



## STAFF REPORT/RESOLUTION

**TO:** Southwest Washington Regional Transportation Council Board of Directors  
**FROM:** Matt Ransom, Transportation Director *MARK*  
**DATE:** October 28, 2014  
**SUBJECT:** **I-205 Corridor Study Recommendations, Resolution 11-14-21**

---

### ***AT A GLANCE - ACTION***

*The purpose of this resolution is to seek RTC Board adoption of the I-205 Corridor Study recommendations. The recommendations address long and short term roadway improvements and transit operations in the I-205 corridor and operational policies for regional freeway corridors.*

### **INTRODUCTION**

The October update to the RTC Board presented: the 2035 core projects to be included in the 2035 RTP update, findings on promising short-term operational strategies, an assessment of potential of bus on shoulder operations on I-205, and proposed policies for considering and implementing operational strategies.

Adoption of this resolution: incorporates the long term I-205 core projects into the RTP, recommends a set of near term I-205 operational improvements, and calls for pursuing an I-205 Bus on Shoulder Feasibility Study. It also recommends operational policies that provide guidance for the consideration and evaluation of operational strategies in freeway corridors and guides the implementation of ramp meters.

### **STUDY PURPOSE**

The I-205 Corridor Study analyzed both short (2022) and long term (2035) performance in the corridor. The initial phase of the I-205 study adopted the 2035 core project list in November 2012 and was followed by the current phase of the study. This study phase examined a wide range of strategies for the I-205 corridor that do not add mainline roadway capacity, refined the 2035 core project list, and confirmed their inclusion into the 2014 RTP. It investigated approaches to improve the performance and efficiency of the I-205 corridor more cost effectively and used the Moving Washington principles established by WSDOT to: operate efficiently, manage demand, and adding capacity strategically to address bottlenecks and system gaps.

### **SUMMARY OF STUDY PROCESS**

The RTC Board and RTAC have each had three briefings on the I-205 Corridor Study since the first of the year. RTC has also met with representatives from the City of Vancouver, Clark

County, C-TRAN, and the Washington State Department of Transportation (WSDOT) at milestones throughout the study. In addition, WSDOT and RTC modeling staff met regularly on the regional transportation modeling and the microsimulation development and analysis needed for the operational strategies.

Key Assumptions: The following section summarizes the underlying assumptions and activities that drove the I-205 Corridor Study and provided the foundation for the development of the draft recommendations.

- Began with 2022 and 2035 RTP travel demand forecast.
- The RTP list of projects was assumed outside the I-205 corridor.
- The regional transportation analysis provided data on travel patterns, volume and delay information, and select link information.
- While the regional model anchored the analysis, it was supplemented with the VISSIM microsimulation tool to conduct the 2022 operational analysis.
- VISSIM identifies congestion hotspots, ramp operations, merge/weave problems at freeway entrances, and lane queuing at ramps and on the freeway.
- Analysis of the individual 2022 operational projects and associated performance results were used to develop findings on the most promising options.
- Assessment of I-205 bus on shoulder potential was based on criteria identified by the Transit Cooperative Research Program (TCRP Report 151: A Guide for Implementing Bus on Shoulder Systems).

## **I-205 CORRIDOR STUDY RECOMMENDATIONS**

The I-205 corridor recommendations have three primary components. The roadway recommendations are comprised of the 2035 core projects that will be in the RTP as well as the short term operational projects to be developed by Washington State Department of Transportation (WSDOT) in coordination with local agencies. The transit improvement recommendations call for a feasibility study of the technical, policy engineering opportunities and constraints of bus on shoulder operations in the I-205 corridor. The operational policies describe how to consider operational improvements in freeway corridors and to guide the implementation of ramp meters.

### **Roadway Improvements**

2035 Core projects: The core project capacity improvements are identified as the most critical set of projects to ensure reasonable long-term level of operation of the corridor and make up the I-205 corridor improvements listed in the 2014 RTP.

- I-205 Widening (SR-500 to Padden)
- SR-14 Widening (I-205 to 164<sup>th</sup>)
- I-205 auxiliary lanes between Mill Plain Boulevard and SR-500
- Padden Interchange improvements with 72<sup>nd</sup> Avenue slip ramp
- I-205 Park and Ride at 18<sup>th</sup> Street

2022 Operational Strategies: The following operational improvements have a benefit to travel performance in the corridor and are recommended for further analysis and development.

