

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AGENDA ITEM REQUEST
for Proposed Revision to the State Implementation Plan

AGENDA REQUESTED: June 27, 2012

DATE OF REQUEST: June 8, 2012

INDIVIDUAL TO CONTACT REGARDING CHANGES TO THIS REQUEST, IF NEEDED: Joyce Spencer, (512) 239-5017

CAPTION: Docket No. 2012-0805-SIP. Consideration for publication and hearing on the proposed Beaumont-Port Arthur (BPA) Attainment Area On-Road Mobile Source Emissions Inventory and Motor Vehicle Emissions Budget (MVEB) Update State Implementation Plan (SIP) Revision.

The proposed SIP revision would replace the 2008 BPA maintenance plan on-road mobile source emissions inventories for nitrogen oxides (NO_x) and volatile organic compounds (VOC) based on the United States Environmental Protection Agency's MOBILE model with those based on the EPA's MOVES model. On-road mobile source emissions inventory updates would include those for 2005, 2011, 2014, 2017, and 2021. The 2021 NO_x and VOC MVEBs would also be updated based on the MOVES-based emissions inventories. The updated MVEBs would help the BPA area meet transportation conformity requirements of the Federal Clean Air Act. (Jamie Zech, John Minter) (SIP Project No. 2012-005-SIP-NR)

Steve Hagle, P.E.

Deputy Director

David Brymer

Division Director

Joyce Spencer

Agenda Coordinator

Copy to CCC Secretary? NO

Texas Commission on Environmental Quality

Interoffice Memorandum

To: Commissioners **Date:** June 8, 2012

Thru: Bridget C. Bohac, Chief Clerk
Zak Covar, Executive Director

From: Steve Hagle, P.E., Deputy Director
Office of Air

Docket No.: 2012-0805-SIP

Subject: Commission Approval for the Proposed Beaumont-Port Arthur (BPA) Attainment Area On-Road Mobile Source Emissions Inventory and Motor Vehicle Emissions Budget (MVEB) Update State Implementation Plan (SIP) Revision

BPA MVEB Update SIP Revision
SIP Project No. 2012-005-SIP-NR

Background and reason(s) for the SIP revision:

In 2008, the commission adopted the BPA area maintenance plan (Project No. 2008-006-SIP-NR), which demonstrates continued attainment of the 1997 eight-hour ozone standard through 2021. The plan was approved by the United States Environmental Protection Agency (EPA), and the BPA area was redesignated to attainment for the 1997 eight-hour ozone standard effective November 19, 2010. The maintenance plan contains on-road mobile emissions inventories developed using the EPA's MOBILE (MOBILE6.2) emissions estimation model. On March 2, 2010, the EPA officially released a new model, the Motor Vehicle Emission Simulator (MOVES) model (MOVES2010a), to replace the MOBILE model for SIP applications. Beginning March 2, 2013, transportation conformity must be conducted by local Metropolitan Planning Organizations (MPO) using the MOVES model. This SIP revision would facilitate future MOVES-based transportation conformity determinations because MOVES-based estimated emissions determined for conformity would be directly comparable to MOVES-based MVEBs established herein.

Scope of the SIP revision:

A.) Summary of what the SIP revision will do:

This SIP revision would replace the 2008 BPA maintenance plan on-road mobile source emissions inventories for nitrogen oxides (NO_x) and volatile organic compounds (VOC) based on the EPA's MOBILE model with those based on the EPA's MOVES model. On-road mobile source emissions inventory updates would include those for 2005, 2011, 2014, 2017, and 2021. The 2021 NO_x and VOC MVEBs would also be updated based on the MOVES-based emissions inventories.

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This SIP revision would include documentation to satisfy the EPA's MOVES implementation policy guidance¹ concerning updating maintenance plans with MOVES, which indicates that states must (1) demonstrate that the updated plan continues to meet all maintenance requirements and (2) document that growth and control strategy assumptions for all other source categories (area, non-road mobile, and stationary point) continue to be valid and any minor updates would not change the conclusions of the approved maintenance plan.

B.) Scope required by federal regulations or state statutes:

For maintenance plans, MVEBs set the maximum level of on-road transportation emissions that can be produced when considered with emissions from all other sources, which demonstrates continued maintenance of the NAAQS. Maintenance plans must include MVEBs for transportation conformity purposes. Transportation conformity is required by Federal Clean Air Act (FCAA), §176(c) to ensure that the effects of emissions from all on-road sources are consistent with attainment or maintenance of the National Ambient Air Quality Standards (NAAQS). Conforming to the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or hinder maintenance of the NAAQS. The EPA's conformity rule, 40 Code of Federal Regulations Parts 51.390 and Part 93 Subpart A, requires that "conformity determinations must be based on the latest emission estimation model available."

C.) Additional staff recommendations that are not required by federal rule or state statute:

For expediency and to minimize a potential transportation conformity lapse for the BPA area, staff recommends working with the EPA and area transportation partners to parallel process this proposed SIP revision. Parallel processing would entail submitting a formal request to EPA, Region 6, along with this SIP revision directly after proposal at agenda. The EPA may then review the proposed version of the SIP revision as if it were final. If no changes were made to the SIP revision between proposal and adoption, then the EPA may issue a notice of proposed approval once the adopted SIP revision was submitted to the EPA. Parallel processing may allow area transportation partners to conduct conformity analysis more quickly as well, potentially resulting in an abbreviated conformity lapse for the BPA area.

Statutory authority:

The authority to propose and adopt the SIP revision is derived from the FCAA, 42 United States Code, §7410, which requires states to submit SIP revisions that contain enforceable measures to achieve the NAAQS and other general and specific authority in Texas Water Code, Chapters 5 and 7 and Texas Health and Safety Code, Chapter 382.

¹ EPA, 2009. "Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes." Transportation and Regional Programs Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, EPA-420-B-09-046, December 2009.

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Effect on the:

A.) Regulated community:

The local transportation planning entities may benefit, should MOVES-based MVEBs facilitate a conformity demonstration, by being able to proceed with planning and initiating congestion-reducing transportation projects.

B.) Public:

The general public could benefit from transportation improvement projects that decrease traffic congestion and emissions.

C.) Agency programs:

This SIP revision would have no new effect on agency programs.

Stakeholder meetings:

There have been no stakeholder meetings because there are no new rules proposed with this SIP revision.

Potential controversial concerns and legislative interest:

The current BPA transportation plan, developed locally by BPA-area transportation partners, does not conform to the MOBILE-based MVEBs set by the 2008 BPA maintenance plan. If an area's transportation plan does not conform to the MVEBs set for the area by the conformity deadline, then the plan enters into a one-year grace period followed by a conformity lapse. The transportation plan for the BPA area will "lapse" starting September 25, 2012, which means no new projects or project phases may advance until the problem is fixed. This proposed SIP revision may or may not help that problem. The SIP revision would only provide MOVES-based MVEBs to which the BPA transportation plan would be required to conform. The BPA transportation plan, however, may not be able to conform to MOVES-based MVEBs either. That would leave the area in the same situation they currently face—a transportation conformity lapse.

Finally, this SIP revision may not be necessary if, as expected, the EPA revokes transportation conformity requirements under the 1997 eight-hour ozone standard one year after final designations for the 2008 eight-hour ozone standard. Designations for the 2008 eight-hour ozone standard are expected by May 31, 2012. The BPA area is expected to be designated attainment/unclassifiable under the 2008 standard. With the revocation of transportation conformity requirements under the 1997 standard and with an attainment/unclassifiable designation under the 2008 standard, the BPA area would no longer be required to demonstrate transportation conformity, and this SIP revision would not be necessary.

Will this SIP revision affect any current policies or require development of new policies?

No

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What are the consequences if this SIP revision does not go forward? Are there alternatives to this SIP revision?

The BPA-area transportation plan is expected to lapse its conformity determination on September 25, 2012, at which point no new transportation projects or project phases may advance. If the area is not able to conform to the existing maintenance MVEBs, transportation projects could be on hold until new MVEBs are submitted with the maintenance plan update in November 2018. Waiting for the maintenance plan update, which is a requirement under FCAA, §175A(b), would inordinately delay resolution of the BPA area's September 25, 2012, conformity lapse.

If the EPA moves forward with revocation of transportation conformity requirements under the 1997 eight-hour ozone standard with designations under the 2008 eight-hour ozone standard, this SIP revision will no longer be needed and can be terminated without any consequences.

Key points in the proposal rulemaking schedule:

Anticipated proposal date: June 27, 2012

Anticipated *Texas Register* publication date: July 13, 2012

Public hearing date: August 1, 2012

Public comment period: June 29, 2012 – August 3, 2012

Anticipated adoption date: December 5, 2012

Agency contacts:

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REVISIONS TO THE STATE OF TEXAS AIR QUALITY
IMPLEMENTATION PLAN FOR THE CONTROL OF OZONE AIR
POLLUTION

BEAUMONT-PORT ARTHUR ATTAINMENT AREA FOR THE 1997
EIGHT-HOUR OZONE STANDARD



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. BOX 13087
AUSTIN, TEXAS 78711-3087

**BEAUMONT-PORT ARTHUR ATTAINMENT AREA ON-
ROAD MOBILE SOURCE EMISSIONS INVENTORY AND
MOTOR VEHICLE EMISSIONS BUDGET UPDATE STATE
IMPLEMENTATION PLAN REVISION**

Project Number 2012-005-SIP-NR

Proposal
June 27, 2012

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EXECUTIVE SUMMARY

In 2008, the commission adopted the Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Beaumont-Port Arthur (BPA) Ozone Nonattainment Area (Project No. 2008-006-SIP-NR), which fulfills all Federal Clean Air Act (FCAA) requirements to redesignate the BPA ozone nonattainment area (Hardin, Jefferson, and Orange Counties) to attainment of the 1997 eight-hour ozone standard and demonstrates continued attainment of that standard through 2021. The plan was approved by the United States Environmental Protection Agency (EPA) effective November 19, 2010, and the BPA area was redesignated to attainment for the 1997 eight-hour ozone standard. The 2008 BPA maintenance plan contains on-road mobile emissions inventories, a nitrogen oxides (NO_x) motor vehicle emissions budget (MVEB), and a volatile organic compounds (VOC) MVEB developed using the EPA's MOBILE emissions estimation model. On March 2, 2010, the EPA officially released a new model, the Motor Vehicle Emission Simulator (MOVES) model, to replace the MOBILE model for SIP applications.

