DRAFT for Public Comment

State Implementation Plan Revision:

Revisions to the Motor Vehicle Emissions Budgets for the Inland Sheboygan County, Shoreline Sheboygan County, and Kenosha County 2008 Ozone National Ambient Air Quality Standards (NAAQS) Maintenance Areas

Developed By:

The Wisconsin Department of Natural Resources

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1. INTRODUCTION

The Wisconsin Department of Natural Resources (WDNR) has prepared this revision to the Wisconsin State Implementation Plan (SIP) for air quality to update the motor vehicle emissions budgets (MVEBs) for the Inland Sheboygan County, Shoreline Sheboygan County, and Kenosha County maintenance areas for the 2008 ozone National Ambient Air Quality Standards (NAAQS). This revision is required to address changes made in the official EPA model (MOVES) that is used to estimate mobile source emissions when completing regional emissions analyses for the purpose of demonstrating transportation conformity in these areas. These budget revisions are needed only to respond to changes in MOVES model data and do not reflect increases in transportation-related activity or actual emissions in these areas. This revision continues to demonstrate maintenance of the 2008 ozone NAAQS in all three areas.

2. BACKGROUND

In March 2008, the EPA finalized a revision to the 8-hour ozone NAAQS (73 FR 16436). The EPA subsequently designated Sheboygan County and part of Kenosha County as nonattainment for the 2008 ozone NAAQS (77 FR 30088 and 77 FR 34221).

In July 2019, EPA revised the Sheboygan County nonattainment area designation for the 1997 and the 2008 ozone NAAQS to create two distinct nonattainment areas: the Inland Sheboygan County and Shoreline Sheboygan County nonattainment areas (84 FR 33699). The Inland and Shoreline Sheboygan County nonattainment areas together constituted the identical geographic area as the original Sheboygan County nonattainment area.

Based on improvements in monitored air quality due to permanent and enforceable control measures, all three areas subsequently attained the 2008 ozone NAAQS and were redesignated to attainment by the EPA. This occurred in July 2020 for the Inland Sheboygan County and Shoreline Sheboygan County 2008 ozone nonattainment areas, (85 FR 41400 and 85 FR 41405) and in July 2022 for the Kenosha County 2008 ozone nonattainment area (87 FR 21027). When redesignating these areas the EPA also approved maintenance plans for both areas, which are required by the Clean Air Act (CAA) to ensure that the areas continue to attain the NAAQS for ten years following redesignation to attainment.

3. TRANSPORTATION CONFORMITY AND THE MOVES MODEL

3.1. Requirements

Transportation conformity is required under CAA Section 176(c) to ensure that federally funded or approved highway and transit activities are consistent with – or "conform to" – the purpose of the SIP. "Conform to" the purpose of the SIP means that transportation activities will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS or any interim milestones. Transportation conformity applies to areas

designated nonattainment and maintenance for transportation-related criteria pollutants: ozone, $PM_{2.5}$, PM_{10}, carbon monoxide, and nitrogen dioxide.

The EPA's transportation conformity rule (40 CFR Parts 51 and 93) establishes the criteria and procedures for determining whether regional long-range transportation plans, transportation improvement programs (TIPs), federally supported highways projects, and federally supported transit projects conform to the SIP.

The conformity rule generally requires a demonstration that emissions from regional long-range transportation plans and TIPs are consistent with any MVEBs contained in the SIP for areas in which those plans and TIPs apply (40 CFR 93.101). This is done through a regional emissions analysis. This analysis needs to be completed using the latest version of the EPA's mobile source emissions model, although previous versions of the model can be used in certain circumstances within a transitional grace period if established by the EPA (40 CFR 93.111).

The 2008 ozone NAAQS maintenance plans for the Inland Sheboygan County, Shoreline Sheboygan County, and Kenosha County areas all contain MVEBs for volatile organic compounds (VOCs) and nitrogen oxides (NO_X) emissions. These MVEBs were approved by the EPA in the final actions redesignating those areas. These MVEBs are the projected levels of controlled emissions from the transportation sector (mobile sources) that are estimated in the SIP to provide for continued maintenance of the 2008 ozone standard. The transportation conformity rule allows MVEBs to be changed as long as the total level of emissions from all sources remains below the attainment levels.

