

TECHNICAL MEMORANDUM

To: Eric Womeldorff
Meredith Milam
Mike Wallace

From: Lauren Buford
Katie Wagner, PE, PTOE

Date: June 6, 2025

Subject: Vehicle Miles Travelled in Montgomery County

Executive Summary

Vehicle Miles Traveled (VMT) offers Montgomery County a modern, comprehensive metric for understanding the transportation and land use impacts of development. Unlike traditional measures such as Level of Service (LOS), which focus narrowly on traffic flow and delay for drivers, VMT captures the broader effects of travel behavior, including accessibility and infrastructure sustainability.

VMT is a forward-looking planning tool that aligns with Montgomery County's climate, equity, and multimodal transportation goals. By tracking the amount of driving generated by land use decisions, VMT supports smarter, more efficient development patterns. Jurisdictions that have adopted VMT metrics, such as those in California under SB 743, have shown that shifting away from LOS enables policies that prioritize infill development, reduce car dependency, and invest in walking, biking, and transit infrastructure. Key benefits of using VMT include the following:

- **Sustainability:** VMT directly correlates with fuel consumption and emissions, making it a powerful tool for measuring and reducing the County's carbon footprint.
- **Safety:** Reducing VMT decreases vehicle exposure, which can lower collision rates and support safer environments, especially for vulnerable road users.
- **Efficiency and Cost Savings:** VMT-based screening and mitigation tools can streamline the development review process, reducing analysis costs for both agencies and developers.
- **Policy Integration:** VMT supports a shift in mitigation strategies toward investments in multimodal infrastructure and Transportation Demand Management (TDM), improving overall system efficiency and livability.

Montgomery County's flexibility to adopt VMT without a state mandate presents a unique opportunity to design a process that reflects local values. Implementing VMT gradually through pilot projects, tailored thresholds, and stakeholder engagement will ensure a thoughtful transition that enhances the County's regulatory framework. Over time, embedding VMT into Adequate Public Facilities (APF) review, TDM policies, and Impact Tax structures will help Montgomery County continue to lead in equitable, climate-conscious planning.

Introduction

This memo analyzes how VMT can be integrated into Montgomery County's transportation planning and regulatory processes. As a metric, VMT shifts the focus away from vehicular traffic efficiency towards a more holistic view of transportation's environmental and social impacts. Implementing VMT would help the County prioritize investments in transit, bicycle, and pedestrian infrastructure, aligning with broader sustainability and climate goals. The following sections discuss how VMT can be

incorporated into Adequate Public Facilities (APF), TDM, and Impact Taxes while highlighting potential trade-offs and implementation strategies.

Adequate Public Facilities

Adequate Public Facilities (APF) regulations, as defined in the 2024-2028 Growth and Infrastructure Policy (GIP), currently assess adequacy based on trip generation of a proposed development. The trip generation of a development project is the metric used to determine the study area and to determine if the adequacy threshold is met. These metrics consider vehicular congestion through HCM Delay Standards and Critical Lane Volume (CLV) measures, except in Red Policy Areas where vehicular analysis is not required.

To incorporate VMT, adequacy study areas could be determined based on VMT per trip rather than trip generation alone. A project with high VMT per trip would have a more extensive impact area and should thus be required to conduct a broader analysis.

Additionally, VMT standards can be set by Policy Area, much like the existing HCM Average Vehicle Delay Standards. Since land use patterns influence travel behavior, along with the availability of transit and other alternative modes, thresholds should vary by Policy Area. For instance, a higher VMT in a transit-rich Red Policy Area may be more detrimental than the same VMT in a Green Policy Area with lower transit accessibility.

A caveat to this approach is the fact that the higher VMT and lower VMT projects with same overall trip generation likely have the same impact at localized intersections that would be required to be studied. The real impact of a reduced VMT is observed beyond the limits of a prescribed study area.

Recommendations:

- Determine APF study areas using VMT per trip rather than trip generation thresholds.
- Establish VMT-based adequacy standards by Policy Area to account for varying land use and transit availability.
- Adjust mitigation requirements for projects exceeding VMT thresholds, emphasizing non-vehicular infrastructure investments.
- Develop a new GIS database tracking every application's VMT, calculated with the VMT tool and mapped with the project's name and location, similar to the DAIC database map. The County could begin tracking how VMT is changing through development in the coming years. This is a long range effort, but could provide valuable insight into changes for 2028-2032 GIP and beyond. This could be done for every project whether it requires a LATR or not. This would allow for a better understanding of VMT with development projects in the County.

