

POLICY STATEMENT



ASSOCIATION OF PEDESTRIAN
& BICYCLE PROFESSIONALS

Expertise for Active Transportation

CARBON NEUTRALITY AND VMT REDUCTION

Overview of APBP Policy Statements

The Association of Pedestrian and Bicycle Professionals (APBP) supports the community of professionals working to create more walkable, bikeable places through facilitating the exchange of professional and technical knowledge and by promoting fundamental positions that are broadly acknowledged and acted upon by APBP members.

APBP Policy Principles:

1. APBP represents the professional expertise and practical experience of its members in transportation policy discussions to advance active, healthy, and sustainable communities.
2. APBP recognizes the impacts of systemic and institutionalized racism, and we recognize our responsibility to identify and address inequities.
3. APBP endorses active transportation as an integral part of transportation systems through all stages of planning, design, funding, and implementation.
4. APBP supports connected, convenient, accessible, and safe streets and pathways in every community and planning with the input of every member of a community.
5. APBP advances a safe system approach that leverages active transportation to create equitable access for everyone in every place.

Position:

The Association of Pedestrian and Bicycle Professionals identifies reducing vehicle miles traveled (VMT) as a critical measure in reducing our greenhouse gas emissions (GHG) from the transportation sector and the effects of climate change.

The Association of Pedestrian and Bicycle Professionals believes that policies to make the use of active modes safer, easier, and more comfortable, or to promote the use of active modes, play a key role in shifting mode use away from passenger vehicles. While these policies have a quantifiable and positive effect to reduce GHG emissions, they are most effective when combined with direct disincentives for

automobile use, such as charging the market rate cost for traffic congestion or vehicle parking and eliminating vehicular parking minimums or implementing vehicular parking maximums.

The Association of Pedestrian and Bicycle Professionals supports policymakers to consider measures from a variety of spheres (e.g. land use policies, increasing access to bicycles and e-bikes through bikeshare programs and financial incentives, equitable roadway pricing strategies, etc.), a combination of measures both infrastructure and non-infrastructure, and level of scale (i.e. individual parcel level, corridor-level, or community-wide) in order to implement programs that will yield meaningful changes in VMT reduction.

Context:

Addressing demand for energy through reductions in vehicle miles traveled is critical to addressing climate change. The transportation sector is the largest source of GHG emissions in the US, making up 27% of total GHG emissions,¹ and is the second largest source of GHG emissions in Canada, making up 24% of total GHG emissions.² Within the transportation sector, direct emissions from motor vehicles make up 70% of these emissions.³ Since 1970, GHG emissions have more than doubled in the transportation sector worldwide. Around 80% of the GHG growth in the transportation sector in this time has come from road vehicles.⁴

Electrification of passenger vehicles helps to reduce demand for transportation energy, but challenges remain. Electric vehicles still contribute indirect emissions from their electricity production, vehicle manufacturing, and to the creation and maintenance of the roadway and vehicle parking and charging infrastructure used to support them. In 2019, an electric vehicle in the U.S., on average, emitted about 200 grams of CO² per mile. If the electricity grid can be converted to non-fossil fuel sources, researchers are projecting that GHG emissions from electric vehicles can be reduced by 75% to about 50 grams of CO² per mile in 2050.⁵ However, even if all vehicle sales are electric by 2035, internal combustion engines will still make up a significant amount of the vehicle fleet for years to come. Additionally, both electric and fossil fuel powered vehicles create human rights and environmental impacts related to the extraction of minerals or fuels. Reducing VMT will reduce these concerns and the GHG emissions from both electric vehicles and internal combustion engine vehicles.

Walking and biking, on the other hand, do not create emissions or other pollutants, other than small indirect emissions that may be created during the construction and maintenance of their infrastructure or the production of a bicycle, which are substantially less than the indirect emissions created by motor

¹ <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

² <https://www.canada.ca/content/dam/eccc/documents/pdf/cesindicators/ghg-emissions/2022/ghg-emissions-en.pdf>

³ https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf

⁴ https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter8.pdf

⁵ <https://energy.mit.edu/research/mobilityofthefuture/>

vehicles. In addition to creating fewer pollutants, walking and biking can improve the economic vitality of a community and the health of those active users.⁶

Efforts to reduce transportation energy demand need to address current demographic and cultural trends as well. Our population is aging, and by 2030, one in every five people in the U.S. will be 65 years or older⁷. Considering all adults in the United States, 26% have some type of disability, and 11.1% have a mobility disability.⁸ These numbers rise for the population aged 65 and older. Since the early 1980's, there has been a trend for parents to escort their children to school in a car, rather than to allow them to walk or bike as was the norm in prior decades. Building and maintaining safe routes to community destinations such as grocery stores, parks, and schools by active modes is crucial to reducing vehicle miles traveled and will in turn also serve our growing senior and disabled population, parents, and youth.

