

# ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION



**Amendments to:**

**State Air Quality Control Plan**

**Vol. II: III.D.7.14**

**Air Quality Conformity and Motor Vehicle Emission Budget**

**Public Notice Draft**

August 19, 2024

**Michael J. Dunleavy, Governor**

**Emma Pokon, Commissioner**

**Note: This document provides the revised and/or new language proposed for inclusion in this section of the State Air Quality Control Plan to address the disapproval of the Fairbanks North Star Borough PM<sub>2.5</sub> Serious SIP. The revised and/or new proposed language is in bold and underlined format. Language proposed to be deleted or replaced is shown in strikeout format. These revisions are the only parts that are open for public review and comment in this amendment to the plan. To aid in the public comment process, the currently adopted sections of the air quality plan can be found and referenced at the following internet site: <https://dec.alaska.gov/air/anpms/sip/fbks-pm2-5-regs-amends-2020/>**

## 7.14. Air Quality Conformity and Motor Vehicle Emission Budgets

### 7.14.1. Regulatory Overview

Transportation conformity is required under Clean Air Act section 176(c) (42 U.S.C. 7506(c)) to ensure that federally supported highway and transit project activities are consistent with the purpose of the state air quality implementation plan (SIP). The requirements for transportation conformity are found in State regulation at 18 AAC 50 Article 7, Conformity, and in Volume II Section III.I in the State Air Quality Control Plan.

Conformity for the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards (NAAQS or “standards”) or any required interim emissions reductions or other milestones. The U.S. Environmental Protection Agency’s (EPA) transportation conformity rule (40 C.F.R. § 51.390 and Part 93, Subpart A) establishes the criteria and procedures for determining whether transportation activities conform to the SIP. Conformity helps protect public health through early consideration of the air quality impacts of transportation decisions in places where air quality does not currently meet federal standards.

On March 24, 2010, the EPA finalized changes to the transportation conformity rule that primarily affected PM<sub>2.5</sub> and PM<sub>10</sub> nonattainment and maintenance areas. The final rule provides clear guidance on how to implement transportation conformity under the 2006 PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS) to ensure transportation planning and air quality planning are coordinated and air quality is protected.

Specific guidance on PM<sub>2.5</sub> conformity requirements is also contained in the Final PM<sub>2.5</sub> Implementation Rule for the 2006 PM<sub>2.5</sub> NAAQS, promulgated by EPA in August 2016<sup>1</sup> to meet Clean Air Act Subpart 4 requirements.

**On January 7, 2021, EPA approved the release of the MOVES3 emissions model for SIPs and transportation conformity analyses in states other than California.<sup>2</sup> This approval also started a two-year transportation conformity grace period that ended on January 9, 2023, after which MOVES3 was required to be used for new regional emissions analyses and new hot-spot analyses for new transportation conformity analyses outside of California.**

**EPA subsequently released a minor update to MOVES3, MOVES3.1, in November 2022 and major update, MOVES4, in September 2023<sup>3</sup> with a minor patch, MOVES4.0.1 in January 2024.<sup>4</sup> EPA’s approval of MOVES4 started a similar two-year transportation conformity grace period that allows the use of MOVES3 for new regional emissions analyses and new hot-spot analyses for transportation conformity analyses until that period ends on September 12, 2025.**

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<sup>1</sup> Federal Register, Vol. 81, No. 164, Wednesday, August 24, 2016.

<sup>2</sup> Federal Register, Vol. 86, No. 4, Thursday, October 7, 2021.

<sup>3</sup> Federal Register, Vol. 88, No. 175, Tuesday, September 12, 2023.

<sup>4</sup> [https://github.com/USEPA/EPA\\_MOVES\\_Model/releases](https://github.com/USEPA/EPA_MOVES_Model/releases)

**Following consultation with EPA, emission inventories and motor vehicle emission budgets in this 2024 Amendment to the 189(d) Plan for the Fairbanks Area Serious Plan were developed using MOVES3.0.3 (released in January 2022) because significant work on the SIP had been completed before the release of MOVES4.**

#### 7.14.1.1 Regional Conformity and Motor Vehicle Emission Budgets

EPA requires that all nonattainment areas develop a motor vehicle emissions budget for use in determining regional transportation conformity. The process used to calculate the MOVES-based motor vehicle emission budget within the on-road mobile source inventory is described in detail in Section III.D.7.6.6.5. Relevant portions of that description are presented below to ensure consistency in the information presented and to avoid the need for readers to shift between sections of this document.