Beginning March 2, 2013, transportation conformity must be conducted using the MOVES model. To demonstrate transportation conformity, a nonattainment or maintenance area must show that its metropolitan transportation plans, transportation improvement programs, and projects funded by the Federal Highway Administration or the Federal Transit Administration conform to the MVEBs established in the state implementation plan (SIP). Conformity must be demonstrated before area transportation plans can be approved or funded by the United States Department of Transportation or the Metropolitan Planning Organizations. Updating MVEBs using MOVES-based on-road mobile emissions inventories requires a SIP revision. This proposed SIP revision would facilitate future MOVES-based transportation conformity determinations by providing MVEBs based on the latest version of the MOVES model, MOVES2010a.

This proposed SIP revision would replace the 2008 BPA maintenance plan on-road mobile source emissions inventories for NO_x and VOC based on the EPA's MOBILE model with those based on the EPA's MOVES model. On-road mobile source emissions inventory updates include those for 2005, 2011, 2014, 2017, and 2021. In addition, 2021 NO_x and VOC MVEBs would be updated based on the MOVES-based emissions inventories.

This proposed SIP revision includes documentation to satisfy the EPA's MOVES implementation policy guidance¹ concerning updating maintenance plans with MOVES, which indicates that states must (1) demonstrate that the updated plan continues to meet all maintenance requirements and (2) document that growth and control strategy assumptions for all other source categories (area, non-road mobile, and stationary point) continue to be valid and any minor updates would not change the conclusions of the approved maintenance plan.

¹ EPA, 2009. "Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes." Transportation and Regional Programs Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, EPA-420-B-09-046, December 2009.

SECTION V-A: LEGAL AUTHORITY

General

The Texas Commission on Environmental Quality (TCEQ) has the legal authority to implement, maintain, and enforce the National Ambient Air Quality Standards (NAAQS) and to control the quality of the state's air, including maintaining adequate visibility.

The first air pollution control act, known as the Clean Air Act of Texas, was passed by the Texas Legislature in 1965. In 1967, the Clean Air Act of Texas was superseded by a more comprehensive statute, the Texas Clean Air Act (TCAA), found in Article 4477-5, Vernon's Texas Civil Statutes. The legislature amended the TCAA in 1969, 1971, 1973, 1979, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, and 2011. In 1989, the TCAA was codified as Chapter 382 of the Texas Health and Safety Code.

Originally, the TCAA stated that the Texas Air Control Board (TACB) is the state air pollution control agency and is the principal authority in the state on matters relating to the quality of air resources. In 1991, the legislature abolished the TACB effective September 1, 1993, and its powers, duties, responsibilities, and functions were transferred to the Texas Natural Resource Conservation Commission (TNRCC). With the creation of the TNRCC, the authority over air quality is found in both the Texas Water Code and the TCAA. Specifically, the authority of the TNRCC is found in Chapters 5 and 7. Chapter 5, Subchapters A - F, H - J, and L, include the general provisions, organization, and general powers and duties of the TNRCC, and the responsibilities and authority of the executive director. Chapter 5 also authorizes the TNRCC to implement action when emergency conditions arise and to conduct hearings. Chapter 7 gives the TNRCC enforcement authority. In 2001, the 77th Texas Legislature continued the existence of the TNRCC until September 1, 2013, and changed the name of the TNRCC to the TCEQ. In 2009, the 81st Texas Legislature, during a special session, amended section 5.014 of the Texas Water Code, changing the expiration date of the TCEQ to September 1, 2011, unless continued in existence by the Texas Sunset Act. In 2011, the 82nd Texas Legislature continued the existence of the TCEQ until 2023.

The TCAA specifically authorizes the TCEQ to establish the level of quality to be maintained in the state's air and to control the quality of the state's air by preparing and developing a general, comprehensive plan. The TCAA, Subchapters A - D, also authorize the TCEQ to collect information to enable the commission to develop an inventory of emissions; to conduct research and investigations; to enter property and examine records; to prescribe monitoring requirements; to institute enforcement proceedings; to enter into contracts and execute instruments; to formulate rules; to issue orders taking into consideration factors bearing upon health, welfare, social and economic factors, and practicability and reasonableness; to conduct hearings; to establish air quality control regions; to encourage cooperation with citizens' groups and other agencies and political subdivisions of the state as well as with industries and the federal government; and to establish and operate a system of permits for construction or modification of facilities.

Local government authority is found in Subchapter E of the TCAA. Local governments have the same power as the TCEQ to enter property and make inspections. They also may make recommendations to the commission concerning any action of the TCEQ that affects their territorial jurisdiction, may bring enforcement actions, and may execute cooperative agreements with the TCEQ or other local governments. In addition, a city or town may enact and enforce ordinances for the control and abatement of air pollution not inconsistent with the provisions of the TCAA and the rules or orders of the commission.

Subchapters G and H of the TCAA authorize the TCEQ to establish vehicle inspection and maintenance programs in certain areas of the state, consistent with the requirements of the Federal Clean Air Act; coordinate with federal, state, and local transportation planning agencies to develop and implement transportation programs and measures necessary to attain and maintain the NAAQS; establish gasoline volatility and low emission diesel standards; and fund and authorize participating counties to implement vehicle repair assistance, retrofit, and accelerated vehicle retirement programs.

Applicable Law

The following statutes and rules provide necessary authority to adopt and implement the state implementation plan (SIP). The rules listed below have previously been submitted as part of the SIP.

Statutes

All sections of each subchapter are included, unless otherwise noted.

TEXAS HEALTH & SAFETY CODE, Chapter 382

September 1, 2011

TEXAS WATER CODE

September 1, 2011

Chapter 5: Texas Natural Resource Conservation Commission

Subchapter A: General Provisions

Subchapter B: Organization of the Texas Natural Resource Conservation Commission

Subchapter C: Texas Natural Resource Conservation Commission

Subchapter D: General Powers and Duties of the Commission

Subchapter E: Administrative Provisions for Commission

Subchapter F: Executive Director (except §§5.225, 5.226, 5.227, 5.2275, 5.231, 5.232, and 5.236)

Subchapter H: Delegation of Hearings

Subchapter I: Judicial Review

Subchapter J: Consolidated Permit Processing

Subchapter L: Emergency and Temporary Orders (§§5.514, 5.5145, and 5.515 only)

Subchapter M: Environmental Permitting Procedures (§5.558 only)

Chapter 7: Enforcement

Subchapter A: General Provisions (§§7.001, 7.002, 7.0025, 7.004, and 7.005 only)

Subchapter B: Corrective Action and Injunctive Relief (§7.032 only)

Subchapter C: Administrative Penalties

Subchapter D: Civil Penalties (except §7.109)

Subchapter E: Criminal Offenses and Penalties: §§7.177, 7.179-7.183

Rules

All of the following rules are found in 30 Texas Administrative Code, as of the following latest effective dates:

Chapter 7: Memoranda of Understanding, §§7.110 and 7.119

December 13, 1996 and May 2, 2002

Chapter 19: Electronic Reporting

March 15, 2007

Chapter 35: Subchapters A-C, K: Emergency and Temporary Orders and Permits; Temporary Suspension or Amendment of Permit Conditions

July 20, 2006

Chapter 39: Public Notice, §§39.402(a)(1) - (6), (8), and (10) - (12), 39.405(f)(3) and (g), (h)(1)(A) - (4), (6), (8) - (11), (i) and (j), 39.407, 39.409, 39.411(a), (e)(1) - (4)(A)(i) and (iii), (4)(B), (5)(A) and (B), and (6) - (10), (11)(A)(i) and (iii) and (iv), (11)(B) - (F), (13) and (15), and (f)(1) - (8), (g) and (h), 39.418(a), (b)(2)(A), (b)(3), and (c), 39.419(e), 39.420 (c)(1)(A) - (D)(i)(I) and (II), (D)(ii), (c)(2), (d) - (e), and (h), and 39.601 - 39.605	June 24, 2010
Chapter 55: Requests for Reconsideration and Contested Case Hearings; Public Comment, §§55.150, 55.152(a)(1), (2), (5), and (6) and (b), 55.154(a), (b), (c)(1) - (3), and (5), and (d) - (g), and 55.156(a), (b), (c)(1), (e), and (g)	June 24, 2010
Chapter 101: General Air Quality Rules	October 27, 2011
Chapter 106: Permits by Rule, Subchapter A	May 15, 2011
Chapter 111: Control of Air Pollution from Visible Emissions and Particulate Matter	February 16, 2012
Chapter 112: Control of Air Pollution from Sulfur Compounds	July 16, 1997
Chapter 113: Standards of Performance for Hazardous Air Pollutants and for Designated Facilities and Pollutants	May 14, 2009
Chapter 114: Control of Air Pollution from Motor Vehicles	August 11, 2011
Chapter 115: Control of Air Pollution from Volatile Organic Compounds	December 29, 2011
Chapter 116: Permits for New Construction or Modification	March 1, 2012
Chapter 117: Control of Air Pollution from Nitrogen Compounds	April 19, 2012
Chapter 118: Control of Air Pollution Episodes	March 5, 2000
Chapter 122: §122.122: Potential to Emit	December 11, 2002
Chapter 122: §122.215: Minor Permit Revisions	June 3, 2001
Chapter 122: §122.216: Applications for Minor Permit Revisions	June 3, 2001
Chapter 122: §122.217: Procedures for Minor Permit Revisions	December 11, 2002
Chapter 122: §122.218: Minor Permit Revision Procedures for Permit Revisions Involving the Use of Economic Incentives, Marketable Permits, and Emissions Trading	June 3, 2001

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 - 3. Beaumont-Port Arthur (Revised)
 - Chapter 1: General (Revised)
 - Chapter 2: Redesignation Requirements (Revised)
 - Chapter 3: Attainment Emissions Inventory (No change)
 - Chapter 4: Maintenance Demonstration (Revised)
 - Chapter 5: Monitoring Network (No change)
 - Chapter 6: Contingency Plan (No change)
 - 4. El Paso (No change)
 - 5. Regional Strategies (No change)
 - 6. Northeast Texas (No change)
 - 7. Austin Area (No change)
 - 8. San Antonio Area (No change)
 - 9. Victoria Area (No change)
- C. Particulate Matter (No change)
- D. Carbon Monoxide (No change)
- E. Lead (No change)
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LIST OF ACRONYMS

