



City of Bellevue  
Transportation Department  
Modeling and Analysis Group

# ***Concurrency Update Report***

*Performance Snapshot*  
*December 31, 2018*

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*Prepared August 2019*

## Executive Summary

Model analysis indicates that the 2018-2024 Capital Investment Program (CIP) plan vehicle capacity projects accommodate the increased travel demand associated with new development approved through December 31, 2018. All Mobility Management Areas (MMAs) meet the adopted congestion allowance, and all MMAs meet the adopted average volume to capacity (V/C) level of service standard for intersections.

### Concurrency Summary by MMA

MMA		Concurrency Standard		2018 Existing Condition				2019 Concurrency Platform			
		V/C Ratio	Congestion Allowance	V/C Ratio Test		Congestion Allowance Test		V/C Ratio Test		Congestion Allowance Test	
				V/C Ratio	Standard Met?	No of Intersections Below the Standard	Standard Met?	V/C Ratio	Standard Met?	No of Intersections Below the Standard	Standard Met?
1	North Bellevue	0.85	3	0.62	Yes	0	Yes	0.62	Yes	0	Yes
2	Bridle Trails	0.80	4	0.66	Yes	2	Yes	0.68	Yes	2	Yes
3	Downtown	0.95	9	0.72	Yes	2	Yes	0.74	Yes	3	Yes
4	Wilburton	0.90	3	0.75	Yes	1	Yes	0.78	Yes	1	Yes
5	Crossroads	0.90	2	0.71	Yes	0	Yes	0.71	Yes	0	Yes
6	N-E Bellevue	0.80	2	0.70	Yes	0	Yes	0.71	Yes	0	Yes
7	South Bellevue	0.85	4	0.76	Yes	1	Yes	0.82	Yes	1	Yes
8	Richards Valley	0.85	5	0.70	Yes	1	Yes	0.73	Yes	1	Yes
9	East Bellevue	0.85	5	0.83	Yes	5	Yes	0.83	Yes	4	Yes
10	Eastgate	0.90	4	0.68	Yes	1	Yes	0.65	Yes	0	Yes
11	S-E Bellevue	0.80	3	0.72	Yes	3	Yes	0.70	Yes	2	Yes
12	Bel-Red/Northrup	0.95	7	0.72	Yes	1	Yes	0.75	Yes	2	Yes
13	Factoria	0.95	5	0.82	Yes	0	Yes	0.84	Yes	1	Yes
14	Newport Hills*	-	-	-	-	-	-	-	-	-	-

\* There are no system intersections in MMA 14 and, therefore, no standards

These analysis results represent a snapshot of average traffic conditions over a two-hour period from 4 PM to 6 PM on a typical weekday. Because traffic conditions change constantly and the two-hour average is what is reported, drivers will sometimes experience worse or less traffic congestion than reported herein.

The following conclusions can be drawn from this Concurrency Update Report:

- Of all the MMAs, East Bellevue has the smallest cushions, both in terms of calculated V/C ratio and congestion allowance, to accommodate traffic growth. The information and findings contained in this report form the basis for future development review, which will be monitored closely, specifically in the East Bellevue MMA.

- The City Council recently approved a Transportation Commission recommendation to conduct a multimodal transportation study in the northeast area of Bellevue. The study will serve as a mechanism to identify policies and projects to address vehicle level-of-service issues and enhance other mobility options.
- Since the majority of the NE Bellevue MMA's system intersections are on 148<sup>th</sup> Ave which is a major arterial that serves Bellevue and connects to Redmond's rapidly redeveloping areas of Overlake Village and the Microsoft campus, close coordination with Redmond to identify and implement transportation system strategies in northeast Bellevue is essential to ensuring continued mobility.
- As the BelRed area continues to grow and new roadway projects are completed and open for service, it will be necessary to update the Comprehensive Plan and the Traffic Standards Code to identify additional system intersections to ensure the area is appropriately and accurately represented in future concurrency analyses.
- The findings of this report will be used to inform the prioritization of projects proposed under the levy-funded congestion mitigation program in the Fall of 2019.
- There are several large developments in downtown, BelRed, Wilburton, and East Main Station areas currently undergoing development review, but not yet approved. The cumulative impact of these developments is expected to have significant effects citywide. Vehicle capacity improvements may be warranted along certain corridors, together with a range of mobility strategies that reduce vehicle travel demand and improve facilities and level of service for other modes. A comprehensive transportation master plan is needed to identify an effective and sustainable multimodal approach to mobility that will accommodate growth in a manner that is safe, equitable, and consistent with goals and policies of the Comprehensive Plan.

