

Speed Limit Setting Methods

Drawing from national best practices including NACTO's City Limits guide, two primary factors are proposed to determine each street's appropriate speed limit: Activity and Conflict levels. This document explains how staff determined the level of "Activity" and "Conflicts" for each higher speed street in the Safe Speeds Bellevue study. Data was collected for each 30+ mph street segment on existing conflict points, facilities for people walking and biking, and activity level. This data was used to rate the "Activity" and "Conflicts" on each segment as High, Moderate, or Low. Staff then determined a safer speed limit between 25 and 35 mph for each segment by putting these ratings into the Safe Speeds Matrix (below).

Activity Level describes how active a street is now or is expected to be in the near future. It considers how many people are walking and rolling along the street, what types of public spaces are next to the road, current or future bike routes, transit usage and curbside demand (ex. parking, delivery drivers). Generally, more activity supports lower speed limits.

To determine the safer speed limit, staff first looked at the activity level along the street, considering land use, transit stops, on-street parking, schools, community amenities, and other factors. The streets below illustrate the "High", "Moderate", and "Low" activity levels found on Bellevue streets.

Activity Level



High
Factoria Blvd SE



Moderate
NE 24th St



Low
Lake Hills Connector



Conflict Density measures how frequently potential conflicts arise between different road users. It combines two metrics "Conflict Point Density" and "Modal Mixing" to evaluate the level of potential conflict on the street.

Crossing Point Density measures how many opportunities there are for people to cross or enter the street where people are driving by counting the number of intersections, driveways, and midblock crossings. Generally, more crossing points support lower speed limits. The level of conflicts is determined by the density of conflict points (intersections, driveways and mid-block crossings) as well as t. Staff determined that a low density of conflict points corresponded to less than 16 conflict points per mile, a moderate density to 16-32 conflict points per mile, and a high density to more than 32 conflict points per mile. The streets below illustrate the "High", "Moderate", and "Low" conflict point densities found on Bellevue streets.

Conflict Point Density



High
Northup Way



Moderate
124th Ave SE



Low
148th Ave SE



Modal Mixing looks at how people using different travel modes—like people walking, rolling, bicycling and driving—interact with each other. This is based on the infrastructure available to separate people walking, biking, and driving. Generally, higher modal mixing supports lower speed limits. Staff separately examined modal mixing for people walking and for people biking.

Staff determined a street has high modal mixing for people walking if there is either no sidewalks on either side of the street, or a sidewalk on only one side that is not separated from the roadway by a landscape strip. A street with moderate modal mixing for people walking may have sidewalks on both sides without a landscape strip or a sidewalk on only one side if that sidewalk does have a landscape strip separating it from the roadway. Finally, a street with low modal mixing for people walking must have sidewalk on both sides of the street and at least one sidewalk must be separated from the roadway by a landscape strip.

Staff then determined the modal mixing for people biking, with a street rated “High” if there are no separate bike facilities present, a “Moderate” rating if there are only striped bike lanes present, and a “Low” rating if there are bike lanes or paths separated from the roadway by a painted buffer, curb, or landscape strip. The streets below illustrate the “High”, “Moderate”, and “Low” modal mixing for people walking and biking on Bellevue streets.

Modal Mixing



High
156th Ave SE



Moderate
Northup Way



Low
112th Ave SE



Safe Speeds Matrix

After assessing the level of “Activity” and “Conflicts” on each street as High, Moderate, or Low, a safer speed limit between 25 and 35 mph is determined by putting these ratings into the Safe Speeds Matrix below. For streets with moderate activity and conflicts, or streets with high activity but low conflicts, staff identified a need for additional engineering judgement to select either a 25 or 30 mph speed limit. This involved a more holistic look at the operation and safety of each street, as well as the speed limit recommendation on adjacent streets. These streets are denoted with an asterisk in the Safe Speeds matrix below.

		CONFLICTS		
		High	Moderate	Low
ACTIVITY 	High			
	Moderate			
	Low			