AutoGC	automated gas chromatograph
BPA	Beaumont-Port Arthur
EDMS	Emissions and Dispersion Modeling System
EPA	United States Environmental Protection Agency
FCAA	Federal Clean Air Act
MOVES	Motor Vehicle Emission Simulator model
MVEB	motor vehicle emissions budget
NAAQS	National Ambient Air Quality Standard
NO _x	nitrogen oxides
ppb	parts per billion
ppm	parts per million
SIP	state implementation plan
TACB	Texas Air Control Board
TCAA	Texas Clean Air Act
TCEQ	Texas Commission on Environmental Quality (commission)
TDM	Travel Demand Model
TexAER	Texas Air Emissions Repository
TexN	Texas-Specific NONROAD model
TNRCC	Texas Natural Resource Conservation Commission
tpd	tons per day
TTI	Texas Transportation Institute
TxDOT	Texas Department of Transportation
VOC	volatile organic compounds

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BPA Area On-Road Emissions Inventories for SIP Submission - 2005, 2011, 2014, 2017, and 2021, TTI Report, February 2012

CHAPTER 1: GENERAL (UPDATED)

1.1 BACKGROUND AND INTRODUCTION (UPDATED)

1.1.1 Purpose of Plan (Updated)

In 2008, the commission adopted the Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Beaumont-Port Arthur (BPA) Ozone Nonattainment Area (Project No. 2008-006-SIP-NR), which fulfills all Federal Clean Air Act (FCAA) requirements to redesignate the BPA ozone nonattainment area (Hardin, Jefferson, and Orange Counties) to attainment of the 1997 eight-hour ozone standard and demonstrates continued attainment of that standard through 2021. The plan was approved by the United States Environmental Protection Agency (EPA), effective November 19, 2010, and the BPA area was redesignated to attainment for the 1997 eight-hour ozone standard. The maintenance plan contains on-road mobile emissions inventories, a nitrogen oxides (NO_x) motor vehicle emissions budget (MVEB), and a volatile organic compounds (VOC) MVEB developed using the EPA's MOBILE emissions estimation model. On March 2, 2010, the EPA officially released a new model, the Motor Vehicle Emission Simulator (MOVES) model, to replace the MOBILE model for SIP applications.

Beginning March 2, 2013, transportation conformity must be conducted using the MOVES model. To demonstrate transportation conformity, a nonattainment or maintenance area must show that its metropolitan transportation plans, transportation improvement programs, and projects funded by the Federal Highway Administration or the Federal Transit Administration conform to the MVEBs established in the state implementation plan (SIP). Conformity must be demonstrated before area transportation plans can be approved or funded by the United States Department of Transportation or the Metropolitan Planning Organizations. Updating MVEBs using MOVES-based on-road mobile emissions inventories requires a SIP revision. This proposed SIP revision would facilitate future MOVES-based transportation conformity determinations by providing MVEBs based on the latest version of the MOVES model, MOVES2010a.

This proposed SIP revision would replace the 2008 BPA maintenance plan on-road mobile source emissions inventories for NO_x and VOC based on the EPA's MOBILE model with those based on the EPA's MOVES model. On-road mobile source emissions inventory updates include those for 2005, 2011, 2014, 2017, and 2021. In addition, 2021 NO_x and VOC MVEBs would be updated according to the MOVES-based emissions inventories.

This proposed SIP revision includes documentation to satisfy the EPA's MOVES implementation policy guidance² concerning updating maintenance plans with MOVES, which indicates that states must (1) demonstrate that the updated plan continues to meet all maintenance requirements and (2) document that growth and control strategy assumptions for all other source categories (area, non-road mobile, and stationary point) continue to be valid and any minor updates would not change the conclusions of the approved maintenance plan.

² EPA, 2009. "Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes." Transportation and Regional Programs Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, EPA-420-B-09-046, December 2009.

1.1.2 One-Hour Ozone History in the BPA Area (No Change)

1.1.3 Eight-Hour Ozone History in the BPA Area (Updated)

1.1.3.1 2008 and 2010 Eight-Hour Ozone Standards (Added)

On March 12, 2008, the EPA lowered the primary and secondary eight-hour ozone standards to 0.075 parts per million (ppm). The governor recommended to the EPA in March 2009 that Hardin, Jefferson, and Orange Counties be designated as a nonattainment area for the 2008 eight-hour ozone standard. In September 2009, the EPA announced that it intended to reconsider the 2008 ozone standard. On January 19, 2010, the EPA proposed revisions in the *Federal Register* (75 FR 2938) to strengthen the primary eight-hour ozone standard in the range of 0.060 to 0.070 ppm. On September 2, 2011, the President announced a request that the EPA withdraw the proposed, reconsidered ozone standard.

In a September 2011 memo, the EPA announced that it would proceed with initial area designations under the 2008 (0.075 ppm) eight-hour ozone standard, starting with the recommendations states made in 2009 and updating those recommendations with the most current, certified air quality data (2008 through 2010). The governor submitted a revised designation recommendation in October 2011 that excluded Hardin, Jefferson, and Orange Counties from being designated as nonattainment under the reinstated 2008 eight-hour ozone standard.

The EPA published final designations for the 2008 ozone standard along with a final rulemaking to revoke transportation conformity under the 1997 eight-hour ozone standard on May 21, 2012. Since the BPA area is designated attainment/unclassifiable for the 2008 eight-hour ozone standard and is a maintenance area for the 1997 eight-hour ozone standard, transportation conformity will no longer be required upon the effective date of revocation of transportation conformity for the 1997 eight-hour ozone standard, July 20, 2013.

1.2 PUBLIC HEARING INFORMATION (UPDATED)

The commission will offer a public hearing in Beaumont on August 1, 2012, at six o'clock in the evening. The public hearing will be held in the Homer E. Nagel Conference Room of the South East Texas Regional Planning Commission at 2210 Eastex Freeway, Beaumont, Texas 77703.

The public comment period will open on June 29, 2012, and will close on August 3, 2012. Notice of public hearing for this SIP revision will be published in the *Texas Register* and the "Beaumont Enterprise" newspaper. Written comments will be accepted via mail, fax, or through the eComments system. All comments should reference the "Beaumont-Port Arthur Attainment Area On-Road Mobile Source Emissions Inventory and Motor Vehicle Emissions Budget Update State Implementation Plan Revision" and Project Number 2012-005-SIP-NR. Comments may be submitted to Jamie Zech, MC 206, State Implementation Plan Team, Chief Engineer's Office, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087 or faxed to (512) 239-6188. If you choose to submit electronic comments, they must be submitted through the [eComments](http://www5.tceq.state.tx.us/rules/ecomments) (<http://www5.tceq.state.tx.us/rules/ecomments>) system. File size restrictions may apply to comments being submitted via the eComments system. Comments must be received by August 3, 2012.

1.3 SOCIAL AND ECONOMIC CONSIDERATION (NO CHANGE)

1.4 FISCAL AND MANPOWER RESOURCES (NO CHANGE)

CHAPTER 2: REDESIGNATION REQUIREMENTS (UPDATED)

2.1 ATTAINMENT OF THE 1997 EIGHT-HOUR OZONE NATIONAL AMBIENT AIR QUALITY STANDARD (UPDATED)

2.1.1 Ozone Data (No Change)

2.1.2 Ozone Trend Analysis (Updated)

Ozone trends in the Beaumont-Port Arthur (BPA) area have been decreasing over the past 20 years. Figure 2-1: *Ozone Design Value Trends in the BPA Area* shows decreases in both the eight-hour and one-hour ozone design values. Although both the eight-hour and the one-hour design values increased from 2010 to 2011, the overall design value trend has been decreasing. The eight-hour ozone design value has decreased by 22% over the past 20 years and the one-hour ozone design value had decreased by 27% over the past 20 years. The 2011 eight-hour ozone design value for the BPA area was 79 parts per billion (ppb), which is below the 1997 eight-hour ozone standard of 84 ppb (0.08 parts per million (ppm)). The BPA area has not exceeded the eight-hour ozone standard since 2006. The 2011 one-hour ozone design value for the BPA area was 110 ppb, which is also below the revoked one-hour ozone standard of 125 ppb (0.12 ppm). The decreases in ozone have occurred despite increases in population in the BPA area, as shown in Figure 2-2: *Ozone Design Values and Population Trends in the BPA Area*.

Figure 2-3: *Ozone Exceedance Days and Number of Monitors in the BPA Area* shows that the number of eight-hour ozone exceedance days has decreased in the BPA area despite an increase in the number of monitors. Although there were more eight-hour ozone exceedance days in 2011 compared to 2010, the overall trend in exceedance days is decreasing. There were only four eight-hour ozone exceedance days in the BPA area in 2011, an unusual year with record-breaking temperatures and an unusual number of days that favored the development of ozone.

Because the exceedance day count is dependent on the number of monitors in the area, the number of eight-hour ozone exceedance days by monitor is shown in Figure 2-4: *Eight-Hour Ozone Exceedance Days by Monitor in the BPA Area*. Exceedances by monitor tend to vary from year to year; however, the overall trend in the number of eight-hour ozone exceedance days has been decreasing over the past 20 years.

