



Model Forecast Development Process and Projects

List for *Way to Go, Whatcom*

The Whatcom Council of Governments (WCOG) deploys a four-step trips-based travel demand model, hereafter referred to as “model”, suitable for the assessment of current and forecast regional transportation system conditions. The WCOG model went through a full calibration and validation update from 2018 – 2020 based on the [Whatcom Regional Transportation Study](#) conducted in the Fall of 2018. The report for this process can be found by visiting the [WCOG regional travel demand model](#) webpage.

The model update in preparation for the regional/metropolitan transportation plan (R/MTP) update, [Way To Go, Whatcom](#), established a base year of 2019 and a horizon forecast year of 2045. The forecast year of 2045 entailed a build and no-build scenario to assess the impact of growth for the 26-year period as well as compare the difference between the implementation of planned investments that impact regional road system capacity and no further investments beyond projects that were programmed in the regional [Transportation Improvement Program](#) through the year 2022.

Note that the impacts of COVID-19 pandemic that began in early 2020 were excluded from inputs into the travel demand model because of the lack of quality trip data, funding and personnel time requirements, the impacts of short-term versus long-term, and limitations in the travel demand model.

Demographics

Land use is represented in the model through data inputs into Transportation Analysis Zones (TAZ) in 2018 that reflect the urban and rural composition of Whatcom County and the incorporated cities within. The TAZs serve as the demographics foundation for trip making activities. The 2019 base model year developed for *Way To Go, Whatcom* was developed with state and local data sources, and with the expertise of City of Bellingham. The key demographic inputs for the WCOG model are based on households, employment, and school enrollment.

Forecast Development

WCOG developed the 2045 horizon year demographics through a multi-step process that included the guidance from region's land-use jurisdictions expertise, county comprehensive plan household and employment allocations, forecast information from Office of Financial Management (OFM) and a population synthesis tool that distributed household and income characteristics, based on Census data, throughout the transportation analysis zones (TAZ) geographies. The demographics forecast was vetted through the Whatcom City/County Planners Group and the WCOG Technical Advisory Group (TTAG) before final approval of the model that informed the regional transportation plan approved by the Whatcom Transportation Policy Board.

The following sources were used to develop forecast demographics.

- [OFM - 2017 Growth Management Act county population projections](#)
- [Whatcom County Comprehensive Plan](#)
- Public school enrollments for public and private schools throughout Whatcom County for 2018-19
- Public Use Microdata Area (PUMA): 2015-19 American Community Survey (ACS)
- Consultation with professional staff from each county/city jurisdiction in the region.
- City of Bellingham staff

Transit Network

The WCOG model accounts for our region's robust transit service ridership that serves as an important mode option for regional travel. The model is maintained to the most up-to-date transit routes and capacity in coordination with Whatcom Transportation Authority (WTA). The model transit network is maintained for accurate route information and the 2045 forecast year was developed in consultation with WTA staff and guided by the [WTA 2040](#), the region's long range transit plan.

External Activities

The model incorporates trip activities from outside of the region, called "external" activities. In particular, trips are accounted for that: begin outside of the region and end within the region, begin within the region and end outside of the region, and trips that begin outside the region and move through the region to a destination outside the region (e.g. a trip that originates north of the Whatcom (Canada) and the destination is south of Whatcom, and vice versa). External trips are important because the region's U.S.-Canadian border crossings, known as the Cascade Gateway, rank among the highest daily crossings for personal and freight activity of all U.S.-Canadian crossings. Further information on border activities can be found through the [International Mobility and Trade Corridor Program \(IMTC\)](#)

The external activities were estimated using a combination of traffic counts data and recent trends in inter-regional and cross-border travel.

Roads and Multimodal Network

Roads facilitate the flow of travel throughout the region. All roads developed in the model network contain attributes that define its functionality, most notably: number of lanes and direction, roadway capacities, and speeds. Roads predominately serve vehicular activities and make up the bulk of trip making activities in the model, bike and pedestrian trip activities are also reflected in the model, but to a lesser extent because the model was developed primarily for regional-scale trips. The TAZs (demographics) are connected to the road network through centroid connectors that distribute the production or attraction of trips throughout the region.

