Spokane Regional Transportation Council

REGIONAL VEHICLE MILES TRAVELED REDUCTION FRAMEWORK PLAN

Adopted by the SRTC Board of Directors 01/08/2026

RESOLUTION

of the BOARD OF DIRECTORS of the

SPOKANE REGIONAL TRANSPORTATION COUNCIL

R-26-03

ADOPTING THE VEHICLE MILES TRAVELED FRAMEWORK AND COMPREHENSIVE PLAN CERTIFICATION PROCESS UPDATE

WHEREAS, the Spokane Regional Transportation Council (SRTC) Board of Directors serves as the Metropolitan Planning Organization (MPO) for the Spokane Metropolitan Planning Area (SMPA) and as the Regional Transportation Planning Organization (RTPO) for Spokane County; and

WHEREAS, SRTC partnered with the Washington State Department of Transportation to develop a regional Vehicle Miles Traveled Framework; and

WHEREAS, the Washington State Growth Management Act requires that RTPOs certify that the transportation elements of jurisdiction's comprehensive plans and the countywide planning policies are consistent with the regional transportation plan, Horizon 2050; and

WHEREAS, the Washington State Growth Management Act requires that RTPOs certify that the comprehensive plans and countywide planning policies meet the requirements of RCW 36.70A.070

WHEREAS, the Vehicle Miles Traveled Framework and Comprehensive Plan Certification Process Update has been developed under the direction of the SRTC Board in consultation with local government staff, Washington State Department of Transportation (WSDOT), and Spokane Transit Authority (STA); and with input from members of the public; and

NOW, THEREFORE BE IT RESOLVED, that the SRTC Board: adopts the Vehicle Miles Traveled Framework and Comprehensive Plan Certification Process Update.

ADOPTED: 01/08/2026

ATTEST

Anadia Grier
SRTC
Clerk of the Board

Mayor Cris Kaminskas
City of Liberty Lake
Chair, SRTC Board of Directors

Introduction

Per capita vehicle miles traveled (VMT) means the number of miles traveled using cars and light trucks in a calendar year divided by the number of residents. The calculation excludes heavy duty vehicles (freight) miles.

Reducing per capita VMT is crucial for achieving various community and state goals related to greenhouse gas (GHG) emissions and the environment, traffic safety, the economy, and public health. To continue to make progress on these goals, the Legislature directed the Washington Department of Transportation (WSDOT) to partner with the Department of Commerce and Regional Transportation Planning Organizations (RTPOs) to:

- Develop a process for establishing local VMT reduction targets.
- Recommend options for local jurisdictions to achieve the targets.
- Recommend changes to laws and rules to support reduction in VMT.
- Identify funding requirements for state and local jurisdictions.

In response to the guidance and funding support from WSDOT, Spokane Regional Transportation Council (SRTC) has completed this study to:

- Review comparable national Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs) approaches to VMT analyses and strategies for reducing VMT.
- Develop baseline and future per capita VMT forecasts for Spokane County, the RTPO planning area.
- Identify the best approach for setting regional per capita VMT goals and targets.
- Identify strategies to reduce per capita VMT and understand their potential impacts on vulnerable populations.

WSDOT's Guidance

At this time, there are no regulations that require jurisdictions to establish per capita VMT reduction targets at the regional or local level. VMT target setting guidelines and recommendations are outlined in the WSDOT's VMT Targets – Final Report (WSDOT VMT Reduction Report)[1] and the Implementation of Vehicle Miles Traveled Targets and Supporting Actions – Interim Report, June 2024.[2] The following are WSDOT's **recommendations for RTPOs working towards** setting regional VMT reduction targets:

- VMT per capita should serve as the performance metric for the VMT reduction program.

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[1] _WSDOT. (2023). Vehicle Miles of Travel (VMT) Targets – Final Report_.
[2] _WSDOT Implementation of Vehicle Miles Traveled Targets and Supporting Actions – Interim Report, June 2024_

- Statewide transportation plans and regional transportation plans (RTPs) should be subject to VMT evaluation.
- A VMT analysis should be conducted for any WSDOT project that substantially expands roadway capacity.
- City and county comprehensive plan updates must be certified by the RTPO, and the transportation element should include policies to reduce VMT per capita.
- An equity analysis should be conducted prior to the finalization of any regional VMT reduction targets.
- Heavy-duty vehicle VMT should be monitored, estimated, and forecast alongside light-duty VMT, though no specific target needs to be set heavy-duty vehicles.
- Regions subject to the VMT reduction targets should provide annual updates on total VMT, light duty VMT, heavy-duty VMT, and light duty VMT per capita.
- There should be no enforcement/punitive actions for cities, counties, or agencies where the actual VMT per capita is not decreasing proportional to the VMT reduction target. Instead, state resources should be directed at actions to improve performance.
- Provide technical assistance to member jurisdictions to support land use decisions under the Growth Management Act (GMA) because they are inputs to RTPs.

Summary of Best Practices Review

This section provides a summary of the best practices review regarding VMT analysis methodologies and the process of setting VMT reduction targets. Three national MPOs were reviewed:

- Fresno Council of Governments (FresnoCOG), California
- North Front Range Metropolitan Planning Organization (NFRMPO), Colorado
- Oregon Metro, Oregon

Table 1 shows a comparison matrix of the MPO analysis methodologies to set VMT targets. The detailed best practices review is included in Appendix A.

TABLE 1. COMPARISON MATRIX – MPO ANALYSIS METHODOLOGIES TO SET VMT TARGETS

Category	FresnoCOG	NFRMPO	Oregon Metro
Population Size	~ 1 million	~0.5 million	~ 2.5 million
Legislative Framework	SB 743 (2013) – VMT replaces LOS for CEQA project evaluations	House Bill 19-1261 (2019) – Climate Action Plan to Reduce Pollution	Goal 12 of Oregon's Land Use Planning Goals; Transportation Planning Rules (TPR)
VMT Metric Used	VMT per capita and VMT per employee	Daily VMT per capita	VMT per capita and VMT per employee
VMT Reduction Targets	13% VMT reduction for residential and office projects to achieve 13% GHG reduction by 2035	Daily VMT per capita less than 24 miles by 2050	20% VMT reduction by 2035, 30% by 2040, 35% by 2050

Methodology	Based on GHG reduction targets set for FresnoCOG by CARB and thresholds set using county/regional averages	Based on GHG reduction targets set for the state	Based on GHG reduction targets set by TPR for the greater Portland region and thresholds are based on 2045 baseline VMT
Application	Plan and project level	Plan level	Plan and project level
Monitoring Cycle	Not Defined	Yearly	Yearly
Threshold Update Cycle	Not Available	Not Available	Not Available

Compiled by Kittelson and Associates, Inc. 2024

Key findings from the national MPO review include:

- **VMT Metrics:** The most used metrics are VMT per capita for residential projects and VMT per employee for office/retail projects.
- **Exclusion of Heavy-Duty Vehicles:** VMT reduction targets focus primarily on light-duty vehicles, but no targets are typically set for heavy-duty vehicles as heavy-duty travel is non-discretionary and closely associated with economic activities.
- **Alignment with GHG Reduction Goals:** VMT reduction targets are typically set to align with broader Greenhouse Gas (GHG) reduction goals at the state or regional level, ensuring transportation strategies contribute to achieving overall climate and environmental objectives.
- **VMT Thresholds and Performance Measures:** VMT thresholds for projects and developments are often based on county or regional averages or future baseline VMT projections. Alternatively, these thresholds may be defined by performance measures set by the Metropolitan Planning Organization (MPO) or state regulations.
- **Local Adaptation and Flexibility:** Local jurisdictions within an MPO can have the flexibility to adapt VMT reduction strategies to their unique circumstances, considering factors such as regional transportation needs, demographic data, and the specific challenges they face in meeting state-level reduction goals. This allows for tailored solutions that address local conditions while still contributing to state/region's GHG reduction targets.
- **Feasibility of Fee-Based Mitigation Programs**: Fee-based VMT mitigation programs could be a feasible strategy to achieve equitable VMT reduction across communities.

Additionally, literature reviews and/or interviews were held with the following Washington RTPOs:

1. Whatcom County Council of Governments (WCOG)
2. Southwest Washington Regional Transportation Council (RTC)
3. Puget Sound Regional Council (PSRC)
4. Thurston Regional Planning Council (TRPC)

The RTPOs are all evaluating options for monitoring VMT in their regions. Agencies have all reported that no single data source met their needs and each offered trade offs in terms of affordability, coverage, frequency, and accuracy. Data sources evaluated included Highway Performance Monitoring System (HPMS), Household Travel Surveys, Travel Demand Modeling, and subscription data such as Replica or Streetlight. The RTPOs are typically using the readily available federal HPMS data and regional travel demand models to estimate per capita VMT. Other key findings include:

- WCOG is enhancing their Travel demand forecasting model to improve VMT measures and evaluate the sensitivity of the model to changes that would effect per capita VMT.
- PSRC has established a Performance Dashboard (https://psrcwa.shinyapps.io/rtp-dashboard/). VMT is reported under "Climate" with the goal of reducing per capital VMT to reduce GHG emissions.
- TRPC has a VMT Dashboard (https://www.trpc.org/918/Vehicle-Miles-Traveled). They have set a goal of becoming a carbon neutral community with targets for decreasing annual per capita VMT:

  - 1990 levels by 2020
  - 30% below 1990 levels by 2035
  - 50% below 1990 levels by 2050

- All of RTC's jurisdictions have completed GHG studies and opted not to adopt VMT targets. RTC is evaluating VisionEval as a potential future tool to evaluate the impacts of per capita VMT reductions.

Factors Influencing VMT

The amount that people drive varies significantly, depending on community layout and transportation policies. In the 2023 WSDOT VMT Targets Final Report, WSDOT recognized that land use and development patterns are a significant determinant of travel behavior, influencing how, when, and why people move within their communities. Based on this relationship, land use strategies must play a significant role in efforts to reduce VMT. A summary of key factors that influence per capita VMT are summarized in Table 2.

TABLE 2. KEY FACTORS INFLUENCING VMT

Factor	Definition	Typical Travel Impacts
Population Growth	An increase in population.	Total VMT increases as total population increases.
Demographics	Age distribution, gender, household size.	Older people generally tend to drive less than younger population, while families with young children tend to use cars more frequently.
Economics	Household income and the economic health of a region.	Higher income levels and a strong economy tend to result in more commuting and discretionary travel, driving up VMT.

