,058		\$223,819		\$96,819		



MEMORANDUM

Kentucky
Member
Counties

TO: Transportation Policy Committee

Bullitt

FROM: Andy Rush

Henry

DATE: July 19, 2011

Jefferson

SUBJECT: Highway Safety Improvement Program (HSIP) Projects in Indiana

Oldham

Shelby

Spencer

Trimble

The INDOT Office of Traffic Safety, in conjunction with the multi-agency Highway Safety Advisory Committee, has recently completed their eligibility review of local safety projects that are seeking Highway Safety Improvement Program (HSIP) funding. All projects submitted prior to the June 2, 2011 deadline were reviewed to determine the project's eligibility for this source of funding. A total of three projects were submitted from the KIPDA region, and all three were found eligible.

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The three new projects are scheduled to be added to the Transportation Improvement Program (TIP) as a part of an Administrative Modification at today's meeting of the Transportation Policy Committee (See Agenda Item #9). *These projects are listed in the attached spreadsheet, along with HSIP projects that are already in the TIP.*

Clark

Floyd

The next call for projects is due to INDOT by October 14, 2011. Any new projects will be due to KIPDA staff by approximately October 7, 2011. Additional details will be provided to potential project sponsors as they become available in the coming months.

The Transportation Technical Coordinating Committee reviewed the projects and voted to recommend the projects for approval of the use of HSIP funding dedicated to the Louisville Metropolitan Area.

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Action is requested.

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Indiana Highway Safety Improvement Program (HSIP) Projects in the KIPDA Region

New Indiana HSIP Projects

<u>City/Town</u>	<u>County</u>	<u>INDOT DES</u>	<u>KIPDA ID</u>	<u>Work Type/Location</u>	<u>Eligibility</u>	<u>PIF Submitted</u>	<u>In TIP?</u>	<u>Total Cost</u>
Clarksville	Clark	1173187	N/A	Sign Inventory & MUTCD Upgrade / Various locations in Clarksville	Eligible	Yes	No	\$315,600
New Albany	Floyd	1173188	N/A	Sign Inventory & MUTCD Upgrade / Various locations in New Albany	Eligible	No	No	\$394,050
New Albany	Floyd	1173185	N/A	Comprehensive Safety Plan / City of New Albany	Eligible	No	No	\$105,000

Existing Indiana HSIP Projects

<u>City/Town</u>	<u>County</u>	<u>INDOT DES</u>	<u>KIPDA ID</u>	<u>Work Type/Location</u>	<u>Eligibility</u>	<u>PIF Submitted</u>	<u>In TIP?</u>	<u>Total Cost</u>
New Albany	Floyd	1006046	1885	Intersection Improvement / Spring Street & Silver Street	Eligible	Yes	Yes	\$800,000
New Albany	Floyd	1006047	1884	Intersection Improvement / Charlestown Road & Beechwood Avenue	Eligible	Yes	Yes	\$450,000
New Albany	Floyd	1172394	1898	Sign Replacement / Various Locations in New Albany	Eligible	Yes	Yes	\$150,000

Note: Next Call for Projects is scheduled to be due to INDOT by 10/14/11.



MEMORANDUM

Kentucky
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TO: Transportation Policy Committee

FROM: Mary C. Hauber

Bullitt

DATE: July 20, 2011

Henry

SUBJECT: Amendment of the Horizon 2030 Metropolitan Transportation Plan

Jefferson

Oldham

Shelby

KIPDA has been requested to amend the *Horizon 2030 Metropolitan Transportation Plan*. Attached, please find the requested amendments to the Metropolitan Transportation Plan (project changes are shown in the shaded column), a summary of the Interagency Consultation meeting, and the air quality conformity documentation.

Spencer

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These projects changes were examined and it was determined a regional emissions analysis was necessary, conducted, and shown to pass conformity. The project changes, Interagency Consultation meeting summary, and air quality conformity documentation were available for public review from June 27 through July 11 at public libraries and on the KIPDA website. Public open houses were held on June 29 at KIPDA and at the Iroquois Public Library. The comments that we received were previously sent to you on July 13 for review.

Clark

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The Transportation Technical Coordinating Committee reviewed this information and voted to recommend approval of Amendment 2 at their meeting on July 13, 2011.

Action is requested.

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**Amendment 2 of Horizon 2030 Metropolitan Transportation Plan
Amendment 2 of FY 2011 - FY 2015 Transportation Improvement Program**

July 2011

KIPDA ID	State ID	Project Name	Project Description	Project Sponsor	Description of Plan Amendment	Description of TIP Amendment	Effect on AQ Analysis
KENTUCKY PROJECTS							
224	378.10	I- 65	Extend and reconstruct I-65 southbound ramp to Brook Street and Floyd Street. The study will include the consideration of bicycle and pedestrian facilities.	Louisville Metro Public Works	Change Open to Public Date from 2011 to 2016	Add FY 2012 Design \$750,000 federal; Add FY 2013 Utilities \$750,000 federal; Move FY 2011 Construction to FY 2015; STP-Urban with KY toll credits match.	Regionally Significant -- Remove project from 2012 scenario.
	804.00	I-264/US-42	Reconstruct the Watterson Expressway Interchange at US-42 including slip ramp to KY 22. Interim operational improvements including slip ramp from the I-264 NB/US-42 EB Off Ramp direct to KY-22 (Old Brownsboro Road) as recommended by 5-390.00 I-264/US-42 Interchange Scoping Study.	KYTC	Change Open to Public date from 2015 to 2012.	Move FY 2012 ROW to FY 2011, \$500,000; Move FY 2012 Utilities to FY 2011, \$400,000; Move FY 2013 Construction to FY 2012, \$2,775,000; STP-State Funds with KY Toll Credits match.	Regionally Significant -- Add project to 2012 scenario.
1810		One Way Street Conversion to Two Way, Phase 2	Conversion of one-way streets in downtown Louisville to two-way traffic (8th, 7th, Shelby, Campbell Streets).	Louisville Metro Public Works	Change Open to Public Date from 2012 to 2014	Move FY 2011 Construction to FY 2013; STP-Urban	Regionally Significant -- Remove project from 2012 scenario.
		South 3rd Street/National Turnpike Bicycle Facility Improvements	This project involves reducing travel lane widths along W. Kenwood Way, Southside Drive and National Turnpike to 10 feet; reducing the number of travel lanes along S. 3rd Street from four lanes (2 in each direction) to three lanes (1-lane in each direction and a 2-way left turn lane); and marking Seneca Trail as a shared roadway to provide bike lanes (see typical sections).	Louisville Metro Public Works	Change Plan project cost from \$2,310,000 to \$300,000	No change to TIP	Regionally Significant -- no change to model.

Interagency Consultation Conference Call Summary

May 23, 2011
10:00 a.m. EST

Participants

FHWA-KY	-- Bernadette Dupont and Greg Rawlings
IDEM	-- Gale Ferris, Shawn Seals
KYDAQ	-- Joe Forgacs
KYTC	-- Jesse Mayes, Amy Thomas, and Justin Harrod
KIPDA	-- Mary Lou Hauber, Andy Rush, Randy Simon, David Burton, and Larry Chaney

Background

Recently, KIPDA staff has undertaken the steps necessary to amend the Metropolitan Transportation Plan and the FY 2011 – FY 2015 Transportation Improvement Program. KIPDA staff compiled a list of proposed project changes and distributed it—via e-mail—to the members of the Interagency Consultation group (IAC/ICG) on May 13, 2011 along with recommendations about how these changes should be handled with respect to the regional emissions analysis.

