Implementation of Vehicle Miles Traveled Targets and Supporting Actions – Interim Report

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Background

The Legislature directed WSDOT in the 2023-25 Transportation Budget, ESHB 1125, Section 219 (1) to partner with the Department of Commerce and Regional Transportation Planning Organizations to:

- Implement vehicle miles traveled (VMT) targets.
- Implement actions that support the targets.
- Consider land use patterns, safety, and vulnerable populations.

WSDOTs current VMT reduction efforts build off the recommendations in the June 2023 Vehicle Miles Traveled (VMT) Targets – Final Report[1] related to developing a process for establishing local VMT reduction targets, recommending a suite of options for jurisdictions to achieve those targets, recommending changes to laws and rules to support reduction in VMT, and to identify funding requirements for state and local jurisdictions to establish local VMT reduction targets.

The Legislature invested $750,000 in this work.

WSDOT's Approach

Most of the funding provided for this work is being passed through from WSDOT to Regional Transportation Planning Organizations (RTPOs) as an initial investment on upgrading their travel models to add VMT sensitivity in service of future target setting in regional transportation plans. Most models are not sensitive to changes that can affect VMT—e.g., land use changes. The long-standing practice of calibrating and validating models focuses on the model's ability to replicate traffic counts, overall mode shares, and transit ridership, often at a relatively coarse geographic scale. This level of validation is completely adequate for typical model applications of determining whether demand on a highway is expected to increase over time, the air quality implications of a new subdivision, or the transit ridership changes that could result from major expansion of bus service. However, most models are not yet calibrated and validated against VMT data or the latest research on how different land use, transportation, and policy changes affect per capita VMT. The intent of updating models with a focus on VMT is partially to improve consistency across different tools.

The remainder of the funding is being used to augment WSDOTs own modeling efforts on VisionEval, a tool for strategic planning. Future work will support VMT and GHG reduction efforts and other statewide plans, as well as exploring the opportunities to use VisionEval modeled outputs combined with other information to evaluate equity related to the implementation of transportation related policies and strategies. WSDOT continues to partner with the Department of Commerce on providing guidance to local jurisdictions on strategies to reduce per capita VMT—e.g., incorporating Complete Streets into comprehensive plans.

[1] Washington State Department of Transportation. (2023). Vehicle Miles Traveled (VMT) Targets—Final Report. Retrieved from https://wsdot.wa.gov/sites/default/files/2023-06/VMT-Targets-Final-Report-June2023.pdf Retrieved on May 30, 2024.

Consideration of Land Use Patterns, Safety, and Vulnerable Populations

WSDOT is developing transportation efficient location maps. The maps identify areas of the state that represent a range of land use types based on people and job density, the pedestrian environment, and job clusters. The maps are intended to be used along with the Health Disparities Map and crash data to identify appropriate investments that improve safety and reduce VMT.

Washington Meets 2020 Target for Per Capita Vehicle Miles Traveled but More Reductions are Needed

Washington has achieved the 2020 target for statewide per capita vehicle miles traveled (VMT) reductions set in 2008 (RCW 47.01.440),[2] with an 18% reduction from 75 billion miles annually less the miles of heavy-duty vehicles. Future goals for 2035 and 2050 are for 30% and 50% reductions respectively. Washington is currently number one in the country in per capita VMT reduction and the fourth state overall in lowest per capita VMT behind New York, Rhode Island, and Hawaii.[3]

Washington's progress in per capita VMT reduction is a testament to the good work being done across the state by cities, counties, regional transportation planning organizations, transit agencies, and state agencies that have focused efforts on transportation efficient development, transit, active modes, and demand and system management, as well as successful programs that engage with business such as Commute Trip Reduction. Nonetheless, more needs to be done. Analysis conducted by WSDOT for the 2023 Transportation Carbon Reduction Strategy demonstrates that electrification alone will not empower the state to meet its 2050 greenhouse gas reduction targets and that further reductions in VMT, commensurate with existing state targets, are also necessary.

