Chicago Metropolitan Agency for Planning

233 South Wacker Drive
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Chicago, Illinois 60606

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Tier II Consultation Meeting

Agenda (REVISED)
June 20, 2013
Lake County Room
CMAP Offices
Teleconference # 800-747-5150, Access Code 3867454

1.0 Call to Order and Introductions 10:30 a.m.

2.0 Agenda Changes and Announcements

3.0 Approval of Minutes – February 14, 2013
ACTION REQUESTED: Approval

4.0 Standard Conformity Language
In August, 2012 CMAP began posting standard language from the IDOT Bureau of Design and Environment (BDE) Manual on the CMAP website with relevant GO TO 2040 and TIP approval dates inserted (http://www.cmap.illinois.gov/tip/ffy11-schedule-and-approvals). Staff posted minor changes to the language to more clearly indicate that conformity determinations must be made on the Plan and the TIP.
ACTION REQUESTED: Information

5.0 $PM_{2.5}$ Redesignation Request
USEPA will provide an update on the status of Illinois' $PM_{2.5}$ redesignation request.
ACTION REQUESTED: Information

6.0 MAP-21 CMAQ Requirements for $PM_{2.5}$ Obligations
MAP-21 requires that 25% of annual CMAQ obligations be for projects that reduce $PM_{2.5}$. In the absence of federal guidance on the requirement, the Consultation Team is requested to review and agree to the list of project types that Northeast Illinois will consider as $PM_{2.5}$ reduction for the purpose of meeting the requirement.
ACTION REQUESTED: Discussion and possible approval of $PM_{2.5}$ reduction project types.

7.0 Project Information

7.1 I-55 from Lorenzo Rd to IL 129 (TIP ID 12-07-0020)
TIP ID 12-07-0020 is an IDOT project on I-55 from Lorenzo Rd to IL 129. There is a proposed auxiliary lane between IL 129 and Lorenzo which is essentially an

extension of the parallel entrance and exit terminals. This project will be re-evaluated as part of the Illiana Tier II study efforts since it is the location of the proposed Illiana at I-55 interchange as well. Given the relationship between this project and the Illiana, CMAP, with IDOT's concurrence, has converted the project to "Unconstrained" and moved post- phase 1 engineering phases out of the TIP. As consideration of the Illiana approaches, the project description and work types will be further updated to reflect the region's intent.
ACTION REQUESTED: Information

7.2 I-290 Multimodal Corridor

A notice was posted in the Federal Register that the study limits on this project have been extended east from Cicero to Racine.
ACTION REQUESTED: Information

8.0 Hot Spot Analysis

8.1 Illiana Expressway

IDOT has requested the opportunity to discuss its proposed approach to the hot spot analysis of the Illiana Expressway.
ACTION REQUESTED: Discussion and consideration of approach

8.2 I-90 Managed Lanes (I-90 From I-190 to Harlem Ave)

IDOT has requested data to help determine whether a hot spot analysis will be required for this project.
ACTION REQUESTED: Information

8.3 Ashland Avenue Bus Rapid Transit (16-13-0005)

CTA has requested that the Consultation Team consider whether this project will require a hot spot analysis.
ACTION REQUESTED: Discussion and consideration of designation as a project of Air Quality Concern.

8.4 Tracking Projects of Air Quality Concern

A draft table for tracking projects of air quality concern (PAQC) is attached.
ACTION REQUESTED: Discussion

9.0 Transportation Conformity Particulate Matter Hot-Spot Air Quality Project

Dr. Jane Lin will provide a project update.
ACTION REQUESTED: Information

10.0 Major Capital Project Updates

A brief update on the status of Major Capital Projects is available on the Transportation Committee minutes page. Any consultation team members with information to add are encouraged to do so.

ACTION REQUESTED: Information and Discussion

11.0 Other Business

12.0 Public Comment

This is an opportunity for comments from members of the audience. The amount of time available to speak will be at the chair's discretion. It should be noted that the exact time for the public comment period will immediately follow the last item on the agenda.

13.0 Next Meeting

14.0 Adjournment

Tier II Consultation Team Members:

	CMAP		FHWA		FTA		IDOT
	IEPA		RTA		USEPA		

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Tier II Consultation Meeting

DRAFT Minutes – February 14, 2013

Participants:

Reggie Arkell	FTA
John Baczek	IDOT – District 1 BD&E - via phone
Patricia Berry	CMAP
Bruce Carmitchel	IDOT – Office of Planning & Programming
Kama Dobbs	CMAP
John Donovan	FHWA
Grace Dysico	TranSystems – via phone
Matt Fuller	FHWA – via phone
Pete Harmet	IDOT
Don Kopec	CMAP
Michael Leslie	USEPA
Sam Mead	IDOT – via phone
Maureen Mullen	TranSystems – via phone
Holly Ostdick	CMAP
Ross Patronsky	CMAP
Mark Pitstick	RTA
Thomas Rickert	Kane/Kendall Council of Mayors
Mike Rogers	IEPA
Steve Schilke	IDOT
Ron Shimizu	Parsons Binkerhoff
Kesti Susinskas	AECOM
Gerry Trzupek	Huff & Huff – via phone
Stan Wang	AECOM
Kermit Wies	CMAP
Walt Zyznieuski	IDOT – via phone

1.0 Call to Order and Introductions

The meeting was called to order at 10:35 a.m. All participants introduced themselves.