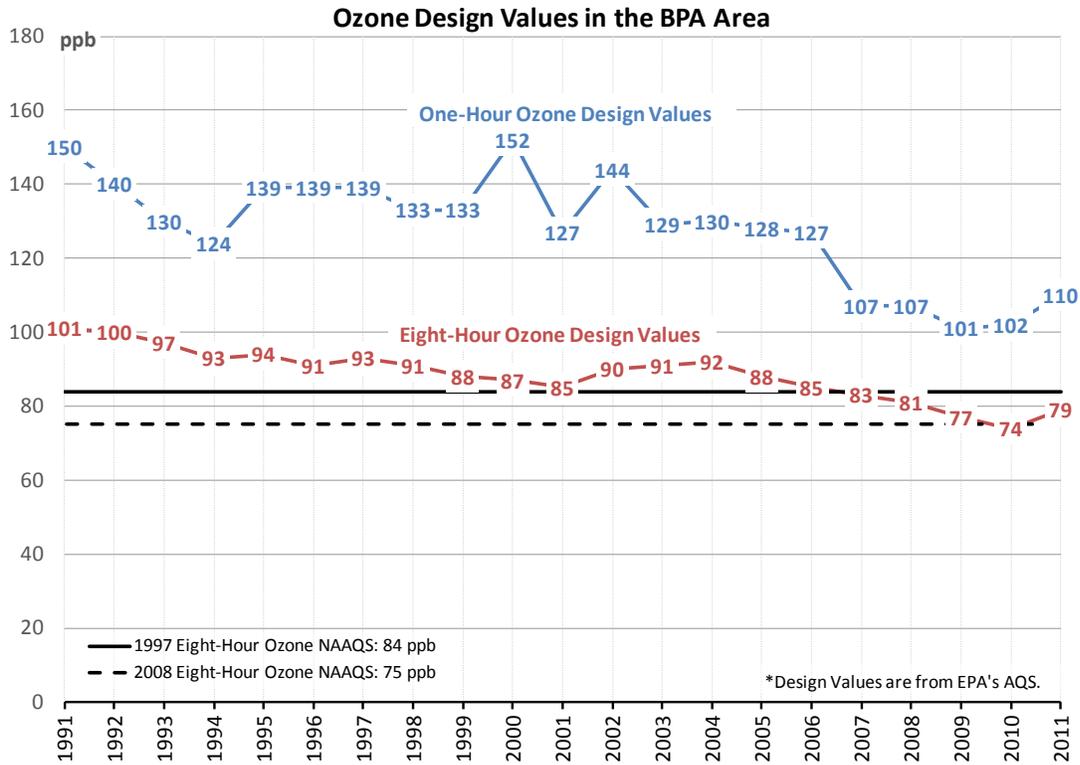


Figure 2-1: Ozone Design Value Trends in the BPA Area

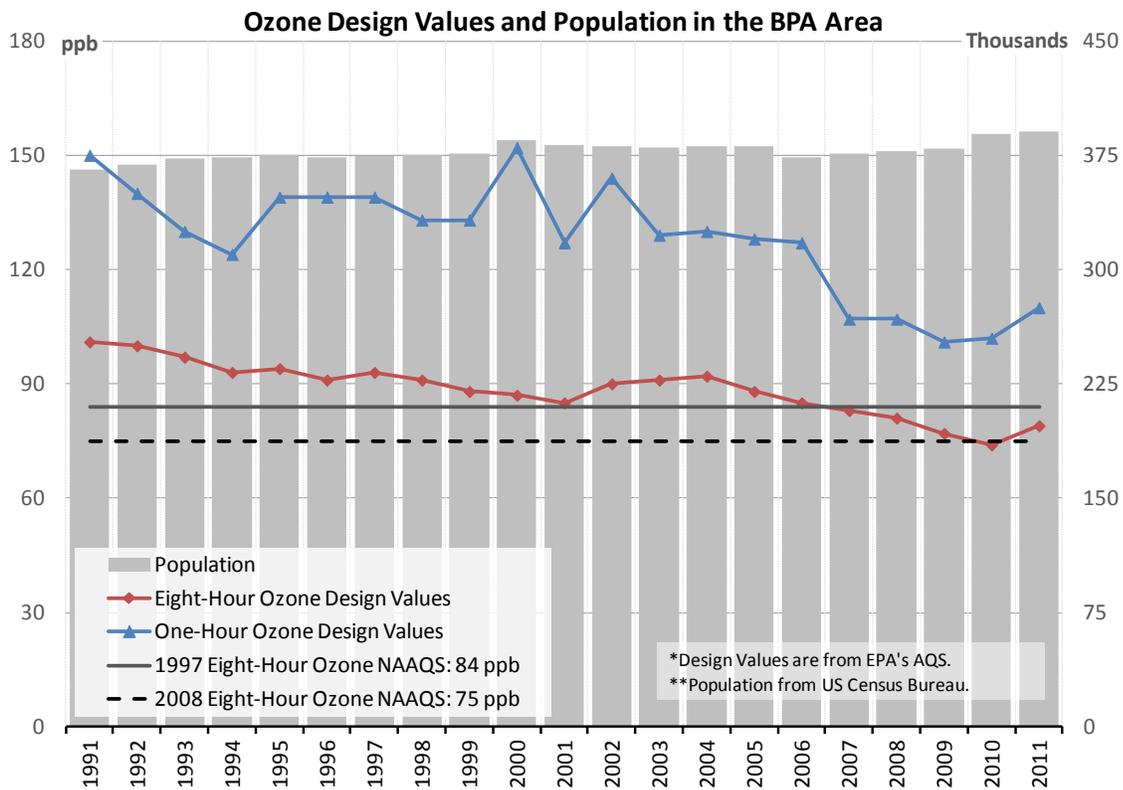


Figure 2-2: Ozone Design Values and Population Trends in the BPA Area

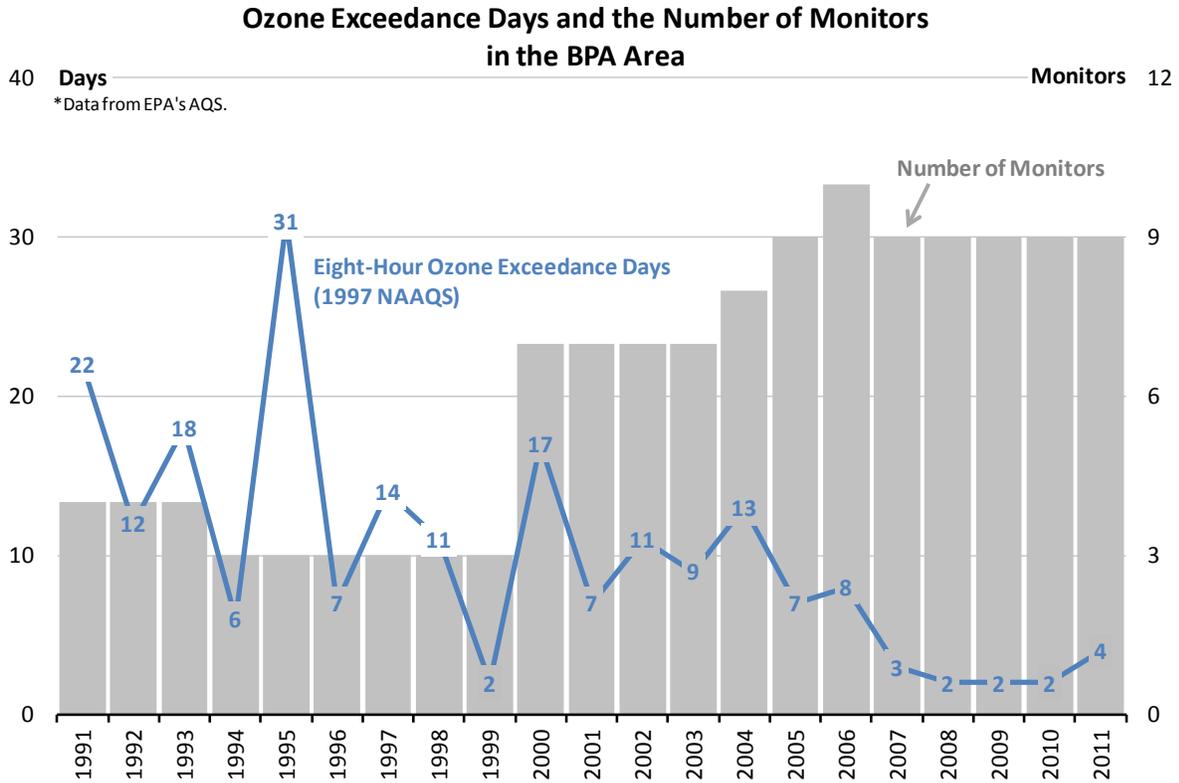


Figure 2-3: Ozone Exceedance Days and Number of Monitors in the BPA Area

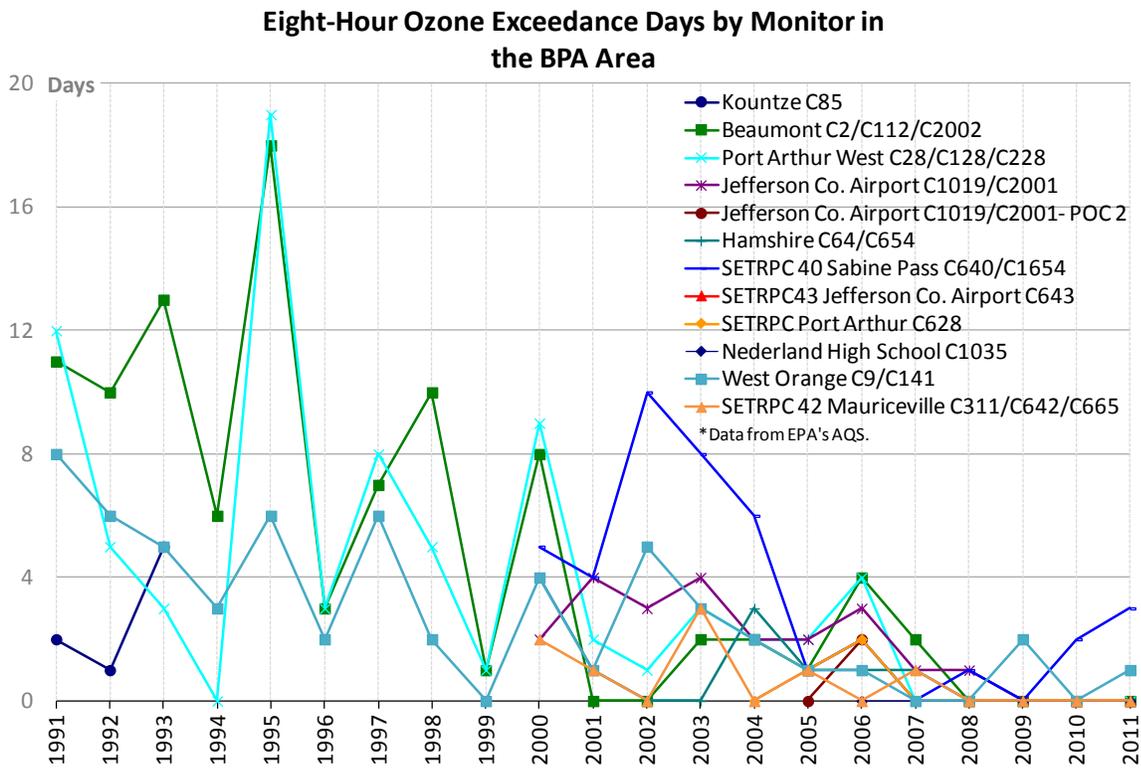


Figure 2-4: Eight-Hour Ozone Exceedance Days by Monitor in the BPA Area

2.2 SIP APPROVABILITY UNDER SECTION 110(k) OF THE FEDERAL CLEAN AIR ACT (NO CHANGE)

2.3 PERMANENT AND ENFORCEABLE EMISSION REDUCTIONS (UPDATED)

2.3.1 Control Strategies (No Change)

2.3.2 2002 Periodic Emissions Inventory (No Change)

