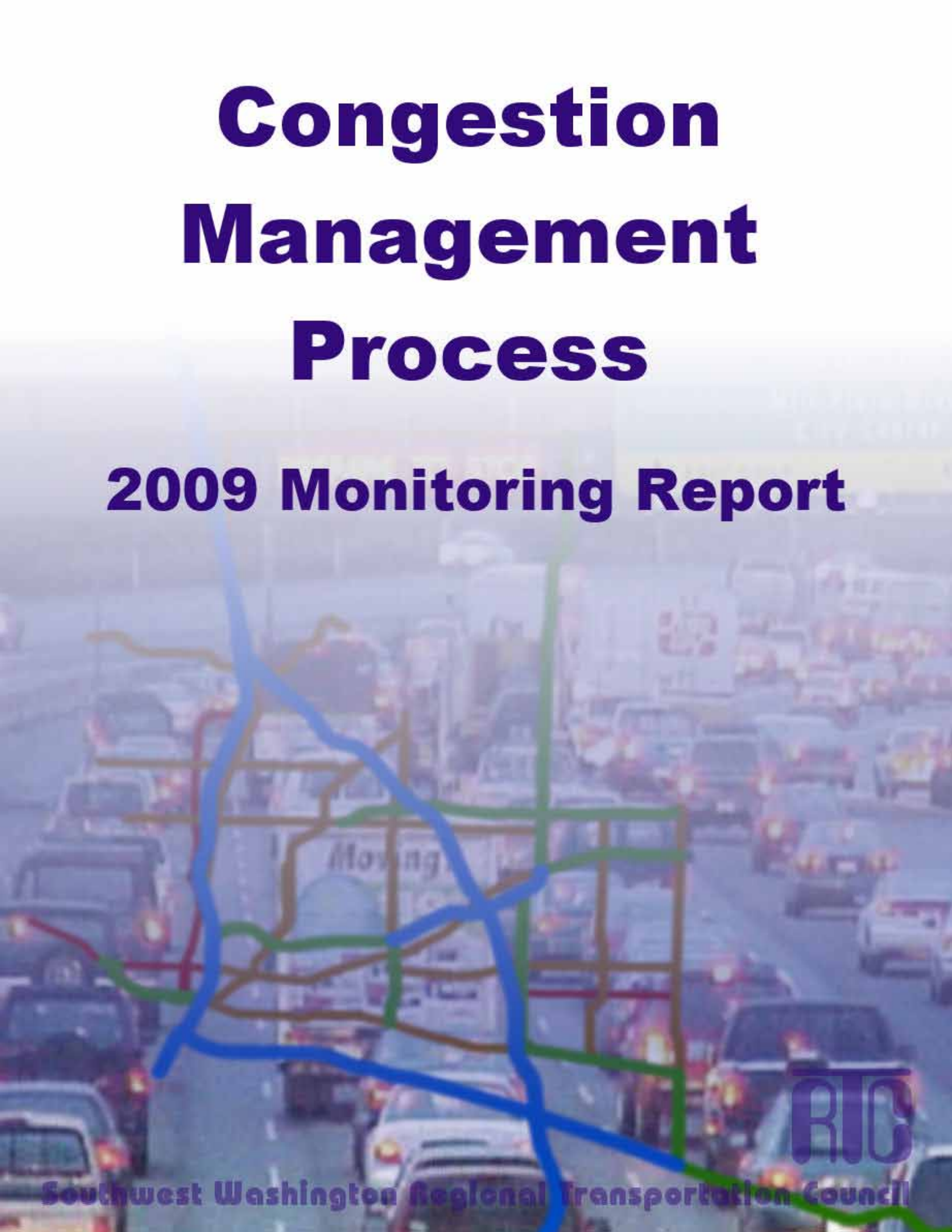
Congestion Management Process

2009 Monitoring Report



RTC

Southwest Washington Regional Transportation Council

CONGESTION MANAGEMENT PROCESS

2009 MONITORING REPORT

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER I.
INTRODUCTION

The *Congestion Management Process: Monitoring Report* offers information to Southwest Washington Regional Transportation Council (RTC) for consideration in implementing a Congestion Management Process (CMP). The CMP was formerly know as a Congestion Management System and was intended by Federal law to be a systematic, transparent way for transportation planning agencies to identify and manage congestion, using performance measures to direct funding towards strategies that most effectively address congestion. The CMP is intended to augment the previous effort and be folded into the overall metropolitan transportation planning process.

A. BACKGROUND

The CMP is required to be developed and implemented as an integral part of the metropolitan planning process in Transportation Management Areas, regions with more than 200,000 people.

The Federal regulation at 23 CFR 450.320(c) identifies the required components for a CMP:

1. Methods to monitor and evaluate the performance of the multimodal transportation system, identify the causes recurring and non-recurring congestion, identify and evaluate alternative strategies, provide information supporting the implementation of actions, and evaluate the effectiveness of implemented actions.

2. Definition of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods. Since levels of acceptable system performance may vary among local communities, performance measures should be tailored to the specific needs of the area and established cooperatively by the State(s), affect MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area.

3. Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute in determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions. To the extent possible, this data collection program should be coordinated with existing data sources (including archived operational/ITS data) and coordinated with operations managers in the metropolitan area.

4. Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures. The following categories of strategies, or combination of strategies, are some examples of what should be appropriately considered for each area:

(i) Demand management measures, including growth management and congestion pricing

(ii) Traffic operational improvements

(iii) Public transportation improvements

(iv) ITS technologies as related to the regional ITS architecture, and

(v) Where necessary, additional system capacity

5. Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy (or combination of strategies) proposed for implementation.

6. Implementation of a process for periodic assessment of the effectiveness of implemented strategies, in terms of the area's established performance measures. The results of this evaluation shall be provided to decision makers and the public to provide guidance on selection of effective strategies for future implementation.

B. Overall Process

The overall Congestion Management Process incorporated by Southwest Washington Regional Transportation Council incorporates the following steps:

1) Develop purpose and goals
2) Identify boundary and network
3) Develop performance measures
4) System Monitoring
5) Identify and evaluate strategies
6) Implement strategies
7) Monitor strategy effectiveness

The Congestion Management Process and Products is displayed in **Figure 1** on page 4.

C. Goals and Objectives

The goal of the Congestion Management Process is to develop a process that provides for effective management and operation of the Congestion Management System.

The following objectives were used to guide the development of the Congestion Management Process:

- Focus upon congestion
- Be practical and easy to apply
- Emphasize regional travel perspective
- Support the local and regional decision-making process
- Increase public awareness of congestion issues and tradeoffs

D. Congestion Management Boundary and Network

1. Congestion Management Network

The boundaries of the Vancouver/Clark County Congestion Management System were set as the Vancouver metropolitan area. The exceptions to this definition are the major inter-regional corridors and major arterial corridors connecting other cities to the base congestion management network, (I-5, SR-14, SR-501, SR-502, SR-503, and La Center Road). This included the addition of congestion management corridors to connect Battle Ground, Ridgefield, and La Center with the base network.

Within these boundaries, the first step in defining the network was to identify a set of candidate facilities and corridors. Only regionally significant corridors were considered as candidates for the network. Regionally significant corridors were defined as facilities that are part of the Regional Transportation System as identified in the Metropolitan Transportation Plan (MTP).

The initial congestion management network was refined from the list of candidate corridors. Using federal guidelines to include facilities with "existing or potential recurring congestion," professional judgment was used to identify those corridors that are currently or are likely to become congested.

The scope of the congestion management network includes 31 regionally significant

transportation corridors within the Clark County, Washington region. The existing Congestion Management Network is listed in **Table 1** (Page 5) and illustrated on **Map 1** (Page 15).

2. CORRIDOR CONCEPT

An important step in defining the congestion management network was to define the basic unit for describing the network and performing analysis. For the Vancouver/Clark County congestion management network, transportation corridors were selected as that unit. Where appropriate, individual corridors are made up of more than one transportation facility. The multi-facility corridors occur where there are parallel facilities serving the same function and to support the concept that transit or transportation demand management impacts a corridor rather than a single facility.

Although data is reported for individual facilities for the multiple facility corridors, they are still grouped by the congestion management corridor they are associated with and by a set of specific endpoints. These constituent facilities are defined as those major regional facilities (i.e., principal arterials and freeways) that run in parallel and may be used as alternative routes. It should be noted that a corridor might consist of only one facility if there are no alternative facilities in close proximity. The endpoints for each corridor represent locations where the characteristics of the corridor change significantly.

Each facility within a corridor is further divided into a series of segments. A segment is the portion of roadway between major intersections or interchanges. To allow for consistent operational analysis, corridor segments were developed such that the capacity and number of lanes remain the same within each segment.

3. LAND USE

Land use and transportation are related, in that land use and transportation can influence one another. Development type, density, and location influence regional travel patterns. On the other hand, transportation access can influence land use and development.

In order to fully understand Congestion Management Network, you need to understand land use along congestion management corridors. **Map 2** (Page 16) illustrates the Congestion Management Corridors and a generalized comprehensive land use within the region.

4. MULTIMODAL

In addition to the road network, it is important to understand the multimodal aspects of CMP Network. Sometimes modes such as walking, bicycling, and transit are overlooked for their ability to mitigate congestion. Investment in these modes can increase safety and mobility.

Map 3 and 4 (Pages 17-18) illustrates the existing suitability of walking and bicycling in the CMP corridors. **Map 5** (Page 19) shows transit frequency along existing transit routes and how these routes serve the CMP network.

E. PERFORMANCE MEASURES

1. DATA ELEMENTS

Collected data elements include traffic counts, travel time, automobile occupancy, and transit ridership. In addition, RTC compiles and collects other measures of system performance including highest volume intersections, Columbia River bridge volumes, and park and ride capacity.

This collected data serves as the basis for developing vehicle volumes, Columbia River crossing, capacity ratio, truck percentage, travel speed, speed as percent of posted speed limit, intersection

delay, automobile occupancy, transit ridership by type of service, transit seat capacity, and transit seat percent of lane capacity.

2. DATA COLLECTION

RTC is responsible for setting up a process for the collection of congestion data. Some of the needed data is regularly collected by other transportation agencies within the Clark County region. RTC organized a process for collecting existing data on a regular basis and initiated the collection of additional data needs. The flow for the collection of transportation data is illustrated on **Figure 2** (Page 6).

3. DATA ANALYSIS AND SYSTEM PERFORMANCE

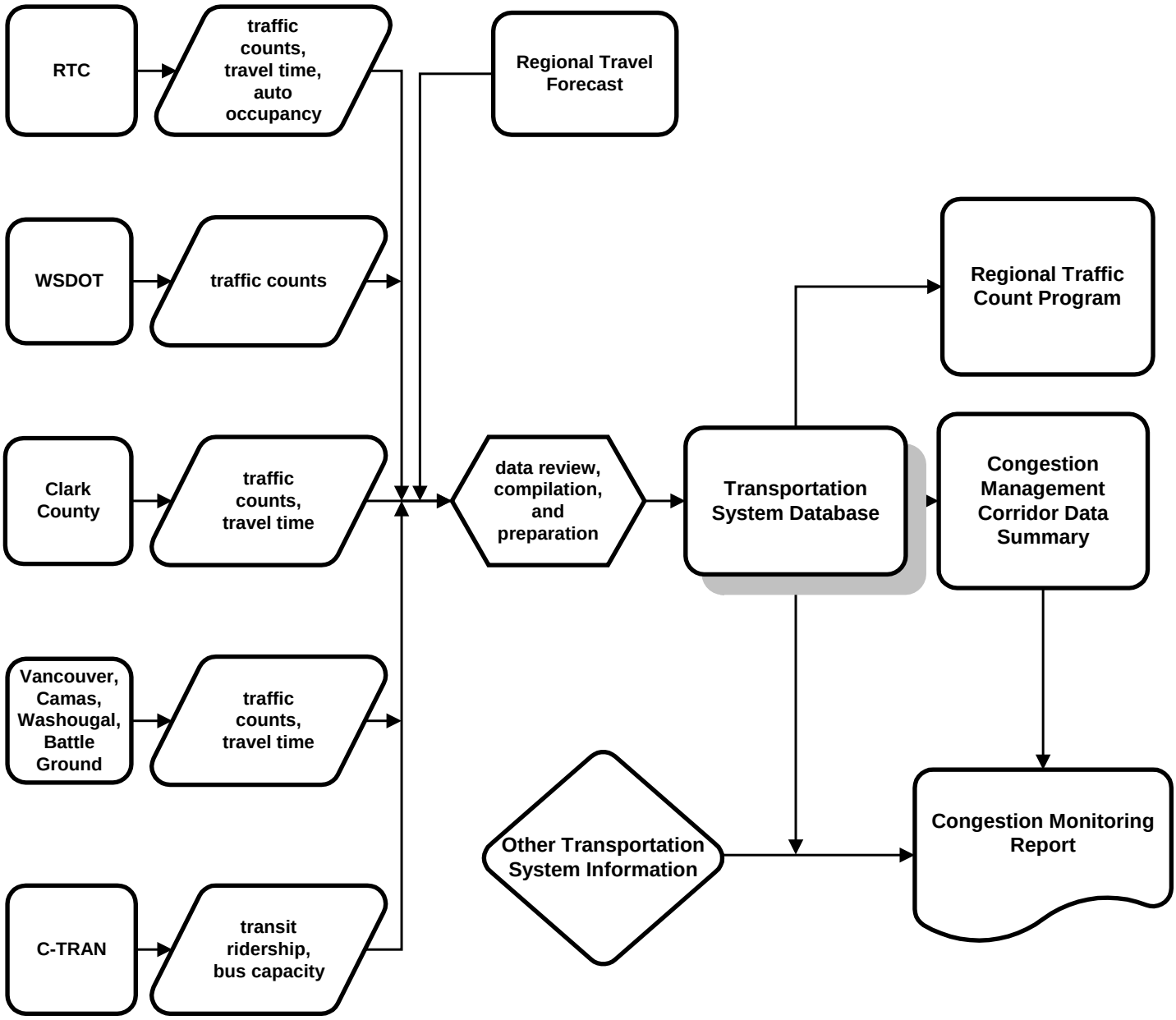
Transportation data is analyzed and validated for use in the congestion management process. The collected data is then applied to develop system performance measures for the transportation corridors. System performance data is then illustrated through tables and maps. The system performance data and maps are then used to identify system deficiencies and needs.

Figure 1 – Congestion Management Process and Products

Table 1 – Corridors in the Congestion Management Network

Corridor Name	Facilities	Endpoints	
I-5 – North	I-5	County Line	I-205 Interchange
I-5 – Central	I-5, Hwy 99, Hazel Dell	I-205 Interchange	Main St.
I-5 – South	I-5, Main Street	Main St. Interchange	Jantzen Beach
I-205 – Central	I-205	I-5 interchange	SR 500
I-205 – South	I-205, 112th Avenue	SR 500	Airport Way
St. Johns	St. Johns Rd./St. James Rd., Fort Vancouver Way	NE 72nd Ave.	Mill Plain Blvd.
Andresen - North	Andresen Rd. / N.E. 72nd Avenue.	119th St	SR 500
Andresen - South	Andresen Rd.	SR 500	Mill Plain Blvd.
SR-503 North	SR 503	SR 502	119th St.
SR 503 South	SR 503	119th St.	Fourth Pl./SR 500
137th Avenue	136th/137th/138th Avenue	Padden Parkway	Mill Plain Blvd.
162nd Av. North	162nd/164th Avenue	Ward Rd.	Mill Plain Blvd.
164th Av. South	164th Avenue	Mill Plain Blvd.	SR-14
192nd Av.	192nd Avenue	SE 1st St.	SR-14
SR 14 West	SR 14	I-5	I-205
SR 14 Central	SR 14	I-205	164th Ave.
SR 14 East	SR 14	164th Ave.	Evergreen Hwy.
SR-501/Fourth Plain	SR-501/Mill Plain, Fourth Plain	I-5	NW 26th Street
Mill Plain West	Mill Plain Blvd.	I-5	I-205
Mill Plain East	Mill Plain Blvd.	I-205	164th Ave.
Fourth Plain West	Fourth Plain	I-5	Andresen Rd.
SR 500 – West	SR 500	I-5	Andresen Rd.
Fourth Plain /SR-500 Central	SR 500, Fourth Plain	Andresen Rd.	SR 503
Fourth Plain – East	Fourth Plain	SR 503	162nd Ave.
78th/Padden Parkway	78th St./76th St., Padden Parkway	Lakeshore Ave.	Ward Rd.
99th Street	99th St.	Lakeshore Ave.	St. Johns Blvd.
28th/18th Street	28th Street, Burton Rd, 18th Street	Andresen Rd.	164th Avenue
134th Street	134th St./139th St./Salmon Creek Ave.	NW 36th Ave.	WSU Entrance
SR-502	SR 502	I-5	SR 503
SR 501	SR 501	I-5	9th St. (Ridgefield)
La Center Road	La Center Rd.	I-5	E. Fork Lewis Rv.

Figure 2 - Transportation Data Flow



CHAPTER II.
SYSTEM MONITORING

This section contains a discussion and display of data information contained in the Congestion Management Process.

Part A consists of the data compiled and collected for the congestion management process and comprised of data that is configured to match the congestion management corridor delineation. Part B consists of other transportation information and data elements that do not necessarily match the congestion management corridors, although in some cases makes use of the data developed in Part A. Part C includes a summary of the corridor trends between year 2000 and 2008. Part D uses shorter segmental transportation data included in Appendix A. Part D identifies specific areas with congestion concerns.

The primary cause of congestion is an imbalance between transportation demand and available capacity. The difficulty in defining congestion is that congestion varies by how people accept delay. One simple definition of congestion is the delay of travel in excess of what is normally experienced under light traffic conditions. Four related factors that are often used to quantify the severity of traffic congestion include duration, extent, intensity, and reliability.

There are many sources of congestion including bottlenecks, traffic incidents, bad weather, construction, poor signal timing, and other events. The source of congestion can vary from one corridor to another, such that the strategies to improve capacity must be tailored to each corridor.

This report attempts to measure and quantify average weekday AM and PM peak period "congestion" consistently across the congestion management corridors, through the use of performance measures.

The congestion management process has evolved to incorporate time-based and other multimodal measures to improve knowledge regarding the operation of the transportation system and the characteristics of regional travel.

A. CONGESTION MANAGEMENT CORRIDORS

1. VEHICLE VOLUMES

AM and PM peak hour vehicle volumes were compiled from the regional traffic count database. Volumes represent traffic counts within each corridor and provide a good comparison of the relative difference in travel demand among the congestion management corridors.

Peak hour traffic volumes for the congestion management corridors are delineated by four volume range categories. These categories are intended to provide a regional picture of travel flows for the Clark County region.

PM peak hour trends are similar to AM peak hour; although, most congestion management corridors carry higher volumes during the PM Peak.

Map 6, Page 20: During the PM peak, I-5 and I-205 and portions of SR-14 and SR-500 display volumes greater than 3,000 vehicles per hour. Within the region, facilities carrying more than 1,500 vehicles in the PM peak hour include segments of SR-14 and SR-500, Mill Plain, Fourth Plain, SR-503, Andresen Road, 164th Avenue, 78th Street, Padden Parkway, and 134th Street.

The corridors with the highest peak hour volume difference (at least 500 additional vehicles) between the AM and PM peak include: I-5, Andresen Road, 78/76th Street, and 134th Street.

2. CORRIDOR CAPACITY RATIO

The corridor capacity ratio is an aggregation of the volume/capacity ratios for the individual general-purpose segments that make up a facility within a corridor. The corridor capacity ratio is calculated for both the AM and PM peak hours and for the peak directions of travel within a corridor. For each segment in a corridor, the volume/capacity ratio, vehicle miles traveled, and vehicle miles traveled weighted by volume/capacity ratio (the product of the volume/capacity ratio and vehicle miles traveled) for the peak hour are calculated. The corridor capacity ratio is the sum of the weighted link ratios.

Map 7, Page 21: Both the AM and PM periods show congestion along major facilities such as I-5 South, I-205 South, and SR-14. Much of the AM period congestion can be attributed to the demand for crossing the two Interstate bridges into Oregon. Generally, the PM period displays higher corridor congestion than that experienced in the AM period. The main exception includes Main Street. On Main Street, congestion can be attributed to morning commuters using Main Street as an alternative to the congested I-5 corridor.

Map 8, Page 22: In the PM period, additional congestion is shown along, SR-14 West, Fourth Plain East, SR-500 West, SR-503, and 18th Street.

Map 9, Page 23: In addition to existing corridor capacity ratio, the 2030 PM corridor capacity ratio was calculated using the regional travel forecasting model (December 2007 MTP). The model shows where future corridor congestion will occur even with planned transportation improvements. Generally, the 2030 MTP shows a worsening of congestion. With PM congestion in the I-5, I-205, Main Street, Andresen, 112th Avenue, SR-503, 162nd/164th Ave., Mill Plain East, Fourth Plain East, 18th Street, SR-502, and La Center Road Corridors. The 2030 model shows many of the planned transportation improvements positively impacting future corridor capacity.

3. CORRIDOR TRAVEL SPEED

Travel time data is collected annually. The data is collected using global position units (GPS) and by driving corridors as many times as possible during peak periods (6:30-8:30 a.m. and 4:00-6:00 p.m.). Travel speed is computed from the travel time data. It consists of utilizing the travel time and distance to calculate the average travel speed in the peak period for through movements.

In general, facilities with multiple at-grade controlled intersections display lower speeds. While grade-separated facilities show much faster speeds. Usually, the PM period displays lower corridor speed than that experienced in the AM period.

Map 10 & 11, Pages 24-25: Corridor travel speed continues to be a problem that becomes worse each year. As development occurs, corridor travel speed continues to decline. One concern is regional facilities that have a travel speed below 25 mph, which may encourage trips to divert to alternate routes. During the AM period, Main Street, Andresen South, 136/137/138th Ave., SR-503 South, Fourth Plain, and Burton Road display average speeds below 25 mph.

In the PM period, corridors with travel speed below 25 mph include Main St., Highway 99, St. Johns, Andresen, 112th Ave., 136/137/138th Ave., 164th Ave. South, 192nd Ave., Mill Plain, Fourth Plain, Burton, 78th/76th St., and 99th St.

4. SPEED AS PERCENT OF SPEED LIMIT

Travel speed was converted to a percent of posted speed limit for each of the congestion management corridors. This was intended to provide another measure of the delay along the corridor.

As development occurs along the corridors, travel speed often decreases because of congestion, multiple driveways, and additional traffic signals. One of the difficulties is in balancing access to land uses and maintaining the throughput travel speed of arterials.

The speed percentages for the freeway facilities are generally close to 100% of the posted speed limit. While facilities with multiple signalized intersections and driveways are generally between 65% and 80% of the posted speed limit.

Map 12, Page 26: In the AM period, I-5 South, Andresen Rd., SR-503 South, Padden Parkway, and 136/137/138th Avenue operate at less than 65% of the posted speed.

Map 13, Page 27: In the PM period, I-5 South, Highway 99, St. Johns/Ft. Vancouver, Andresen, 136/137/138th Avenue, 164th Avenue South, 192nd Avenue, Fourth Plain, Mill Plain, SR-500, 78th/76th Street operate at less than 65% of the posted speed.

5. INTERSECTION DELAY

The delay at an intersection, for the through movement, was recorded as part of the PM travel time. Delay time represents the period of time travel speed is below 5 mph due to the intersection control. The delay time at an intersection was averaged for the multiple travel time runs. Intersections with an average delay time of greater than 45, 60, and 90 seconds were identified as a location of delay along a corridor. This delay is only calculated for through movement on the congestion management corridor and does not include delay associated with left turns or cross street traffic.

Map 14, Page 28: Generally, intersections that displayed a 45 second or greater delay, for the average through movement on a CMP corridor, were located where two major arterials intersect. Map 14 displays the location of the 72 intersections that demonstrated this characteristic. Of these intersections, 27 had an average delay between 60-89 seconds and 5 had an average delay greater than 90 seconds. The largest delay was for westbound traffic on 134th Street at NE 20th Avenue, which experienced a 191 second delay (over 3 minutes). Delay at these intersections add to the overall travel time and increase congestion.

In addition to intersection delay, delay can also occur at freeway off ramps, where high volumes of traffic are loaded onto the arterial system. This can create a significant problem when traffic backs onto the freeway. Locations known to experience this characteristic in the PM peak include northbound I-205 off ramp to SR-14, Mill Plain, SR-500, and eastbound SR-14 off ramp to 164th Av. In the AM Peak, backups can occur on SR-500 and SR-14 ramps to I-5 South, and Padden Parkway, SR-500, and SR-14 ramps to I-205 South.

6. AUTOMOBILE OCCUPANCY

Average automobile occupancy is calculated by observing passenger cars at a given location and the number of people in each vehicle. The number of people divided by the number of passenger cars is the average automobile occupancy for that location. Trucks, buses, and other commercial vehicles are excluded from average automobile occupancy. Data is collected for the AM and PM time periods. (**Table 2**)

Table 2
Average Automobile Occupancy by Time of Day

Facility Type	AM	PM
[1]Freeway	1.12	1.19
Arterial	1.14	1.24

1*Freeway includes I-5, I-205, SR-14, and SR-500*

The AM time period displays a lower average automobile occupancy, with the AM average automobile occupancy at 1.13 persons per vehicle. The PM average automobile occupancy rate is approximately 1.21 persons per vehicle.

It may be that the AM peak period is more of a traditional commute time, while the PM peak period likely has a greater percentage of discretionary trips such as shopping where drive alone trips are less prominent.