Discussion of Schedule

The amendment schedule of activities was discussed and includes the following key elements:

- the air quality analysis will begin on May 23
- public review will be from June 27 through July 11
- TPC action on July 28
- federal conformity review will be from July 28 through September 27

Discussion of Projects

The project list was reviewed including recommendations concerning how they should be handled with respect to the regional emissions analysis. KIPDA staff noted that very few of the project changes had an impact on the modeling. KIPDA staff and project sponsors discussed various projects and provided additional information, changes and/or clarification of those projects. Changes to projects included the following:

- **KIPDA ID 224, State ID #378.10: I-65** - Extend and reconstruct I-65 southbound ramp to Brook Street and Floyd Street. The study will include the consideration of bicycle and pedestrian facilities. KIPDA Staff made a correction to the project information, modifying the existing Open to Public Date from 2012 to 2011. The amendment change includes, change Open to Public Date from 2011 to 2016 in the Plan. Remove project from the 2012 scenario.
- **State ID #804.00: I-264/US 42** - Reconstruct the Watterson Expressway Interchange at US-42 including slip ramp to KY 22. Interim operational improvements including slip ramp from the I-264 NB/US-42 EB Off Ramp direct to KY-22 (Old Brownsboro Road) as recommended by 5-

390.00 I-264/US-42 Interchange Scoping Study. Change Open to Public Date from 2015 to 2012. Add project to the 2012 scenario.

- **KIPDA ID 1810: One Way Street Conversion to Two Way, Phase 2** - Conversion of one-way streets in downtown Louisville to two-way traffic (8th, 7th, Shelby, Campbell Streets). Change Open to Public Date from 2012 to 2014. Remove project from the 2012 scenario. There was discussion concerning why this project is being done. This project is sponsored by Louisville Metro Public Works and is the result of a study of the one-way street patterns in downtown Louisville.
- **South 3rd Street/National Turnpike Bicycle Facility Improvements** - This project involves reducing travel lane widths along W. Kenwood Way, Southside Drive and National Turnpike to 10 feet; reducing the number of travel lanes along S. 3rd Street from four lanes (2 in each direction) to three lanes (1-lane in each direction and a 2-way left turn lane); and marking Seneca Trail as a shared roadway to provide bike lanes (see typical sections). Change Plan project cost from \$2,310,000 to \$300,000. No change to the model.

Additional Discussion

KIPDA Staff noted that budget tests will be used for the analysis of Ozone and its precursors, and a baseline test will be used to analyze PM2.5.

Following discussion, it was the consensus of the IAC group to proceed with the analysis of the project changes included in this amendment using MOVES instead of MOBILE6.

The conference call adjourned.

AIR QUALITY CONFORMITY

The Louisville, KY-IN transportation planning study area consists of Clark and Floyd counties and 0.1 square miles of Harrison County in Indiana, and Bullitt, Jefferson, and Oldham counties in Kentucky. Much of this area coincides with an air quality maintenance area and/or an air quality nonattainment area. The Louisville 8-hour ozone maintenance area consists of Clark and Floyd counties, IN, and Bullitt, Jefferson, and Oldham counties, KY. In June 2004, it was designated as a basic nonattainment area under the 8-hour standard for the pollutant ozone. The area was redesignated as an attainment area with a maintenance status during July, 2007. The Louisville fine particulate matter (PM 2.5) nonattainment area consists of Clark and Floyd counties and the Madison Township of Jefferson County, IN, and Bullitt and Jefferson counties, KY. In April 2005, it was designated as a nonattainment area under the PM 2.5 standard (based on average annual concentration).

KIPDA is amending *Horizon 2030*, the metropolitan transportation plan (MTP) and the FY 2011 – FY 2015 Transportation Improvement Program (TIP). This conformity analysis will support conformity determinations by the metropolitan planning organization and the U. S. Department of Transportation agencies for both documents. This analysis is intended to support determinations of conformity under both the 8-hour ozone standard and the annual PM 2.5 standard.

CONFORMITY UNDER THE 8-HOUR OZONE STANDARD

Subsequent to being designated as nonattainment of the 8-hour ozone standard and prior to being redesignated as attainment of the standard, the Louisville area relied on the use of interim tests to demonstrate conformity. These tests had been established during a 2004 update to the federal conformity rule. Interim tests are used between the time an area is designated as nonattainment and the time motor vehicle emission budgets (MVEBs) are established. The MVEBs limit the amount of a pollutant or precursor that can be emitted.

When the local area was designated as nonattainment of the 8-hour ozone standard, the air quality agencies with responsibility for the local area were charged with the additional responsibility to develop a set of actions that could be taken to reduce pollutant/precursor emissions. Since the Louisville nonattainment area is a bi-state area, these sets of the actions to reduce precursor emissions were to be incorporated into the Indiana and Kentucky State Implementation Plans (SIPs). Originally, the plans including these sets of action were to be included in an attainment demonstration, which would show how the local area would reach the standard. While these plans were being developed, the data from the air quality monitors in the area indicated that the 8-hour ozone standard had been met. With this data in hand, the air quality agencies were able to submit a redesignation request instead. The establishment of the MVEBs was one of the components of the redesignation request. Since the MVEBs were included in the redesignation request for ozone, the MVEBs are established for its precursors, volatile organic compounds and oxides of Nitrogen.

CONFORMITY UNDER THE PM 2.5 STANDARD

In April 2005, when the local area was designated as being in nonattainment of the fine particulate matter standard, there were no previous budgets for PM 2.5. In addition, there were no counties which had been previously divided on an attainment/nonattainment basis for the PM 2.5 standard. The counties which were designated as nonattainment under the PM 2.5 standard were all designated in their entirety with the exception of the Madison Township of Jefferson County, IN which had not been previously designated as nonattainment for any pollutant.

During 2005, along with the designation of PM 2.5 nonattainment areas, EPA promulgated an update to the federal conformity rule (40 CFR 93). This update established new interim tests to be applied when an area sought to determine conformity after being designated as nonattainment under the PM 2.5 standard and before SIPs were developed establishing new budgets for PM 2.5 and its precursors.

CONSULTATION FOR THE AMENDMENT OF *HORIZON 2030*

The first step in determining conformity of *Horizon 2030* was to consult with the interagency consultation (IAC/ICG) partners concerning matters not explicitly determined by the conformity rule. Since conformity under both the 8-hour ozone and PM 2.5 standards had been previously determined, many of the issues normally arising in conformity had already undergone consultation. Since these issues were not raised during consultation this time, the portions of the analysis involving those issues were accomplished consistent with established practice. The initial consultation involved a review of the following items:

- (a) important dates in the schedule for the update;
 - May 23 -- Regional Emissions (Air Quality) Analysis begins.
 - June 27 -- Public Review begins.
 - July 13 -- Action by the Transportation Technical Coordinating Committee
 - July 28 -- Action by the Transportation Policy Committee
 - July 28 -- Documentation sent to review agencies for federal conformity determination
- (b) a draft list of projects—see accompanying list of projects;
- (c) the horizon year of the transportation plan—2030;
- (d) the proposed conformity test methodology/ies and analysis years—see the ESTABLISHED PRACTICE section;
- (e) the pollutant(s)/precursor(s) of concern and the motor vehicle emissions budget(s), if applicable—see tables 2 and 4 at the end of the report;

- (f) information concerning the inputs for the travel demand model and the approved emissions model—see accompanying list of projects and the items concerning the travel demand model and emissions model under Other Planning Issues; and
- (g) a listing of any transportation control measures (TCMs) in SIPs, if applicable—there are none.