Roads in the model network are considered regionally significant under the [Way to Go, Whatcom](#) plan and may be recognized under federal functional classification or freight classification.

The travel demand model scenarios developed for the 2045 forecasts include the addition of projects listed in the regional plan that influence the roadway's capacity and/or functionality. Projects applied to the model include new roads, existing roads with additional lanes, increases or decreases in functional classification or road diets (i.e. the removal or reduction of travel lanes).

Model Forecast Projects List for *Way to Go, Whatcom*

The following table illustrates the transportation projects factored into the travel demand model scenarios for the 2045 forecast. The scenarios include a no-build network that applies no future capacity projects beyond 2022 and a build network that applies all capacity impacting projects listed in the plan.

Project Label	Agency	Location	Description	Year
2020 - 2022 (applies to 2045 build and no-build scenarios)				
Chestnut	Bellingham	Railroad to Ellis	Reduce lane - install bike lanes	2020
Samish, Ellis, York Road Diet	Bellingham	Cornwall (York) to Lakeway (Ellis) to Bill McDonald (Samish)	Reduce lane both directions - install bike lanes	2020
West Horton Phase 1	Bellingham	From Pacific Rim to Aldrich Rd	Construct new 2 lane road.	2021
Orchard Drive Extension	Bellingham	Squalicum Parkway to James St	Construct new 2 lane road.	2022
NB I-5 On-ramp	Bellingham	Bakerview Rd	Add on-ramp Bakerview to I-5	2022

Project Label	Agency	Location	Description	Year
2023 - 2045 (applies to 2045 build scenario)				
Bennett Drive	Bellingham	Airport Drive to Marine Drive	Upgrade to Urban Minor Arterial	2023-2027
Boblett St	Blaine	SR 543 to Luckwick	Channelization	2023-2027
South Cornwall Avenue	Bellingham	Wharf Street to Cornwall Beach	Construct new 2 lane road.	2023-2027
Northwest Drive/Aldrich Road Intersection	Bellingham	Northwest Drive/Aldrich Road	Prohibit left turn onto Northwest	2023-2027
Birch Bay Drive	Whatcom	Alderson Road to Point Whitehorn Road	Upgrade to Minor Arterial	2023-2027
Lincoln Road Extension and Improvement	Whatcom	Harborview Road to Blaine Road (SR 548)	Construct new 2 lane road	2023-2027
Thornton Street Overpass	Ferndale	Malloy Avenue to Portal Way	Construct new 2 lane road	2023-2027
James Street, Phase 3	Bellingham	Gooding Avenue to Van Wyck Road	Construct new 2 lane road	2028-2040
Slater Road	Whatcom	Hannegan Road to Northwest Drive	Construct new 2 lane road	2028-2040
Harborview Road	Whatcom	Birch Bay Drive to Birch Bay- Lynden Road	Upgrade to Minor Arterial	2028-2040
Birch Point Road	Whatcom	Semiahmoo Drive to Shintaffer Road	Upgrade to Minor Arterial	2028-2040
Lakeway Drive / Terrace Avenue North / Cable Street	Whatcom	Bellingham City Limits to Lake Whatcom Boulevard	Upgrade to Minor Arterial; widen to 4 lanes	2028-2040
SR 539 from Birch Bay Lynden to SR 546	Lynden	SR 539 (Guide Meridian) from Birch Bay Lynden to SR 546 (Badger Rd)	Widen to 4 lanes	2028-2040
West Horton Phase 2	Bellingham	From Aldrich Rd to Northwest Dr	Construct new 2 lane road.	2033-2045
San Juan	Bellingham	Pacificview to 40th St	Construct new 2 lane road	2033-2045
Governor	Bellingham	Mahonia to San Juan	Construct new 2 lane road	2033-2045
Van Wyck Rd	Bellingham	James St to SR 539	Construct new 2 lane road	2033-2045
Lincoln St	Bellingham	E Maple St to South Fred Meyer parking entrance	Reduce lane both directions	2033-2045