7. TRUCK PERCENTAGE

Collected traffic counts include several locations that classified vehicles according to the number of axles. This is a measure of trucks as a percentage of all vehicles traveling on the roadway. Trucks are defined as vehicles with more than two axles, such as typical tractor/trailer rigs, traveling on the roadway during the peak period. It is important to note that trucks often travel outside peak periods to avoid congestion.

Map 15, Page 29: Overall, I-5, I-205, SR-14 East, SR-501 (Pioneer St.), SR-502, SR-503, and Fourth Plain/Mill Plain west of I-5 display the highest percentage of truck volumes during the PM peak period with truck percentages greater than 4 percent. I-5 North has a truck percentage above 12%.

In the AM Period, the percentage of trucks are generally higher. I-5 North, I-205 Central, and Fourth Plain/Mill Plain west of I-5 all display percentages above 8%.

8. TRANSIT SEAT CAPACITY USED

Transit capacity used includes transit riders divided by the transit capacity at a defined location. Transit seat capacity represents the percentage of seats that are occupied during the two-hour peak period. C-TRAN uses an automated ridership collection system on their vehicles. RTC compiled this data at a specific location in each corridor to calculated bus capacity based on the vehicle type and frequency of service. This process has allowed for the estimation of transit patronage and capacity for congestion management corridors.

Map 16, Page 30: During the AM period, portions of I-5, I-205, Highway 99, St. Johns, SR-503, Mill Plain, Fourth Plain, SR-500, 18th Street, Burton, and 78th Street corridors utilize more than 40% of the available seats.

Map 17, Page 31: In the PM period, I-5, I-205, Main St, St. Johns, 112th Ave, 137th Ave., Mill Plain, Fourth Plain, and La Center/Ridgefield utilize more than 40% of the available seat capacity.

9. TRANSIT SEATS AS PERCENTAGE OF LANE CAPACITY

This measure is intended as a planning analysis tool. It utilizes the transit seat capacity data to calculate transit seat capacity as a percentage of vehicle capacity per lane on the congestion management corridors. It provides a picture of how much transit service is in a corridor in relation to the road capacity and presents an idea of the potential of transit to mitigate or manage auto demand in a corridor.

Map 18, Page 32: The PM map shows that the I-5, Main St., Fourth Plan, and 164th Ave. have the highest percentage of transit seats due to the high level of buses in these corridors. In contrast, SR-500

central, I-205 North, and Padden Parkway have no bus service during the two-hour peak period.

B. Other Transportation Measures

1. Highest Volume Intersections

Table 3 displays the highest volume intersections in 2009. It is based on the total number of vehicles entering an intersection on an average weekday. At-grade intersections along SR-500, Mill Plain, SR-503, and Padden Parkway dominate the list.

Table 3 - Highest Volume Intersections

Rank	East/West	North/South	Volume
1	Mill Plain	Chkalov Dr.	80,000
2	SR-500	SR-503	75,000
3	SR-500	St. Johns Rd.	65,000
4	SR-500	54th Ave.	63,000
5	Padden Pkwy	SR-503	58,000
6	SR-500	42nd Ave.	58,000
7	Mill Plain	136th Ave.	57,000
8	Padden Pkwy	Andresen Rd.	54,000
9	Fourth Plain	Andresen Rd.	52,000
10	78th St.	Highway 99	49,000
11	134th St.	20th Av./Hwy 99	48,000
12	SR-502	SR-503	47,000
13	Mill Plain	164th Ave.	46,000
14	SE 34th St.	SE 164th Av.	46,000
15	Mill Plain	123rd/124th Av.	46,000
16	76th St.	SR-503	45,000

2. Columbia River Bridge Vehicle Volumes

A good indicator of change to bi-state travel is the amount of vehicle travel across the Columbia River bridges. **Table 4** shows the historical growth in Columbia River bridge crossings since 1980.

Daily bridge traffic volumes have been maintained at Columbia River bridges since 1961. The Interstate Bridge carried approximately 33,500 vehicles a day in 1961. Volumes had increased to over 108,000 vehicles a day by 1980. With the opening of the Glenn Jackson Bridge in late-1982, total Columbia River crossings had increased to 144,000 vehicles a day by 1985. By 1995, total river crossings had more than doubled compared to 1980 with 222,700 crossings.

The Interstate Bridge reached capacity during peak hours in the early 1990's. Glenn Jackson Bridge traffic volumes began to exceed the Interstate Bridge traffic volumes on a daily basis in 1999. Interstate Bridge traffic volumes began to decrease, beginning in 2006, as the corridor became saturated through much of the day. Total bridge crossings have declined twice since 1961, in 1974 and 2006-2009. The Glenn Jackson Bridge had its first decline ever in vehicle volumes in 2008. Which likely relates to the slide in the economy.

Table 4 - Average Weekday Traffic Across the Columbia River

Year	I-5	I-205	Total
1980	108,600	N/A	108,600
1985	91,400	52,600	144,000
1990	95,400	87,100	182,500
1995	116,600	106,100	222,700
2000	126,900	132,100	259,000
2005	132,600	145,900	278,500
2009	125,400	143,700	269,100

3. Transit System Ridership

Table 5 provides 2009 annual C-TRAN patronage by type of service. C-TRAN saw a 26% increase in ridership between 2007 and 2008, with a spike in fuel cost. While between 2008 and 2009 ridership dropped 12% with lower fuel cost and reduced service hours.

Almost 96% of C-TRAN system ridership was made up of fixed route patrons. Urban fixed route service carried 83% of C-TRAN's total annual 2009 ridership. Followed by commuter service that carried 12.6% of the total riders, and C-VAN that carried 3.1% of the total riders.

Table 5 - 2008 Ridership by Type of Service

Type of Service	Annual Riders	Percent of Total
Urban/Local	5,349,021	83.2%
Commuter	811,342	12.6%
C-VAN	200,115	3.1%
Connector	30,864	0.5%
Events/Other	25,201	0.6%
Total	**6,430,672**	**100.0%**

Table 6 compares growth in Clark County population with changes to C-TRAN system ridership during the same period. The average annual growth rate in Clark County population since 1985 has ranged from 2.7% to 4.5% per year depending on the time period. Over the same time periods, C-TRAN ridership growth rate has generally been higher than the population growth rate.

Table 6 – Historical Population and Patronage Growth

Year	Population	Annual Growth Rate	System Passenger Trips	Annual Growth Rate
1985	206,744		1,765,423	
1990	238,053	3.0%	2,840,724	12.2%
1995	291,000	4.4%	4,327,291	10.5%
2000	345,238	3.7%	5,437,084	5.1%
2005	391,500	2.7%	5,812,417	1.4%
2009	431,200	2.5%	6,430,672	2.7%

In 2000, the passage of initiative 695 had a significant impact on transit revenue and C-TRAN had to reduce transit service. In 2005, C-TRAN restructured transit fares to increase the proportion that fare revenue contributes to service costs. These changes resulted in a decrease in ridership. In September 2005, voters overwhelmingly supported a sales tax increase to support preservation of C-TRAN service levels and restore service that had been cut following passage of Initiative 695 in 2000.

As a result of the 2007 Service Redesign Study, C-TRAN implemented a number of service improvements in 2007, and opened the 99th Street Transit Center. These service changes, along with high fuel cost, have resulted in significant passenger increases in 2008. Although, some ridership gain was lost in 2009 due to a reduction in transit service and slowing of the economy.

4. Park and Ride Capacity

Park and ride capacity includes lots owned or leased by C-TRAN. In addition to the capacity shown in Table 7, there are informal park and ride and park and pool facilities located throughout the County. Clark County park and ride capacity is shown in **Table 7**.

Table 7 - Clark County Park and Ride Capacity

Facility	Lot Capacity
99th Street	610
Battle Ground	28
Evergreen	279
Salmon Creek	493
BPA Ross	200
Andresen/KMART	30
Fisher's Landing	560
Camas/Washougal	20
Total	**2,220**

C. 2000-2009 TRENDS

1. VEHICLE VOLUMES

In the nine-year period, several corridors have shown a significant increase in peak hour vehicle volumes. Corridors that had a vehicle volume increase of over 400 vehicles in the PM peak hour include: I-5, I-205 Central, SR-14 east of I-205, and Padden Parkway.

In addition, Main Street, I-205 Central, Fourth Plain Central, and Padden Parkway had a vehicle volume increase of over 400 vehicles in the AM peak. While I-5 South had a reduction in AM peak volume of over 400 vehicles, due to corridor saturation.

Between 2000 and 2009 the region experienced substantial increase in the overall traffic volumes, with a slowing of the growth rate the last few years. The overall increase in traffic volumes is likely due to growth in the regional economy and population.

2. CORRIDOR CAPACITY

Through the nine-year period, both the AM and PM peak periods had increased congestion along congestion management corridors. However, congestion decreased along corridors where capacity has been added to the system. The change in corridor capacity (volume to capacity ratio) has been especially reflective of road improvements. In the past few years, capacity has been added with transportation improvements along many of the congestion management corridors. Some of the major improvements include:

- I-205 Off ramp to 112th Av.
- I-5/SR-502 Interchange
- St. Johns, NE 50th Av. to 72nd Av.
- 72nd Av., N. of 88th St. to St. Johns
- NE 138th Av., 18th St. to 28th St.
- Fourth Plain in Orchards
- I-5, Main to 99th St.
- Fourth Plain, Ward to 162nd Av.
- 162nd Av., 39th St. to Ward Rd.
- Burton/28th St., 86th Av. to 144th Av.
- 192nd Avenue (Relieves 162nd Av.)
- Padden Parkway
- SR-500/112th Av. Interchange
- SR-500/Thurston Interchange

3. SPEED

In general, a trend between 2000 and 2009 congestion monitoring reports includes decreased speeds along congestion management corridors, with the exception of where the system has been improved. Corridors that had a significant (5 mph or more) decrease in PM peak period speed include: I-5 North (-10 mph), Highway 99 (-7 mph), Hazel Dell Av. (-5 mph), I-5 South (-5 mph), Main Street (-12 mph), I-205 South (-6 mph), Andresen South (-7 mph), SR-14 central (-13 mph), Fourth Plain west of I-5 (-9 mph), and SR-502 (-8 mph). Significant increase (5 mph or more) in PM peak period speed occurred in corridors that had transportation improvements since year 2000. This includes I-5 central (+15 mph), 164th Av. South (+6 mph), SR-500 Central (+16 mph), and La Center Rd. (+5 mph).

4. INTERSECTION DELAY

In the last few years, the intersection delay for through movements has increased. Intersections with an average delay of 30 seconds or greater has increased from 26 intersections to over 100 intersections. In 2007, the congestion management process moved to only identifying intersections with an average delay of 45 seconds or greater for the through movement. This initially decreased the number of intersection down to 64. In 2009 there are 72 intersections with a delay of 45 seconds or more.

D. AREAS OF CONCERN

Using the individual CMS corridor segment data, areas of concerns were identified. Areas of concern are defined as segments within an individual corridor that has volume to capacity (V/C) ratio greater that 0.9 or a travel speed 60% or less of the posted speed limit.

1. VOLUME TO CAPACITY RATIO

The volume to capacity ratio identifies road segments where current volumes are approaching road capacity. This limitation on road capacity leads to congestion.

Map 19, Page 33: Most of the AM period volumes to capacity ratio areas of concerns are related to bottlenecks at the two interstate bridges. The AM period shows congestion at portions of I-5, I-205, SR-14, SR-503, Fourth Plain, 72nd Ave., and 18th Street.

Map 20, Page 34: In the PM period, additional volume to capacity ratio areas of concern occurred. The PM period shows congestion on portions of I-5, I-205, SR-14, SR-502, SR-503, Fourth Plain, Andresen Road, 134th Street, Mill Plain, and 18th Street.

2. SPEED

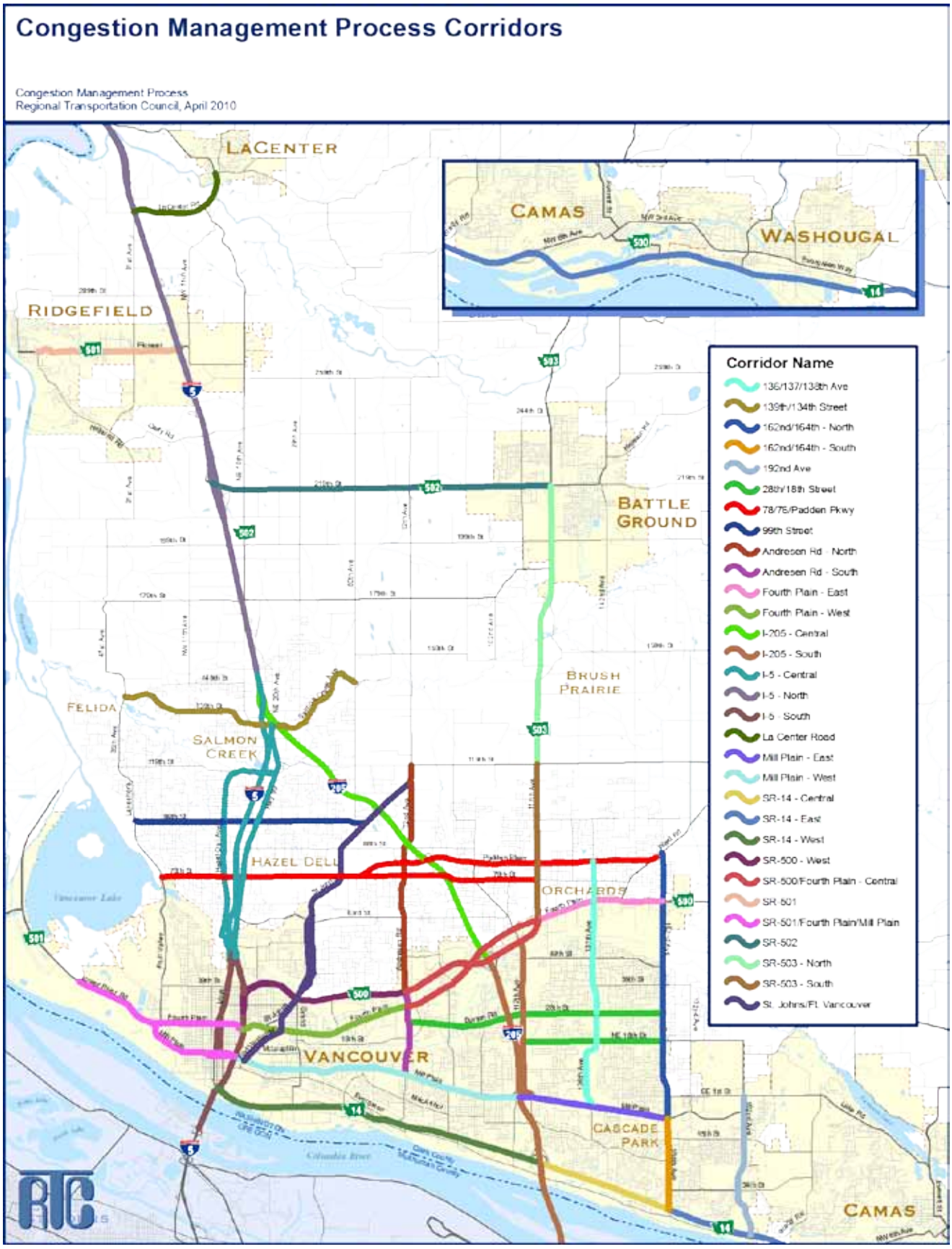
A travel speed lower than 60% of the posted speed limit is an indicator of delay, which can result in congestion.

Often these speed areas of concern correlate with locations within close proximity of multiple traffic signals or intersections that displayed delay greater than 45 seconds.

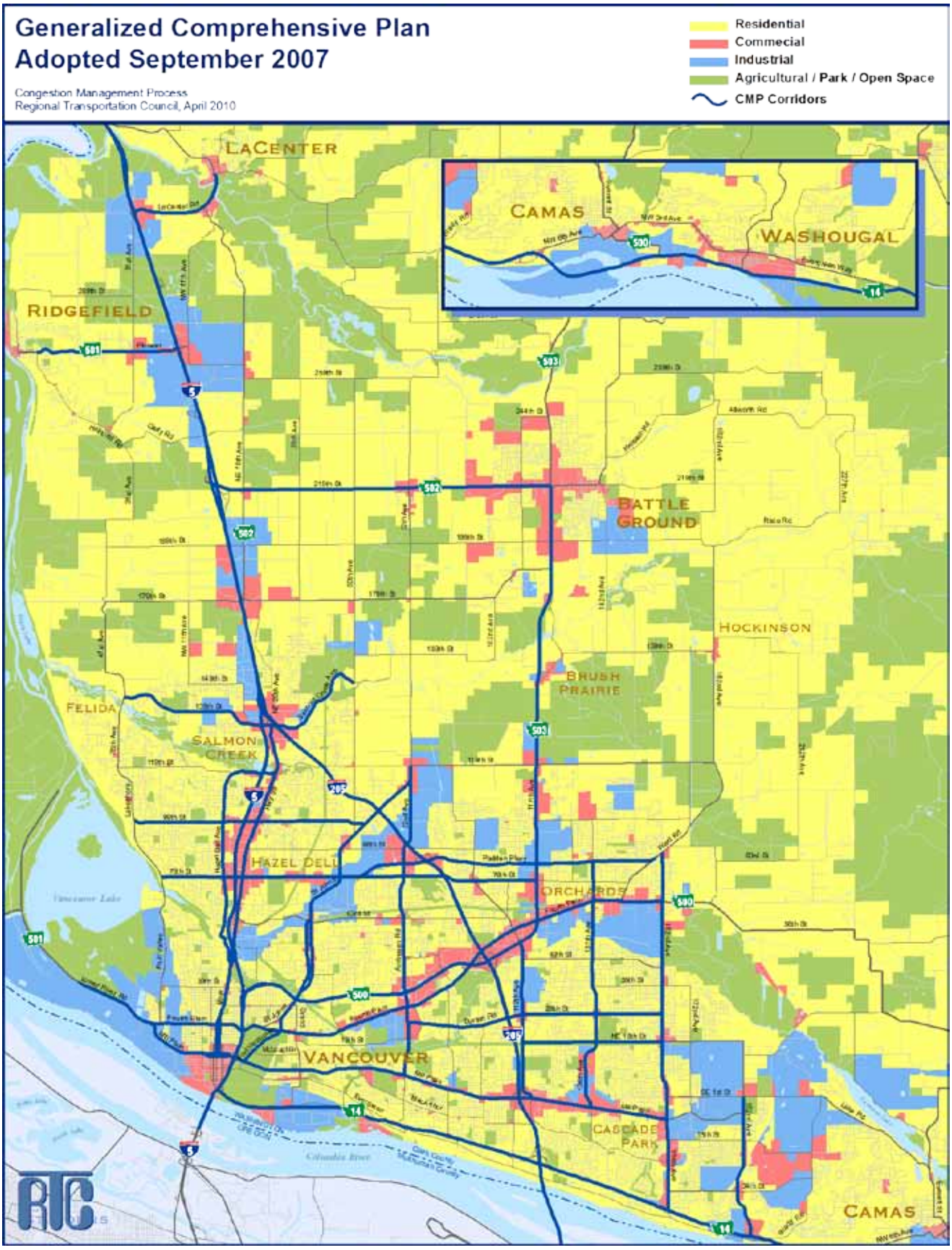
Map 21, Page 35: In the AM period, speed areas of concern occur along portions of I-5, Highway 99, St. Johns, Andresen, 112th Avenue, SR-503, 137th Avenue, Mill Plain, Fourth Plain, 78th Street, Padden Parkway, 99th Street, and 134th Street.

Map 22, Page 36: In the PM period, speed areas of concern occur along portions of most of the congestion management corridors in the Vancouver Urban area, with the exception of grade-separated facilities (I-5, I-205, SR-14, and portion of SR-500).