3.2. Impact of Changes to the MOVES Model on Mobile Source Emissions Estimates

The EPA's MOtor Vehicle Emission Simulator (MOVES) is the EPA's state-of-the-science emissions modeling system that state and local agencies (outside of California) must use to estimate VOCs, NO_X, particulate matter, carbon monoxide, and other pollutants and precursors from cars, trucks, buses, and motorcycles for SIP purposes and transportation conformity determinations.

The EPA periodically releases new versions of MOVES to incorporate new data and methods and to reflect any changes in federal regulations that impact on-road and nonroad emissions. The EPA's official public versions of MOVES are characterized as a "major" release when it includes substantial changes to on-road criteria pollutant emissions. Table 1 contains a complete list of the MOVES model release history, including identification of the major releases.

Table 1. MOVES Model Release History

MOVES Version	Release Date	Note
MOVES2010	2010	Major release
MOVES2010a	2010	
MOVES2010b	2012	
MOVES2014	2014	Major release
MOVES2014a	2015	
MOVES2014b	2018	
MOVES3	2020	Major release
MOVES3.0.1-MOVES3.0.4	2021-2022	
MOVES3.1	2022	
MOVES4	2023	Major release
MOVES4.0.1-MOVES4.0.3	2024-2025	
MOVES5	2024	Major release
MOVES6	2026	Major release

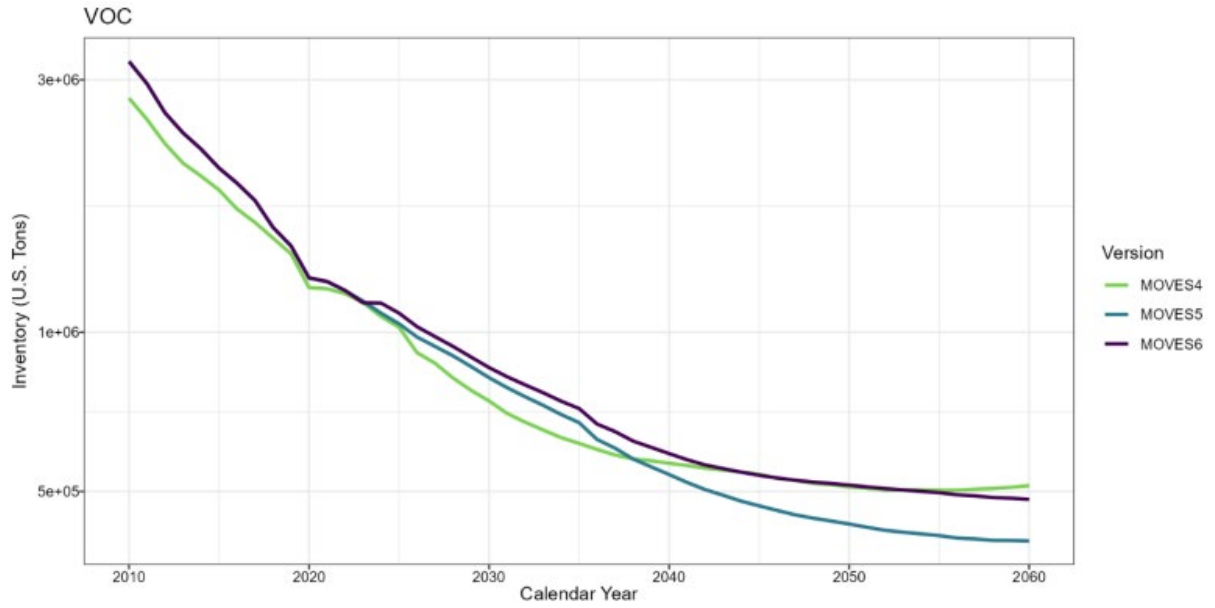
As shown in the figure, starting in 2020 the EPA promulgated four major releases of MOVES, with the latest, MOVES6, being officially released in October 2026. Even when considering the exact same travel and activity data, these four models generate different estimates of future mobile source emissions, primarily due to federal regulatory changes impacting emissions from these sources. For example, use of the MOVES6 model results in emissions estimates that are higher for many pollutants when compared to MOVES4 and MOVES5. This is because MOVES6 reflects a variety of recent EPA and legislative actions that repealed emissions standards and reduced incentives for electric vehicle adoptions[1], along with other data updates and corrections.