While population continues to grow, per capita VMT has remained relatively flat. This can be viewed as an achievement due to the programs in place that have kept VMT lower than it would otherwise be. During the pandemic, per capita VMT dropped below the state target for the first time. While per capita VMT has climbed since, the most recent available data shows that Washington is stabilizing still below the state goal.

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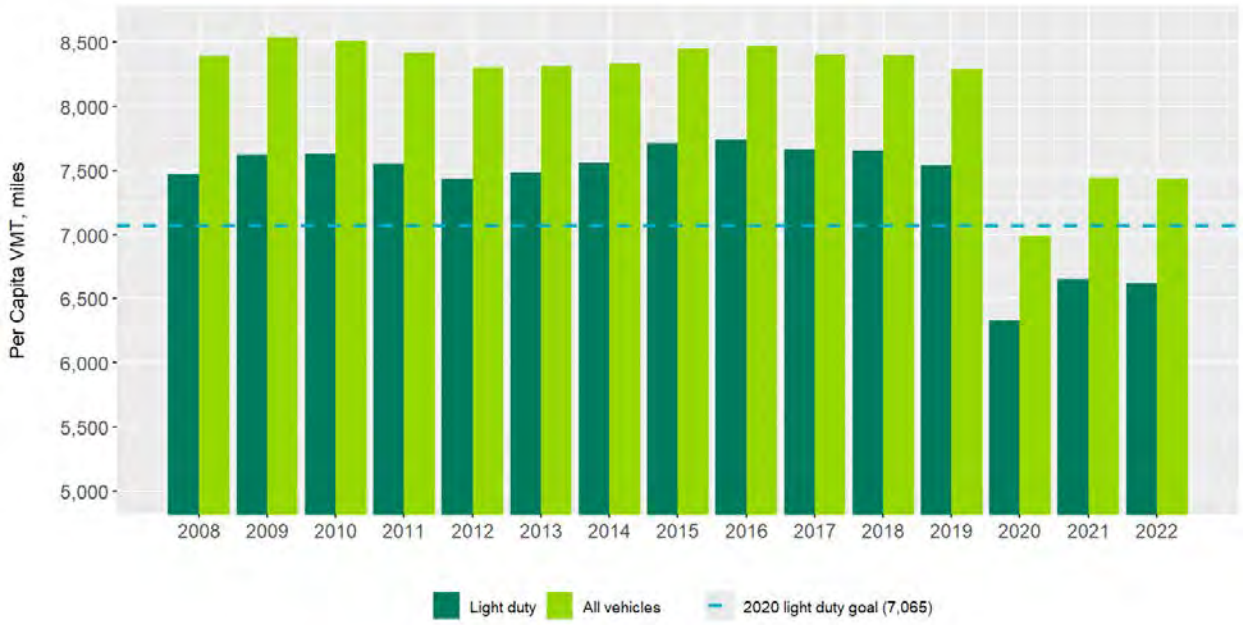
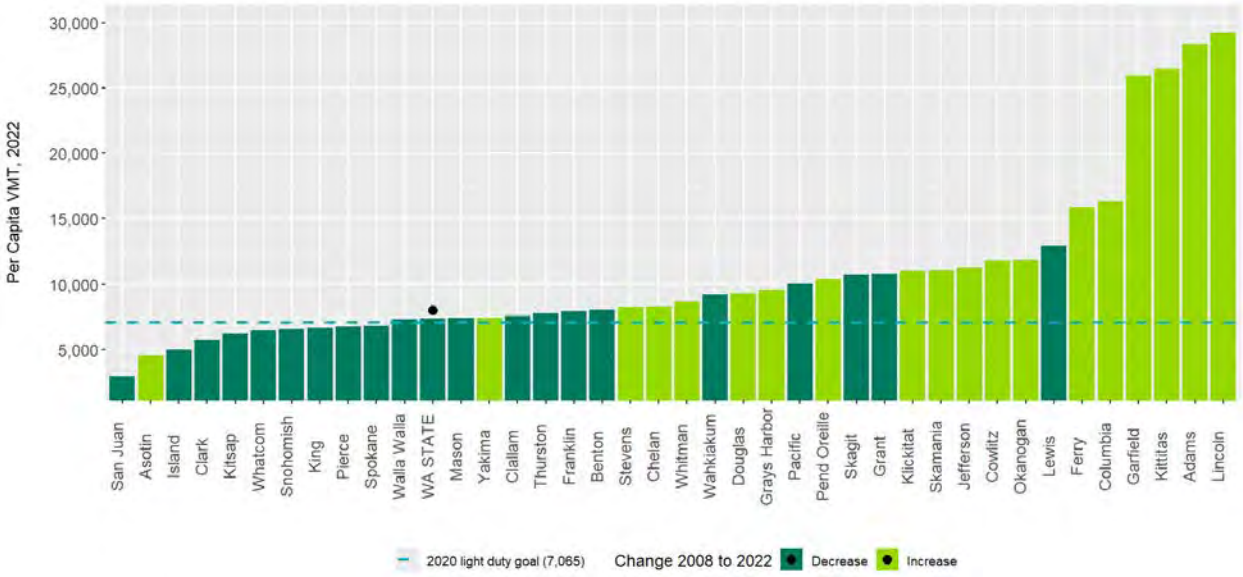
[2] RCW 40.01.440. (2008). Adoption of statewide goals to reduce annual per capita vehicle miles traveled by 2050—Department's duties—Reports to the legislature. Retrieved from https://apps.leg.wa.gov/rcw/default.aspx?cite=47.01.440 on May 30, 2024.