- Ramp meter from Mill Plain Boulevard to I-205 northbound
- Ramp meter from eastbound Padden Parkway to I-205 southbound
- I-205 mainline modification to two lanes under SR-500 to provide an add lane at SR-500 southbound on ramp
- Ramp meter from 18<sup>th</sup> Street to I-205 southbound
- Ramp meter from Mill Plain Boulevard to I-205 southbound

Led by WSDOT, the recommended strategies would be analyzed consistent with the proposed operational policies including: evaluating the need for side by side storage lanes, determining the ramp meter location, utilizing “smart” metering with variable meter rates, reassessing project benefits after the mainline widened, and consulting with affected transportation agencies.

### **Transit Operations**

The screening assessment for bus on shoulder operation in the I-205 corridor found that it offers the opportunity for: improved transit reliability, travel time savings, and expanded commuter ridership and should be studied further to determine its viability. A feasibility study is recommended that would:

- Conduct detailed travel time studies of the I-205 mainline between Mill Plain Boulevard and I-84 to determine freeway speeds by segment, time of day, and duration.
- Evaluate operational issues associated with outside bus on shoulder including the impacts of high freeway ramp volumes on feasibility and possible ramp or shoulder modifications.
- Evaluation should include inside shoulder feasibility and issues associated the ability to maneuver transit vehicles to and from the inside median to enter and exit at freeway ramps.
- Conduct an engineering analysis of physical improvements and shoulder reconstruction required for either outside or inside lane BOS operations and order of magnitude cost estimate for both options.

RTC will coordinate with WSDOT, C-TRAN and Oregon agencies to develop a scope of work and budget for an I-205 Feasibility Study for RTC’s 2015 Work Plan.

### **Operational Policies for Freeways**

The operational policies described below provide guidance for how to consider low cost improvements for operating freeways more efficiently and optimizing traffic flow. They consist of three components: specific operational policies, analysis factors to consider for operational strategies, and policies to direct ramp meter implementation.

#### Operational Policies for Freeways

- Provide for the management of limited access freeway corridors through the development of operational strategies that address recurring congestion, traffic bottlenecks, and incident management.

- Consider operational strategies in limited access freeway corridors where congestion levels are high and where there is potential for improved corridor flow and efficiency and expanded person throughput.
- Implementation of operational strategies should include incident management, intelligent transportation systems, ramp metering, expanded transit services, and other traffic management tools.
- Design considerations which complement operational strategies and which promote efficiency (such as ramp bypass) should also be considered to enhance person throughput and freight efficiency.

Analysis Factors: The assessment of specific operational strategies in a corridor should also consider and balance the following:

- The short and long term cost and life-cycle of the operational improvement.
- If the operational improvement have a positive impact on traffic flow, person/freight throughput, or safety.
- If operational improvement complements, defers, or replaces a future RTP capital improvement.
- If an RTP capital improvement replaces the need for the operational improvement.

#### Implementation Policies for Ramp Metering

Prior to the implementation of ramp metering in the I-205 corridor:

- All affected agencies will be consulted.
- Metering needs to consider mainline travel flow and reliability as well as impact to adjacent arterial operations.
- Ramp meters should be “smart” to achieve freeway/arterial balance and meters would be turned off when not needed.
- Ramp bypass should be considered where feasible to support transit, freight, and person throughput.

#### **POLICY IMPLICATION**

The I-205 Corridor Study recommendations support goals for the efficiency, safety, and performance of the multimodal transportation system and the Regional Transportation Plan. The recommendations are consistent with the adopted Regional Transportation System and Management Operations Plan which represents the regional management and operations element of the RTP. In addition, the I-205 Corridor Study core project recommendations will be included in the 2014 RTP update.

#### **BUDGET IMPLICATION**

The I-205 Bus on Shoulder Feasibility Study will be included in the 2015 work plan. RTC will develop a scope of work, budget and revenue sources for review and approval by the RTC Board.

**ACTION REQUESTED**

Adoption of Resolution 11-14-21, "I-205 Corridor Study Recommendations".

ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_ 2014

by the Southwest Washington Regional Transportation Council.

