Air Quality Conformity Determination

Between

The **2040 Comprehensive Regional Plan as updated and amended**

The **Fiscal Year 2018 to 2021 Transportation Improvement Program as adopted**

and

The **Indiana State Implementation Plan** for **Air Quality**

March 21, 2017

Northwestern Indiana Regional Planning Commission
Portage, Indiana

www.nirpc.org

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Purpose

The purpose of this report is to document compliance with section 176(c) of the Clean Air Act as amended (CAAA), and the related requirements of the Final Transportation Conformity Rule (40 CFR Part 51 and 40 CFR Part 93). The air quality conformity determination establishes the compatibility between the state implementation plan, the regional transportation plan and transportation improvement program. The transportation plan includes the region's guide for transportation system development over a minimum twenty-year period. The transportation improvement program (TIP) includes the region's choices for Federal spending on expansion and preservation of the transportation system over a four to five year period. The State Implementation Plan (SIP) includes strategies for attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). The conformity determination is based on a regional emissions analysis that demonstrates compatibility among these three planning documents. The regional emissions analysis uses the region's transportation network model and the USEPA's MOVES 2014a emissions simulator to quantify the emissions from all vehicles on the future transportation system. For Lake and Porter Counties, annual emissions of nitrogen oxides and volatile organic compounds must not exceed Motor Vehicle Emissions Budgets as established in the State Implementation Plan. The system that was analyzed includes, regardless of funding sources, all regionally significant capacity expansion projects in the Lake, Porter and LaPorte County area, all significant projects in northeastern Illinois, and a portion of Newton and Jasper Counties in order to satisfy the logical termini consistency with the NEPA process 23 CFR 771.

Applicability

Action Applicability
This conformity determination is required for: adoption, acceptance, approval or support of the Regional Transportation Plan (2040 Comprehensive Regional Plan as updated and amended) and the to be adopted Transportation Improvement Program (Fiscal Year 2018 to 2021 Transportation Improvement Program) developed pursuant to 23 CFR Part 450 and 49 CFR Part 613.

Geographic Applicability
This conformity determination is required in the ozone non-attainment area, including the Lake/Porter County non-attainment area with respect to the Summer day mobile-source emissions of VOCs and NOx. Lake and Porter Counties are designated as non-attainment of the 1997 National Ambient Air Quality Standard (NAAQS) for "8-hour" ozone. Lake and Porter Counties are designated nonattainment for the 2008 Ozone NAAQS, but since no approved SIP exists for this NAAQS, conformity is only required for the 1997 Ozone SIP. This analysis examines parts of LaPorte, Newton and Jasper Counties in order to be consistent with the logical termini requirement for the NEPA process, even though these counties are in attainment of the NAAQS.

This conformity determination is based on the requirement of 40 CFR 93.118 (Federal Transportation Conformity Rule) for the regional emissions analysis to indicate compliance with the emissions budgets established in the State Implementation Plan for VOC and NOx emissions in Lake and Porter Counties. The regional transportation plan and transportation improvement program must not result in Summer day emissions of VOC and NOx in 2020, 2025, 2030, 2035 and 2040 in excess of the applicable budgets. 2045 is added as an analysis year in order to satisfy the desires of the Interagency Consultation Group on Air Quality.

Priority

Transportation Control Measures (TCM) in the State Implementation Plan must be given funding priority in the FHWA/FTA approval of any action with air quality consequences. The State Implementation Plan for Lake and Porter Counties includes no transportation control measures. This conformity determination is not required

to demonstrate priority for TCMs.

Consultation

This conformity determination has been conducted with the involvement of the United States Department of Transportation (USDOT) through the Federal Highway Administration Indiana Division (FHWA) and Federal Transit Administration Region 5 (FTA), United States Environmental Protection Agency Region 5 (USEPA), Indiana Department of Transportation (INDOT), Indiana Department of Environmental Management (IDEM), and Northwestern Indiana Regional Planning Commission (NIRPC).

The consultation process included the issues and procedures that are listed in 40.CFR 93.105 of the final conformity rule and the August 2007 Interagency Consultation Guidance.

An Interagency Consultation Group (ICG) meeting was conducted on January 30, 2017 at 1:00 PM Central Time by teleconference. The meeting was attended by Scott Weber, Kathy Luther, and James Winters of NIRPC; Lisa Shrader, Jay Mitchell, and Frank Baukert of INDOT; Joyce Newland of FHWA, Tony Maietta of USEPA, and Shawn Seals of IDEM. Ross Patronsky from the Chicago Metropolitan Agency for Planning (CMAP) and John Parsons and Nicole Barker from the Northern Indiana Commuter Transportation (NICTD) also joined the call. Scott Weber opened the call and began by offering a timeline of NIRPC's expected action to adopt the Fiscal Year 2018 to 2021 Transportation Improvement Program (TIP), anticipated in May 2017. This means that the Air Quality Conformity Determination Analysis covering all non-exempt, regionally significant projects will have to be made available to Public Comment from between March 13, 2017 to April 13, 2017.

Scott Weber then updated the ICG on the latest conformity requirements for Lake and Porter Counties in Indiana, that they are non-attainment for the 2008 Ozone National Ambient Air Quality Standard (NAAQS). This means that it must be shown using the latest available Motor Vehicle Emissions Budgets (MVEB) found in the State Implementation Plan (SIP) that emissions caused by these certain projects in the FY 2018 to 2021 TIP result in emissions at or below the ozone precursor emissions in the MVEB.

Scott Weber then updated participants about the non-exempt regionally significant projects expected to be included in the FY 2018 to 2021 TIP. John Parsons and Nicole Barker gave an update on the NICTD West Lake Corridor and Double Tracking projects, which would improve commuter rail service between Northwest Indiana and Chicago. John and Nicole confirmed that the STOPS model projects ridership on the West Lake Corridor at 7,000 by the year 2040 and nearly 27,000 on the entire system, including the West Lake Corridor plus the existing Double Tracked system by 2040, representing an increase of approximately 12,000 riders from the current average weekday boardings on the NICTD service. Scott then informed the group that when modeling the West Lake Corridor and Double Tracking projects using NIRPC's model, he was not observing this high a ridership in 2040. The group then decided that it would be best for NIRPC to run 2 scenarios for each model year: 1 using the NIRPC model parameters as is for the 2 projects, and 1 replicating the ridership in the STOPS Model. Both projects would first appear as open to traffic by 2025, missing the January 1, 2020 open to traffic cutoff to be modeled in 2020.