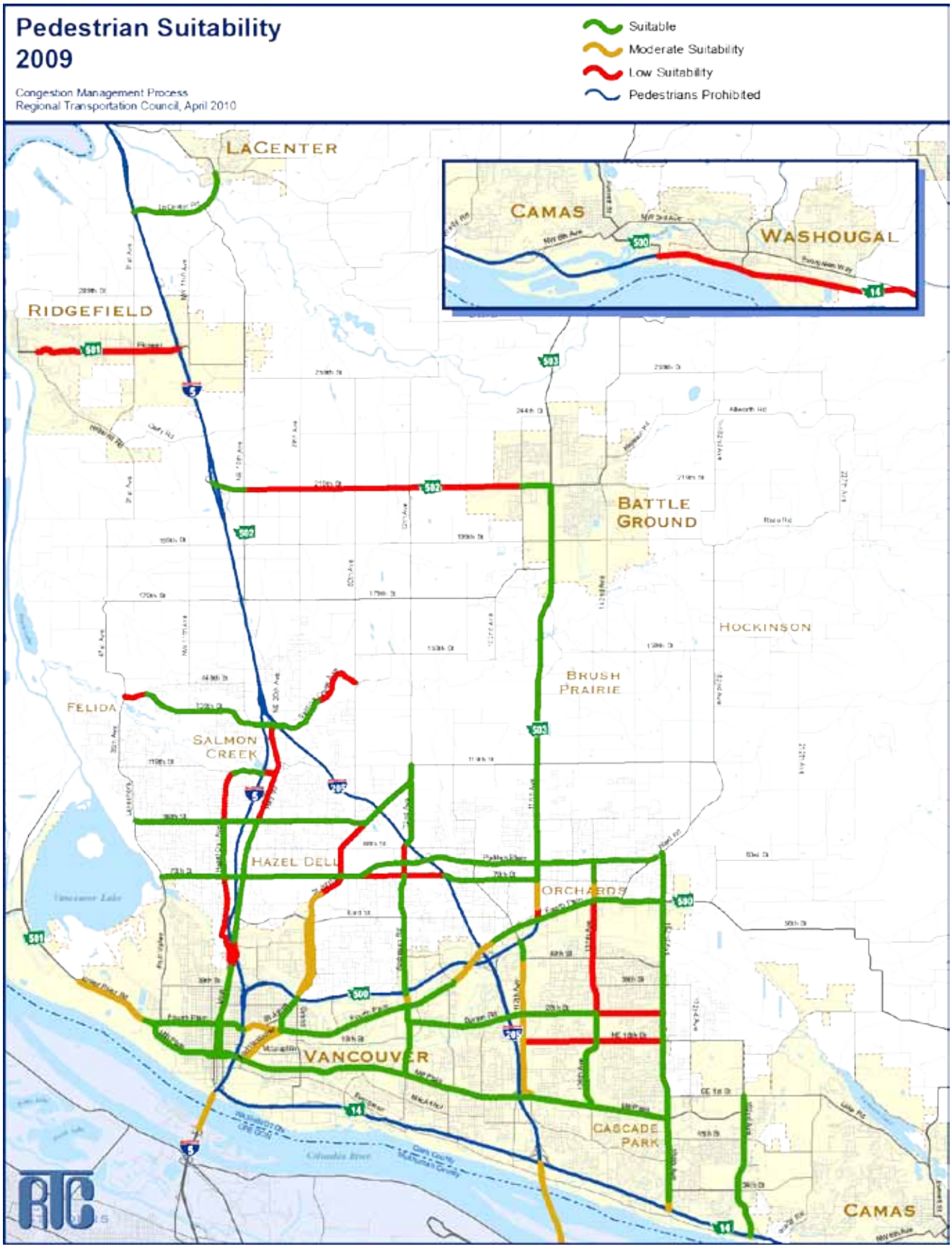
Map 1 – Congestion Management Network



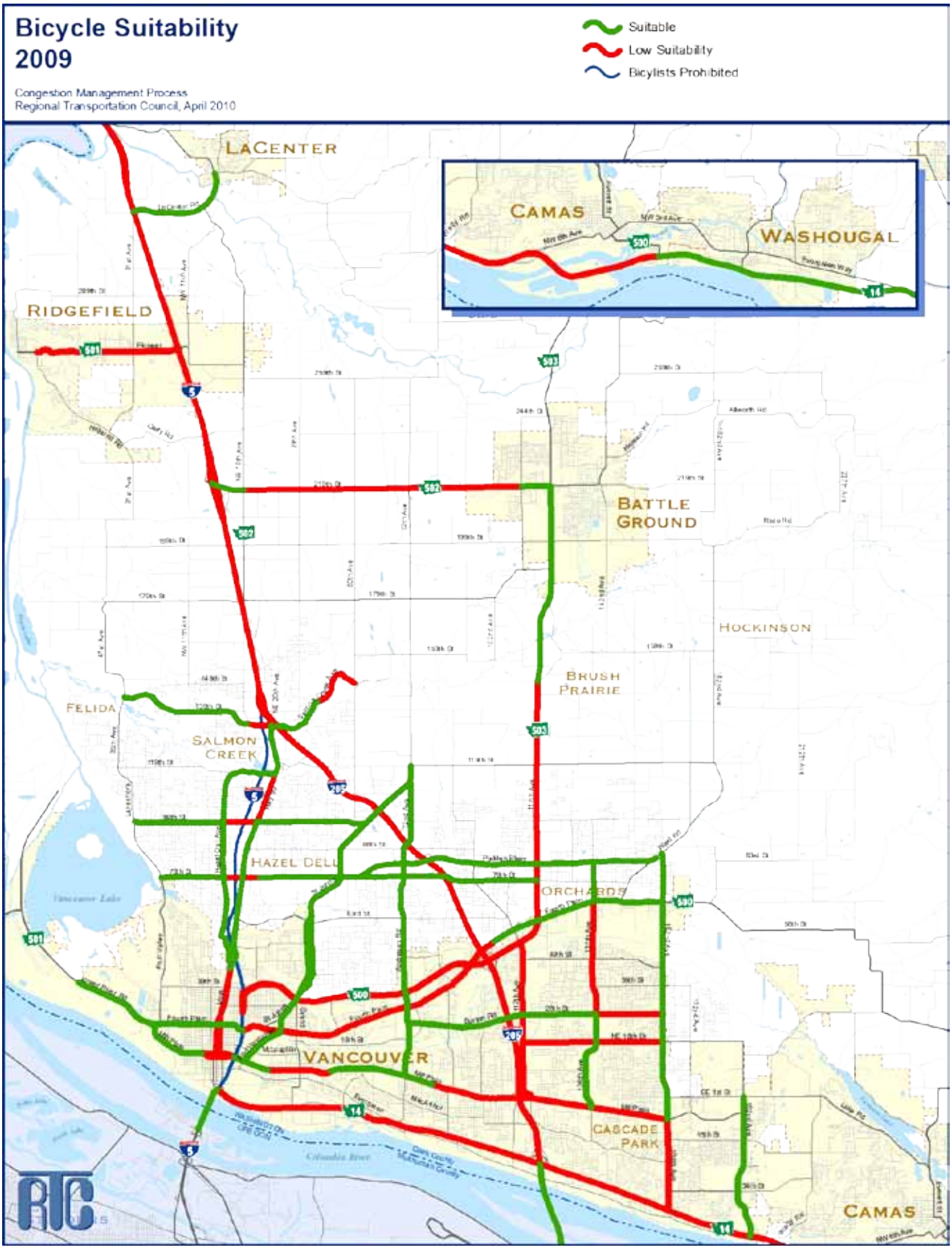
Map 2 – Land Use



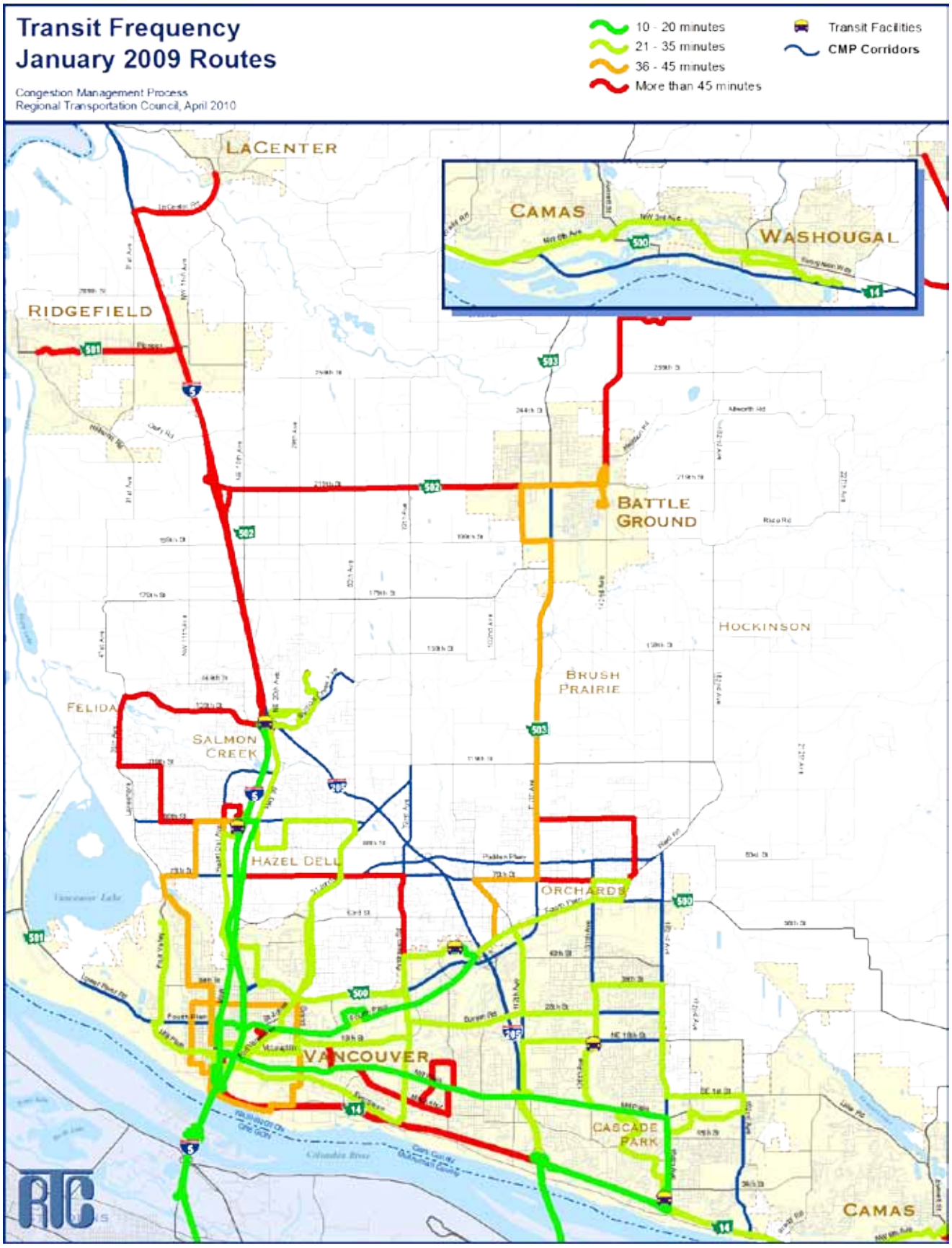
Map 3 – Pedestrian Suitability



Map 4 – Bicycle Suitability

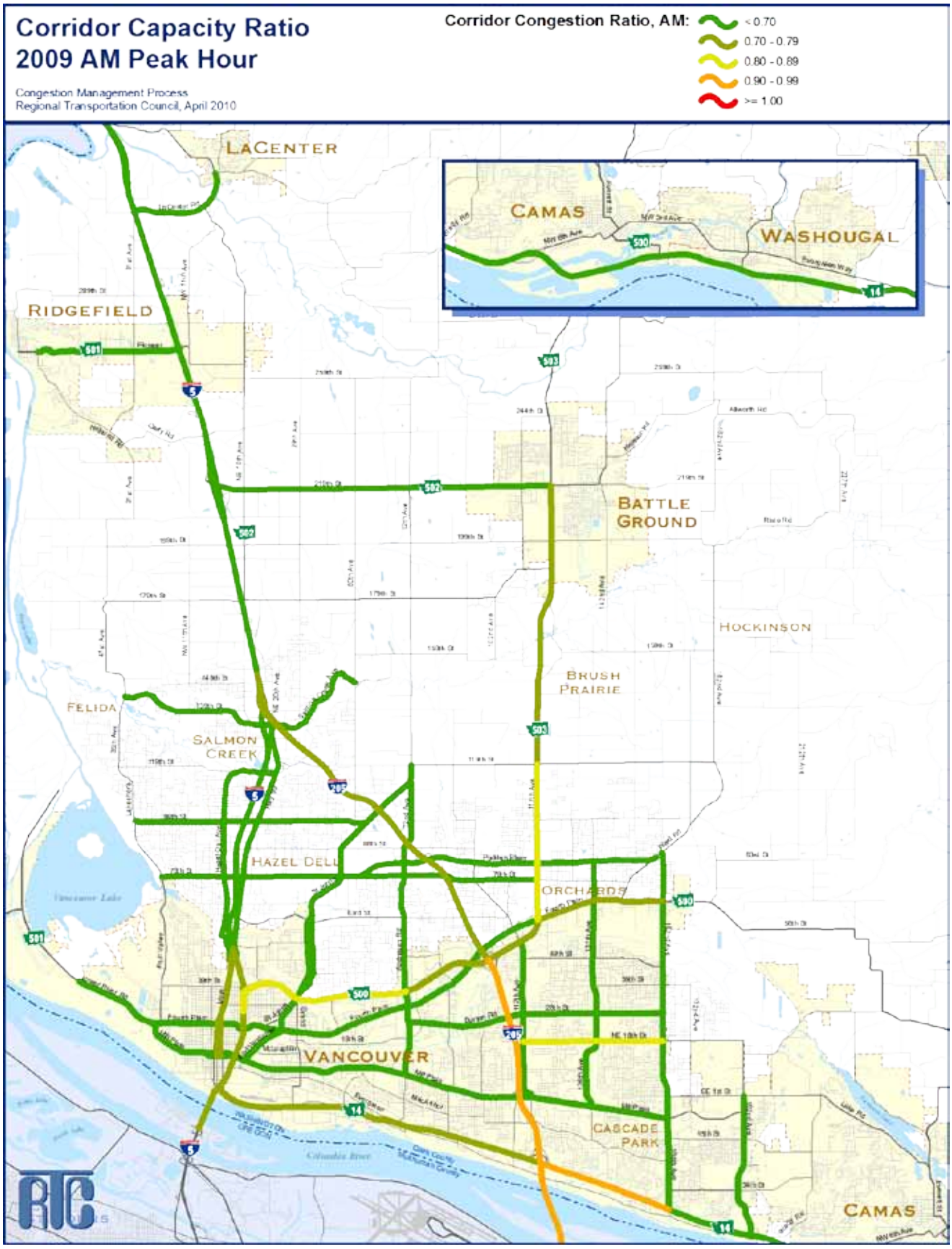


Map 5 – Transit Service and Frequency

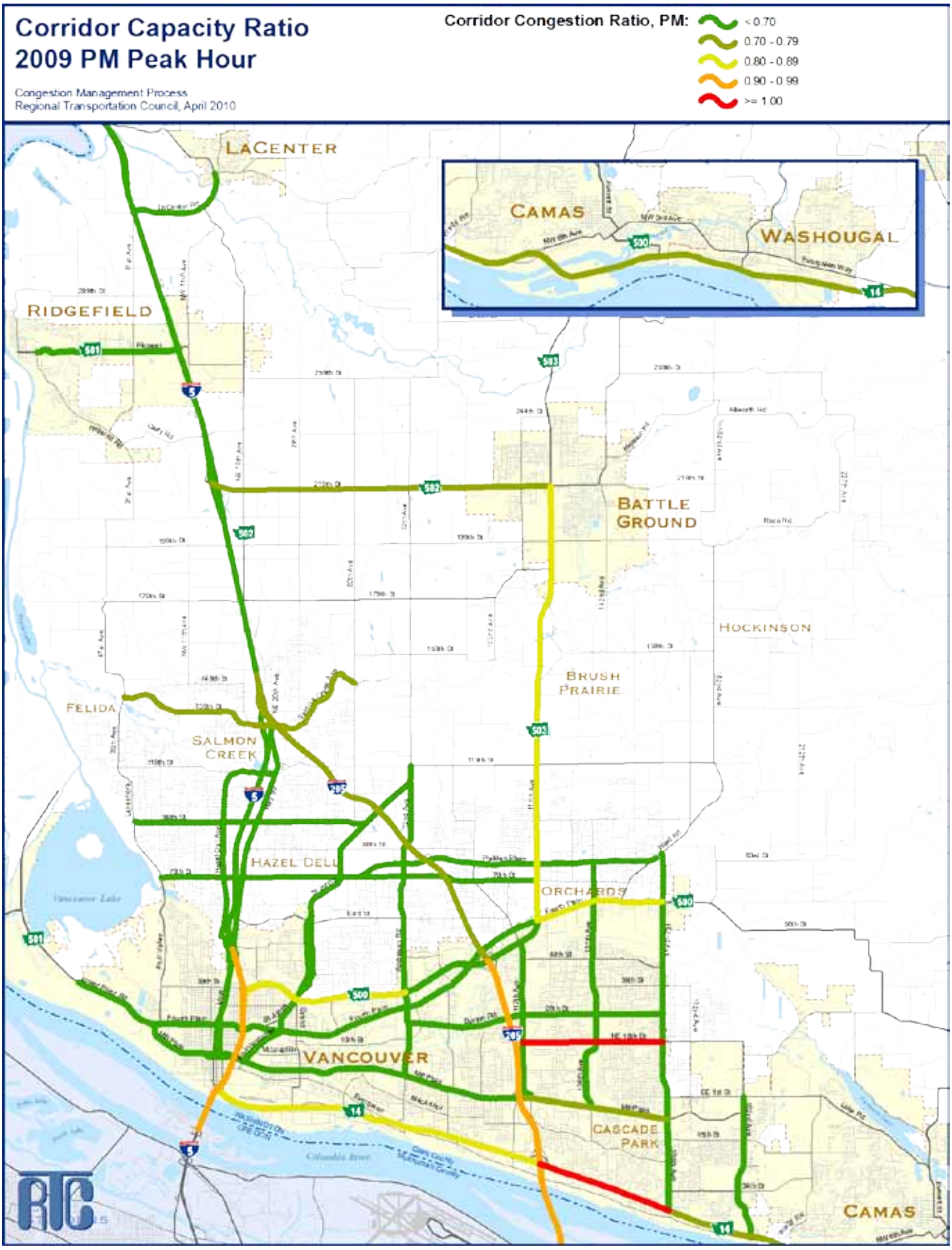


Map 6 – PM Vehicle Volumes

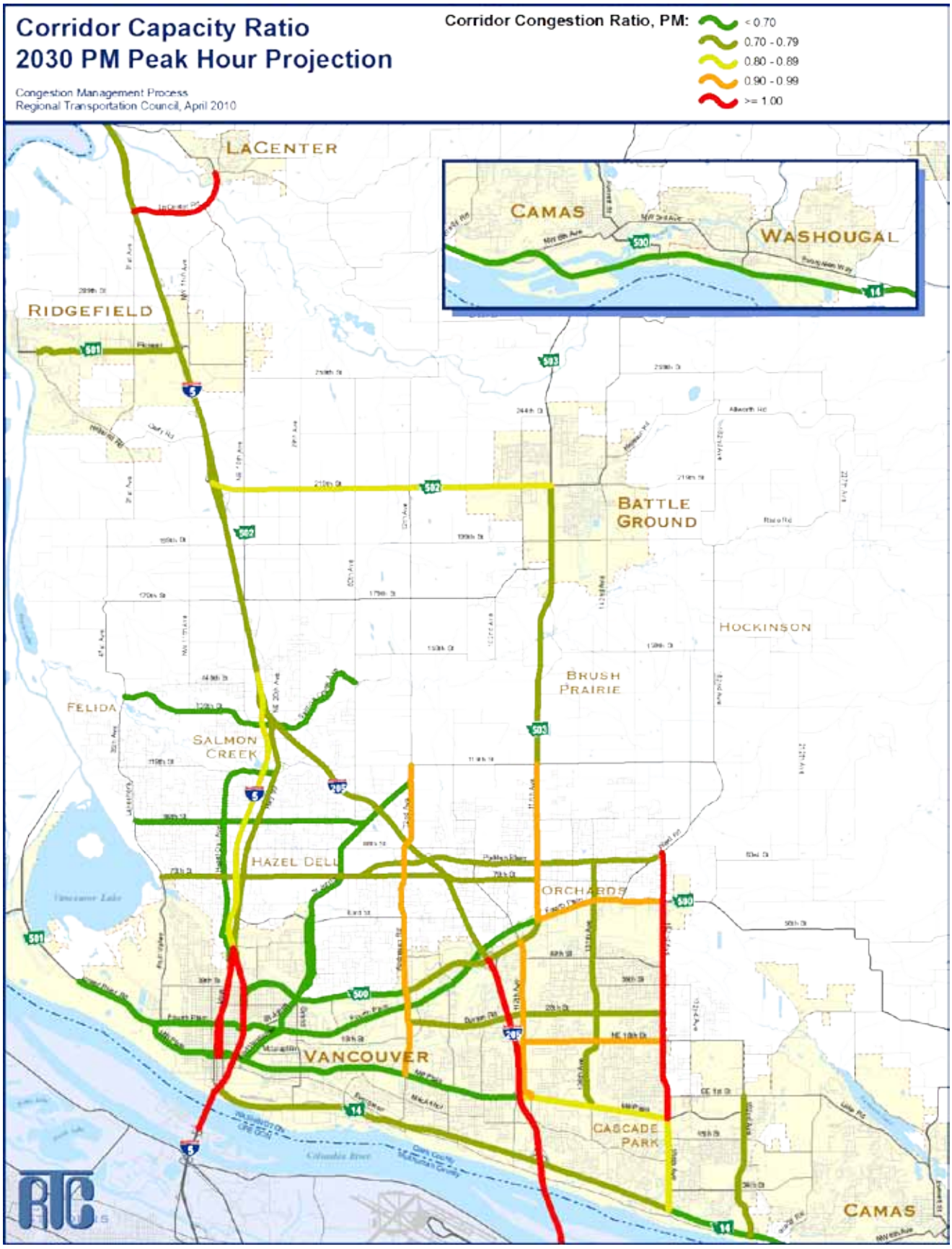
Map 7 – AM Capacity Ratio



Map 8 – PM Capacity Ratio

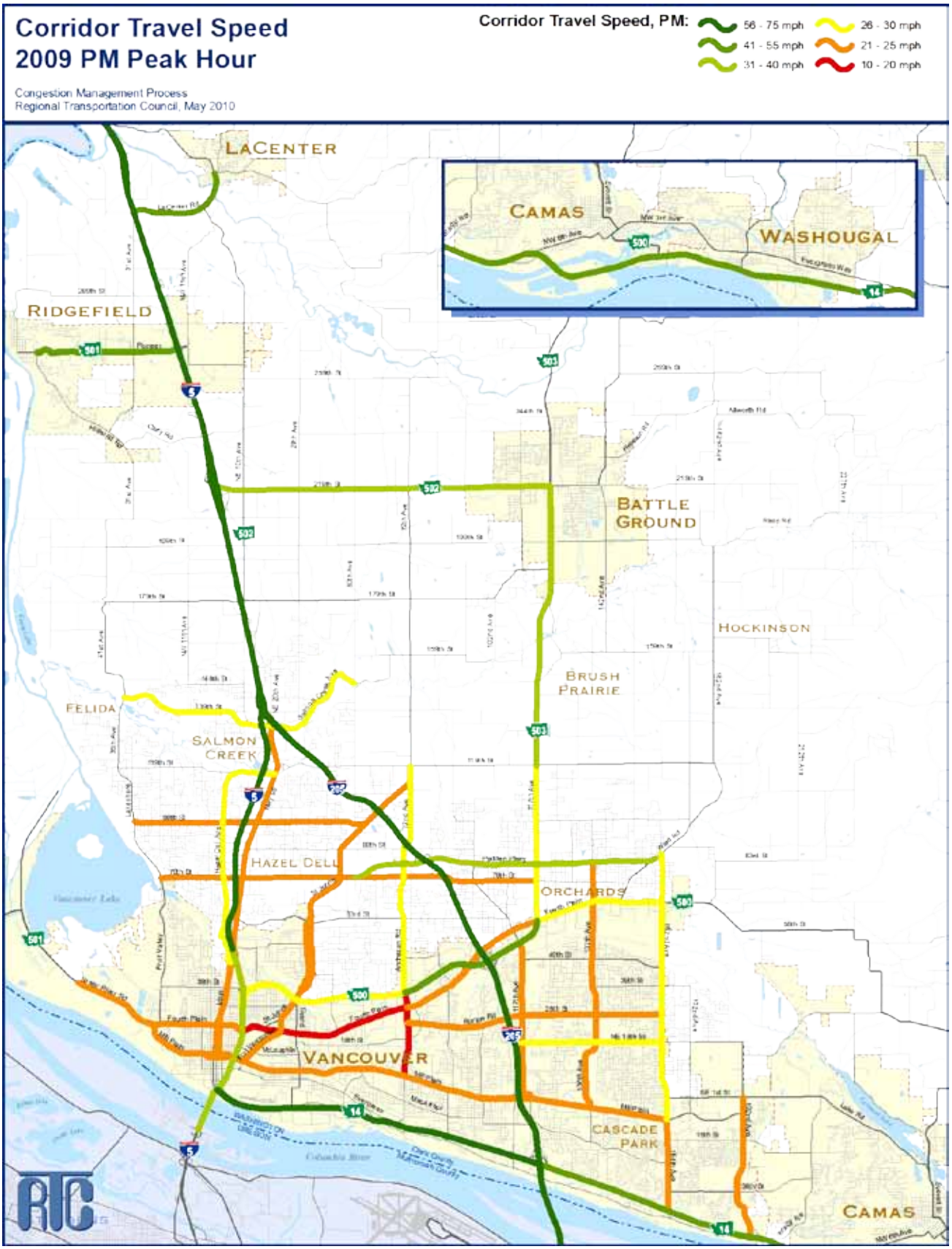


Map 9 – 2030 PM Capacity Ratio

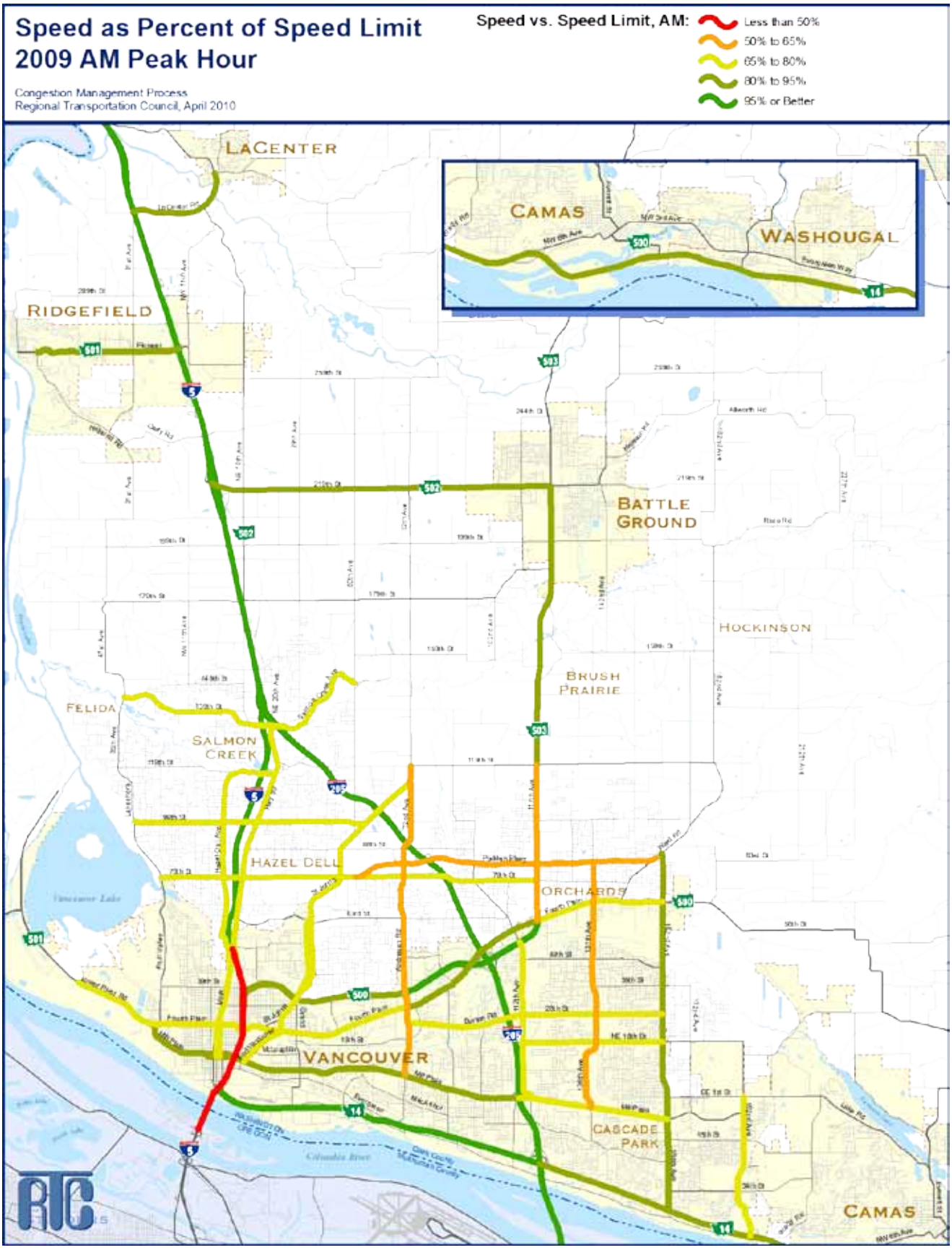


Map 10 – AM Corridor Travel Speed

