



The Regional Transportation Advisory Committee meeting will be held on **Friday, July 17, 2015**, from **9 a.m. to 11 a.m.**, in the **6th Floor Training Room 679**, Clark County Public Service Center, 1300 Franklin Street, Vancouver, Washington.

A G E N D A

- I. Call to Order and Approval of June 19, 2015 Minutes, Action
- II. TIB Project Development, Discussion
- III. Local Agency Transportation Project Updates, Discussion
- IV. Federal Obligation Status, Discussion
- V. CMP Toolbox Checklist, Discussion
- VI. I-205 Bus On Shoulder Study, Discussion
- VII. Legislative Update *
- VIII. Other Business
 - A. RTAC Members
 - B. RTC Staff
 - a. WSDOT Freight Classification Count Request
 - b. STP/CMAQ Applications Due Friday, July 17th
 - c. TIB Grants Due Friday, August 21st
 - d. August 15th – All projects must be entered into the 2016 STIP

**Materials available at meeting*

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20150717_RTAC_Agenda.docx

An advisory committee to:

Southwest Washington Regional Transportation Council

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**Regional Transportation Advisory Committee (RTAC)
Meeting Minutes
June 19, 2015**

I. Call to Order and Approval of Minutes

The meeting of the Regional Transportation Advisory Committee was called to order on Friday, June 19, 2015, at 9:00 a.m. in the Public Service Center 6th Floor Training Room, 1300 Franklin Street, Vancouver, Washington by Bob Hart, RTC. Those in attendance follow:

Gary Albrecht	Clark County
Katy Brooks	Port of Vancouver
Ken Burgstahler	WSDOT
Jim Carothers	City of Camas
Tony Cooper	City of La Center
Lynda David	RTC
Hannah Day-Kapell	Alta Planning
Michael Derleth	Clark County
Nick Ford	Human Services Council
Roger Hanson	C-TRAN
Mark Harrington	RTC
Bob Hart	RTC
Mark Herceg	Battle Ground
Bryan Kast	City of Ridgefield
Jeff Kostechka	Clark County
Jon Makler	ODOT
Chris Malone	City of Vancouver
Cindy Myer	Clark County
Chris Myers	Metro
Dale Robins	RTC
Charlie So	Metro
Patrick Sweeney	City of Vancouver
Shann Weishaar	RTC
Susan Wilson	Clark County
Bill Wright	Clark County

As Matt Ransom, RTC Executive, was out on training Bob Hart, RTC, conducted the meeting. Bob wanted to recognize Bill Wright, with Clark County, for his years of service to RTAC and presented him with a certificate of appreciation.

Bob Hart, RTC, asked if there were any changes or corrections to the April 17, 2015, meeting minutes and asked for a motion for approval.

KEN BURGSTAHLER, WSDOT, MOVED FOR APPROVAL OF THE APRIL 17, 2015 MEETING MINUTES, AND BILL WRIGHT, CLARK COUNTY, SECONDED THE MOTION. THE MOTION WAS UNANIMOUSLY APPROVED.

II. City of Vancouver – Obligation Extension for the Construction Phase of the Main Street-Columbia St. Traffic Signal Integration Project - Action

Dale Robins, RTC, handed out a letter from the City of Vancouver requesting an obligation extension for the Main St.-Columbia St. Traffic Signal Integration project (construction phase). The City originally planned to have the construction phase obligated by the August 2015 obligation deadline; however, the City will complete the design next week and is requesting RTAC approve the obligation extension of the construction phase until December 31, 2015. The region has met the regional obligation target and approval of this delay by RTAC will not impact funding to the region.

JIM CAROTHERS, CITY OF CAMAS, MOVED TO APPROVE THE CITY OF VANCOUVER'S REQUEST FOR EXTENTION OF OBLIGATION OF THE CONSTRUCTION PHASE OF THE MAIN STREET-COLUMBIA ST. TRAFFIC SIGNAL INTEGRATION PROJECT UNTIL DECEMBER 31, 2015, THE MOTION WAS SECONDED BY BRYAN KAST AND UNANIMOUSLY APPROVED.

III. 2017-2018 Transportation Alternatives Program Selection – Action.

Dale Robins, RTC, went over the memo and background of the Transportation Alternatives Program (TAP). TAP funding has predominately been used for Bike and Pedestrian improvements but can be used for other types of eligible projects. The Call for Projects was done earlier in the year with applications due in April. The evaluation team, consisting of staff from RTC, WSDOT, C-Tran, County Health Department and a citizen from the Bike and Pedestrian Committee, was formed and evaluated the seven (7) projects that were submitted. Dale went over the list of proposed projects. RTC is recommending that RTAC follow the rank order from the evaluation and fund projects until the money is expended. RTAC recommended that the top five projects be amended into the Transportation Improvement Program and funded with federal TAP Funds. This includes the following: Port Connector Segment 2 \$500,000, Highway 99 Ped/Bike Improvements \$250,000, East 4th St. LED Pedestrian Sign \$47,000, Columbia River Renaissance Trail \$600,000, and Main Avenue Access Improvements \$148,000.