Land Use Patterns	Proximity between activities (housing, services, jobs, etc.)	Dispersed land use patterns and lower density environments lead to greater distances between destinations, greater car dependency, and increased VMTs.
Roadway Design/Capacity	Roadway design and capacity can affect how much people drive.	Increased roadway capacity can lead to increased VMT due to reduced congestion and increased travel speeds.
Active Transportation and Transit Options	Quantity, quality and safety of sidewalks, crosswalks, paths and bike facilities, and access to public transit.,	Access to alternative mode choices can reduce VMT.
Transportation Prices	Vehicle, fuel, parking and road prices.	Lower prices incentivize driving, increasing VMT.
Policies and Regulations	Initiatives such as Complete Streets, mixed use land use zoning, and Travel Demand Management strategies	Policies can help change travel patterns.

Calculating Per Capita VMT

This section presents the VMT data analysis performed to understand the historic VMT trends for Spokane County. Population data came from the State of Washington Office of Financial Management. [3] Two data sources were considered for calculating per capita VMT.

The Highway Performance Monitoring System (HPMS)

HPMS is a national level highway inventory that includes data on the extent, condition, performance, use, and operating characteristics of the nation's highways.[4] The HPMS calculates VMT for each section by multiplying the Annual Average Daily Traffic (AADT) by the length of the section.[5] HPMS VMT data was calculated for the years 1996 to 2016 in five-year intervals, with 2023 included instead of 2021 to avoid COVID-19 pandemic impacts on VMT. Due to the limited inclusion of local roadways in the HPMS network, they were excluded from the VMT calculations for this analysis.
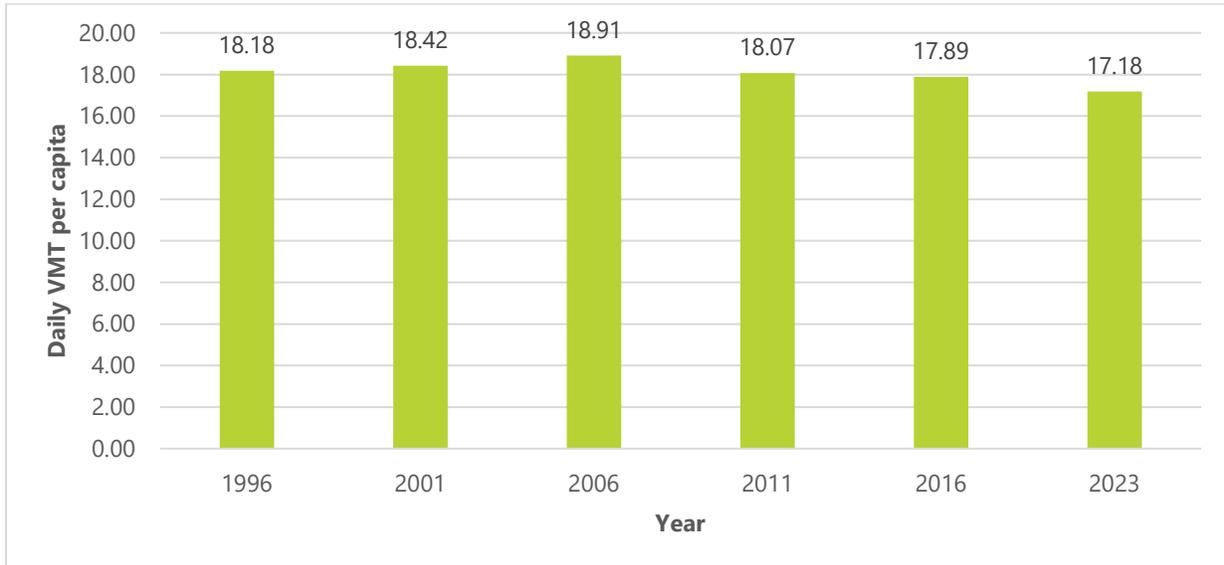
As seen in Figure 1, the daily per capita VMT in Spokane County steadily increased from 1996 to 2006, then declined from 2006 to 2023. While the total daily VMT continued to increase, the decrease in daily per capita VMT from 2006 to 2023 is primarily attributed to population growth. The detailed methodology to calculate daily per capita VMT based on HPMS data is outlined in Appendix B.

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[3] Washington Office of Financial Management (WAOFM), April 1 Population by State, County and City, 1990 to Present, Retrieved from: https://catalog.data.gov/dataset/waofm-april-1-population-by-state-county-and-city-1990-to-present on November 2, 2024.

[4] FHWA, Highway Performance Monitoring System (HPMS), Retrieved from: https://www.fhwa.dot.gov/policyinformation/hpms.cfm on January 10, 2025.

[5] Federal Highway Administration (FHWA), HPMS Assessment 2010+, Retrieved from: https://www.fhwa.dot.gov/policyinformation/hpms/2010/ch2.cfm#:~:text=VMT%20is%20determined%20for%20each,functional%20class%2C%20and%20vehicle%20type. on January 10, 2025.

FIGURE 1. SPOKANE COUNTY - DAILY PER CAPITA VMT BASED ON HPMS

Compiled by: Kittelson & Associates, Inc. 2025

For comparison, at the state level, per capita VMT has increased each year since 2020 but has remained below 2019 levels, likely in part due to remote work practices. Between 2020 and 2023 (post-pandemic period), per capita VMT has increased by 8%, while population has increased by 3.4%. At a national level, the Federal Highway Administration forecasts that light duty vehicle VMT will increase by 0.4% per year through 2050 based on the long-term economic and demographic outlook.[6]

Replica

Replica is a big data platform that gives Network VMT. Replica's Network VMT is defined as VMT by all-vehicles within a specific geographic boundary, calculated by multiplying the vehicle volume on each link by the length of the link in miles.[7] The vehicle volume is obtained from Replica's seasonal trip table. The seasonal trip table is based on a calibrated nationwide scale travel demand model and shows trips for a typical weekday or weekend for the selected season and region.[8]

Replica's Network VMT data was obtained for the following time periods: Fall 2019, Fall 2021, Fall 2022, Spring 2023, Fall 2023, and Spring 2024 and compared against the HPMS data (Figure 2). The daily per capita VMT from Replica is higher than that obtained from HPMS. This is because Replica's network is based on OpenStreetMap (OSM) and includes local residential roads, the equivalent of which are not consistently present in HPMS.

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[6] Federal Highway Administration (FHWA) 2024 FHWA Forecasts of Vehicle Miles Traveled (VMT) https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm

[7] Replica, Network VMT Calculator Overview and Methodology, Retrieved from: https://documentation.replicahq.com/docs/network-vmt-calculator on November 4, 2024.

[8] Replica, Seasonal Trip Table, Retrieved from: https://documentation.replicahq.com/docs/disaggregate-trip-tables on November 4, 2024.

FIGURE 2. DAILY VMT PER CAPITA (REPLICA VS HPMS)
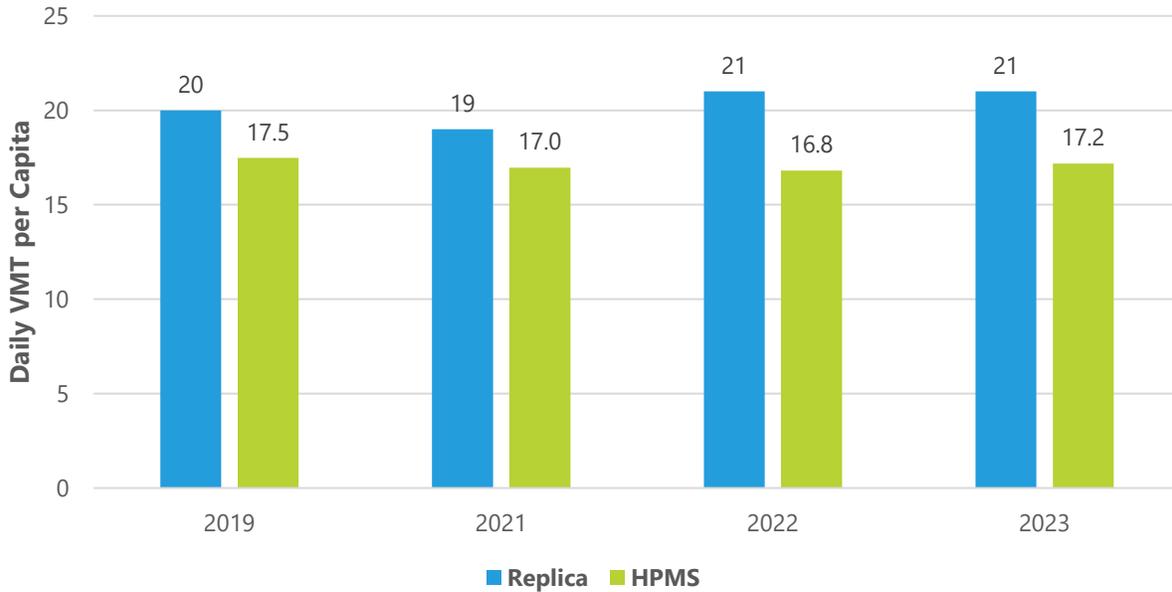
Compiled by: Kittelson & Associates, Inc. 2025

Though Replica has a wider network that includes local roads compared to HPMS, HPMS was selected as the preferred data source for VMT target setting for the following reasons:

1. **Cost and Accessibility**: HPMS is freely available, whereas Replica is a subscription-based service. Relying on a paid platform could present challenges for local agencies and hinder future efforts to monitor VMT effectively. Additionally, WSDOT and peer agencies use HPMS data for VMT calculations.
2. **Historical Data Coverage**: Replica provides data only from 2019 to 2024 (excluding 2020), which limits its use to build long-term VMT trends. In contrast, HPMS includes historical data that is essential to develop accurate VMT trends and forecast VMT for future years.

VMT Forecast Scenarios

The following scenarios were analyzed to forecast future VMT for the SRTC region:
- Scenario 1: Business-as-Usual
- Scenario 2: Meeting Statewide VMT Goals
- Scenario 3: MTP Horizon 2050 Land Use

The scenarios were developed to support decision-making and understand the multiple possibilities related to land use, population growth and travel behavior changes which would affect the VMT in the future. To align with the statewide VMT targets outlined in

RCW 47.01.440, [9] the horizon years of 2035 and 2050 are selected for Scenario 1 and Scenario 2, and 2050 for Scenario 2050.[10]

Scenario 1: Business-as-Usual

This scenario assumes that Spokane County's future VMT will follow its current trend through the horizon years of 2035 and 2050. A linear projection is used because it preserves the historic relationship between land use patterns, population growth and travel behavior. The underlying assumption is that residents will continue to follow historical patterns, including shifts to other travel modes.