[3] Frontier group. (2023). Less driving is possible. Retrieved from https://frontiergroup.org/resources/where-people-drive-less-than-they-used-to/#:~:text=By%202021%2C%20per%20capita%20VMT,in%202021%20compared%20to%201996 on May 30, 2024.



There is no law establishing per capita VMT reduction targets at the local level. A comparison can be made between county figures and the state target. There are several counties that were below the state target prior to the pandemic and a few new ones added since. In general, these are the places with a focus on transportation efficient development patterns, mature or maturing transit systems, and investments in active transportation modes. Similarly, considering change over time, the counties with maturing transit systems witness a decrease in per capita VMT over time while counties with more dispersed land use patterns, where fixed-route transit systems are less viable, saw an increase in per capita VMT.



Notably, the counties with the highest per capita VMT generally have small populations and low total VMT. For example, Lincoln County, which has the highest per capita VMT in the state at nearly

30,000 annual miles per person, only has slightly over 11,000 residents.[4,5] WSDOT is currently developing guidance and success stories in per capita VMT reduction strategies for rural locations. The greatest potential for further reductions is in urban areas where activities are in proximity and transit and active mode facilities are present, and where per capita VMT reductions generate larger overall VMT reductions.

WSDOT Reports Per Capita Vehicle Miles Traveled Data for Cities

Information on per capita VMT by city and for parts of cities (e.g., census block groups) enables jurisdictions to choose strategies that would best respond to the needs of people who live and work within those locations. For example, higher employee VMT might suggest a need to focus on Commute Trip Reduction programs. Understanding VMT patterns at the local level informs summaries of feasible reduction for regions and regional target setting efforts. With the passage of Engrossed Second Substitute House Bill 1181 (2023), WSDOT is now required to provide per capita VMT data by city.[6] Utilizing Highway Performance Monitoring System (HPMS) data by roadway facility ownership, WSDOT is reporting on VMT on city owned facilities for each jurisdiction.[7] There are different types of VMT data. The HPMS data counts all movements through an area regardless of where they start or stop. WSDOT is also providing data compiled by Fehr and Peers.[8] The Fehr and Peers data includes the ten counties included in the past VMT reduction proviso effort detailed in the 2023 report[9] by census block group. This data includes the per capita VMT of both (1) people living in a place, and (2) people working in a location.

Work is still needed to refine the data sources for city-level VMT. As an example, the City of Ridgefield in Clark County has the lowest HPMS based per capita VMT in the state. Most of the travel in Ridgefield funnels to State Route 501 and eventually to I-5, both of which are not city owned facilities. At the same time, the home based daily VMT is 30 miles, so people who live in Ridgefield must travel relatively long distances for their daily needs.