KEN BURGSTAHLER, WSDOT, MOVED TO RECOMMEND THE LIST OF PROJECTS TO BE AMENDED INTO THE TIP AND BE FUNDED WITH FEDERAL TRANSPORTATION ALTERNATIVES PROGRAM FUNDS TO THE RTC BOARD FOR APPROVAL AT THEIR JULY 7, 2015 MEETING, AND SUSAN WILSON, CLARK COUNTY, SECONDED THE MOTION. THE MOTION PASSED WITH KATY BROOKS ABSTAINING.

IV. Transportation Programming Guidebook Revisions - Action

Dale Robins, RTC, provided a memo describing the two revisions requested for the Transportation Programming Guidebook. The Guidebook is intended as a resource tool for staff and member agencies to describe the Transportation Improvement Program process and was developed based on the existing RTC Board adopted policies and procedures. In May, the RTC Board needed more time to consider the document and delayed action. These recommended revisions included

proposing that on page 1 of the introduction the description of the RTP be changed from “long-term” to “20-year” and also under the Policies and Procedures section removing policy 3.2.2 which required all project signs to include the RTC logo. RTC is requesting RTAC recommend approval of the Transportation Programming Guidebook with the proposed revisions to the RTC Board for adoption at their July 2015 meeting.

KATY BROOKS, PORT OF VANCOUVER, MOVED TO FORWARD THE TRANSPORTATION PROGRAMMING GUIDEBOOK TO THE RTC BOARD FOR APPROVAL AT THEIR JULY 7, 2015 MEETING, AND CHRIS MALONE, CITY OF VANCOUVER, SECONDED THE MOTION. THE MOTION WAS UNANIMOUSLY APPROVED

IV. Congestion Management Process (CMP): 2014 Monitoring Report - Action

Dale Robins, RTC, went over some of the background and the need for the document. This annual document is required for all MPO’s with population over 200,000. It is intended to be a tool to help the transportation decision making process in the region. The report is similar to last year’s with the inclusion of new analysis and graphs included in Chapter 3: Strategies. Roger Hanson, C-Tran, asked about what determines the future improvements in the graphs, Dale said that improvements were drawn from the Regional Transportation Plan. Dale asked that all agencies go thru the report and verify their corridor data is correct and get back to Dale before next Friday, so that any changes can be updated in the Report before going to the Board.

In the near term the region will need to implement low cost operational and management strategies where long-term improvements are delayed. There is an immediate need to implement additional low-cost strategies for the I-5 South Corridor to deal with bi-state travel congestion. Jon Makler, ODOT, asked if RTC wants to track future planned development trends. Katy Brooks, Port of Vancouver, asked about the congestion component and how it relates to trends of population. Dale went over some of the highlights of the report summary including the graphics and data. Jon Makler, ODOT, wanted to note this is a great brochure and suggested including a graph of volume over time visuals of traffic congestion. The CMP Report is used to identify transportation needs for the region; from which local agencies must employ a variety of strategies to effectively manage congestion. The CMP Toolbox, contained in the CMP Report, is a reference tool for the development of local strategies. Dale noted that the document will be located on RTC’s website with the detailed data as a separate document. There was some discussion of inserting Air Quality into the CMP report but was noted that Air Quality would show up more in a Long Term Plan.

RTC is asking RTAC members review the Congestion Management Report and verify that all data has been accurately included in the report and recommend the endorsement of the findings to the RTC Board for adoption at their July 7, 2015 Board meeting.

BILL WRIGHT, CLARK COUNTY, MOVED TO RECOMMEND THE CONGESTION MANAGEMENT PROCESS: 2014 MONITORING REPORT AND ENDORSEMENT OF ITS FINDINGS TO THE RTC BOARD FOR ADOPTION AT THEIR JULY 7, 2015 MEETING, AND ROGER HANSON, C-TRAN, SECONDED THE MOTION. THE MOTION WAS UNANIMOUSLY APPROVED.

V. Regional Complete Streets Policy Study: Alta Planning presentation of Study results - Discussion

Lynda David, RTC, reminded the group that RTC received some State Transportation Planning Organization funds to consider a Complete Street Policy and what needs to be considered if a Regional Complete Street policy were adopted. These funds must be used before the end of June of this year. Lynda introduced Hannah Day-Capell from Alta Planning and Design, Alta Planning and Design is the consultant selected for assistance in the research, discussion, and documentation of best practices for the application of Complete Streets policies at the regional Metropolitan Planning Organization level. The FY 2015 Unified Planning Work Program was amended to include a Regional Complete Streets Policy work element.