Following the release of this Concurrency Update Report, the 2019 Concurrency Platform (2019 CP; model version MP6-R16) will be used as the background condition for project-level development review modeling until a new concurrency update is completed using the new BKR model called BKRCast. BKRCast is an activity-based travel demand forecast model that incorporates latest advancements and best practices in travel demand forecast industry.

## Introduction

The Washington State Growth Management Act (GMA) of 1990 requires that local jurisdictions adopt ordinances to establish *concurrency* metrics and standards to determine the ability of the transportation system to support new development. The City of Bellevue’s adopted Traffic Standards Code (Bellevue City Code Chapter 14.10) establishes the City’s transportation concurrency standards and methodologies, and compliance determination process. The Director’s Rule of 2017 further defines the specifications of this procedure.

An assessment of transportation concurrency is prepared periodically – typically annually – by the Bellevue Transportation Department to update information on land use development and transportation conditions within the City. The primary objective is to provide a snapshot of the latest transportation system performance findings related to vehicle capacity to inform land use and transportation decision-making. In addition, the concurrency report is used to identify problem areas so that traffic mitigation options can be explored and identified to effectively accommodate changing conditions.

This report summarizes concurrency analysis results for two scenarios:

**2018 Existing Condition** represents the observed 2018 or latest traffic counts and existing roadway and intersection geometries and signal phasing and level of service.

**2019 Concurrency Platform (CP)** includes existing land use plus approved development with the City’s six-year Capital Investment Program (CIP) plan. It forms the basis for conducting future project level concurrency analyses. The Platform includes:

- existing land use information extracted from the King County Tax Assessor’s Office as of December 31, 2018;
- approved development that had received either design review approvals or building permits issued by the City of Bellevue Development Services Department (DSD) as of December 31, 2018; and
- 2018 existing roadway network, plus fully funded vehicle capacity improvement projects in the 2019-2025 CIP and with projects sponsored by WSDOT, City of Redmond and Sound Transit that are expected to be completed by 2024.

The concurrency snapshot reflects short-range projections of average traffic conditions within the city during the two-hour PM peak period. The conditions described represent computed volume-to-capacity (V/C) ratios for designated “system” intersections within the 14 Mobility Management Areas (MMAs) as defined in the City’s Traffic Standards Code. System intersections are arterial street intersections controlled by existing and likely future traffic signals. MMAs are geographic sub-areas of the City, designated for transportation concurrency analysis and reporting purposes.

## Concurrency Standards

The City’s concurrency standard consists of two metrics for each of the MMAs: the permitted maximum average system intersection V/C ratio and the maximum number of intersections allowed to exceed the V/C ratio for each MMA (congestion allowance). The standards vary according to the land use vision for each area, the availability and level of service of alternative modes of travel, and community input. Table 1 shows the concurrency standard for each MMA.

