

EMISSION RESULTS – 2008 OZONE NAAQS MAINTENANCE PLAN UPDATE

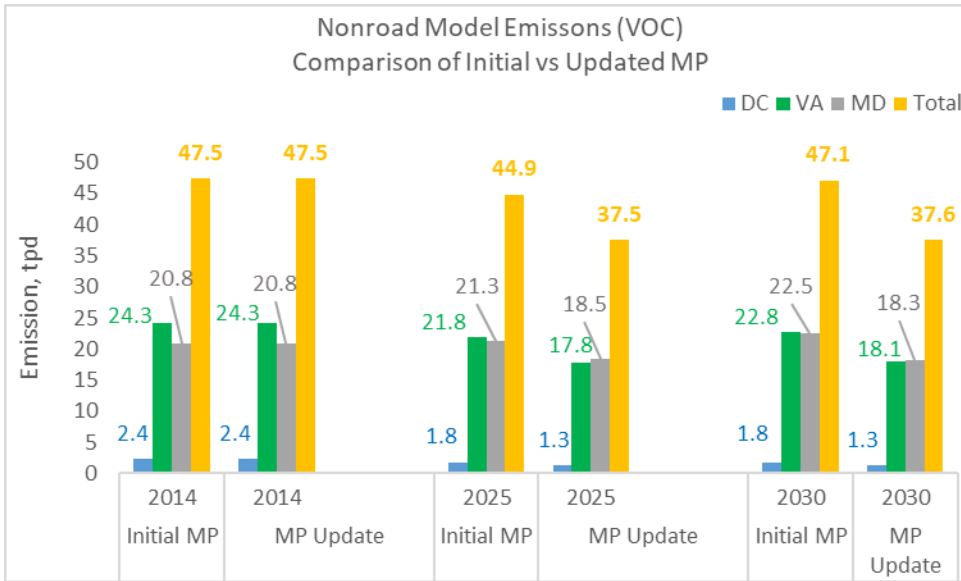
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MWAQC-Technical Advisory Committee
March 14, 2023

Introduction

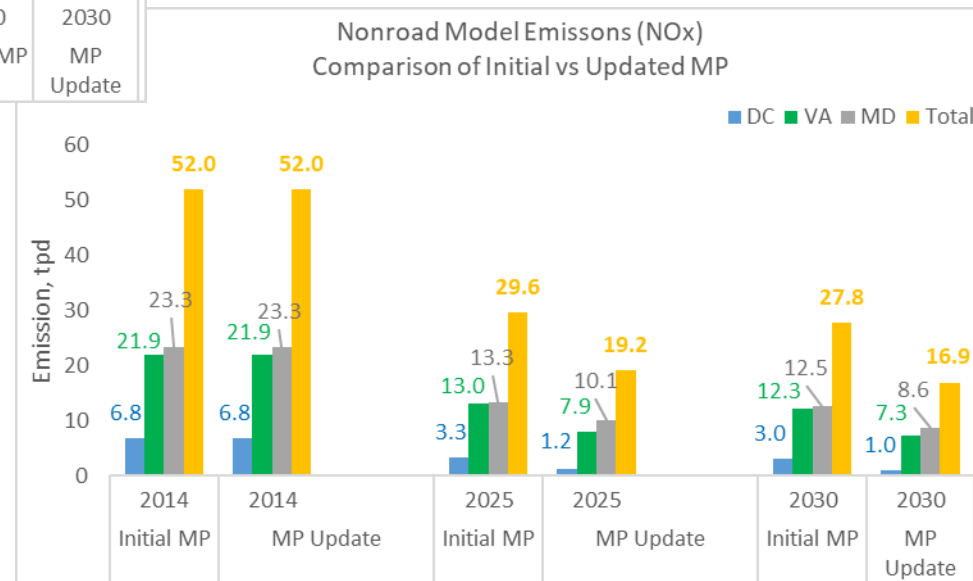
- As part of the analysis for updating the 2008 ozone NAAQS maintenance plan, MWAQC and TPB staff updated emissions inventories for nonroad model and onroad sources for 2025 and 2030. 2014 emissions were not updated.
- Both nonroad model and onroad emissions were developed using MOVES3.0.4.
- State air agencies and MWAQC staff developed different inputs required by MOVES3.0.4 nonroad model.
- State air agencies, MWAQC staff, and TPB staff developed different inputs required by MOVES3.0.4 onroad model.
- Above model inputs went through extensive QA/QC process before being finalized and included in model runs.