Transportation Demand Management

Currently, Montgomery County requires TDM Plans for employers with over 25 employees in designated Transportation Management Districts (TMDs) and development depending on their policy area classification. These plans encourage non-single-occupancy vehicle (SOV) commuting and help mitigate transportation impacts.

Expanding TDM requirements based on VMT impact would enhance its effectiveness. A broader application of TDM policies, including residential and commercial developments, could further incentivize developers to incorporate strategies such as improved pedestrian access, subsidized transit passes, and enhanced micromobility options.

Moreover, to integrate TDM with VMT analysis, site design elements influencing travel behavior (e.g., parking supply, mixed-use components) must be evaluated earlier in the development process. Currently, such considerations occur post-APF review, limiting their ability to affect project-level VMT mitigation.

In the long term, Montgomery County should explore replacing or augmenting existing Non-Auto Driver Mode Share (NADMS) goals with VMT-based metrics to provide a more accurate and outcome-oriented measure of travel behavior. VMT offers a clearer link between land use, mode choice, and environmental impact, and may serve as a more effective tool for tracking progress toward sustainability and mobility goals.

Recommendations:

- Expand TDM requirements to include residential and commercial developments beyond existing TMD boundaries. TDM requirements could be based on VMT thresholds. This will require modifications to Montgomery County Code – Chapter 42A specifically addressing TDM requirements.
- Establish a framework where additional TDM measures can reduce VMT obligations or have a percentage in VMT reduction. Montgomery County should begin developing a structured framework that quantifies the VMT reduction potential of specific TDM strategies and allows developers to select from a menu of options to meet mitigation targets. This framework could operate as a **point-based or tiered system**, assigning values to individual measures based on their proven effectiveness in reducing vehicle trips and overall travel distance. As a starting point, the County can draw from the **California Air Pollution Control Officers Association (CAPCOA) Handbook**, which offers quantifiable VMT reduction estimates for over 30 TDM strategies.
- Require site design elements related to TDM in the Preliminary Plan when APF is determined to allow accurate VMT calculations and appropriate mitigation.
- The TDM requirements for development applications could be tracked in the VMT database recommended above. The County could create a menu of TDM measures with VMT reduction percentages in mind. This will require modifications to Montgomery County Code – Chapter 42A specifically addressing TDM requirements.

Impact Taxes

Impact Taxes in Montgomery County are currently based on project size and Policy Area designations. These taxes fund infrastructure improvements to support anticipated travel demand.

Incorporating VMT into the Impact Tax framework would create a direct financial incentive for reducing auto dependence. Though Policy Area Designations are already rough proxies for VMT, using VMT directly would yield more accurate results. VMT may also provide the opportunity to reduce the need for color designations related to impact taxes and other County policies. Projects demonstrating lower VMT or demonstrating a reduction in VMT through TDM or other methods could qualify for tax reductions, as their reduced vehicular impact lessens the need for extensive roadway improvements. However, care must be taken to ensure that projects benefiting from VMT-based reductions contribute to necessary infrastructure enhancements, such as transit and pedestrian facilities.

Additionally, projects achieving low VMT through prior infrastructure investments should not be disproportionately penalized. A nuanced approach is necessary to differentiate between inherently low-VMT land use patterns and those requiring substantial mitigation efforts.

It should be noted that the County is currently evaluating Impact Taxes as a whole with a workgroup recently approved by Council. The outcome of the Infrastructure Funding Workgroup could influence Impact Taxes as a whole in the County.

Recommendations:

- Consider incorporating VMT into impact tax calculations for development projects.
- Ensure that low-VMT developments are not unduly burdened while maintaining sufficient funding for mobility improvements.