Hannah provided a Power Point presentation on Regional Complete Streets. Complete streets provide safe, comfortable, and convenient travel for everyone, regardless of age or ability. The Washington Complete Streets Bill (HB 1071) stated that main streets should be designed to provide safe access to all users, including motorists, pedestrians, bicyclists, and public transportation. The Growth Management Act requires that the transportation element of the comprehensive plan include a bike-pedestrian component and that the Washington Department of Commerce's guide contain complete streets by including improvements for biking/walking in paving projects and other road improvement projects. Cindy Myers, Clark County Department of Health (DOH), handed out a "Save the Date" flyer for a NACTO Standards Multi-Modal Street Design training being presented by Peter Koonce from the City of Portland.

The analysis of Complete Streets in SW Washington provide opportunities like safety as a priority. New bike/pedestrian plans can integrate Complete Streets and could compete through the WSDOT complete streets grants program to help fund projects. Hannah summarized analysis that included strengths and weaknesses of complete streets in SW Washington. Good local examples of complete streets include that fact that Clark Communities BPAC can review plans as well as the ongoing continued support from Clark County Health. Weaker areas indicate less bike/pedestrian or complete streets language in general plans and most design guidelines/standards do not address complete streets. In addition, there is a perception that complete streets are too expensive. Complete streets grant programs will help fund projects although the lack of other funding opportunities, or sustainable funding sources, will slow the approach. The benefits of complete streets are walkable, bikeable, transit-oriented communities that are associated with healthier populations.

There was general discussion of the types of complete streets policies and principles. Hannah then went into implementation. The plan for implementation would include an advisory committee that would identify and review projects, assist with exceptions process and would communicate the benefits. Exceptions to applying Complete Streets principles to a specific project may be allowed given that the use of the roadway is prohibited by law for a category of users, or cost would be excessively disproportionate to the current and future needs, or if there is an absence of both current and future need to accommodate users.

There are a number of resources that exist that help make the decisions of what kinds of facilities are appropriate in different locations. Benefits of having a Complete Streets policy would be to update practices, integrating the needs of all street users into all phases of projects and ensure every project becomes an opportunity to help create a complete street. Another is to bring an overarching vision and consistency to disparate departmental approaches and to improve departmental efficiency and streamlining to be considered for funding opportunities.

Bob Hart, RTC, asked what steps are next. Does this come back to RTAC again or does it go to the Board at some point. Lynda David, RTC, noted as the Consultant would be done by June 30th. RTC would then continue to discuss amongst RTAC and come back in a future meeting to determine what would be appropriate for a complete streets policy or would it be best to just support the local jurisdictions if they want to adopt complete streets. Lynda pointed out that as a region we want to be supportive of our local jurisdictions and make sure that they have opportunities to get grant funding wherever available. Lynda David, RTC, noted that Katy Brooks, Port of Vancouver who had to leave early, had concerns about how freight is accommodated or integrated into complete streets and to make to make sure this element is not forgotten.

VII. Other Business

A. RTAC Members

B. RTC Staff

- a) Dale Robins, RTC, noted there are two (2) TIP Administrative Modifications. They are both Clark County projects which add local dollars to the NE 10th Avenue and the Highway 99 Corridor Improvement projects. Dale added that this is a reminder to be sure to program projects fully making sure that all phases are programmed into the TIP.
- b) Dale Robins, RTC, handed out two Project Showcases. Congratulations to both Clark County and the Port of Vancouver for the completion of their Hazel Dell Area Sidewalk and Transit Terminus to Port Center TAP projects. Bill Wright, Clark County, wanted to thank Michael Derleth, Clark County, for his hard work on the Hazel Dell Area Sidewalk project.
- c) Dale Robins, RTC, announced that STP and CMAQ applications are due July 17th.

The meeting adjourned at 10:46 a.m. The next meeting will be on Friday, July 17, 2015.



MEMORANDUM

TO: Regional Transportation Advisory Committee
FROM: Dale Robins
DATE: July 10, 2015
SUBJECT: TIB Project Development

BACKGROUND

The purpose of this memorandum is to begin to outline a set of projects, from our region, for submittal to the Transportation Improvement Board (TIB) for statewide competitive funding. **Please come to the July RTAC meeting prepared to discuss TIB projects from your agency.**

FUNDING PROGRAMS

This year's TIB program includes the following amount for competition within our region. Also shown in brackets are the general limits on grant request:

- Urban Arterial Program – SW Region: \$12 million (\$5 million)
- Urban Sidewalk Program – West Region: \$1.1 million (\$500,000)
- Arterial Preservation Program – State-wide \$14 million
- Small City Arterial Program – West Region: \$3.4 million (\$1 million)
- Small City Sidewalk Program – West Region: \$0.8 million (\$350,000)
- Small City Preservation Program – State-wide \$5 million

TIB generally requires a 20% match for urban programs and 5% match for small city programs. The preservation program requires 10% in urban areas and 0% match in small cities. Only Battle Ground, Ridgefield, and Washougal are eligible for the Arterial Preservation Program.