Need for MVEBs – Generally, motor vehicle emission budgets (MVEBs) must be established within a SIP for use in subsequent regional transportation conformity analysis that is tied to the SIP’s attainment demonstration and the on-road vehicle emissions share of the overall attainment inventory. **The central finding of this 2024 Amendment is that attainment of the 2006 24-hour PM<sub>2.5</sub> NAAQS is modeled to occur by 2027, the most expeditious attainment date as discussed earlier in Section III.D.7.9.**

A control strategy implementation plan revision and MVEB is defined under 40 C.F.R. § 93.101 as follows:

*Control strategy implementation revision is the implementation plan which contains specific strategies for controlling the emissions of and reducing ambient levels of pollutants in order to satisfy CAA requirements for demonstrations of reasonable further progress and attainment (including implementation plan revisions submitted to satisfy CAA sections 172(c), 182(b)(1), 182(c)(2)(A), 182(c)(2)(B), 187(a)(7), 187(g), 189(a)(1)(B), 189(b)(1)(A), and 189(d); sections 192(a) and 192(b), for nitrogen dioxide; and any other applicable CAA provision requiring a demonstration of reasonable further progress or attainment).*

*Motor vehicle emissions budget is that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions.*

**EPA’s Region 10 staff were consulted regarding applicable MVEB requirements for this 2024 Amendment. In summary, MVEBs must be set based on the projected expeditious attainment date (estimated to be 2027) and tied to RFP inventories for milestone years until that date, plus one milestone year after as required under 40 C.F.R. § 51.1013(a)(4).**

MVEB Calendar Year and Pollutants – As noted earlier in Section III.7.6.10, the milestone years for RFP under the 2024 Amendment to the Serious SIP are 2020, 2023, 2026 and 2029. Thus, RFP inventories and MVEBs were established for each of these years. Budgets of on-road motor vehicle emissions occurring within the nonattainment area were set for directly-emitted PM<sub>2.5</sub>. DEC established an emissions budget for direct PM<sub>2.5</sub> as required by 40 C.F.R. § 93.102(b)(1). DEC did not establish an emissions budget for NO<sub>x</sub> because we found that NO<sub>x</sub> emissions from on-road mobile sources were not a significant contributor to the nonattainment problem per 40 C.F.R. § 93.102(b)(2)(iv) as explained in Section III.D.7.8.

Summary of MVEB Methodology – The MVEBs were calculated using a consistent approach to that applied in estimating motor vehicle emissions within the SIP emission inventories. The MVEB modeling is summarized below.

- *Emissions Model* – Emissions were calculated using the MOVES3.0.3 vehicle emissions model, executed in county-wide “Inventory” mode. For the modeling inventories used to evaluate attainment in the 2024 Amendments, the “Emission Rates” calculation mode was used to support development of spatially gridded motor vehicle emissions as input to downstream SMOKE/MOVES and SMOKE inventory processing models. The choice to establish MVEBs based on Inventory mode MOVES runs was made to simplify future conformity analysis requirements where gridded outputs are not needed and is consistent with EPA’s technical guidance.<sup>5</sup> The model was run to simulate conditions within the three months (December through February) encompassing the Winter 2019-2020 historical modeling episode used in the 2024 Amendments to evaluate attainment to generate emissions over this period. As explained below, fuel properties are the same across the December through February period. To ensure the budgets represented worst-case conditions within the period and simplify model setup and execution for subsequent conformity determinations, the model was simply run for January. The Time Aggregation Level option was set to “Hour” as required for SIPs and regional emissions analysis.<sup>5</sup>
- *Vehicle Activity Inputs* – On-road motor vehicle activity inputs (VMT by vehicle type, speed distributions, road type VMT distributions) were developed from the “Final 2045 MTP Update” travel demand model outputs<sup>6</sup> obtained from Fairbanks Area Surface Transportation Planning (FAST Planning) and their transportation modeling contractor Kittelson and Associates<sup>7</sup>. These were the same travel model outputs used for the SIP modeling inventories, with activity

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<sup>5</sup> “MOVES3 Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity,” U.S. Environmental Protection Agency, EPA-420-B-20-052, November 2020.

<sup>6</sup> Although the FAST-Planning jurisdictional boundary is a subset of the PM<sub>2.5</sub> nonattainment area, FAST Planning expanded the extent of their travel model to include the entire nonattainment area.