Next Steps for VMT in Montgomery County

Montgomery County is well-positioned to integrate VMT into its transportation and development review processes, not as a replacement for existing methods, but as a complementary tool to broaden the lens of analysis. The following next steps are designed to guide early implementation, build stakeholder understanding, and prepare for long-term policy alignment:

- Finalize and Calibrate the VMT Tool
 - Complete development of the County's GIS-based VMT tool using local data and models. Ensure it supports key metrics and reflects Montgomery County's land use and trip patterns as the tool is tested on development review projects. Continue to monitor and examine the number and type of land uses in the tool.
 - The tool is based on datasets that may change or be refined over time. It is recommended that the following updates be implemented periodically:
 - The latest version of trip generation rates for the land use codes from ITE.
 - Policy Areas and associated reduction factors that account for geographically specific factors that are not accounted for in ITE trip generation rates. TDM and other factors are currently combined into the Policy Area factors. If specific reduction factors are desired, they should be estimated individually for context and either combined externally to reflect the net impact for each policy area, or the VMT tool would need to be updated to account for individual factors rather than the current composite factor. These reduction factors include the following:
 - Trip distances
 - Existing values could be based on a calibrated and validated regional model or big data such as Replica.
 - Future values could be based on the travel demand model.
 - It is recommended that a single source (either existing only or the model only) be used so there are not discrepancies between data source that result in differences in methodology.
 - Land use context
 - Existing conditions can be based on the calibrated and validated travel demand or data sources such as Data-Axle or Costar.
 - Future development can be based on the travel demand model.
 - It is recommended that a single source (either existing only or the model only) be used so there are not discrepancies between data source that result in differences in methodology.
- Launch pilot projects to evaluate VMT implementation.
 - Select a range of development proposals across different Policy Areas to test VMT metrics, thresholds, and mitigation approaches. Pilots will help refine technical methods and build real-world evidence on how VMT affects decisions. By beginning to collect VMT data now, it will allow the County to establish baselines and inform updates to the Growth and Infrastructure Policy (2028–2032).
- Establish Draft Thresholds and Screening Criteria
 - Propose preliminary VMT thresholds by land use type and Policy Area, and implement a screening framework for low-VMT areas or projects with robust TDM features. Require VMT analysis, baseline TDM plans, and on-site mitigation strategies for larger developments—even those that do not trigger traditional

- trip-based reviews. This is especially relevant for office-to-residential conversions, which may significantly shift travel patterns but fall below existing trip thresholds requiring an APF review.
- Prepare for 2028-2032 Growth and Infrastructure Policy update.
 - Explore modifications to Montgomery County Code – Chapter 42A to support the integration of VMT as a core transportation impact metric. Review amendments to TDM requirements to tie directly to VMT thresholds, enabling TDM strategies to serve as quantifiable VMT mitigation measures. Plan for the update to the Adequate Public Facility (APF) review procedures to allow VMT-based criteria to influence the scope of analysis and mitigation, aligning infrastructure adequacy with long-range climate and mobility objectives.
 - Explore using VMT as a metric used to determine transportation impact taxes
 - Emphasize stakeholder engagement and change management.
 - Given the number of changes to APF and transportation policy in the last eight years, strong change management is essential. Engage developers, municipalities, agency partners (including SHA), and the public early and often to explain goals, gather feedback, and ensure transparency.
 - Incorporate VMT into the long-range Master Plan process as a planning and performance metric.
 - This would involve tracking VMT across Policy Areas over time and using that data to inform land use, infrastructure investment, and policy priorities. Master Plans could establish VMT targets tailored to local context and development typologies, supporting a shift toward location-efficient growth. Replacing NADMS with VMT in this context would simplify the County's performance framework, offer a more comprehensive view of travel behavior, and ensure better alignment with sustainability outcomes. The County should also evaluate where NADMS goals have historically been effective or insufficient and how VMT could better support future planning needs.
 - Explore other local and state processes for VMT integration.
 - Beyond development review, assess whether VMT could inform infrastructure prioritization, environmental reviews, housing or economic development programs, or other State-led planning initiatives.

As described above, near-term actions include finalizing the GIS-based VMT tool and launching pilot projects. These efforts will help to establish draft thresholds, which may then be tested across Policy Areas. The finalized VMT tools and policies will inform updates to the 2028–2032 Growth and Infrastructure Policy and potential amendments to Chapter 42A of the County Code, aligning TDM requirements with VMT-based mitigation. Long-term, VMT can serve as a planning and performance metric in Master Plans, supporting sustainability goals and replacing NADMS where appropriate. Ongoing stakeholder engagement will be key to successful implementation. See the graphic below for a summary of the phased implementation strategy.