2.0 Agenda Changes and Announcements

Ms. Berry stated that items 6.1 and 6.2 would be covered under item 4.0

3.0 Approval of Minutes – December 6, 2012

Ms. Berry noted that Mr. Rickert had provided a correction to item 5.2 in the draft minutes. On a motion by Mr. Carmitchel, seconded by Mr. Pitstick, the minutes were approved as corrected.

4.0 Semi-Annual TIP Conformity Amendment

Mr. Patronsky reported that the semi-annual conformity amendment, which includes the addition of Circle Interchange improvements, and the proposed amendments to GO TO 2040 are currently posted for public comment through February 18, 2013. He reported that there have been no comments on the TIP conformity amendment, and one comment in favor of including the Circle Interchange in GO TO 2040, and a number of comments on the Prairie Parkway. The Prairie Parkway comments addressed where on IL 47 the remaining funds should be used. All comments will be provided to the implementing agency.

5.0 TIP ID 12-08-0028, FAU 400 Minooka Road FROM US 80 I-80

Ms. Berry reported that this project was brought to the consultation team because it is a special circumstance where the bridge is being widened to accommodate four lanes in the future. The project is currently in the TIP as bridge replacement, an exempt work type. In discussions with IDOT District 3, CMAP staff has learned that the project is actually "Bridge/Structure - Reconstruct/Rehab Chng in Lane Use/Widths", an exempt tested TIP work type which covers bridge reconfiguration projects.

Ms. Berry noted that IDOT District 3 intends to expand the bridge from two lanes to four lanes, in anticipation of future widening of Minooka Road east of I-80. However, they will place concrete barriers and stripe it for two lanes of traffic. The future widening of Minooka Road, to be done by Grundy County, is currently not in the TIP and does not have secure funding. The bridge reconfiguration is moving forward for a June letting. In anticipation of this, staff has requested District 3 amend the TIP to reflect the correct work type.

6.0 GO TO 2040 Major Capital Projects

6.1 Circle Interchange Project (http://circleinterchange.org/)

Mr. Patronsky reported on this item under Item 4.0.

6.2 Prairie Parkway

Mr. Patronsky reported on this item under Item 4.0.

6.3 I-90 Managed Lanes

Ms. Berry reported that IDOT has begun engineering for an additional lane on I-90/Kennedy Expressway between I-190 and Harlem. CMAP has discussed this project with IDOT and determined that it is part of the I-90 Managed Lanes project. Based on this, the project will be treated as a conformity amendment to the TIP. IDOT is seeking design approval by the end of 2013.

6.4 Illiana Expressway

Mr. Schilke and Mr. Harmet provided an overview of the status for completing the Tier II EIS. They reported that the EIS is just beginning and that a public hearing is planned by the end of the year with completion by March of 2014. Mr. Weis reported that the deadline for submitting forecast and other information for the transportation model is in July for the project to be included in the conformity analysis to be considered in October. Mr. Schilke noted that a financial plan would be developed by fall.

7.0 Hot Spot Analyses

7.1 Circle Interchange

Mr. Wang reviewed information on the total and truck volumes for the Circle Interchange for the present and for 2040. Mr. Pitstick requested clarification on the Eastbound to Southbound truck volume, which was shown to be greater than the total Eastbound trucks at Racine. Mr. Wang responded that the volumes were derived from truck percentages and that he would verify the numbers and provide that information to the committee. Mr. Wang also provided an overview of the planned ramp configurations, collector/distributor lanes and though traffic lanes. Mr. Weis asked if the proposed design would accommodate future managed lanes. Mr. Wang responded that all through bridges would be able to accommodate an additional lane in the future. Mr. Zyzneiuski noted that there is no significant increase in truck traffic expected. Mr. Leslie stated that based on this, USEPA did not consider the project to be a project of air quality concern. The consensus of the team was that the project is not a project of air quality concern and a hot spot analysis was not required.

