

GHG Webinar Q&A and Comments from the GHG Webinar Chat

January 24, 2023

- Question: Where can the tool be found?
- Answer: The GHG Calculator is located on the TPM Portal: <https://www.tpm-portal.com/tool/ghg-performance-calculator/>
- Question: For the trend analysis, do you use the 2022 FHWA-provided emissions factors for 2010 to 2021, or do you have historic emission factors?
- Answer: We use the emissions factors that were published by FHWA. We don't vary the factors by year.
- Question: Why are there not more parameters to control for population?
- Answer: The team used the parameters that were perceived to be of greatest interest. The issue with adding more parameters is that doing this may create issues with double counting. For instance, we wouldn't want some to change both overall VMT growth and population growth. One could enhance the tool to allow a user to either enter VMT growth or per capita VMT and population growth. This a good idea, but this wasn't what was implemented in the tool.
- Question: If we are planning for shifts to non-SOV, active mode, telework transit, which parameters should we adjust?
- Answer: You can change the percent of SOV travel to capture this shift. Another important parameter to be careful with is what percentage of auto VMT is represented by work trips. The best that we could find was a value of 2009 from an FHWA report. We have a link to the report. This is an important parameter, and we're not sure how much it changes over time. Likewise, to model a shift to EVs simply change the EV percent of fleet. Note where the tool allows for entering base year and future values you need to either enter a base year value or verify the default is reasonable to get a reasonable future prediction.
- Question: What are the differences between this version and the 2022 AASHTO tool draft? Just the inputs or any of the calculations.
- Answer: The formulas are the same, using 2022 numbers. For each of the other parameters, we attempted to find newer data, such as on vehicle occupancy. For the percent of VMT by vehicle type, we didn't find a new data point for the percent of auto VMT for work trips, but for the work trips, the mode numbers by state are also updated. We also added the new GHG measure. We had a base in future prediction, but we didn't show the percentage change, so we added that in, and then we tried to use the language in the final rule. In the draft, you'll see "baseline". This has been changed to "base year." The actual formulas are the same.
- Question: For target-setting purposes, should we set the analysis period to 3 years, as the target is set for CY2025?
- Answer: Yes, you should enter 3 years. That's a good point. We will adjust that in the default.
- Question: The tool allows overrides for state VMT defaults so that the tool can be used by MPOs. Can you identify and provide links to data sets to recommend for MPOs to use for this purpose?

- Answer: The VMT value are from HPMS, and if one has access to a state's HPMS data the should be able to establish VMT at the metropolitan level. The gasoline consumption is more challenging as this is specified at a state level. One approach is to prorate the gasoline consumption for the metropolitan area based on that metro area's share overall VMT. That would be a question for FHWA. Metropolitan-level data should also be available for parameters obtained from American Community Survey data.
- Question: Are EV percent stock or sales?
- Answer: It's stock, not sales. You need to estimate what percentage of the fleet will be EVs, not what percentage of sales are EVs.
- Question: What are the effects of new census data in the coming year? Will the sheet be updated? Do you have to download the updated sheet?
- Answer: It's for AASHTO to determine with what frequency the updates will occur. That is still to be determined.
- *Comment: In a future version would be helpful to have per capita VMT. [Note: enhancements to the tool will be discussed separately at a future time].*
- *Comment: In looking at the HPMS for those HPMS people out there, the report includes all public roads for facility types 1 and 2.*
- *Comment: The rule calls for apportioning out MPA and Urban Area emissions according to their share of the state VMT total.*
- Question: Do the emission factors match those in MOVES3?
- Answer: No. They match FHWA's, which are the same as the EIA's.
 - *Comment: The emissions factors do not match MOVES. There is confusion between FHWA, EIA, and EPA regarding how they got these numbers.*
 - *Comment: FHWA's CO2 emissions rates are taken from this EIA page: https://www.eia.gov/environment/emissions/co2_vol_mass.php*
 - *Comment: I do not believe that MOVES directly provides CO2 estimates of fuel blends, such as gasoline with blended ethanol.*
 - *Comment: That said, the EIA factors cited by FHWA treat biofuel blended into fuel blends as non-emissive, as does EPA in MOVES and its Inventories and Sinks Report.*
 - *Comment: The difference between gasoline and motor gasoline is not explained by EIA's ethanol percentage table.*
- Question: Can you speak to how this data may be modified for use by MPOs?
- Answer: The push has been the February 1 deadline for states. The MPO deadline is later. We are still anticipating more information to come out from FHWA regarding MPO reporting. This requires further discussion. We need to understand the issues and best approaches for taking this to statewide measure, and statewide data and trying to adapt it for an MPO.

