

October 25, 2001

To: TSP File
From: Ken Lindmark

Subject: Initial Water Ave Ramp Analysis Findings

The 2020 road network from the RTP Strategic scenario includes a ramp from Water Avenue to s/b I-5. Policy staff asked me to examine the impacts of not adding the ramp to the road system.

Ramp Traffic

The 2020 2 hour PM peak model for the RTP Strategic scenario was used for this analysis. A select link analysis was performed to isolate the traffic using the ramp. The following table enumerates the origins and destinations of the peak period vehicle trips using the ramp.

Table 1. 2020 2 Hr. PM peak Vehicle Trips using the Water Ave Ramp to s/b I-5

Origins:	Destinations:								
	CBD	N. Macadam	SW	NW	St. Helens	Bvrtn/Hlsbr	Tig/Tual/LO	Ore. City/rural	sum
Lloyd Dist. gv03	20	12	185	0	0	8	237	1	463
CEID gv04	34	22	462	26	9	347	474	3	1,379
NE gv08	4	2	20	0	0	1	25	0	51
SE gv09	40	7	267	6	0	177	288	1	785
sum	97	43	938	32	9	532	1,026	5	2,685

Of the 2,685 vehicles expected to use the ramp, over 1,800 (about 70%) originate in the CEID or Lloyd District. Over 1,500 (nearly 60%) of the vehicles using the ramp have destinations in Washington or Clackamas counties or points south. Over 900 vehicles have destinations in SW Portland. The attached plots (Fig. 1 & 2) illustrate the facilities that these trips are expected to use (i.e., US 26 west; I-5 south; and SR 43).

Traffic without the Ramp

The traffic using the ramp was saved as an origin-destination table in the model. This table was then assigned to a road network without the ramp. The result is a picture of the routes that the ramp traffic would use – a sort of ‘detour’ scenario. This assignment accounts for the all of the congestion effects of the diverted ramp traffic as well as the other traffic on the system so that the route choices within the model accurately reflects driver behavior.

The attached plots (Figs. 3 & 4) show the routes and volumes for this scenario. Lloyd District traffic that was formerly using the ramp shifts to the Broadway ramp to s/b I-5.

CEID traffic shifts to the Hawthorne, Ross Island and Morrison bridges. Since this traffic is destined for the freeway system, Front Avenue and Market Street are used more heavily than the scenario with the ramp.

Additional plots (Fig. 5 & 6) are also provided which show the net change in peak period traffic without the ramp - not just the diverted ramp traffic as in the previous plots. Again, increases in volume would be expected on the three bridges as well as some downtown streets. Decreases in volume are found on the Marquam Bridge and I-405.

Conclusions

This preliminary analysis shows that the Water Avenue ramp to s/b I-5 is expected to serve primarily as access to the freeway system for some of the trips generated by the CEID and Lloyd District. Not surprisingly, these most of these trips have destinations outside the City. Without the ramp, these trips would use downtown bridges and streets to access the freeway system. It is important to note that for this analysis, no examination of changes to demand or mode choice were made. In other words, all of the assumptions present in the RTP Strategic scenario were maintained.