7.2 Illiana Expressway

Mr. Shimizu reviewed information on the total and truck volumes for the Illiana Expressway preferred alternative for 2040 without tolls, with tolls and with various assumptions for diverted traffic due to tolling. To clarify, the truck volumes are medium and heavy-duty trucks combined. He noted that tolling policies and a financial plan would be developed during the Tier II process and the projections would be revised if needed. Mr. Pitstick asked where traffic was leaving the facility at the eastern end, and what the volumes were on the north-south routes in the corridor. Mr. Schilke noted that the east end interchange with I-65 does not provide local access and the traffic was exiting locally before reaching I-65. Mr. Weis stated that the low pass through volume is indicative that the demand for the Illiana Expressway is regionally generated. Based on the information provided, it was the consensus of the team that the Illiana Expressway is a project of air quality concern, requiring hot spot analysis.

8.0 Metropolitan Planning Area Update

Ms. Berry reported that discussions with Plano and Sandwich had continued since the last team meeting and that all parties have agreed that both municipalities would begin participating in the Kane/Kendall Council of Mayors in 2014 and that their STP balances as of June 30, 2013 would be segregated from the Council's balance for their exclusive use. Ms. Berry also reported that the MPA would include two full townships in DeKalb County which are located wholly outside of the non-attainment area. Mr. Patronsky added that CMAP transportation model networks extend well beyond the planning area boundary, but that only links within the non-attainment area are used for air quality conformity analysis. Mr. Leslie concurred that this methodology was correct.

9.0 MAP-21 Requirements for CMAQ funding of PM2.5 projects

Mr. Donovan reported that recently project authorizations for CMAQ diesel retrofits and repower projects have been held up due to Buy America provisions. He noted that based on new interpretation of guidance issued in December 2012 that defines engines as "manufactured products", IEPA's project has moved forward, but Cook County's project remains unauthorized due to filters that are made with foreign steel, although possible domestic alternatives have been identified. He stated the Illinois Division is continuing to work with headquarters to determine what projects can be processed. He also stated that there is a pending waiver for GenSet engines in the state of Kentucky that is open for public comment. Ms. Berry asked if it would be appropriate for CMAP to provide comments. Mr. Donovan stated that it would be, and that pursuing a nationwide waiver is a dead end at this point.

10.0 Major Capital Project Updates

A brief update on the status of Major Capital Projects is available on the Transportation Committee minutes page. The direct link to the report is http://www.cmap.illinois.gov/documents/20583/390192/MajorCapitalProjectsQuarterlyUpdateNovember2012.pdf/1076aa1f-25a2-42ec-9c4d-52af7ac420d3.

11.0 Other Business

Ms. Berry reported that in August 2012 the team had determined that TIFIA is a funding mechanism and should not be a fund source in TIP, however since that time CMAP and FHWA have determined that having TIFIA as a fund source is necessary. Staff made the appropriated addition in the TIP database and to Attachment A of the TIP Change and Project Grouping Procedures.

Mr. Rogers advised the group that IEPA is still working on the Conformity SIP agreements. They are still considering whether to have a Memorandum of Agreement with each nonattainment area, or one administrative rule.

12.0 Public Comment

None

13.0 Next Meeting

The next meeting is on call.

14.0 Adjournment

The meeting adjourned at 11:24 a.m.

Tier II Consultation Team Members:

	CMAP		FHWA		FTA		IDOT
	IEPA		RTA		USEPA		

Ashland Avenue Bus Rapid Transit (BRT) Project

The Chicago Transit Authority (CTA), in cooperation with the Chicago Department of Transportation (CDOT), Department of Housing and Economic Development (DHED), and the Federal Transit Authority (FTA), is proposing to implement an approximately 16.1-mile long bus rapid transit (BRT) service along Ashland Avenue. The Ashland Avenue BRT Project is proposed to introduce a new and much needed cross-town, north-south transit way approximately 1.5 miles west of downtown Chicago, Illinois and would extend from Irving Park Road in the north to 95th Street in the south (see **Figure 1**).

New BRT articulated buses, which would provide enhanced passenger capacity and operate with clean diesel technology (i.e., diesel particulate filters), are proposed to operate approximately every 5 to 15 minutes along the existing right-of-way in center-running, dedicated bus lanes for the majority of the alignment. Local bus service would continue to operate along the corridor, with BRT service added to increase mobility and enhance transit options. One vehicle travel lane in each direction would be repaved and striped as dedicated bus lanes to accommodate the BRT service. Median BRT stations with enhanced pedestrian amenities are proposed at 35 intersections along the corridor, roughly every 1/2-mile and at all CTA 'L' stations. New landscaped medians would be constructed between stations where none currently exist.

Transit signal priority (TSP) improvements at all signalized intersections are also proposed in combination with the BRT service to allow more efficient traffic movements and longer green times and queue jumps to allow buses to bypass traffic at intersections. This TSP and BRT service is being proposed to decrease bus travel times by as much as 83 percent and enhance reliability on CTA's highest ridership bus route.