<sup>7</sup> Emails from Mike Aronson, Kittelson and Associates, November 21, 2022, November 29, 2022, December 20, 2022.

tabulated just for the nonattainment area.<sup>8</sup> 2045 MTP Update travel model outputs were obtained for 2021, 2022, 2024, 2028, 2035, and 2045. From discussions with Kittelson, it was assumed that the 2021 model output would be representative of 2020 in the absence of COVID-19 effects. To avoid “artificial” growth reflected by these effects during the 2020-2021 period, the 2021 travel outputs were assumed to be representative of 2020. Vehicle activity (VMT and speeds) for MVEB years 2020, 2023, 2026 and 2029 and the 2027 modeled attainment year were based on interpolated travel model outputs from those years.

- *Temporal Profiles* – The same locally developed seasonal, weekly, and diurnal travel activity profiles used in the SIP inventories were also used to generate the MVEBs. Default MOVES activity was assumed for heavy-duty trucks (with no explicitly input extended idling) given the absence of local extended idling data.
- *Fleet Characteristics Inputs* – MVEB analysis year specific vehicle populations were extrapolated from actual 2020 DMV registrations using the same growth rate assumptions used to generate Projected Baseline modeled inventories and reflected in the 2045 MTP Update travel model forecasts. Alternative Vehicle and Fuel Technology (AVFT) inputs were based on the calendar year 2020 registration data. Age distribution inputs were based on registration data for calendar year 2020 and EPA’s “Age Distribution Projection Tool for MOVES3”<sup>9</sup> for subsequent calendar years with an exception for light-duty vehicle age distributions explained as follows. Age distribution inputs for light-duty vehicles were based on wintertime parking lot survey data collected by DEC, rather than registration data. Multiple parking lot surveys have consistently found that older vehicles are operated less during winter due to drivability concerns. In developing winter nonattainment season inputs, motorcycles were assumed to not operate during harsh winter conditions. Thus their populations were zeroed out. The source population, age distribution and AVFT inputs were supplied to MOVES using the County Data Manager importers in accordance with the modeling guidance.

The 2020 registration data were extracted from the Alaska DMV’s database on December 21, 2020. A second extraction of registration data was performed on March 19, 2021. Both registration datasets were reviewed to determine what extent the COVID-19 pandemic had on vehicle registrations during the 2020-2021 timeframe. It was found that the vehicle population decreased roughly 3% between December 2020 and March 2021, reflecting an apparent outmigration of vehicles from the nonattainment area due to COVID. Based on this review, the December 2020 registrations were used “as-is” for input to MOVES3 so as not to deflate vehicle populations that likely recovered after the peak effects of the pandemic.

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<sup>8</sup> The travel model outputs were GIS-based. A spatial shapefile for the nonattainment area was merged with the travel model outputs (which extend beyond the nonattainment area) to identify and tabulate link-based activity only within the nonattainment area.

<sup>9</sup> <https://www.epa.gov/moves/tools-develop-or-convert-moves-inputs#moves3-inputs>

- **Geographic Area** – MOVES was executed using the “County” geographic area option, with the Fairbanks North Star Borough as the selected county. As explained under “Vehicle Activity Inputs” link VMT and speed outputs from the travel model were scaled to the activity within the nonattainment area using a GIS shapefile. Vehicle populations for the nonattainment area (instead of the entire county) were determined from ZIP code specific DMV registrations.
- **Road Types** – All five road types as defined in MOVES were selected (Off-Network, Rural/Restricted Access, Rural/Unrestricted Access, Urban/Restricted Access, Urban/Unrestricted Access). Facility types from the travel model outputs were categorized into these MOVES road types to develop the “VMT by Road Type” inputs.
- **Fuel Property Inputs** – Fuel property inputs (e.g., fuel volatility, sulfur level, ethanol volume, aromatic, olefins and benzene content, etc.) were based on MOVES defaults for FNSB (County 02090). In MOVES3, EPA established (for the first time) a specific fuel region for the entire state of Alaska to reflect the fact that Alaska is not subject to either federal Reformulated Gasoline (RFG) or 10% ethanol blend level requirements in gasoline.<sup>10</sup> Therefore the default MOVES3 fuel properties adequately represent Fairbanks and were used in MOVES MVEB modeling runs.