SELECTION

TIB uses a banding evaluation process for the Urban Arterial Program. Top scoring projects under each of the four bands (Safety, Growth & Development, Mobility, and Physical Condition) with sustainability and constructability scores are selected for funding. For other programs TIB evaluates projects against overall selection criteria.

SCHEDULE

The following is the general TIB grant schedule:

August 21, 2015	Postmarked Deadline
September-October	TIB Application Review
November 20, 2014	TIB Board Selection



MEMORANDUM

TO: Regional Transportation Advisory Committee
FROM: Dale Robins
DATE: July 10, 2015
SUBJECT: Local Agency Transportation Project Updates

BACKGROUND

At the July Regional Transportation Advisory Committee meeting, RTC would like to have each local agency come prepared to update RTAC members on their transportation projects. The focus should be on projects located on the federal aid system (major collector, arterial, and interstate). Please be prepared to discuss in greater detail any project that will be under construction in 2015.

Through coordination of transportation projects among WSDOT, County, Cities, and others; committee members will be informed of all projects that affect the movement of people, goods, and services within the region.

Please come to the July RTAC meeting prepared to discuss your current transportation projects.

20150717_RTAC_Projects.docx



MEMORANDUM

TO: Regional Transportation Advisory Committee
FROM: Dale Robins
DATE: July 10, 2015
SUBJECT: Federal Obligation Status

BACKGROUND

As RTAC members are aware, WSDOT has placed additional responsibility on MPO's to ensure obligation of the local share of the Federal Highway (FHWA) program. The local Federal Highway programs include the Surface Transportation Program (STP), Congestion Mitigation and Air Quality Program (CMAQ), Transportation Alternatives Program (TAP). This policy requires that by August of each year that each MPO must obligate 100% of their regional federal Obligation Target or funds could be lost.

In January, RTC staff reported to RTAC on projects that must be obligated by August 2015 to meet RTC's Project Delay Policy. Overwhelmingly, the region responded and obligated their required projects and more. By March 2015 the region had met our obligation target, and only a few projects remain to be obligated by August of this year.

The purpose of this memorandum is to report on obligation status for year 2015 and remind RTAC of RTC TIP policies.

REMAINING OBLIGATION

Only a handful of projects remain to be obligated by August 2015, all of which have either been submitted for obligation or are scheduled for obligation by August. Please be aware that the State has hit the statewide obligation limit and any project that is obligated prior to October 1st will likely receive advanced construction approval. This means that the agency will not be able to receive reimbursement of the grant until October.

The following projects remain to be obligated by August 2015:

Agency	Project	Program	Phase	Amount
Clark County	NE 119 th Street, NE 50 th Av. to 72 nd Av.	STP	PE	\$675,000
C-TRAN	Open Trip Planner and Alerts System	CMAQ	PE	\$128,000
WSDOT	Vancouver Urban ITS Device Infill	CMAQ	PE	\$65,600
WSDOT	SR-503, Fourth Plain to Main ITS Device Infill	CMAQ	PE	\$86,500

Federal Obligation Status

July 10, 2015

Page 2

RTC TIP Policies

The following TIP policies will be further discussed at the July RTAC meeting:

Policy 1.6 – All agencies shall submit local TIPs and Transit Development Plans to RTC.

Policy 1.7 – All federally funded and regionally significant projects to be included in the annual STIP must be entered into the State's STIP System and submitted to the MPO by August 15th of each year.

Policy 3.2 – Recognition of grant award through RTC.

Policy 3.3 – All projects that receive regional federal funds will be required to complete a Before and After Analysis within 18 months of project completion.

Policy 5.1 – Local agencies are required to notify RTC staff within 30 days of project obligation of all STP, CMAQ, and TAP funds.

Policy 5.2 – Project phase obligation date will be tied to the month and year provided on the RTC funding application.

Policy 5.6 – By January of each year, RTC staff will notify agencies of all projects that must be submitted for obligation by August of that year.

New Request– All agencies should notify RTC within 30 days of when a project funded with STP, CMAQ, of TAP funds is functionally complete



MEMORANDUM

TO: Regional Transportation Advisory Committee
FROM: Dale Robins
DATE: July 10, 2015
SUBJECT: CMP Toolbox Checklist

BACKGROUND

Additional travel lanes on current corridors are best suited for roads that have exhausted most other lower cost options identified in the CMP Toolbox for increasing and maximizing capacity. New lanes are most beneficial in areas where right-of-way can be reasonably obtained and congestion is occurring. Projects that add lanes should look to incorporate CMP Toolbox strategies into the design and construction of project.