The following proposed improvements would be implemented within existing roadway right-of-way, and include the following:

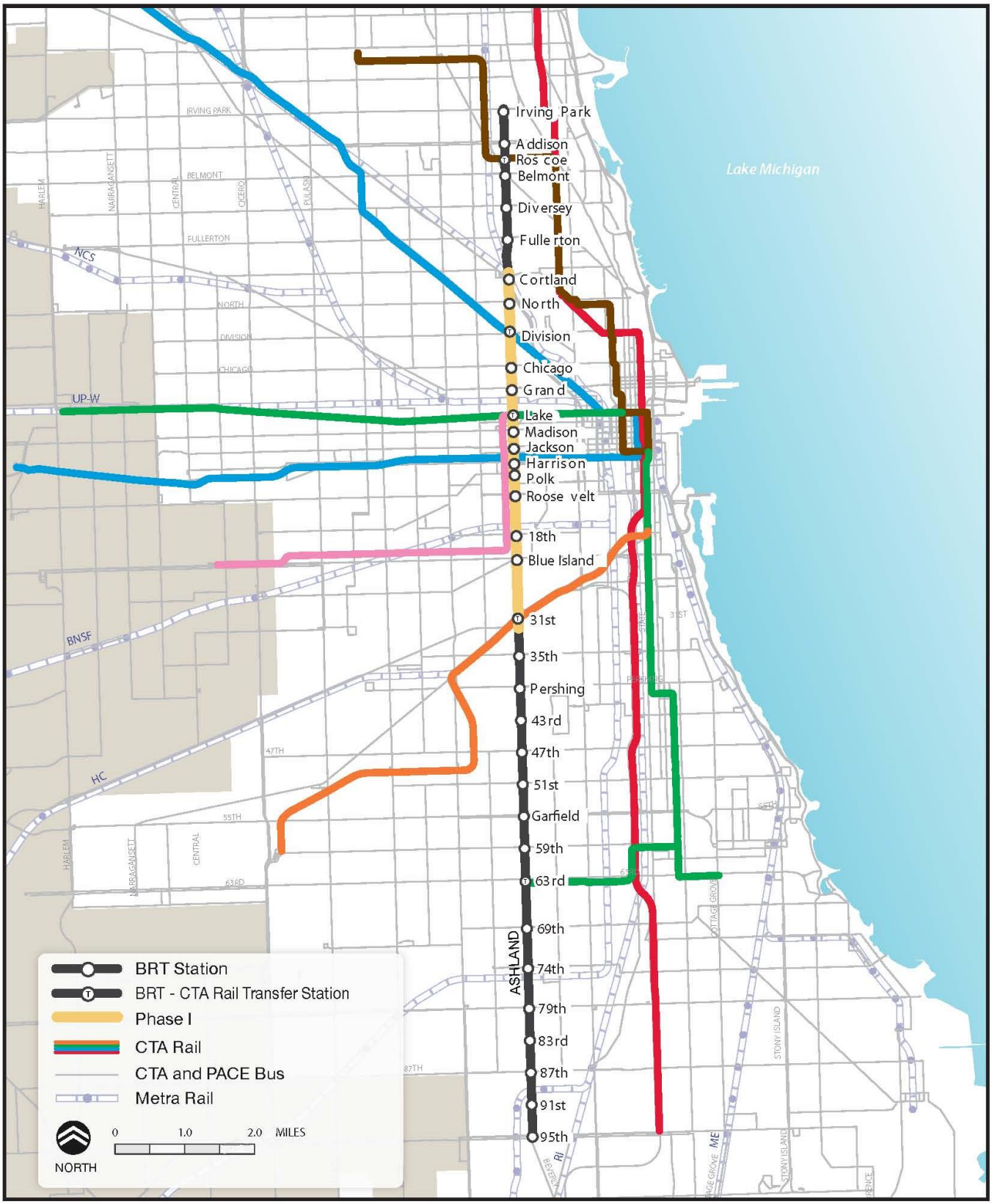
- Construction of median BRT stations with shelters and pedestrian boarding areas
- Upgrade of traffic signal systems to include TSP
- Implementation of queue jump lanes and turn restrictions at certain intersections
- Removal of travel to accommodate a designated bus lane in each direction
- Streetscape improvements including medians, landscaping, and Americans with Disabilities Act (ADA)-accessibility upgrades

These improvements in the corridor are proposed to serve residents and commuters alike by providing more efficient access to major activity generators within the project area, such as the Illinois Medical District (one of the largest concentrations of jobs in the region) and improving regional transit access to the number of CTA 'L' stations, Metra commuter rails stations, and bus routes intersecting or adjacent to the corridor.

The first phase of this BRT project would be implemented along 5.4 miles of the corridor, from Cortland Avenue to 31st Street. Outside of the Phase 1 limits, the BRT service will stop curbside at the BRT station locations for the remainder of the 16.1-mile corridor.