**Table 7.14-1 shows the MOVES3 default wintertime gasoline and diesel fuel properties used for FNSB for calendar year 2020 and later (2020+).**

**Table 7.14-1**  
**Key MOVES3 Gasoline and Diesel Fuel Properties for Alaska**

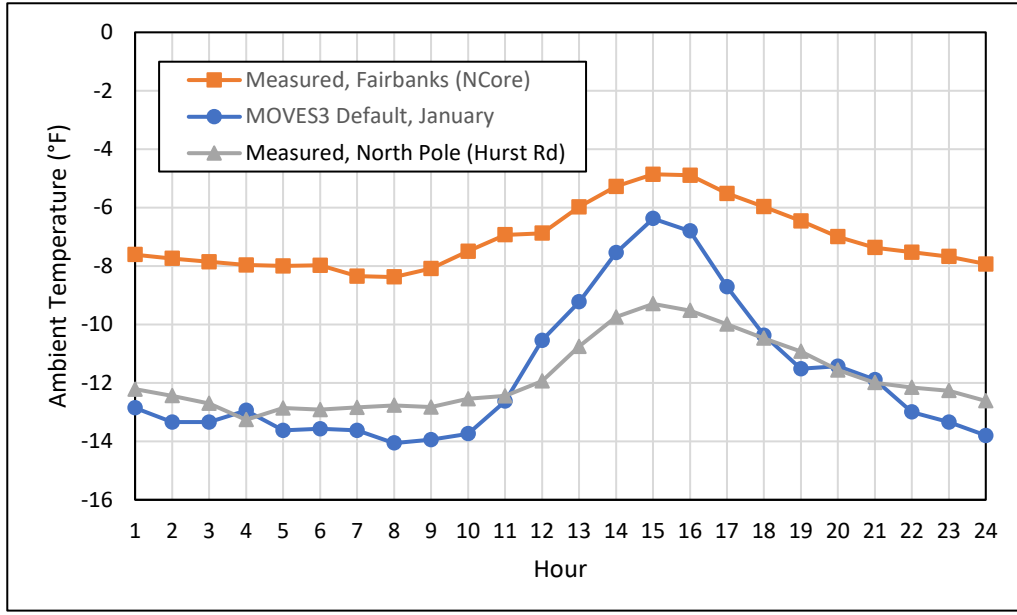
| <b><u>Fuel Property</u></b>            | <b><u>MOVES3 Defaults (Calendar Year 2020+)</u></b> |                      |
|--|---|----------------------|
|  | <b><u>Gasoline</u></b>                              | <b><u>Diesel</u></b> |
| <b><u>RVP (psi)</u></b>                | <b><u>14.5</u></b>                                  | <b><u>0</u></b>      |
| <b><u>Sulfur Level (ppm)</u></b>       | <b><u>6</u></b>                                     | <b><u>11</u></b>     |
| <b><u>Ethanol (% vol)</u></b>          | <b><u>0</u></b>                                     | <b><u>0</u></b>      |
| <b><u>Aromatic Content (% vol)</u></b> | <b><u>27.9</u></b>                                  | <b><u>0</u></b>      |
| <b><u>Olefin Content (% vol)</u></b>   | <b><u>0.9</u></b>                                   | <b><u>0</u></b>      |
| <b><u>Benzene Content (% vol)</u></b>  | <b><u>1.3</u></b>                                   | <b><u>0</u></b>      |
| <b><u>e200 (% vol)</u></b>             | <b><u>56.72</u></b>                                 | <b><u>0</u></b>      |
| <b><u>e300 (% vol)</u></b>             | <b><u>96.33</u></b>                                 | <b><u>0</u></b>      |
| <b><u>T50 (deg F)</u></b>              | <b><u>186.1</u></b>                                 | <b><u>0</u></b>      |
| <b><u>T90 (deg F)</u></b>              | <b><u>268.8</u></b>                                 | <b><u>0</u></b>      |

<sup>10</sup> Earlier versions of MOVES lumped Alaska into a broad multi-state non-RFG fuel region that also includes rural portions of California, Nevada, and Hawaii. However, this large non-RFG region reflected a 10% ethanol blend level that Alaska is exempt from. With earlier versions of MOVES, fuel property adjustment had to be made to this default formulation to account for the effects of removing the 10% ethanol blend requirement. For MOVES3, this is no longer necessary and the fuel formulation default for Alaska is representative of local fuel properties (and federal exemptions).