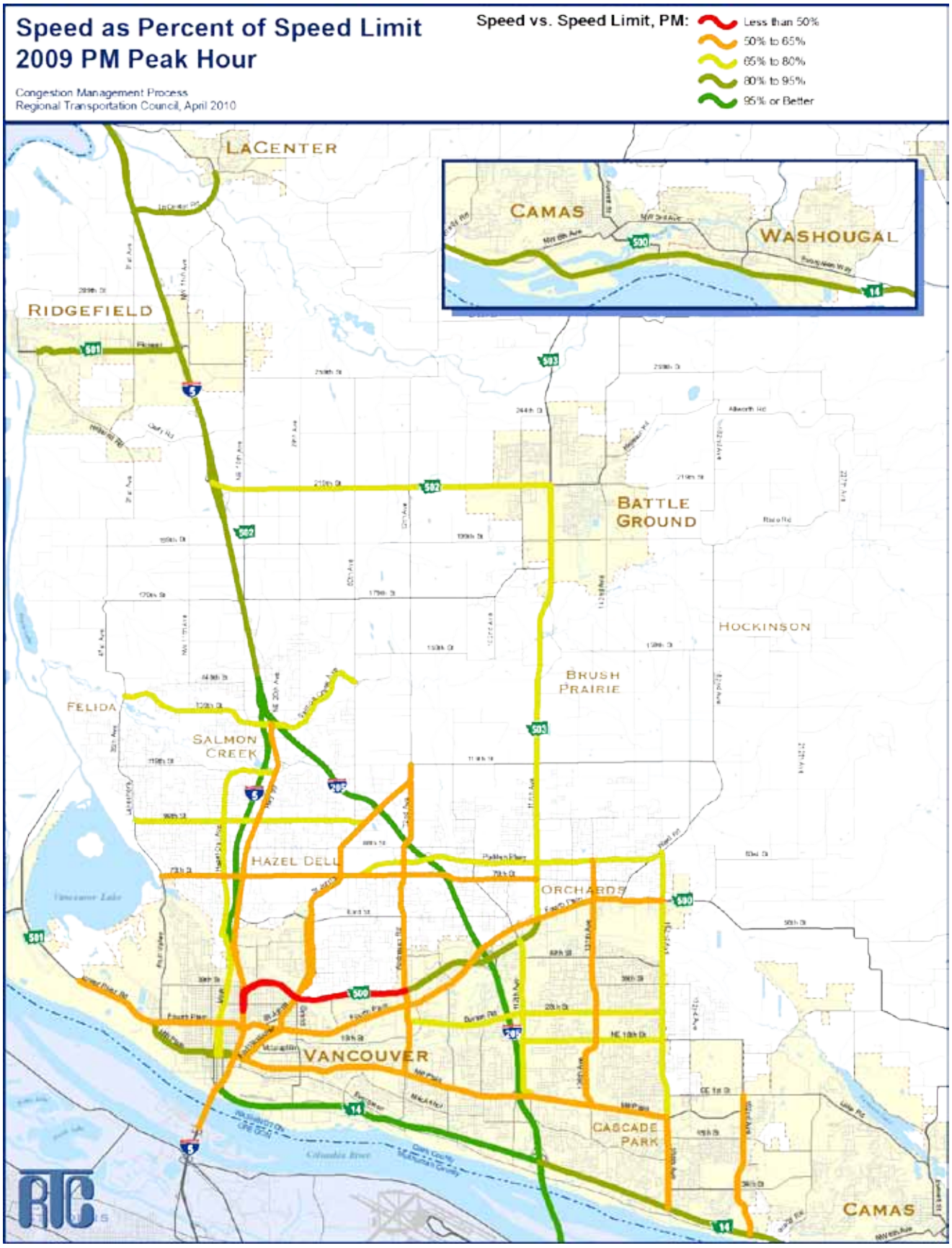
Map 11 – PM Corridor Travel Speed



Map 12 – AM Speed as Percent of Speed Limit

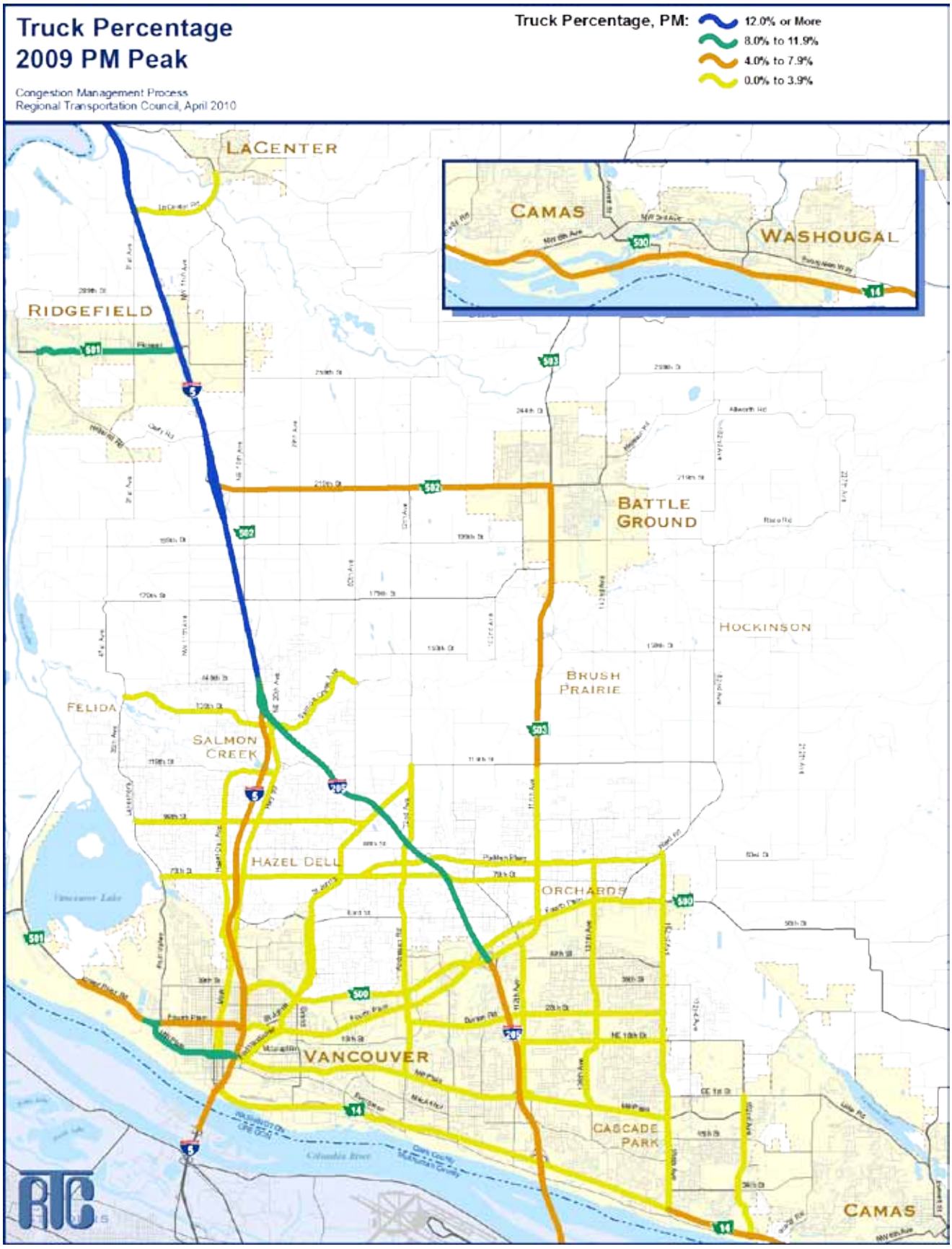


Map 13 – PM Speed as Percent of Speed Limit

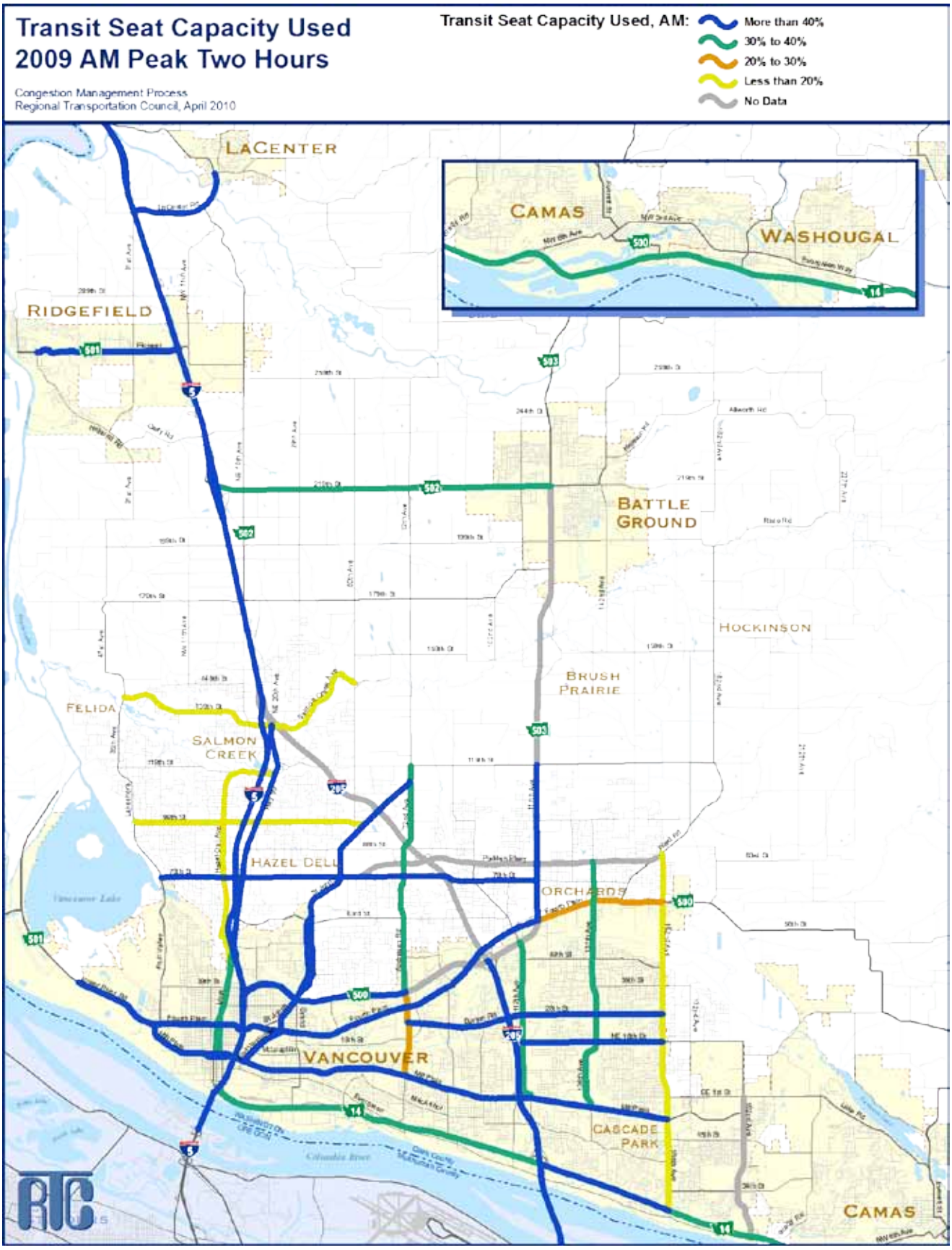


Map 14 – PM Intersection Delay

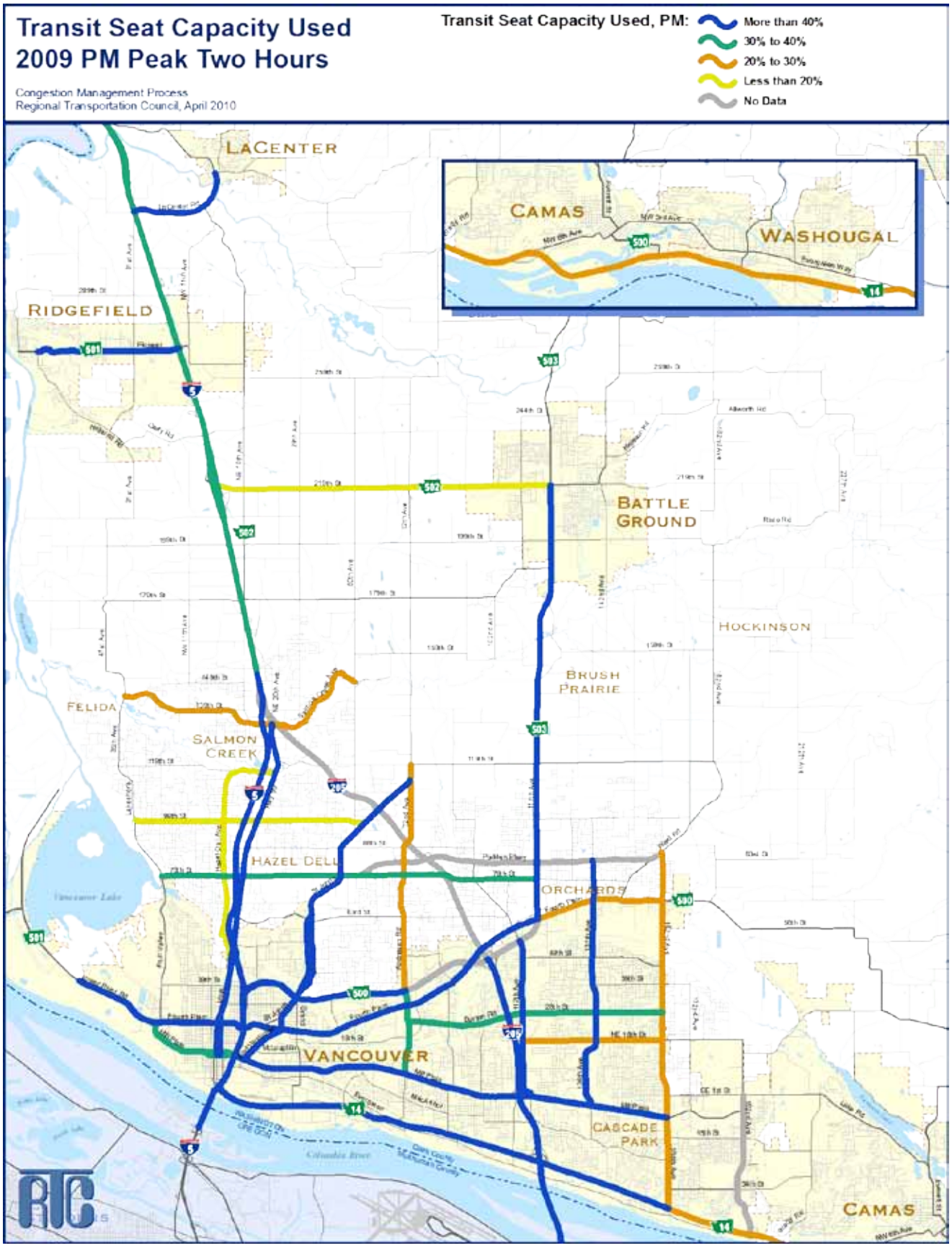
Map 15 – PM Truck Percentage



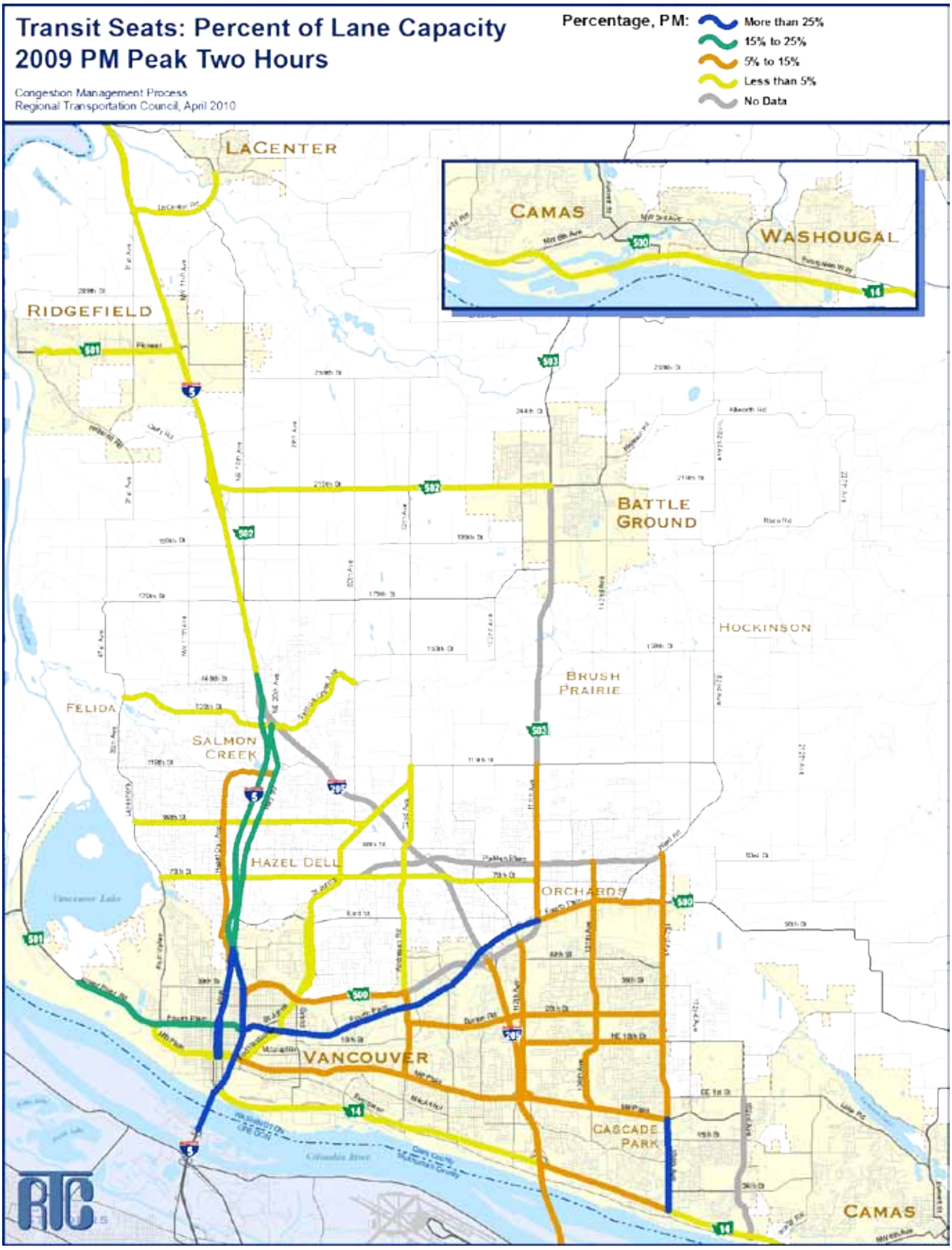
Map 16 – AM Transit Seat Capacity Used



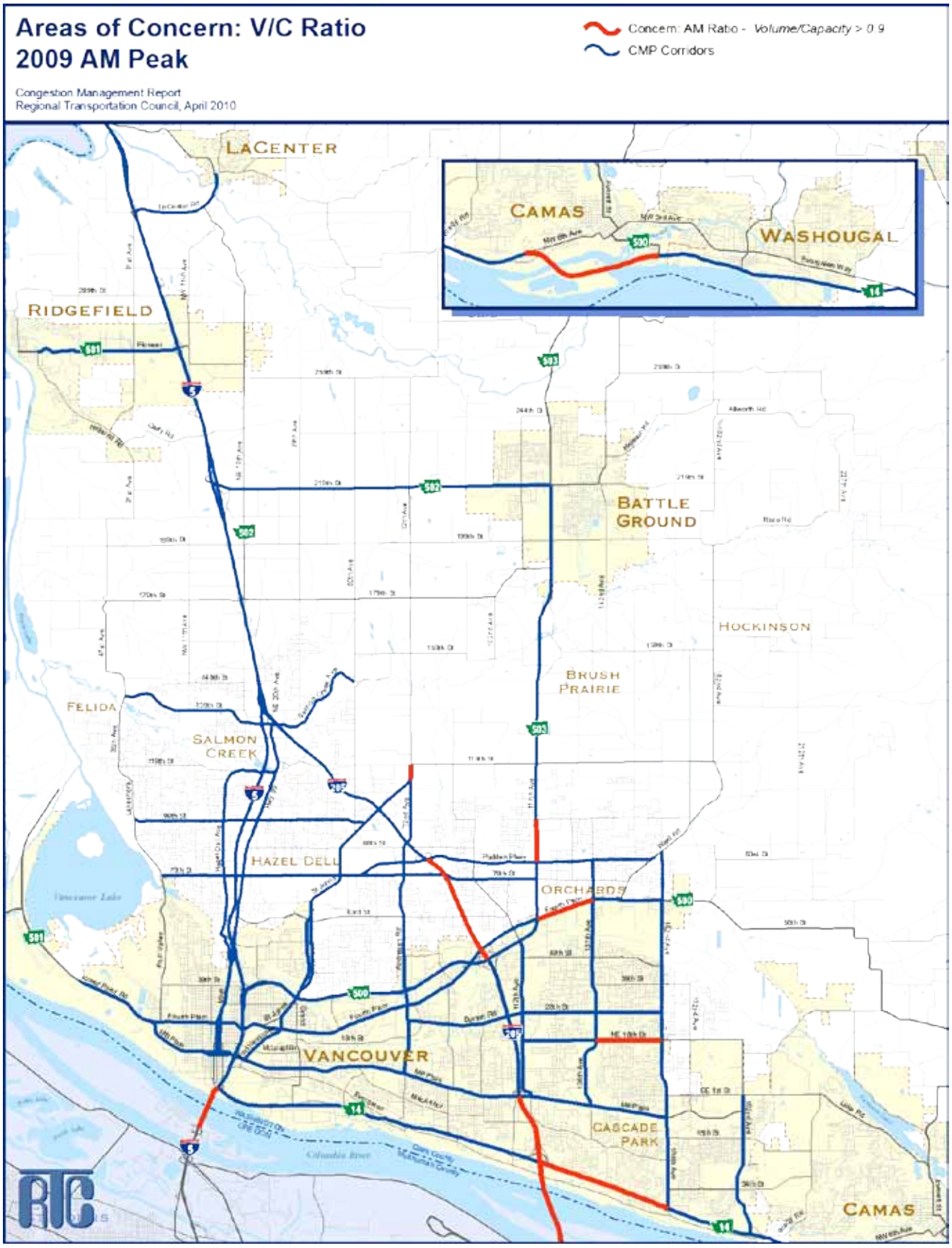
Map 17 – PM Transit Seat Capacity Used



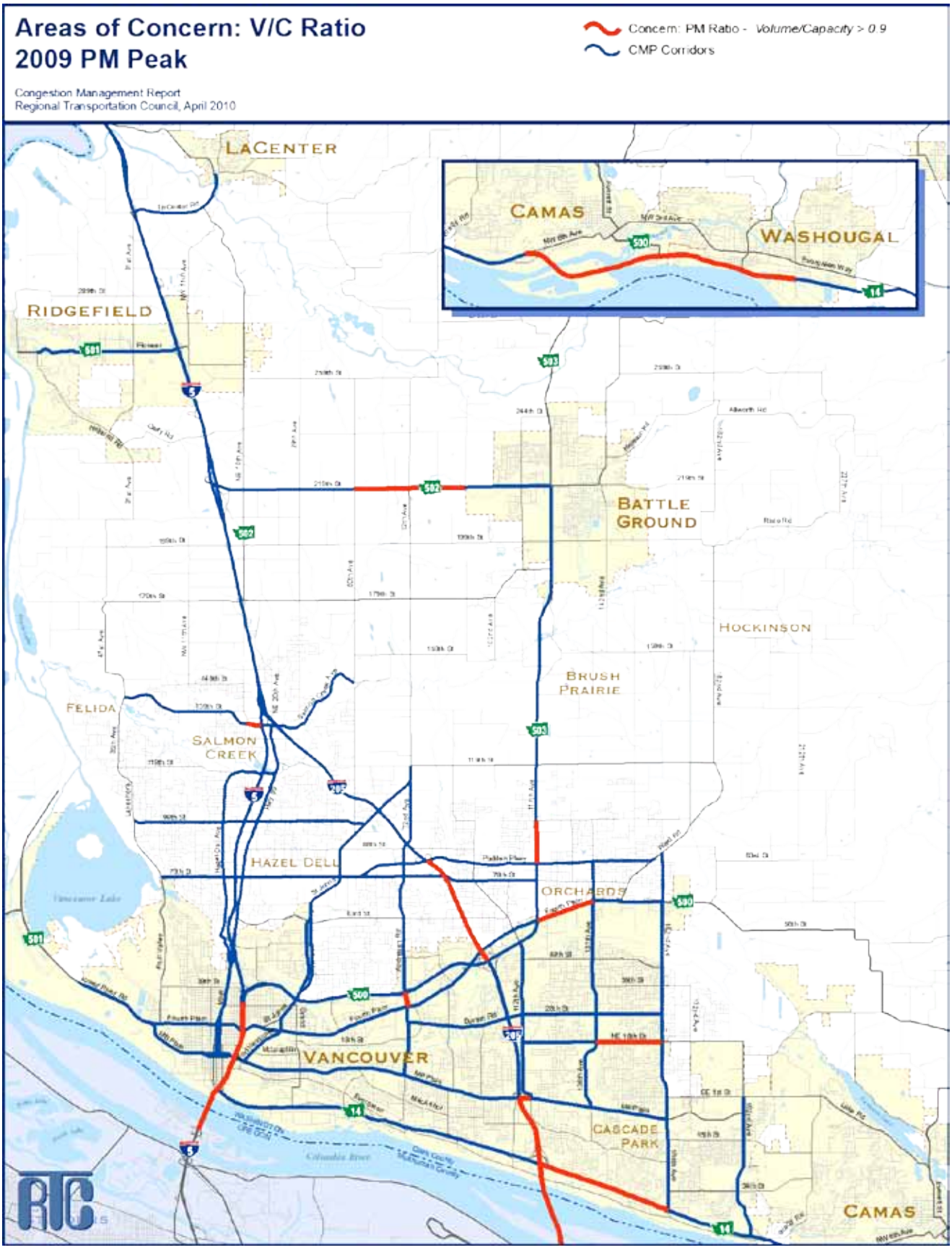
Map 18 – PM Transit Seats as Percent of Lane Capacity