Recommendations:

APBP recommends that agencies and governments acknowledge the need to *reduce VMT*, adopt a goal of *reducing per-capita VMT* and a supporting policy of *shifting trips to transit and active transportation modes*. APBP then recommends taking implementable actions to support this mode shift for VMT reduction.

Key direct transportation implementation actions with a known and quantifiable impact on VMT reduction include:

- **Policies**
 - **Adopting VMT as the key criteria for development review and project identification.** See California's VMT criteria for development review: Senate Bill 743 (2013) in the Agency Policies section.
 - **Implementing equitable roadway pricing strategies based in part on cost per VMT.** In a 2021 Swiss study, researchers found that a 10% increase in transportation costs due to pricing led to a decrease in the external costs of transport (i.e. health, emissions, noise and congestion costs) by 3.1%.⁹ Even so, road pricing strategies should consider and mitigate their equity impact. A Path Toward Equitable Mobility (2022) is a toolkit for equitable roadway pricing from the City of Seattle provided in the resources below.
 - **Limiting residential motor vehicle parking,** a measure which has the potential to reduce up to 13.7% of GHG emissions from resident vehicles accessing a site.¹⁰

⁶ <https://www.mass.gov/doc/masstrails-shared-use-path-impacts-study/download>

⁷ <https://www.aarp.org/livable-communities/network-age-friendly-communities/>

⁸ <https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html#:~:text=Adults%20living%20with%20disabilities%20are,adults%20without%20a%20disability%20smoke.>

⁹ <https://doi.org/10.3929/ethz-b-000500100>

¹⁰ https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf

- **Requiring bicycle parking** to be provided in new developments, as access to secure bike parking has been noted as one of the top determining factors for whether someone chooses to ride a bicycle.¹¹
- Infrastructure
 - **Expanding, connecting, and completing low-stress bicycle and pedestrian networks**, especially near essential destinations like schools, health facilities, grocery stores, and community centers.
 - **Providing secure bicycle parking** because, as stated above, bicycle parking is a deterministic factor for whether someone will choose to ride a bicycle.
- Programs
 - **Requiring and implementing transportation demand management programs.**
 - **Implementing or expanding bike and scooter share programs and promoting access to bicycle ownership.** For example, the Sacramento Area Bicycle Advocates has a [Bike Match Program](#) for Essential Workers.
 - **Promoting e-bike adoption**¹² through financial incentives or subsidies.
 - **Implementing large-scale campaigns promoting walking and biking.**

While this document is focused primarily on the transportation measures that can be undertaken to reduce VMT, there are a number of other non-transportation policies with a known impact on VMT reduction as well. In particular, land use policies removing single family zoning to encourage missing middle housing types such as duplexes and triplexes and encouraging compact development, especially near transit and in walkable or bikeable areas, are also critical to reducing VMT. Several examples of successful policies that support smart growth or denser development are included in the Existing Agency Policies section.

In addition to all measures listed above, The California Air Pollution Control Officers Association (CAPCOA) published a *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (GHG Manual) in 2021.¹³ CAPCOA is a non-profit association of the air pollution control officers from all 35 local air quality agencies throughout California, which was formed in 1976 to promote clean air and to provide a forum for sharing of knowledge, experience, and information among the air quality regulatory agencies around the State. The GHG Manual includes a number of strategies that “aim to reduce VMT and encourage mode shifts from single-occupancy vehicles.” A complete list of transportation measures is presented in Figure 1. This CAPCOA resource provides formulas to calculate the impact of each strategy, and APBP recommends that agencies become familiar with and implement the VMT reduction measures identified by CAPCOA.