2.3.3 Trend Analysis (Updated)

2.3.3.1 Nitrogen Oxides Trends (Updated)

Overall, nitrogen oxides (NO_x) trends in the BPA area are decreasing. Figure 2-5: *Average NO_x Trends in the BPA Area* shows the NO_x trends at five monitors in the BPA area: Beaumont Downtown (CAMS 2/CAMS 112/ CAMS 2002), Jefferson County Airport (CAMS 1019/CAMS2001), Hamshire (CAMS 64/CAMS 654), Nederland High School (CAMS 1035), and West Orange (CAMS 9/CAMS141). Data for 2011 cover only the first two quarters of the year, and NO_x averages during 2011 are subject to change. The average NO_x concentration has remained relatively flat at most monitors until sometime from 2003 to 2006. After 2006, the last year the BPA area had an ozone design value exceed 84 ppb, most monitors showed a large decrease in NO_x concentrations. West Orange (CAMS 9/CAMS141) did show a slight increase in average NO_x concentrations from 2010 to 2011, but the overall trend from 1991 to 2011 shows a decrease of 54%. NO_x decreased 26% from 1991 to 2011 at the Beaumont Downtown (CAMS 2/CAMS 112/ CAMS 2002) site, 40% from 2000 to 2011 at the Hamshire (CAMS 64/CAMS 654) site, and 50% from 2006 to 2011 at the Nederland High School (CAMS 1035) site.

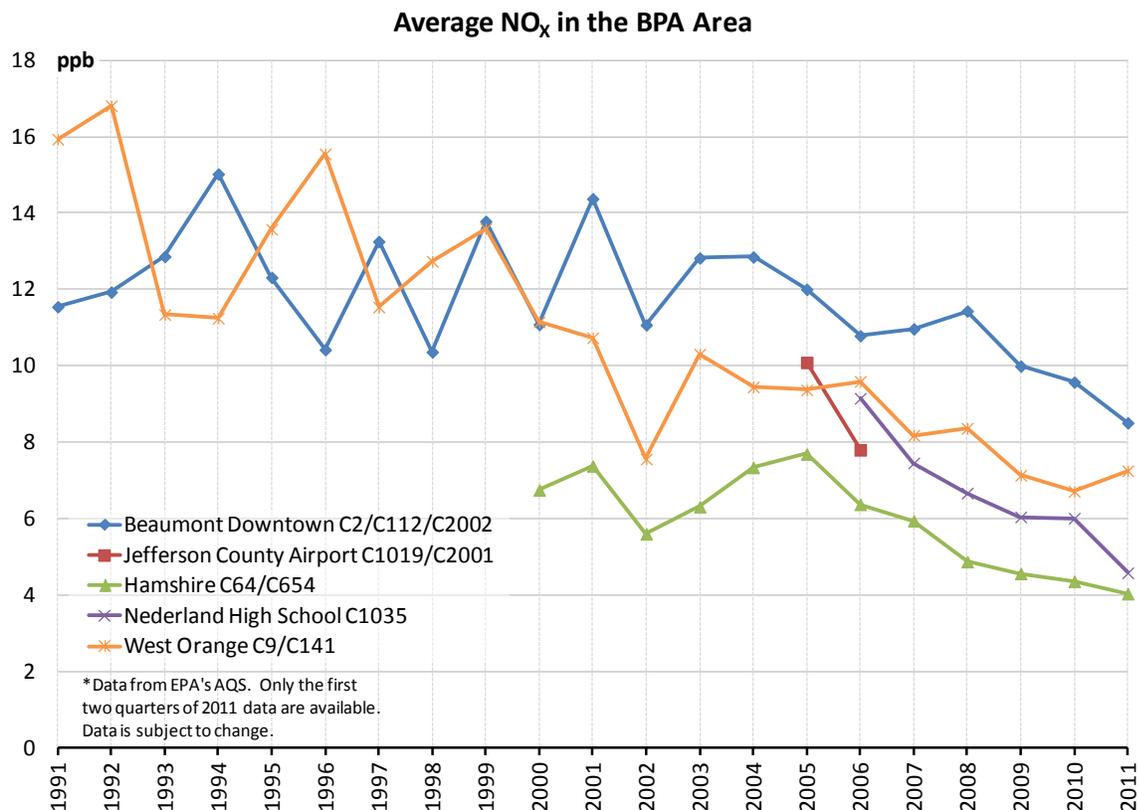


Figure 2-5: Average NO_x Trends in the BPA Area

Volatile Organic Compounds Trends (Updated)

Continuous volatile organic compounds (VOC) data are collected at two automated gas chromatograph (AutoGC) monitors in the BPA area. Those two monitors are Beaumont Downtown (CAMS 2/CAMS 112/ CAMS 2002) and Nederland High School (CAMS 1035), which have valid data beginning August 28, 2006, and August 29, 2006, respectively, and ending on December 1, 2011. Note that the last month of data from 2011 is not yet available. Figures 2-6: *Median Ethylene at AutoGCs in the BPA Area* and 2-7: *Median Propylene at AutoGCs in the BPA Area* show the median ethylene and propylene concentrations at the two AutoGC monitors in the BPA area, respectively. Both ethylene and propylene have decreased at all monitors over the last five years. Ethylene decreased 55% at Beaumont Downtown (CAMS 2/CAMS 112/ CAMS 2002) and 41% at Nederland High School (CAMS 1035). Propylene decreased 54% at Beaumont Downtown (CAMS 2/CAMS 112/ CAMS 2002) and 35% at Nederland High School (CAMS 1035).