**Table 1 Concurrency Standards for Mobility Management Areas**

MMA		Concurrency Standard	
		V/C Ratio	Congestion Allowance
1	North Bellevue	0.85	3
2	Bridle Trails	0.80	4
3	Downtown	0.95	9
4	Wilburton	0.90	3
5	Crossroads	0.90	2
6	Northeast Bellevue	0.80	2
7	South Bellevue	0.85	4
8	Richards Valley	0.85	5
9	East Bellevue	0.85	5
10	Eastgate	0.90	4
11	Southeast Bellevue	0.80	3
12	BelRed/Northup	0.95	7
13	Factoria	0.95	5
14	Newport Hills*	-	-

*\*There are no system intersections in MMA 14 and, therefore, no standards*

*Source: Bellevue City Code 14.10.030*

## Methodology

The concurrency methodology for the City of Bellevue consists of both program level analysis and project specific analyses. This report is a program level analysis. At the program level, all analysis is performed using the City’s EMME travel demand model in conjunction with a customized capacity analysis program based on the latest Highway Capacity Manual. The manual provides procedures to analyze intersection operating conditions. Assumptions include:

- Per the City’s Traffic Standards Code (Chapter 14.10), traffic volumes are averaged over a two-hour period from 4 PM to 6 PM, which generally represents the most congested traffic conditions.
- V/C ratios are calculated at each system intersection. The average V/C ratio for all system intersections within each MMA is then calculated and compared to the adopted standard for the respective MMA.

- An MMA is considered to meet the traffic standard if the resulting area-wide average V/C ratio does not exceed the V/C ratio and the number of congested intersections in the area does not exceed the congestion allowance as established in the Traffic Standards Code.

Prior to 2017, concurrency analyses were performed using UFOSNet, proprietary software developed by RST International Inc. and based on the 2004 version of the Highway Capacity Manual (HCM). In the 2018 update, UFOSNet was supplemented with additional post processing to:

- Treat non-standard intersections, such as three- and five-legged intersections, more logically.
- To more reasonably represent real world conditions, the impact of downstream intersection bottlenecks at several known locations were considered in calculating the available capacity of affected intersections.
- The effects of pedestrian crossings on traffic flows were approximated using simulations at sampled intersections. The simulations quantified pedestrian effects on reduced green time available for vehicle traffic, resulting in increased V/C ratios ranging from 0 (very few pedestrian crossings) to 0.06 at the Bellevue Way NE/NE 8th St and 108th Ave NE/NE 4th St intersections where the highest pedestrian volumes were observed.