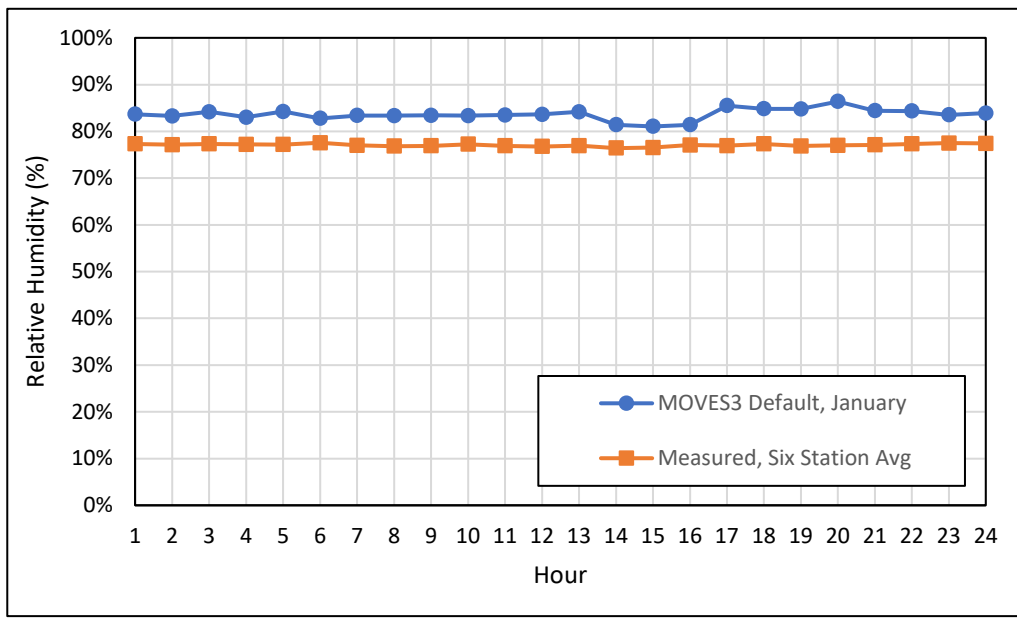
- ***Pollutants/Processes*** – All applicable pollutants and emission processes described earlier in Section III.D.7.6 were selected (although emission budgets were only required for direct PM<sub>2.5</sub> as noted earlier). These direct PM<sub>2.5</sub> budgets include exhaust and brakewear and tirewear emissions.
- ***Meteorology Inputs*** – Hourly ambient temperature and relative humidity profiles were based on MOVES3 defaults for the month of January were used for the hourly ambient temperature and relative humidity profiles for the MVEB modeling. At the time the motor vehicle emissions inventory and budgets needed to be completed within the SIP development schedule, actual measurements from meteorological stations within the modeling domain, specifically the relative humidity data, were not available. And it was not then known whether vehicle NO<sub>x</sub> emissions were significant and would require establishment of emission budgets. (Vehicle NO<sub>x</sub> emissions are dependent on relative humidity.)

Therefore the MOVES3 default profiles were later compared to actual measurements during the winter 2019-2020 modeling episode (when the complete data were available) to ensure they represented a reasonable approximation of the meteorological inputs behind the on-road vehicle emissions in the attainment modeling inventories.

Figure 7.14-1 and Figure 7.14-2 present these comparisons for ambient temperature (°F) and relative humidity (%), respectively. For ambient temperature, the MOVES3 January default profile is between and close to that of two 3-meter meteorology stations located within the nonattainment area, NCore in downtown Fairbanks and Hurst Road in North Pole. Similarly, Figure 7.14-2 shows how the MOVES3 January default relative humidity profile closely approximates that of observed relative humidity across six surface stations in or near the nonattainment area (Fairbanks International Airport, Fort Wainwright AAP, 14<sup>th</sup> Ave at Eielson St, Lathrop St at 21<sup>st</sup> St, Badger Rd at Old Richardson Hwy, and Eielson AFB).



**Figure 7.14-1. Comparison of Fairbanks Diurnal Temperature Profiles**



**Figure 7.14-2. Comparison of Fairbanks Diurnal Relative Humidity Profiles**

- Plug-In Adjustments to PM<sub>2.5</sub> Emissions – Finally, starting exhaust PM<sub>2.5</sub> emissions for light-duty gasoline vehicles were adjusted to account for the effects of wintertime vehicle plug-in block heater use in FNSB.<sup>11</sup> These adjustments were applied using**

<sup>11</sup> It is noted that EPA allowed plug-in adjustments that account for their effects within the baseline on-road mobile source inventory, but no credit is being taken for plug-in use as a SIP control strategy.



an EPA- accepted approach that consisted of modifying the MOVES soak time distribution inputs for light-duty vehicles contained in *OpModeDistribution* table in the model's default database. Appendix III.D.7.6 provides further details on these plug-in adjustments. Note that EPA's approval of the methodology for modeling the adjustments extends to analyses conducted using MOVES3.