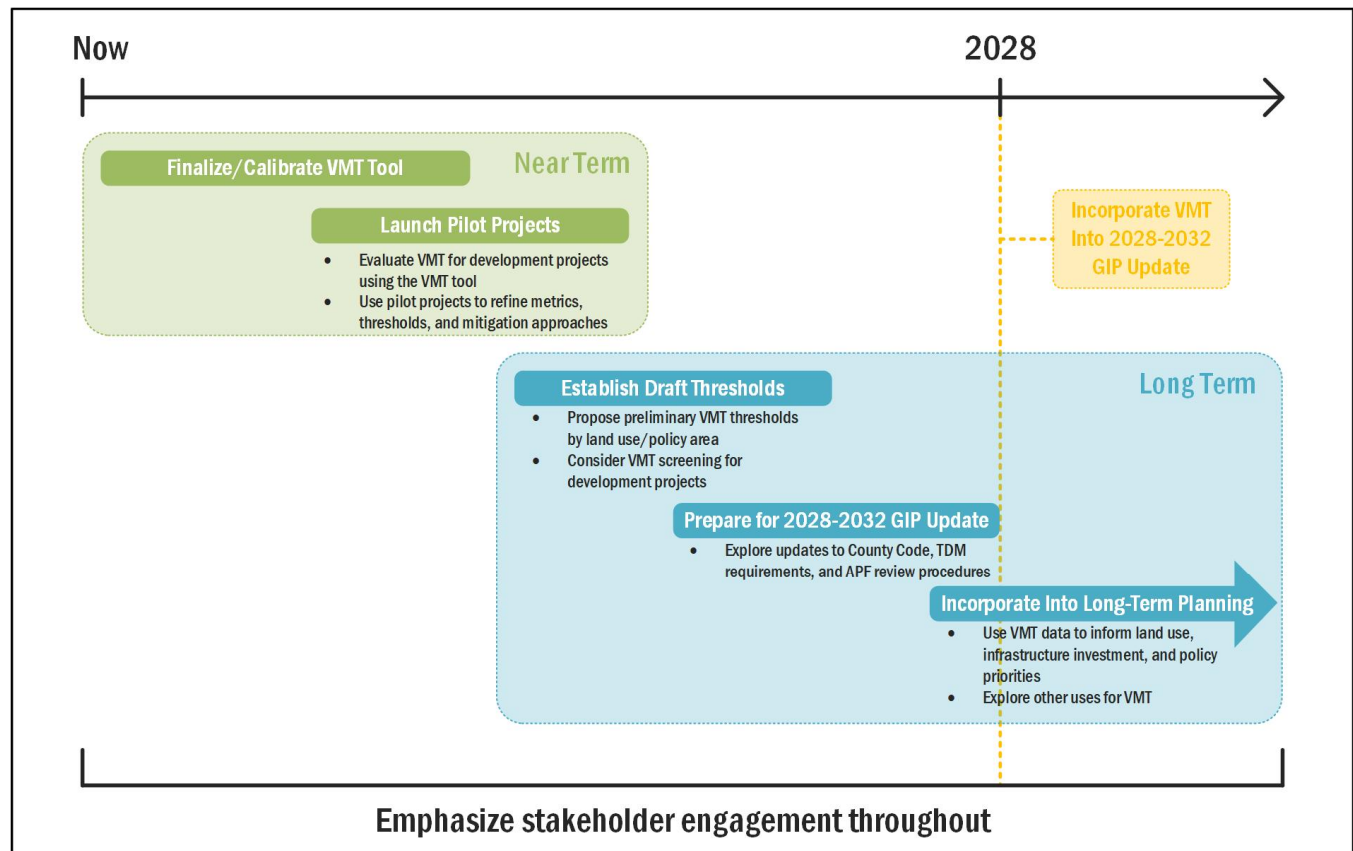


Figure 1: Phased Implementation Timeline

Conclusion

Incorporating VMT into Montgomery County's planning and regulatory frameworks presents an opportunity to align transportation policies with broader sustainability goals. Doing so would require adjustments in APF review criteria, TDM expansion, and Impact Tax structures. Moreover, shifting VMT considerations to earlier in the entitlement process will allow for more effective mitigation strategies and a clearer assessment of a project's true transportation impact.

By adopting these recommendations, Montgomery County can take a leadership role in reducing car dependency, enhancing multimodal transportation options, and fostering more sustainable development patterns. Further stakeholder engagement, technical analysis, and phased implementation strategies will be essential to ensuring a smooth transition toward a VMT-based approach.