Joyce Newland then brought up the issue of what to do with the Illiana Corridor. Jay Mitchell reported that officially INDOT is prepared to advance work on the project as soon as Illinois resumes support, and that INDOT has no action to delay or withdraw a project. Scott Weber and Kathy Luther at NIRPC stated that it may be unwise for NIRPC to expose a document to public comment showing that the Illiana Corridor would be open to traffic in 2020. Ross Patronsky at CMAP reported that, on the recommendation of the FHWA Chicago Metro Office, the Illiana Corridor completion year was moved back from 2018. The year 2040 was chosen for CMAP's conformity purposes. The group requested that Jay Mitchell ask higher-ups at INDOT what their response to pushing back the Illiana Corridor to a later year would be. In the meantime,

the group decided that Scott should send a 2020 model run into INDOT for air quality analysis that excludes the Illiana to see if it would cause a violation.

Scott Weber then updated the ICG that he checked with the carried over projects from the previous Air Quality Conformity Determination Analysis to make sure that they were still on track for their proposed open to traffic years. Scott reported that 2 projects slated for 2020 have already been opened to traffic: 61st Ave in Hobart and the first phase of Mississippi St in Merrillville. The phasing on the Schererville Kennedy Ave project had to be divided up into 2 phases. Junction Ave to US-30 would still be slotted for 2025, but that the phase between Oak St and Junction Ave would be rescheduled to open to traffic by 2030. The SR-249 Port of Indiana Burns Harbor second access bridge project would be pushed back from 2020 to 2025 because the anticipated open to traffic date would be later in the year 2020.

The ICG agreed that the Latest Planning Assumptions still apply because NIRPC has not undertaken more recent population or employment forecasts and is still operating under the 2040 Comprehensive Regional Plan Update Companion as adopted in May 2015.

Scott Weber and Frank Baukert confirmed that the expected timeline for modeling the non-exempt, regionally significant projects that need to be modeled for the Air Quality Conformity Determination Analysis would be completed by the first week of March 2017. This means that Scott agrees to send Frank the network model results by February 14, and that Frank will be able to turn those network model results into air quality emissions results by March 3, 2017.

On February 3, 2017, Scott Weber of NIRPC, John Parsons and Nicole Barker of NICTD, and the consultant team of Kim Slaughter and Vijay Mahal of HDR, Inc., held a teleconference call to discuss NICTD's request that the Air Quality Conformity Determination include one consistent ridership scenario with the STOPS Model serving as the basis for the modeled ridership, and then the NIRPC network model being calibrated to match this ridership forecast in order to show resulting auto and truck vehicle flows. All participants on the call agreed that this was a desirable and achievable task. Scott Weber then calibrated the NIRPC network model in the years 2025 and later to reflect the STOPS model showing approximately 27,000 riders on the NICTD system in 2040.

On February 7, 2017, Scott Weber sent the Interagency Consultation Group (ICG) an update that he had spoken with the Northern Indiana Commuter Transportation District (NICTD) and their consultant team about using one consistent ridership forecast and that he heard from Frank Baukert and Jay Mitchell at INDOT that removing the Illiana Corridor project from the 2020 network would not result in emissions exceeding the 2020 Motor Vehicle Emissions Budgets (MVEB). Hearing no objections, the ICG decided to allow one consistent NICTD ridership forecast scenario and remove the Illiana Corridor from the 2020 network (but keep it in later years).

On March 9, 2017, an Interagency Consultation Group (ICG) teleconference call was held to review the draft Air Quality Conformity Determination Analysis. A project to review, INDOT DES # 1700406 to modify the approach on I-80/94 Westbound to its interchange with I-65, was added to the agenda on March 8, 2017. Amanda Pollard, Stephen Sostaric, Scott Weber, and James Winters of NIRPC; Frank Baukert, Jay Mitchell, and Stephan Summers of INDOT; Shawn Seals of IDEM; Joyce Newland of FHWA; Susan Weber of FTA; Tony Maietta of USEPA; Ross Patronsky of CMAP; and Nicole Barker of NICTD joined the call. Stephan Summers presented INDOT DES # 1700406, and the group decided there was not enough information at the time to determine whether or not the project is exempt from Conformity. It was decided Scott Weber would provide traffic information from the NIRPC Travel Demand Model after the call to help the ICG determine whether or not the project would be exempt from Conformity. The group decided that Scott Weber needs to reach out to Michael Ready at INDOT in order to verify if in fact the southern terminus of the I-65 Added Travel Lanes Project DES # 1400349 is in fact SR-10, or if it is not that far south. Finally, the group also decided that the Illiana Corridor should be shown as first open to traffic in 2040 to agree

with the Illinois Department of Transportation and CMAP, not in 2025 as shown in the draft Conformity Determination Analysis document. For these reasons, a new ICG call with an updated draft would need to be scheduled soon, but NIRPC staff repeated that this would not ultimately impact the anticipated timeline to adopt the FY 2018-2021 Transportation Improvement Program in May 2017.

Scott Weber sent an email out to the ICG on March 9, 2017 with traffic metrics from the NIRPC Travel Model characterizing INDOT DES # 1700406 before and after the interchange modification. Scott Weber heard from Michael Ready that the I-65 Added Travel Lanes Project DES # 1400349 is SR-2. Joyce Newland decided with ICG approval on March 13, 2017 that the project is exempt from Conformity, but that it is still appropriate to include in the Network Model.