Figure 3 shows the daily per capita VMT for Spokane County based on Scenario 1: Business-as-Usual. The detailed calculation tables for Scenario 1 are shown in Appendix C. As seen in Figure 3, the daily per capita VMT forecasted based on the Business-as-Usual scenario decreases to 17.04 by 2035 and 16.54 by 2050. This implies that if the historical relationship between land use, population growth and travel behavior were to continue, daily VMT per person will continue to decline, resulting in lower levels in 2035 and 2050 compared to those in 2023.

FIGURE 3. DAILY PER CAPITA VMT FOR SPOKANE COUNTY (SCENARIO 1: BUSINESS-AS-USUAL)
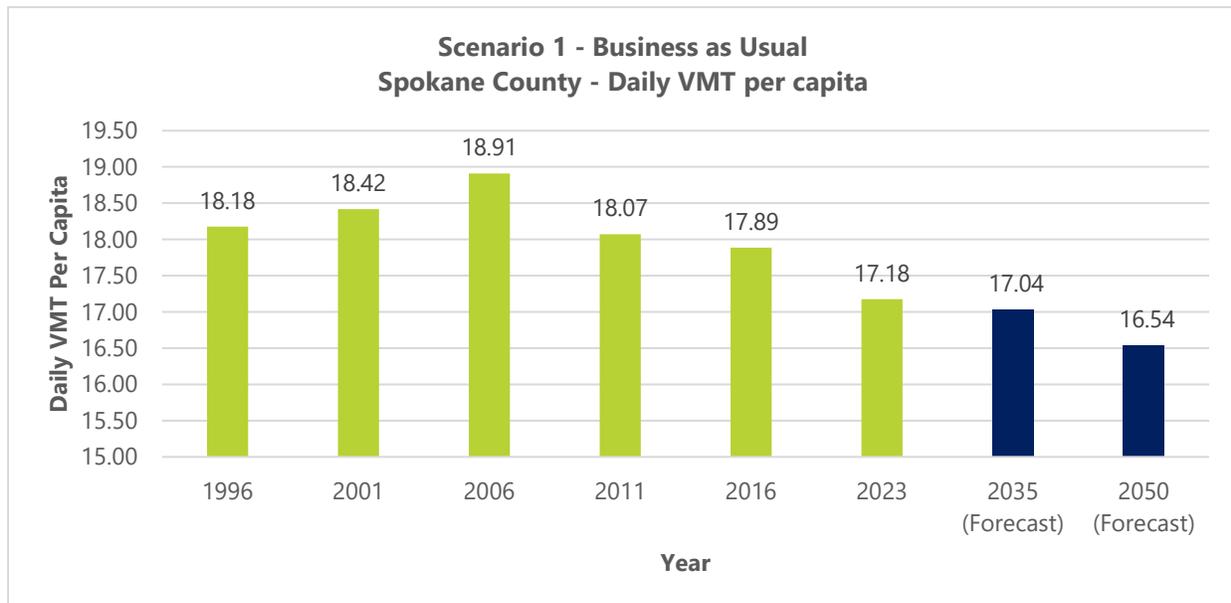
Compiled by: Kittelson & Associates, Inc. 2025

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[9] Washington State Legislature, RCW 47.01.440, Adoption of statewide goals to reduce annual per capita vehicle miles traveled by 2050, Retrieved from: https://app.leg.wa.gov/RCW/default.aspx?cite=47.01.440 on December 9, 2024.

[10] VMT target in Scenario 3 is based on the total daily VMT estimates from the SRTC Regional Travel Demand model. The horizon year 2050 is chosen to align with the MTP and Regional Travel Demand model's horizon year.

Scenario 2: Meeting Statewide VMT Goals

In 2008, Washington state established statewide per capita VMT reduction goals (RCW 47.01.4406). The goals are as follows:

- Decrease the annual per capita VMT by 18% by 2020
- Decrease the annual per capita VMT by 30% by 2035
- Decrease the annual per capita VMT by 50% by 2050

The statewide baseline VMT to establish these goals is based on a projected VMT total of 75 billion miles minus VMT from vehicles weighing over 10,000 pounds for the year 2020. While this projection does not directly establish a usable annual per capita VMT target, WSDOT's VMT Targets – Final Report identifies an estimated annual per capita VMT target of 7,065 miles for 2020 as a reference point and with the target of reducing annual per capita VMT by 18% by the year 2020. The original baseline annual per capita VMT can be calculated by working backward from the 2020 target. Accordingly, the baseline annual per capita VMT is determined to be approximately 8,611 annual VMT per capita VMT or 23.6 daily VMT per capita. Using the 23.6 daily VMT per capita value as the benchmark, the VMT targets for 2035 and 2050 are estimated as:

- 30% reduction or achieve 16.5 daily per capita VMT by 2035.
- 50% reduction or achieve 11.8 daily per capita VMT by 2050.

Scenario 3: MTP Horizon 2050 Land Use

This scenario is calculated using the SRTC Regional Travel Demand model and land use projections based on the SRTC Metropolitan Transportation Plan (MTP) Horizon 2050. The travel demand model uses 2022 as its base year and 2050 as the horizon year. The land use assumptions include population, household and employment projections.[11]

Population forecast methodology primarily includes the following steps:

1. Establishing the population control total based on the Washington State Growth Management Act's (GMA) medium series projections for Spokane County.
2. Determining population capacity.
3. Identifying recent and planned development.
4. Allocating population growth.

Figure 4 and Figure 5 illustrate the population density projections for both the base year and the horizon year as input into the SRTC travel demand model. The figures indicate that population density by the year 2050 is expected to grow mainly within the incorporated cities (Airway Heights, Medical Lake, Liberty Lake and Deer Park)

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[11] Spokane Regional Transportation Council, Land Use Modeling Methodology, Retrieved from: https://data-srtc.hub.arcgis.com/documents/52ee1a93bdc5487798c8a384b92f306c/about on April 21 2025

compared to the urban growth areas and in areas along the northern border of the City of Spokane.

FIGURE 4. POPULATION DENSITY (2022)

Population Density (persons/sq mile) 2022
Scenario 3: MTP Horizon 2050 Land Use
SRTC VMT Reduction Targets

FIGURE 5. POPULATION DENSITY (2050)

Population Density (persons/sq mile)