Issues

Discussion of Projects

The amendment involved four projects. There was some discussion of the projects. Three of the projects involved a change of scenario while the other project had no effect concerning the modeling. With respect to the way the projects were reflected in the regional emissions analysis, the recommendations of KIPDA staff were accepted.

Conclusion: The IAC/ICG members accepted the recommendations of KIPDA staff concerning the incorporation of the projects into the regional emissions analysis.

Other Planning Issues

In addition to the discussion of projects, the following planning assumptions and other issues were discussed.

- (1) The issue of whether to use the MOBILE 6 emission factor model or the MOVES emissions model was raised. Staff reported that trial runs had indicated that it was possible to pass conformity for the ozone standard using the MOVES model. Since the 2002 baseline test is being used for conformity for the PM 2.5 standard, either model should be likely to provide the region a reasonable chance of passing conformity. Staff suggested that the MOVES model be used, and the IAC/ICG accepted that recommendation.

Conclusion: The IAC/ICG members accepted the recommendation of KIPDA staff concerning the use of the MOVES emissions model.

- (2) Staff proposed continuing to use the following analysis years: 2012, 2020, and 2030. There was little discussion concerning this point. More about this issue can be found in the ESTABLISHED PRACTICE section.
- (3) Staff proposed continuing to use the budget test for ozone. Since there are no approved/ adequate MVEBs for PM 2.5, Staff proposed continuing to use the 2002 baseline test for that pollutant and its precursor. There was little discussion concerning this point. More about this issue can be found in the ESTABLISHED PRACTICE section.
- (4) There was another issue which affected the calculation of emissions for this analysis. This was the issue of how to calculate the annual emissions for PM 2.5. As

discussed in the section on ESTABLISHED PRACTICE, this area had previously used the single run approach to calculate the annual emissions of PM 2.5 and its precursor. This issue was not discussed during consultation for the amendment of *Horizon 2030*, but it had been recently reported by staff of LMAPCD that they were now calculating annual emissions for PM 2.5 and its precursor using twelve monthly runs of the MOVES emissions model. This approach was also used for the analysis for the amendment of *Horizon 2030*. More on this topic can be found below in the ESTABLISHED PRACTICE section.

Conclusion: The IAC/ICG members had been previously informed that the LMAPCD approach to calculating PM 2.5 and its precursor had been changed to twelve monthly runs of the MOVES emissions model.

ESTABLISHED PRACTICE

In addition to the issues discussed during consultation, there were several issues which were not explicitly discussed or received little discussion but which had impacts on the analysis. Many of these issues had been discussed during previous consultations. These issues were handled in a manner consistent with the previous established practice. The more prominent issues are discussed below.

Issues affecting both Ozone and PM 2.5

Source of Bullitt County and Oldham County VMT and Speeds

Originally, the Kentucky Transportation Cabinet (KYTC) had provided the vehicle-miles-traveled (VMT) and speeds to be used in estimating pollutant emissions for Bullitt and Oldham counties in the analyses supporting conformity determinations. During 2006, it was mentioned that the KIPDA travel model included those counties. As a consequence, it was stated that KIPDA should supply that information starting with the next conformity analysis, and KIPDA agreed to do this. KIPDA has provided this data since that time.

Conclusion: The established practice is that KIPDA will provide VMT and speed information to the Kentucky Division for Air Quality (KYDAQ) for the determination of emission estimates for Bullitt and Oldham counties.

Analysis Years and Conformity Tests

Motor Vehicle Emissions Budgets (MVEBs) for the 8-hour ozone standard were approved by EPA in July, 2007. The MVEBs were for the precursors of ozone, volatile organic compounds (VOCs) and oxides of Nitrogen (NOx), The Federal Register notice can be found at 72 FR 36601. The budgets are shown in Table 2 at the end of this document. Since there are MVEBs for the ozone precursors, the conformity rule requires that ozone analyses be done for the attainment year and the last year of the transportation plan. In addition, other intermittent year(s) are required such that no two analysis years are more than ten years apart.

Since there are not MVEBs available for PM 2.5 and its precursor (oxides of Nitrogen), the conformity rule requires that PM 2.5 analyses be done for the last year of the transportation plan and for a year within five years of the present. In addition, other intermittent year(s) are required such that no two analysis years are more than ten years apart.

The established practice for analysis years and conformity tests are outlined in this and the following paragraph. Since the MVEBs are available for the ozone precursors, the conformity tests can be budget tests. For the budget tests, the estimated emission levels must be less than or equal to the applicable MVEBs. Since budgets have been established for 2003 and 2020, the 2003 budgets will be used for analysis years prior to 2020, and the 2020 budgets will be used for 2020 and later analysis years.

Since there are no applicable MVEBs for PM 2.5 and NOx (as a PM 2.5 precursor), the conformity rule requires the use of an interim emission test. The interim emission test must be either of the following:

- (1) build emissions no greater than no-build emissions, or
- (2) analysis year emissions no greater than 2002 emissions.

The established practice is to use the 2002 baseline or “no greater than 2002” test. The 2002 baseline test would be applied to the entire PM 2.5 nonattainment area for all analysis years.

Conclusion: The established practice is that the analysis years and conformity tests for the regional emissions analysis is as shown in the tables below.

8-hour Ozone Standard	
Analysis Year	Conformity Test(s)
2012	Budget test using the 2003 MVEBs for the 8-hour maintenance area
2020	Budget test using the 2020 MVEBs for the 8-hour maintenance area
2030	Budget test using the 2020 MVEBs for the 8-hour maintenance area

Annual PM 2.5 Standard	
Analysis Year	Conformity Test(s)
2012	2002 Baseline test for the PM 2.5 nonattainment area
2020	2002 Baseline test for the PM 2.5 nonattainment area
2030	2002 Baseline test for the PM 2.5 nonattainment area

Other PM 2.5 Issues

Pollutants and Precursors

The conformity rule requires that direct vehicle PM 2.5 from the tailpipe and brake and tire wear be analyzed. The rule also requires that oxides of Nitrogen (NOx) (one of the PM 2.5 precursors) must be analyzed unless EPA and the respective state air agency make findings that its influence is insignificant. PM 2.5 from road dust and the other precursors (volatile organic compounds, oxides of Sulfur, and ammonia) do not have to be considered because neither EPA nor the respective state air agency has made a finding of significance for them. PM 2.5 from construction dust does not have to be considered because there is no State Implementation Plan (SIP) indicating its influence is significant.

Conclusion: The established practice is that only direct PM 2.5 from the tailpipe and brake and tire wear and NOx will be considered in the analysis.

Approaches for Developing Annual Emission Estimates

As stated above, the local area was designated as nonattainment of the PM 2.5 standard because it was exceeding the annual average concentration allowed by the standard. This means that the conformity analysis will need to be based on an estimate of annual direct PM 2.5 and NOx emissions rather than an estimate of daily emissions as is used in the conformity analysis for ozone.

Four approaches were included in the guidance. They are the:

- Single-run approach,
- Two-season approach,
- Four-season approach, and
- Monthly approach.