The Interagency Consultation Group (ICG) on Air Quality held a teleconference on March 21, 2017. Amanda Pollard and Scott Weber from NIRPC; Frank Baukert, Jay Mitchell, Michael Ready, Lisa Shrader, and Stephan Summers from INDOT; Joyce Newland from FHWA; Susan Weber from FTA; and Tony Maietta from USEPA joined the call. The group discussed the latest draft of the Air Quality Conformity Determination Analysis document. Joyce Newland commented that additions should be made to the Consultation section to reflect that the I-65 Added Travel Lanes project southern terminus was confirmed with Michael Ready at INDOT. The group agreed to make this change. Joyce Newland commented in Table 1 for DES # 1400585 that the project agency should be changed from INDOT to East Chicago, and the road should be changed from SR-912 to Cline Ave. The group agreed with this change. Scott Weber commented that he would get any missing DES numbers if possible. Tony Maietta said that it would be helpful if more information is written about the Air Quality Public Education CMAQ-funded project used to claim offset emissions for exceeding the 2020 budget. Also, Tony Maietta said it would be helpful if Table 4 showed the quantified emissions reductions from the project. The ICG agreed to both of these changes. The ICG agreed to the timetable of next steps. Joyce Newland asked if NIRPC still plans to amend the FY 2016 to 2019 TIP to include the I-80/94 Interchange Modification project with I-65 (DES # 1700406), and Scott Weber said NIRPC intends to do so in April. Stephan Summers and Lisa Shrader confirmed an April amendment is ok with INDOT. Scott Weber ended the call by stating that he would email out a revised copy for the ICG to look over before posting it on the NIRPC website and releasing it for public comment. The ICG agreed that to be consistent with NIRPC's Public Participation Plan that the end date should be adjusted to be 30 days after the posting date even though strictly speaking not being in a Severe Non-attainment area would allow the 30 day public comment period to be reduced.

On March 21, 2017, Amanda Pollard and Scott Weber confirmed with Merrillville that the 101st Avenue Added Travel Lanes project between SR-53 and Mississippi St is not being funded with MPO-administered funds, so there would be no DES number. NIRPC also confirmed with James Winters that no NICTD DES numbers are available as of this printing, but that none would be required in time to satisfy the rest of the public comment period. No other projects with missing DES numbers had received DES numbers as of this printing.

Public consultation

In compliance with the adopted NIRPC Public Participation Plan, an opportunity for public comment on the proposed conformity determination has been provided. A media release was issued on October 21, 2016 that established a comment period extending from October 21, 2016 to November 21, 2016. This proposed conformity determination is available to the public for review at the NIRPC offices, 6100 Southport Road, Portage and on the web at www.nirpc.org. The comments and responses will be inserted here at the end of the public comment period.

Content of the Transportation Plan

The transportation plan specifically describes the transportation system envisioned for the following horizon years: 2020, 2025, 2030, and 2040. An additional horizon year of 2045 was agreed to by the ICG. These horizon years meet the USEPA's requirements of 40 CFR 93.106 (a)(1) of the conformity rule.

The 2040 Comprehensive Regional Plan quantifies and documents the demographic and employment factors influencing expected transportation demand. The future levels of population, households and employment imply the magnitude of development envisioned for each traffic analysis zone. These forecasts are based on the 2040 Growth and Revitalization Vision adopted by NIRPC on October 28, 2010. The NIRPC 2040 Comprehensive Regional Plan was formally adopted on June 23, 2011 and updated on May 21, 2015. This conformity determination applies adjustments from the 2010 Census to the forecasts, a directive agreed to by the ICG.

The highway and transit systems are described in terms of the regionally significant additions or modifications to the existing transportation network, which the transportation plan envisions to be operational in the analysis years. The capacity-expansion projects in the 2040 Regional Transportation Plan are listed on Table 1.

Additions and modifications to the highway network are sufficiently identified to indicate intersections with existing regionally significant facilities, and to determine their effect on route options between transportation analysis zones. Each added or modified highway segment is sufficiently identified in terms of its design concept and design scope to allow modeling of travel times under various traffic volumes, consistent with the modeling methods for area-wide transportation analysis in use by NIRPC. The NIRPC transportation model includes network links representing road segments for all collector and higher functional classifications, with nodes representing all significant intersections.

Transit facilities, equipment, and services envisioned for the future are identified in terms of design concept. The design scope and operating policies for these transit projects have been assumed for the regional emissions analysis, based on local transit services. The NIRPC transportation model includes a mode choice model, and the transportation model is used to estimate transit ridership from the implementation of future transit facilities, equipment and services. Table 1 lists the projects, beginning with projects proposed for completion since 2010.

Table 1. 2040 Comprehensive Regional Plan as Update and FY 2018 to 2021 Transportation Improvement Program Capacity Expansion Projects in the Regional Emissions Analysis

2020 Network (includes the following projects)

ID	Agency	**INDOT**	Completion before	2020
243	Road	**I-65**	Concept	Interstate Highway
DES	From	US-231	Scope	Added Travel Lanes
1400349	To	SR-2	Model Representation	Add 1 NB & 1 SB travel lane

ID	Agency	**East Chicago**	Completion before	2020
244	Road	**Cline Avenue**	Concept	Other Expressway
DES	From	Riley Rd Interchange	Scope	New Construction
1400585	To	0.6 miles West of Michigan Avenue Interchange	Model Representation	New links, 2 travel lanes in each direction, other expressway attributes, $2.50 tollbooth

ID	Agency	**INDOT**	Completion before	2020
234	Road	**I-65**	Concept	Interstate Highway
DES	From	US-30	Scope	Added Travel Lanes
1172430	To	US-231	Model Representation	Add 1 NB & 1 SB travel lane

ID	Agency	**INDOT**	Completion before	2020
250	Road	**US-41**	Concept	Principal Arterial Highway
DES	From	93rd Ave	Scope	Added Center Turn Lane
1383695	To	US-231	Model Representation	Increase Capacity by 10%

ID	Agency	**Lake County**	Completion before	2020
235a	Road	**45th Avenue**	Concept	Minor Arterial Street
DES	From	Whitcomb Street	Scope	Added Center Turn Lane
9980080	To	Grant Street	Model Representation	Increase Capacity by 10%

ID	Agency	**Munster**	Completion before	2020
217	Road	**45th Avenue**	Concept	Minor Arterial Street
DES	From	At Calumet Avenue	Scope	Intersection Realignment
0710056	To		Model Representation	Reconfigure intersection links

ID	Agency	**Gary Public Transp. Corp.**	Completion before	2020
249	Service	**Livable Broadway**	Concept	Enhanced Fixed Route Bus Service
DES	From	Gary Metro Center	Scope	Added Fixed Route Transit Service
1600632	To	Crown Point	Model Representation	Add Transit Line on Road Links

