Agenda Item VII

MEMORANDUM

TO: Southwest Washington Regional Transportation Council Board of Directors

FROM: Matt Ransom, Executive Director

DATE: May 26, 2020

SUBJECT: **2019 Congestion Management Process – DRAFT Report**

AT A GLANCE

The 2019 Monitoring Report helps the region to meet federal requirements by collecting and analyzing transportation system data, by providing information on regional transportation system performance measures, and by identifying potential strategies to help the region manage congestion.

BACKGROUND

The Congestion Management Process (CMP) is a federal planning requirement. All Metropolitan Planning Organizations with a population over 200,000 must have a process for developing performance measures, system monitoring, and identifying improvement strategies.

The monitoring element of the congestion management process is designed as an informational tool to be used within the decision-making process. The CMP should be used to identify needs and develop solutions. Overall, the CMP Monitoring Report provides a consolidated assessment of the regional transportation system's operating conditions.

In June, staff will provide an overview of the *2019 Congestion Management Summary Report*. RTC staff will then return at the next RTC Board meeting to seek endorsement of its findings.

CMP REPORTS

The *Congestion Management Process 2019 Monitoring Report* is a technical report that provides a comprehensive set of data for monitoring the performance of the transportation system. The Congestion Monitoring Report provides profiles on the travel characteristics of the regional transportation corridors. The data is translated into tables and maps that help identify deficiencies.

The attached *2019 Congestion Management Summary Report* includes key data and findings from the full monitoring report in such a way that the reader can quickly understand the 2019 Congestion Management Process Monitoring Report.

The Monitoring Report, Summary Report, and Supporting Data are available from RTC's website at https://www.rtc.wa.gov/programs/cmp/.

KEY FINDINGS

This year's congestion monitoring report reveals that growth within the region has slowed. Most major indicators only had minor changes. Although, the region did continue the overall trend of speed degradation, despite having significant improved morning speeds on I-205 South and SR-14 Central.

The 2019 Congestion Management Process shows the need for agencies to invest in and improve signal timing, Transportation System Management and Operations, Transportation Demand Management, urban arterials, busy intersection, and the I-5 Bridge replacement.

KEY STRATEGIES

The Congestion Management Process shows that implementation of the 20-year Regional Transportation Plan (RTP) can help address many of the key capacity bottlenecks. The following are key projects to address congestion needs within Clark County:

Identified Needs	In RTP	Funded
I-5 Interstate Bridge and Interchanges	✓	(P)
- I-5/Mill Plain Interchange (2026 Construction)		✓
- Bi-State Transit Expansion		
Freeway Operational Improvements (I-5, I-205, SR-14, SR-500)	✓	(P)
- Active Traffic Management I-5 Southbound (2020)		✓
- Active Traffic Management I-205		✓
- Active Traffic Management SR-14		(P)
I-205/SR-14 Interchange		
I-205, SR-500 to Padden Widening	✓	
I-205/Salmon Creek Interchange Phase II	✓	
SR-14, I-205 to 164th Av. Widening (2020 Construction)	✓	✓
Major Intersection Upgrade	✓	
- SR-500/SR-503/Fourth Plain		
- SR-503/Padden Parkway		
- Andresen Rd./Padden Parkway		
- Fourth Plain/Andresen		
Arterial Operational Improvements	✓	
- Highway 99, 78th St. to 139th St.		
- Main Street, I-5 to Mill Plain		
- 112th Avenue, 28th St. to SR-500		

Identified Needs	In RTP	Funded
- St. Johns, Mill Plain to 72nd Av.		
- Andresen, Mill Plain to SR-500		
- 136/137/138 Av., Mill Plain to Padden		
- 164th Avenue, SR-14 to Mill Plain		
- Mill Plain, 136th Av. to 192nd Av.		
- Fourth Plain, Port to 162nd Av.		
- SR-503, Fourth Plain to 99th		
- 78th/76th Street, Lakeshore to SR-503		
- Burton Road, Andresen to 162nd Av.		
- 18th Street, I-205 to 162nd Av.		
County-Wide Transit Expansion	✓	(P)
- I-5 SB Bus on Shoulder		✓
- Mill Plain BRT		(P)
- Local Routes		
- I-5/Highway 99 BRT		
- I-205 Bi-State Transit		

✓ - Yes
(P) – Partial Yes

Attachments:

1) *2019 Congestion Management Process Summary Report*

2019 Congestion Management Process Summary Report

Introduction

Southwest Washington Regional Transportation Council's (RTC's) federally required Congestion Management Process (CMP) is a regional program that analyzes travel delay characteristics and provides system performance information on major streets and state highways. Monitoring of congestion is a planning tool that provides reliable data to identify traffic problems, to support wise investment decisions, and to enhance the movement of people and goods.