These vary in complexity and effort. The single-run approach is the simplest, requiring the least amount of time and effort. The guidance indicated that this approach is applicable when input conditions do not vary significantly throughout the year. Other factors that were to be considered included (1) consistency with a SIP budget or base year emissions, (2) availability and quality of seasonal or monthly data, and (3) resource implications.

The air quality agencies in the area had previously used the single-run approach to calculate the emissions of PM 2.5 and its precursor. Recently, the staff of LMAPCD that they were now calculating annual emissions for PM 2.5 and its precursor using twelve monthly runs of the MOVES emissions model. This approach was also used for the analysis for the amendment of *Horizon 2030* for the PM 2.5 nonattainment area with the exclusion of Madison Township of Jefferson County, IN. Madison Township typically accounts for less than five percent of the area's emissions. So any differences in approach for Madison Township should have a minimal effect on the total emissions. Further, because the conformity test is the "not greater than 2002" test, the results for Madison Township cannot affect the passing of conformity unless the 2002 estimates were less than the estimates for a future, and this has never happened for Madison Township.

Conclusion: The established practice has been replaced by the use of twelve monthly runs of the MOVES emissions model for calculating annual direct PM 2.5 and NOx emissions.

CONFORMITY OF *HORIZON 2030*

The MTP, *Horizon 2030*, was examined to determine if it meets the requirements of the conformity rule under both the 8-hour ozone standard and the annual PM 2.5 standard. In general, examinations for conformity have two major components:

- (1) an air quality (regional emissions) analysis to determine that air pollutant emissions do not exceed the budgets (for ozone) set in the SIPs or the emission levels for a given base year such as 2002 (for PM 2.5); and
- (2) a monitoring of the progress in implementation of the Transportation Control Measures (TCMs) contained in the SIPs.

In the past, consultation with the state and local air quality agencies and EPA had determined that there are no approved TCMs in the SIPs of Indiana and Kentucky. Therefore, it is possible to show conformity of *Horizon 2030* simply by determining that the air pollutant emissions do not exceed the budgets in the SIPs or the base year emissions.

In general, the calculation of the regional emissions for 2002 and the other analysis years involved two steps. First, the travel-related information (VMT, speeds, etc.) was determined. Second, the travel-related information was used as inputs to the MOVES emissions model, which provided emission estimates for the pollutants and precursors. The use of these two steps in estimating emissions for the Madison Township of Jefferson County (IN) may have varied slightly from their use in the other counties, but essentially the same steps were undertaken for all portions of the nonattainment/maintenance areas. The details of their use are discussed in the Regional Emissions Analysis section below.

AIR QUALITY ANALYSIS

The air quality analysis for the amendment of *Horizon 2030* involved two steps. The first step was to review the projects to determine which projects were “regionally significant” and needed to be included in the regional emissions analysis and to have this list of projects reviewed and accepted by the IAC/ICG. The second step was to develop estimates of travel behavior using the KIPDA travel demand model and to calculate the emissions associated with the travel using the MOVES emissions model. The second procedure is known as the Regional Emissions Analysis. These steps are discussed below in greater detail.

PROJECT REVIEW

The first procedure involved determining which transportation plan projects were "regionally significant" and therefore to be included in the regional emissions analysis. During the development (update) of *Horizon 2030*, a group of projects had been proposed for the plan, reviewed by conformity partners, and incorporated into the plan. For each amendment, additions, deletions, and/or changes to the projects are proposed. These additions, deletions, and/or changes are discussed with the IAC/ICG, and agreement is reached as to how each of the additions, deletions, and/or changes should be analyzed in the regional emissions analysis. Those projects in *Horizon 2030* which were not changed will be analyzed as they were previously. There is usually a straightforward explanation for why projects are included in the analysis and why they are analyzed as they are. The following paragraphs explain why some projects are excluded from the regional emissions analysis.

As in prior plans, some of the projects in *Horizon 2030* have been excluded from the regional emissions analysis. Most of the projects which were excluded were exempt projects as defined in the Code of Federal Regulations in 40 CFR 93.126 and 40 CFR 93.127. In addition, a few projects were excluded from the regional emissions analysis due to a lack of sufficiently detailed information. They include:

1. Transportation System Management (TSM) Projects

Incident Management Program:

This project involves providing the motorist with information concerning lane closures due to accidents, construction, etc., which reduce the capacity of the facility. At this time, the route for diversion is totally at the discretion of the motorist. Therefore, there is insufficient information to quantify the emission impacts using the travel demand model approach.

Spot Improvements:

This is a funding mechanism for undetermined intersection improvements which would have minimal air quality impacts. No projects with air quality impacts are currently proposing use of these funds.

2. TSM Corridors

A group of corridors was identified for improvements utilizing Transportation System Management. At this point, sufficient detail is lacking for inclusion in the air quality conformity analysis.

These projects continue to be excluded from the regional emissions analysis.

REGIONAL EMISSIONS ANALYSIS

The regional emission analysis consists of two procedures—(1) the analysis of travel behavior impacts and (2) the estimation of emissions due to those impacts. Two slightly different methods were used for estimating the travel behavior impacts—one for Madison Township of Jefferson County, IN and the other for the rest of the nonattainment/maintenance area. The reason for the two methods is that there is no travel demand model for Madison Township. The estimation of emissions for both areas was done using a similar method.

The analysis of the travel behavior impacts for the portion of the nonattainment/maintenance area excluding Madison Township involved using the KIPDA travel demand model to determine measures of travel such as VMT and speed. The method for accomplishing this was to input the appropriate roadway and transit information into the model and to run the model using the appropriate socioeconomic information for a given analysis year. This analysis is explained below in further detail in the sections concerning the KIPDA travel demand model and adjustment factors for travel model output.

As previously mentioned, the procedures used for the Madison Township of Jefferson County (IN) varied slightly from those used for the rest of the nonattainment /maintenance area. VMT was based on values from the Highway Performance Monitoring System. A growth rate approach was used to estimate VMT for future years. Further discussion of the methodology for estimating emissions for Madison Township is included in the section concerning the MOVES emissions model.

In addition, there were several projects which could not be analyzed using the travel model. The ones discussed above were not included in the emissions analysis; others had been previously evaluated using spreadsheet methods involving emission factors. Since the MOVES emissions model was being used in the inventory mode, emission factors were not available for this analysis. However, past experience has shown that the emission impacts for these projects were always small and positive (i.e. emission reducing). Therefore, it is reasonable to predict that the emission impacts of these projects—if they could be quantified—would decrease the emissions shown in the tables at the end of this document.

In addition, there was one project affecting Bullitt County that could not be included in the travel model. Unlike the projects described in the paragraph above, this project could have the potential to increase emissions. Therefore, a special effort was made to include its impacts in the analysis of travel behavior impacts and, consequently, in the regional emissions analysis. This project was the relocated (southern) section of US 31E. This project, which had been discussed during consultation in the past, involved the relocation of a small (0.18 mile) section of US 31E from Nelson County (outside of the nonattainment area) to Bullitt County (inside both the 8-hour ozone maintenance and PM 2.5 nonattainment areas) during the reconstruction of that road. Estimates of the VMT for this project were developed using a spreadsheet approach. The VMT estimates were the product of the estimated traffic volumes for each of the analysis years and the length of the relocated section in Bullitt County. The VMT estimates for this project were then added to

other Bullitt County VMT estimates of the same functional class. Consequently, the VMT estimates from this project were included with the other Bullitt County VMT, and the emissions in Bullitt County associated with this project were included in the overall emission estimates for Bullitt County.