¹¹ https://www1.nyc.gov/assets/planning/download/pdf/plans/transportation/bike_survey.pdf

¹² https://prismic-io.s3.amazonaws.com/peopleforbikes/dc0b2896-4a2c-4f35-af48-11df5cb9ea7e_E-bike-Potential-Paper-05_15_19-Final.pdf

¹³ https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf

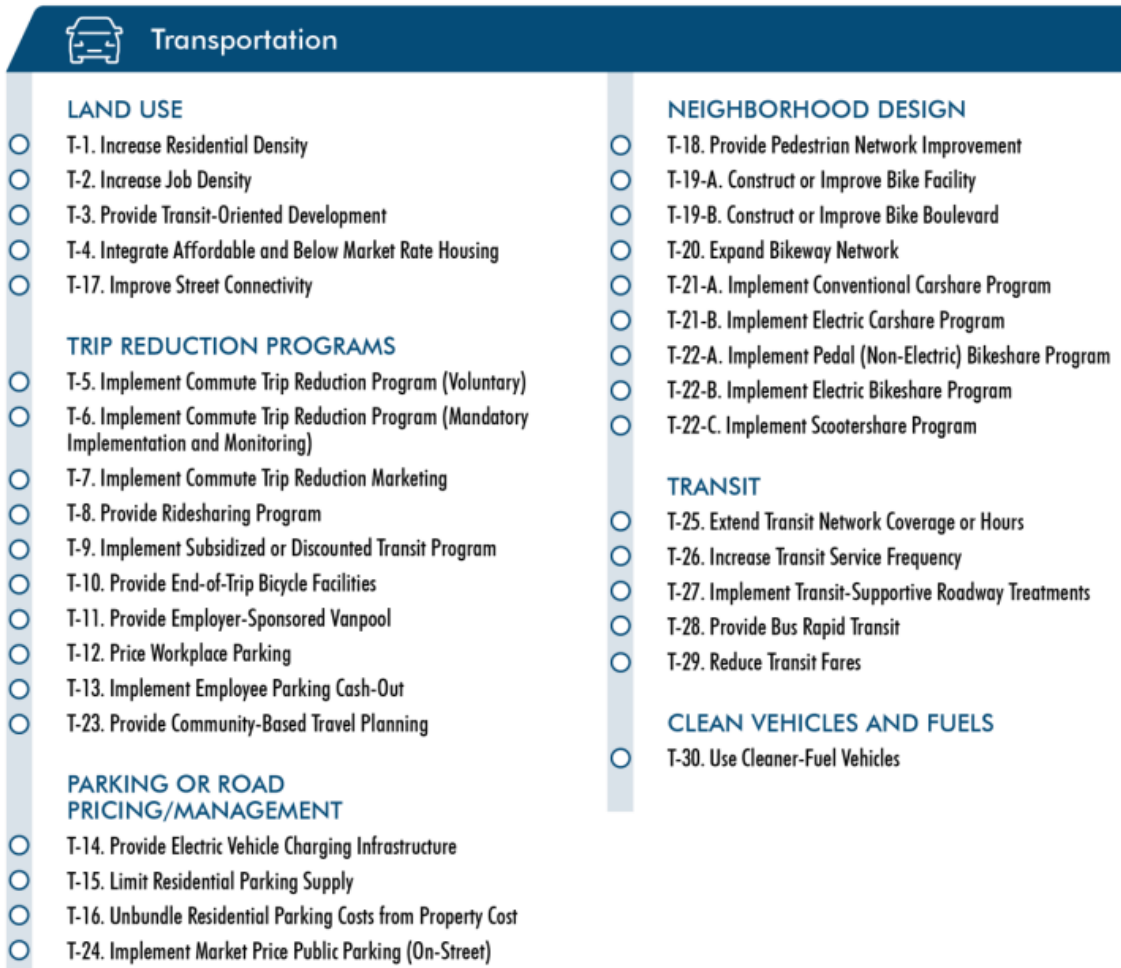


Figure 1: Quantifiable Transportation Strategies for Reducing VMT and GHG Emissions, (CAPCOA 2021, 63)

Existing Agency Policies:

Many agencies are already adopting policies that reduce VMT. Examples of goals or policies that have been successfully implemented include the following:

- Oregon’s Updated Transportation Planning (TPR) Rules
 - TPR 0155 identifies reducing per-capita vehicle miles traveled and supporting compact, pedestrian-friendly patterns of development as required factors to prioritize transportation facilities and services within cities, counties, Metro (Portland’s Metropolitan Planning Organization), and within state agencies.¹⁴

¹⁴https://www.oregon.gov/lcd/Commission/Documents/2022-03_Item-3_CFEC_Attachment-F_Division-12.pdf