Key Findings

This year's congestion monitoring report reveals that the pace of growth within the region grew at a slower rate between years 2018 and 2019, when compared to the five year trend.

Between 2018 and 2019, region wide traffic volumes, employment, unemployment, transit ridership, and other indicators experienced modest changes. This points to a slowing of the economic growth that the region has been experiencing in recent years.

Although the region had modest changes in various indicators, the region did experience a continuation of the 5-year trend of modest degradation of roadway speed performance. I-5 Southbound morning travel speeds declined, as did region-wide evening travel speeds. In contrast, the I-205 South and SR-14 Central corridor travel speeds showed improved performance, which may be related to enhanced traffic management in those corridors.

Major transportation improvement projects completed in 2018 to widen NE 18th Street and remove traffic signals on SR-500 showed notable traffic benefits in 2019. Both projects resulted in traffic pattern changes and enhancement to performance measures in each corridor.

The 2019 Congestion Management Process shows the need for agencies to invest in signal coordination and other traffic operational improvements such as access management, ramp meters, and transit. These improvements will help the region to get the most out of the existing transportation system. There is also a need for transportation improvements at several high volumes intersections and urban arterial segments. In particular, the SR-500/Fourth Plain intersection is a key bottleneck which needs to be improved. Lastly, the region should continue to work towards the I-5 Bridge replacement, to serve demand and improve access within the Portland/Vancouver region.