Ashland Avenue Bus Rapid Transit (BRT) Project

Figure 1: Project Location Map



Ross Patronsky

From: Iacobucci, Joseph <JIacobucci@transitchicago.com>
Sent: Wednesday, June 12, 2013 5:03 PM
To: Ross Patronsky
Cc: Gismondi, Donald; Connelly, Michael; O'Malley, Kevin; Patricia Berry
Subject: RE: Air Quality Consultation for Ashland Avenue Bus Rapid Transit Project

No problem. Here are the remaining data needs:

- Number of additional vehicles will be put in service at the peak level (net of any reductions in regular service)
  We are assuming a net increase of 24 buses.
- Number of stops that will be added (this was covered in the material you sent)
  35 new BRT stations (current local bus already serves these locations).
- Span of service
  No change.
- Change in vehicle hours of service (again, net of any reduction in regular service)
  664 additional vehicle hours/day.
- Maximum expected number of vehicles at layover points (including vehicles in existing Ashland service) and dwell time.
  - **104th/Vincennes**
    - **4 buses (currently 2 buses)**
    - **Average dwell time per bus: 17 minutes 40 seconds**
  - **95th/Beverley**
    - **4 buses (currently 2 buses)**
    - **Average dwell time per bus: 10 minutes 29 seconds**
  - **Clark/Belle Plaine**
    - **6 buses (currently 3 buses)**
    - **Average dwell time per bus: 15 minutes 12 seconds**

Please let me know if you have any questions or need additional information.

Joe

Joe Iacobucci
Manager
Strategic Planning and Policy
Chicago Transit Authority
Office: 312.681.4182
Cell: 312.343.8440

From: Ross Patronsky [mailto:RPatronsky@cmap.illinois.gov]
Sent: Wednesday, June 12, 2013 10:32 AM
To: Iacobucci, Joseph
Cc: Gismondi, Donald; Connelly, Michael; O'Malley, Kevin; Patricia Berry
Subject: RE: Air Quality Consultation for Ashland Avenue Bus Rapid Transit Project

Thanks for the write-up. I've reviewed it, and talked with US EPA staff about what information is needed to make a decision on whether a hot-spot analysis is required.

By way of background, you can find the criteria for determining whether a project is one of air quality concern in section 2.2 (pages 6-7) of the Quantitative Hot Spot Guidance.

Based on the criteria there, the information needed for a decision would be:

- Number of additional vehicles will be put in service at the peak level (net of any reductions in regular service)
- Number of stops that will be added (this was covered in the material you sent)
- Span of service
- Change in vehicle hours of service (again, net of any reduction in regular service)
- Maximum expected number of vehicles at layover points (including vehicles in existing Ashland service) and dwell time

Our materials for the June 20 Consultation meeting will be posted on Thursday; any information you can get me before then will be helpful. (Neatness and graphics are not key here – just the numbers, please). Thanks.

Ross Patronsky
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From: Iacobucci, Joseph [mailto:JIacobucci@transitchicago.com]
Sent: Tuesday, June 04, 2013 12:25 PM
To: Ross Patronsky
Cc: Gismondi, Donald; Connelly, Michael; O'Malley, Kevin
Subject: Air Quality Consultation for Ashland Avenue Bus Rapid Transit Project

Hello Ross,

As you are aware, the CTA is proposing the Ashland Avenue Bus Rapid Transit Project, which is currently in the environmental and conceptual design phase. Our consultant, CDM Smith, recently contacted you regarding a Tier II Consultation for this project and determination if this would be a "project of air quality concern." We appreciate your guidance and are following up with the next appropriate step to move forward with this process.

Per your request, attached is the project description so that this project can be discussed at June 20th Consultation meeting. Please let me know if you have any questions or any additional information is required.

Thanks,

Joe

Joe Iacobucci
Manager
Strategic Planning and Policy
Chicago Transit Authority

[Federal Register Volume 78, Number 66 (Friday, April 5, 2013)]
[Notices]
[Page 20714]
From the Federal Register Online via the Government Printing Office [www.gpo.gov]
[FR Doc No: 2013-07936]

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DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Cook County, Illinois

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Revised Notice of Intent.

SUMMARY: The FHWA is issuing this revised notice of intent to advise the public that an environmental impact statement is being prepared for the proposed I-290 highway improvement project in Cook County, Illinois, and that the project limits in the Notice of Intent (NOI) published in the Federal Register on February 26, 2010 have been expanded.