Regardless of the method to analyze the travel behavior impacts, the method used to translate those travel impacts into emission impacts was the MOVES emissions model. The inputs to the MOVES model were different for each county, but the MOVES model was used for all counties. The description of its use is provided in more detail in the section concerning the MOVES emissions model below

The emission estimates for all of the nonattainment/maintenance area except Madison Township of Jefferson County, IN were determined in the following manner. First, the KIPDA travel demand forecasting model was used to estimate travel behavior in the region. Second, the output from the travel model was adjusted using the adjustment factors discussed below, and the adjusted VMT was placed in five miles per hour speed bins. Third, the VMT in each of the speed bins was divided by the total VMT for that county to determine VMT fractions. Fourth, the VMT fractions and total VMT were used as input to the MOVES emissions model to determine the emissions for the county. It should be noted that the emissions for the ozone precursors were estimated for a typical summer day and the emissions for PM 2.5 and its precursor were estimated for each of the twelve months with the annual emissions being the sum of the monthly values. Further, only ozone precursors were calculated for Oldham County since it is not part of the PM 2.5 nonattainment area.

KIPDA Travel Demand Model

The KIPDA travel demand model is a mathematical model which relates travel to the transportation system and basic socioeconomic information. The domain of the model is a study area which includes the Louisville (KY-IN) Metropolitan Planning Area. The Louisville (KY-IN) Metropolitan Planning Area consists of Clark and Floyd counties, and 0.1 square miles in Harrison County, IN, and Bullitt, Jefferson, and Oldham counties, KY. This area is divided into 807 smaller units called traffic analysis zones.

The KIPDA regional travel demand model was updated and calibrated during 2011. This update established 2007 as the new base year for the model. The model update utilized the information incorporated into the travel model during previous updates. In particular, information from the 2000 Census, the 2000 KIPDA Household Travel Survey, and the 2004 on-board survey of transit riders by the Transit Authority of River City had been previously incorporated. During the update, the model parameters were adjusted such that the model output matched—within reason—three main calibration criteria based on measured data. These criteria were: (1) daily VMT for all highway facilities except local roads for the region; (2) the distribution of trip lengths (duration in time); and (3) highway traffic volumes crossing the Ohio River screenline. The result of the update was a travel model which replicated travel in the Louisville area for 2007. The updated travel model was used in the regional air quality analysis.

The KIPDA travel demand model uses the standard four steps of modeling: trip generation, trip distribution, mode choice, and trip assignment. In addition, it considers travel by vehicles entering, leaving, and crossing the study area. These types of trips are known as external-internal, internal-external, and external-external, respectively. The internal ends of these trips are determined by the methods described below for internal-internal travel. The external ends are determined from the volume of traffic crossing the study area boundary at any of the 48 external stations.

Trip generation is the process of determining the number of unlinked trip ends--called productions and attractions--and their spatial distribution based on socioeconomic variables such as households and employment. Trip rates used to define these relationships were derived from the travel data collection efforts described above. This information was supplemented by use of the *National Cooperative Highway Research Program Report #365* and the Institute of Transportation Engineers' *Trip Generation Report*. The KIPDA travel demand model uses three internal-internal trip purposes and utilizes different trip rates for each. Internal-internal trips are those which have both ends inside the modeling domain. The three purposes are home-based work, home-based other, and non home-based.

Trip distribution is the process of linking the trip ends thereby creating trips which traverse the area. The KIPDA travel model uses a gravity model to link all trips except the external-external ones. The gravity model is based on the principle that productions are linked to attractions as a direct function of the number of attractions of a zone and as an inverse function of the travel time between zones. This inverse function of travel time is used to generate parameters called friction factors which, in turn, direct the gravity model. The friction factors used in the gravity model were developed as part of the calibration effort performed during the model update. In addition, information from a study which investigated the behavior of travelers crossing the Ohio River and traffic count information from 2007 were utilized to develop additional parameters called K-factors. The K-factors are used by the model to ensure that it is predicting the correct volume of traffic crossing the Ohio River.

Mode choice is the process used to separate the trips which use transit from those which use automobiles. It is also used to separate the auto drive-alone trips from auto shared-ride trips. In some previous KIPDA travel demand models, mode choice was based primarily on information provided by the *TARC Travel Forecasting Study*. In that model, the user's benefit or utility was calculated for each mode based on zonal socioeconomic characteristics and the cost and time of the trip using the various modes. A nested logit model was used to determine the probability of the trip being made by each of the modes. This probability was then multiplied by the number of trips between zones to determine the number of trips by each mode.

As previously stated, the conformity analysis for *Horizon 2030* utilizes transit information from the previous travel demand model. The results of the 2004 TARC on-board survey had been used to supplement the previous information. This was deemed acceptable for several reasons. The primary reason was that the transit network envisioned by *Horizon 2030* is essentially the same as the existing one. In addition, the number of total trips from

the two models was similar. Therefore, the use of the transit trip information from previous travel models did not change significantly the proportion of trips allocated to transit. Finally, the proportion of trips utilizing transit is less than 2% of the total trips. So small differences in the number of transit trips should provide a negligible effect on overall travel.

Trip assignment is the process used to determine which links of the network a trip will use. There are several assignment schemes which may be used. Two of the more common schemes are All-or-Nothing (AON)--in which all trips between two zones follow the shortest time path--and Stochastic--in which trips between two zones may be assigned to several paths based on their impedances or travel times. It is not uncommon for travel models to use several assignment schemes in sequence to converge to a better assignment. A sequence commonly used involves using several AONs with the traffic volumes reported at the end of each scheme being a weighted average of the volumes from the most recent scheme and the volumes from the previous schemes. A capacity restraint provision is used to adjust travel times between assignment schemes. This sequence is called an equilibrium assignment. The KIPDA travel model uses an equilibrium assignment which converges when the change in system-wide travel time over successive iterations is estimated to be within 0.1 percent of the minimum (optimal) value or less.

Tolls are being considered as a means of providing for a portion of the cost of the Ohio River Bridges project. To reflect this possibility in the MTP update, the KIPDA travel model was modified by placing time penalties on the bridges where tolls may be placed. The use of this modification was continued.

The output from the KIPDA travel model is in the form of a series of links with each link having certain associated data such as number of lanes, capacity, facility type, area type, functional class, and volume. This data allows for the calculation of other link information such as VMT. The VMT can be calculated as the product of the volume of traffic using a link times the distance of the link.

Adjustment Factors for Travel Model Output

The VMT and speeds from the travel demand model were adjusted before being used in the calculation of regional emissions. The purpose of these adjustments was to reconcile the model output with travel estimates from other sources, such as the Highway Performance Monitoring System (HPMS) estimates of VMT. To perform this adjustment, factors were developed for the year of the HPMS or other estimates and applied to model output for other years.

The development of the VMT adjustment factors involved comparing the VMT outputs of the travel demand model to the HPMS VMT estimates for 2007. Factors were developed to adjust the model output to account for variation between the model and HPMS within each of the counties. To do this, the VMT from the 2007 model run was tabulated by county and functional classification. The VMT estimates derived from the model were then compared to the HPMS VMT estimates for 2007 to develop adjustment factors to be applied to the model output for subsequent years. The 8-hour ozone analysis is based on a level of traffic and the accompanying emissions expected on a typical summer weekday. For that

analysis, the adjustment factors were increased by 2.9% to reflect the higher volume of traffic that can be expected on a typical summer weekday relative to the annual average daily traffic. The PM 2.5 analysis is based on annual traffic and the accompanying annual emissions. Therefore, the adjustment factors for that analysis were not increased; rather they were based on the annual average daily traffic. The adjustment factors for VMT were developed on a functional classification basis for each county.