Regional Summary

Clark Co. Population

2014 – 442,800
vs.
2019 – 488,500
OFM Populations

10%

Portland/Vancouver Employment

2014 – 1.13
vs.
2019 – 1.28
In millions of jobs BLS

14%

Unemployment Rate

2014 – 6.5%
vs.
2019 – 4.8%
Percent of labor force

14%

Bi-State C-TRAN Ridership

2014 – 1,680
vs.
2019 – 1,633
Daily Evening Peak Riders

3%

Columbia River Crossings

2014 – 284,300
vs.
2019 – 304,700
Daily I-5 and I-205 Bridge Volumes

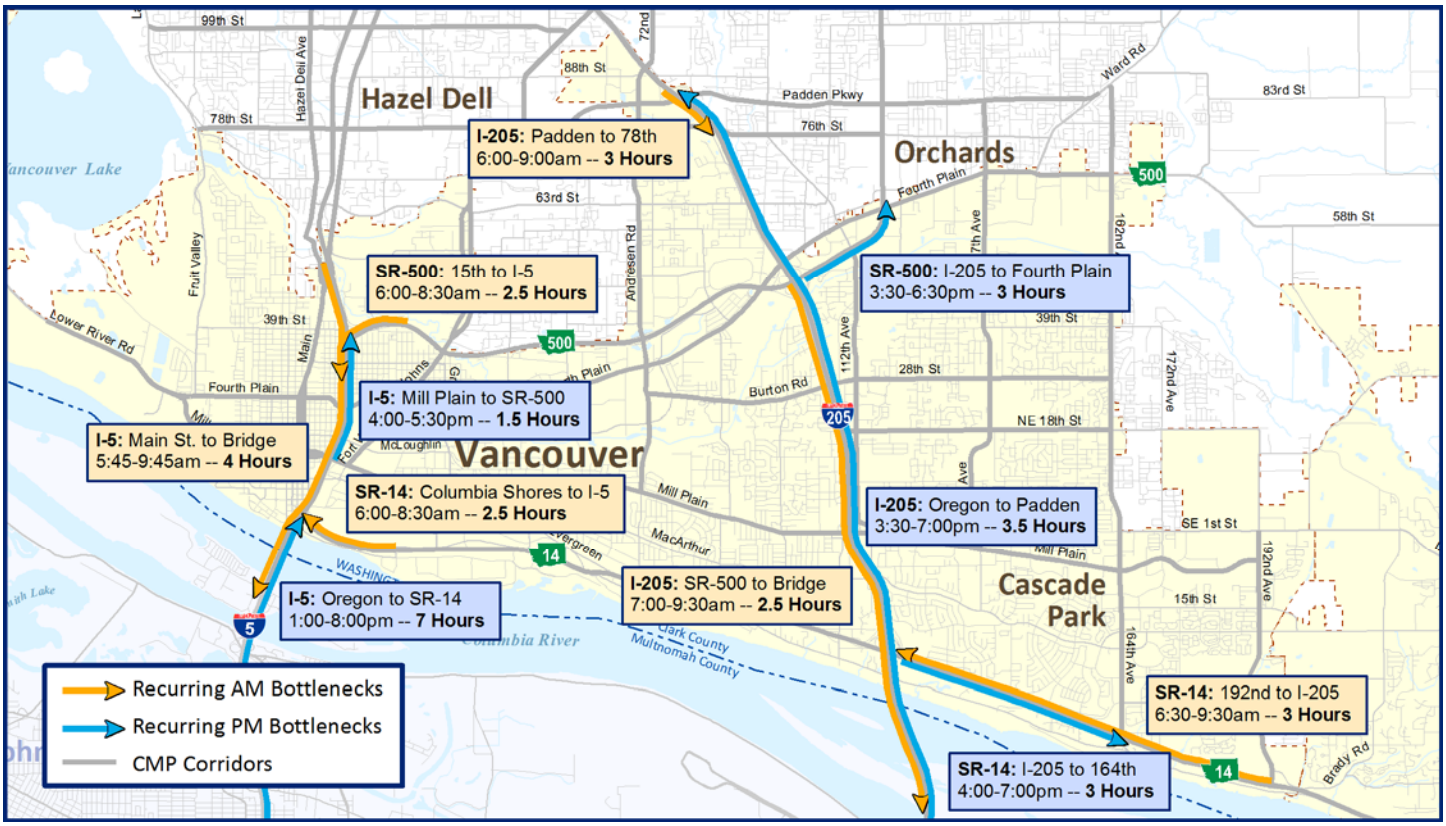
7%

Evening Travel Speed

2014 – 36.3 mph
vs.
2019 – 32.1 mph
Average system speed

12%

Freeway Peak Hour Congestion



Most Congested Corridors

Using corridor capacity ratio the following corridors are the most congested:

1	I-5, Main St. to Jantzen Beach (AM)	**1.00**
2	I-205, Padden to Airport Way (AM)	**0.94**
3	SR-14, I-205 to 164th Av. (PM)	**0.93**
4	Main Street, Ross St. to Mill Plain (AM)	**0.93**
5	SR-500, Andresen to I-5 (AM)	**0.86**
6	I-205, I-5 to Padden (AM)	**0.86**
7	SR-503, Fourth Plain to 119th St. (PM)	**0.82**

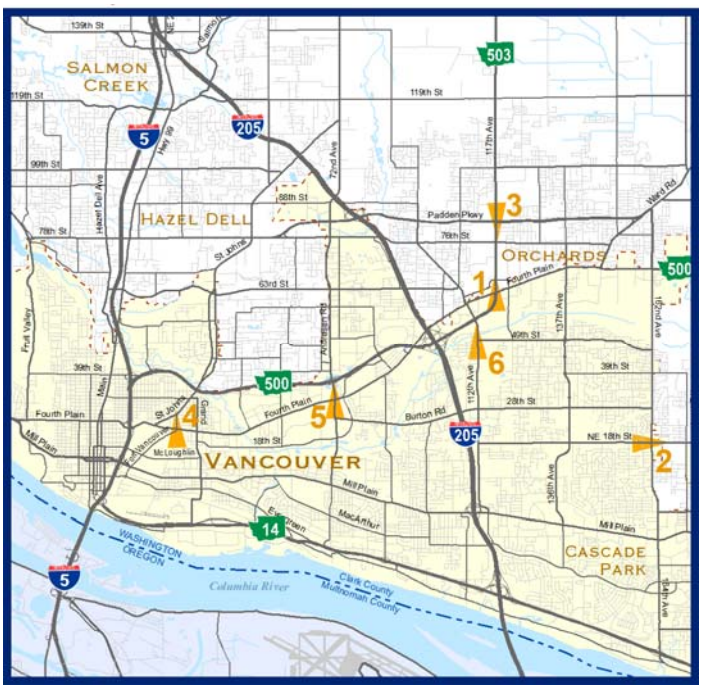
A corridor with capacity ratio above 0.90 is very congested and a corridor above 0.80 will feel congestion.

Intersection Delay

A long average delay for the through movement at an intersection adds to the overall travel time and increases congestion. The following intersections have average evening delays over 100 seconds for a key through movement:

1	SR-500/Fourth Plain/SR-503. (N)	**214 Sec.**
2	NE 18th St./NE 162nd Av. (E)	**134 Sec.**
3	Padden Parkway/SR-503 (S)	**127 Sec.**
4	Fourth Plain/Ft. Vancouver Way (N)	**127 Sec.**
5	Fourth Plain/Andresen Rd. (N)	**109 Sec.**
6	NE 49th St./NE 112th Av. (N)	**105 Sec.**

In signal timing, the higher volume movement is generally favored over lower volume movements, to improve the overall intersection operations. The greatest concern is long delays in the eastbound and northbound peak directions