The purpose of this agenda item is to discuss the draft CMP Toolbox Checklist

CMP TOOLBOX CHECKLIST

One of the components of RTC's Congestion Management Process is a toolbox of congestion reduction and mobility strategies. The intent of this toolbox is to encourage ways to deal with congestion and mobility issues prior to traditional roadway widening projects. Prior to adding lanes or new roadways, jurisdictions must give consideration to the various strategies identified in the CMP Toolbox. To comply with RTC's policy, each jurisdiction that is adding new travel lanes or roadways must complete a CMP Toolbox Checklist prior to obligation of right-of-way and/or construction. Please note that the Checklist would only be required for thru travel lanes and would not include the addition of a center turn-lane.

A draft CMP Toolbox Checklist is attached for RTAC's review.

PROJECTS

The only project currently programmed in the TIP that would need to complete the Checklist would be the NE 18th Street project. However, if this policy was implemented a few years ago, there are several projects that are currently under construction that would have needed to complete a Checklist. These projects include the NE 119th Street widening, I-205/Mill Plain Interchange-Stage 2, and SR-502/I-5 to Battle Ground-Add Lanes.

20150717_RTAC_CMPChecklist.docx



CMP Toolbox Checklist

Instructions

One of the components of RTC's Congestion Management Process is a toolbox of congestion reduction and mobility strategies. The intent of this toolbox is to encourage ways to deal with congestion and mobility issues prior to traditional roadway widening projects. Prior to adding single occupant vehicle (SOV) capacity, sponsoring agency must give consideration to the various strategies identified in the CMP Toolbox.

Sponsoring agency will not need to complete the checklist unless general purpose travel lanes are being added and the project will need to be programmed in the regional Transportation Improvement Program (TIP). Please check with RTC staff if you are unsure if the CMP Toolbox Checklist needs to be completed. Completed checklist must be submitted to RTC prior to beginning of the right of way or construction phase.

General Information

Project Title: _____

Project Location and Limits: _____

Project Length (miles): _____ Federal Functional Class: _____

Agency: _____

Contact Person: _____

Telephone: _____ Email: _____

Project Description

CMP Evaluation

Please indicate the deficiency identified in the most recent Congestion Management Process Report:

- Capacity
- Speed
- Safety
- Freight Movement
- Multimodal Options (transit, bicycle, and pedestrian)
- Non-CMP Corridor - Type of Congestion Issue(s): _____

Strategy Evaluation

This evaluation of CMP toolbox strategies was assembled to provide a wide range of strategies that could be used to manage congestion. They are arranged so that the strategies are considered in order from first to last. Please indicate the strategies listed below that have been considered prior to determining the need for SOV expansion. Also indicate those that will be implemented with the project to ensure the long-term management of the improvement project. A complete description of strategies is contained in Chapter 3 of the Congestion Management Process Monitoring Report.

C = Strategy **Considered** prior to determining need for expansion

I = Strategy will be **Implemented** with project

General Improvements

- | C | I |
|--------------------------|--------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> System Preservation and Maintenance |
| <input type="checkbox"/> | <input type="checkbox"/> Safety Improvements |

Transportation Demand Management

- | C | I |
|--------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> Rideshare/Vanpool Programs |
| <input type="checkbox"/> | <input type="checkbox"/> CTR Programs |
| <input type="checkbox"/> | <input type="checkbox"/> Transportation Management Associations |

Transit Improvements

- | C | I |
|--------------------------|----------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> Bus Route Coverage |
| <input type="checkbox"/> | <input type="checkbox"/> Bus Frequencies and Transit Amenities |
| <input type="checkbox"/> | <input type="checkbox"/> Park and Ride Lot |
| <input type="checkbox"/> | <input type="checkbox"/> High Capacity Transit |

Bicycle and Pedestrian Improvements

C **I**

- New Sidewalks and Bicycle Lanes, Separated Pathway, and Trails
- Bicycle Amenities
- Pedestrian-Oriented Development
- Bicycle and Pedestrian Safety

Transportation System Management and Operations

C **I**

- Traffic Signal Coordination
- Incident Management System
- Ramp Metering
- Highway Information System
- Advanced Traveler Information System

Access Management

C **I**

- Left Turn Restrictions
- Consolidation or Relocation of Driveways
- Interchange Modification
- Minimum Intersection/interchange Spacing
- Collector-Distributor Roads

Land Use

C **I**

- Mixed-Use Development
- Infill and Densification
- Transit Oriented Development
- Parking Enforcement
- Location Specific Parking Ordinances
- Carpool/Vanpool Parking

Roadway Improvements

C

I

- Geometric Design Improvements
- Upgrade Roads to Urban Standards
- Grade Separation
- Road Widening to add Travel Lanes

For any strategy not considered prior to determining the need for expansion, provide a brief description of why it was not considered:





MEMORANDUM

TO: Regional Transportation Advisory Committee
FROM: Bob Hart
DATE: July 10, 2015
SUBJECT: I-205 Bus on Shoulder Study

BACKGROUND

The purpose of this memorandum is to introduce the Bus on Shoulder Feasibility Study, describe examples of bus on shoulder in other regions, outline the draft scope of work, and summarize the decision making process for the study.