2025 Network (includes the 2020 network, plus the following projects)

ID	Agency	**INDOT**	Completion before	2025
239	Road	**SR-249**	Concept	Other Principal Arterial Bridge
DES	From	US-12	Scope	Added Travel Lanes on New Bridge
1600500	To	Port of Indiana - BH	Model Representation	Add 2 NB & 2 SB travel lanes on new bridge

ID	Agency	**NICTD**	Completion before	2025
251	Service	South Shore Line	Concept	Double Track where not already 2 parallel tracks
	From	Tennessee St	Scope	Added Second Parallel Track where needed
	To	Michigan Blvd	Model Representation	Calibrate speed and headway to match STOPS ridership

ID	Agency	**NICTD**	Completion before	2025
252	Service	West Lake Corridor	Concept	New Commuter Rail Service
	From	Hammond Gateway	Scope	Added Commuter Rail Line and Service
	To	Main St – Munster/Dyer	Model Representation	Add 1 NB (WB) and 1 SB (EB) Track and calibrate ridership

ID	Agency	**Hammond Gostlin/Sheffield/Chicago**	Completion before	2025
240	Road		Concept	Minor Arterial Street
DES	From	Illinois State Line	Scope	Added Travel Lanes
1500221	To	US-41	Model Representation	Add 1 travel lane in each direction

ID	Agency	**Lake County**	Completion before	2025
235b	Road	**45th Avenue**	Concept	Minor Arterial Street
DES	From	Colfax Street	Scope	Added Center Turn Lane
9980080	To	Whitcomb Street	Model Representation	Increase Capacity by 10%

ID	Agency	**Merrillville**	Completion before	2025
105b	Road	**Mississippi Street**	Concept	Minor Arterial Street
DES	From	93rd Ave	Scope	Added Travel Lanes
1006787	To	101st Ave	Model Representation	Add 1 travel lane in each direction

ID	Agency	**Merrillville**	Completion before	2025
214	Road	**101st Avenue**	Concept	Minor Arterial Highway
	From	SR-53	Scope	Added Travel Lanes
	To	Mississippi Street	Model Representation	Add 1 travel lane in each direction

ID	Agency	**Schererville**	Completion before	2025
96a	Road	**Kennedy Avenue**	Concept	Minor Arterial Street
DES	From	Junction Ave	Scope	Added Travel Lanes
1173760	To	US-30	Model Representation	Add 1 travel lane in each direction

ID	Agency	**St. John**	Completion before	2025
218	Road	**93rd Avenue**	Concept	Minor Arterial Street
	From	White Oak Avenue	Scope	Added Center Turn Lane
	To	US-41	Model Representation	Increase capacity by 10%

2030 Network (includes the 2025 network, plus the following projects)

ID	Agency	**Munster**	Completion before	2030
86	Road	**Main Street**	Concept	Minor Arterial Street
	From	Burnham Avenue	Scope	New Construction and added travel lanes
	To	Calumet Avenue	Model Representation	New links, 2 travel lanes in each direction, Minor Arterial attributes, add 1 lane / direction in existing segment

ID	Agency	**Schererville**	Completion before	2030
96b	Road	**Kennedy Avenue**	Concept	Minor Arterial Street
DES	From	Oak St	Scope	Added Travel Lanes
1382603	To	Junction Ave	Model Representation	Add 1 travel lane in each direction

ID	Agency	**Valparaiso**	Completion before	2030
214	Road	**Vale Park Road East**	Concept	Minor Arterial Street
	From	Calumet Avenue	Scope	Added Travel Lanes
	To	Silhavy Road	Model Representation	Add 1 travel lane in each direction

ID	Agency	**Porter County**	Completion before	2030
237	Road	**Willowcreek Road**	Concept	Minor Arterial Highway
	From	CR-700N	Scope	New Construction
	To	CR-100S	Model Representation	New links, 2 travel lanes in each direction, Minor Arterial attributes

2040 Network (includes the 2030 network, plus the following projects)

ID	Agency	**INDOT/IDOT**	Completion before	2025
233	Road	**Illiana**	Concept	Limited access toll road
DES	From	I-65	Scope	New facility
1006456	To	I-55 (IL)	Model Representation	New 4-lane limited access toll road, $0.11 per mile

ID	Agency	**Valparaiso**	Completion before	2040
238	Road	**Division Road**	Concept	Minor Arterial Street
	From	SR-2	Scope	Added Travel Lanes
	To	US-30	Model Representation	Add 1 travel lane in each direction

The NIRPC transportation modeling process does not include a land use model. The socioeconomic data for the traffic analysis zones reflect the 2040 Growth and Revitalization Vision for northwestern Indiana.

Relationship of Transportation Plan and TIP Conformity with the National Environmental Policy Act (NEPA) Process

The degree of specificity required in the transportation plan and the specific travel network assumed for air quality modeling do not preclude the consideration of alternatives in the NEPA process, including environmental assessment and preparation of environmental impact statements, or other project development studies. Should the NEPA process result in a project with design concept and scope significantly different from that in the transportation plan or transportation improvement program, the project must meet the tests for total annual system emissions equal to or below the level of the 2002 emissions or the applicable budgets for the analysis years, and provide for TCM priority, if applicable, before NEPA process completion.

During the Congestion Management Process (CMP) and other analyses for the capacity expansion projects in the 2040 Regional Transportation Plan, options other than the assumed design concept and design scope must be considered.

Fiscal Constraints for the Transportation Plan and TIP

NIRPC has reviewed all of the projects in the 2040 Comprehensive Regional Plan as updated to determine through project sponsor interviews and the Transportation Policy Committee that the projects meet requirements for fiscal constraint. INDOT has submitted under separate cover a document that describes how the proposed Statewide Transportation Improvement Program (STIP), including those projects in the FY 2018 to 2021 Transportation Improvement Program, meets fiscal constraint requirements. The Transit Operators Roundtable has thoroughly vetted the transit projects in the 2040 Comprehensive Regional Plan as updated to determine that they meet fiscal constraint requirements.