Based on these methods, MVEB emissions nominally approximate, but do not exactly match on-road mobile source sector emissions within the SIP modeling inventories for the same year. These methods collectively maximize consistency with the modeling inventories (which tie to attainment analyses) but establish a simpler workflow (largely based on the Inventory calculation mode) for subsequent regional conformity determinations by FAST Planning, the affected Metropolitan Planning Organization.

Motor Vehicle Emission Budgets – Using the modeling methodology outlined above, MOVES3 was executed with locally developed inputs representative of wintertime episodic conditions. Table 7.14-2 summarizes the resulting regional average winter day on-road vehicle PM<sub>2.5</sub> emissions, which represent the applicable MVEBs under the 2024 Amendment to the 189(d) Plan for the Fairbanks Area Serious Plan.

Table 7.14-2  
FNSB Nonattainment Area Motor Vehicle PM<sub>2.5</sub> Emission Budgets  
Under 2024 Amendment

| <u>Calendar Year</u> | <u>Requirement</u>     | <u>Motor Vehicle Emission Budgets PM<sub>2.5</sub> (tons/day)</u> |
|----------------------|------------------------|---|
| <u>2020</u>          | <u>Base/RFP year</u>   | <u>0.074</u>  |
| <u>2023</u>          | <u>RFP year</u>        | <u>0.062</u>  |
| <u>2026</u>          | <u>RFP year</u>        | <u>0.054</u>  |
| <u>2027</u>          | <u>Attainment year</u> | <u>0.052</u>  |
| <u>2029</u>          | <u>RFP year</u>        | <u>0.049</u>  |

The PM<sub>2.5</sub> MVEBs shown in Table 7.14-2 include the plug-in adjustment effects. (As noted earlier, the plug-in adjustments are applied only to starting exhaust emissions for light-duty gasoline vehicles. Plug-ins reduced wintertime vehicle fleet wide PM<sub>2.5</sub> emissions by roughly 8% across the range of applicable calendar years.) The PM<sub>2.5</sub> MVEBs assumed zero contribution from fugitive road dust. This is consistent with the SIP inventory assumption that road dust emissions do not occur during winter in FNSB when road surfaces are snow- and ice-covered. The emissions budget also does not include construction dust for the same reason. (These assumptions are also consistent with the EPA-approved FNSB PM<sub>2.5</sub> Moderate Area SIP and the previously submitted Serious Area and 2020 Amendment SIPs.)

MVEB Context within RFP Inventories – To provide a clear understanding for the contribution of emissions from on-road motor vehicles (i.e., the MVEBs) relative to all other emission sources within the nonattainment area, Table 7.14-3 presents a

**summary comparison of direct PM<sub>2.5</sub> emissions from on-road vehicles to total emissions for each of the MVEB calendar years. Emissions are shown on both an absolute (tons/day) and relative (percentage of total emissions) basis for both pollutants.**

**Table 7.14-3**  
**Motor Vehicle and Total Emissions and Motor Vehicle Contributions to Total Nonattainment Area Emissions by MVEB Year Under 2024 Amendment**

| <b><u>Calendar Year</u></b> | <b><u>Nonattainment Area PM<sub>2.5</sub> Emissions (tons/day)</u></b> |                                   | <b><u>Relative Motor Vehicle Contributions (%)</u></b> |
|-----------------------------|--|-----------------------------------|--|
|                             | <b><u>On-Road Vehicles</u></b>   | <b><u>Total (All Sectors)</u></b> |  |
| <b><u>2020</u></b>          | <b><u>0.074</u></b>  | <b><u>2.91</u></b>                | <b><u>2.5%</u></b>                                     |
| <b><u>2023</u></b>          | <b><u>0.062</u></b>  | <b><u>2.47</u></b>                | <b><u>2.5%</u></b>                                     |
| <b><u>2026</u></b>          | <b><u>0.054</u></b>  | <b><u>1.94</u></b>                | <b><u>2.8%</u></b>                                     |
| <b><u>2027</u></b>          | <b><u>0.052</u></b>  | <b><u>1.74</u></b>                | <b><u>3.0%</u></b>                                     |
| <b><u>2029</u></b>          | <b><u>0.049</u></b>  | <b><u>1.63</u></b>                | <b><u>3.0%</u></b>                                     |