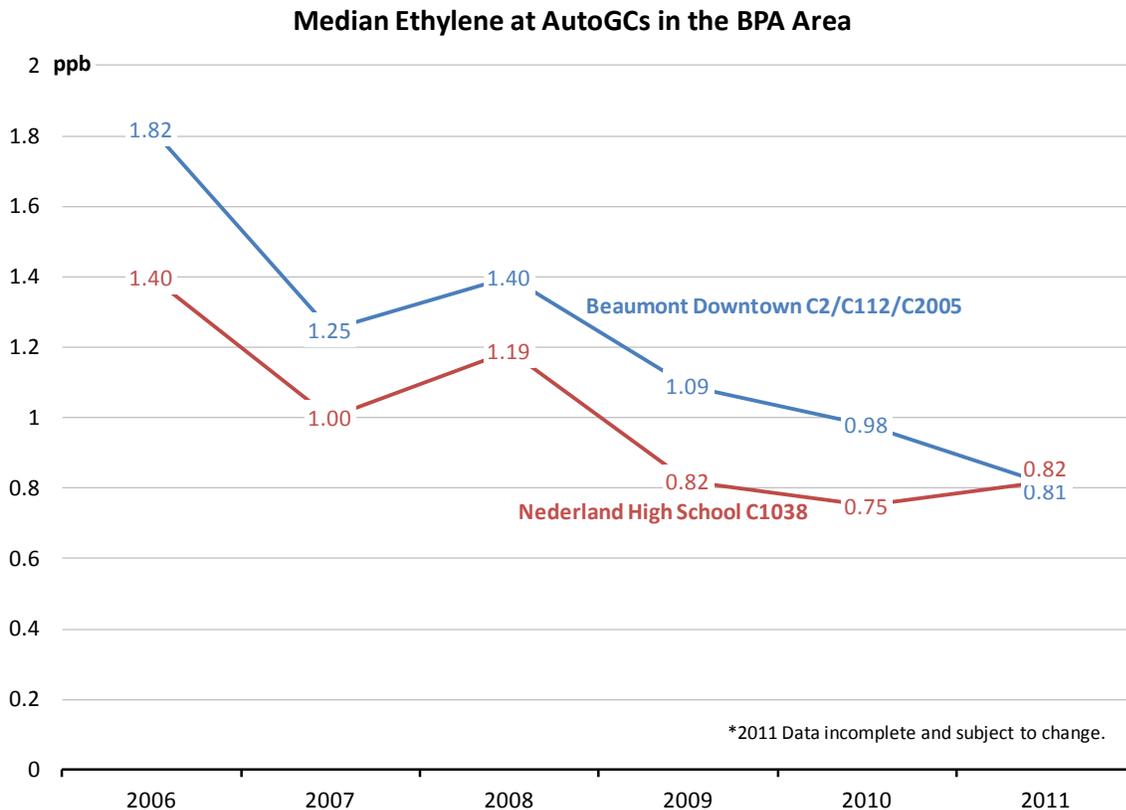


Figure 2-6: Median Ethylene at AutoGCs in the BPA Area

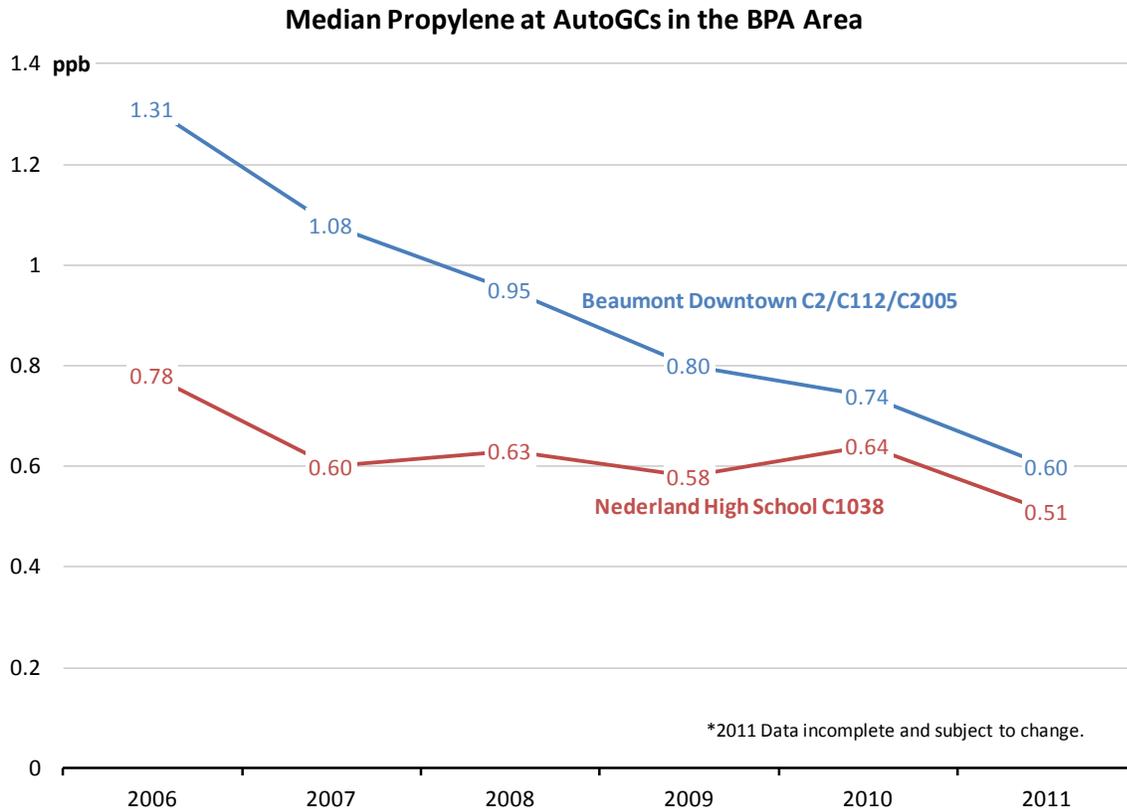


Figure 2-7: Median Propylene at AutoGCs in the BPA Area

VOC canister data have also been available in the BPA area since 1994. The VOC canisters samples are 24-hour averages and are sampled every 6 days. Figures 2-8: *Median Ethylene Trends from Canister Data in the BPA Area* and 2-9: *Median Propylene Trends from Canister Data in the BPA Area* both show that ethylene and propylene, two of the most reactive VOC, have been decreasing at nine canister sites in the BPA area over the past 14 and 17 years, respectively. Only one quarter of data are available for 2011, so concentrations are subject to change. While the ethylene concentrations are generally higher than the propylene concentrations, the median ethylene concentrations have decreased at the nine canister sites (one of the eight sites has three monitors), with an average decrease of 41%. West Orange (CAMS 9/CAMS141) and Beaumont Mary (CAMS 1050) both showed increases in ethylene; however, the West Orange (CAMS 9/CAMS141) canister site stopped operation in 2006, and the Beaumont Mary (CAMS 1050) site has only been in operation for two years. Similarly, median propylene concentrations have decreased at the nine canister sites, with an average decrease of 42%. Again, the Beaumont Mary (CAMS 1050) site showed a slight increase in propylene concentrations, but it has only been in operation for two years. For both propylene and ethylene, the increase at Beaumont Mary (CAMS 1050) was less than 0.5 ppb.

Median Ethylene from Canister Data in the BPA Area

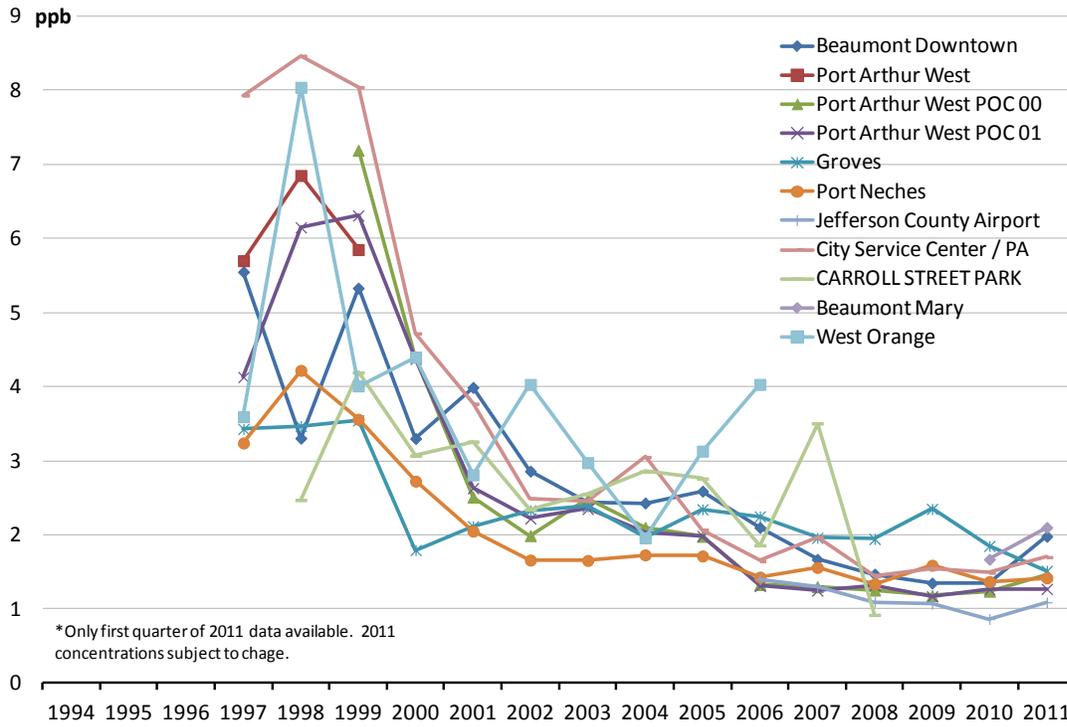


Figure 2-8: Median Ethylene Trends from Canister Data in the BPA Area

Median Propylene from Canister Data in the BPA Area

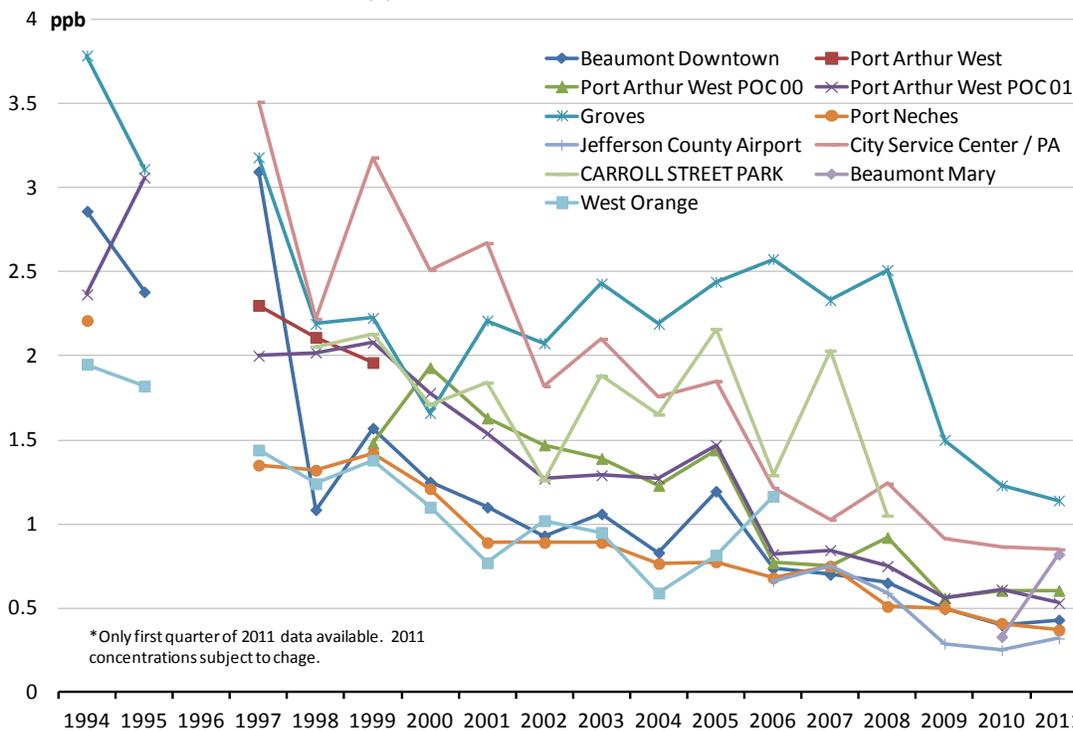


Figure 2-9: Median Propylene Trends from Canister Data in the BPA Area

2.4 SECTION 175A REQUIREMENTS FOR MAINTENANCE PLANS *(NO CHANGE)*

CHAPTER 3: ATTAINMENT EMISSIONS INVENTORY *(NO CHANGE)*

CHAPTER 4: MAINTENANCE DEMONSTRATION (UPDATED)

4.1 GENERAL (UPDATED)

This proposed state implementation plan (SIP) revision is an update to the 2008 Beaumont-Port Arthur (BPA) maintenance plan that revises the original on-road mobile source emissions inventories, nitrogen oxides (NO_x) motor vehicle emissions budget (MVEB), and volatile organic compounds (VOC) MVEB to be based on the United States Environmental Protection Agency's (EPA) Motor Vehicle Emission Simulator (MOVES) model. The on-road mobile source emissions inventories and MVEBs adopted with the 2008 BPA maintenance plan, which was approved by the EPA effective November 19, 2010, were developed using the MOBILE emissions estimation model. On March 2, 2010, the EPA officially released the MOVES model to replace the MOBILE model for SIP applications. Beginning March 2, 2013, transportation conformity must be conducted using the MOVES model. This proposed update to the 2008 BPA maintenance plan would facilitate future, required, MOVES-based transportation conformity determinations.

The EPA provided a guidance document³ to assist states in incorporating MOVES-based on-road mobile source emissions inventories and MVEBs into existing area maintenance plans. The guidance allows states, under stipulated conditions, to update only the on-road mobile source portions of their maintenance plans. States must (1) demonstrate that the updated plan continues to meet all maintenance requirements and (2) document that growth and control strategy assumptions for all other source categories (area, non-road mobile, and stationary point) continue to be valid and any minor updates would not change the conclusions of the approved maintenance plan.