FOR FURTHER INFORMATION CONTACT: Mr. J. Michael Bowen, P.E., Acting Division Administrator, Federal Highway Administration, 3250 Executive Park Drive, Springfield, Illinois 62703, Phone: (217) 492-4600. John Fortmann, P.E., Acting Deputy Director of Highways, Acting Region One Engineer, District 1, Illinois Department of Transportation, 201 W. Center Court, Schaumburg, IL. 60196-1096, Phone: (847) 705-4110.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Illinois Department of Transportation, is preparing an environmental impact statement (EIS) on a proposal to improve Interstate 290 (I-290) located in Cook County, Illinois. Based on public input and studies conducted to date, FHWA and IDOT now will include an additional section of I-290 from east of IL 50 (Cicero Avenue) to Racine Avenue in the EIS so that the limits of the proposed improvements are from west of Mannheim Road to Racine Avenue, a total distance of 13.0 miles. The additional section between east of Cicero Avenue and Racine Avenue may include operational improvements consisting of the potential conversion of two or more lanes of the eight lane expressway to accommodate managed lanes or various tolling strategies.

Improvements to the corridor are considered necessary due to safety concerns, operational issues, traffic congestion, and age of facility. Alternatives under consideration include (1) taking no action; (2) a full range of multi-modal build alternatives that involve reconstruction of all, or portions of, I-290 and the rehabilitation of the remainder to include operational changes.

Improvements to I-290 have the potential to affect environmental features in the project area depending on the alternative selected. The corridor is located in a highly developed mature urban setting with limited biological and natural resources. The built environment has the potential to be effected. Some features include: cemeteries, parks, special waste sites, nearby historic districts, possible residential and commercial displacements, sensitive noise receptors, a crossing of

the Des Plaines River, and related indirect and cumulative impact considerations.

Letters have been sent to appropriate Federal, State, and local agencies reflecting the revised project limits, describing the proposed action, and soliciting comments. Input from Resource Agencies will continue to be obtained through the established stakeholder involvement methods including the Corridor Advisory Group (CAG) and NEPA/404 Merger process.

The Illinois Department of Transportation's Context Sensitive Solutions (CSS) process will continue to be used for public involvement. The existing Stakeholder Involvement Plan (SIP) will be updated to ensure that the full range of issues related to the change in project limits are identified and addressed. The SIP will continue to provide meaningful opportunities for all stakeholders to participate in defining transportation issues and solutions for the study area. The Corridor Advisory Group will continue as a primary method of stakeholder interaction. In addition, a public hearing and comment period will be held following the release of the Draft EIS. Public notice will be given for the time and place of the public hearing. A project Web site has been established (www.eisenhowerexpressway.com) as one element of the project public involvement process.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued On: April 1, 2013.

J. Michael Bowen,

Acting Division Administrator, Springfield, Illinois.

[FR Doc. 2013-07936 Filed 4-4-13; 8:45 am]

BILLING CODE 4910-22-P

Chicago Metropolitan Agency for Planning

Tier II Consultation Team Consideration of Projects of Air Quaility Concern (PAQC)

Project	TIP ID	Date of latest consideration	Determined to be a PAQC? (Y/N)	Approved Approach	Monitoring for future consideration
Circle Interchange	01-12-0019	2/14/2013	No		
Illiana Expressway	12-02-9024	2/14/2013	Yes	*TBD 6/20/13*	
I-90 Managed Lanes	??				*For discussion 6/20/13*
Ashland Ave. BRT	16-13-0005				*For discussion 6/20/13*
CREATE Passenger Rail Projects	varies	11/27/2007	Individual projects will be analyzed	Methodology approved	
		8/28/2012	Individual projects will be analyzed	MOVES input parameter table revisions approved	
Elgin - O'Hare East Ext. from Rohlwing Rd. to O'Hare Western Bypass	03-95-0001	2/5/2011	Yes	Concurrence with analysis methodology	
		2/9/2012	Yes	Concurrence with the Hot Spot Analysis completed for the draft EIS	

ILLIANA CORRIDOR
PARTNERING FOR PROGRESS

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Illiana Corridor Air Quality Analysis Methodology

Particulate Matter ($PM_{2.5}$)

June 2013

Annual PM2.5 Hot-Spot Analysis

The PM analysis follows EPA's nine-step process, as shown in Exhibit 3-1 on page 19 of the *Transportation Conformity Guidance for Quantitative Hot-spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (USEPA, 2010), December 2010, found here: http://www.epa.gov/otaq/stateresources/transconf/policy/420b10040.pdf.

1. Determine Need

The Illiana Corridor traverses Will and Kankakee Counties in Illinois and Lake County in Indiana. Lake and Will Counties are currently classified as moderate non-attainment areas for the 1997 (annual) $PM_{2.5}$ standard. The Illiana Corridor is predicted to have over 10,000 ADT diesel trucks. According to Section 93.123(b)(1) of the conformity rule, which defines those projects that require a $PM_{2.5}$ or PM_{10} hot-spot analysis, this project qualifies as "(i) New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles." This information was brought to the Chicago Metropolitan Agency for Planning (CMAP) on February 14, 2013 and they determined that the project would require a quantitative hot-spot analysis following EPA's "*Transportation Conformity Guidance for Quantitative Hot-spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*"(USEPA, 2010), December 2010. The Illiana project team will request a similar consultation meeting with the Northwestern Indiana Regional Planning Commission (NIRPC) to address the quantitative hot-spot analysis for the project.