0 - 250	3,000 - 5,000
250 - 500	5,000 - 10,000
500 - 1,000	>10,000
1,000 - 3,000	

Incorporated Cities and Urban Growth Areas

0   50   100 Miles

Population Density (persons/sq mile) 2050
Scenario 3: MTP Horizon 2050 Land Use
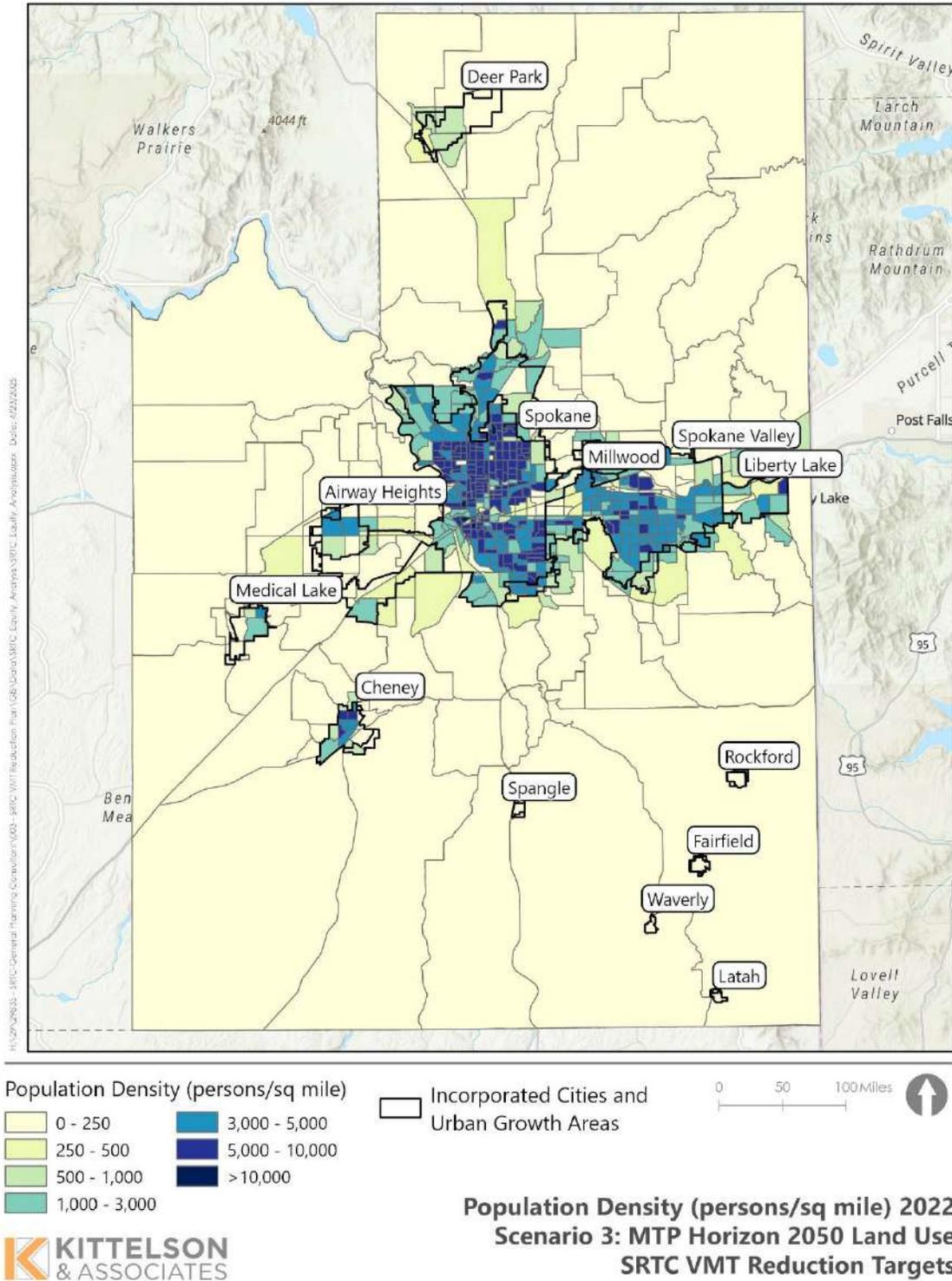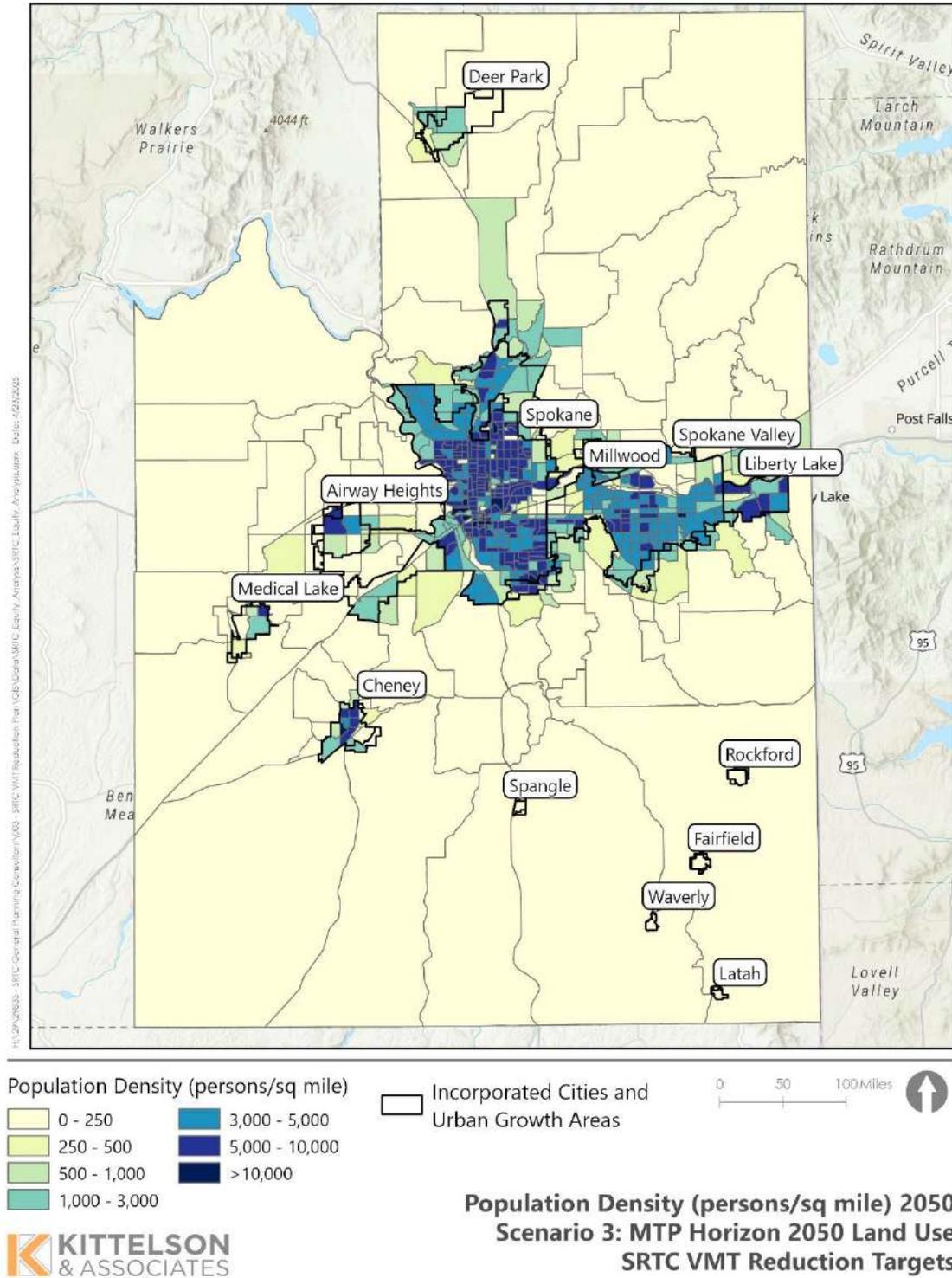SRTC VMT Reduction Targets

To align with future monitoring using HPMS data, VMT on local roads was excluded from the travel demand model outputs. As a result, the model estimates:

- 2050 Daily VMT of 13,256,868 miles.
- 2050 population forecast of 669,671.[12]
- Daily per capita VMT of 19.8 miles.

Key Findings

Below is a comparison of the Daily Per Capita VMT under each scenario.

Scenario/Year	2023	2035 Daily Per Capita VMT	2050 Daily Per Capita VMT
Existing	17.18	__	__
Scenario 1: Business-as-Usual	__	17.04	16.54
Scenario 2: Meeting Statewide VMT Goals	__	16.5	11.8
Scenario 3: MTP Horizon 2050 Land Use	__	__	19.8

- In line with WSDOT's guidelines, SRTC should continue to monitor regional VMT on an annual basis using HPMS data for:

  - Total VMT
  - Light-duty VMT
  - Heavy-duty VMT
  - Light-duty VMT per capita

- Additional data sources, such as SRTC's travel demand forecasting model or VMT big data sources, may be used to supplement or validate the HPMS data as needed.
- SRTC should establish regional goals in support of VMT reduction and collaborate with local jurisdictions to identify strategies for reducing per capital VMT in support of the GMA requirements related to reductions in GHG emissions.
- SRTC should continue to monitor VMT and await further guidance from WDOT regarding actual target setting.
- WSDOT's VMT Targets – Final Report recommends that WSDOT collaborate with RTPOs on a joint purchase agreement for annual VMT big data to supplement traditional manual count programs. Over time, big data also could become more accessible or affordable. Accordingly, SRTC should explore future opportunities for continued collaboration with WSDOT as they develop additional guidance on VMT target setting for RTPOs.

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[12] State of Washington Office of Financial Management's 2022 Projections of the Total Resident Population for Growth Management County projections, Retrieved from: https://ofm.wa.gov/sites/default/files/public/dataresearch/pop/GMA/projections2022/gma_2022_1yr.xlsx on December 20, 2024.

Strategies for VMT Reduction

This section identifies VMT reduction strategies SRTC and its member agencies can implement to reduce VMT. The strategies are primarily based on the following sources:

1. VMT Mitigation Framework and Strategies provided in WSDOT's Vehicle Miles Traveled (VMT) Targets Final Report (June 2023)
2. The California Air Pollution Control Officers Association (CAPCOA) Handbook [13]
3. The North Carolina Department of Transportation (NCDOT) Vehicle Miles Reduction Study Toolkit[14]

The strategies are grouped into the following sections:

1. Land Use and Zoning
2. Transit Enhancements
3. Commuter Trip Reduction Programs/Transportation Demand Management
4. Parking Reforms
5. Non-Motorized Modes
6. User Fees/Road Pricing

For each strategy, the following key attributes are outlined:

- Description
- Benefits
- Priority Level – Classified as either *Core* or *Other* based on its relevance and importance to Spokane County and conversations with the Working Group members.
- Applicable Region Types – Identifies whether the strategy is suited for urban, suburban, or rural areas.
- Targeted Trip Types – Specifies the types of trips the strategy aims to influence such as commute vs non-commute trips.
- Timeframe – Indicates whether the strategy is intended for near-term (1 to 3 years) or long-term (greater than 3 years).
- Implementation Costs – Indicates the approximate costs for implementation using the following:

    - $ - $0 to $0.5 million
    - $$ - $0.5 million to $1 million
    - $$$ - $1 million to $1.5 million

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[13] California Air Pollution Control Officers Association, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, Retrieved from: Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity on January 15, 2025.

[14] North Carolina Department of Transportation (NCDOT), Vehicle Miles Traveled (VMT) Reduction Toolkit (December 2023), Retrieved from: https://www.ncdot.gov/initiatives-policies/environmental/climate-change/Documents/vehicle-miles-traveled-reduction-study-tool-kit.pdf on February 3, 2025.

- Potential Application Areas – Suggests possible geographic locations where the strategy could be applied.

Land Use and Zoning

Increase Residential and Job Densities

DESCRIPTION: Increasing residential and job densities, particularly in areas well-served by transit, promotes compact, mixed-use developments. Increased densities affect the distance people travel and provide greater mobility choices encouraging the use of alternative transportation modes and thus reducing VMT.

BENEFITS: The densely developed mixed-use developments, with shorter distances to key destinations, discourage vehicle ownership and driving, encourage walking, biking and other non-motorized modes of transportation. In addition to VMT reduction, creation of walkable and bikeable neighborhoods can improve air quality and public health.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$ - $$$. Costs may involve planning, coordination, and infrastructure improvements, including upgrades to roadways, transit systems, and walking and biking facilities to support the increase in residential and job densities.

POTENTIAL APPLICATION AREAS: Urban and suburban areas with large development projects or near major employment hubs.

Affordable Housing

DESCRIPTION: This strategy involves the inclusion of below-market-rate (BMR) housing near transit and employment centers to provide low-income households with the opportunity to live closer to job centers.

BENEFITS:

- Helps address the shortage of affordable housing which may otherwise force residents to live far from their workplaces or schools, resulting in longer commutes.
- Concentrating affordable housing near transit supports sustainable urban planning, encouraging denser, more efficient land use that is less car-dependent and reduces VMT over time.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$ - $$$. Costs may involve planning, coordination, and infrastructure improvements, including upgrades to roadways, transit systems, and walking and biking facilities to improve access to affordable housing projects.

POTENTIAL APPLICATION AREAS: Urban and suburban areas near major employment hubs, university campuses, and transit stations.

Transit Oriented Development

DESCRIPTION: Transit-Oriented Development (TOD) is a compact, mixed-use community centered around a transit station that, by design, invites residents, workers, and shoppers to drive their cars less and ride public transit more.

BENEFITS:

- Reduces project VMT compared to the same project in a non-TOD area.
- Residents, visitors, and employees along the corridor have better access to transit, enhancing mobility options, promoting transit use and making transit more financially viable.
- The densely developed mixed-use developments, with shorter distances to key destinations, also encourage walking and other non-motorized modes of transportation.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$ - $$$. Costs may include land use studies, zoning changes, planning, coordination, and infrastructure enhancements, such as improved non-motorized facilities and the integration or improvement of transit systems.

