



MEMORANDUM

TO: Southwest Washington Regional Transportation Council Board of Directors
FROM: Dean Lookingbill, Transportation Director
DATE: September 24, 2013
SUBJECT: **I-205 Corridor Study Update**

AT A GLANCE – DISCUSSION

The purpose of this memorandum is to provide an update to the RTC Board on recent I-205 Corridor Study activities. It describes 2022 transportation system improvements, I-205 corridor demographic characteristics, regional transportation system performance in the corridor for 2022 conditions, and the proposed 2022 low cost operational improvements being considered for the short term operational analysis.

BACKGROUND

The I-205 Corridor Study is analyzing both short and long term vehicle performance in the corridor. The 2022 short term analysis is made up of funded and operational alternatives. The funded alternative will assess transportation performance if there are no additional improvements in the corridor except for already funded projects. The operational alternative will evaluate how the addition of low cost operational strategies to the base case can help optimize performance in the corridor.

The long term analysis will look at 2035 transportation conditions with the set of core capital projects in the corridor adopted by the RTC Board in November 2012. As a reminder, the recommended set of core projects is listed below.

- I-205 Widening (SR-500 to Padden)
- SR-14 Widening (I-205 to 164th)
- New SR-500 off-ramp/auxiliary lane from Mill Plain to SR-500
- Padden Interchange improvements with 72nd Avenue slip ramp
- I-205 Park and Ride at 18th Street

2022 CAPITAL SYSTEM IMPROVEMENTS

The 2022 network includes today’s transportation system together with state-funded Nickel/Partnership projects and improvements in local six year Transportation Improvement Programs. The Nickel/Partnership projects assumed in the I-205 corridor are the completion of the Salmon Creek Interchange Project and the 18th Street Interchange at I-205.

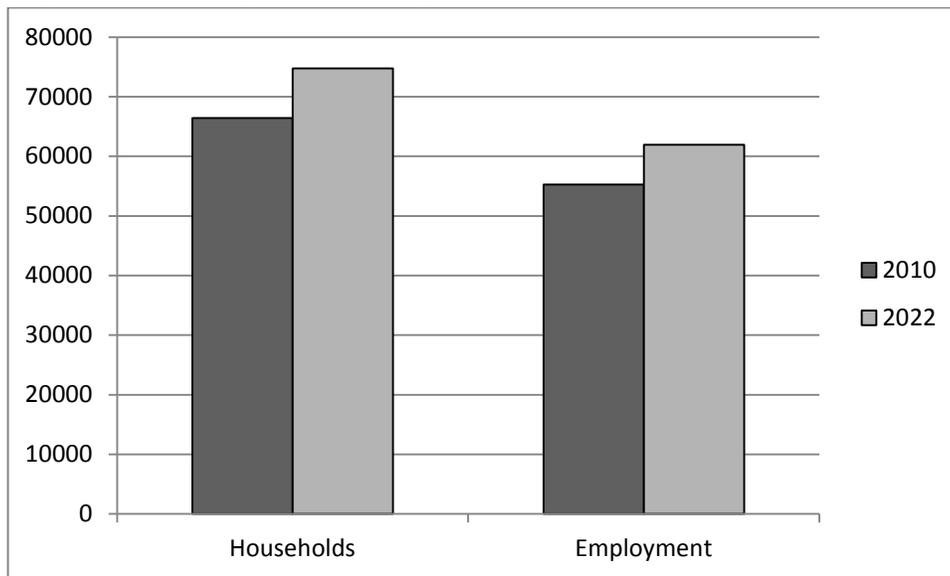
In addition, the 2022 network for I-205 includes a set of low cost geometric and operational strategies to the system intended to improve transportation efficiency and manage the corridor more effectively. Some of the strategies were previously discussed as part of the proposed 2022 operational alternative improvements; however, WSDOT has decided to implement them early in conjunction with the I-205

concrete rehabilitation project currently underway. The additional low capital improvements are listed below and shown in Attachment 1:

- I-205 at SR-500, northbound mainline lane drop change from left to right side
- Northbound off-ramp to SR-500, left lane dedicated to westbound SR-500, right lane dedicated to eastbound SR-500 and 112th Avenue/Gher Road
- 104th/105th Street realignment project at Mill Plain Boulevard
- Increase length of eastbound storage lane on Mill Plain Boulevard to I-205 northbound
- Lengthen Mill Plain Boulevard eastbound to southbound I-205 on-ramp
- Airport Way to I-205 northbound on-ramp project to provide separate westbound on-ramp from Airport Way
- Modify striping at Mill Plain I-205 northbound on ramp to provide longer merge distance

I-205 CORRIDOR DEMOGRAPHICS AND SYSTEM PERFORMANCE

The I-205 corridor geographic area is defined as Andresen Road to the west, 192nd to the east, the Columbia River to the south and 134th Street to the north. Demographic information for the corridor is summarized in the chart below. From 2010 to 2022, households are forecast to grow by 12% to 74,270 with employment growing by the same percentage to 61,950. Even with 12% growth, the I-205 corridor makes up 38.4% of the regional households and 37.8% of the regional jobs indicating its continued importance as a significant transportation corridor.



Transportation analysis for the study includes use of both the regional travel model and VISSIM, the microsimulation transportation model application. While the regional model is anchoring the analysis of I-205 corridor performance, it is being supplemented by VISSIM to conduct the detailed operational analysis for the study. The VISSIM analysis is undergoing final review; however, the following table displays regional transportation system performance for 2010 and 2022. Preliminary visualizations of AM and PM operations for the 2022 scenario will be presented at the October 1st Board meeting.

Comparisons include vehicle miles travelled, vehicle hours of delay, and freeway miles with a volume to capacity ratio of .9 or higher. The travel demand resulting from demographic growth in

the corridor sees a decline in transportation system performance with capacity and performance problems emerging in the I-205 corridor.

Peak Hour Performance Measures	AM		PM	
	2010	2022	2010	2022
Vehicle Miles Travelled	94,427	137,931	106,605	121,672
Vehicle Hours of Delay	188	1,423	172	594
Lane Miles Congested	5.6	37.2	7.2	21.3

2022 OPERATIONAL STRATEGIES

The 2022 operational analysis will examine how the addition of low cost operational improvements to the base case can manage/improve vehicle flow on I-205. Preliminary identification of low cost operational strategies to include in the short term analysis has been developed based on regional model results, initial information coming out of the microsimulation analysis, the strategies that came out of the I-205 operational strategies workshop in March, and WSDOT staff review. The final list of strategies will be determined after completing the full 2022 Base Case analysis. Listed below and on Attachment 2 are the most promising strategies under consideration.

- Ramp meter at Mill Plain Boulevard to I-205 north
- Static (lane assignment) guide signs on I-205 northbound south of SR-14 off-ramp
- Ramp meter at Padden Parkway to I-205 south
- Ramp meter at SR-500 westbound to I-205 south
- Extend southbound on-ramp to I-205 to provide longer merge distance
- Reduce I-205 southbound mainline from three to two lanes under the SR-500 overpass making the SR-500 on-ramp an add lane
- Extend the merge distance where the eastbound and westbound SR 500 ramps combine into a single lane prior to entering southbound I-205.
- 134th Street flyover ramp project

Operational improvements 5 and 6 are mutually exclusive and would not be done together. Only one of the two will be selected for analysis. Improvement 7 could be implemented with either one. Improvement 8, the planned flyover ramp from 134th Street to I-205 south, was included in the I-205 Corridor Study recommendations and is being analyzed as part of the short term operations analysis.

NEXT STEPS

2022 VISSIM Base Case modeling is nearing completion and will be followed by final identification of the 2022 operational strategies and development of the associated regional and VISSIM models. Under the current schedule, findings on the 2022 operational scenario will be presented to RTAC in November and to the RTC Board in December.

Attachment 1

I-205 Corridor Study

2022 Capital Improvements

Salmon Creek Interchange

Move mainline drop lane from left to right

Left lane off-ramp to SR-500 west, right lane off-ramp to SR-500 east/Gher Road

18th Street Interchange

Modify striping at I-205 northbound on-ramp

104/105th Realignment
Lengthen eastbound storage lane
Lengthen eastbound to southbound on-ramp