Alternatively, the City of Tukwila in King County has the highest per capita VMT on city owned streets, but the home based VMT is half that of the City of Ridgefield. Tukwila has high volumes on the interstate system and state routes and considerable employment and retail activity which

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[4] Office of Financial Management. (2024). April 1 official population estimates. Retrieved from https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates/april-1-official-population-estimates on May 30, 2024.

[5] Washington State Department of Transportation (2024). Annual mileage and travel information. Retrieved from https://wsdot.wa.gov/about/transportation-data/travel-data/annual-mileage-and-travel-information on May 30, 2024.

[6] Washington State Legislature. (2023). Engross Substitute House Bill 1181. Retrieved from https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/House/1181-S2.SL.pdf?q=20230511124501 on May 30, 2024.

[7] Washington State Department of Transportation (2024). Annual mileage and travel information. Retrieved from https://wsdot.wa.gov/about/transportation-data/travel-data/annual-mileage-and-travel-information on May 30, 2024.

[8] Fehr and Peers. (2024). VMT Explorer. Retrieved from https://experience.arcgis.com/experience/4e550acdf5034807b9ebfbedd59fe4e4 on May 30, 2024.

[9] Washington State Department of Transportation. (2023). Vehicle Miles Traveled (VMT) Targets—Final Report. Retrieved from https://wsdot.wa.gov/sites/default/files/2023-06/VMT-Targets-Final-Report-June2023.pdf on May 30, 2024.

creates the need to use local facilities. Having both types of VMT data is necessary in selecting the optimal strategies to further reduce per capita VMT.

WSDOT Invests in VMT Modeling and Demonstration Projects to Track Progress Toward Targets and Advance VMT Reduction Goals

VMT modeling is a key element of establishing VMT targets because modeling provides information about the relative benefits of different investments, the range of potential possible reductions, and the likelihood of meeting future reduction goals. WSDOT is using VisionEval to model various transportation funding scenarios explored in the Highway System Plan. The results have helped us understand how these investment scenarios affect related changes in VMT and GHG emissions. This effort included completing an iterative testing and data refinement process with over 100 model runs, developing custom inputs for Washington state, and working with FHWA and the Volpe Center to resolve technical and input data issues.[10] WSDOT continues to work on developing customized data query, summarization, comparison, and visualization tools to strengthen our VMT and GHG analysis practices. Over the next three years WSDOT is investing $75,000 to support further development and enhancement of the modeling tool through a pooled fund study, leveraging resources from other states also interested in advancing this work.

Funding the legislature provided in the 2023-25 Transportation Budget has allowed WSDOT to collaborate with regional partners to make an initial investment in refining modeling tools available to Regional Transportation Planning Organizations ($138,000 each to five RTPOs). The six RTPOs that represent the ten most populous and fast-growing counties are all advancing VMT reduction strategies. The Puget Sound Regional Council (King, Kitsap, Pierce, and Snohomish counties) already has robust modeling in place and serves in an advisory role while not receiving funding directly. RTPOs representing Clark, Spokane, Thurston, and Whatcom counties are all refining their models to increase capabilities for future local per capita VMT reduction target setting in their regional transportation plans. Combined, the total possible reductions through these regional efforts represent the best opportunity for lowering per capita VMT statewide and understanding the magnitude of the reduction will inform what, if any, further actions will be needed beyond these plans. The Benton-Franklin Council of Governments is investing in demonstration projects to show the benefit of VMT reduction strategies, especially via bicycle facilities.

What's Next?

WSDOT will continue to collaborate with RTPOs on their model improvements. To the extent feasible with this round of model updates, an estimate will be made of the potential VMT reductions still needed outside of the ten most populous and fast-growing counties to meet future state per capita VMT reduction goals. WSDOT will also finish development of transportation efficient location mapping and continue development and sharing of guidance and training materials related to VMT reduction strategies and transportation efficiency.

[10] Washington State Department of Transportation. (2024). Highway System Plan. Retrieved from https://wsdot.wa.gov/construction-planning/statewide-plans/highway-system-plan on June 5, 2024.