POTENTIAL APPLICATION AREAS: Urban and suburban areas located along current transit routes or near future transit routes.

Improve Street Connectivity

DESCRIPTION: Improve street connectivity by providing safer and efficient routes for walking, biking, micromobility, and public transit to encourage alternatives to driving.

BENEFITS: A well-connected street network can promote alternatives to driving, reduce the travel distance between destinations both within a neighborhood or sub area and externally to other neighborhoods.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$ - $$$, varies depending on the planning, capital and infrastructure costs to improve street connectivity.

POTENTIAL APPLICATION AREAS: Urban, suburban and rural neighborhoods.

Development Impact Mitigation

DESCRIPTION: This strategy requires developers to mitigate the per capita VMT impact generated by their project through VMT reduction strategies.

BENEFITS: The development impact mitigation measures can help ensure that the transportation system can accommodate the increased demand brought by the new development. Actions taken by developers such as installing bike storage or improving nearby bus shelters can encourage the use of alternative transportation options. This strategy can be especially effective when applied to large-scale developments.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Continuous

IMPLEMENTATION COSTS: $ - $$

POTENTIAL APPLICATION AREAS: Urban and suburban development zones, especially areas experiencing significant growth or redevelopment.

VMT Impact Fees

DESCRIPTION: Developer pays impact fees per increased per capita VMT associated with the project. This strategy can complement the Development Impact Mitigation strategy by applying VMT impact fees to projects where developers choose not to implement mitigation measures.

BENEFITS:

- Places a price on increase of per capita VMT by the project.
- Revenues from these fees can be used in a dedicated capital improvement program for multimodal infrastructure, transit service, or other programs that would improve the quality, convenience, affordability or safety through non-driving modes.

PRIORITY LEVEL: Other

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Long-term

IMPLEMENTATION COSTS: $ - $$

POTENTIAL APPLICATION AREAS: Urban and suburban development zones, especially areas experiencing significant growth or redevelopment.

Transit Enhancements

Expand Transit Coverage

DESCRIPTION: This strategy focuses on expanding transit coverage by adding or modifying the existing transit routes, introducing new transit routes, and improving transit frequencies. The goal is to provide more accessible and convenient public transportation options.

BENEFITS:

- Shifts travel from single-occupancy vehicles to transit.
- Offers a reliable and convenient alternative to driving.
- Encourages denser, mixed-use development along transit routes, supporting sustainable urban growth.
- Expands accessibility and mobility options for those who do not own a vehicle.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$-$$$, varies depending on changes to transit routes, service areas, and frequency. Expenses for transportation agencies may include planning and coordination efforts, capital investments like fleet purchase, construction of transit infrastructure such as bus shelters, lighting, as well as ongoing operations and maintenance costs.

POTENTIAL APPLICATION AREAS: Urban centers, transit corridors, suburban neighborhoods, and areas with potential for TOD where increased transit access can support denser, more sustainable communities.

Upgrade Transit Infrastructure

DESCRIPTION: Upgrading transit infrastructure involves improving physical assets that support public transportation, such as transit stops, shelters, signage, lighting, sidewalks, and transfer hubs. Enhancements may also include integration with Intelligent Transportation Systems (ITS) such as real-time arrival displays, smart fare collection systems, and automated bus location tracking.

BENEFITS: Creates a more reliable, comfortable, and user-friendly transit experience, encouraging higher ridership.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$ - $$$, varies based on the quality of existing transit infrastructure and selected treatments. While upgrading signage, lighting and sidewalks can be considered as low-cost systemic improvements, upgrading transit stops, construction of transfer hubs, and integration of ITS might require a significant capital investment.

POTENTIAL APPLICATION AREAS: Urban centers, transit corridors, areas with potential for TOD where increased transit access can support denser, more sustainable communities.

Implement Transit-Supportive Roadway Treatments

DESCRIPTION: This strategy involves the design and implementation of roadway infrastructure that prioritizes and supports transit operations. This can include dedicated bus lanes, transit signal priority, bus-only signal phases, queue jumps, and curb extensions to extend passenger loading.

BENEFITS: Reduces transit route cycle time, improves transit reliability, efficiency, and overall ridership.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $ - $$$, varies depending on the selected treatments from low-cost route optimization to high-cost capital investments such as dedicated bus lanes.

POTENTIAL APPLICATION AREAS: Urban centers, suburban neighborhoods, transit corridors, and areas with potential for TOD where increased transit access can support denser, more sustainable communities.

Grow the Value Proposition of Riding Transit

DESCRIPTION: Growing the value of transit ridership involves implementing improvements to service such as enhanced stop amenities, timely schedule information, enhanced safety and security, improved frequency of service, and extended service hours. The objective is to lower the barriers to using public transit, encourage increased ridership , bring transit to parity with reliance on sing-occupancy vehicles, and expand access to transportation.

BENEFITS: Enhancing and growing the value proposition of transit incentivizes a shift in travel behavior from single-occupancy vehicles to public transit as a preferred option, which helps reduce VMT. This shift brings co-benefits such as reduced traffic

congestion and lower GHG emissions. Additionally, enhancing transit service supports social equity by improving access to vulnerable populations.

PRIORITY LEVEL: Other

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$ - $$$, varies depending on the scale and duration of the improvements. These are not all one-time costs and would require additional revenues to implement and maintain.

POTENTIAL APPLICATION AREAS: Urban and suburban City/Town centers, areas near transit-oriented development and major employment hubs, universities, and routes serving park and ride lots.

Flexible/On-Demand Transit
DESCRIPTION: Flexible or on-demand transit differs from traditional fixed-route services by operating without set routes or schedules, but instead operating based on real-time rider requests. The services include microtransit, demand-response shuttles, or app-based ride services operated by transit agencies or private entities. Flexible/On-demand transit services typically use smaller vehicles and offer curb-to-curb or stop-to-stop service, improving coverage in areas where traditional fixed-route transit is not feasible or efficient.

BENEFITS: Improves transit accessibility, particularly in low-density areas, and strengthens first/last mile connectivity to the broader transit network. It has the potential to reduce VMT by capturing trips that would have otherwise been made using single occupancy vehicles or ridehailing services.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Suburban, Rural

TARGETED TRIP TYPES: Non-commute trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $ - $$, varies depending on the scale (fleet size), service area, and service providers. Partnering with third-party providers or public-private partnerships can alleviate some of the costs for public agencies.

POTENTIAL APPLICATION AREAS: Suburban or sparsely populated rural areas with demand for first/last mile trips, areas serving seniors, people with disabilities.

Commuter/Trip Reduction Programs

Sponsored Transit Passes

DESCRIPTION: Sponsored transit passes involve providing reduced cost or fully subsidized public transit passes to targeted populations, such as employees or students. This strategy aims to increase transit ridership by making it more affordable and attractive.

BENEFITS:

- Incentivizes transit use for daily commuting by employees and students.
- Enhances transportation options by improving access for individuals who may not be able to afford regular transit fares.
- Reduces traffic congestion and parking demand, especially in employment centers and dense urban areas.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: Commute trips, school/university trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $-$$, costs vary depending on the level of subsidy and the size of the target population.

POTENTIAL APPLICATION AREAS: Urban and suburban areas with employment hubs, schools, universities, areas with high transit accessibility.

Carpool/Vanpool

DESCRIPTION: Carpool/Vanpool offers a flexible and affordable ridesharing option for groups of 5 to 15 commuters, making it a convenient alternative to driving alone. Carpool/Vanpool can include the following operation models:

- **Employer-owned**: The vehicle is owned and operated by the employer.
- **Employer-sponsored**: The vehicle is owned by the employer but operated through a private vendor.
- **Third party lease programs**: Vehicle is owned and operated by the private vendor. Service is provided through a lease to the participants.

BENEFITS: Shifts commute trips from single-occupancy vehicles to shared transportation.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: Commute trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $. The upfront costs for implementation are low. Most of the costs include ongoing operating and maintenance costs.

POTENTIAL APPLICATION AREAS: Urban and suburban regions where employees commute from densely populated residential areas to major employment centers.

Park and Ride Lots

DESCRIPTION: Park and Ride lots provide designated areas where commuters can park their vehicles and transfer to high occupancy modes such as public transit, carpools, or vanpools.

BENEFITS:

- Offers commuters an alternative to driving alone by providing a designated, secure location for carpoolers/transit riders to gather and start their shared trips.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: Commute trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $$-$$$, costs vary depending on the size and location of the project and may include expenses for land acquisition, lot construction, and ensuring access to freeways and transit services.

POTENTIAL APPLICATION AREAS: Corridors connecting dense residential areas to major employment centers, regional transit lines, and freeway access points.

Parking Cash-Out Programs

DESCRIPTION: Parking cash-out programs allow employees to opt out of their employer-provided free or subsidized parking in exchange for a cash payment equal to or exceeding the value of the parking space. This encourages employees to use alternative modes of transportation such as transit, walking or biking instead of using single-occupancy vehicles.

BENEFITS:

- Incentivizes alternative modes of transportation compared to driving alone.
- Reduces parking demand and associated parking costs for employers.
- Support mode shift goals without requiring major infrastructure investments.
- Reduces traffic congestion, especially in employment centers and dense urban areas.

PRIORITY LEVEL: Other

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: Commute trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $

POTENTIAL APPLICATION AREAS: Urban and suburban areas with employment hubs.

Telecommuting and Alternate Work Schedules

DESCRIPTION: This strategy promotes flexible work arrangements, including telecommuting (remote work) and alternate work schedules (such as compressed workweeks) to reduce the number of commute trips.

BENEFITS:

- Eliminates or reduces commute trips.
- Helps to ease peak-period congestion and lowers emissions.
- Reduces employer costs related to office space and parking demand.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: Commute trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $, the direct cost of implementation for the employer is low.

POTENTIAL APPLICATION AREAS: Primarily dependent on the nature of the job than the urban area.

Parking Reforms

Reduce or Eliminate Parking Minimums

DESCRIPTION: Removes or reduces zoning rules that require a minimum number of parking spaces for new development. (City of Spokane has already implemented this.)

BENEFITS: Discourages vehicle ownership, encourages denser mixed-use development, and changes travel behavior by promoting use of alternative modes of transportation.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $-$$

POTENTIAL APPLICATION AREAS: Urban, suburban and rural neighborhoods and affordable housing and TOD projects.