Comparison of Nonroad Model Emissions - Initial MP vs Updated MP

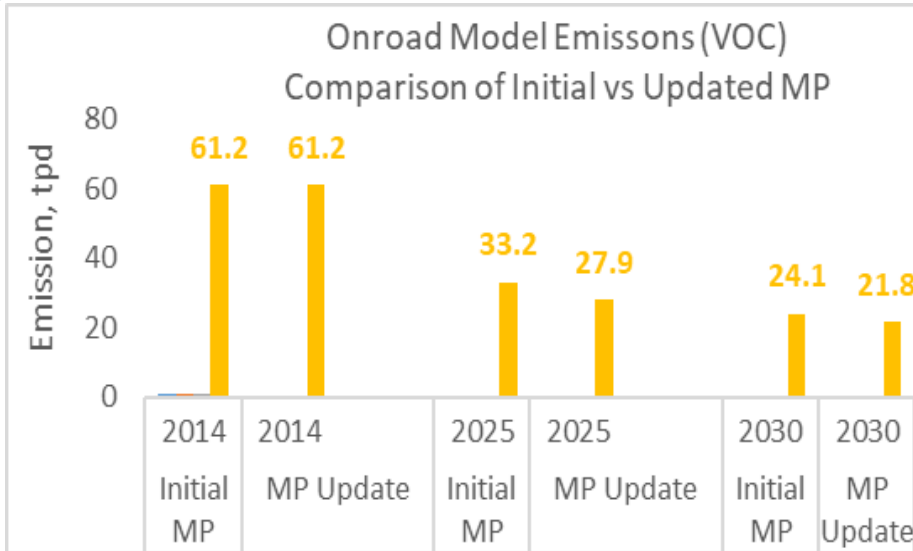


MOVES3 VOC emissions are lower (~16% in 2025, ~20% in 2030) compared to MOVES2014a emissions and are relatively flat in 2030.

MOVES3 NOx emissions are lower (~35% in 2025, ~39% in 2030) compared to MOVES2014a emissions and show sharper drop in 2030.