A preliminary assessment of bus on shoulder (BOS) in the I-205 corridor conducted as part of the Access and Operations (AO) Study found that it offers the opportunity for improved transit reliability, travel time savings, expanded transit ridership and can facilitate low-cost transit expansion in the corridor. While the high level assessment showed many potential benefits of BOS, there are still significant unknowns regarding its operation. These include understanding how it operates alongside adjacent vehicle traffic and at high volume interchanges, as well as how it would work in coordination with incidents and law enforcement/public safety needs. The region also needs to learn more about the roadway infrastructure requirements of a bus on shoulder operation such as shoulder width and pavement depth. As a result, the AO transit recommendation called for a feasibility study of the technical, policy, and engineering opportunities and constraints of BOS operations in the I-205 corridor. The I-205 Bus on Shoulder Study is structured to answer these questions, to identify other technical issues, and address the policy and legal requirements needed for successful BOS operation.

The first phase of the study will outline the technical and engineering considerations for BOS in the I-205 corridor. At the completion of phase one, regional policy makers will determine whether to move forward with a more comprehensive phase two feasibility study and consider regional BOS policies. A detailed phase two scope would be developed if the region agrees that implementing a bus on shoulder project in the corridor should be considered.

WHAT IS BUS ON SHOULDER?

Bus priority treatments on streets and highways have been operating effectively throughout the United States for about a half century. Many bus on shoulder systems have been built over the last 20 years and are now a widely accepted treatment to improve transit reliability and mobility. A BOS system is a relatively simple concept in that it allows transit vehicles to use the shoulder on a freeway or major arterial during times of heavy congestion. Although there are BOS systems on both types of roadways, this summary focuses only on freeway systems since they are applicable to the I-205 corridor.

The general operating protocol is that buses that normally operate in regular traffic lanes would move to shoulder when mainline travel speeds drop below a predefined speed. In many regions

An advisory committee to:

Southwest Washington Regional Transportation Council

I-205 Bus on Shoulder Study

July 10, 2015

Page 2

the speed threshold is set at 35 mph. Since buses operate in the shoulder only during specified traffic conditions, a more descriptive name for this might be “dynamic” BOS. In addition, buses on the shoulder do not operate more than 15 to 20 mph faster than the adjacent traffic, depending on bus driver training, shoulder characteristics, ramp conflicts, local operating protocols.

In some regions, buses stay on the shoulder continuously, including past interchanges. In other systems, buses will merge back into general purpose traffic lanes at high volume interchanges and return to the shoulder after passing the interchange. In addition, problems with emergency vehicles or incidents with buses on shoulder are minimized with buses merging back into general traffic flow to get around the event.

A BOS system differs from a strategy called hard shoulder running. While a hard shoulder running system is also utilized during periods of heavy congestion, it is open to general purpose traffic or carpool vehicles and, because of this, carries significantly higher vehicle volumes.

BUS ON SHOULDER IN THE UNITED STATES

As of 2012, there were about fifteen BOS systems operating in the United States. Most of them operate on the outside shoulder with a few using the inside shoulder. The systems range from just a few miles in length, such as in San Diego, up to comprehensive systems, like the Minneapolis-St. Paul region, with a 300 mile network of bus on lanes. Some systems operate only between interchanges with others serving as continuous lanes along a corridor. A common thread for the BOS systems has been the flexibility to develop each system in accordance with the needs and characteristics of their local operating environment. Many of the systems in operation have used the Minnesota experience as a template. After the planning and initial development they have first implemented demonstration projects, and have often used the same transit/traffic speed differential and the same operating rules for incidents or other vehicles on the shoulder.

A short summary of four different bus on shoulder systems is described below:

Minneapolis, Minnesota: The Twin Cities region has a 300 mile network of BOS lanes. They operate on the outside shoulder and are not restricted by time of day. Buses can use the shoulder anytime the freeway speeds drop below 35 mph and can operate up to 15 mph faster than adjacent traffic. The first BOS corridor was implemented quickly in response to a Mother’s Day flood in 1993 that closed a bridge on I-35, one of the major access points into the city. Within ten days, freeway shoulders were restriped and BOS was implemented, providing an alternate route into the city. This emergency test operation was so successful that officials began to look at applying it to other corridors. At the beginning of the development process the goal was simply based on the opportunity for easy implementation. There were no shoulder or pavement depth standards, although these standards were developed later as the system grew and matured.