This proposed SIP revision satisfies both conditions of the MOVES guidance document; therefore, only Section 4.4.2: *On-Road Mobile Sources* has been revised. For each of the other source categories (area, non-road mobile, and stationary point), sections have been added describing that any minor updates have not changed the conclusions of the 2008 BPA maintenance plan: Section 4.2.1.2: *Updated Verification of Continued Attainment for Area Sources*; Section 4.2.3.3: *Updated Verification of Continued Attainment for Non-Road Mobile Sources*; and Section 4.2.4.4: *Updated Verification of Continued Attainment for Stationary Point Sources*.

4.2 FUTURE EMISSIONS AND VERIFICATION OF CONTINUED ATTAINMENT (UPDATED)

MOVES-based on-road mobile source NO_x and VOC emissions estimates would change slightly from the MOBILE-based estimates adopted with the 2008 BPA maintenance plan. Table 4-1: *MOBILE-Based On-Road Mobile Source NO_x and VOC Emissions in the BPA Area (2005, 2011, 2014, 2017, and 2021)* summarizes, in tons per day (tpd), the on-road mobile source emissions estimates (MOBILE-based) that were included in the original maintenance plan. Emissions estimates for area, non-road mobile, and stationary point sources were not included in Table 4-1 because they were not updated from the 2008 BPA maintenance plan. MOVES-based NO_x and VOC on-road mobile source emission estimates are summarized in Tables 4-2: *Updated Summary of NO_x Emissions in BPA by Source Type (2005, 2011, 2014, 2017, and 2021)* and 4-

³ EPA, 2009. "Policy Guidance on the Use of MOVES2010 for State Implementation Plan Development, Transportation Conformity, and Other Purposes." Transportation and Regional Programs Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, EPA-420-B-09-046, December 2009.

3: Updated Summary of VOC Emissions in BPA by Source Type (2005, 2011, 2014, 2017, and 2021) along with the original estimates for the other source categories (area, non-road mobile, and stationary point). Tables 4-2 and 4-3 show how this proposed update to the MOVES model would affect the projected overall emissions trends included in the 2008 BPA maintenance plan.

Table 4-1: MOBILE-Based On-Road Mobile Source NO_x and VOC Emissions in the BPA Area (2005, 2011, 2014, 2017, and 2021)

Source Category	2005	2011	2014	2017	2021	Net Change
NO _x	45.60 tpd	17.91 tpd	12.38 tpd	8.66 tpd	6.24 tpd	-39.36 tpd
VOC	11.63 tpd	7.92 tpd	6.51 tpd	5.58 tpd	4.77 tpd	-6.86 tpd

Note: The estimated emissions included in this table were extracted from Tables 4-1: Summary of VOC Emissions in BPA by Source Type (2005, 2011, 2014, 2017, and 2021) and 4-2: Summary of NO_x Emissions in BPA by Source Type (2005, 2011, 2014, 2017, and 2021) of the 2008 BPA maintenance plan.

Table 4-2: Updated Summary of NO_x Emissions in the BPA Area by Source Type (2005, 2011, 2014, 2017, and 2021)

Source Category	2005	2011	2014	2017	2021	Net Change
Area Source	9.06 tpd	9.95 tpd	10.40 tpd	10.86 tpd	11.47 tpd	2.41 tpd
MOVES-Based On-Road Mobile Source	44.50 tpd	26.60 tpd	18.60 tpd	13.50 tpd	9.70 tpd	-34.80 tpd
Non-Road Mobile Source	25.99 tpd	27.08 tpd	27.88 tpd	28.87 tpd	30.63 tpd	4.64 tpd
Stationary Point Source	68.49 tpd	79.17 tpd	81.14 tpd	83.04 tpd	85.44 tpd	16.95 tpd
Total	148.04 tpd	142.80 tpd	138.02 tpd	136.27 tpd	137.24 tpd	-10.80 tpd

Table 4-3: Updated Summary of VOC Emissions in the BPA Area by Source Type (2005, 2011, 2014, 2017, and 2021)

Source Category	2005	2011	2014	2017	2021	Net Change
Area Source	151.57 tpd	155.68 tpd	156.84 tpd	158.40 tpd	160.54 tpd	8.97 tpd
MOVES-Based On-Road Mobile Source	11.30 tpd	8.30 tpd	6.30 tpd	5.00 tpd	3.90 tpd	-7.40 tpd
Non-Road Mobile Source	4.96 tpd	4.36 tpd	4.23 tpd	4.20 tpd	4.30 tpd	-0.66 tpd
Stationary Point Source	42.68 tpd	48.26 tpd	49.83 tpd	51.54 tpd	53.95 tpd	11.27 tpd
Total	210.51 tpd	216.60 tpd	217.20 tpd	219.14 tpd	222.69 tpd	12.18 tpd

The MOBILE-based on-road mobile source emissions estimates adopted with the 2008 BPA maintenance plan trend downward for both NO_x and VOC, with a net decrease from 2005 through 2021 of 39.36 tpd and 6.86 tpd, respectively. The MOVES-based on-road estimates also trend downward for both NO_x and VOC, with a net decrease of 34.80 tpd and 7.40 tpd, respectively.

Tables 4-4: *Original Summary of Total NO_x and VOC Emissions in the BPA Area* and 4-5: *Updated Summary of Total NO_x and VOC Emissions in BPA (2005, 2011, 2014, 2017, and 2021)* depict combined total NO_x and VOC base and projection values. Table 4-4 is from the 2008 maintenance plan, containing MOBILE-based on-road mobile source emissions estimates. Table 4-5 shows how this proposed MOVES update would affect total NO_x and VOC emissions projections in the BPA area.

Table 4-4: Original Summary of Total NO_x and VOC Emissions in the BPA Area

Pollutant (tons per average ozone season day)	2005	2011	2014	2017	2021	Net Change
Total NO _x	149.14 tpd	134.11 tpd	131.80 tpd	131.43 tpd	133.78 tpd	-15.36 tpd
Total VOC	210.84 tpd	216.22 tpd	217.41 tpd	219.72 tpd	223.56 tpd	12.72 tpd
Total Combined	359.98 tpd	350.33 tpd	349.21 tpd	351.15 tpd	357.34 tpd	-2.64 tpd

This table is a copy of Table 4-3: *Summary of Total VOC and NO_x Emissions in BPA (2005, 2011, 2014, 2017, and 2021)* of the 2008 BPA maintenance plan.

Table 4-5: Updated Summary of Total NO_x and VOC Emissions in the BPA Area (2005, 2011, 2014, 2017, and 2021)

Pollutant (tons per average ozone season day)	2005	2011	2014	2017	2021	Net Change
Total NO _x	148.04 tpd	142.80 tpd	138.02 tpd	136.27 tpd	137.24 tpd	-10.80 tpd
Total VOC	210.51 tpd	216.60 tpd	217.20 tpd	219.14 tpd	222.69 tpd	12.18 tpd
Total Combined	358.55 tpd	359.40 tpd	355.22 tpd	355.41 tpd	359.93 tpd	1.38 tpd

The 2008 BPA maintenance plan demonstrates that overall NO_x emissions are projected to decline by 15.36 tpd from 2005 through 2021 using MOBILE-based on-road emissions estimates. Updating the BPA maintenance plan to incorporate the MOVES model would still result in a decline in projected NO_x emissions; however, the decline would be slightly smaller, 10.80 tpd. The original maintenance plan (MOBILE-based) demonstrated an increase in overall VOC emissions projections from 2005 through 2021, 12.72 tpd. While MOVES-based projections also show an increase in overall VOC emissions, that increase is smaller, 12.18 tpd.

Although there is a slight estimated increase in VOC over the 16 years projected for the BPA maintenance plan, it has been established that NO_x emissions reductions are more effective than VOC reductions at reducing ozone design values in the BPA area. In fact, photochemical modeling analysis adopted with the 2008 BPA maintenance plan showed that reductions in NO_x emissions are 3.76 times as effective as VOC reductions at reducing the BPA-area ozone design value. In its proposed approval of the 2008 plan in the *Federal Register* (75 FR 27514), the EPA supported the 2008 demonstration by stating that “based on photochemical modeling analyses showing that the formation of ozone in the BPA area is more sensitive to NO_x than to VOC emissions, the increase in VOC emissions is expected to be fully offset by the decrease in NO_x.”

Based on the photochemical modeling analysis included in the original 2008 BPA maintenance plan and supported by the EPA, emissions in the BPA area are expected to remain at levels consistent with attainment for the 1997 eight-hour ozone standard through 2021. Please see Section 4.2: *Future Emissions and Verification of Continued Attainment* of the original 2008 BPA maintenance plan for further details on the photochemical modeling analysis demonstrating the effectiveness of NO_x in reducing ozone design values in the BPA area.

4.2.1 Area Sources (Updated)

4.2.1.1 Flash Emissions from Upstream Oil and Gas Production (No Change)

4.2.1.2 Updated Verification of Continued Attainment for Area Sources (Added)

In reviewing the 2008 BPA maintenance plan and applying updates, staff determined that emissions would be further decreased for both NO_x and VOC. There are two factors attributed to these reductions: updated growth factors provided by the Eastern Research Group through a contract in 2010;⁴ and speciation updates performed on the oil and gas categories for 2005. Although minor updates have occurred in the area source category since the 2008 submission, those updates do not change the overall conclusions of the BPA maintenance plan SIP revision.

4.2.2 On-Road Mobile Sources (Updated)

The Texas Commission on Environmental Quality (TCEQ) updated the 2008 BPA maintenance plan's on-road mobile source emissions inventory estimates for this proposed SIP revision by contracting with the Texas Transportation Institute (TTI). TTI developed detailed, hourly, link-based ozone season weekday emissions estimates for the three BPA counties, Jefferson, Hardin, and Orange, using the newest version of the EPA's MOVES model, MOVES2010a. The updated emissions inventory estimates include NO_x and VOC emissions for the 2005 base year for the 2011, 2014, and 2017 interim years and for the 2021 horizon year. TTI also used the latest planning assumptions to develop the maintenance inventories in an effort to ensure that the MVEBs would be consistent with transportation conformity analysis assumptions.