The development of the speed adjustment factors involved a similar process. The outputs of the travel demand model were compared to estimates of speed based on: (1) the equations of the Highway Economic Reporting System (HERS) and (2) the use of data from the Automatic Continuous Traffic Recorders (ATRs) of the Kentucky Transportation Cabinet (KYTC) for 2001-2002.

The HERS equations were used to estimate speeds on 402 sections of urban roadways for five functional classifications. The speeds from these roadway sections were used to determine the average speed for each of five functional classes. The speeds used in the travel model were also averaged for each urban functional class. The speed adjustment factor for each urban functional class was calculated as the ratio of the average speed using the HERS equations to the average speed using the travel model data.

The KYTC ATR data was used to estimate speeds on 84 sections of rural roadways for four functional classifications. The speeds from these roadway sections were used to determine the average speed for each of four functional classes. The speeds used in the travel model were also averaged for each rural functional class. The speed adjustment factor for each rural functional class was calculated as the ratio of the average speed using the ATR data to the average speed using the travel model data.

The procedures described above produced speed adjustment factors for all functional classes except rural minor collectors and rural and urban local roads and ramps. (Ramps are not officially a separate functional class, but the speed behavior of traffic on ramps is not expected to be like that of any other functional class. Therefore, the ramps were treated as a separate "functional class.") There was not sufficient data to estimate speeds for the roadways of these classes. For the rural minor collectors and rural and local roads, the speed adjustment factor of the next higher functional class was used. For ramps, the speeds in the travel model were used without adjustment (i.e. the speed adjustment factor for ramps = 1).

MOVES Emissions Model

As previously mentioned, the Louisville region is a nonattainment/maintenance area for the pollutants ozone and PM 2.5 and must therefore control direct PM 2.5 and the precursors of ozone and PM 2.5, VOCs and NOx. The emission estimates for VOCs, NOx, and PM 2.5 were determined using the MOVES emissions model. The Louisville Metro Air Pollution Control District (LMAPCD) produced the emissions for all of the nonattainment/maintenance area except for the Madison Township of Jefferson County, IN. The emission estimates for the Madison Township were developed by the Indiana Department of

Transportation (INDOT). The procedures used in calculating these emission estimates are discussed below.

There are a number of factors affecting the emission estimates developed from the MOVES model. These factors include the fuel used by the vehicles driven in each county, and in the past, the presence of inspection/ maintenance (I/M) programs in some of the counties. In the past, the VMT generated in Clark, Floyd, and Jefferson (KY) counties came from some vehicles subject to an I/M program and from some vehicles not subject to an I/M program. The I/M program in Clark and Floyd counties was discontinued at the end of 2006. The I/M program in Jefferson County (KY) was discontinued in 2003. Therefore, these programs were modeled as being in existence in 2002 but not for the other analysis years. The fuels which are used in Clark, Floyd, and Jefferson counties include reduced Reid vapor pressure gasoline (RVP) and reformulated gasoline (RFG). While RFG is used in some portions of Bullitt and Oldham counties, unregulated gasoline is used in the other portions of those counties as well as the areas adjacent to the nonattainment area. Vehicles from these other areas can be expected to travel in the Clark, Floyd, and Jefferson (KY) counties also. In the past, the emission factors (from the MOBILE 6 model) for Clark, Floyd, and Jefferson (KY) counties used in the air quality analysis varied by county because they represent a VMT-weighted composite based on an estimate of travel in each county by vehicles from the various portions of the region. For this analysis, the MOVES model was used in what is known as the inventory mode. Using the inventory mode, it is possible to define the fuel characteristics and the presence of an I/M program for each county, but it is not possible to represent the effect of travel in a county by vehicles from other counties. Therefore, the use of composite emission factors was not possible. Other than that, the assumptions used in the analysis were consistent with those of the appropriate air quality agency for each of the counties. For Clark and Floyd counties, the assumptions of the Indiana Department of Environmental Management (IDEM) were used. Some assumptions of LMAPCD were also used for Clark and Floyd counties. For Jefferson County (KY), the assumptions of the LMAPCD were used. These assumptions had been previously reviewed and accepted by the IAC/ICG partners.

The assumptions used in developing the emissions for Clark, Floyd, and Jefferson (KY) counties were the same as those that were used in developing the updated VOC and NO_x budgets (in 2003) with a few exceptions where newer data was incorporated. The changes which affected the VOC and NO_x emissions included:

- (1) the incorporation—in 2004—of newer vehicle registration data for Clark and Floyd counties (provided by IDEM),
- (2) the development and use—in 2004 and again in 2008—of new vehicle registration data for Jefferson County (KY), and
- (3) the new (twelve month) approach to calculating emissions of PM 2.5 and its precursor described in the ESTABLISHED PRACTICE was utilized.

The emissions for Bullitt and Oldham counties were also developed by LMAPCD. Most of the inputs to the MOVES model were defaults and/or data used in previous SIPs. Both counties had portions (the “original” portions) which had previously had a nonattainment/ maintenance status for the 1-hour ozone standard and portions (the “new” portions) which

had only been designated under the 8-hour ozone standard. Neither portion of either county had an I/M program. So it was not necessary to have I/M input information for MOVES. However, reformulated gasoline (RFG) is required for the original nonattainment/maintenance portions of Bullitt and Oldham counties while unregulated gasoline is used in the new nonattainment areas of those counties. Since the use of the MOVES model in the inventory mode does not allow for the characteristics of different blends of gasoline within the same county, a choice had to be made concerning which one to use. The choice was made to use the characteristics of unregulated (conventional) gasoline since this was the more “conservative” choice. (It was more “conservative” because this choice produces higher emission estimates and, therefore, reduces the margin by which conformity is passed.) LMAPCD received VMT and speed information by functional class from KIPDA. Using this data, LMAPCD developed emission estimates for each of the counties.

The assumptions used for Bullitt and Oldham counties were the same as those for the 2003 budget updates with two exceptions, aside from the new VMT and speed estimates that were developed for this amendment of *Horizon 2030*. New vehicle registration data for Bullitt and Oldham counties for 2008 was developed and used, and the new (twelve month) approach to calculating emissions of PM 2.5 and its precursor described in the ESTABLISHED PRACTICE was utilized.

The PM 2.5 emission estimates for the Madison Township of Jefferson County, IN were developed by INDOT. INDOT used an approach to developing emission estimates that was similar to the method used by LMAPCD. However, since there is no travel model for Madison Township, determining the origin of the travel in that township required another source of information. The estimates of the origin of tripmaking (and therefore gasoline specifications and the presence/ absence of I/M programs) were based on data from 2000 Census. In addition, other data was “borrowed” from the Floyd County data developed by LMAPCD. This data was adjusted to account for conditions typical of the Madison Township (e.g. no freeways or ramps, no I/M program for 2002). For this analysis, INDOT updated the input data used with the MOBILE model for use with the MOVES model. This was done to reflect the changes made by LMAPCD and the new VMT data provided by KIPDA.

The PM 2.5 emission estimates for the Madison Township of Jefferson County, IN were developed by INDOT in the following manner.