2. Determine Approach, Models and Data

a. *Approach*

In consultation with the interagency working group, those locations of the project with the highest expected air quality concentrations will be analyzed. These will be the locations with the greatest increases in diesel traffic volumes, and greatest overall diesel traffic volumes. Those locations with the highest traffic volumes will most likely be where the major interchanges are with other interstates in the project area. The analysis will be performed for the either the opening or design year of the project as determined based on highest expected

emissions from the project, any nearby sources, and background, for both the no-build and build scenarios. Since the project is located in an area designated as nonattainment for the annual $PM_{2.5}$ NAAQS, but attainment for the 24-hour $PM_{2.5}$ NAAQS and 24-hour PM_{10} NAAQS, the quantitative PM hot-spot analysis will be limited to comparing the project's impact to the 1997 annual $PM_{2.5}$ standard.

b. *PM Emissions*

The PM hot-spot analysis will include only directly emitted PM2.5 emissions. PM2.5 precursors are not considered in PM hot-spot analyses, since precursors take time at the regional level to form into secondary PM. Exhaust, brake wear, and tire wear emissions from on-road vehicles are included in the project's PM2.5 analysis. For this analysis, both running and crankcase running exhaust will be considered because start exhaust is unlikely to occur on the roadways included in the model domain. Re-entrained road dust will not be included because the State Implementation Plans do not identify that such emissions are a significant contributor to the PM2.5 air quality in the nonattainment area. This will be reconfirmed at the inter-agency consultation meeting. Emissions from construction-related activities will not be included because they are considered temporary as defined in 40 CFR 93.123(c)(5) (i.e., emissions that occur only during the construction phase and last five years or less at any individual site).

c. *Model*

The analysis will be performed using the current version of EPA's MOVES emissions model (MOVES2010b) and CAL3QHCR, (dated 12355).

d. *Data*

MOVES input files will be obtained from the local MPOs (CMAP and NIRPC) or other appropriate agencies. Project-specific traffic data, including hourly volume, average vehicle speeds, and facility type, will be obtained for each roadway section in the project area. Hourly vehicle volumes will be obtained for A.M. peak, midday, P.M. peak, and off-peak traffic conditions. The latest available hourly meteorological data from the National Weather Service station at local airports closest to the project area (Gary/Chicago International Airport or Chicago Midway International Airport) processed in the format required for use in CAL3QHCR, will be purchased. The meteorological data from these stations are representative of the terrain, climate and topography of the study area.

3. Estimate On-Road Vehicle Emissions

On-road vehicle emissions will be estimated using MOVES2010b. It is currently assumed that MOVES input files will be available from each of the MPOs and that unique emissions will be calculated for each MPO. MOVES input relies on link-specific data. A link file includes the vehicle volume, average speed, facility type, and grade. The PM emissions vary by time of day and time of year. Volume and speed data for each link will be obtained from the traffic analysts for A.M. peak, P.M.

peak, midday, and off-peak traffic conditions. For each intersection and analysis year, MOVES will be run 16 times (A.M. peak, P.M. peak, midday, and off-peak) using quarterly climate conditions, as developed by the MPOs. For every link, a set of four emission factors in units of grams per mile will be developed for use for each of the analysis years. Traffic projections are currently available for the time periods shown in Table 1, as are the proposed time period groupings for the analysis.

Table 1. Proposed Traffic Analysis Combinations Using Time Periods Defined in CMAP/Illiana Travel Model

Name	Description	From	To	# of Hours	Time Period
Period 1	Overnight	8:00 PM	6:00 AM	10	Off peak
Period 2	Pre- AM Shoulder	6:00 AM	7:00 AM	1	AM peak
Period 3	AM Peak	7:00 AM	9:00 AM	2	AM peak
Period 4	Post- AM Shoulder	9:00 AM	10:00 AM	1	AM peak
Period 5	Midday	10:00 AM	2:00 PM	4	Midday
Period 6	Pre- PM Shoulder	2:00 PM	4:00 PM	2	Midday
Period 7	PM Peak	4:00 PM	6:00 PM	2	PM peak
Period 8	Post- PM Shoulder	6:00 PM	8:00 PM	2	PM peak

4. Estimate Emissions from Road Dust, Construction and Additional Sources

Road dust emissions will not be included in the analysis, as described in step 2(b). Construction emissions will not be included because construction will not occur at any individual location for more than five years. No additional sources of $PM_{2.5}$ emissions will be included. It is assumed that $PM_{2.5}$ concentrations due to any other nearby emissions sources will be included in the ambient monitor values used for background concentrations. In addition, this project is not expected to result in changes to emissions from nearby sources.