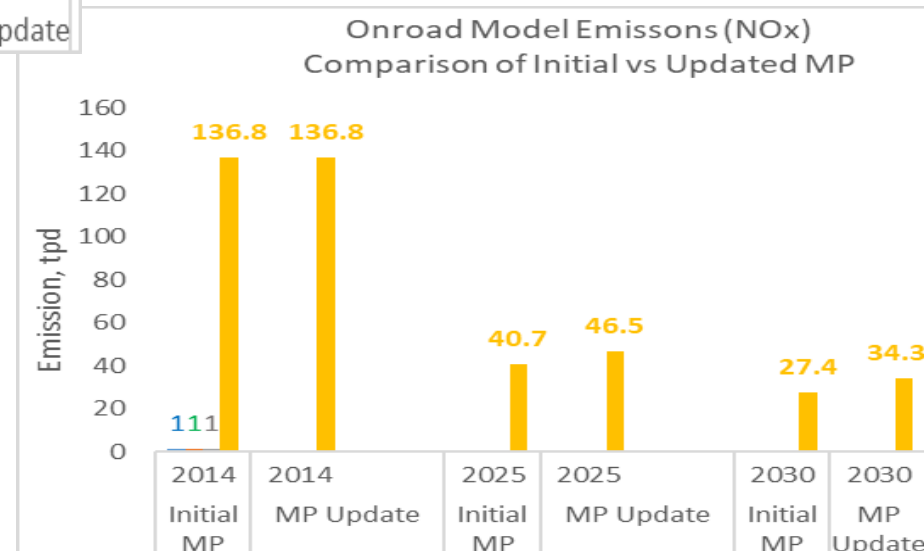


Comparison of Onroad Model Emissions - Initial MP vs Updated MP



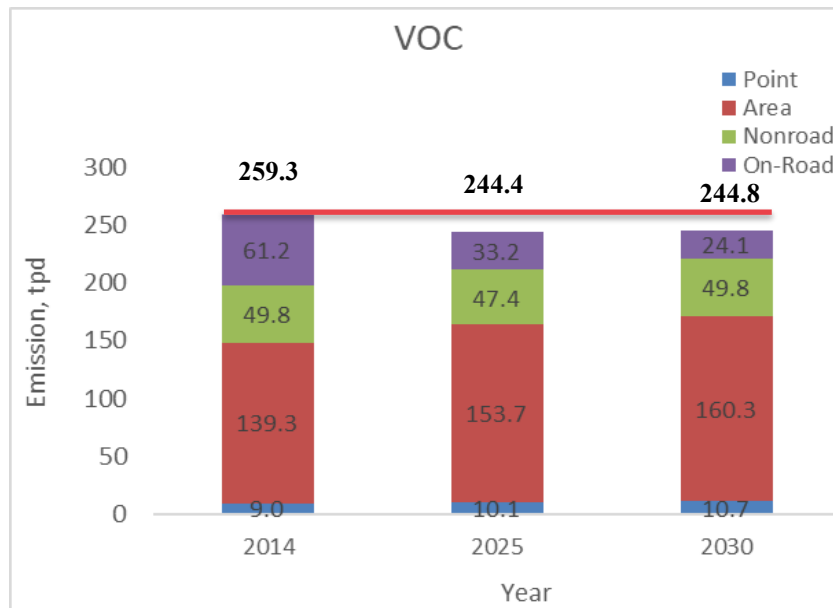
MOVES3 VOC emissions are lower (~16% in 2025, ~10% in 2030) compared to MOVES2014a emissions and show less steep drop in 2030.

MOVES3 NOx emissions are higher (~14% in 2025, ~25% in 2030) compared to MOVES2014a emissions and show less steep drop in 2030.