Criteria and Procedures for the Conformity Determination

The Interagency Consultation Group Conformity Consultation Guidance establishes the criteria and procedures for the Conformity Determination. The Indiana SIP includes a duplicate of the original Federal transportation conformity rule. On August 15, 1997, after the establishment of the Indiana conformity rule as part of the SIP, the Federal conformity rule was amended to provide flexibility and streamlining. On June 1, 1998, IDEM issued a nonrule policy document that provides guidelines for conformity determination in light of Federal amendments. The nonrule policy document established the intent of IDEM to revise the SIP to mirror the new Federal amendments and to exercise its enforcement discretion to allow the features of the Federal amendments to be used.

The conformity determination for the 2040 Comprehensive Regional Plan as updated and amended and Fiscal Year 2018 to 2021 Transportation Improvement Program meets the requirements of 40 CFR 93.110 (latest planning assumptions), 93.111 (latest emissions model), and 93.112 (consultation) of the Federal conformity rule, for conformity determinations during all periods, and 40 CFR 93.113 (b and c) (transportation control measures), 93.118 (adherence to motor vehicle emissions budgets), and 93.119 (interim emissions reductions) of the conformity rule, for the transportation improvement program conformity determination with respect to Summer day VOC and NOx emissions.

Latest Planning Assumptions

The conformity determination is based on the latest planning assumptions. The transportation model uses the assumptions derived from estimates of current and future population, households, employment, travel and congestion most recently developed and approved by NIRPC. The estimates include 2010 population estimates from the 2010 Census, and employment estimates from the Indiana Department of Workforce Development ES-202 file. Trip generation rates, trip length, mode choice and other model parameters are based on a 1995 Household Travel Survey in Northwestern Indiana and compared to nationwide data. The 2007-2008 Household Travel Survey has not been incorporated into the trip generation rates for the transportation network in time for this Conformity Determination, although this is consistent with prior conformity determinations. The travel demand model was validated with respect to the year 2012 Highway Performance Monitoring System. The 2020, 2025, 2030, 2035 and 2040 population, household and employment forecasts were prepared in March 2011 and intermediate years updated to take into account the 2010 Census in January 2015 by NIRPC, using the latest available information. The 2045 population, household and employment forecasts were projected out from 2040 based on the 2035-2040 trend.

The transit operating policies (including fares and service levels) were changed for the previous conformity determination and are reflected in this conformity determination. Changes are assumed in existing transit fares within northwest Indiana over time. The model represents tolls on the Indiana Toll Road, the Illiana Corridor, and Cline Avenue Bridge by links that correspond to tollbooths with a fixed travel time, based on the toll amount. The toll increases have been reflected in the transportation networks.

Planning Assumptions

1. Population forecasts have been prepared by NIRPC. For the development of the 2040 CRP, NIRPC has been allowed to use forecasts that are not constrained by the county control totals, which have tended to underestimate growth in the region. The population numbers show a large increase in Porter County, and a slight increase in LaPorte County and Lake County. The population, households and employment data are allocated to the traffic analysis zones and are used in the regional emissions analysis. The totals for the three-county area are included in Table 2.

Table 2. Socioeconomic Totals

Year	Population	Households	Employment
2000	741,468	277,324	303,850
2010	771,815	292,477	277,584
2015	775,200	291,315	280,147
2020	827,438	337,211	302,828
2025	855,249	359,578	315,450
2030	883,060	381,944	328,071
2035	910,872	404,311	340,693
2040	938,683	426,678	353,315
2045	966,497	449,046	365,937

2. The Highway Performance Monitoring System (HPMS) data provided the basis for an analysis of the growth in Vehicle-Miles of Travel. Based on this data, the actual annual rate of growth of travel can be determined. For the three-county area, the rates range from -0.88% per year to 2.84% per year between 1993 and 2008. Over this period, the annual rate of growth is 1.85% per year.

Table 3. Vehicle-Miles of Travel

Data from the Highway Performance Monitoring System (HPMS)

Year	VMT Estimate (HPMS)	Annual Rate of Growth
1993	18,829,591	
1994	18,663,552	-0.88%
1995	19,847,112	2.67%
1996	19,842,716	1.76%
1997	21,058,741	2.84%
1998	21,638,065	2.82%
1999	21,249,847	2.04%
2000	21,527,000	1.93%
2001	21,987,000	1.96%
2002	22,147,635	1.82%
2003	22,201,000	1.66%
2004	22,154,000	1.49%
2005	22,216,000	1.39%
2006	22,305,000	1.31%
2007	22,397,000	1.25%
2008	21,792,000	0.98%
2009	26,507,000	2.55%
2010	20,359,000	0.48%
2011	26,545,000	2.28%
2012	25,461,000	1.85%

3. Vehicle registration data have been received from the Indiana Bureau of Motor Vehicles. These data are split by vehicle type, and have an associated date of approximately December 31, 2014. The Indiana Department of Environmental Management provided vehicle age information for cars and light

trucks, from the application of a vehicle identification number (VIN) decoder as well as registrations by vehicle type directly from the Bureau of Motor Vehicles. This vehicle registration data have been used in MOVES, reflecting vehicle fleet age by vehicle type for smaller vehicles. For larger vehicle types, default data have been determined to be the best available fleet age information.

Horizon Year

The horizon year is 2040. An extra horizon year of 2045 was added by consultation with the ICG. The 2040 Comprehensive Regional Plan provides a policy-oriented distribution of population and households. This distribution is reflected in the project selection system for the plan, giving significant weight to projects in the revitalization areas in Gary, Hammond, East Chicago and Michigan City, as well as livable centers that provide for mixed land uses and greater transportation options.

The methods and assumptions for the transportation network model in the regional emissions analysis are included in The Transportation Model Documentation Report.

Latest Emissions Model

On March 2, 2010 the USEPA officially released the MOVES model, with a two year grace period. The MOVES model was updated in July 2014. INDOT has provided a utility that prepares the output of a TransCAD model for use with MOVES. INDOT has also run the MOVES model and provided emissions factors to all metropolitan areas in the state for use in conformity analysis. The MOVES2014a model has been used for this conformity analysis. The motor vehicle emissions budgets (MVEB) have been revised to use the MOVES emissions rates.

TCM Implementation

The 2040 Regional Transportation Plan and Fiscal Year 2018 to 2021 Transportation Improvement Program are not required to provide for timely implementation of TCMs from the SIP, since the SIP currently contains no TCMs.