- (1) VMT was estimated from a countywide estimate (using an updated growth rate).
- (2) VMT was identified by source (origin) county.
- (3) The proportion of each source county’s VMT of total county VMT was used to weight emission factors reflecting control and fuel programs for that source county.
- (4) The weighted, composite emission factors were applied to the Madison Township VMT to calculate criterion pollutant burdens.

RESULTS OF THE ANALYSIS

The transportation plan, *Horizon 2030*, has been examined to determine if it is in conformity with the SIPs of Indiana and Kentucky and fulfills the criteria in the federal conformity rule (found in 40 CFR 93). The examination has been based on an air quality analysis to determine that air pollutant emissions of the appropriate areas did not exceed the budgets set in the SIPs or 2002 emission levels.

As previously mentioned, the other criterion for determining conformity would have been the progress in implementation of the Transportation Control Measures (TCMs) contained in the SIPs. However, since previous consultation had determined that there were no approved TCMs, that criterion did not affect the determination of conformity. The results of the regional emissions analyses for ozone and PM 2.5 are discussed below.

8-hour Ozone Analysis

The eight-hour ozone maintenance SIPs of Indiana and Kentucky contain emission budgets for the precursors of ozone, volatile organic compounds (VOCs) and oxides of Nitrogen (NOx). The regional emissions analysis was conducted to provide estimates of the levels of emissions of VOCs and NOx for the various analysis years. These emission levels were then compared to the budgets in the SIPs to determine if the conformity tests were passed.

The results of the regional emissions analysis are summarized in Tables 1 and 2. Table 1 shows the summer weekday vehicle-miles-traveled from the analysis. Table 2 shows that for 2012, 2020, and 2030, the summer weekday VOC and NOx emission levels for the 8-hour maintenance area are less than the emission budgets established in the 8-hour maintenance SIP.

PM 2.5 Analysis

There are no emission budgets for fine particulate matter, PM 2.5, or oxides of Nitrogen, one of its precursors. The regional emissions analysis was conducted to provide estimates of the levels of emissions of PM 2.5 and NOx for the various analysis years. These emission levels for the years after 2002 were then compared to the emission levels in 2002 to determine if the conformity tests were passed.

The results of the regional emissions analysis are summarized in Tables 3 and 4. Table 3 shows the annual vehicle-miles-traveled from the analysis. Table 4 shows that for 2012, 2020, and 2030, the annual PM 2.5 and NOx emission levels for the local PM 2.5 nonattainment area are less than those for 2002.

Conclusions – 8-hour Ozone and PM 2.5

The regional emissions analysis of the updated *Horizon 2030* indicates that the plan is consistent with the goals and emission budgets established in the State Implementation Plans of Indiana and Kentucky. The cumulative effect of the results shown in Table 2 indicates that *Horizon 2030* has met the requirements of conformity under the 8-hour ozone standard. The effect of the results shown in Table 4 indicates that *Horizon 2030*

has met the requirements of conformity under the PM 2.5 standard. In summary, it can be concluded that *Horizon 2030* conforms to the SIPs and meets the requirements of the federal conformity rule.

TABLE 1

SUMMER WEEKDAY VEHICLE-MILES-TRAVELED (VMT) ESTIMATED FOR THE 8-HOUR OZONE NONATTAINMENT AREA (in 1000's of vmt/day)			
YEAR	INDIANA	KENTUCKY	TOTAL
2002	6149	23873	30022
2012	6781	25946	32727
2020	7558	28387	35945
2030	8535	31771	40306

TABLE 2

SUMMER WEEKDAY EMISSIONS FOR THE 8-HOUR MAINTENANCE AREA (kg/day)				
EMISSION LEVELS FOR VARIOUS YEARS				
YEAR	Area	VOCs	NOx	PASS
2012	Regional	17796	45742	YES
2020		9590	21414	YES
2030		7719	17109	YES

NOTE: The criteria for conformity are as follows:

2012 Regional emission levels for VOCs must be below the maintenance plan emission budget of 40.97 tons/day or 37,168 kg/day.

2012 Regional emission levels for NOx must be below the maintenance plan emission budget of 95.51 tons/day or 86,647 kg/day.

2020 and 2030 Regional emission levels for VOCs must be below the maintenance plan emission budget of 22.92 tons/day or 20,793 kg/day.

2020 and 2030 Regional emission levels for NOx must be below the maintenance plan emission budget of 29.46.13 tons/day or 26,726 kg/day.

TABLE 3

ANNUAL AVERAGE DAILY VEHICLE-MILES-TRAVELED (VMT) ESTIMATED FOR THE PM 2.5 NONATTAINMENT AREA (in 1,000,000's of vmt/year)			
YEAR	INDIANA	KENTUCKY	TOTAL
2002	2325	7963	10288
2012	2557	8635	11192
2020	2844	9417	12261
2030	3219	10501	13720

TABLE 4

ANNUAL EMISSIONS FOR THE LOUISVILLE PM 2.5 NONATTAINMENT AREA (in 1000's of kg/year)			
EMISSION LEVELS FOR VARIOUS YEARS			
YEAR	PM 2.5	NOx	PASS
2002	1047	33163	-----
2012	514	15937	YES
2020	252	7583	YES
2030	219	6060	YES

NOTE: The criteria for conformity are as follows:
The emission levels for 2012, 2020, and 2030 must be no greater than those for 2002.



MEMORANDUM

Kentucky
Member
Counties

TO: Transportation Policy Committee

Bullitt

FROM: Mary C. Hauber

Henry

DATE: July 20, 2011

Jefferson

SUBJECT: Amendment of the FY 2011 – FY 2015 Transportation Improvement Program

Oldham

Shelby

Spencer

Trimble

KIPDA has been requested by project sponsors to amend the FY 2011 – FY 2015 Transportation Improvement Program (TIP) to include the project changes shown in the highlighted column on the attached list. These projects are currently included in the Horizon 2030 Metropolitan Transportation Plan. The TIP is a subset of the Metropolitan Transportation Plan and therefore the conformity analysis is performed on the Plan and not the TIP.

Indiana
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Counties

This project information was made available for public review from June 27 through July 11 at public libraries and on the KIPDA website. Public open houses were held on June 29 at KIPDA and at the Iroquois Public Library. The comments that we received were previously sent to you on July 13 for review.

Clark

Floyd

The Transportation Technical Coordinating Committee reviewed this information and voted to recommend approval of Amendment 2 at their meeting on July 13, 2011.

Action is requested.