Miami, Florida: Nine miles of BOS were opened on SR-874 and SR-878 in 2007 following a planning study that was completed in 2005. The study identified the adequacy of the shoulders, the amount of emergency service vehicles using the shoulders, and current, planned transit services and established criteria for use of the shoulder. In Miami, buses are allowed to operate on the outside freeway shoulder anytime speeds drop below 25 mph. This is different than Twin Cities, where the traffic threshold for transit use of the shoulder is 35 mph or less. Buses in Miami are not allowed to operate more than 15 mph faster than vehicle traffic. They must also

I-205 Bus on Shoulder Study

July 10, 2015

Page 3

yield to entering, merging, and exiting traffic and to emergency and law enforcement vehicles. When the shoulder is occupied by a disabled vehicle, law enforcement, or other obstacles buses are required to move into the general purpose traffic lane. These operating rules are similar to Minnesota's.

Atlanta, Georgia: The first BOS lane opened in 2006 with a 6 mile segment, and recently expanded to 12 miles, on the GA-400 freeway. GA-400 is a 6 to 8 lane high volume facility and, while BOS has been in place for almost 10 years, the Georgia Department of Transportation technically considers it an interim treatment, until the freeway can be widened with managed lanes. When the system first opened it was estimated that commute buses were saving an average 5 to 7 minutes of travel time with a time savings of up to 25 minutes during major freeway incidents. The operating protocols are similar to Twin Cities, in that buses use the shoulder only when travel speeds are less than 35 mph with buses limited to speeds no more than 15 mph faster than the traffic flow. The key difference in operating rules compared to Twin Cities are that buses must always merge back into general purpose traffic lanes ahead of interchange off-ramps and cannot re-enter the shoulder until after the end of the on-ramp weave. In the Twin Cities, with some exceptions at high volume interchanges, buses stay on the shoulder through the interchange.

Chicago, Illinois: PACE, the suburban division of the Chicago Regional Transit Authority, implemented BOS in 2011, with a 15 mile segment on I-55. Like many other systems buses are allowed to use the shoulder when freeway speeds drop below 35 mph. Transit vehicles cannot travel more than 15 mph faster than general purpose traffic and are limited to a maximum speed of 35 mph. Unlike Minnesota, BOS operation is restricted by time of day allowing use only from 5-9 AM in the northbound direction and 3-7 PM southbound. Unlike the other systems, PACE is an inside shoulder system. The left shoulder was selected in order to minimize conflicts with ramps and interchanges. In addition, the outside shoulder on I-55 is narrower on several segments with more physical constraints than the inside shoulder. Like other regions, emergency use of the shoulder has priority. Buses are required to leave the shoulder if it is occupied for any reason.

I-205 FEASIBILITY STUDY TASKS

The full I-205 Feasibility Study is envisioned to occur in two steps. Step one is a planning phase which will outline the policy, technical, engineering, and cost considerations for a BOS operation. The second part of the study will depend on the results of the planning phase. At the completion of phase one, regional policy makers will determine whether to move forward with a comprehensive phase two feasibility study that would include a detailed bus service plan, needed physical improvements, bus operating protocols, and capital costs.

The study corridor encompasses the I-205 corridor from the 18th Street interchange, now under construction, south to the I-84 interchange and on SR-14 from I-205 to 164th. SR-14 is included because of the high congestion levels and the number of commuter buses using SR-14 that travel between Fisher's Landing Park and Ride facility. Although the detailed analysis will focus on I-205 and SR-14, the transit influence area may extend as far north as the Salmon Creek interchange in order to understand the technical issues and physical characteristics of the corridor associated with a BOS system if and when C-TRAN expands transit service north of 18th Street.

I-205 Bus on Shoulder Study

July 10, 2015

Page 4

Refinement of the corridor and BOS termini will occur under the BOS service and operating concept task.

The study tasks address only the first phase of the study; a phase two scope would be developed if the region agrees to advance a comprehensive feasibility study.

A flow chart of the study tasks are shown in attachment 1.

AGENCY ROLES AND DECISION PROCESS

RTC will be the project lead for the overall study and the management of work tasks. Study partners consist of agencies that would be directly involved or affected by a bus on shoulder operation. A future system would operate on state facilities in Washington and Oregon, utilize C-TRAN resources and affect Tri-Met facilities. In addition, Metro and RTC, as the Metropolitan Planning Organizations for the Portland/Vancouver regions, have direct responsibility for regional transportation planning. All of these agencies will be partners in the study process.

RTC will be supported by a Technical Advisory Committee (TAC) made up of representatives from the Washington State Department of Transportation, C-TRAN, Oregon Department of Transportation, Tri-Met, Metro and RTC. The Bus on Shoulder TAC will provide support regarding analysis approach and results, and input on development of scenarios and operational protocols. It will also provide technical and engineering expertise, and ensure consistency of study activities with transportation goals and policies of their respective agencies.