Consistency with the Motor Vehicle Emission Budgets in the SIP

The regional emissions analysis has estimated emissions of VOC and NO_X as ozone precursors. The regional emissions analysis includes estimates of emissions from the entire transportation system, including all regionally significant projects contained in the transportation plan and all other regionally significant highway and transit projects expected in the nonattainment area in the time frame of the transportation plan. Table 4 shows that regional emissions for the ozone precursors fall at or below the budgets in the State Implementation Plan for the 1997 Ozone Summer Day 8-hour standard (used in lieu of an applicable 2008 Ozone Summer Day 8-hour standard because Indiana has yet to adopt a State Implementation Plan for that standard).

The emissions analysis methodology meets the requirements of 40 CFR 93.122(b) of the Federal Conformity Rule, for conformity determinations based on estimates of regional transportation-related emissions completed after January 1, 1997.

Implementation of the Lake and Porter County projects in the regional transportation plan results in motor vehicle emissions that are at or below the levels of the applicable Motor Vehicle Emissions Budgets, as shown in Table 4.

Emission Reductions in Areas Without Motor Vehicle Emissions Budgets

The establishment of Motor Vehicle Emissions Budgets that cover ozone and fine particles and their precursor

emissions eliminates the requirements to demonstrate emissions reductions.

Procedures for Determining Regional Transportation-Related Emissions

The regional emissions analysis for the transportation projects includes calculations of vehicle emissions at the aggregate level for the entire transportation system, including all regionally significant expansion projects expected in the nonattainment area. The analysis includes FHWA/FTA-funded projects proposed in the transportation plan, all Indiana Toll Road projects and all other regionally significant projects which are disclosed to NIRPC. Vehicle miles traveled (VMT) from projects which are not regionally significant are estimated in accordance with reasonable professional practice, using the regional travel demand model and the procedure for projects that are regionally significant.

The regional emissions analysis does not include any TCM. The regional emissions analysis does not include emissions reduction credit from projects, programs, activities, or control measures which require a regulatory action in order to be implemented.

Ambient temperatures used for the regional emissions analysis are consistent with those used to estimate the emissions in 2002. All other factors, for example the fraction of travel in a hot stabilized engine mode, are consistently applied.

Reasonable methods have been used to estimate nonattainment area VMT on off-network roadways within the urban transportation planning area, and on roadways outside the urban transportation planning area. For 2020, 2025, 2030, 2035, 2040 and 2045, estimates of regional transportation-related emissions used to support the conformity determination have been made using the MOVES2014a post-processor updated with the latest vehicle registration data..

Land use, population, employment, and other network-based travel model assumptions have been documented based on the best available information. The land development and use in the 2040 Growth and Revitalization Vision adopted by NIRPC and underpinning the 2040 Regional Transportation Plan are consistent with the future transportation system alternatives for which emissions have been estimated. The distribution of employment and residences are reasonable.

A capacity-sensitive assignment methodology has been used, and emissions estimates are based on a methodology, which differentiates between peak and off peak link volumes and speeds, and uses speeds based on final assigned volumes, post-processed in the database. Zone-to-zone travel impedances used to distribute trips between origin and destination pairs are in reasonable agreement with the travel times that are estimated from final assigned traffic volumes, using a feedback procedure iterated five times. These times have also been used for modeling mode splits. The network-based travel model is reasonably sensitive to changes in the time(s), cost(s), and other factors affecting travel choices. Reasonable methods in accordance with good practice have been used to estimate traffic speeds and delays in a manner that is sensitive to the estimated volume of travel on each roadway segment represented in the network-based travel model. Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) are considered the primary measure of VMT within the portion of the nonattainment area and for the functional classes of roadways included in the nonattainment area.

Regional Transportation-Related Emissions Results

Table 4 presents the results of the regional transportation emissions analysis for the 2040 Comprehensive Regional Plan as updated and amended, and the FY 2018 to 2021 Transportation Improvement Program including the projects as specified in Table 1. As seen in this table, the emissions are at or lower than the budgets for Ozone precursor emissions in 2020, 2025, 2030, 2035, 2040, and 2045.

Table 4. Regional Emissions Analysis Results

Ozone Emissions in U.S. Tons per Day
Lake and Porter Counties

	2020	2025	2030	2035	2040	2045
VOC Budget	5.99	5.99	5.99	5.99	5.99	5.99
VOC Emission	6.01	5.28	4.02	3.15	2.82	2.72
NOx Budget	16.69	16.69	16.69	16.69	16.69	16.69
NOx Emissions	14.93	10.20	7.79	6.60	6.63	6.37
VOC Emissions with Air Quality Public Education	5.97	N/A	N/A	N/A	N/A	N/A

Conclusion

The Summer day on-road mobile source emissions of the precursors of ozone (VOC and NOx) in Lake and Porter Counties that result from the implementation of the projects in the 2040 Regional Transportation Plan as updated and the Fiscal Year 2018 to 2021 Transportation Improvement Program in the years 2025, 2030, 2035, 2040 and 2045 are at or less than the Motor Vehicle Emission Budgets established in the Maintenance Plan included in the U.S. EPA approved State Implementation Plan for Lake and Porter Counties. However, the VOC precursor emissions expected to result from the regionally significant, non-exempt projects in Lake in Porter Counties in 2020 are slightly above the Motor Vehicle Emissions Budgets in the State Implementation Plan. Therefore, the Interagency Consultation Group on Air Quality finds that it is first necessary to document an already approved and funded source of VOC emissions reductions in 2020 in order to show that at a reduction of at least 0.02 tons per summer day of VOC not already accounted for in the Transportation Network Model is reasonably expected to occur in 2020 in order to find the 2040 Regional Transportation Plan and Fiscal Year 2018 to 2021 Transportation Improvement Program to conform to the requirements of section 176(c) of the Clean Air Act Amendment and the related requirements of the Federal Transportation Conformity Rule (40 CFR Part 51 and 40 CFR Part 93) with respect to ozone. The Interagency Consultation Group on Air Quality recommends using the already funded and implemented Air Quality Public Education program administered by NIRPC according to its Unified Planning Work Program, which shows a quantifiable reduction of 33.388 kg per summer day of VOC, which is equal to approximately 0.037 tons per summer day, enough to offset the 0.02 tons per summer day exceedance of the budget. Appendix A-1 shows the project highlighted in NIRPC's current Fiscal Year 2017-2018 Unified Planning Work Program with Congestion Mitigation Air Quality (CMAQ) funding, along with the application that shows the VOC emissions reductions from the project.