Figure 1 shows the impact of those model changes on emissions of VOCs, an ozone precursor pollutant. As the figure demonstrates, future estimates of VOC emissions generally increase from

[1] See the EPA's Overview of EPA's MOtor Vehicle Emission Simulator (MOVES6) (EPA-420-R-26-005; Oct. 2026) for a full accounting of the regulatory changes included in MOVES6.

MOVES4 to MOVES5 and MOVES6, with this increase particularly acute through the late 2030s. These results illustrate that, even if there is no change in mobile source activity or other variables that could affect model results (i.e., holding all other inputs constant), using MOVES5 or MOVES6 will show an increase in VOC emissions over MOVES4 at least through the late 2030s. This difference would be true, and likely larger, when compared to previous versions of MOVES as well.

Figure 1. National On-road VOC emissions in MOVES4, MOVES5 and MOVES6[2]



A consequence of these model revisions is that using a recent version of MOVES can be expected to result in higher VOC emissions estimates than if an earlier version of MOVES was used, even when using the exact same transportation data and other inputs. As regional emissions analyses and the MVEBs to which they are compared are generated at different times (and therefore typically use different versions of MOVES), this technical issue can potentially complicate adherence to transportation conformity requirements.

3.3. Impact of MOVES Model Changes on Transportation Conformity

As noted in Section 1.1, all three ozone maintenance areas have approved MVEBs. These were developed in the 2019-2021 period and were generated using the versions of MOVES that were approved for use at that time. Table 2 shows the versions of MOVES that were used to develop these budgets.

[2] Source: Figure B-7 in the EPA's Overview of EPA's MOtor Vehicle Emission Simulator (MOVES6), p. 77.

Table 2. MOVES Model Used to Generate MVEBs

2008 Ozone NAAQS Area	Maintenance Plan Submittal Date	MOVES Version Used to Generate MVEBs
Inland Sheboygan County	Oct. 9, 2019	MOVES2014a
Shoreline Sheboygan County	Feb. 11, 2020	MOVES2014b
Kenosha County	Dec. 3, 2021	MOVES3

The MOVES versions used to generate the maintenance plan MVEBs in these areas have long been superseded. The EPA officially released the latest version of MOVES (MOVES6) on October 27, 2026 (91 FR 67565). With the release of MOVES6, that version of the model is now required to be used for transportation conformity determinations. However, due to transitional grace periods that are in effect, states can also choose to use MOVES5 (until October 27, 2028) and, for a very limited time, MOVES4 (until December 11, 2026). Versions of the model prior to MOVES4, which would include MOVES3 and all versions of MOVES2014, can no longer be used for transportation conformity purposes, even if the MVEBs being used for conformity determinations were developed using those older versions.

Through Wisconsin's transportation conformity interagency consultation process, it was identified that future regional emissions analyses using MOVES4, MOVES5 or MOVES6 would generate emissions estimates that would exceed the MVEBs for VOCs for these maintenance areas that were set using older versions of MOVES, particularly in near-term years. This issue is due entirely to how the different models estimate VOC emissions, as described in the previous section, rather than changes in actual emissions. To ensure MVEBs are of sufficient size to account for these modeling differences, the WDNR is proposing to revise the MVEBs for VOCs in these areas by allocating maintenance plan "safety margin" emissions to the MVEBs, as described in the next section.

3.4. Using Safety Margins to Revise Maintenance Plan Motor Vehicle Emissions Budgets

A "safety margin", as defined in the transportation conformity rule (40 CFR part 93 subpart A), is the amount by which the total projected emissions from all sources of a given pollutant are less than the total emissions that would satisfy the applicable requirement for reasonable further progress, attainment, or maintenance.

For these three 2008 ozone areas, the maintenance level of emissions is the level of emissions in the year each area attained the NAAQS. The maintenance plan emissions inventories for all three areas project lower emissions in future years. The safety margin is simply the mathematical difference between the projected emissions in those future years and the actual emissions in the attainment year.

Table 3 through Table 5 compare, for each area, the total VOC emissions in the attainment year to the projected emissions of VOCs in the future years most likely to be affected by the MOVES model changes. The difference between the projected emissions and the actual emissions in the attainment year is the safety margin.