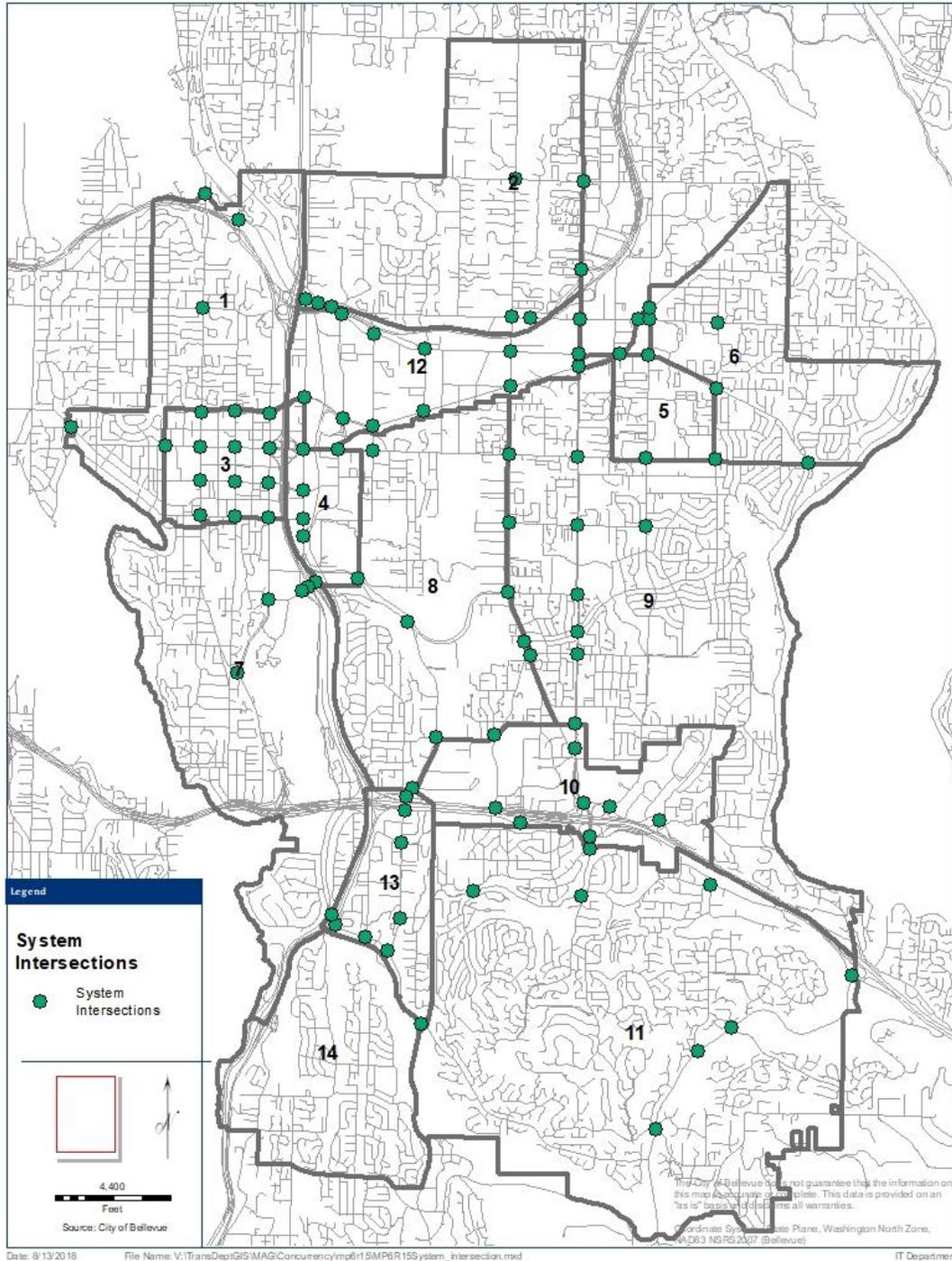
In early 2019, staff developed an Excel spreadsheet tool that incorporates the latest Highway Capacity Manual methodology, along with the refinements listed above. The post-processing and balancing procedures were also incorporated. This spreadsheet tool streamlines and increases the transparency of the analysis process. The results presented in this report are the product of this spreadsheet tool.

Because the analysis results represent average traffic conditions over a two-hour period from 4 PM to 6 PM, drivers will sometimes experience worse or less traffic congestion than reported herein.

## MMA Boundaries

Per the City's Traffic Standards Code, the city is divided into 14 MMAs. Within each MMA, there are designated system intersections. The MMA boundaries and system intersections are shown in Figure 1 below.

**Figure 1 Mobility Management Areas (MMA) and System Intersections**



## Input Data

### Land Use

The land use data includes existing plus new development approved by the City of Bellevue through the end of 2018. The existing land use information was extracted from the King County Tax Assessor's file as of December 31, 2018. Table 2 provides an MMA-level summary of the existing 2018 land use. Compared to the corresponding 2017 data, there was a slight drop in square footage across all three commercial land use categories. This is mainly due to demolitions that occurred last year, which are reflected in the King County Assessor data. These demolitions are in preparation for new developments that have not yet been constructed and occupied. The land use permit tracking system (AMANDA) is the source of information on new development approved by the City. Table 3 lists major development approved as of the end of 2018.

Table 4 lists the approved development aggregated by MMA. This includes 2,265 new dwelling units, over 2,000,000 gross square feet (GSF) of Office, and over 340,000 GSF of Retail. Most of the approved development/demolitions fall into three MMAs: Downtown Bellevue (MMA 3), Wilburton (MMA 4), and BelRed/Northup (MMA 12). Table 5 contains existing plus approved land use totals by category for the 14 MMAs.

