



MEMORANDUM

TO: Southwest Washington Regional Transportation Council Board of Directors
FROM: Matt Ransom, Executive Director *MR*
DATE: April 29, 2014
SUBJECT: **I-205 Access and Operations Study, Update**

INTRODUCTION

The I-205 Corridor Study is analyzing both short (2022) and long term (2035) performance in the corridor. The current Metropolitan Transportation Plan’s long term strategy along I-205 is to incrementally add capacity through system expansion and interchange modifications (Core projects) at key locations. However, in the interim and in the absence of additional capital improvement projects, several traffic merging hot-spots can be addressed by implementing low cost operations focused improvements. Operations and system management strategies serve to make the transportation system operate more efficiently and predictably and could supplement or replace capital roadway expansion.

At the January RTC Board meeting, RTC staff presented information on 2022 demographics and system performance in the I-205 corridor, and findings on the impacts of operational strategies including a ramp meter from Mill Plain Boulevard to I-205. The current project update focuses on the “southbound I-205” operations and interchange merging areas. Upon completion of the full corridor analysis, the study will recommend operational strategies which serve to promote the greatest efficiencies and safety along the corridor prior to major capital investment.

The consideration of operational strategies is consistent with Washington State Department of Transportation “Moving Washington” principles, a three tiered approach to mitigate congestion or add capacity on their facilities. Moving Washington principles are to:

- Operate efficiently: Get the most out of existing highways by using traffic management tools to optimize the flow of traffic and maximize available capacity.
- Manage demand: Shift travel times, use public transportation or reduce the need to travel altogether, managing demand on overburdened routes to allow the system to function better.
- Add capacity strategically: Target the worst traffic hotspots or filling critical system gaps to fix bottlenecks that constrain traffic flow.

In addition, the assessment of low cost strategies recognizes future financial constraints for major infrastructure investment and strives to effectively manage the transportation system with limited funding resources.

The 2022 analysis is consistent with the management and operations policies of the Regional Transportation Plan. On freeways, management and operations strategies can include merge lane

extensions, signing and striping, ramp meters, variable freeway lane speeds, and other low cost strategies. On the arterial system, management and operations strategies can include intelligent transportation systems, signal system upgrades, signal coordination, traffic responsive systems, and access control.

FREEWAY OPERATIONS

WSDOT has developed videos of existing southbound AM traffic conditions at Padden Parkway/I-205 and at SR-500/I-205, which serve to highlight current operational issues and driver behaviors at the two interchanges. The videos are representative of current rush hour traffic conditions and provide a frame of reference for the daily problems that occur at these two (and other) key interchanges in the I-205 corridor. These conditions are projected to worsen between now the year 2022, due to projected growth in traffic (population and employment driven).

2022 SOUTHBOUND AM OPERATIONAL STRATEGIES

The 2022 southbound strategies have been developed based on an examination of current conditions in the corridor, regional model results, information coming out of the microsimulation analysis, and review by the I-205 Technical Advisory Committee and WSDOT staff.

Padden Parkway to I-205 south

There are currently two merge locations from Padden Parkway onto I-205, one merge from Padden westbound and a second merge from Padden eastbound about a third of a mile south of the first one. One of the primary operational constraints at this location is from the Padden eastbound ramp to I-205 south. In the morning peak period, the traffic signal at Padden Parkway and Andresen Road sends a high volume of vehicles in groups, or platoons, which are destined to I-205 southbound. Vehicles arrive in clusters conflicting with high mainline volumes on I-205 and result in weaving and a high level of turbulence at the merge point.

Three operational strategies are being evaluated from Padden Parkway to I-205 south:

- Remove the westbound merge location and continue the ramp lane south to the eastbound merge to create a single merge location onto I-205 southbound. The strategy would meter both the westbound and eastbound on-ramps to I-205 south.
- Maintain the two merge locations onto I-205 and add a single ramp meter for the Padden Parkway eastbound to I-205 south.
- Maintain the two merge locations and add a single ramp meter from Padden Parkway westbound to I-205 south.

SR-500 to I-205 south

In the AM, SR 500 has very heavy on-ramp volumes to I-205 southbound with sixty percent of the SR-500 traffic coming from the westbound ramp and forty percent from the eastbound ramp. The two ramps join and are required to merge very quickly to a single lane ramp causing high congestion at the merge area and as well as significant queuing and back up on the ramps, especially from SR-500 westbound. The single lane ramp then merges left to the I-205 mainline.

Several operational strategies are being considered to improve mobility from SR-500 to I-205 south.

- Reduce I-205 southbound mainline from three to two lanes under the SR-500 overpass allowing the on-ramp from westbound SR-500 to I-205 south to become an add lane.
- Ramp meter SR-500 westbound to I-205 south.
- Extend the southbound on-ramp from SR-500 to I-205.
- Ramp meter SR-500 eastbound to I-205 south.

NEXT STEPS

AM southbound strategies are currently being analyzed and preliminary findings on their performance are being developed. RTC staff, in coordination with WSDOT, will begin the analysis of 2035 core projects. Regional analysis will include 2035 transportation system performance with and without the core projects. It will also include an assessment of how operational strategies perform in conjunction with the core projects how they may be included as part of the 2035 core project improvements.