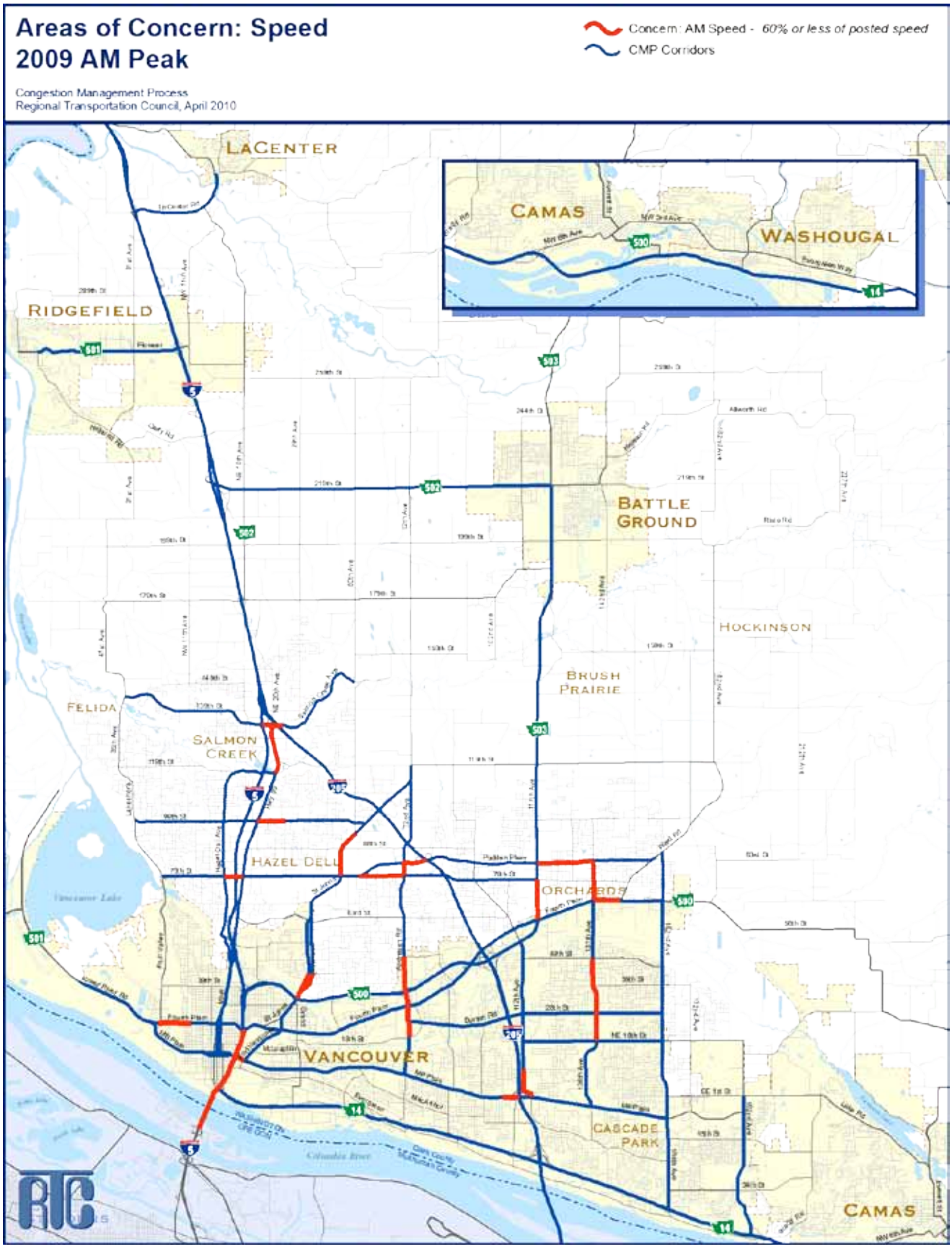
Map 19 – AM Areas of Concern: Volume to Capacity Ratio



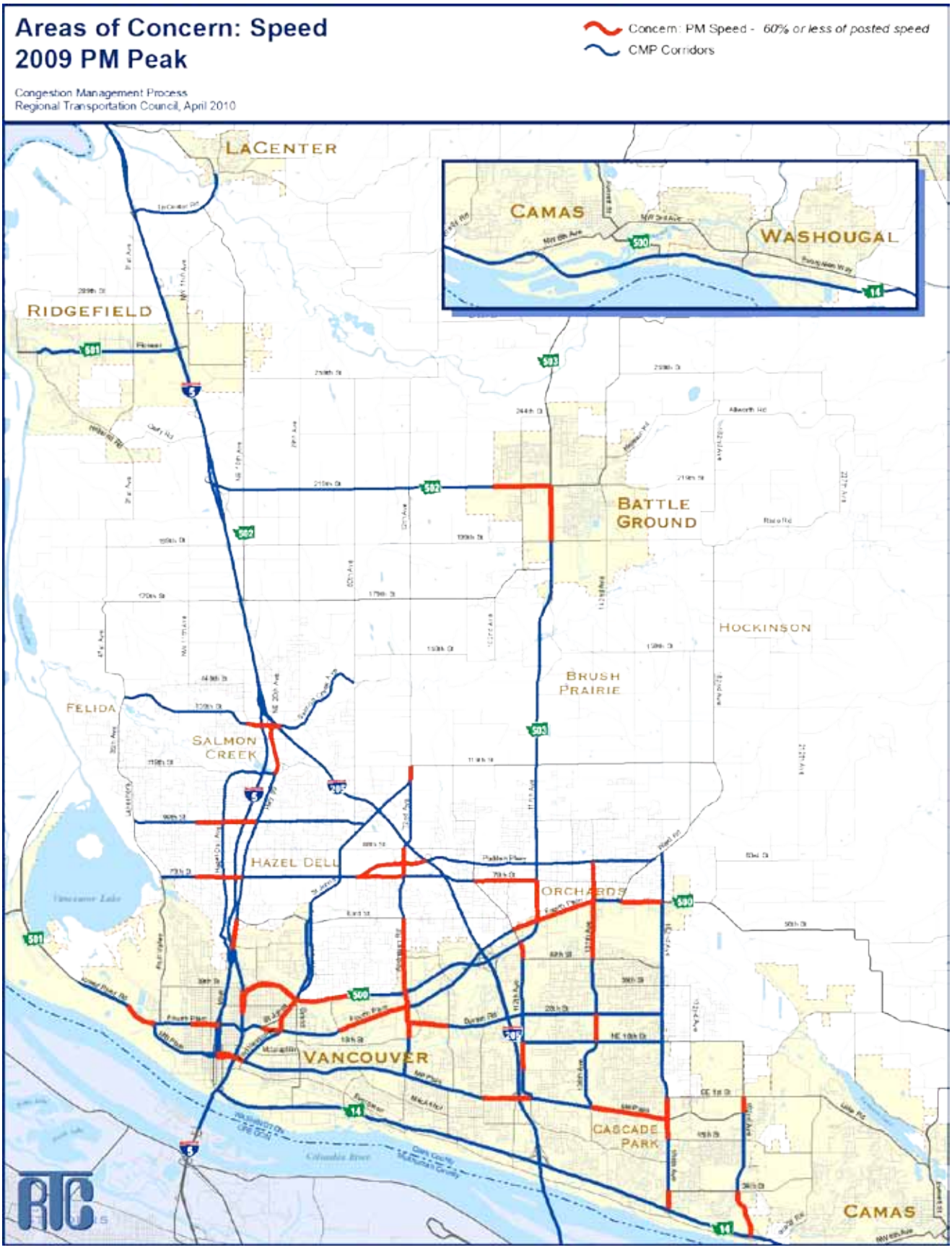
Map 20 – PM Areas of Concern: Volume to Capacity Ratio



Map 21 – AM Areas of Concern: Speed



Map 22 – PM Areas of Concern: Speed



CHAPTER IV.
STRATEGIES

RTC's Congestion Management Process includes a performance management system that informs needed capital investments, such as road, transit, bike, and pedestrian improvements; as well as demand and system management strategies to improve the performance on congestion management corridors. As a cost-effective approach to manage congestion and improve reliability, the region is also developing a Transportation System Management and Operations Plan (TSMO). The TSMP Plan will incorporate Intelligent Transportation System (ITS) and other low-cost transportation solutions to reduce congestion.

Southwest Washington Regional Transportation Council (RTC) is involved in a number of transportation Planning efforts intended to address congestion.

A. TRANSPORTATION PLANNING EFFORTS

The Congestion Management Process is a primary component in RTC's regional transportation planning process. Of the multiple planning documents that address congestion, the most prominent is the **Metropolitan Transportation Plan** for Clark County (MTP). The plan is designed to be a guide for the effective investment of public funds in regional transportation facilities. The region uses a wide range of data to develop a regional travel demand forecasting model. The model simulates both current travel demand and also estimates travel demand decades into the future. Using the model, the region can identify where future congestion is most likely to occur.

Transportation System Management and Operations (TSMO) Plan is underway and should be adopted in 2010. TSMO focuses on low-cost, quickly implemented transportation improvements that aim to utilize existing transportation facilities more efficiently. TSMO combines advanced technologies, operational policies and procedures, and existing resources to improve coordination and operation of the multimodal transportation network. This includes traffic signal integration, ramp metering, access management, traveler information, smart transit management, and coordinated incident response to make the transportation system work better.

Vancouver Area Smart Trek (VAST) is the Intelligent Transportation System (ITS) program for Clark County. It has a direct impact on providing more efficient management and operation of the transportation system. VAST includes the application of a range of advanced technologies and proven management techniques to improve mobility, enhance safety, and reduce adverse environmental effects. VAST represents the communications, devises, and technology; while TSMO represents the implementation of strategies and coordination of ITS technology.

The **Columbia River Crossing** project is a bridge, transit, and highway improvement project for the purpose of addressing the congestion and mobility problems on I-5 between Washington and Oregon. The CRC Draft Environmental Impact Statement was completed in 2008, and work is now underway on the Final Environmental Impact Statement.

The region completed a **High Capacity Transit System Plan** in 2008. The plan includes bus rapid transit (BRT) in the Highway 99, Fourth Plain, and Mill Plain corridors and significant bus improvements in the I-205 corridor. The Plan will serve as a guide for C-TRAN and the communities in Clark County as they move forward with High Capacity Transit.

The **C-TRAN 20-year Transit Development Plan** is underway and should be adopted in 2010. This planning process is designed to build upon the existing service and develop future operating scenarios for public transit. The plan will incorporate the recommendations of the High Capacity Transit System Plan.

The overall goals of the **CTR program** are to improve transportation system efficiency, conserve energy, and improve air quality by decreasing the number of commute trips made by people driving alone. RTC approved a Regional Commute Trip Reduction Plan and endorsed CTR plans for unincorporated Clark County, Vancouver, Camas, and Washougal. The downtown Vancouver Growth and Transportation Efficiency Center (GTEC) was certified in 2007. The implementation process requires that local jurisdictions, Regional Transportation Planning Organizations, major employers, transit agencies, WSDOT, and the CTR Board work collaboratively.

The **Clark County Freight Mobility Study** is underway to identify the main components of the freight system, its current deficiencies, and corridors where investment would help freight mobility and economic development.

B. IDENTIFY AND EVALUATE STRATEGIES

Agencies should give consideration to the various strategies identified in this chapter:

System Preservation. One essential strategy is the preservation of the roadway, transit, bicycle, and pedestrian system that the region already has.

Roadway Improvements. Potential strategies may include adding additional lanes, adding turn lanes, improving sight distance, adding auxiliary lanes, adding HOV lanes, grade separation, intersection improvements, roundabouts, and upgrade roads up to urban standards (with bicycle lanes, sidewalks, and transit amenities).

Transit Improvements. Potential strategies may include increase bus route coverage, increase frequencies, improve transit amenities, additional park-and-ride lots, and implementing high capacity transit.

Bicycle and Pedestrian Improvements. Potential strategies may include new sidewalks, new bicycle lanes, separated pathway and trails, bicycle racks and bike lockers at transit centers and other major destinations, pedestrian oriented development, pedestrian and bicycle safety enhancements. Many of the bicycle and pedestrian improvements are made as part of roadway improvements.

Transportation Demand Management. Potential strategies may include alternative work hours, telecommuting, ridesharing, vanpools, and growth and transportation efficiency centers.

Transportation System Management and Operations (TSMO)/Intelligent Transportation System (ITS). Potential strategies may include traffic signal coordination, incident management systems, ramp metering, highway information systems, and advanced traveler information system. ITS improvements should be consistent with the VAST planning effort.

Access Management. Potential strategies may include center medians, consolidation of access points, interchange modification, appropriate

intersection and interchange spacing, frontage roads, and collector-distributor roads.

Land Use. Potential strategies may include mixed-use development, infill, increased densities, and transit oriented development.

Parking Management. Potential strategies may include enforcement of existing parking regulations, location specific parking ordinances, and preferred parking for carpool/vanpools.

C. STRATEGY IMPLEMENTATION

RTC's Congestion Management Process provides a tool for monitoring the region's traffic congestion. The CMP provides information to help guide the investment of transportation funding toward improving the lowest capacity ratio and speed deficient roadways. The CMP data can also help direct investment to where capacity improvements versus traffic operational and management solutions would be the most effective.

Maintaining good reliable travel speeds and sufficient capacity in the region will require accomplishing the following objectives:

- Preservation of the existing system
- Improving the system performance through operation and management strategies
- Where possible shifting trips to other modes
- Addition of auto capacity at key bottlenecks

These objectives can be implemented through the following strategies and improvements:

Preservation Strategies

§ Preserve the roadway, transit, bicycle, and pedestrian system that the region already has.

System Performance Strategies

§ Complete development and implementation of the Transportation System Management and Operations (TSMO) Plan recommendations.

§ Continued implementation of the Vancouver Area Smart Trek (VAST) 20-year plan.

Multimodal Strategies

§ Expansion of the public transit system, including High Capacity Transit.

§ Expansion of bicycle and pedestrian facilities.

§ Implementation of Transportation Demand Management (TDM) strategies.

Needed Major Capacity Improvements

§ Columbia River Crossing Project

§ SR-14, I-205 to 164th Avenue widening

§ I-205, SR-500 to Padden Parkway widening

§ SR-500 grade-separation with auxiliary lanes at St. Johns, 42nd Av., and 54th Av.

§ NE 18th Street widening

§ Salmon Creek Interchange

§ I-205 Collector and Distributor System

§ SR-502, I-5 to Battle Ground widening

§ SR-14, NW 6th Av. to 32nd St. widening

Tables 8 and 9 reference Congestion Management Process areas of concern and transportation solutions identified through the planning process. Table 10 includes other non-corridor specific strategies that have been identified through the planning process and are programmed in the Metropolitan Transportation Improvement Program.

D. MONITOR STRATEGY EFFECTIVENESS

This report contains the data for the continuing development and updating of information to track the performance of the regional transportation system and implemented strategies.

In assessing the degree to which the CMP strategies address a congestion issues, projects are tracked through the project implementation process and results are reported back to regional technical committees. For example, before and after studies are required for traffic signal coordination projects.

Table 8
Areas of Concern: Volume to Capacity Ratio > 0.9

AM Volume to Capacity Ratio Index Greater Than 0.9					
Jurisdiction	**Peak Hour Volume**	**Corridor**	**Segment**	**Identified Improvement**	**Estimated Completion**
Clark County	800	72nd Av.	119th St. to St. Johns Rd.	TIP: widen to 4 lanes w/intersection Improvements	2012
WSDOT	1,300	SR-14	NW 6th Av. - Union Rd.	TIP/MTP: Widen to 4 lanes with interchange	2012/10-20 Yrs.
Vancouver	800	18th Street	138th Av. - 162nd Av.	MTP: Widen to 4 lanes	5-20 Years
Vancouver	1,600	Fourth Plain	117th Av. - 137th Av.	MTP: Intersection Improvements and Access Control	10-20 Years
WSDOT	7,400	I-205	Airport Way - Mill Plain	MTP: Collector/Distributor System	10-20 Years
WSDOT	3,800	I-205	SR-500 - 83rd Street	MTP: Widen to 6 lanes	10-20 Years
WSDOT	5,000	I-5	Jantzen Beach - SR-14	MTP: Columbia River Crossing	10-20 Years
WSDOT	3,500	SR-14	I-205 - 164th Avenue	MTP: Widen to 6 lanes	10-20 Years
WSDOT	1,700	SR-503	Padden Parkway - 99th St.	MTP: Intersection Improvements and Access Control	10-20 Years

PM Volume to Capacity Ratio Greater Than 0.9					
Jurisdiction	**Peak Hour Volume**	**Corridor**	**Segment**	**Identified Improvement**	**Estimated Completion**
Vancouver	2,700	Mill Plain	I-205 - Chkalov	TIP: I-205/Mill Plain Exit (112th Connector)	2009
Vancouver	900	18th Street	112th Av. - 162nd Av.	MTP: Widen to 4 lanes	2011/5-20 Years
Clark County	2,000	134th Street	NE 10th Av. - I-5	TIP: Construction 139th Street	2012
WSDOT	1,300	SR-14	NW 6th Av. - 32nd St.	TIP: Widen to 4 lanes with Interchanges	2012/10-20 Yrs.
WSDOT	800	SR-502	50th Av. - 102nd Av.	TIP: Widen to 5 lanes	2013
WSDOT	7,500	I-205	Airport Way - Mill Plain	TIP/MTP: Collector/Distributor System	5-20 Years
WSDOT	3,500	I-205	SR-500 - 83rd Street	MTP: Widen to 6 lanes	10-20 Years
WSDOT	3,800	SR-14	I-205 - 164th Avenue	MTP: Widen to 6 lanes	10-20 Years
WSDOT	1,800	SR-503	Padden Pky - 99th St.	MTP: Intersection Improvements and Access Control	10-20 Years
WSDOT	6,400	I-5	Jantzen Beach -SR-500	MTP: Columbia River Crossing	10-20 Years
Vancouver	2,000	Fourth Plain	SR-503 - 137th Av.	Stategic MTP: SR-503/Fourth Plain Under Study	20+ Years
Vancouver	1,700	Andresen Rd.	Fourth Plain - SR-500	None: Close proximity to interchange	

Table 9
Areas of Concern: Speed < 60% of Posted Speed

AM Speed 60% or Less of Posted Speed Limit					
Jurisdiction	**Peak Hour Volume**	**Corridor**	**Segment**	**Identified Improvement**	**Estimated Completion**
Vancouver	900	112th Avenue	Mill Plain - NE 9th St.	TIP: I-205/Mill Plain Exit to 112th Av.	2009
Clark County	900	St. Johns	NE 78th St. - NE 50th Av.	TIP: Complete Corridor Construction/Upgrade Signals	2009
Vancouver	1,200	Fourth Plain	137th Av. - Ward Rd.	TIP: Traffic Signal Coordination and Timing	2010
Clark County	600	Highway 99	134th St. - 117th St.	TIP: Traffic Signal Coordination and Timing/SCIP	2010-2012
Clark County	300	78th Street	Padden Pkwy. - Andresen	TIP: Replace Signal Controler/MTP: Grade Separate	2010/10-20 Yrs.
Clark County	500	Andresen Rd.	Padden Pkwy. - 78th St.	TIP: Replace Signal Controler/MTP: Grade Separate	2010/10-20 Yrs.
Clark County	1,500	Padden Parkway	Andresen Rd. - I-205	TIP: Replace Signal Controler/MTP: Grade Separate	2010/10-20 Yrs.
Clark County	500	137th Avenue	Padden - Fourth Plain	MTP: Widening 137th Av. and Traffic Signal Timing	2010/10-20 Yrs.
Vancouver	1,100	St. Johns	SR-500 - NE 49th St.	TIP: SR-500/St. Johns Interchange	2011
Vancouver	600	137th Avenue	49th St. - 18th St.	TIP: Widen to 3 lanes w/roundabouts	2012
Clark County	1,100	134th Street	I-5 - I-205	TIP: I-5/Salmon Creek Interchange	2012
Vancouver	1,000	Mill Plain Blvd.	I-205 - 104th Av.	TIP: Multiple Strategies-Interchanges/signal timing	3-5 Years
Clark County	500	99th Street	Highway 99 to 25th Av.	TIP: Intersection Upgrade and Access Control	3-5 Years
WSDOT	1,300	SR-503	76th Street - Fourth Plain	MTP: Intersection Improvements and Access Control	10-20 Years
WSDOT	5,000	I-5	Fourth Plain - Jantzen Beach	MTP: Columbia River Crossing	10-20 Years
Vancouver	700	Mill Plain Blvd.	I-5 - Ft. Vancouver	MTP: Columbia River Crossing	10-20 Years
WSDOT	800	Padden Parkway	NE 137th Av. - SR-503	MTP: SR-503/Padden Interchange	10-20 Years
Vancouver	600	Fourth Plain	Mill Plain - Kaufman	Traffic Signal Coordination and Timing	Ongoing
Vancouver	1,100	Andresen Road	Van Mall - 18th St.	Traffic Signal Coordination and Timing/Access Mgt.	Ongoing
Clark County	900	78th Street	Hazel Dell - Hwy. 99	None (Close Proximity of Signals)	

PM Speed 60% or Less of Posted Speed Limit					
Jurisdiction	**Peak Hour Volume**	**Corridor**	**Segment**	**Identified Improvement**	**Estimated Completion**
Vancouver	700	Fourth Plain	St. Johns - Ft. Vancouver	Traffic Signal Coordination and Timming	2010
Vancouver	500	Fourth Plain	Broadway St. - Kaufman	Traffic Signal Coordination and Timing	2010
Vancouver	1,200	Fourth Plain	Falk Rd. - Andresen	Traffic Signal Coordination and Timing	2010
Clark County	1,500	Andresen Road	78th Street to NE 88th St.	Replace Signal Controler/72nd Improvement	2010
Vancouver	1,300	164th Avenue	SE 15th St. - SE 1st St.	TIP: Channelization and signal coordination	2010
Vancouver	1,800	164th Avenue	SR-14 - SE 34th St.	TIP: Channelization and signal coordination	2010
Vancouver	2,000	Fourth Plain	Gher Rd. - 137th	Traffic Signal Coordination and Timing	2010
Vancouver	1,000	Fourth Plain	Ward Rd. - 162nd Av.	Traffic Signal Coordination and Timing	2010
Vancouver	1,500	112th Avenue	49th Street - SR-500	TIP: Traffic Signal Coordination and Timing	2010
Vancouver	900	112th Avenue	NE 9th St. - NE 18th St.	TIP: Traffic Signal Coordination and Timing	2010
WSDOT	2,100	SR-500	I-5 - 54th Av.	TIP: St. Johns IC/MTP: Interchanges and Auxiliary La	2010/10-20 Yrs.
Clark County	500	78th Street	Padden to Andresen	Replace Signal Controler/MTP: Grade Separate	2010/10-20 Yrs.
Clark County	600	137th Avenue	49th St. - Padden Pkwy.	MTP: Widening 137th Av. and Traffic Signal Timing	2010/10-20 Yrs.
Clark County	1,800	Padden Parkway	78th St. - I-205	Replace Signal Controler/MTP: Grade Separate	2010/10-20 Yrs.
Clark County	2,000	134th Street	NE 10th Ave. - I-205	TIP: I-5/Salmon Creek Interchange	2011
Vancouver	900	137th Avenue	18th St. - 28th St.	TIP: Corridor Improvement 28th to 49th Street	2012
Clark County	1,000	Highway 99	117th Av. to 134th St.	TIP: I-5/Salmon Creek Interchange	2012
Vancouver	500	St. Johns	Ft. Vancouver - SR-500	MTP: SR-500/St. Johns Interchange	2013
WSDOT	1,200	SR-502	102nd Av. - SR-503	TIP: Widen to 5 lanes	2013
Vancouver	2,700	Mill Plain Blvd.	98th Av. - Chkalov Dr.	TIP: Multiple Strategies-Interchanges/signal timing	3-5 Years
Vancouver	1,800	Mill Plain Blvd.	136th Av. - 164th Av.	TIP: Multiple Strategies-Interchanges/signal timing	3-5 Years
WSDOT	1,200	SR-503	NE 199th St. - NE 219th St.	Traffic Signal Coordination and Timing	3-5 Years
Clark County	1,100	Highway 99	Ross to NE 63rd	Intersection Improvement	5-10 Years
Clark County	1,000	NE 72nd Av.	St. Johns to NE 119th St.	Intersection Improvement	5-10 Years
Clark County	500	76th Street	Covington to SR-503	Intersection Improvements	10-20 Years
Vancouver	1,600	Mill Plain Blvd.	Main St. - Ft. Vancouver Way	Strategic MTP: Columbia River Crossing	20+ Years
WSDOT	1,500	SR-503	Fourth Plain - 76th St.	Traffic Signal Coordination and Timing	Ongoing
Vancouver	1,700	Andresen Road	18th Street - 63rd St.	Traffic Signal Coordination and Timing/Access Mgt.	Ongoing
Vancouver	700	Burton Road	Andresen Rd. - 86th Av.	Traffic Signal Coordination and Timing	Ongoing
Vancouver	400	Fourth Plain	Mill Plain - NW 26th Av.	Traffic Signal Coordination and Timing	Ongoing
Vancouver	700	192nd Av.	Mill Plain - SE 1st St.	Traffic Signal Coordination and Timing	Ongoing
Vancouver	1,200	192nd Av.	SR-14 - SE 34th St.	Traffic Signal Coordination and Timing	Ongoing
Clark County	1,100	78th Street	NW 9th Av. - I-5	None (Close Proximity of Signals)	
Clark County	1,500	99th Street	NW 9th Av. - Hwy. 99	None (Close Proximity of Signals)	

Table 10

Non-Corridor Strategies in TIP

Jurisdiction	Identified Improvement	Estimated Completion
Vancouver	Urban Arterial Management and Traveler Information	2009
Vancouver	Local Agency Modular TMCs	2009
Vancouver	Vancouver Bicycle Mobility Program	2009
WSDOT	ITS Network Enhancement	2009
WSDOT	ATIS Phase II Deployment	2009
WSDOT	Freeway Operations & Incident Management	2009
WSDOT	Traveler Information System for Clark County Region	2009
C-TRAN	Transit Signal Priority and Coordination	2010
WSDOT	Advanced Traveler information Freeway Improvements	2010
RTC	Transportation System Management and Operation (TSMO) Plan Development	2010
Metro	Carpool Match NW	Ongoing
C-TRAN	CTR: Vanpool Program	Ongoing
C-TRAN	Transit Enhancement	Ongoing
RTC	VAST Coordination and Management	Ongoing
Vancouver	Downtown GTEC	Ongoing

APPENDICES

APPENDIX A.
INDIVIDUAL CORRIDOR DATA

Appendix A considers and displays the transportation data by individual segment along each of the CMS corridors. The detailed data was used to develop the congestion management corridor summaries in the previous chapters and provides a comprehensive set of transportation data for the individual segments and facilities that comprise the corridors.