**Although on-road vehicles are by no means the predominant source of these pollutants, the vehicle emission budgets established under the federal conformity regulations require that emissions associated with future federally-funded regional transportation plans do not exceed budgeted limits, thereby ensuring these plans conform to the overall attainment progress reflected in the SIP.**

**Budget Adequacy Requirements - For an emissions budget to be found adequate by EPA, the revisions to the air quality control plan that establishes the budget must fulfill a series of requirements per 40 CFR 93.118(e)(4). Each of these requirements are listed in *italics* below, along with specific actions that satisfy each requirement.**

- ***Be endorsed by the Governor (or a designee) - Prior to final submittal to EPA, this plan will be filed by the Lieutenant Governor as per state regulation.***
- ***Be subject to a public hearing - Prior to submittal to EPA, these plan revisions were the subject of a public hearing held telephonically on <Month Day, 2024>. The affidavit of oral hearing is included in Appendix III.D.7.14.***
- ***Be developed through consultation among federal, State and local agencies - Federal, state, and local agencies were consulted on the motor vehicle emissions budget. Specifically, the state has held interagency calls related to the regulatory requirements and the appropriate technical methodologies for development of the motor vehicle emissions budget. A formal interagency consultation was held on <April 2, 2024>. These calls have involved appropriate DEC, FAST Planning, DOT, Borough, EPA, FHWA and FTA personnel. The state briefed and discussed -***

**the FAST Policy Board on <June 19, 2024>. The state received a Resolution of Support (R2024-30, adopted <August 8, 2024>) for the 2024 Amendment from the Fairbanks North Star Borough Assembly, which has been included in Appendix III.D.7.14.**

- **Be supported by documentation that has been provided to EPA - This plan contains documentation supporting the motor vehicle emission budget. Section III.D.7.6 and Appendix III.D.7.6 describe development of motor vehicle emissions in further detail.**
- **Address any EPA concerns received during the comment period - Comments received from EPA both before and during the public comment period were addressed through revisions contained in this final SIP.**
- **Clearly identify and precisely quantify the revised budgets - This section clearly identifies the motor vehicle emissions budgets for the Fairbanks North Star Borough PM<sub>2.5</sub> nonattainment area.**
- **Demonstrate that the budgets, when considered together with all other emissions sources in the inventory and control measures in the plan revision, are consistent with applicable requirements for reasonable further progress, attainment or maintenance (depending on which is relevant to the specific plan submission) - The motor vehicle emissions budget was established based on the Fairbanks PM<sub>2.5</sub> emission inventory and control measures included in the plan and satisfies reasonable further progress requirements. In particular see Sections III.D.7.6 and III.D.7.10.**
- **Explain and document revisions to the previous budget and control measures, and include any impacts on point or area sources - The budgets presented in this 2024 Amendment are consistent with those established in the EPA-approved Moderate Area SIP (and the previously submitted Serious Area SIP) in that they rely on locally collected data from the same sources (Alaska DMV, FAST Planning travel model, etc.) as employed in those earlier plans. However, they are based on the latest version of EPA's vehicle emissions model at the time of SIP inventory development, MOVES3, and incorporate the latest planning assumptions (e.g., updated DMV registrations) and activity projected from these local data sources.**
- **Address all public comments on the plan's revisions and include a compilation of these comments - DEC compiled and responded to all public comments received on the plan including the MVEB. A compilation of the comments received and the DEC's responses will be provided in the submittal to EPA and made available to the public on the department's internet site. The department's affidavit of agency record of public comment is included in Appendix III.D.7.14.**

**Once a motor vehicle emissions budget is found to be adequate by EPA, the FNSB nonattainment area Transportation Plans and Transportation Improvement Programs (TIP) must be less than or equal to the motor vehicle emissions budget. For projects not**

**from a conforming plan and TIP, the additional emissions from the project together with the transportation plan emissions must be less than or equal to the budget.**

**Interagency Consultation - Under 40 C.F.R. § 93.105, FAST Planning, the MPO in the Fairbanks North Star Borough PM<sub>2.5</sub> nonattainment area, must coordinate interagency consultation procedures for regional transportation conformity determinations to ensure transportation plan emissions are properly calculated in a manner consistent with the applicable SIP. In addition, Alaska's Air Quality Regulations contained in 18 AAC 50.715 also cite federal transportation conformity interagency consultation requirements.**