Vacancy rates are assumed citywide for modeling of existing and concurrency land use snapshots: Office = 10%, Retail = 5%, and Industrial = 7.5%. Actual vacancy rates may differ, but the assumed rates are consistent with observed vacancy rates over time.

**Table 2 2018 Existing Land Use Summary**

MMA	Name	Commercial Square Feet				Residential Units		
		Office	Retail	Others	Total	SF Units	MF Units	Tot Units
1	North Bellevue	1,437,198	199,294	241,352	<b>1,877,844</b>	2,168	2,231	<b>4,399</b>
2	Bridle Trails	744,050	430,806	381,890	<b>1,556,746</b>	1,689	3,254	<b>4,943</b>
3	Downtown	10,404,405	3,817,746	2,355,266	<b>16,577,417</b>	-	10,517	<b>10,517</b>
4	Wilburton	1,255,837	659,172	1,074,125	<b>2,989,134</b>	75	636	<b>711</b>
5	Crossroads	153,453	625,052	176,686	<b>955,191</b>	49	3,609	<b>3,658</b>
6	Northeast Bellevue	460,140	14,393	621,901	<b>1,096,434</b>	3,306	255	<b>3,561</b>
7	South Bellevue	1,220,071	251,247	1,188,067	<b>2,659,385</b>	2,599	2,003	<b>4,602</b>
8	Richards Valley	218,610	81,761	209,470	<b>509,841</b>	2,494	3,523	<b>6,017</b>
9	East Bellevue	553,930	452,564	1,296,457	<b>2,302,951</b>	6,795	2,514	<b>9,309</b>
10	Eastgate	4,029,124	560,003	1,766,963	<b>6,356,090</b>	235	682	<b>917</b>
11	Southeast Bellevue	140,261	126,164	753,542	<b>1,019,967</b>	8,371	1,068	<b>9,439</b>
12	Bel-Red Northup	2,151,710	2,375,647	3,083,611	<b>7,610,968</b>	1	1,507	<b>1,508</b>
13	Factoria	1,467,893	858,020	363,152	<b>2,689,065</b>	347	1,212	<b>1,559</b>
14	Newport Hills	10,439	96,830	152,517	<b>259,786</b>	2,678	472	<b>3,150</b>
<b>Total</b>		<b>24,247,121</b>	<b>10,548,699</b>	<b>13,664,999</b>	<b>48,460,819</b>	<b>30,807</b>	<b>33,483</b>	<b>64,290</b>

Source: King County Tax Assessor's Office as of December 2018, City of Bellevue Community Development Department

**Table 3 Approved Major Developments/Demolitions as of December 31, 2018**

<b>Developments</b>	<b>MMA</b>	<b>TAZ</b>	<b>Office (sqf)</b>	<b>Retail (sqf)</b>	<b>Others (sqf)</b>	<b>MF (units)</b>
BBGC, LLC Townhomes	1	45	-	-	-	6
30 Bellevue	1	649	12,104	-	-	62
PRO Sports Club, 2016 east expansion	2	191	53,765	-	-	-
Brio Apartments	3	3	34,875	21,930	-	260
Bellevue Parkside	3	14	-	5,070	-	150
Summit III	3	26	389,859	3,625	-	-
Plaza Residential	3	41	-	-	-	263
GIS Plaza	3	41	1,930	-	-	13
Wilburton Elementary School CO8606	4	99	-	-	83,725	-
Bellevue South	4	222	45,953	174,305	-	-
Overlake Medical Center	4	225	231,832	-	-	-
Crossroads Village	5	87	-	9,133	-	115
Crossroads Senior Living	5	87	6,710	1,631	2,647	185
Holiday Inn Express Hotel	7	132	16,147	-	73,520	-
10845 Main Street - New Office Building	7	134	5,200	-	-	-
The Bellevue Condos	7	137	-	-	-	8
Holmberg Company Headquarters	8	113	19,260	-	8,342	-
Highland Village Apartments Ph II	9	96	883	-	-	36
Sunset Elementary School Expansion	9	167	-	-	12,419	-
Highland Middle School	9	207	28,787	-	157,859	-
NE 8th Bellevue Memory Care	9	648	-	-	-	30
Bellevue College Student Success Center	10	116	66,723	-	-	-
Bellevue College Student Housing Phase I	10	116	8,505	-	-	147
Cougar Ridge Elementary School	11	161	-	-	10,455	-
AEGIS at Overlake	12	69	86,495	14,153	773	118
Sound Transit E340 -EL289 Building Demolition	12	181	-	(625)	(5,625)	-
Bellevue Senior Housing	12	196	-	-	-	220
Lario Townhomes	12	200	-	-	-	46
Vida Townhomes	12	201	-	-	3,979	13
Future GM Dealerships Demolition	12	202	-	(28,928)	-	-
Spring District Phase 2	12	449	491,698	17,729	106,689	299
AMLI Spring District-Tower	12	449	7,461	6,064	-	204
Block 12 Office/Brewpub	12	449	19,270	10,377	-	-
REI	12	449	398,114	28,130	-	-
Auto Nation	12	450	43,532	-	178,415	-
Operations and Maintenance Facility, East	12	450	-	-	179,806	-
Windward Factoria Townhome	13	228	-	-	-	24