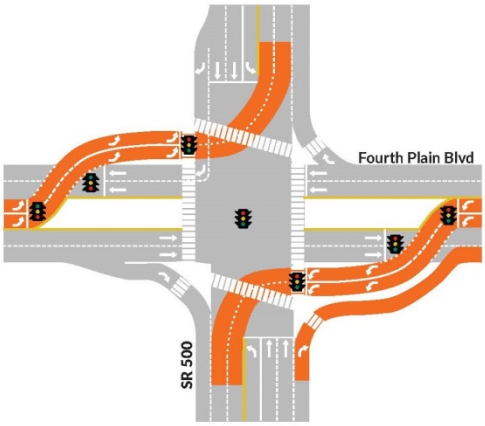


Fourth Plain/SR-500 Intersection

In previous years, the Congestion Management Process identified the SR 500 at Fourth Plain Boulevard intersection as having the most traffic congestion and delays of any at-grade intersection in Clark County. In response, The Washington State Department of Transportation (WSDOT), along with partner agencies studied the intersection to identify issues affecting safety, mobility, and travel reliability. Over 20 potential projects were analyzed, ranging from small operational changes to large-scale infrastructure improvements. Throughout the process, public input and a technical advisory committee directed the analysis.

Through the process it became clear that improvements at three key intersections of SR-500/Fourth Plain, SR-503 and 65th St., and Fourth Plain/121st Av. were necessary to improve left turn capacity, reduce delay, and improve travel reliability. Other mobility enhancements to the intersecting corridors were also recommended. Identified improvements include:

- SR-500/Fourth Plain Intersection: Convert eastbound and westbound left turns into displace left turns (see diagram)
- Reconfigure SR-503/65th Street intersection (possible roundabout)
- Reconfigure Fourth Plain/121st Avenue intersection (possible roundabout)
- Improve traffic signal timing (Fourth Plain and SR-503)
- Add guide and travel time signs
- Connect and extend local roads to improve local circulation.



Convert the westbound and eastbound left turns from Fourth Plain Blvd to displaced left turns. Drivers wishing to turn left onto SR 500/SR 503 would move into two left-turn lanes on Fourth Plain Blvd at traffic lights before they get to the main intersection with SR 500/SR 503.

PROJECTS and STRATEGIES

Trunnion Repair/TDM

In September 2020, the northbound bridge of the Interstate Bridge between Vancouver and Portland will close for up to two weeks as crews replace a cracked trunnion and other parts that help lift and lower the bridge. The closure of northbound bridge will produce heavy congestion and provide a unique opportunity for the region to practice demand management options. This Includes options such as delaying or shifting trips, carpooling, biking, taking transit, and working from home or another location.

Transit

In the summer of 2020, C-TRAN, in cooperation with WSDOT, will complete a second Bus on Shoulder project on I-5 south from about 78th Street south to the Interstate Bridge. This project will be in place during the I-5 Bridge Trunnion Repair project and beyond.

C-TRAN is currently designing and conducting environmental work for a Bus Rapid Transit line along their second busiest route of Mill Plain Boulevard. Construction is expected to begin in 2021.

I-5 SB Active Traffic Management

Due to the significant morning congestion during morning weekday commute times and in an effort to improve safety and trip reliability, WSDOT will implement additional Active Traffic Management along southbound I-5, from 78th Street to the Interstate Bridge in the summer of 2020.

This smart technology will include ramp meters, traffic cameras, traffic sensors, and electronic message signs. This technology will work to provide information to the WSDOT Traffic Management Center. Allowing for real-time processing of data to improve traffic flow and improve safety.

I-205 Study

Volumes on I-205 exceed the carrying capacity of the corridor. These capacity deficiencies result in congestion, unreliable traffic flow, and safety issues.

In 2019, WSDOT along with partner agencies conducted a study to identify bottlenecks and potential solutions in the I-205 Corridor. Identified solutions will be included in long-range plans and will be implemented as further analysis is completed and funding becomes available. The solutions include the following:

- Add auxiliary lanes on I-205 between Padden Parkway and SR-500.
- Reconfigure the existing Glenn Jackson Bridge to add mainline lanes across bridge by using the shoulders. This adds lanes to and from SR-14.
- Add southbound ramp meters at interchanges from Padden Parkway to Mill Plain Blvd.

Key Regional Strategies

The information and data contained in the Congestion Management Report is used to identify appropriate congestion management strategies:

- Local and state agencies need a robust program to analyze and invest in corridor signal timing to get the most out of the existing transportation system.
- Implement Transportation System Management and Operations (TSMO) and Transportation Demand Management (TDM) strategies, including major corridor transit expansion.
- Support widening of major arterials within the Urban Growth Areas to Comprehensive Plan standards, including multi-modal accommodations.
- Identify and implement innovative high volume intersection concepts to resolve acute bottlenecks.
- Advance implementation of an I-5 bridge replacement project.

For More Information

You can get more information on the Congestion Management Process by contacting the Regional Transportation Council at 564-397-6067 or by visiting the project website at ***https://www.rtc.wa.gov/programs/cmp****.*