#### **7.14.1.2 Project-Level Conformity**

**Interagency Consultation - Under 40 C.F.R. § 93.105, FAST Planning must similarly coordinate interagency consultation procedures for project-level conformity determinations (as is the case for regional conformity). Because the boundary of the nonattainment area is larger than the MPO boundary, in 2010, the transportation and environmental agencies within the area (Alaska DOT&PF, DEC, FAST Planning, and FNSB) established a *Memorandum of Agreement for the Development of Transportation Conformity Determinations within the Fairbanks PM<sub>2.5</sub> Nonattainment Area*.<sup>12</sup> The agreement was established for the purpose of conducting cooperative planning and analysis of, and determining transportation conformity, for all transportation projects within the FNSB PM<sub>2.5</sub> nonattainment area and outlines the roles and responsibilities for the agencies. It includes discussion of the extent of FAST Planning's involvement in any specific project-level determination. Interagency consultation is used in all project-level conformity determinations and FAST Planning data may be valuable in hot-spot analyses, especially regarding regional transportation and traffic conditions and emissions.**

**As noted earlier, Alaska's Air Quality Regulations contained in 18 AAC 50.715 also cite federal transportation conformity interagency consultation requirements that also apply to project-level conformity.**

**The interagency consultation process will be the key means of ensuring emissions are properly calculated. The interagency consultation process will also be important in ensuring that appropriate analyses of project emission impacts are conducted. As always, conformity determinations will be subject to the applicable public review requirements required under regulation. This provides the public an opportunity to comment on the approach that is taken for the conformity determination for each plan, program and project.**

**The project sponsor is the agency responsible for implementing the project. Typically, the project sponsor is a local government, transit operator, or state department of transportation. The project sponsor is responsible for providing the PM<sub>2.5</sub> and/or PM<sub>10</sub> hot-spot analysis described in 40 C.F.R. § 93.123 or the approved conformity SIP. The interagency consultation process is critical to completing project-level conformity**

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<sup>12</sup> <http://fmats.us/wp-content/uploads/2012/08/MOU-for-FBX-Transportation-Conformity-PM-2-5-Final.pdf>

**determinations and PM<sub>2.5</sub> and PM<sub>10</sub> hot-spot analyses. The project sponsor, in cooperation with federal agencies, is also responsible for conducting the environmental analysis and review to comply with NEPA as required by the Council on Environmental Quality regulations (40 C.F.R. 1500-1508) and the FHWA/FTA Environmental Impact and Related Procedures (23 C.F.R. Part 771).**

**Analysis Guidance - EPA released updated guidance for the preparation of Quantitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas in 2021.<sup>13</sup> It provides guidance on estimating project level PM emissions using MOVES. It also provides guidance in selecting appropriate air quality models, determining background concentrations from nearby and other emission sources, calculating PM design values and preparing conformity determinations. These requirements should be addressed in the interagency consultation process, so that FAST Planning and the State can determine the support needed to:**

- **prepare MOVES-based emission estimates which reflect appropriate fleet characterization, activity and meteorological inputs and plug-in adjustments;**
- **access monitoring data available to characterize background concentrations; and**
- **specify meteorological conditions used in air quality modeling to assess conformity.**

### **7.14.1.3 General Conformity**

**The purpose of the General Conformity rule is to ensure that federal actions do not interfere with attainment or maintenance of the NAAQS. For projects requiring general conformity determinations, it is also important to consider the impacts of off-road motor vehicle emissions (e.g., idle emissions) in developing conformity determinations. General conformity requirements are given in 40 C.F.R. 93, Subpart B. Interagency consultation shall be used to determine whether off-network mobile source emissions are significant and what analysis of these emissions is appropriate for determining general conformity. An example of this type of project is an airport expansion. Federal actions not funded or approved under Title 23 or the Federal Transit Act should assess project emissions relative to de minimus thresholds established for PM<sub>2.5</sub> and precursor emissions and applicability requirements established in 40 C.F.R. § 93.153 to determine whether general conformity requirements apply.**

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<sup>13</sup> U.S. Environmental Protection Agency, “Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas”, EPA-420-B-21-037, October 2021, <https://www.epa.gov/state-and-local-transportation/project-level-conformity-and-hot-spot-analyses>