- o TPR 0160 requires that cities and counties updating their long range transportation plans adopt a plan projected to reduce vehicle miles traveled.
- Massachusetts' Mode Shift Goal (2012)
 - o Massachusetts' Mode Shift Goal and the following Healthy Transportation Policy Directive commit MassDOT to ensuring that all MassDOT projects are designed and implemented in a way that promotes walking, bicycling, and taking transit. Implementation actions include changes to the project review process and project design process.¹⁵
- California's VMT criteria for development review: Senate Bill 743 (2013)
 - o Adopted in 2013, SB 743 in California requires that transportation analyses conducted under the California Environmental Quality Act use an alternative performance measure to automobile delay and Level of Service. The recommended metric to use instead is Vehicle Miles Traveled, or the number and length of car trips induced. Implementation of the law became required in 2020. This change in evaluation metrics encourages walkable communities with less traffic and more transportation options, as well as avoids expensive roadway expansions.
- Washington State's Commute Trip Reduction Program
 - o Washington State established Commute Trip Reduction policies and programs in 1991. The state targets a VMT reduction of 30% by 2035 and 50% by 2050. Projects are aimed at improving "walking, bicycling, and public transportation; partnerships with local and regional transportation agencies to encourage non-auto travel; and requirements for larger employers to develop commute trip reduction plans."¹⁶
- San Diego Association of Governments' (SANDAG) Smart Growth Incentive Program (SGIP)
 - o SANDAG administers the SGIP which provides funding in the San Diego region for transportation-related infrastructure and planning projects that support smart growth and transit-oriented development. For example in Cycle 5, SanDAG funded National City to develop a program focused on transit oriented development. The program is an opt-in system for developers to use an alternate calculation method for the number of units proposed on a parcel, rather than putting a limit on dwelling units per acre. No single-family zones would be included in the opt-in method. Mixed-use overlay zones and housing overlay zones would be included.
- Canadian Electric Bike Incentives

¹⁵ <https://www.mass.gov/doc/healthy-transportation-policy-directive/download#:~:text=MassDOT%20has%20established%20a%20statewide,the%20agency%20met%20this%20goal.>

¹⁶ <https://app.leg.wa.gov/wac/default.aspx?cite=468-63>

- There are a number of electric bike incentives available across Canada¹⁷ including financial rebates, low-interest loan programs, sales tax waivers, point of sale discounts, tax liability credits, and other subsidies. In Alberta, the Scrap-It program offers a rebate when applicants purchase an e-bike and get rid of their car, helping shift residents toward low or no-car ownership.
- Oregon’s House Bill 2001 Inclusionary Zoning Law
 - House Bill 2001 removes single family zoning and allows for more alternative, economical types of housing in order to allow for denser development and to reduce sprawl. It allows for duplexes, triplexes, fourplexes, and cottage clusters in cities with over 25,000 residents and duplexes in cities with over 10,000 residents.¹⁸

Resources:

For further information, APBP suggests these recognized sources:

- Michael Mehaffy et al., *The Road Forward: Cost-Effective Policy Measures to Decrease Emissions from Passenger Land Transport*. 2022. KTH Royal Institute of Technology. <https://vtpi.org/trf2022.pdf>.
- California Air Pollution Control Officers Association, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. 2021. https://www.caleemod.com/handbook/full_handbook.html.
- Intergovernmental Panel on Climate Change, *AR5 Climate Change 2014: Mitigation of Climate Change Chapter 8: Transport*. 2014. https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter8.pdf.
- MIT Energy Initiative, *Insights Into Future Mobility*. 2019. <https://energy.mit.edu/wp-content/uploads/2019/11/Insights-into-Future-Mobility.pdf>.
- Seattle Department of Transportation, *A Path Toward Equitable Mobility*. 2022. <https://www.seattle.gov/documents/Departments/OSE/ClimateChange/RoadPricingStrategiesRET.pdf>

APBP’s policy statement development process/member participation

This policy statement was developed by the APBP Policy Committee. APBP’s Board of Directors approved the policy statement on April 20, 2023. APBP members can suggest changes to any policy statement by contacting the association’s Executive Director, Policy Committee co-chairs, or a board member. For more information, contact: Lauren Santangelo, Executive Director, at lsantangelo@amrms.com.

¹⁷<https://ebikebc.com/en-us/blogs/articles/electric-bike-incentives-across-canada-government-rebates-on-ebike-and-cargo-etrikes>

¹⁸ [HB2001 \(oregonlegislature.gov\)](https://legislature.oregon.gov/bills/2001/2001HB02001.aspx)