Parking Pricing

DESCRIPTION: Involves charging fees for parking in public and private spaces, such as municipal lots, curbside spaces, and private lots (such as employer owned parking lots). Effective strategies to reduce VMT include:

- Setting pricing for on-street parking rates to encourage alternative transportation.
- Aligning parking costs with or above transit fares to promote transit use.
- Implementing consistent, area-wide pricing plans, either with static prices or demand-responsive pricing to adjust parking rates in real-time based on parking demand.

BENEFITS: Reduces the incentives for driving by making parking more expensive.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $-$$, varies depending on the selected treatments. Costs could include policy development, infrastructure and technology upgrades, and ongoing operations, maintenance and enforcement costs.

POTENTIAL APPLICATION AREAS: Urban centers

Implement Parking Maximums

DESCRIPTION: Sets an upper limit on how much parking a development can provide to reduce excessive car use and support more sustainable transportation.

BENEFITS: Encourages denser, mixed-use development by reducing the space dedicated to parking and freeing it up for housing, commercial, or public uses, especially near transit.

PRIORITY LEVEL: Other

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Long-term

IMPLEMENTATION COSTS: $

POTENTIAL APPLICATION AREAS: Urban, suburban and rural neighborhoods, and affordable housing and TOD projects.

Unbundle Residential Parking Costs from Property Costs

DESCRIPTION: Requires that residential parking costs be separated from the cost of renting or purchasing a home.

BENEFITS:

- Discourages vehicle ownership by making residential parking expensive.
- Allows residents who do not own a vehicle avoid paying for parking they do not use, making housing more affordable.

PRIORITY LEVEL: Other

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Long-term

IMPLEMENTATION COSTS: $

POTENTIAL APPLICATION AREAS: Urban cores and suburban areas featuring TOD or situated near major employment hubs.

Non-Motorized Modes

Expand Pedestrian and Bicycle Networks

DESCRIPTION: This strategy focuses on expanding pedestrian and bicycle networks such as sidewalks, bike lanes, trails, and safe crossings to promote non-motorized travel. The emphasis is placed on enhancing pedestrian and bicycle infrastructure within a half mile walkshed around employment hubs, schools, universities, and transit stops.

BENEFITS:

- Encourages walking and biking for short distance trips.

- Enhances first/last mile access to transit, supporting mode shift away from single-occupancy vehicles.
- Decreases traffic congestion and the need for roadway expansion.
- Promotes public health by promoting walking and biking trips.
- Promotes equity by offering affordable transportation options to people who do not own a vehicle.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $ - $$, varies depending on the capital and infrastructure costs of the selected treatments.

POTENTIAL APPLICATION AREAS: Urban and suburban areas around employment hubs, schools, universities, and transit stations.

Implement Electric Bikeshare/Scootershare Programs

DESCRIPTION: This strategy involves introducing or expanding shared micromobility services, such as electric bikeshare and scootershare programs, to provide convenient, low-emission alternatives to automobile trips.

BENEFITS:

- Shifts trips from single-occupancy vehicles to shared electric bikes and scooters.
- Serves as first/last mile access to transit.
- Offers an affordable and flexible transportation option, especially in areas underserved by transit.
- Decreases traffic congestion and parking demand in high-activity areas.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Near-term

IMPLEMENTATION COSTS: $ - $$, varies depending on scale and location of operation. Costs incurred usually include fleet purchase costs, installation of docking stations, ongoing operations and maintenance costs.

POTENTIAL APPLICATION AREAS: Urban and suburban areas near employment hubs, schools, universities, transit stations and in dense residential areas.

User Fees and Road Pricing

Tolls and Congestion Pricing

DESCRIPTION: Tolls and congestion pricing involve charging vehicles a fee to use certain roadways or areas, especially during peak travel times to encourage the use of alternative transportation modes by making driving more expensive.

BENEFITS: Increases the cost of driving alone and encourages carpooling or switching to alternative transportation modes. Additionally, implementing High-Occupancy Vehicle (HOV) lanes, where vehicles with a certain occupancy can travel at a reduced rate, may further promote carpooling.

PRIORITY LEVEL: Core

APPLICABLE REGION TYPES: Urban, Suburban, Rural

TARGETED TRIP TYPES: All trips

TIMEFRAME: Long-term

IMPLEMENTATION COSTS: $$

POTENTIAL APPLICATION AREAS: Urban centers with high congestion, major highways with high traffic volumes in urban, suburban, and rural areas.

Pay-As-You-Drive Insurance

DESCRIPTION: Pay-As-You-Drive (PAYD) insurance is a type of auto insurance that charges premiums based on the actual miles a vehicle is driven, rather than a flat rate. This model incentivizes drivers to reduce their VMT, as lower driving distances lead to lower premiums.

BENEFITS: Encourages more mindful driving behavior and financially rewards those who drive less.

PRIORITY LEVEL: Other

APPLICABLE REGION TYPES: Urban, Suburban

TARGETED TRIP TYPES: All trips

TIMEFRAME: Long-term

IMPLEMENTATION COSTS: $

POTENTIAL APPLICATION AREAS: Urban and suburban areas with high vehicle ownership rates, especially those where residents have access to public transit.

TABLE 3. SUMMARY OF VMT REDUCTION STRATEGIES

Action	Priority	Applicable Region Types	Targeted Trip Types	Timeframe	Implementation Cost
Land Use and Zoning					
Increase Residential and Job Densities	Core	Urban, Suburban	All Trips	Near-term	$$-$$$
Affordable Housing	Core	Urban, Suburban	All Trips	Near-term	$$-$$$
Transit Oriented Development (TOD)	Core	Urban, Suburban	All Trips	Near-term	$$-$$$
Improve Street Connectivity	Core	Urban, Suburban, Rural	All Trips	Near-term	$$-$$$
Development Impact Mitigation	Other	Urban, Suburban	All Trips	Long-term	$-$$
VMT Impact Fees	Other	Urban, Suburban	All Trips	Long-term	$-$$
Transit Enhancements					
Expand Transit Coverage	Core	Urban, Suburban, Rural	All Trips	Near-term	$$-$$$
Upgrade Transit Infrastructure	Core	Urban, Suburban, Rural	All Trips	Near-term	$$-$$$
Implement Transit-Supportive Roadway Treatments	Core	Urban, Suburban	All Trips	Near-term	$-$$$
Grow the Value Proposition of Riding Transit	Other	Urban, Suburban, Rural	All Trips	Near-term	$$-$$$
Flexible/On-Demand Transit	Core	Suburban, Rural	All Trips	Near-term	$-$$
Commute/Trip Reduction Programs					
Sponsored Transit Passes	Core	Urban, Suburban, Rural	Commute/school/university trips	Near-term	$-$$
Carpool/Vanpool	Core	Urban, Suburban, Rural	Commute trips	Near-term	$
Park and Ride Lots	Core	Urban, Suburban	Commute trips	Near-term	$$-$$$
Parking Cash-Out Programs	Other	Urban, Suburban	Commute trips	Long-term	$
Telecommuting and Alternate Work Schedules	Core	Urban, Suburban, Rural	Commute trips	Near-term	$
Parking Reforms					
Reduce or Eliminate Parking Minimums	Core	Urban, Suburban, Rural	All trips	Near-term	$
Parking Pricing	Core	Urban	All trips	Near-term	$-$$

Action	Priority	Applicable Region Types	Targeted Trip Types	Timeframe	Implementation Cost
Implement Parking Maximums	Other	Urban, Suburban, Rural	All trips	Long-term	$
Unbundle Residential Parking Costs from Property Costs	Other	Urban, Suburban	All trips	Long-term	$
Non-Motorized Modes					
Expand Pedestrian and Bicycle Networks	Core	Urban, Suburban	All trips	Near-term	$-$$
Implement Electric Bikeshare/Scootershare Programs	Core	Urban, Suburban	All trips	Near-term	$-$$
User Fees and Road Pricing					
Tolls and Congestion Pricing	Core	Urban, Suburban, Rural	All Trips	Long-term	$$-$$$
Pay-As-You-Insurance	Other	Urban, Suburban	All Trips	Long-term	$

Equity Analysis

A well designed VMT reduction program presents an opportunity to enhance mobility, expand access to non-automobile transportation options, and promote greater equity across Spokane County. By strategically directing investments toward underserved communities, lowering the financial burden of travel, and fostering inclusive public engagement, the County can work toward a more equitable, sustainable, and resilient transportation system that benefits all residents.

To support this goal, this study incorporates SRTC's Indicators of Potential Disadvantage (IPD) to identify communities that face systemic transportation barriers. As VMT reduction strategies are developed to reduce per capita VMT, it is important to mitigate potential negative impacts to IPD-designated communities.

Indicators of Potential Disadvantage (IPD)

Indicators of Potential Disadvantage (IDPs) tracts identify Title VI and Environmental Justice populations as defined through six key indicators:

1. Income
2. Racial or ethnic minority status
3. Limited English proficiency
4. Vehicle access
5. Age dependency
6. Disability status

IPD scores show a Census tract's level of concentration for each of these categories relative to regional averages for the SRTC planning area, based on 2018–2022 American Community Survey (ACS) 5-Year Estimates.[15] The detailed methodology used to calculate the IPD scores is outlined in the SRTC's Public Participation Plan.[16] Figure 6 shows an overlay of incorporated city and urban growth area boundaries with census tracts in Spokane County that have composite IPD scores categorized as above average and well above average.

- VMT reduction strategies for these areas should be focused on reducing travel costs and times, improved access to transit, and improved non-motorized facilities that link to transit and important destination such as employment centers, schools, grocery stores, and medical facilities.

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[15] Spokane Regional Transportation Council (SRTC), Indicators of Potential Disadvantage (2022), Retrieved from: https://data-srtc.hub.arcgis.com/datasets/98b542bf39b04effb3621890e9c1ecf3_0/explore?location=47.644565%2C-117.425468%2C9.70 on March 20, 2025.

[16] Spokane Regional Transportation Council (SRTC), Public Participation Plan (2021), Retrieved from: https://www.srtc.org/wp-content/uploads/2025/01/Public_Participation_Plan_Adopted_2021.12.09_v2_compressed.pdf on March 20, 2025.

- Rural strategies should focus on broadband/internet expansion, telecommuting or compressed work weeks, and custom transit.

