



VisionEval Regional Strategic Planning Model (VERSPM)

Frequently Asked Questions

For more information, visit visioneval.org and [this AMATS memo](#).

Overview

VisionEval is a model to support transportation planning. The model evaluates many possible policies, conditions, and travel behaviors at the same time to identify what would be needed to reach the goals of the plan. Inputs to the model include demographic, socioeconomic, and broad transportation information. The key scenarios identified by VisionEval can be used in the regional travel demand model, which looks at the transportation network in much more detail. The two models (VisionEval and the travel demand model) are not the same or replaceable, but they do work together.

The VisionEval model was developed by the Oregon Department of Transportation and the Federal Highway Administration.

Frequently Asked Questions

How does VisionEval measure equity?

To measure the social justice and equity of the system, the current model setup is using the proportion of income spent on vehicle travel for the low-income quintile households as a performance metric. VisionEval does not account for non-vehicular travel costs (for example: transit or air fare). There is also the overall understanding that transportation system improvements that reduce driving dependency also improve equity. Active transportation and transit improvements help accomplish this when paired with effective land use planning by giving people options for transportation.

What effects might household income have on outcomes in the VisionEval model?

Income helps define a household transport budget, which is one factor the model uses when estimating the amount and type of household travel.

Are details of transit service configuration, proximity to land use, and ITS treatments accounted for in the transit trip estimates?

The model accounts for transit frequency (but not service configuration) at the zonal level using a measure from the EPA Smart Location Database.¹ The model provides the ability to increase or decrease the amount of system management effort which accounts in general terms for ITS deployments, but any resulting efficiencies do not impact transit utilization in the forecasts.

How are Vehicle Miles Traveled (VMT) factored in?

Changes in VMT are one outcome estimated by the model based on the mix of actions (for example: more transit service, higher use of active transportation, fewer roadway lane-miles, etc.).

¹ The D4c variable is a model input at the zonal level, defined as “aggregate frequency of transit service within 0.25 miles of block group boundary per hour during evening peak period.”

If the model does not have a transportation network, how does it account for the local VMT and greenhouse gas emissions from the various road networks?

The model's statistical components were estimated from national data (for example: National Household Travel Survey) and controlled for regions of different size. The model was extensively validated during development and its VMT estimates found to be robust.

When considering economic impacts, will potential economic benefits of a safe and accessible active transportation network be considered?

VisionEval measures the effects of more active transportation trip-making at the household level, which affect output measures of emissions, VMT, congestion, truck VMT, delay, and so on. The current version of VisionEval does *not* produce direct (for example: value of travel time savings) or indirect (for example: job creation or change in gross regional product) economic measures.

How is the Anchorage 2040 Land Use Map incorporated into VisionEval? What land use relationships to Mat-Su were considered?

VisionEval tasks its land use inputs (households, population, and employment by category) in the same form as the travel model: at the Traffic Analysis Zone (TAZ) level. The TAZs are roughly "neighborhood" sized; they are smaller in Anchorage, the denser parts of Chugiak-Eagle River, and places like Wasilla, but larger in the more rural areas.

For an existing trends scenario, 2050 household totals in the Municipality of Anchorage were capped to the maximum housing units permitted under the 2040 Land Use Map with any overage being allocated to the next most adjacent TAZs with capacity under the land use plan. Mat-Su 2050 land use inputs were based on Alaska Department of Labor and Workforce Development 2045 borough-level forecasts extrapolated linearly to 2050 then allocated to TAZ using the same proportional allocation as the 2019 base year. Additional scenarios compared more dense land use and concentrated household and economic growth in specific areas of Anchorage and Mat-Su.

Can the model show where Transportation System Management & Operations (TSMO) investments should be made?

No. The travel demand model will be used for location-specific system management analysis.

What is the base year? Why was it chosen?

2019 was chosen as the base year for the MTP update because it was the last pre-pandemic year for which stable observed data existed (for example: traffic counts and transit ridership). The years 2020 and 2021 were still in flux. Observed data could not be procured from 2022 in time to develop the models and planning support information.

Where can I find more information about the VisionEval VMT regression models?

See <https://visioneval.org/docs/index.html> especially Chapter 12 "Estimation in VisionEval."