Appendix A-1: NIRPC Air Quality Public Education

In order to demonstrate Air Quality Conformity for the VOC ozone precursor in 2020, it is necessary to identify an already funded Congestion Mitigation Air Quality (CMAQ)-funded project. This practice is consistent with methodology taught in the National Transit Institute's Introduction to Transportation Conformity course and validated by the course's instructor, Sarah Siwek of Sarah J. Siwek & Associates. NIRPC staff searched all of the CMAQ-funded projects funded through NIRPC and found one project, an Air Quality Public Education/Outreach project, which would quantifiably reduce VOC emissions by more than 0.02 tons per summer day. As shown on the following tables, the Gas Can Exchange and Ride Sharing outreach components of this program would quantifiably reduce VOC emissions by 33.388 kg per summer day, which is approximately 0.037 tons per summer day. The NIRPC Interagency Consultation Group (ICG) on Air Quality agreed on March 21, 2017 that this project would allow NIRPC to demonstrate Air Quality Conformity and successfully offset the Motor Vehicle Emissions Budget exceedance in 2020 for the VOC precursor of Ozone.

TABLE I: FY 2018 UPWP SUMMARY LIST OF PROJECTS AND BUDGETS

PROGRAM CATEGORY	NIRPC Job #	2018 TOTAL BUDGET	PL / 5303 SHARE	FTA 5307 SHARE	CMAQ SHARE	PENDING/ OTHER	NIRPC SHARE	NOTES
18-100 Administration & Public Participation	**2311**	520,730	416,584	-	-	-	104,146	Staff Charges + department exp. $40,500
1 - Planning Management & Administration		-	-	-	-	-	-	
2 - Public Meetings & Communication Tools		-	-	-	-	-	-	
3 - Website/ Social Media Management		-	-	-	-	-	-	
4 - Administration of Transportation Projects		-	-	-	-	-	-	
18-200 Data Management & Analysis	**2312**	220,656	176,525	-	-	-	44,131	
1- Transportation Data Collection		-	-	-	-	-	-	
2- Planning Data Analysis / Forecasting		-	-	-	-	-	-	
3- GIS Support Services		-	-	-	-	-	-	
18-300 Short Range Planning	**2313**	350,325	280,260	-	-	-	70,065	
1- UPWP Development & Management		-	-	-	-	-	-	
2- Transportation Improvement Program (TIP) Management		-	-	-	-	-	-	
3- Title VI Program Management		-	-	-	-	-	-	
18-400 Long Range Planning	**2314**	570,625	456,500	-	-	-	114,125	
1 - Comprehensive Regional Plan / Transportation Regional Plan		-	-	-	-	-	-	
2 - Regional Land Use Planning		-	-	-	-	-	-	
3 - Congestion Management		-	-	-	-	-	-	
4 - Environmental Mitigation Planning		-	-	-	-	-	-	
5 - Safety & Security Planning		-	-	-	-	-	-	
6 - Freight Planning		-	-	-	-	-	-	
7 - Travel Network Modeling		-	-	-	-	-	-	
8 - Air Quality Conformity		-	-	-	-	-	-	
9 - Intelligent Transportation System		-	-	-	-	-	-	
18-500 Transit and Active Transportation	**2315**	110,227	88,182	-	-	-	22,045	
1 - Non-Motorized Transportation Planning		-	-	-	-	-	-	
2 - Transit Planning		-	-	-	-	-	-	
18-600 Other Planning Initiatives/Special Projects	**2316**	50,730	40,584	-	-	-	10,146	
1- Sprawl Analysis		-	-	-	-	-	-	
Total PL Funding		**$ 1,823,293**	**$ 1,458,635**	**$ -**	**$ -**	**$ -**	**$ 364,658**	
Transit - FTA								
2115 - Transit Planning		150,000	-	120,000	-	-	30,000	
2536 - Transit Administration & ADA Review		350,000	-	280,000	-	-	70,000	
Total Transit - FTA Funding		**$ 500,000**	**$ -**	**$ 400,000**	**$ -**	**$ -**	**$ 100,000**	
NIRPC Programs								
2548 - Air Quality Education/ Outreach	2548	400,000	-	-	320,000	80,000		
2317 - Alternative Fuel	2317	50,000	-	-	40,000	10,000	-	Dunes Learning Center
2538 - Deep River Portage Burns Waterway Initiative		55,000	-	-	-	55,000	-	
2539 - Solar Ready in Northwest Indiana		25,000	-	-	-	25,000	-	
2540 - Calumet Land Conservation Partnership		50,000	-	-	-	50,000	-	
1149 - NWI Brownfield Coalition		10,000	-	-	-	10,000	-	
Total NIRPC Programs Funding		**$ 590,000**	**$ -**	**$ -**	**$ 360,000**	**$ 230,000**	**$ -**	
NIRPC Administration - Indirect*								
9600 - General Management		-	-	-	-	-	-	
9600 - Staff & Administration Support		-	-	-	-	-	-	
Total NIRPC Administration - Indirect		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	
FTA Planning								
Valparaiso Transit Service Marketing Study		100,000	-	80,000	-	20,000	-	City of Valparaiso
GPTC - Planning Activities		100,000	-	80,000	-	20,000	-	Gary Public Transportation Corporation
Total FTA Planning		**$ 200,000**	**$ -**	**$ 160,000**	**$ -**	**$ 40,000**	**$ -**	
Total 2018 NIRPC Budget		**$ 3,113,293**	**$ 1,458,635**	**$ 560,000**	**$ 360,000**	**$ 270,000**	**$ 464,658**	