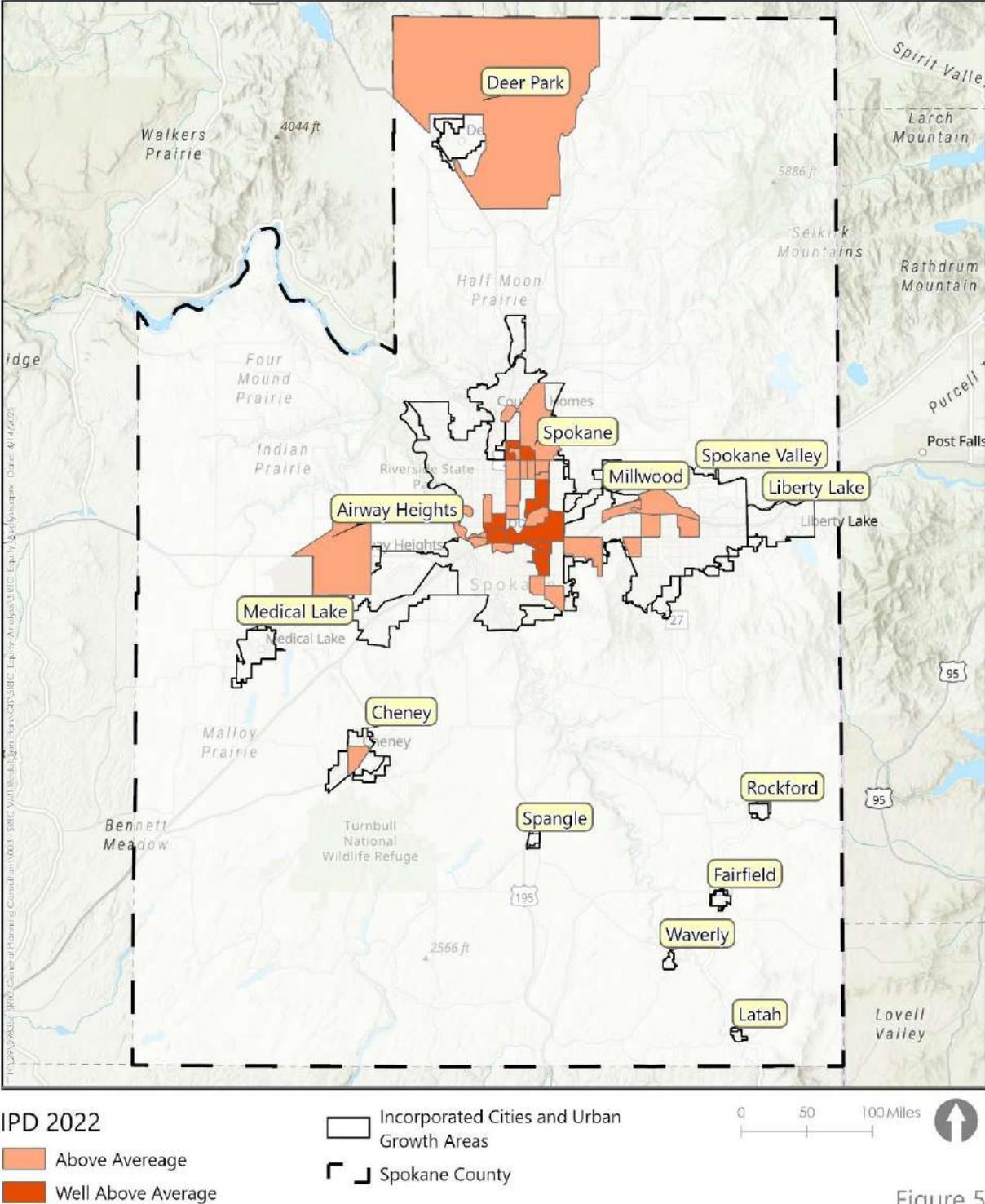**FIGURE 6. SRTC INDICATORS OF POTENTIAL DISADVANTAGE (IPD 2022)**

IPD 2022

- Above Avereage
- Well Above Average

Incorporated Cities and Urban Growth Areas

Spokane County

0   50   100 Miles

Figure 5

Indicators of Potential Disadvantage (IPD 2022)
Equity Analysis
SRTC VMT Reduction Targets

KITTELSON & ASSOCIATES

Conclusions/Recommendations

- SRTC should continue to support statewide goals of reducing VMT in support of GMA requirements through policies, projects and programs. VMT reduction should focus primarily on light-duty vehicles. Goals are not typically set for heavy-duty vehicles as heavy-duty travel is non-discretionary and closely associated with economic activities.

- SRTC should not set a regional target or goal for per capita VMT reduction at this time but should continue to monitor per capita VMT and await further guidance from WDOT regarding data sources, methodology, and target setting. SRTC should continue to monitor regional VMT on an annual basis using HPMS data for:

  - Total VMT
  - Light-duty VMT
  - Heavy-duty VMT
  - Light-duty VMT per capita

- Key VMT reduction strategies for the region should continue to focus on increased land use density in urban core areas, transit enhancements, and improvements to bicycle and pedestrian facilities.

  - Local jurisdictions should have the flexibility to adapt VMT reduction strategies to their unique context, considering factors such as transportation needs, socioeconomic data, and the specific challenges they face. This allows for tailored solutions that address local conditions while still contributing to state's GHG reduction targets.

Appendix A: Best Practices

Best Practices Review

The following national MPOs were included in the best practice review of VMT analysis methodologies and setting VMT reduction targets:

- Fresno Council of Governments (FresnoCOG), California
- North Front Range Metropolitan Planning Organization (NFRMPO), Colorado
- Oregon Metro, Oregon

Fresno Council of Governments (FresnoCOG), California

FresnoCOG serves Fresno County in California, which has a population of over 1 million, including both the urban center of Fresno and the surrounding rural agricultural areas.

BACKGROUND

In 2013, California Legislature passed Senate Bill 743 (SB 743) with a goal to reduce GHG emissions, promote infill development and encourage multimodal transportation networks. SB 743 updated the way transportation projects are evaluated under the California Environmental Quality Act (CEQA) with VMT replacing the previous Level of Service (LOS) method as a metric for assessing transportation impacts of land use and transportation projects. Following the passage of SB 743, the California Office of Planning and Research (OPR) issued a Technical Advisory to provide guidance for lead agencies setting VMT thresholds.[17]

FresnoCOG at a Glance

1 million residents

15 incorporated cities

170 people per square mile

73.6% drive alone trips

OPR TECHNICAL ADVISORY GUIDANCE

The OPR Technical Advisory contains VMT threshold recommendations that vary by type of project and land use as follows:

- Residential projects – A proposed project exceeding a level of 15 % below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita.
- Office projects – A proposed project exceeding a level of 15% below existing regional VMT per employee may indicate a significant transportation impact.
- Retail projects greater than 50,000 square feet – A net increase in total VMT may indicate a significant transportation impact.

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[17] Governor's Office of Planning and Research. (2018). Technical Advisory on Evaluating Transportation Impacts in CEQA. Retrieved from *https://lci.ca.gov/docs/20190122-743_Technical_Advisory.pdf* on November 20, 2023.

For land use plans, such as a general plan or comprehensive plan, area plan or a community plan, the Technical Advisory states that the plan may have a significant impact on transportation if the proposed new residential, office, or retail land uses would, in aggregate, exceed the respective thresholds recommended above.

The Technical Advisory also includes guidance on considering the impacts of transportation projects on VMT. Transportation projects such as adding through lanes on existing or new highways, general-purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges, should be evaluated for impacts on VMT due to induced demand.

While OPR's Technical Advisory helps lead agencies navigate the implementation challenges of transitioning to the new VMT metric, agencies have the discretion to adopt the methodology and thresholds that best align with their project's needs. This includes considering the state's Green House Gas (GHG) and VMT reduction goals or setting thresholds consistent with the future-year VMT projections outlined in Regional Transportation Plans (RTPs) and Sustainable Communities Strategies (SCS) for specific jurisdictions or sub-regions.

METHODOLOGY

FresnoCOG chose the OPR's suggested metrics of VMT per capita and VMT per employee in the evaluation of land use projects[18]. Before setting VMT thresholds, FresnoCOG worked to establish VMT metrics calculating VMT per capita and VMT per employee based on the COG's activity-based travel demand model.

VMT PER CAPITA

After calculating the VMT per capita for each Traffic Analysis Zone (TAZ), the jurisdictional sphere of influence (SOI) boundary[19] which is similar to regional growth boundary, was used to aggregate VMT and population totals by jurisdiction. VMT and population estimates (jurisdictional VMT/jurisdictional population) were used to estimate VMT per capita for each jurisdiction including unincorporated Fresno County and the County as a whole.

The OPR guidelines allow lead agency discretion to decide the definition of the region for threshold purposes, so long as the criteria used to establish the thresholds focus on reducing GHG emissions, development of multimodal networks, and promote diverse land uses. Though FresnoCOG developed VMT per capita thresholds for each jurisdiction including the county, each jurisdiction can decide whether to use the

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[18] Fresno Council of Governments (2021). *Fresno County SB 743 Implementation Technical Report*. Retrieved from https://www.fresnocog.org/wp-content/uploads/2021/03/Fresno-COG_SB743_Technical-Document_03-29-2021.pdf on November 15, 2024.

[19] A jurisdiction's sphere of influence (SOI) is a planning boundary similar to a regional growth boundary that designates the probable future city limits and service area. Fresno County (2024). *South Central Specific Plan*. Retrieved from https://www.fresno.gov/wp-content/uploads/2024/05/4.-Draft-South-Central-Specific-Plan.pdf on December 5, 2024.

city/jurisdiction or the County as the region when establishing thresholds for evaluating residential projects.

VMT PER EMPLOYEE

VMT for all employment-related trips was aggregated for the entire county. Total employment, across all employment types, along with total employment-related VMT, was used to estimate VMT per employee. For office projects, in line with the OPR Technical Advisory[20], FresnoCOG recommends using Fresno County as the region for VMT analysis as this approach aligns with the regional character and provides a target that is more practical and consistent with regional planning goals. For example, an agency decides the region based on their local character, such as City of Spokane could use a stricter threshold than Spokane Valley.