The purpose of considering transportation data by individual segments is to identify specific locations where congestion is occurring, which may or may not be affecting the operation of the corridor as a whole.

This section contains detailed transportation data for each of the congestion management corridors, for both the AM and PM peak periods. Information by corridor contains an individual data sheet and a schematic map of the corridor.

The detailed transportation data is provided for the following corridors:

I-5

I-205

St. Johns

Andresen Road/72nd Avenue

SR-503

137th Avenue

162nd/164th Avenue

192nd Avenue

SR-14

Mill Plain Boulevard

Fourth Plain Boulevard

SR-500

78th/Padden Parkway

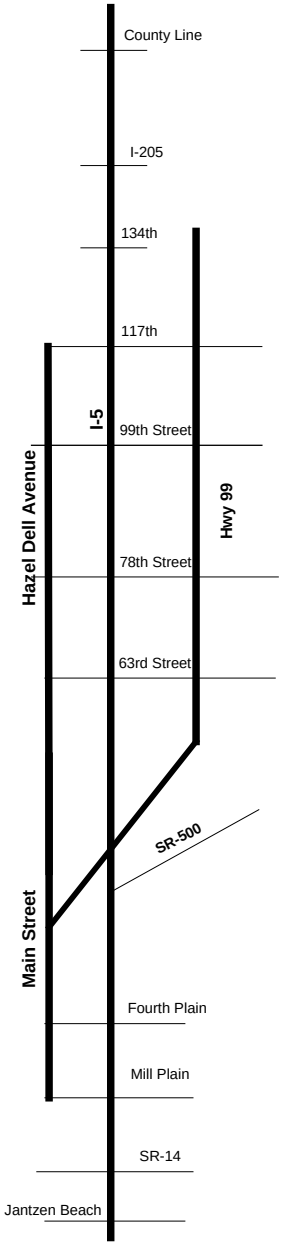
99th Street

28th/18th Streets

134th/139th Streets

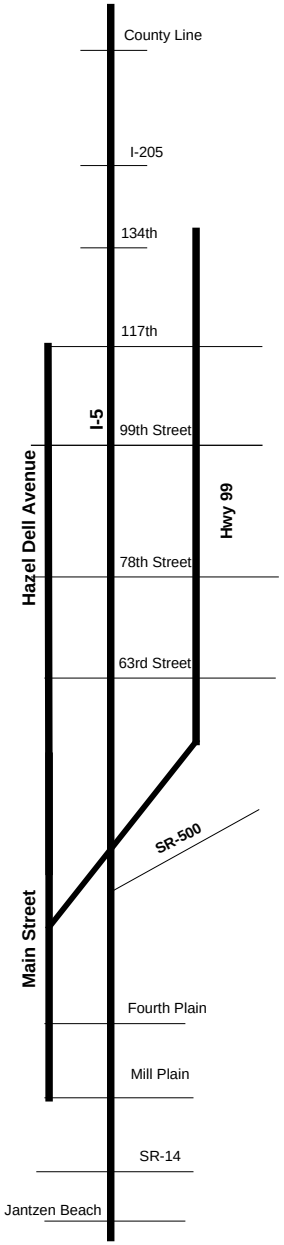
SR-502

SR-501 & La Center Road



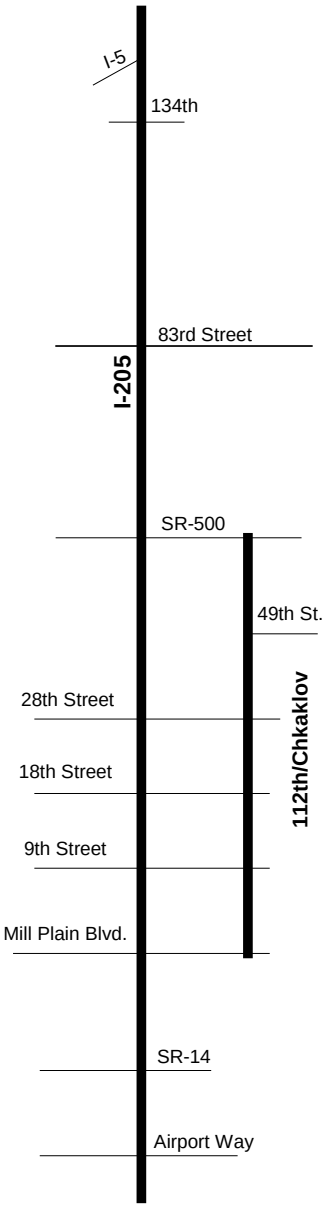
I-5 Corridor

AM Peak			Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
			Length	Capacity	AM - Nouthbound/Eastbound										
I-5															
	County Line	- 319th St.	3.95	5800	1828	0.32	13%		218	65					
	319th St.	- SR 501/Pioneer	2.64	5800	2952	0.51	13%		138	69					
	SR 501/Pioneer	- SR 502/179th St.	4.72	5800	2935	0.51	13%	1.12	245	70					
	SR 502/179th St.	- I-205	1.10	5400	3350	0.62	8%		65	61	47, LC/Rid Connector	36	68	52.9%	
			12.42		**3350**	**0.48**	**12%**	**1.12**	**665**	**67**	**47, LC/Rid Conn**	**36**	**68**	**52.9%**	**1.9%**
I-5															
	I-205	- 134th St.	1.07	3800	1765	0.46	0%		64	60					
	134th St.	- 99th St.	1.18	6000	3312	0.55	8%		68	62					
	99th St.	- 78th St.	1.03	6000	3802	0.63	6%		60	62	105,134,157,199	567	1,008	56.3%	
	78th St.	- Main St.	1.50	6000	3370	0.56	6%		87	62					
			4.78		**3802**	**0.57**	**7%**	**1.13**	**279**	**62**	**105,134,157,199**	**567**	**1,008**	**56.3%**	**25.2%**
Hwy 99															
	134th St.	- 117th St.	0.89	1800	593	0.33	9%		140	23					
	117th St.	- 99th St.	0.91	1800	361	0.20	7%		131	25					
	99th St.	- 78th St.	1.03	1800	375	0.21	6%		150	25					
	78th St.	- 63rd St.	0.74	1800	548	0.30	6%	1.11	90	30	37,78	134	312	42.9%	
	63rd St.	- Ross St.	0.41	800	576	0.72	5%		40	37					
			3.98		**593**	**0.33**	**7%**	**1.11**	**551**	**26**	**37,78**	**134**	**312**	**42.9%**	**17.3%**
Hazel Dell															
	117th St.	- 99th St.	1.67	900	424	0.47	3%		215	28					
	99th St.	- 78th St.	0.99	1700	426	0.25	2%		159	22					
	78th St.	- 63rd St.	0.73	900	496	0.55	3%		93	28	32	15	144	10.4%	
			3.39		**496**	**0.43**	**3%**	**1.13**	**467**	**26**	**32**	**15**	**144**	**10.4%**	**8.0%**
I-5															
	Main St.	- 39th St.	0.71	5800	3290	0.57	6%		43	59	105,134,157,190,199	628	1,080	58.1%	
	39th St.	- 4th Plain	0.73	6800	4463	0.66	6%	1.24	63	42					
	4th Plain	- Mill Plain	0.33	6800	4895	0.72	6%		40	30					
	Mill Plain	- SR 14	0.66	5400	4524	0.84	6%	1.14	108	22					
	SR 14	- Jantzen Beach	1.21	5400	5039	0.93	7%		231	19	4,41,44,47,105,134,1	909	1,664	54.6%	
			3.64		**5039**	**0.79**	**6%**	**1.19**	**485**	**27**	**4,41,44,47,105,1**	**909**	**1,664**	**54.6%**	**46.2%**
Main Street															
	Ross St.	- 39th St.	0.83	1700	1238	0.73	3%		99	30					
	39th St.	- Fourth Plain	0.69	900	653	0.73	6%		118	21	37,78	134	312	42.9%	
	Fourth Plain	- Mill Plain	0.57	900	637	0.71	0%		103	20					
			2.09		**1238**	**0.72**	**5%**	**1.13**	**320**	**24**	**32,37**	**127**	**384**	**33.1%**	**42.7%**



I-5 Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
I-5														
County Line	- 319th St.	4.13	5800	2457	0.42	16%		229	65					
319th St.	- SR 501	2.54	5800	3036	0.52	13%		144	64					
SR 501	- 179th St.	4.15	5800	3153	0.54	13%		254	59					
179th St.	- I-205	1.47	5400	4420	0.82	9%	1.23	95	56	47, LC/Rid Connector	28	71	39.4%	
		12.29		**4420**	**0.55**	**13%**	**1.23**	**722**	**61**	**47, LC/Rid Conn**	**28**	**71**	**39.4%**	**1.8%**
I-5														
I-205	- 134th St.	0.75	3800	2250	0.59	9%		47	57					
134th St.	- 99th St.	1.92	6000	3000	0.50	9%	1.17	112	62					
99th St.	- 78th St.	1.08	6000	4020	0.67	5%		64	61	105,134,157,199	503	946	53.2%	
78th St.	- Main St.	1.33	6000	4660	0.78	6%		78	61					
		5.08		**4660**	**0.65**	**7%**	**1.17**	**301**	**61**	**105,134,157,199**	**503**	**946**	**53.2%**	**23.7%**
Hwy 99														
134th St.	- 117th St.	0.89	1800	981	0.55	2%		174	18					
117th St.	- 99th St.	0.91	1800	659	0.37	2%		106	31					
99th St.	- 78th St.	1.03	1800	925	0.51	2%		150	25					
78th St.	- 63rd St.	0.75	1800	1074	0.60	2%	1.17	100	27	37,78	163	332	49.1%	
63rd St.	- Ross St.	0.41	1800	1078	0.60	2%		86	17					
		3.99		**1078**	**0.53**	**2%**	**1.17**	**616**	**23**	**37,78**	**163**	**332**	**49.1%**	**18.4%**
Hazel Dell														
117th St.	- 99th St.	1.67	900	433	0.48	1%		187	32					
99th St.	- 78th St.	0.99	1700	657	0.39	1%		153	23					
78th St.	- 63rd St.	0.73	900	536	0.60	1%		108	24	32	26	148	17.6%	
		3.39		**657**	**0.47**	**1%**	**1.22**	**448**	**27**	**32**	**26**	**148**	**17.6%**	**8.2%**
I-5														
Main St.	- SR 500	0.70	5800	4990	0.86	5%		44	57	105,134,157,190,199	599	1,247	48.0%	
SR 500	- 4th Plain	0.16	6800	6368	0.94	4%	1.08	17	34					
4th Plain	- Mill Plain	0.97	6800	6243	0.92	4%		122	29					
Mill Plain	- SR 14	0.52	5700	5149	0.90	3%	1.22	37	51					
SR 14	- Jantzen Beach	0.65	5400	5183	0.96	5%		73	32	4,41,44,47,105,134,1	972	1,849	52.6%	
		3.00		**6368**	**0.91**	**4%**	**1.22**	**293**	**37**	**4,41,44,47,105,1**	**972**	**1,849**	**52.6%**	**51.4%**
Main Street														
Ross St.	- 39th St.	0.85	1700	959	0.56	3%		84	36					
39th St.	- Fourth Plain	0.69	900	275	0.31	2%		121	21	37,78	163	332	49.1%	
Fourth Plain	- Mill Plain	0.57	900	355	0.39	2%		120	17					
		2.11		**959**	**0.50**	**2%**	**1.22**	**325**	**23**	**32,37**	**205**	**406**	**50.5%**	**45.1%**

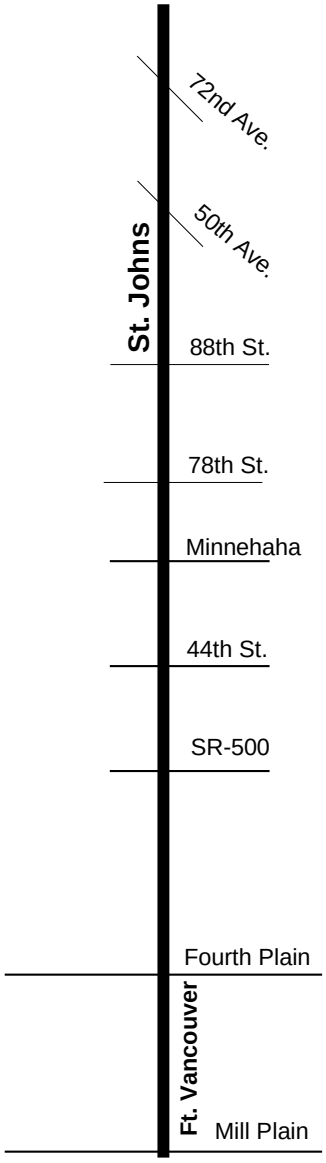


I-205 Corridor

AM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	AM - Nouthbound/Eastbound										
I-205														
I-5	- 134th St.	0.75	3800	1610	0.42	9%		45	60					
134th St.	- 83rd St.	2.89	3800	2280	0.60	7%		168	62					
83rd St.	- SR 500	1.99	3800	3750	0.99	0%	1.10	117	61					
		5.63		**3750**	**0.78**	**8%**	**1.10**	**330**	**61**	**0**	**0**	**0**	**0.0%**	**0.0%**
I-205														
SR 500	- Mill Plain	2.78	5800	4919	0.85	0%	1.08	167	60					
Mill Plain	- SR 14	1.00	6800	6210	0.91	0%	1.13	57	63					
SR 14	- Airport Way	2.65	8000	7393	0.92	4%		165	58	65,164,177	661	716	92.3%	
		6.43		**7393**	**0.90**	**4%**	**1.11**	**389**	**60**	**164, 165, 177**	**661**	**716**	**92.3%**	**13.4%**
112th Ave. NE / Chkalov Drive / Gher Road														
SR 500	- 49th St.	0.31	1700	986	0.58	0%		44	25					
49th St.	- 28th St.	0.99	1700	617	0.36	0%		131	27	80	47	120	39.2%	
28th St.	- 18th St.	0.49	1700	618	0.36	5%		64	28					
18th St.	- 9th St.	0.50	1700	685	0.40	0%		55	33					
9th St.	- Mill Plain	0.57	1700	918	0.54	0%		97	21					
		2.86		**986**	**0.45**	**5%**	**1.13**	**391**	**26**	**80**	**47**	**120**	**39.2%**	**7.1%**

I-205 Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
I-205														
I-5	- 134th St.	0.79	3800	1380	0.36	10%		48	60					
134th St.	- 83rd St.	3.73	3800	2460	0.65	9%		216	62					
83rd St.	- SR 500	2.27	3800	3490	0.92	9%	1.24	130	63					
		6.79		**3490**	**0.75**	**9%**	**1.24**	**394**	**62**	**N/A**	**0**	**0**	**0.0%**	**0.0%**
I-205														
SR 500	- Mill Plain	2.49	5800	5138	0.89	6%	1.23	147	61					
Mill Plain	- SR 14	0.91	6800	6130	0.90	9%	1.19	53	62					
SR 14	- Airport Way	2.03	8000	7460	0.93	4%		128	57	65,164,177	393	645	60.9%	
		5.43		**7460**	**0.91**	**6%**	**1.21**	**328**	**60**	**65,164,177**	**393**	**645**	**60.9%**	**12.1%**
112th Ave. NE / Chkalov Drive / Gher Road														
SR 500	- 49th St.	0.31	1700	1479	0.87	2%		76	15					
49th St.	- 28th St.	0.99	1700	949	0.56	3%		130	27	80	51	120	42.5%	
28th St.	- 18th St.	0.49	1700	841	0.49	1%		80	22					
18th St.	- 9th St.	0.50	1700	866	0.51	1%		86	21					
9th St.	- Mill Plain	0.57	1700	935	0.55	2%		67	31					
		2.86		**1479**	**0.59**	**2%**	**1.22**	**439**	**23**	**80**	**51**	**120**	**42.5%**	**7.1%**

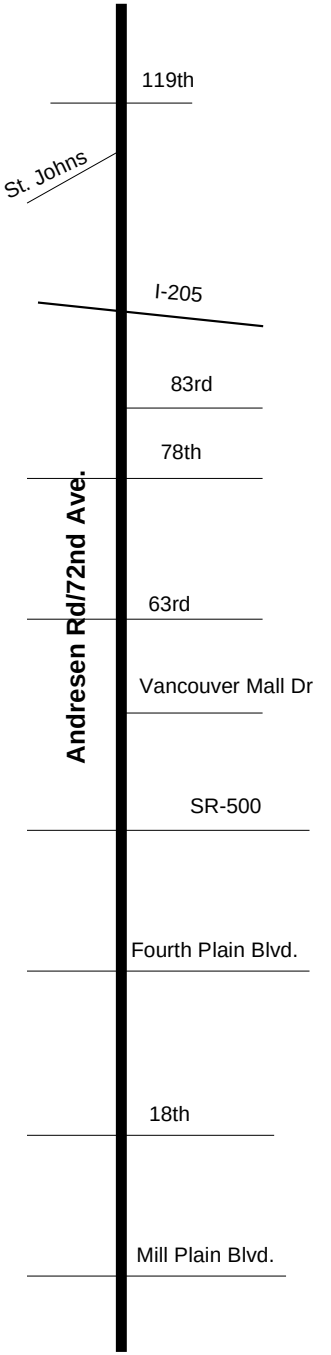


Grand/St. Johns Corridor

AM Peak	Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
	Length	Capacity	AM - Nouthbound/Eastbound										
St. Johns Rd.													
NE 72nd Ave. - 50th Ave.	1.37	1800	494	0.27	3.0%		118	42					
50th Ave. - NE 88th St.	0.35	1800	910	0.51	0.0%		58	22					
NE 88th St. - NE 78th St.	0.49	1800	896	0.50	6.0%		83	21					
NE 78th St. - NE Minnehaha St.	0.97	1800	676	0.38	8.0%		100	35					
St. Johns Rd./St. James Rd.													
NE Minnehaha St. - NE 49th St.	0.72	1800	866	0.48	0.0%		86	30	25	78	90	86.7%	
NE 49th St. - SR 500	0.74	1600	1103	0.69	4.0%		146	18					
St. Johns Blvd.													
SR-500 - Ft. Vancouver	0.44	900	658	0.73	0.0%		63	25					
Ft. Vancouver Way													
St. Johns - Fourth Plain	0.22	700	619	0.88	0.0%		43	18	25	81	120	67.5%	
Fourth Plain - Mill Plain	0.86	1200	962	0.80	0.0%		142	22					
	6.16		**1103**	**0.56**	**0.05**	**1.13**	**839**	**26**	**25**	**81**	**120**	**67.5%**	**8.6%**

Grand/St. Johns Corridor

PM Peak	Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
	Length	Capacity	PM - Nouthbound/Eastbound										
St. Johns Rd.													
NE 72nd Ave. - 50th Ave.	1.37	1800	566	0.31	4.0%		122	40					
50th Ave. - NE 88th St.	0.35	1800	841	0.47	3.0%		31	41					
NE 88th St. - NE 78th St.	0.49	1800	853	0.47	3.0%		70	25					
NE 78th St. - NE Minnehaha St.	1.07	1800	746	0.41	3.0%		157	25					
St. Johns Rd./St. James Rd.													
NE Minnehaha St. - NE 44th St.	0.93	1800	807	0.45	3.0%		107	31	25	54	120	45.0%	
NE 44th St. - SR 500	0.54	1600	1036	0.65	3.0%		61	32					
St. Johns Blvd.													
SR 500 - Ft. Vancouver	0.44	900	492	0.55	2.0%		160	10					
Ft. Vancouver Way													
St. Johns - Fourth Plain	0.22	700	414	0.59	2.0%		44	18	25	35	90	38.9%	
Fourth Plain - Mill Plain	0.86	1200	563	0.47	2.0%		165	19					
	6.27		**1036**	**0.46**	**0.03**	**1.22**	**917**	**25**	**25**	**54**	**120**	**45.0%**	**3.3%**

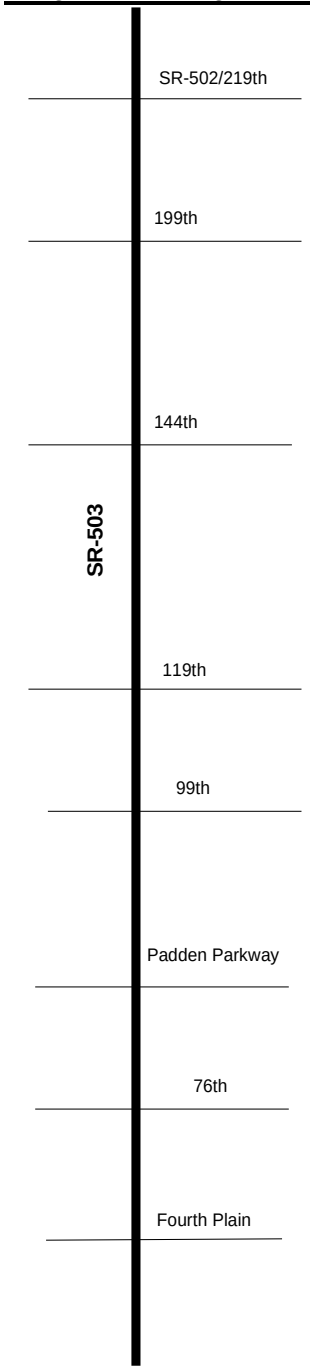


Andresen Rd./72nd Av. Corridor

AM Peak	Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
	Length	Capacity	AM - Nouthbound/Eastbound										
Andresen Rd. / N.E. 72nd Avenue.													
119th St. - St. Johns Rd.	0.31	800	765	0.96	4%		31	36					
St. Johns Rd. - 88th St.	1.21	1800	715	0.40	5%		115	38					
88th St. - Padden Parkway	0.27	1800	1064	0.59	4%		37	26					
Padden Parkway - 78th St.	0.24	1800	492	0.27	0%		67	13					
78th St. - 63rd St.	0.76	1800	498	0.28	7%		109	25	78	24	72	33.3%	
63rd St. - Vancouver Mall Dr.	0.70	1800	664	0.37	4%		91	28					
Vancouver Mall - SR 500	0.62	1800	700	0.39	0%		100	22					
	4.11		**1064**	**0.44**	**5%**	**1.13**	**550**	**27**	**78**	**24**	**72**	**33.3%**	**4.0%**
Andresen Rd.													
SR 500 - Fourth Plain Blvd.	0.26	1800	1114	0.62	4%		56	17					
Fourth Plain Blvd. - 18th St.	0.55	1800	867	0.48	5%		100	20					
18th St. - Mill Plain Blvd.	0.68	1800	666	0.37	0%		86	29	32	39	144	27.1%	
	1.49		**1114**	**0.47**	**5%**	**1.13**	**242**	**22**	**32**	**39**	**144**	**27.1%**	**8.0%**

Andresen Rd./72nd Av. Corridor

PM Peak	Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
	Length	Capacity	PM - Nouthbound/Eastbound										
Andresen Rd. / N.E. 72nd Avenue.													
119th St. - St. Johns Rd.	0.31	1800	1015	0.56	4%		49	23					
St. Johns Rd. - 88th St.	1.21	1800	817	0.45	3%		105	41					
88th St. - Padden Parkway	0.27	1800	1490	0.83	3%		36	27					
Padden Parkway - 78th St.	0.24	1800	857	0.48	3%		71	12					
78th St. - 63rd St.	0.76	1800	797	0.44	3%		97	28	78	22	74	29.7%	
63rd St. - Vancouver Mall Dr.	0.70	1800	995	0.55	3%		116	22					
Vancouver Mall Dr. - SR 500	0.62	1800	786	0.44	3%		94	24					
	4.11		**1490**	**0.52**	**3%**	**1.22**	**568**	**26**	**78**	**22**	**74**	**29.7%**	**4.1%**
Andresen Rd.													
SR 500 - Fourth Plain Blvd.	0.26	1800	1714	0.95	3%		67	14					
Fourth Plain Blvd. - 18th St.	0.55	1800	1131	0.63	2%		109	18					
18th St. - Mill Plain Blvd.	0.68	1800	882	0.49	2%		114	21	32	50	148	33.8%	
	1.49		**1714**	**0.67**	**2%**	**1.22**	**290**	**18**	**32**	**50**	**148**	**33.8%**	**8.2%**