* See cost allocation plan

CMAQ REQUEST FORM (rev 3/2009)						
		Submission Date:	June 30, 2016			
1A.	Project Applicant (LPA, MPO, State, Other):	NIRPC				
1B.	If other describe and list Sponsoring agency in #2:					
2.	Sponsoring Agency:	NIRPC				
3.	FFY(s') for which CMAQ Funds are to be used:	2017-2018				
4.	Year project Starts:	FFY 2017				
5.	Project Category:	Public Ed/Outreach				
6.	Project Description:	Air Quality Public education				
7.	Estimated Total Funding Needed:	$ 900,000				
Year: 2017	CMAQ $360,000	Local Match:	$90,000	State:	$	
Year: 2018	CMAQ $360,000	Local Match:	$90,000	State:	$	
Year:	CMAQ $	Local Match:	$	State:	$	
	Estimated total of CMAQ funds needed:	$720,000				
8.	Air Quality Analysis (check appropriate Box)					
	Quantitative: X☐ Yes ☐ No	Qualitative: ☐ Yes X☐ No				

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8A.	REDUCTION IN OZONE PRECURSORS	KILOGRAMS/DAY	CMAQ $/KG REDUCED
	VOC's:	33.388	$0.03
	CO:	472.547	$0.02
	NOx:	48.071	$20.52
8B.	REDUCATION IN $PM_{2.5}$ PRECURSORS	KILOGRAMS/YEAR	CMAQ $/KG REDUCED
	$PM_{2.5}$:	0 Per Year	No Reduction
	NOx:	12,498.5 Per Year	$2.93
	NOTE: SUPPORTING DOCUMENTS OF A QUANTITATIVE ANALYSIS OR AN EXPLANATION OF A QUALITTATIVE ANALYSIS MUST BE ATTACHED. A QUALITATIVE ANALYSIS MUST HAVE A RANGE OF EMISSION ESTIMATES.		
9.	Is the project or program a mandated TCM?	☐ Yes X☐ No	
10.	Is the project on the CAAA list of TCMs'?	X☐ Yes ☐ No	
11.	Is this project a "Public/Private Partnership"?	X☐ Yes ☐ No	

A complete description of the involvement/participation in the development of this project must accompany the completed CMAQ Request Form.

CMAQ Request Form Instructions (for applicant use).

Line 1; Name of LPA, MPO, ***or State*** as applicable.

Line 2; Specific sponsoring agency under the applicant listed in line 1 above.

Line 3; FFY('s) funds are anticipated to used.

Line 4; Anticipated year project is to be started.

Line 5; Select from drop down list, if other describe.

Line 6; General project description

Line 7; Funding information, to include,

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All Construction Projects

NOFA 2014-2 NIRPC CMAQ Project Funding Request for 2017-2021

A Print Area has been set from cell A1 to Cell G213.

General Instructions below. If more help is needed, e-mail Gary Evers (gevers@nirpc.org).

Local Public Agency (LPA) Name:		Northwestern Indiana Regional Planning Commission	Insert applicant name
Contact Person or Employee in Responsible Charge (ERC):		Kathy Luther	If this is a construction project, identify the ERC. for other projects, please identify the primary contact person
Contact Person or ERC Information:	E-mail Address	kluther@nirpc.org	Please provide contact information for the ERC or primary contact person.
	Telephone #1	219-763-6060	
	Telephone #2		
Project Name:		Air Quality Public Education and Green Fleets Program for SFY 2017 & 2018	Name your project. Indentify location or termini.

Use this form for all Public Education and Outreach Projects

CMAQ Project Type:		Place an X in the appropriate box.
	Bicycle/Pedestrian	
	Congestion Mitigation	
	Diesel Retrofit/Replacement, Alternative Fuels, etc.	
	Public/Private Partnerships	
	Public Outreach/Education	X
	Public Transit	

CMAQ Work Type:		
	General Public Education and Outreach	X
	Demand Management Public Ed and Outreach	X
	Alternate Transportation Public Ed and Outreach	X
	Fleet Education and Outreach	X
	Safe Routes to School Education and Outreach	X
	Gas Can Exchange	X
	Public/Private Partnership	

Financial Summary		This is a recap of detailed financial information presented elsewhere in the application.
Federal Funds Requested	$ 360,000	
Non-Federal Funds	90,000	
Total Project Cost	$ 450,000	

Is this project a Public/Private Partnership?		First list all private sector participants. Then identify any public sector participants (in addition to the project sponsor).
If so, name the private sector participants.	South Shore Clean Cities	
Has a legal agreement been developed between the sponsor and each private sector participant?	Yes	Yes or No.

Emissions Reduction from combined Gas Can and RideShare Program Results	Substance	Total Kg Eliminated	Useful Life (UL--Years)*	Total Kg Eliminated per Day	Total Kg Eliminated per UL Year	Gas Can Useful Life from LADCO, Interim White Paper- Midwest RPO Candidate Control Measures pg. 5
	VOC's	2,686	10	33.388	8,758.090	260 Commuting Days per year
	NoX			48.071	12,498.460	
	CO			472.547	122,862.220	
	PM 2.5			0.000	0.000	

Cost Effectiveness				
Cost per Kg Eliminated	$ 167.55	CMAQ $$ per Kg Eliminated	$ 134.04	

Education PROJECT INFORMATION

Project Location			
Counties	Lake	Porter	
Municipalities			

Project Duration:		Insert projected dates, as appropriate
Start Date	8/1/2016	
End Date	12/31/2018	

Funding: Total Cost Information		Local Share	Federal Share
Personnel Costs	$ 200,000	0	200,000
Contractual - Green Fleets	100,000	22,250	77,750
Contractual - Advertising-	80,000	22,500	57,500
Contractual - PACE Rideshare	6,000	0	6,000
Contractual - Events	12,000	12,500	(500)
Marketing Materials	23,000	12,500	10,500
Gas Can Exchanges	20,000	20,000	-
Local Mileage	-	0	-
Equipment/Signage	5,000	0	5,000
Supplies	3,000	0	3,000
Printing and Postage	1,000	250	750
Total	$ 450,000	Total 90000	$ 360,000
Federal Funds Requested	$ 360,000		
Local Funds	$ 90,000	Calculated Percent Federal*	0.8

Identify primary source of non-federal funds (if multiple sources are used, explain below:

ValueAdded in-kind from advertising vendors. In-kind match for South Shore Clean Cities Green Fleets Contract. Partners for Clean Air sponsorships from private industry and local government in the form of event space, marketing materials.

80%

The calculated federal share is for your information only.