SOUTHWEST WASHINGTON  
REGIONAL TRANSPORTATION COUNCIL

ATTEST:

\_\_\_\_\_  
Jack Burkman  
Chair of the Board

\_\_\_\_\_  
Matt Ransom  
Transportation Director

# I-205 Corridor Study

## 2035 Recommended Core Projects for the RTP

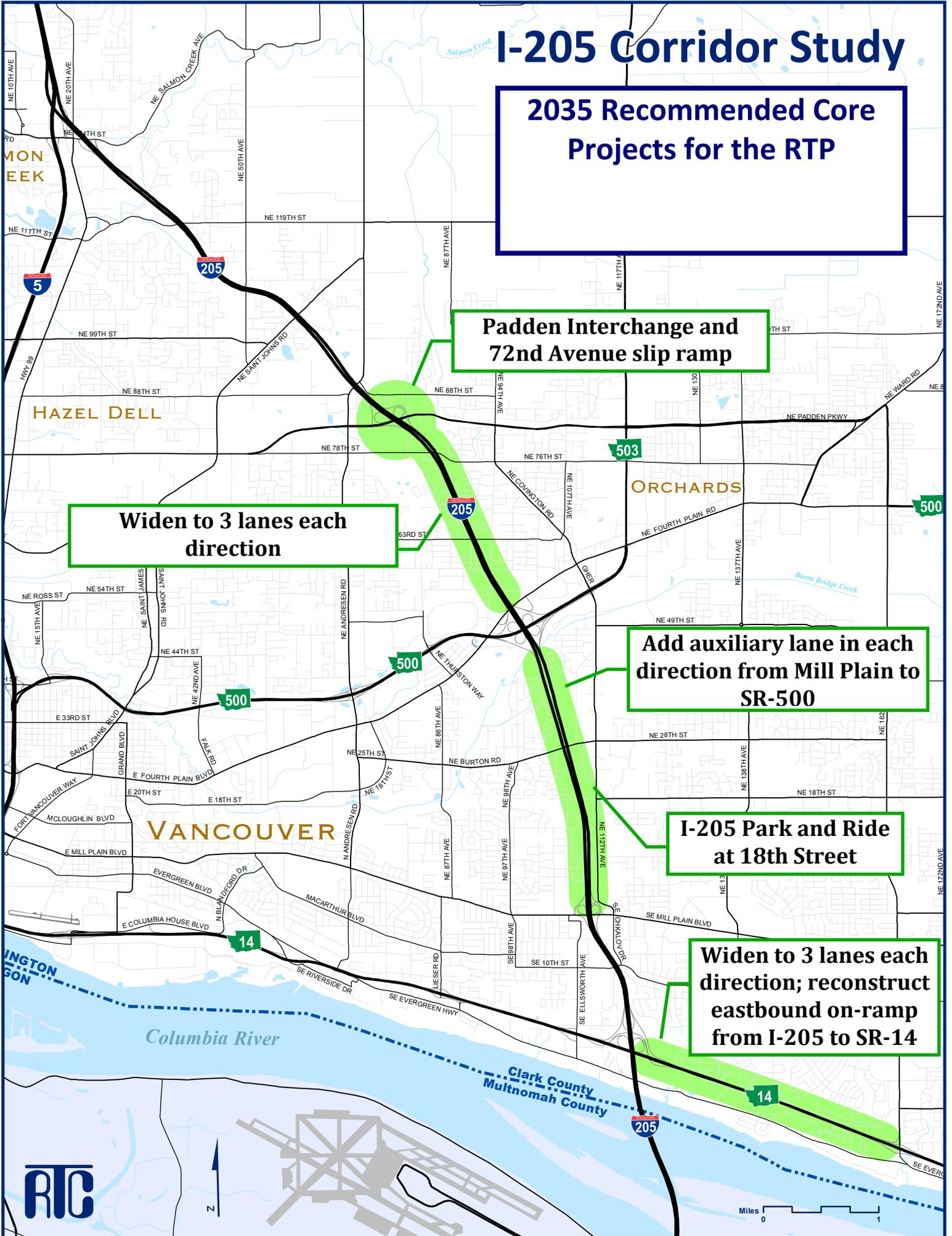
**Padden Interchange and 72nd Avenue slip ramp**

**Widen to 3 lanes each direction**

**Add auxiliary lane in each direction from Mill Plain to SR-500**

**I-205 Park and Ride at 18th Street**

**Widen to 3 lanes each direction; reconstruct eastbound on-ramp from I-205 to SR-14**



# I-205 Corridor Study

2022 Low Cost Operational  
'Promising' Strategies

Ramp meter from Padden  
east to I-205 south

Reduce I-205 southbound  
mainline from three to two  
lanes under SR-500

Ramp meter from new  
18th Street Interchange to  
I-205 south

Ramp meter at Mill  
Plain to I-205 north

Ramp meter at Mill Plain  
to I-205 south