RTC will also provide periodic updates to the Bi-State Coordination Committee. The Committee will review and comment on study milestones and provide input on issues and questions of bi-state significance. In addition, RTC will engage with the Federal Highway Administration and the Federal Transit Administration when necessary to inform them of study progress and ensure coordination on transit use of interstate facilities and regulatory or other requirements.

A chart of the decision process is shown on attachment 2.

NEXT STEPS

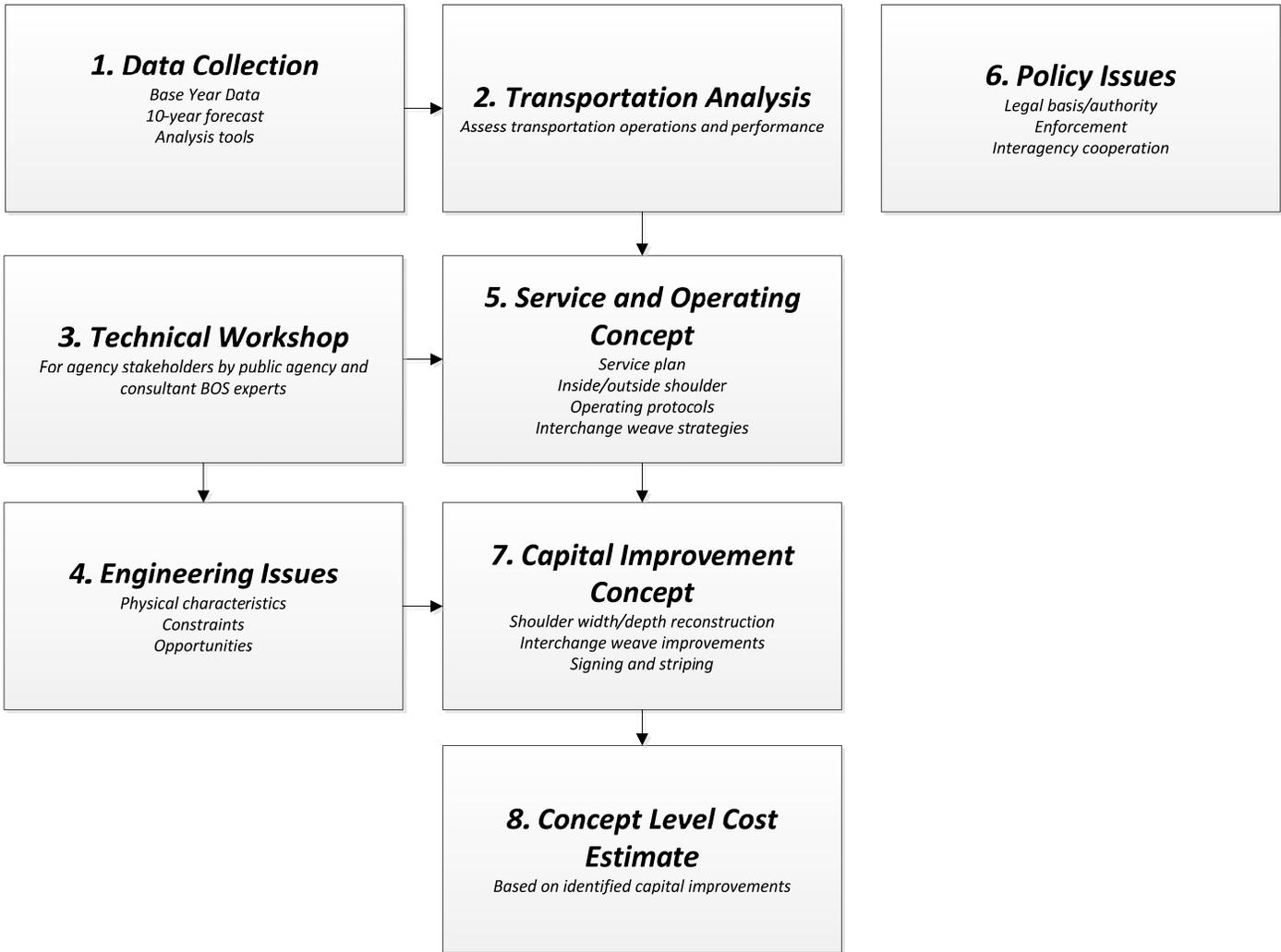
RTC met with WSDOT, ODOT, C-TRAN, Tri-Met and Metro to review the scope of work on July 16 and will be refining the scope based on input from the meeting. In addition, staff is presenting the scope to the Bi-State Coordination Committee at their July 29th meeting.

Subsequent to the Bi-state meeting RTC will work to finalize the scope of work and develop a budget and funding plan for the study.

Attachments

Attachment 1

Study Tasks and Flow



Attachment 2