Table 3. VOC Safety Margin for the Inland Sheboygan County 2008 Ozone NAAQS Maintenance Area.

Year	Attainment year emissions (tpsd)	Projected maintenance emissions (tpsd)	Safety Margin (tpsd)
2014	6.91	-	-
2030	-	5.78	1.13

Table 4. VOC Safety Margin for the Shoreline Sheboygan County 2008 Ozone NAAQS Maintenance Area.

Year	Attainment year emissions (tpsd)	Projected maintenance emissions (tpsd)	Safety Margin (tpsd)
2017	4.47	-	-
2032	-	3.95	0.52

Table 5. VOC Safety Margin for the Kenosha County 2008 Ozone NAAQS Maintenance Area.

Year	Attainment year emissions (tpsd)	Projected maintenance emissions (tpsd)	Safety Margin (tpsd)
2019	5.72	-	-
2030	-	5.28	0.44
2035	-	5.29	0.43

The EPA's transportation conformity regulations (40 CFR 93.124) allow for the use of some or all of the safety margin in the development of MVEBs for maintenance plans. A state can either make such an allocation at the time of redesignation, or do so at a later date through a SIP revision.[3]

As indicated in Tables 3 through 5, all three maintenance areas have VOC emission safety margins in future years. Per the conformity rule, the WDNR can allocate any or all of those safety margin amounts to the MVEBs in those years. To address the increase in VOC emissions resulting from MOVES6, the WDNR is proposing to allocate a portion of those safety margins to the MVEBs established in the maintenance plans. The amount of safety margin being reallocated

[3] See, for example, the Kenosha County redesignation, in which EPA notes that "Wisconsin can request an allocation to the MVEBs of the available safety margins reflected in the demonstration of maintenance in a future SIP revision" (87 FR 6820).

ranges from 50 to 58 percent, which leaves a significant remaining VOC safety margin in all cases. These reallocations and the resulting new MVEBs are shown in Tables 6 through 8.

Table 6. Revised Inland Sheboygan County 2008 Ozone NAAQS Maintenance MVEBs

Year	Approved MVEBs (tpsd)	Safety Margin Allocation (tpsd)	New MVEBs (tpsd)
2030	0.34	0.57 (50% Safety Margin)	0.91

Table 7. Revised Shoreline Sheboygan County 2008 Ozone NAAQS Maintenance MVEBs

Year	Approved MVEBs (tpsd)	Safety Margin Allocation (tpsd)	New MVEBs (tpsd)
2032	0.36	0.26 (50% of Safety Margin)	0.62

Table 8. Revised Kenosha County 2008 Ozone NAAQS Maintenance MVEBs

Year	Approved MVEBs (tpsd)	Safety Margin Allocation (tpsd)	New MVEBs (tpsd)
2030	0.54	0.24 (55% of Safety Margin)	0.78
2035	0.47	0.25 (58% of Safety Margin)	0.72

Following the reallocation of portions of the safety margins to the MVEBs, all three areas still show projected future emissions that are below attainment year emissions. This change will ensure continued maintenance of the 2008 ozone NAAQS and meet all applicable regulatory requirements while also facilitating transportation conformity determinations in these areas.[4]

4. SECTION 110(L) NONINTERFERENCE REQUIREMENTS

When revising rules and regulations in the SIP, the state is responsible for demonstrating that such a change will not interfere with attainment of the NAAQS, rate of progress, or other applicable CAA requirements for any of the criteria pollutants.

These MVEB revisions do not increase actual emissions in these maintenance areas or allow for a future increase in actual emissions. These revisions are being made to address an unintended modeling artifact and do not change any previously approved rule, regulation, or other emissions control requirement. This revision is consistent with the overall emissions inventories included in

[4] In 2016 the EPA approved a similar allocation of safety margin to MVEBs for the Milwaukee-Racine 2006 $PM_{2.5}$ Maintenance Area (81 FR 8654).

the maintenance plans approved by the EPA in these areas and keep the total emissions for these areas at or below the attainment levels required by law. Therefore, this SIP revision will not interfere with the ability of these areas to continue to maintain the 2008 ozone NAAQS or meet any other applicable CAA requirement.

5. PUBLIC PARTICIPATION

This revision will be available for public review and comment prior to submittal to the EPA. A summary of any public comments received will be included in the final submittal.