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**Amendment 2 of Horizon 2030 Metropolitan Transportation Plan
Amendment 2 of FY 2011 - FY 2015 Transportation Improvement Program**

July 2011

KIPDA ID	State ID	Project Name	Project Description	Project Sponsor	Description of Plan Amendment	Description of TIP Amendment	Effect on AQ Analysis
KENTUCKY PROJECTS							
224	378.10	I- 65	Extend and reconstruct I-65 southbound ramp to Brook Street and Floyd Street. The study will include the consideration of bicycle and pedestrian facilities.	Louisville Metro Public Works	Change Open to Public Date from 2011 to 2016	Add FY 2012 Design \$750,000 federal; Add FY 2013 Utilities \$750,000 federal; Move FY 2011 Construction to FY 2015; STP-Urban with KY toll credits match.	Regionally Significant -- Remove project from 2012 scenario.
	804.00	I-264/US-42	Reconstruct the Watterson Expressway Interchange at US-42 including slip ramp to KY 22. Interim operational improvements including slip ramp from the I-264 NB/US-42 EB Off Ramp direct to KY-22 (Old Brownsboro Road) as recommended by 5-390.00 I-264/US-42 Interchange Scoping Study.	KYTC	Change Open to Public date from 2015 to 2012.	Move FY 2012 ROW to FY 2011, \$500,000; Move FY 2012 Utilities to FY 2011, \$400,000; Move FY 2013 Construction to FY 2012, \$2,775,000; STP-State Funds with KY Toll Credits match.	Regionally Significant -- Add project to 2012 scenario.
1810		One Way Street Conversion to Two Way, Phase 2	Conversion of one-way streets in downtown Louisville to two-way traffic (8th, 7th, Shelby, Campbell Streets).	Louisville Metro Public Works	Change Open to Public Date from 2012 to 2014	Move FY 2011 Construction to FY 2013; STP-Urban	Regionally Significant -- Remove project from 2012 scenario.
		South 3rd Street/National Turnpike Bicycle Facility Improvements	This project involves reducing travel lane widths along W. Kenwood Way, Southside Drive and National Turnpike to 10 feet; reducing the number of travel lanes along S. 3rd Street from four lanes (2 in each direction) to three lanes (1-lane in each direction and a 2-way left turn lane); and marking Seneca Trail as a shared roadway to provide bike lanes (see typical sections).	Louisville Metro Public Works	Change Plan project cost from \$2,310,000 to \$300,000	No change to TIP	Regionally Significant -- no change to model.



MEMORANDUM

TO: Transportation Policy Committee

Kentucky
Member
Counties

FROM: Mary C. Hauber

DATE: July 20, 2011

Bullitt

SUBJECT: Administrative Modification of the FY 2011– FY 2015 Transportation Improvement Program

Henry

Jefferson

KIPDA has been informed of administrative modifications to be made to the FY 2011 – FY 2015 Transportation Improvement Program. Administrative modifications are changes that are considered relatively minor and no action is required of the MPO.

Oldham

Shelby

Spencer

Qualifying criteria for administrative modifications include the following actions:

Trimble

- Correcting obvious minor data entry errors.
- Splitting or combining projects without modifying the original project intent.
- Changing or clarifying elements of a project description (with no change in funding). This change would not alter the original project intent.
- Moving a project from one federal funding category to another.
- Shifting the schedule of a project or phase within the years covered by the STIP/TIP (with no impact to fiscal constraint).
- Adding Planning, Design, ROW or Utilities “phases” to a construction project that is already included in the STIP.
- Moving any identified project phase programmed for previous year into a new TIP (rollover provision).
- Updating project cost estimates (within the original project scope and intent) that do not impact fiscal constraint.

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Floyd

The changes to the Transportation Improvement Program are included on the attached table.

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**Administrative Modification 8
FY 2011 - FY 2015 Transportation Improvement Program**

July 2011

KIPDA ID	State ID	Project Name	Description	Project Sponsor	Change to TIP
INDIANA PROJECTS					
1572		Brown Station Way	Reconstruction of Brown Station Way from Randolph Avenue to existing bridge over Silver Creek, a distance of approx. 1.7 miles (no additional lanes proposed). Scope includes the rehabilitation of an existing pedestrian overpass.	Clarksville	Split out the rehabilitation of the existing pedestrian overpass into a separate project - see below.
1869		Brown Station Way	Rehabilitation of existing pedestrian bridge.	Clarksville	Add as part of KIPDA #1572. FY 2012 PE \$233,972 federal and \$292,465 total; STP-Urban funds.
	1173187	Clarksville Sign Inventory and Upgrade	The Town of Clarksville will complete an inventory of all signs in Town. During the inventory they will check for retroreflectivity and GPS the location. After the inventory is complete all signs deemed non-compliant with current MUTCD standards will be upgraded to meet standards.	Clarksville	Add as part of KIPDA #990 Various Safety Projects. Add FY 2011 PE \$135,000 federal and \$150,000 total; FY 2012 Construction \$129,600 federal and \$144,000 total; FY 2012 Construction Engineering \$19,440 federal and \$21,600 total; HSIP funding.
	1173185	Comprehensive Safety Plan	Develop a community-wide multi-modal transportation safety plan for New Albany	New Albany	Add as part of KIPDA #990 Various Safety Projects. Add FY 2011 PE \$94,500 federal and \$105,000 total; HSIP funding.
1586	0901276	Grantline Rd.	Reconstruct IN 111 (Grantline Rd.) as a 2 lane road (no additional travel lanes) from McDonald Lane south to Beechwood Ave.	New Albany	Move FY 2013 Construction to FY 2014; STP-Urban funding.
1012	0200120	Lewis & Clark Trail	Construction of a bicycle and pedestrian trail from George Rogers State Park to Loop Island Wetlands, including interpretive signage, trailheads describing the significance of the historic area, and the cultural resources.	Clarksville	Add FY 2010 PE \$50,000 federal and \$62,500 total; Move FY 2010 PE to 2011 PE \$80,000 federal and \$100,000 total; FY 2012 PE \$194,476 federal and \$243,095 total; all TE funding. Add FY 2011 PE \$707,200 federal and \$884,000 total; STP-Urban funding. Add FY 2012 ROW \$360,000 federal and \$450,000 total; TE funding. Move 2010 Construction to FY 2013 \$234,405 federal and \$293,006 total; TE funding. Add FY 2014 Construction \$1,077,600 federal and \$1,347,000 total; TE funding.
309	0710808	Mt. Tabor Rd.	Reconstruct Mt. Tabor Rd. as a 2 lane road (no additional travel lanes) from Grantline Rd. to Charlestown Rd.	New Albany	Increase FY 2012 ROW to \$750,000 federal and \$937,500 total; STP-Urban funding.
	1173188	Signage: Inventory, Plan and Construction	Build a new sign inventory as well as upgrade existing warning, regulatory and guide signs to meet MUTCD requirements through the low cost systematic safety improvement program.	New Albany	Add as part of KIPDA #990 Various Safety Projects. Add FY 2011 PE \$135,000 federal and \$150,000 total; FY 2012 Construction \$219,645 federal and \$244,050 total; HSIP funding.

**Administrative Modification 8
FY 2011 - FY 2015 Transportation Improvement Program**

July 2011

KIPDA ID	State ID	Project Name	Description	Project Sponsor	Change to TIP
1898	1172394	Warning/Regulatory Signage Inventory, Implementation Plan & First Phase Replacement	Inventory, implementation plan and replacement of signs in New Albany.	New Albany	Change project name to: "City-Wide Sign Replacement". Change project description to "Replacement of signs to meet MUTCD reflectivity requirements." Add FY 2011 PE \$27,000 federal and \$30,000 total; Move FY 2011 Construction to FY 2012 and decrease to \$108,000 federal and \$120,000 total; HSIP funds.
KENTUCKY PROJECTS					
1825		TARC High Capacity Corridors	Add TARC service along two high capacity corridors: Broadway - Bardstown Road - Taylorsville Road Corridor and the Preston Highway-Dixie Highway Corridor.	TARC	Change project description to "Provide increased frequency TARC service along two high capacity corridors: Broadway-Bardstown Road Corridor and the Dixie Highway - Preston Highway Corridor."; Additional funding, add FY 2011 Operations \$1,000,000 federal and \$1,250,000 total; CMAQ funding.