5. Select an Air Quality Model, Data Inputs and Receptors

a. *Model*

The USEPA's CAL3QHCR air dispersion model will be used to estimate concentrations of $PM_{2.5}$ due to project operation. The model uses traffic data, emission factor data, and meteorological data to estimate ground-level

concentrations of $PM_{2.5}$ at a series of receptors. For each modeled scenario, the model setup will include a series of links, or roadway segments, in the vicinity of the free flow segment, interchange or intersection being modeled.

b. *Data Inputs*

Link-specific inputs include length, mixing zone width, hourly volume, and emission factor. A conservative link height of 0 feet will be assumed for all links for simplicity (to be confirmed at inter-agency meeting). CAL3QHCR requires the vehicle volume and emission factor for each hour of the day; the PM hot-spot guidance suggests 3-hour A.M. and P.M. peak periods along with midday and off-peak time periods. Meteorological input files will be processed using surface data and upper air data from local airports. As recommended in EPA's "Guideline on Air Quality Models" (Appendix W to 40 CFR Part 51), five consecutive years of the most recent and readily available meteorological data will be used for the dispersion modeling analysis. For each scenario, CAL3QHCR will be run separately for each of the five years of meteorological data. CAL3QHCR does not distinguish between emissions changes due to seasonal differences; therefore, each season will be run separately, for a total of 20 model runs per scenario.

c. *Receptors*

Receptors will be placed in order to estimate the highest concentrations of $PM_{2.5}$ to determine any possible violations of the NAAQS. A receptor grid will be placed over the microscale study area with the smallest receptor spacing within the area. Highest concentrations are expected to occur at the intersections of the highest-volume roadways. Identical receptor grids will be used for No-Build and Build Alternatives in order to directly compare project effects. The grid will be centered over each modeled interchange, and gridded receptors that fall within five meters of any project feature or other locations where public would normally be present for a limited timed will be removed, according to the PM guidance. Receptor placement will be discussed at the inter-agency meeting.

6. Determine Background Concentrations From Nearby and Other Sources

If available, future background data will be obtained from SIP modeling data, or from national rulemakings. If this information is not available, data from $PM_{2.5}$ monitors in the project vicinity will be evaluated for the most representative (background values. Once selected and confirmed through interagency consultation, the background value(s) will be added to the CAL3QHCR modeled design values for comparison to the NAAQS. The background values will likely be conservative, because it is expected that ambient $PM_{2.5}$ concentrations will be lower in future years as a result of State Implementation Plans and the general trend in declining vehicle emissions due to technological advances. It is assumed that emissions from other nearby sources are already included in the ambient monitoring data.

7. Calculate Design Values and Determine Conformity

The model results (Step 5) will be added to the background concentration(s) (Step 6) for both the build and no-build scenarios in order to calculate the design values. The annual $PM_{2.5}$ design value is currently defined as the average of three consecutive years' annual averages, each estimated using equally-weighted quarterly averages. The NAAQS is met when the three-year average concentration is less than or equal to the 1997 annual $PM_{2.5}$ NAAQS. CAL3QHCR output provides the maximum quarterly average $PM_{2.5}$ concentration at each receptor. For the receptor with the maximum modeled concentration in each scenario, the following steps will be used to determine the design value, as outlined in the guidance:

i. For each year of meteorological data, determine the average concentration in each quarter.
ii. Within each year of meteorological data, add the average concentrations of all four quarters and divide by four to calculate the average annual modeled concentration for each year of meteorological data.
iii. Sum the modeled average annual concentrations from each year of meteorological data, and divide by the number of years of meteorological data used.
iv. Add the average annual background concentration to the average annual modeled concentration to determine the total average annual concentration.

If the design value in the build scenario is less than or equal to the relevant PM NAAQS at appropriate receptors, then the project meets conformity requirements. In the case where the design value is greater than the NAAQS in the build scenario, a project could still meet conformity requirements if the design values in the build scenario are less than or equal to the design values in the no-build scenario at appropriate receptors.

8. Consider Mitigation or Control Measures

If the project does not meet conformity requirements, mitigation or control measures to reduce emissions in the project area may be considered. If such measures are considered, additional modeling will need to be completed and new design values calculated to ensure that conformity requirements are met. Mitigation measures, which must include written commitments for implementation (40 CFR 93.125), include the following:

i. Retrofitting, replacing vehicles/engines, and using cleaner fuels;[1]
ii. Reducing idling;[2]
iii. Redesigning the transportation project itself;
iv. Controlling fugitive dust; and
v. Controlling other sources of emissions.

9. Document the PM Hot-Spot Analysis

The PM hotspot analysis and results will be documented in an Air Quality Technical Report. Due to the large volume of input and output files created for this analysis, they will be available electronically upon request.

[1,2] It should be noted that IDOT currently has a special provision for retrofitting diesel construction equipment, and clean fuels and idling restrictions are found in the Department's supplemental specifications and recurring special provisions.