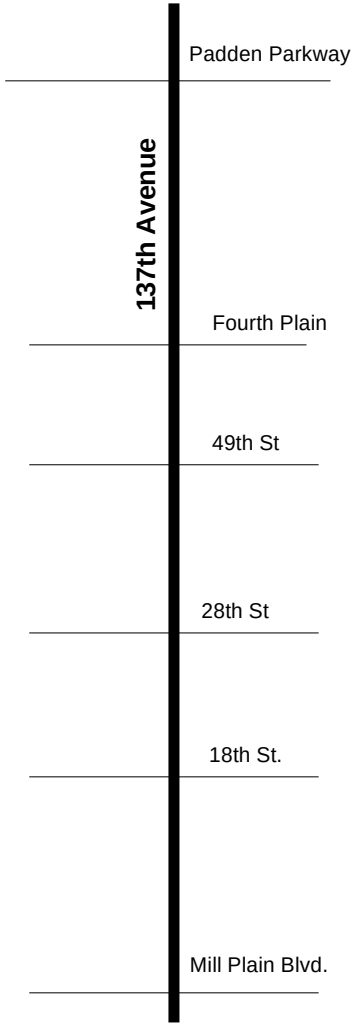


SR-503 Corridor

AM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	AM - Nouthbound/Eastbound										
SR 503														
119th St.	- 99th St.	0.99	1800	1572	0.87	7%		111	32					
99th St.	- Padden Parkway	0.77	1800	1672	0.93	7%		103	27	7,72	54	118	45.8%	
Padden Parkway	- 76th St.	0.30	1800	1279	0.71	7%		31	35					
76th St.	- Fourth Plain/SR 500	0.72	1800	1272	0.71	0%	1.06	209	12					
		2.78		**1672**	**0.84**	**7%**	**1.06**	**454**	**22**	**7,72**	**54**	**118**	**45.8%**	**6.6%**
SR 503														
SR-502	- 199th St.	0.99	1800	1099	0.61	5%		96	37	7,72	38	74	51.4%	
199th St.	- 149th St.	2.54	1800	1419	0.79	4%	1.16	189	48					
149th St.	- 119th St.	1.49	1800	1547	0.86	3%		118	45					
		5.02		**1547**	**0.78**	**4%**	**1.16**	**403**	**45**	**7,72**	**38**	**74**	**51.4%**	**4.1%**

SR-503 Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
SR 503														
119th St.	- 99th St.	0.99	1800	1531	0.85	4%		92	39					
99th St.	- Padden Parkway	0.77	1800	1774	0.99	3%		84	33	7,72	89	120	74.2%	
Padden Parkway	- 76th St.	0.30	1800	1517	0.84	2%		34	32					
76th St.	- Fourth Plain/SR 500	0.72	1800	1536	0.85	2%	1.23	160	16					
		2.78		**1774**	**0.89**	**3%**	**1.23**	**370**	**27**	**7,72**	**89**	**120**	**74.2%**	**6.7%**
SR 503														
SR-502	- 199th St.	0.99	1800	1242	0.69	4%		114	31	7,72	43	74	58.1%	
199th St.	- 149th St.	2.54	1800	1404	0.78	4%	1.26	228	40					
149th St.	- 119th St.	1.49	1800	1583	0.88	4%		112	48					
		5.02		**1583**	**0.80**	**4%**	**1.23**	**454**	**40**	**7,72**	**43**	**74**	**58.1%**	**4.1%**

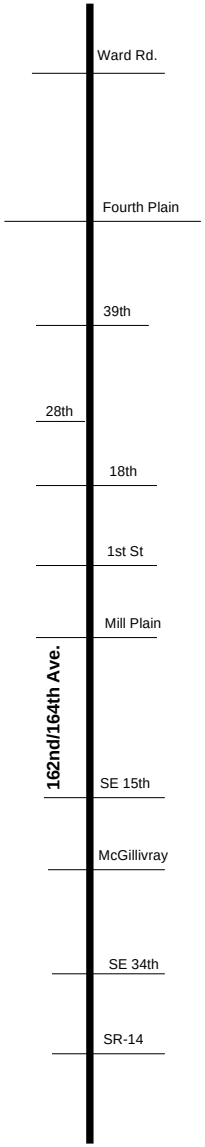


136/137/138th Avenue Corridor

AM Peak	Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
	Length	Capacity	AM - Nouthbound/Eastbound										
136/137/138th Ave.													
Padden Parkway - Fourth Plain	0.70	900	454	0.50	5%		145	17					
Fourth Plain - 49th St.	1.04	800	357	0.45	0%		121	31					
49th St. - 28th St.	1.00	800	426	0.53	0%		172	21					
28th St. - 18th St.	0.49	1800	620	0.34	4%		85	21	80	43	120	35.8%	
18th St. - Mill Plain	1.27	1700	611	0.36	0%		176	26					
	4.50		**620**	**0.43**	**5%**	**1.13**	**699**	**23**	**80**	**43**	**120**	**35.8%**	**6.7%**

136/137/138th Avenue Corridor

PM Peak	Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
	Length	Capacity	PM - Nouthbound/Eastbound										
136/137/138th Ave.													
Padden Parkway - Fourth Plain	0.70	900	570	0.63	3%		171	15					
Fourth Plain - 49th St.	1.04	800	529	0.66	2%		176	21					
49th St. - 28th St.	1.00	800	635	0.79	5%		156	23					
28th St. - 18th St.	0.49	1800	883	0.49	2%		116	15	80	49	120	40.8%	
18th St. - Mill Plain	1.27	1700	916	0.54	2%		172	27					
	4.50		**916**	**0.62**	**3%**	**1.22**	**791**	**22**	**80**	**49**	**120**	**40.8%**	**6.7%**

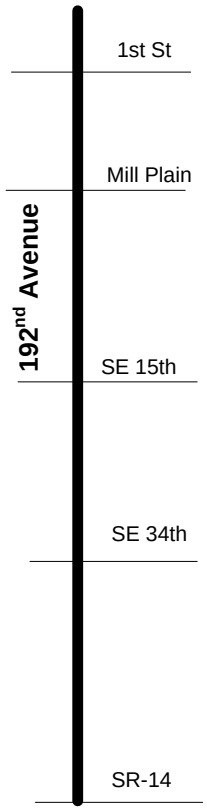


162nd/164th Avenue Corridor

AM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	AM - Nouthbound/Eastbound										
162nd/164th Ave.														
Ward Rd.	- SR 500	0.87	1800	720	0.40	7%		101	31					
SR 500	- 39th St.	1.49	1800	811	0.45	7%		144	37					
39th St.	- 28th St.	0.51	1800	887	0.49	5%		67	27					
28th St.	- 18th St.	0.49	1800	1032	0.57	6%		54	33	30	33	185	17.8%	
18th St.	- 1st St.	1.01	2400	1086	0.45	5%		90	40					
1st St.	- Mill Plain	0.39	2400	988	0.41	6%		38	37					
		4.76		**1086**	**0.46**	**6%**	**1.13**	**494**	**35**	**30**	**33**	**185**	**17.8%**	**10.3%**
162nd/164th Ave.														
Mill Plain	- 15th St.	0.36	2400	797	0.33	6%		41	32					
15th St.	- McGillvray	0.40	2400	955	0.40	6%	1.14	34	42					
McGillvray	- 34th St.	0.52	2400	998	0.42	5%		44	43	30,37	48	420	11.4%	
34th St.	- SR 14	0.34	2400	1376	0.57	3%		35	35					
		1.62		**1376**	**0.44**	**5%**	**1.14**	**154**	**38**	**30,37**	**48**	**420**	**11.4%**	**26.3%**

162nd/164th Avenue Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
162nd/164th Ave.														
Ward Rd.	- Fourth Plain	0.87	1800	881	0.49	3%		130	24					
Fourth Plain	- 39th St.	1.49	1800	1136	0.63	2%		172	31					
39th St.	- 28th St.	0.51	1800	1059	0.59	2%		43	43					
28th St.	- 18th St.	0.49	1800	1303	0.72	3%		48	37	30	32	148	21.6%	
18th St.	- 1st St.	1.01	2400	1217	0.51	3%		109	33					
1st St.	- Mill Plain	0.39	2400	1012	0.42	2%		72	20					
		4.76		**1303**	**0.57**	**3%**	**1.22**	**574**	**30**	**30**	**32**	**148**	**21.6%**	**8.2%**
162nd/164th Ave.														
Mill Plain	- 15th St.	0.36	2400	1321	0.55	2%		60	22					
15th St.	- McGillvray	0.40	2400	1447	0.60	3%	1.27	47	31					
McGillvray	- 34th St.	0.52	2400	1516	0.63	2%		67	28	30,37	83	406	20.4%	
34th St.	- SR 14	0.38	2400	1756	0.73	2%		69	20					
		1.66		**1756**	**0.64**	**2%**	**1.27**	**243**	**25**	**30,37**	**83**	**406**	**20.4%**	**25.4%**



192nd Avenue Corridor														
AM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Southbound/Westbound**										
192nd Ave.														
SE 1st St.	- Mill Plain	0.30	1800	471	0.26	4%		44	25					
Mill Plain	- SE 15th St.	0.47	1800	570	0.32	4%		66	26					
SE 15th St.	- 34th St.	0.93	1800	517	0.29	4%		127	26					
34th St.	- SR 14	0.91	1800	1268	0.70	4%		118	28					
		2.61		**1268**	**0.52**	**4%**	**1.13**	**355**	**26**	**N/A**	**0**	**0**	**0.0%**	**0.0%**

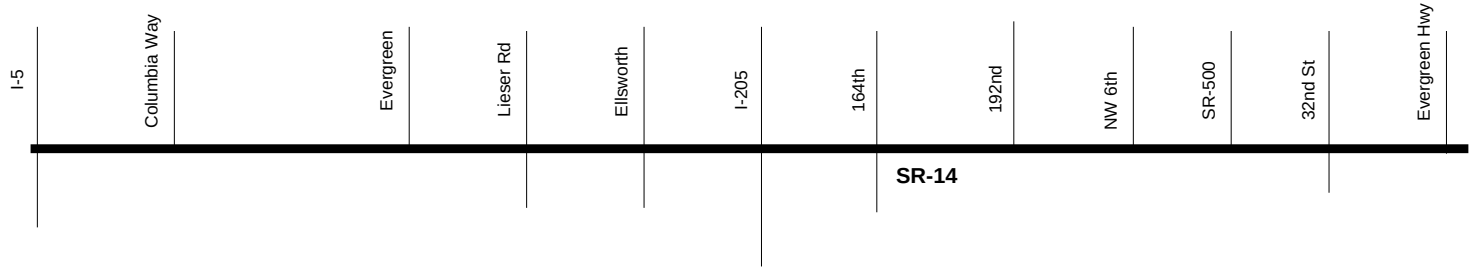
192nd Avenue Corridor														
PM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Southbound/Westbound**										
192nd Ave.														
SE 1st St.	- Mill Plain	0.30	1800	723	0.40	2%		64	17					
Mill Plain	- SE 15th St.	0.47	1800	819	0.46	3%		59	29					
SE 15th St.	- 34th St.	0.93	1800	775	0.43	2%		115	29					
34th St.	- SR 14	0.91	1800	1154	0.64	2%		139	24					
		2.61		**1154**	**0.53**	**2%**	**1.22**	**377**	**25**	**N/A**	**0**	**0**	**0.0%**	**0.0%**

SR-14 Corridor

AM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	AM - Nouthbound/Eastbound										
SR 14														
I-5	- Columbia Way	1.89	3800	2873	0.76	4%		114	60					
Columbia Way	- Evergreen Blvd.	1.70	3800	3210	0.84	0%	1.13	100	61					
Evergreen Blvd.	- Lieser Rd.	0.84	3800	2980	0.78	0%		50	60	41	11	36	30.6%	
Lieser Rd.	- Ellsworth Rd.	0.76	3800	3220	0.85	0%		45	61					
Ellsworth Rd.	- I-205	0.77	3800	2340	0.62	4%		43	64					
		5.96		**3220**	**0.79**	**4%**	**1.13**	**352**	**61**	**41**	**11**	**36**	**30.6%**	**0.9%**
SR 14														
I-205	- 164th Ave.	2.76	3800	3470	0.91	4%	1.04	190	52	41,65,164	593	708	83.8%	
		2.76		**3470**	**0.91**	**4%**	**1.04**	**190**	**52**	**41,65,164**	**593**	**708**	**83.8%**	**18.6%**
SR 14														
164th Ave.	- 192nd Ave.	1.40	5000	2610	0.52	0%		80	63					
192nd Ave.	- 6th Ave. NW	2.06	3800	1984	0.52	0%	1.12	127	58	41	14	36	38.9%	
6th Ave. NW	- SR 500	2.13	1200	1316	1.10	8%		154	50					
SR 500	- 32nd St.	2.39	1200	999	0.83	4%		224	38					
32nd St.	- Evergreen Hwy.	1.82	900	194	0.22	10%		140	47					
		9.80		**2610**	**0.69**	**7%**	**1.12**	**725**	**49**	**41**	**14**	**36**	**38.9%**	**0.9%**

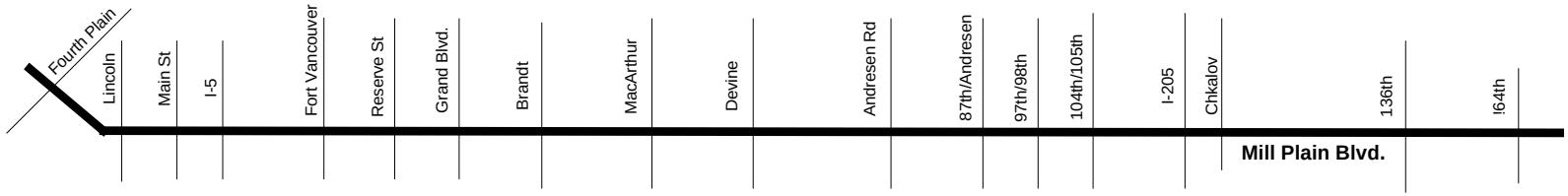
SR-14 Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
SR 14														
I-5	- Columbia Way	0.67	3800	2989	0.79	4%		41	59					
Columbia Way	- Evergreen Blvd.	2.31	3800	3140	0.83	4%	1.21	134	62					
Evergreen Blvd.	- Lieser Rd.	1.12	3800	3070	0.81	4%		67	60	41	32	43	74.4%	
Lieser Rd.	- Ellsworth Rd.	1.12	3800	3180	0.84	4%		67	60					
Ellsworth Rd.	- I-205	0.77	3800	2600	0.68	3%		46	60					
		5.99		**3180**	**0.80**	**4%**	**1.21**	**355**	**61**	**41**	**32**	**43**	**74.4%**	**1.1%**
SR 14														
I-205	- 164th Ave.	2.03	3800	3790	1.00	3%	1.11	135	54	41,65,164	225	507	44.4%	
		2.03		**3790**	**1.00**	**3%**	**1.11**	**135**	**54**	**41,65,164**	**225**	**507**	**44.4%**	**13.3%**
SR 14														
164th Ave.	- 192nd Ave.	1.68	5000	2650	0.53	5%		98	62					
192nd Ave.	- 6th Ave. NW	1.68	3800	2007	0.53	5%	1.17	102	59	41	33	120	27.5%	
6th Ave. NW	- SR 500	2.56	1200	1291	1.08	8%		194	48					
SR 500	- 32nd St.	2.39	1200	1233	1.03	5%		192	45					
32nd St.	- Evergreen Hwy.	1.82	900	276	0.31	10%		115	57					
		10.13		**2650**	**0.75**	**7%**	**1.17**	**701**	**52**	**41**	**33**	**120**	**27.5%**	**3.2%**



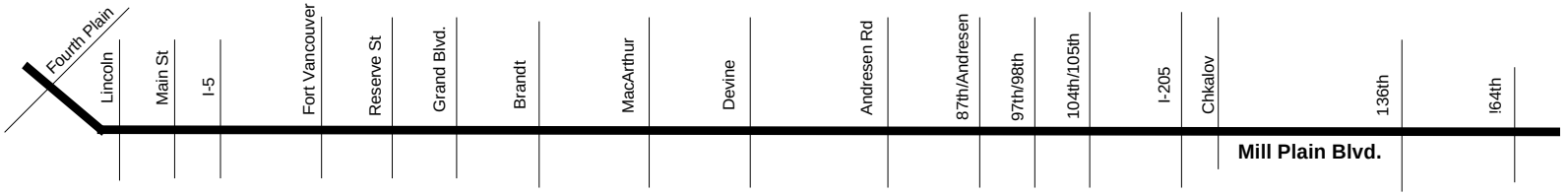
Mill Plain Blvd. Corridor

AM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	AM - Nouthbound/Eastbound										
Mill Plain/SR 501														
I-5	- Main St.	0.33	2400	1179	0.49	9%		56	21					
Main St.	- Lincoln	0.57	2400	826	0.34	16%		85	24	25	57	120	47.5%	
Lincoln	- Fourth Plain	0.82	1800	356	0.20	26%	1.10	97	30					
		1.72		**1179**	**0.36**	**17%**	**1.10**	**238**	**26**	**25**	**57**	**120**	**47.5%**	**5%**
Mill Plain														
I-5	- Ft. Vancouver	0.17	1800	720	0.40	2%		39	16					
Ft. Vancouver	- Reserve St.	0.46	1800	623	0.35	3%		55	30					
Reserve St.	- Grand Blvd.	0.57	1800	585	0.33	1%		62	33	37	129	240	53.8%	
Grand Blvd.	- Brandt Rd.	0.57	1800	516	0.29	6%		64	32					
Brandt Rd.	- MacArthur Blvd.	0.50	1800	527	0.29	3%		49	37					
MacArthur Blvd.	- Devine Rd.	0.24	1800	639	0.36	4%		27	32					
Devine Rd.	- Andresen Rd.	0.58	1800	720	0.40	3%	1.20	64	33					
Andresen Rd.	- 87th/Leiser Rd.	0.89	1800	604	0.34	3%		111	29	37	156	240	65.0%	
87th/Leiser Rd.	- 97/98th Ave.	0.52	1800	778	0.43	3%		68	28					
97/98th Ave.	- 104/105th Ave.	0.36	1800	857	0.48	3%		38	34					
104/105th Ave.	- I-205	0.29	1800	970	0.54	3%		70	15					
		5.15		**970**	**0.38**	**3%**	**1.20**	**647**	**29**	**37**	**156**	**240**	**65.0%**	**13.3%**
Mill Plain														
I-205	- Chkalov Drive	0.21	3000	1837	0.61	0%		19	40	37	124	240	51.7%	
Chkalov Drive	- 124th Ave.	0.48	2400	1214	0.51	0%	1.14	55	31					
124th Ave.	- 136th Ave.	0.60	2400	1269	0.53	0%		91	24					
136th Ave.	- Park Crest Ave.	0.49	2400	1286	0.54	0%		47	38					
Park Crest Ave.	- 164th Ave.	0.88	2400	1166	0.49	5%		110	29					
		2.66		**1837**	**0.52**	**5%**	**1.14**	**322**	**30**	**37**	**116**	**240**	**48.3%**	**12.0%**

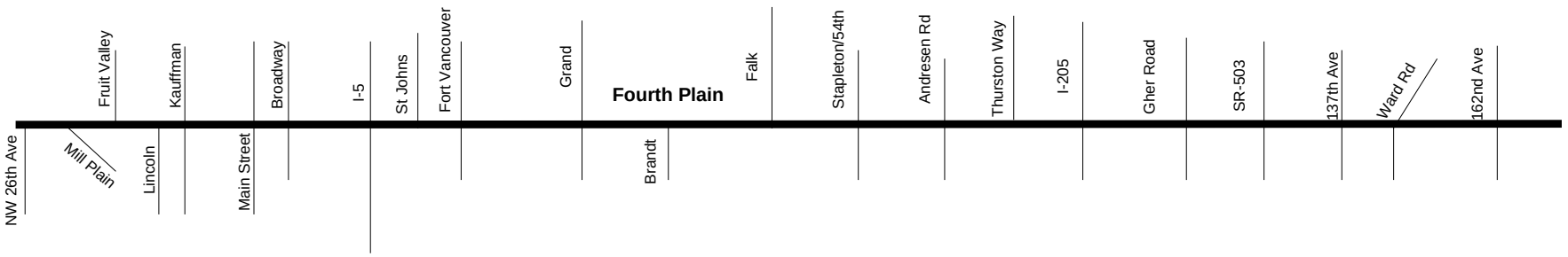


Mill Plain Blvd. Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
Mill Plain/SR 501														
I-5	- Main St.	0.32	2400	1638	0.68	2%		76	15					
Main St.	- Lincoln	0.63	2400	1001	0.42	9%		98	23	25	32	90	35.6%	
Lincoln	- Fourth Plain	0.76	1800	368	0.20	13%	1.13	82	33					
		1.71		**1638**	**0.47**	**8%**	**1.13**	**256**	**24**	**25**	**32**	**90**	**35.6%**	**4%**
Mill Plain														
I-5	- Ft. Vancouver	0.17	1800	1103	0.61	1%		55	11					
Ft. Vancouver	- Reserve St.	0.46	1800	828	0.46	2%		49	34					
Reserve St.	- Grand Blvd.	0.57	1800	757	0.42	1%		73	28	37	160	258	62.0%	
Grand Blvd.	- Brandt Rd.	0.57	1800	702	0.39	2%		61	34					
Brandt Rd.	- MacArthur Blvd.	0.50	1800	828	0.46	2%		47	38					
MacArthur Blvd.	- Devine Rd.	0.24	1800	791	0.44	1%		23	38					
Devine Rd.	- Andresen Rd.	0.58	1800	861	0.48	1%	1.32	81	26					
Andresen Rd.	- 87th Ave.	0.89	1800	809	0.45	1%		114	28	37	155	258	60.1%	
87th Ave.	- 98th Ave.	0.52	1800	1104	0.61	1%		67	28					
98th Ave.	- 105th Ave.	0.40	1800	1177	0.65	1%		200	7					
105th Ave.	- I-205	0.25	1800	1458	0.81	1%		59	15					
		5.15		**1458**	**0.52**	**1%**	**1.32**	**829**	**22**	**37**	**155**	**258**	**60.1%**	**14.3%**
Mill Plain														
I-205	- Chkalov Drive	0.21	3000	2713	0.90	1%		103	7	37	134	258	51.9%	
Chkalov Drive	- 124th Ave.	0.48	2400	1958	0.82	2%	1.30	52	33					
124th Ave.	- 136th Ave.	0.60	2400	1929	0.80	2%		83	26					
136th Ave.	- Park Crest Ave.	0.49	2400	1790	0.75	2%		85	21					
Park Crest Ave.	- 164th Ave.	0.88	2400	1718	0.72	2%		150	21					
		2.66		**2713**	**0.78**	**2%**	**1.30**	**473**	**20**	**37**	**134**	**240**	**55.8%**	**12.9%**

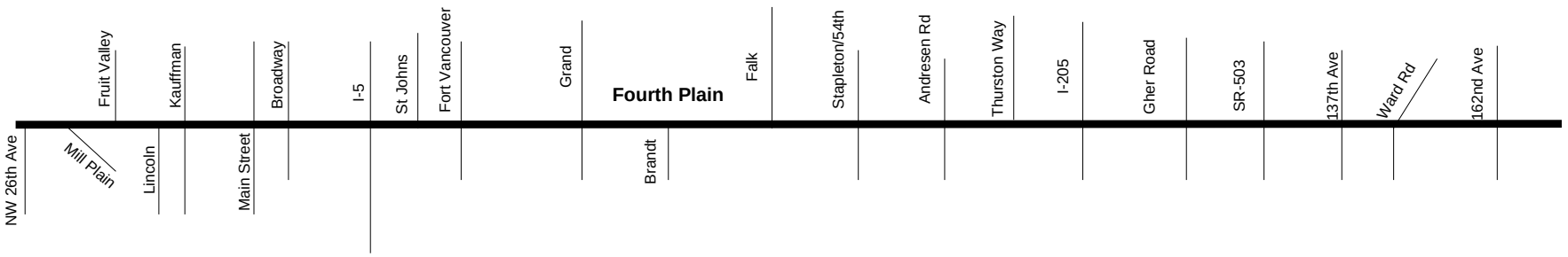


Fourth Plain Blvd. Corridor															
AM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Nouthbound/Eastbound**										
Fourth Plain/SR 501														
I-5	- Main St.	0.53	900	514	0.57	9%		86	22	4	127	280	45.4%	
Main St.	- Kaufman	0.45	900	395	0.44	13%		61	27					
Kaufman	- Fruit Valley Rd.	0.56	900	349	0.39	15%	1.09	116	17					
Fruit Valley Rd.	- Mill Plain	0.14	900	553	0.61	10%	1.03	31	16					
Mill Plain	- Port of Vancouver	0.20	900	402	0.45	36%		16	45					
		1.88		**553**	**0.49**	**17%**	**1.06**	**310**	**22**	**1**	**127**	**280**	**45.4%**	**15.6%**
Fourth Plain														
I-5	- St. Johns Blvd.	0.36	1800	456	0.25	0%		52	25					
St. Johns Blvd.	- Ft. Vancouver	0.34	1800	496	0.28	0%		38	32					
Ft. Vancouver	- Grand Blvd.	0.29	1800	492	0.27	4%		48	22	4,39,44	245	510	48.0%	
Grand Blvd.	- Brandt Rd.	0.56	1800	435	0.24	0%		103	20					
Brandt Rd.	- Falk Rd.	0.21	1700	455	0.27	0%		28	27					
Falk Rd.	- Stapleton Rd.	0.49	1700	403	0.24	0%		73	24					
Stapleton Rd.	- Andresen Rd.	0.79	1700	698	0.41	6%	1.18	113	25					
		3.04		**698**	**0.31**	**5%**	**1.18**	**455**	**24**	**4,39,44**	**245**	**510**	**48.0%**	**28.3%**
Fourth Plain														
Andresen Rd.	- Thurston Way	0.92	1800	530	0.29	5%		135	25					
Thurston Way	- I-205	0.77	1800	448	0.25	4%		87	32					
I-205	- Gher Rd.	0.68	1800	450	0.25	7%		75	33	4,7,44,80	255	592	43.1%	
Gher Rd.	- SR 503	0.45	1800	1259	0.70	0%		62	26					
		2.82		**1259**	**0.41**	**5%**	**1.13**	**359**	**28**	**4,7,44,80**	**255**	**592**	**43.1%**	**32.9%**
Fourth Plain														
SR 503	- 137th Ave.	1.06	1800	1632	0.91	3%		135	28	44,72	58	258	22.5%	
137th Ave.	- Ward Rd.	0.49	1800	1245	0.69	0%		62	28					
Ward Rd.	- 162nd Ave.	0.73	1800	722	0.40	3%		71	37					
		2.28		**1632**	**0.77**	**3%**	**1.13**	**268**	**31**	**44,72**	**58**	**258**	**22.5%**	**14.3%**