VMT THRESHOLDS

The California Air Resources Board (CARB) sets GHG reduction targets for each of the state's 18 MPOs, reviewing their Sustainable Communities Strategies (SCS) to determine if they meet the required targets (2017 Climate Change Scoping Plan).[21] CARB established a 13% GHG reduction target for 2035 for the Fresno region's third RTP/SCS. Accordingly, FresnoCOG has set a 13% VMT threshold for residential and office projects within its member jurisdictions.

The thresholds were used to identify and categorize the TAZs into low, medium, or high VMT profiles.
- *Low*: TAZ VMT per capita/VMT per employee is 13% or lower than the regional/county average.
- *Medium*: TAZ VMT per capita/VMT per employee is within ±13% of the regional/county average.
- *High*: TAZ VMT per capita/VMT per employee is 13% or more than the regional/county average.

Based on OPR guidelines, the TAZ VMT categories are used to screen out residential and office projects located within TAZs in low VMT category from needing to prepare a detailed VMT analysis.

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[20] OPR guidelines suggest that in cases where the region is substantially larger than the geography over which most workers would be expected to live, it may be appropriate to refer to a smaller geographic area, such as the county as a region.

[21] California Air Resource Board. (2017). *California's 2017 Climate Change Scoping Plan.* Retrieved from https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf on November 20, 2024

North Front Range Metropolitan Planning Organization (NFRMPO), Colorado

The North Front Range Metropolitan Planning Organization (NFRMPO) serves the northern Colorado region, with a population of approximately 500,000. This area includes urban centers like Fort Collins and Greeley, as well as surrounding rural communities and agricultural lands.

NFRMPO at a Glance

0.5 million residents

15 incorporated cities

777 people per square mile

80% drive alone commute trips

BACKGROUND

Colorado's approach to VMT reduction prioritizes broad GHG emissions reduction goals rather than establishing specific VMT thresholds for individual projects, as seen in California. In 2019, Colorado passed House Bill 19-1261 (the Climate Action Plan to Reduce Pollution), which set aggressive targets to reduce GHG emissions by 26% by 2025, 50% by 2030, and 90% by 2050 from 2005 levels. To help achieve these targets, the state developed a Greenhouse Gas Pollution Reduction Roadmap. This roadmap models a 10% VMT reduction by 2030 compared to a baseline scenario with existing policies prior to 2019. Acknowledging that the transportation sector was the largest source of GHG emissions in 2020, the state's 2045 Statewide Transportation Plan also set a goal to achieve a 1% annual reduction in both VMT and emissions, focusing on long-term strategies to reduce overall transportation-related emissions and VMT growth. While there are no statewide VMT thresholds, MPOs in Colorado have the flexibility to set their own VMT targets based on local conditions, including regional goals for GHG emissions reduction and VMT per capita.

METHODOLOGY

The NFRMPO's 2050 Regional Transportation Plan[22] set performance measures and targets based on the regional and national goals associated with safety, regional health, mobility, multimodal and operations. To develop these measures, the NFRMPO collaborated with CDOT, local agencies, and transit staff to gather data on current conditions and identify long-term needs. This data was presented to the Technical Advisory Committee (TAC), which provided recommendations on setting the targets. The TAC's recommendation was then taken to the Planning Council for further discussion and adoption of the performance measures and targets. The performance measures and targets serve as a guiding policy for future transportation investments in the region.

As part of its goal to improve regional health, the NFRMPO has identified Daily VMT Per Capita as a key performance measure to be achieved by 2050. The baseline VMT is estimated using the NFRMPO's Regional Travel Demand Model (RTDM), along with data from CDOT and the Census, and population estimates provided by the Colorado
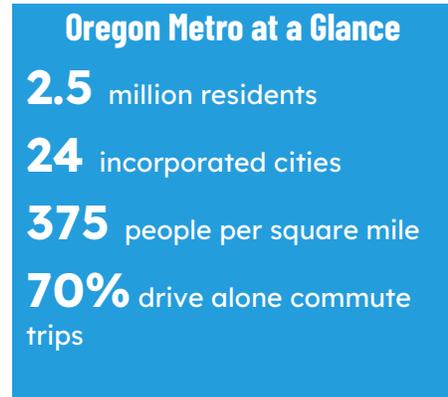
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[22] North Front Range Metropolitan Planning Organization (NFRMPO). *2050 Regional Transportation Plan.* Retrieved from: https://nfrmpo.org/wp-content/uploads/2050-regional-transportation-plan.pdf

Department of Local Affairs (DOLA). The target threshold for Daily VMT per capita is set at less than 24 miles, with a goal to reduce the need for long-distance travel for activities such as commuting, running errands, or going to school.

Oregon Metro, Oregon

Oregon Metro serves the Portland metropolitan area, which has a population of over 2.5 million. This region includes the urban core of Portland, along with suburban and rural areas in Multnomah, Washington, and Clackamas counties, with urban development and surrounding agricultural and natural lands. Oregon Metro is also responsible for managing the Portland metropolitan area's urban growth boundary (UGB) by limiting urban sprawl and protecting surrounding rural, agricultural, and natural lands.

Oregon Metro at a Glance

2.5 million residents

24 incorporated cities

375 people per square mile

70% drive alone commute trips

BACKGROUND

Oregon's comprehensive land use planning system is guided by 19 statewide land use planning goals, with Goal 12 focused specifically on transportation.[23] Goal 12 requires cities, counties, and the state to develop a Transportation System Plan (TSP) that considers all relevant transportation modes: mass transit, air, water, rail, highway, bicycle, and pedestrian facilities. The Transportation Planning Rules (TPR)[24] implement Goal 12 and provide specific guidelines on what local governments must include in their transportation planning efforts. The TPR defines Vehicle Miles Traveled (VMT) as all jurisdiction household-based light vehicle travel regardless of where the travel occurs and set VMT per capita as a performance measure for metropolitan GHG reduction.

The TPR (Rule 660-044-0020) sets GHG emissions reduction targets for the Portland Metropolitan area, aiming for:
- a 20% reduction by 2035,
- a 30% reduction by 2040, and
- a 35% reduction by 2050, from 2005 levels.

Rule 660-044-0030 establishes that these GHG emissions reduction targets are based on the ratio of future to base year VMT per capita, accounting for the effects of state and federal policies related to vehicles, fuels, and pricing.

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[23] Department of Land Conservation and Development, Oregon Planning. *Goal 12: Transportation.* Retrieved from https://www.oregon.gov/lcd/op/pages/goal-12.aspx#:~:text=People%20and%20businesses%20rely%20on,support%20local%20and%20regional%20economies. on November 23, 2024.

[24] Department of Land Conservation and Development, Oregon Planning. *Chapter 660. Division 12 Transportation Planning.* Retrieved from: https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3062 on November 23, 2024.

METHODOLOGY

Oregon Metro is responsible for managing the greater Portland region's urban growth encompassing the urban portions of Multnomah, Washington, and Clackamas counties, adopted the 2023 Regional Transportation Plan (RTP) in November 2023.[25] The RTP adopts the VMT targets outlined in the Transportation Planning Rules (TPR) and sets VMT per capita for home-based trips and VMT per employee for commute trips to/from work as performance measures for transportation efficiency. Accordingly, the region's VMT reduction targets are set at:

- 20% by 2035
- 25% by 2040
- 30% by 2045
- 35% by 2050, based on 2005 levels

The 2023 RTP and Transportation System Plans (TSPs) will also establish a baseline for VMT per capita and VMT per employee for the year 2045. Any future land use or transportation developments or policy changes must not increase the VMT per capita or VMT per employee to above the 2045 baseline.

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[25] Oregon Metro. *2023 Regional Transportation Plan.* Retrieved from: https://www.oregonmetro.gov/sites/default/files/2024/08/19/2023-Regional-Transportation-Plan-all-chapters.pdf on November 23, 2024.

Appendix B: VMT Calculation Methodology

Methodology to Calculate the Daily per capita VMT

Highway Performance Monitoring System (HPMS) data is used to calculate the daily per capita VMT. HPMS VMT data for Spokane County is calculated for the years 1996 to 2016 in five-year intervals, with 2023 included instead of 2021 to avoid COVID-19 pandemic impacts on VMT. To calculate the VMT data, the methodology is described below:

1. For each roadway segment in the HPMS data system, the daily VMT is calculated by multiplying the Annual Average Daily Traffic (AADT) by the length of the segment.
2. The VMT for each segment is then aggregated based on the roadway's functional classification.
3. The following roadway functional classifications are included for this analysis:
   o Interstate
   o Principal Arterial, Other Freeways/Expressways
   o Principal Arterial, Other
   o Minor Arterial
   o Major Collector
   o Minor Collector
4. Since HPMS data generally does not include complete information for local access roadways, the daily VMT for "Local" roadways is excluded from the analysis.
5. The daily VMT for all functional classifications is summed up to obtain the total daily VMT for the region.
6. Population data for the study years is sourced from the Washington State Office of Financial Management (WAOFM).[26]
7. The daily VMT per capita for a given year is calculated using the equation below.

$$Daily\ VMT\ per\ capita\ = Total\ Daily\ VMT/Population$$

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[26] Washington Office of Financial Management (WAOFM), April 1 Population by State, County and City, 1990 to Present, Retrieved from: https://catalog.data.gov/dataset/waofm-april-1-population-by-state-county-and-city-1990-to-present on November 2, 2024.

Appendix C: Daily VMT per capita By Year

Year	Daily VMT[1]	Population[2]	Daily VMT per capita
1996	7,225,156	397,508	18.18
2001	7,793,366	423,127	18.42
2006	8,448,440	446,751	18.91
2011	8,574,631	474,439	18.07
2016	8,991,210	502,706	17.89
2023	9,525,605	554,600	17.18
2035 (Forecasted)	10,316,657	605,588	17.04
2050 (Forecasted)	11,077,894	669,671	16.54

1. Daily VMT is obtained by summing the HPMS VMT by roadway functional classification as described in Appendix B.
2. Population is obtained from the State of Washington Office of Financial Management (WAOFM). For the horizon years 2035 and 2050, population is based on the population projections by the State of Washington Office of Financial Management's 2022 Projections of the Total Resident Population for Growth Management County projections, [27] using the middle growth scenario.

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[27] State of Washington Office of Financial Management's 2022 Projections of the Total Resident Population for Growth Management County projections, Retrieved from: https://ofm.wa.gov/sites/default/files/public/dataresearch/pop/GMA/projections2022/gma_2022_1yr.xlsx on December 20, 2024.