- Question: Are any emissions captured or calculated for electricity needed for charging electric vehicles? Would this vary from state to state depending on their supply of fuel for electricity?
- Answer: In reality, electricity burns fossil fuels, and in a comprehensive analysis, one account for this. In the FHWA measure, that factor is not considered. We're just looking at greenhouse gas emissions caused by fuel consumption by vehicles consuming fuel. The tool doesn't look at it because we're following the logic of the rule.
- Question: If the state was included in the 21-state lawsuit and had their target setting date delayed to March 17, who would have sent a notification from USDOT?
- Answer: That is a question for USDOT or FHWA.
- Question: Would a modal shift from auto to bike/ped/transit simply be reflected here as a decrease in VMT, or how would you enter that into the tool?
- Answer: You should be careful to avoid double counting when considering mode shifts. So, ideally, you'd specify a VMT growth rate that excludes any mode shift and then enter the mode shift separately. Alternatively, you can specify an overall VMT growth rate that reflects any mode shift, and then not change the modal parameters.
- Question: I saw somewhere in one of the webinars that the reporting period starts January 1, 2022, with the end of the recording period being December 30, 2025.
- Answer: Yes.
- Question: How would one modify the sheet to look at hitting a 2025 GHG emissions reduction target when 2022 and 2023 emissions have already occurred?
- Answer: We're not trying to model exactly what's happening over time. We are calculating GHG in the base year and in a future year. However, it is important to consider this issue when specifying VMT growth.. If you enter annual VMT growth, it should account for the fact that 2023 has already happened.
- Question: Why only parameters for Work Trips?
- Answer: We don't have the modal information for anything other than work trips.
 - *Comment: It is the only travel data collected by ACS.*
- *Comment: 45-day postponement of target submission:*
<https://s3.documentcloud.org/documents/24370840/fhwa-motion-hearingq.pdf>
- Question: What's ACS? If HPMS is all trips, how do you know?
- Answer: The American Community Survey indicates shows work trips, so the parameter is the percent of the auto VMT there for work trips. Mode shifts are applied only to work trips but all trips are accounted for in the measure.
- Question: The GHG number should be decreasing, but I'm seeing the number is increasing. Can you please explain that?

- *Answer: FHWA's rule says that you have to set a target, and the target needs to go down. If you enter the defaults, VMT growth is going to dictate that the greenhouse gas emissions are going to go up. Anyone using the tool should look at actual patterns in their state.*
- *Comment: I believe that EIA ethanol shares are expressed on an energy rather than volumetric basis. Since ethanol has a significantly lower energy content than gasoline, the EIA values could translate into higher volumetric shares. [Additional verbal clarification: They are finished motor gasoline value that includes blended ethanol. And that there's a difference between that, that volume and essentially the, and the value that's cited for, you know, gasoline that would have no ethanol blended and the sort of it is I believe that number makes sense, because you know the amount of ethanol in you know that's commonly blended into gasoline now is close to 10% on a volumetric basis. It would be much lower on an energy basis. Ethanol has a lower energy content than gasoline].*
- *Comment: Given that base year is 2022 - it stands to reason that for the first several years, at least the GHG will increase given the shift to work from home during '22.*
- *Comment: The EIA table looks at Ethanol as the percentage of motor fuel, which has an average of 4%. I need to dig deeper.*
- *Comment: VMT per capita removes a significant problem for MPOs. MPOs will absolutely know the population for their planning area.*
- *Comment: The values cited on EIA's methodology page are expressed on an energy rather than a volumetric basis. <https://www.eia.gov/environment/emissions/includes/methodology.php>*
- *Comment: Corresponding volumetric estimates would be significantly higher.*
- *Question: Is there a user manual and backup documentation for this tool on the TPM portal?*
- *Yes, there is a user manual and technical documentation at <https://www.tpm-portal.com/tool/ghg-performance-calculator/>*