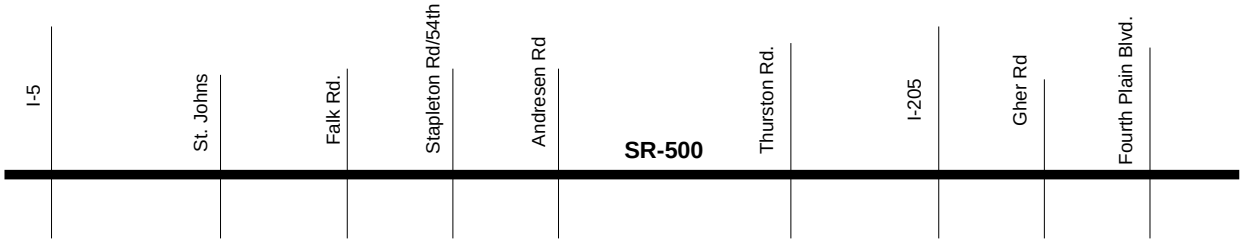
Fourth Plain Blvd. Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
Fourth Plain/SR 501														
I-5	- Broadway	0.44	900	469	0.52	4%		60	26	4	186	344	54.1%	
Broadway	- Kaufman	0.50	900	457	0.51	5%		133	14					
Kaufman	- Fruit Valley Rd.	0.56	900	366	0.41	5%	1.22	62	33					
Fruit Valley Rd.	- Mill Plain Blvd.	0.14	900	480	0.53	5%		19	27					
Mill Plain Blvd.	- NW 26th Av.	0.19	900	387	0.43	7%	1.18	37	18					
		1.83		**480**	**0.48**	**5%**	**1.20**	**311**	**21**	**4**	**186**	**344**	**54.1%**	**19.1%**
Fourth Plain														
I-5	- St. Johns Blvd.	0.36	1800	760	0.42	2%		41	32					
St. Johns Blvd.	- Ft. Vancouver	0.34	1800	691	0.38	2%		87	14					
Ft. Vancouver	- Grand Blvd.	0.29	1800	763	0.42	2%		46	23	4,39,44	260	600	43.3%	
Grand Blvd.	- Brandt Rd.	0.56	1800	825	0.46	2%		91	22					
Brandt Rd.	- Falk Rd.	0.21	1700	863	0.51	2%		31	24					
Falk Rd.	- Stapleton Rd.	0.49	1700	808	0.48	2%		107	16					
Stapleton Rd.	- Andresen Rd.	0.79	1700	1192	0.70	2%	1.34	157	18					
		3.04		**1192**	**0.54**	**2%**	**1.34**	**560**	**20**	**4,39,44**	**260**	**600**	**43.3%**	**33.3%**
Fourth Plain														
Andresen Rd.	- Thurston Way	0.92	1800	1006	0.56	2%		147	23					
Thurston Way	- I-205 Mid	0.77	1800	836	0.46	2%		94	29					
I-205 Mid	- Gher Rd.	0.68	1800	746	0.41	2%		135	18	4,7,44,80	504	735	68.6%	
Gher Rd.	- SR 503	0.45	1800	1450	0.81	2%		109	15					
		2.82		**1450**	**0.57**	**2%**	**1.22**	**485**	**21**	**4,7,44,80**	**504**	**735**	**68.6%**	**40.8%**
Fourth Plain														
SR 503	- 137th Ave.	1.06	2000	1967	0.98	3%		166	23	44,72	54	261	20.7%	
137th Ave.	- Ward Rd.	0.49	1800	1501	0.83	2%		49	36					
Ward Rd.	- 162nd Ave.	0.73	1800	1036	0.58	2%		98	27					
		2.28		**1967**	**0.87**	**2%**	**1.22**	**313**	**26**	**44,72**	**54**	**261**	**20.7%**	**13.1%**



SR-500 Corridor														
AM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Nouthbound/Eastbound**										
SR 500														
I-5	- St. Johns/Grand	1.20	2400	1866	0.78	5%		87	50					
St. Johns/Grand	- Falk Rd.	0.65	2400	2091	0.87	4%		54	43	190	61	72	84.7%	
Falk Rd.	- Stapleton Rd./54th	0.57	2400	2135	0.89	0%		59	35					
Stapleton Rd./54th	- Andresen Rd.	1.13	2400	1821	0.76	0%	1.14	83	49					
		3.55		**2135**	**0.81**	**5%**	**1.14**	**283**	**45**	**190**	**61**	**72**	**84.7%**	**3.0%**
SR 500														
Andresen Rd.	- Thurston Way	0.66	4000	2370	0.59	0%		42	57					
Thurston Way	- I-205	0.52	4800	2829	0.59	3%		33	57					
I-205	- Gher Rd.	1.00	4000	3493	0.87	5%		65	55					
Gher Rd.	- SR 503	0.22	5800	2277	0.39	0%		18	44					
		2.40		**3493**	**0.72**	**4%**	**1.13**	**158**	**55**	**N/A**	**0**	**0**	**0.0%**	**0.0%**

SR-500 Corridor														
PM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**PM - Nouthbound/Eastbound**										
SR 500														
I-5	- St. Johns/Grand	1.09	2400	1919	0.80	3%		212	19					
St. Johns/Grand	- Falk Rd.	0.65	2400	2088	0.87	3%		72	33	190	55	135	40.7%	
Falk Rd.	- Stapleton Rd./54th	0.57	2400	2112	0.88	2%		65	32					
Stapleton Rd./54th	- Andresen Rd.	0.26	2400	2201	0.92	2%	1.21	20	47					
		2.57		**2201**	**0.85**	**2%**	**1.21**	**369**	**25**	**190**	**55**	**135**	**40.7%**	**5.6%**
SR 500														
Andresen Rd.	- Thurston Way	0.90	4000	2558	0.64	2%		57	57					
Thurston Way	- I-205	0.81	4800	3064	0.64	2%		51	57					
I-205	- Gher Rd.	0.42	4000	2219	0.55	5%		27	56					
Gher Rd.	- SR 503	1.15	5800	2534	0.44	3%		120	35					
		3.28		**3064**	**0.56**	**3%**	**1.22**	**255**	**46**	**N/A**	**0**	**0**	**0.0%**	**0.0%**

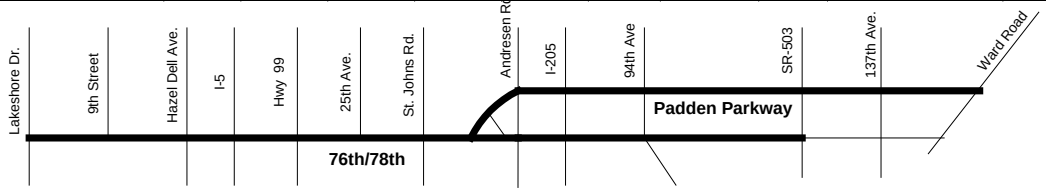


78th/76th/Padden Parkway Corridor

AM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	AM - Nouthbound/Eastbound										
78th St./76th St.														
Lake Shore Av.	- NW 9th Av.	0.60	1800	494	0.27	7%		72	30					
NW 9th Av.	- Hazel Dell Av.	0.51	1800	723	0.40	7%		50	37					
Hazel Dell Av.	- I-5	0.21	2400	899	0.37	6%		39	19					
I-5	- Hwy 99	0.12	2400	866	0.36	7%		25	17					
Hwy 99	- 25th Ave.	0.76	1800	616	0.34	8%		94	29	78	37	60	61.7%	
25th Ave.	- St. Johns Rd.	0.98	1800	665	0.37	7%		83	43					
St. Johns Rd.	- Padden Parkway	0.45	1800	995	0.55	7%		54	30					
Padden Parkway	- Andresen Rd.	0.69	900	307	0.34	6%		124	20					
Andresen Rd.	- Covington/94th	1.27	900	422	0.47	5%		151	30	0	0	0	0.0%	
Covington/94th	- SR-503 (117th)	1.12	900	261	0.29	5%		162	25					
		6.71		**995**	**0.39**	**7%**	**1.13**	**854**	**28**	**7**	**63**	**72**	**87.5%**	**4.0%**
Padden Parkway														
78th St.	- Andresen Rd.	0.72	2600	644	0.25	0%		55	47					
Andresen Rd.	- I-205	0.52	2600	1465	0.56	0%		104	18					
I-205	- 94th Av.	0.76	2600	1383	0.53	3%		60	46					
94th Av.	- SR 503 (117th)	1.12	2600	1449	0.56	0%		103	39					
SR-503	- 137th Av.	0.99	2600	816	0.31	0%		129	28					
137th Av.	- Ward Rd.	1.10	2600	811	0.31	0%		105	38					
		4.49		**1465**	**0.47**	**3%**	**1.13**	**501**	**32**	**N/A**	**0**	**0**	**0.0%**	**0.0%**

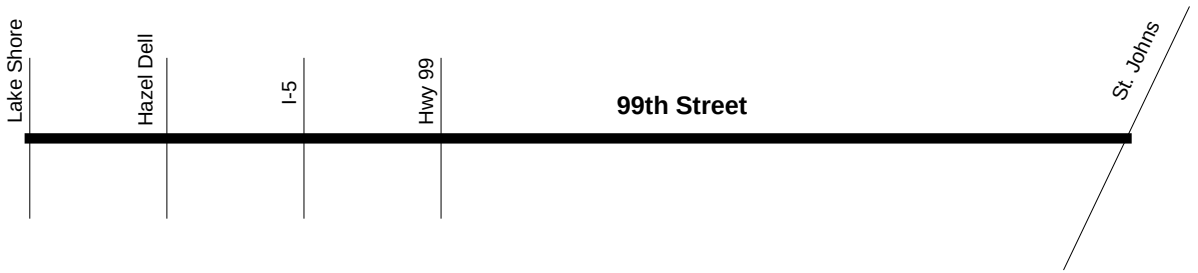
78th/76th/Padden Parkway Corridor

PM Peak		Segment		Traffic Volume	CCI	Truck Percent	AVO	Travel Time (Seconds)	Speed (MPH)	Transit Lines on CMS links	Transit Riders	Transit Seat Capacity	Transit Capacity Used	Transit Seats/Lane Capacity
		Length	Capacity	PM - Nouthbound/Eastbound										
78th St./76th St.														
Lake Shore Av.	- NW 9th Av.	0.60	1800	404	0.22	3%		65	33					
NW 9th Av.	- Hazel Dell Av.	0.51	1800	764	0.42	3%		107	17					
Hazel Dell Av.	- I-5	0.21	2400	1081	0.45	3%		84	9					
I-5	- Hwy 99	0.12	2400	1510	0.63	3%		20	22					
Hwy 99	- 25th Ave.	0.76	1800	1127	0.63	3%		72	38	78	39	74	52.7%	
25th Ave.	- St. Johns Rd.	0.98	1800	1058	0.59	3%		125	28					
St. Johns Rd.	- Padden Parkway	0.46	1800	1600	0.89	4%		55	30					
Padden Parkway	- Andresen Rd.	0.69	900	542	0.60	6%		175	14					
Andresen Rd.	- Covington/94th	1.27	900	764	0.85	4%		134	34	7	29	74	39.2%	
Covington/94th	- SR-503	1.12	900	477	0.53	5%		178	23					
		6.72		**1600**	**0.64**	**4%**	**1.22**	**1015**	**24**	**7**	**29**	**74**	**39.2%**	**4.1%**
Padden Parkway														
78th St.	- Andresen Rd.	0.71	2600	847	0.33	3%		149	17					
Andresen Rd.	- I-205	0.21	2600	1763	0.68	4%		27	28					
I-205	- 94th Av.	1.07	2600	1556	0.60	3%		120	32					
94th Av.	- SR-503 (117th)	1.12	2600	1348	0.52	3%		127	32					
SR-503	- 137th Ave.	0.99	2600	1000	0.38	3%		91	39					
137th Ave.	- 162nd Ave.	1.10	2600	830	0.32	3%		90	44					
		4.49		**1763**	**0.48**	**3%**	**1.22**	**455**	**36**	**N/A**	**0**	**0**	**0.0%**	**0.0%**



99th Street Corridor														
AM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Nouthbound/Eastbound**										
99th Street														
Lake Shore Av.	- NW 9th Av.	1.09	1200	669	0.56	2%		133	30					
NW 9th Av.	- Hazel Dell Av.	0.49	1700	617	0.36	2%		77	23					
Hazel Dell Av.	- I-5	0.37	1700	988	0.58	4%		48	27					
I-5	- Hwy 99	0.22	1800	678	0.38	4%		36	22					
Hwy 99	- 25th Ave.	0.50	1800	509	0.28	3%		104	17					
25th Ave.	- St. Johns Rd.	1.43	900	447	0.50	2%		185	28	25	13	120	10.8%	
		4.09		**988**	**0.48**	**3%**	**1.13**	**583**	**25**	**25**	**13**	**120**	**10.8%**	**6.7%**

99th Street Corridor														
PM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**PM - Nouthbound/Eastbound**										
99th Street														
Lake Shore Av.	- NW 9th Av.	1.09	1200	748	0.62	2%		135	29					
NW 9th Av.	- Hazel Dell Av.	0.49	1700	776	0.46	2%		94	19					
Hazel Dell Av.	- I-5	0.37	1700	1452	0.85	1%		91	15					
I-5	- Hwy 99	0.22	1800	1244	0.69	2%		56	14					
Hwy 99	- 25th Ave.	0.50	1800	853	0.47	2%		58	31					
25th Ave.	- St. Johns Rd.	1.43	900	710	0.79	2%		158	33	25	18	90	20.0%	
		4.10		**1452**	**0.68**	**2%**	**1.22**	**592**	**25**	**25**	**18**	**90**	**20.0%**	**5.0%**

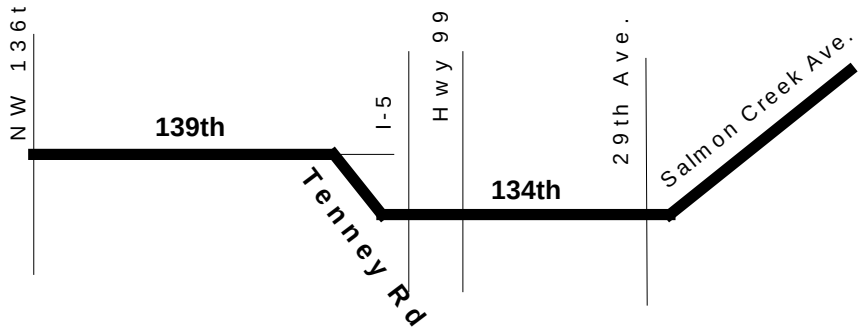


28th/18th Street Corridor														
AM Peak	**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
	Length	**Capacity**	**AM - Nouthbound/Eastbound**										
28th Street													
Andresen Rd. - 86th Ave.	0.73	1200	679	0.57	0%		126	21	30	158	180	87.8%	
86th Ave. - 112th Ave.	1.35	1800	597	0.33	3%		191	25					
112th Ave. - 137th Ave.	1.30	1800	931	0.52	0%		187	25					
137th Ave. - 164th Ave.	1.18	900	454	0.50	5%		192	22					
	4.56		**931**	**0.47**	**4%**	**1.13**	**696**	**24**	**30**	**158**	**180**	**87.8%**	**7.5%**
18th Street													
112th Ave. - 137th Ave.	1.30	800	680	0.85	3%		168	28	177	79	72	109.7%	
137th Ave. - 164th Ave.	1.17	800	750	0.94	5%		167	25					
	2.47		**750**	**0.89**	**4%**	**1.13**	**335**	**27**	**177**	**79**	**72**	**109.7%**	**4.5%**

28th/18th Street Corridor													
PM Peak	**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
	Length	**Capacity**	**PM - Nouthbound/Eastbound**										
28th Street													
Andresen Rd. - 86th Ave.	0.73	900	711	0.79	2%		160	16	30	45	148	30.4%	
86th Ave. - 112th Ave.	1.35	1800	781	0.43	2%		222	22					
112th Ave. - 137th Ave.	1.31	1800	938	0.52	3%		198	24					
137th Ave. - 164th Ave.	1.18	900	546	0.61	2%		180	24					
	4.57		**938**	**0.55**	**2%**	**1.22**	**760**	**22**	**30**	**45**	**148**	**30.4%**	**8.2%**
18th Street													
112th Ave. - 138th Ave.	1.30	800	898	1.12	2%		159	29	177	34	135	25.2%	
138th Ave. - 164th Ave.	1.17	800	870	1.09	2%		164	26					
	2.47		**898**	**1.11**	**2%**	**1.22**	**323**	**28**	**177**	**34**	**135**	**25.2%**	**8.4%**

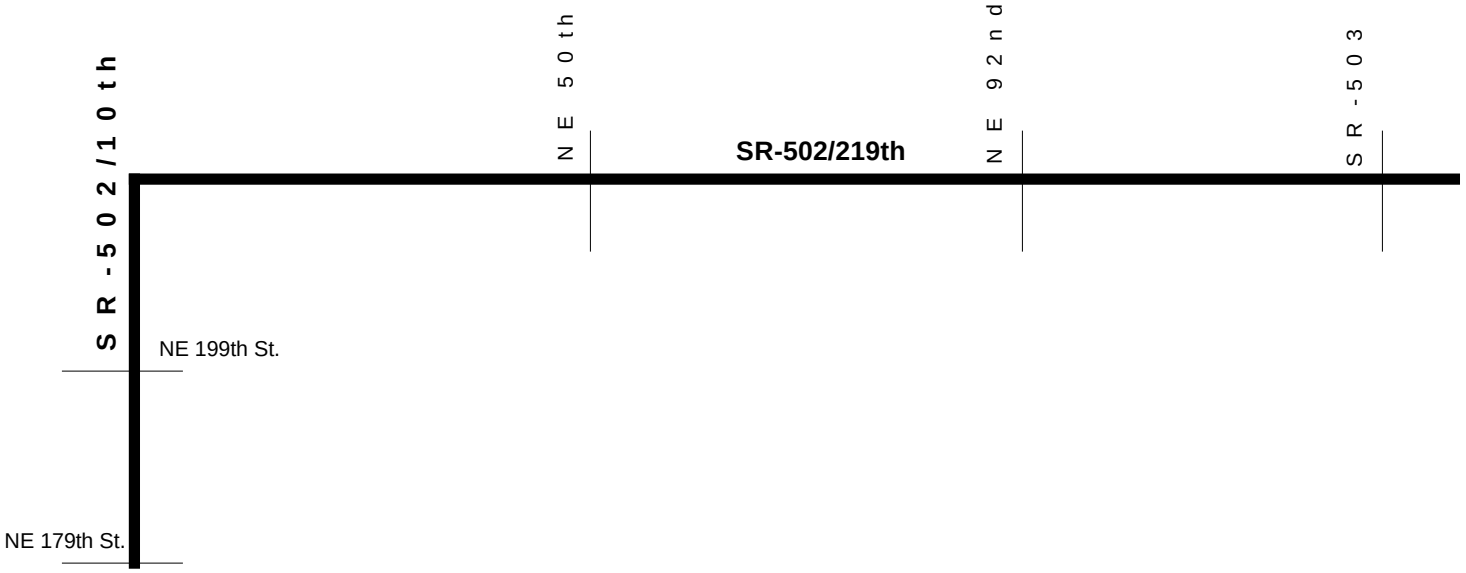
134th/139th Street Corridor													
AM Peak	**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
	Length	**Capacity**	**AM - Nouthbound/Eastbound**										
134th St./139th St./Salmon Creek Ave.													
NW 36th Ave. - NW 11th Ave.	1.23	800	592	0.74	3%	1.27	173	26					
NW 11th Ave. - NE 10th Ave.	1.13	1800	993	0.55	6%		144	28	9	19	116	16.4%	
NE 10th Ave. - I-5	0.28	1800	1268	0.70	5%		42	24					
I-5 - I-205 NB Ramp	0.38	1800	1051	0.58	5%		77	18	19	3	87	3.4%	
I-205 NB Ramp - Salmon Cr. Ave.	0.44	900	490	0.54	4%		44	36					
Salmon Cr. Ave. - 50th Ave.	1.48	900	253	0.28	4%		161	33					
	4.94		**1268**	**0.58**	**5%**	**1.27**	**641**	**28**	**9**	**19**	**116**	**16.4%**	**6.4%**

134th/139th Street Corridor													
PM Peak	**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
	Length	**Capacity**	**PM - Nouthbound/Eastbound**										
134th St./139th St./Salmon Creek Ave.													
NW 36th Ave. - NW 11th Ave.	1.23	800	546	0.68	2%	1.27	116	38					
NW 11th Ave. - NE 10th Ave.	1.13	1800	1396	0.78	2%		141	29	9	10	46	21.7%	
NE 10th Ave. - I-5	0.28	1800	1989	1.11	2%		64	16					
I-5 - I-205 NB off-ramp	0.38	1800	1509	0.84	2%		115	12	19	11	92	12.0%	
I-205 NB off-ramp - Salmon Cr. Ave.	0.44	900	798	0.89	2%		44	36					
Salmon Cr. Ave. - 50th Ave.	1.48	900	418	0.46	1%		150	36					
	4.94		**1989**	**0.78**	**2%**	**1.27**	**630**	**28**	**9**	**10**	**46**	**21.7%**	**2.6%**



SR-502/219th St. Corridor														
AM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Nouthbound/Eastbound**										
SR 502														
I-5	- 10th Ave.	0.26	2400	244	0.10	5%		19	49					
10th Ave.	- 50th Ave.	1.96	800	468	0.59	7%		152	46					
50th Ave.	- 102nd Ave	1.97	800	669	0.84	6%	1.09	173	41					
102nd Ave.	- SR-503	1.51	1800	690	0.38	5%		154	35	47	13	36	36.1%	
		5.70		**690**	**0.61**	**6%**	**1.09**	**498**	**41**	**47**	**13**	**36**	**36.1%**	**1.0%**

SR-502/219th St. Corridor														
PM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**PM - Nouthbound/Eastbound**										
SR 502														
I-5	- 10th Ave.	0.26	2400	428	0.18	5%		29	32					
10th Ave.	- 50th Ave.	1.96	800	540	0.68	6%		149	47					
50th Ave.	- 102nd Ave	1.97	800	825	1.03	7%	1.22	196	36					
102nd Ave.	- SR-503	1.51	1800	1185	0.66	3%		223	24	47	9	45	20.0%	
		5.70		**1185**	**0.78**	**5%**	**1.22**	**597**	**34**	**47**	**9**	**45**	**20.0%**	**1.3%**



SR-501 & La Center Road Corridors														
AM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**AM - Nouthbound/Eastbound**										
SR 501														
I-5	- 45th Ave.	0.80	800	529	0.66	8%		83	35	LC/Rid. Connector	22	32	68.8%	
45th Ave.	- 9th St.	1.75	800	376	0.47	7%		151	42					
		2.55		**529**	**0.54**	**8%**	**1.13**	**234**	**39**	**LC/Rid. Connect**	**22**	**32**	**68.8%**	**2.0%**
La Center Rd.														
I-5	- E. Fork Lewis Rv.	1.79	1000	574	0.57	3%		148	44	LC/Rid. Connector	16	32	50.0%	
		1.79		**574**	**0.57**	**3%**	**1.13**	**148**	**44**	**LC/Rid. Connect**	**16**	**32**	**50.0%**	**1.6%**

SR-501 & La Center Road Corridors														
PM Peak		**Segment**		**Traffic Volume**	**CCI**	**Truck Percent**	**AVO**	**Travel Time (Seconds)**	**Speed (MPH)**	**Transit Lines on CMS links**	**Transit Riders**	**Transit Seat Capacity**	**Transit Capacity Used**	**Transit Seats/Lane Capacity**
		Length	**Capacity**	**PM - Nouthbound/Eastbound**										
SR 501														
I-5	- 45th Ave.	0.80	800	548	0.69	10%		74	39	LC/Rid. Connector	19	28	67.9%	
45th Ave.	- 9th St.	1.75	800	462	0.58	7%		152	41					
		2.55		**548**	**0.62**	**9%**	**1.22**	**226**	**41**	**LC/Rid. Connect**	**19**	**28**	**67.9%**	**1.8%**
La Center Rd.														
I-5	- E. Fork Lewis Rv.	1.79	1000	637	0.62	3%		148	44	LC/Rid. Connector	10	14	71.4%	
		1.79		**637**	**0.62**	**3%**	**1.22**	**148**	**44**	**LC/Rid. Connect**	**10**	**14**	**71.4%**	**0.7%**