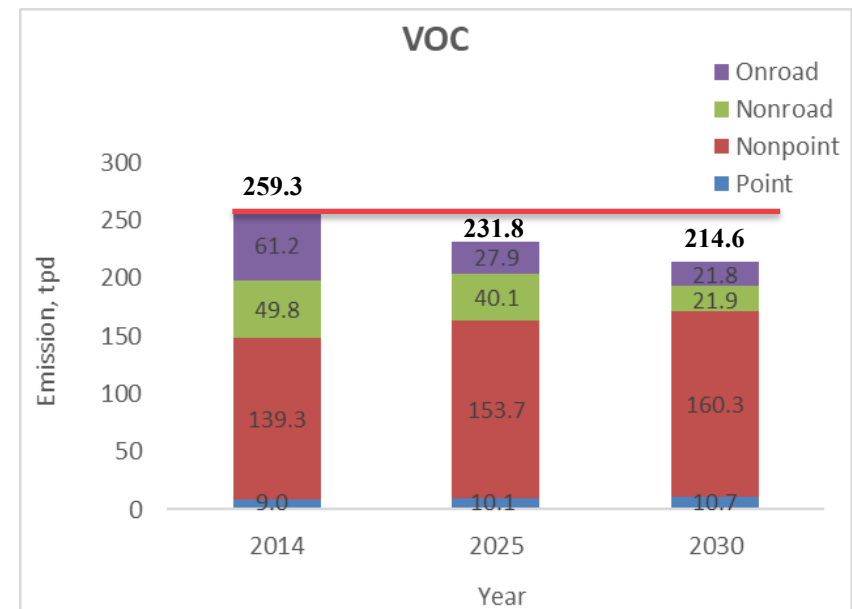


Comparison of Total VOC Emissions – Initial MP vs Updated MP

Initial MP



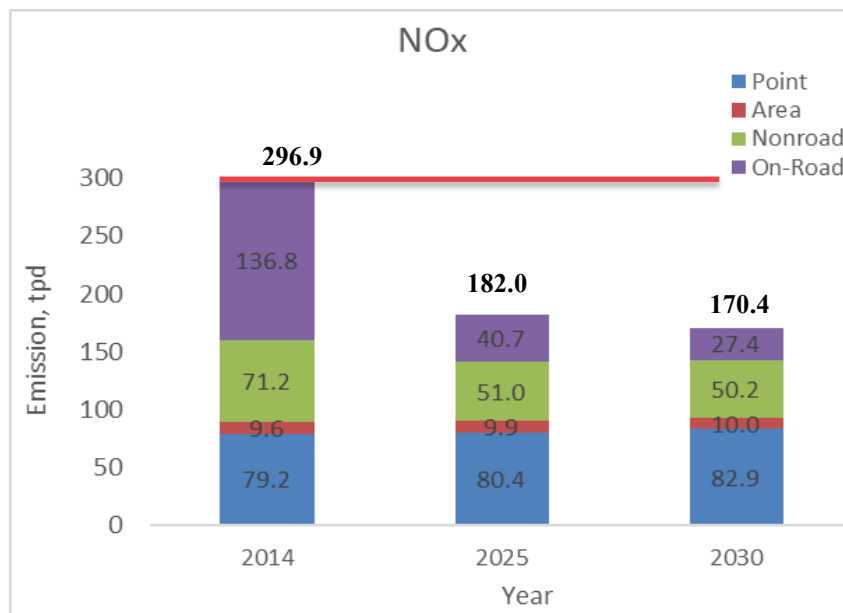
Updated MP



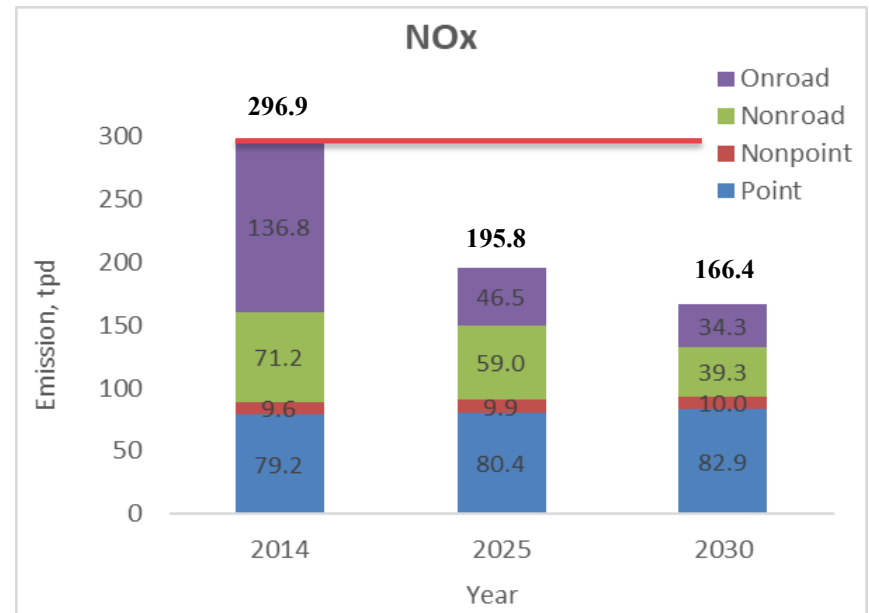
Updated VOC emissions in MP continue to stay below the maintenance level (Attainment Year 2014). Onroad and nonroad inventories were developed using MOVES3.0.4 for MP Update for 2025 and 2030. Rest other inventories were retained from the initial maintenance plan.

Comparison of Total NOx Emissions – Initial MP vs Updated MP

Initial MP



Updated MP



Updated NOx emissions in MP continue to stay below the maintenance level (Attainment Year 2014). Onroad and nonroad inventories were developed using MOVES3.0.4 for MP Update for 2025 and 2030. Rest other inventories were retained from the initial maintenance plan.

Conclusion

- MOVES3 nonroad VOC and NOx emissions are lower compared to MOVES2014a.
- While MOVES3 VOC emission stays relatively flat in 2030, MOVES3 NOX emission shows sharper drop in 2030 compared to MOVES2014a.
- While MOVES3 onroad VOC emissions are lower compared to MOVES2014a emissions, MOVES3 NOX emissions are higher.
- MOVES3 VOC and NOx emissions show less steep drop in 2030 compared to MOVES2014a.
- Updated 2025 and 2030 VOC and NOx emissions continue to stay below the maintenance level (Attainment Year 2014), which is one of the most important criteria for maintenance plan approval.