TTI produced emissions estimates using a link-based methodology that used a travel demand model (TDM) and MOVES "rates-per-activity." Emissions were estimated by hourly and 24-hour periods by MOVES source use type and fuel type, pollutant process, and TDM roadway class. The most recently available data were used, including Texas Department of Transportation (TxDOT) vehicle classification counts and TxDOT/Texas Department of Motor Vehicles registration data. MOVES default data were used as needed. Control programs that were modeled in the analysis include:

- Federal Motor Vehicle Control Program Standards;
- Federal Low Emissions Heavy-Duty Diesel Engines Rebuild Program;
- Federal Heavy-Duty 2004 Pull-Ahead Program;
- Conventional Gasoline with Federal Low Reid Vapor Pressure; and
- Diesel Fuel with Texas Low Emission Diesel as appropriate for applicable years.

For the fuel programs, MOVES defaults, fuel survey data, and federally regulated values were used. Details of how these were modeled are found in Appendix D: *BPA Area On-Road Emissions Inventories for SIP Submission - 2005, 2011, 2014, 2017, and 2021, TTI Report*,

⁴ Eastern Research Group, Inc., "Projection Factors for Point and Area Source," TCEQ Contract No. 582-07-84003, Work Order No. 582-07-84003-FY10-27, August 2010.

February 2012. The emissions inventory development methodology is consistent with the MOVES guidance document provided by the EPA. Table 4-6: *BPA Area Ozone Season Weekday On-Road Mobile Emissions Inventories* summarizes the updated 2005, 2011, 2014, 2017, and 2021 NO_x and VOC emissions calculated using the latest planning assumptions for the three-county BPA area. Detailed documentation is provided in Appendix D concerning MVEB calculations, modeling methods, and input parameter development and usage.

Table 4-6: BPA Area Ozone Season Weekday On-Road Mobile Emissions Inventories

Year	VMT	Summer Weekday On-Road VOC Emissions	Summer Weekday On-Road NO _x Emissions
2005	12,766,328	11.30 tpd	44.50 tpd
2011	13,221,528	8.30 tpd	26.60 tpd
2014	13,691,363	6.30 tpd	18.60 tpd
2017	14,178,111	5.00 tpd	13.50 tpd
2021	14,854,487	3.90 tpd	9.70 tpd

4.2.2.1 Motor Vehicle Emissions Budgets (Updated)

The 2008 BPA maintenance plan established MOBILE-based MVEBs, setting the allowable on-road mobile emissions that an area can produce while continuing to demonstrate maintenance. Local transportation planning organizations demonstrate that projected emissions from transportation plans, programs, and projects are equal to or less than the MVEBs as required by the federal transportation conformity rule. The NO_x and VOC on-road mobile source emissions inventory totals for 2021, the final year of this maintenance plan, establish the MVEBs. The MOVES-based MVEBs for this proposed SIP revision are summarized in Table 4-7: *2021 Horizon Year MVEBs for the BPA area using MOVES2010a*. Detailed documentation of MVEB calculations, modeling methods, and input parameter development and usage is provided in Appendix D.

Table 4-7: 2021 Horizon Year MVEBs for the BPA area using MOVES2010a

Calendar Year	VOC MVEB	NO _x MVEB
2021	3.9 tpd	9.7 tpd

4.2.2.2 Safety Margin (Updated)

No safety margin is included in the revised, MOVES-based MVEBs included in this proposed SIP revision.

4.2.3 Non-Road Mobile Sources (Updated)

4.2.3.1 Airports (No Change)

4.2.3.2 Locomotives and Marine Vessels (No Change)

4.2.3.3 Updated Verification of Continued Attainment for Non-Road Mobile Sources (Added)

NONROAD Model

For all Texas non-road mobile source categories except aircraft, airport equipment, locomotives, and commercial marine vessels, emissions are calculated using the Texas-Specific NONROAD

(TexN) model that utilizes the EPA's latest NONROAD model. While the TexN model utilizes input files and post-processing routines to estimate Texas specific emissions estimates, it retains the EPA's NONROAD model as the core model to conduct the basic emissions calculations.

The EPA's NONROAD2005 model, which was used as the core model for the 2008 BPA maintenance plan, was updated to the NONROAD2008a version in April 2009. The NONROAD2008a model accounted for the addition of two new federal rules that affect the equipment categories in the non-road mobile source sector; therefore, the TexN model was updated accordingly. In addition, equipment survey studies have been conducted and emissions updated for the diesel construction equipment sector, the agricultural equipment sector, and drilling rig diesel engines since 2009.

Using current methodology and the TexN/EPA NONROAD2008a model, emissions calculated for each county in the BPA area are, overall, lower and demonstrate a downward trend for both NO_x and VOC compared to the emissions reported in the 2008 BPA maintenance plan. Although minor updates have occurred in the non-road mobile source category since the 2008 submission, those updates do not change the overall conclusions of the BPA maintenance plan.

Airports

The Federal Aviation Administration's Emissions and Dispersion Modeling System (EDMS) version 5.1 was used to estimate NO_x and VOC emissions for commercial aircraft, general aviation, and ground support equipment emissions in the 2008 BPA maintenance plan. The model has not changed since the 2008 submission, and the repopulated EDMS files, which reflect 2011 operations, indicate that both NO_x and VOC emissions declined between 2005 and 2011.

The 2011 emissions calculated for the airports source category in the BPA area demonstrate a downward trend for both NO_x and VOC compared to the emissions reported in the 2008 BPA maintenance plan. Although minor updates have occurred in the airports source category since the 2008 submission, those updates do not change the overall conclusions of the BPA maintenance plan.

Locomotives and Commercial Marine Vessels

Texas Air Emissions Repository (TexAER) data from 2005, which was developed from the 2005 Consolidated Emissions Reporting Rule data, were used to estimate NO_x and VOC emissions from locomotive and commercial marine vessel activities in the 2008 BPA maintenance plan. The methodology has not changed since the 2008 submission.

Actual 2011 emissions calculated for locomotive and commercial marine vessel activities in the BPA area, when compared to the projected 2011 emissions reported in the 2008 BPA maintenance plan, are lower and demonstrate a downward trend for both NO_x and VOC. Since the original inventories conservatively estimated future year locomotive and commercial marine vessel activities emissions, recalculation of the milestone year inventories would not change the overall conclusions of the 2008 BPA maintenance plan.

4.2.4 Stationary Point Sources (Updated)

4.2.4.1 Emissions Inventory Compilation (No Change)

4.2.4.2 Updated 2005 Base Year Inventory (No Change)

4.2.4.3 Updated Uncontrolled Milestone Year Inventories (No Change)

4.2.4.4 Updated Verification of Continued Attainment for Stationary Point Sources (Added)

There have been no changes to the point source emissions inventories included in the 2008 BPA maintenance plan. Those inventories projected positive point source emissions growth for all future milestone years. Actual point source emissions for 2008 through 2010 are below the 2005 base year emissions, below emissions trends projected in the maintenance plan, and are anticipated to remain below projected emissions. Since the original inventories conservatively estimated future year point source emissions, recalculation of the milestone year inventories would not change the overall conclusions of the 2008 BPA maintenance plan.

4.3 CONTROL STRATEGIES (NO CHANGE)

4.4 EMISSIONS SUMMARY (UPDATED)

Updated percentages of emissions by source category for 2005, 2011, 2014, 2017, and 2021 are reflected in Tables 4-8: *Updated Percentages of NO_x Emissions in BPA by Source Category* and 4-9: *Updated Percentages of VOC Emissions in BPA by Source Category*. The percentages of contribution from source categories have changed slightly with the MOVES-based on-road mobile source emissions inventory updates. Table 4-8 shows that on-road mobile source emissions determined using the MOVES model account for a slightly larger percentage of NO_x emissions, overall, than those determined using the MOBILE model. Table 4-9 shows that on-road mobile source emissions determined using the MOVES model account for a slightly smaller percentage of VOC emissions, overall, than those determined using the MOBILE model. As in the 2008 BPA maintenance plan, these tables show that the largest man-made contribution of NO_x is from stationary point sources and the largest man-made contribution of VOC is from area sources. Contributions from biogenic emissions are not included in the summary, because the maintenance measures are limited to the reduction of man-made emissions.

Table 4-8: Updated Percentages of NO_x Emissions in BPA by Source Category

Source Category	2005	2011	2014	2017	2021
Area Source	6.12%	6.97%	7.54%	7.97%	8.36%
MOVES-Based On-Road Mobile Source	30.06%	18.63%	13.48%	9.91%	7.07%
Non-Road Mobile Source	17.56%	18.96%	20.20%	21.19%	22.32%
Stationary Point Source	46.26%	55.44%	58.79%	60.94%	62.26%

Table 4-9: Updated Percentages of VOC Emissions in BPA by Source Category

Source Category	2005	2011	2014	2017	2021
Area Source	72.00%	71.87%	72.21%	72.28%	72.09%
MOVES-Based On-Road Mobile Source	5.37%	3.83%	2.90%	2.28%	1.75%

Source Category	2005	2011	2014	2017	2021
Non-Road Mobile Source	2.36%	2.01%	1.95%	1.92%	1.93%
Stationary Point Source	20.27%	22.28%	22.94%	23.52%	24.23%

4.5 CONTINUED MAINTENANCE WITH MOVES-BASED ON-ROAD MOBILE EMISSIONS INVENTORIES (*ADDED*)

Revising the on-road mobile source emissions inventories and MVEBs for this proposed SIP revision would minimally affect projected NO_x and VOC emissions trends from the 2005 base year across the 2011, 2014, and 2017 milestone years and the 2021 horizon year; however, NO_x emissions are still projected to decrease and VOC emissions are still projected to increase (see Tables 4-2 and 4-3). On-road mobile source emissions inventories were the only inventories updated; however, in determining whether to update inventories for the other source categories, TCEQ staff found that area, non-road mobile, and stationary point source emissions all trended below the projections included in the 2008 BPA maintenance plan. In addition, photochemical modeling analyses adopted with the 2008 BPA maintenance plan and supported by the EPA demonstrate that the formation of ozone in the BPA area is more sensitive to NO_x than to VOC emissions. The slight increase in VOC emissions, which was shown in the original BPA maintenance plan as well as this proposed update, would be offset by the decrease in NO_x emissions. Those factors, along with the overall downward trend in ozone design values for the BPA area, show that this proposed SIP revision would continue to meet all requirements for maintenance of the 1997 eight-hour ozone standard.

CHAPTER 5: MONITORING NETWORK *(NO CHANGE)*

CHAPTER 6: CONTINGENCY PLAN *(NO CHANGE)*

Appendix Available Upon Request

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