Source: City of Bellevue Community Development Department and Development Services Department

**Table 4 Approved Development Aggregated by MMA (As of December 31, 2018)**

MMA	Name	Commercial Square Feet				Residential Units		
		Office	Retail	Others	Total	SF Units	MF Units	Tot. Units
1	North Bellevue	12,104	-	-	<b>12,104</b>	8	69	<b>77</b>
2	Bridle Trails	53,765	-	-	<b>53,765</b>	1	-	<b>1</b>
3	Downtown	426,664	33,325	-	<b>459,989</b>	-	686	<b>686</b>
4	Wilburton	281,658	174,305	87,020	<b>542,983</b>	1	-	<b>1</b>
5	Crossroads	6,710	10,764	2,647	<b>20,121</b>	-	300	<b>300</b>
6	Northeast Bellevue	-	-	-	-	2	-	<b>2</b>
7	South Bellevue	21,347	-	73,520	<b>94,867</b>	6	8	<b>14</b>
8	Richards Valley	19,260	-	8,342	<b>27,602</b>	2	-	<b>2</b>
9	East Bellevue	29,975	-	170,278	<b>200,253</b>	8	66	<b>74</b>
10	Eastgate	75,228	-	4,718	<b>79,946</b>	-	147	<b>147</b>
11	Southeast Bellevue	-	640	10,455	<b>11,095</b>	28	-	<b>28</b>
12	Bel-Red Northup	1,073,498	51,735	432,468	<b>1,557,701</b>	-	900	<b>900</b>
13	Factoria	-	-	6,864	<b>6,864</b>	7	24	<b>31</b>
14	Newport Hills	-	-	-	-	2	-	<b>2</b>
<b>Total</b>		<b>2,000,209</b>	<b>270,769</b>	<b>796,312</b>	<b>3,067,290</b>	<b>65</b>	<b>2,200</b>	<b>2,265</b>

Source: City of Bellevue Community Development Department and Development Services Department

**Table 5 Existing Plus Approved Development for 2019 Concurrency Platform**

MMA	Name	Commercial Square Feet				Residential Units		
		Office	Retail	Others	Total	SF Units	MF Units	Tot. Units
1	North Bellevue	1,449,302	199,294	241,352	<b>1,889,948</b>	2,176	2,300	<b>4,476</b>
2	Bridle Trails	797,815	430,806	381,890	<b>1,610,511</b>	1,690	3,254	<b>4,944</b>
3	Downtown	10,831,069	3,851,071	2,355,266	<b>17,037,406</b>	-	11,203	<b>11,203</b>
4	Wilburton	1,537,495	833,477	1,161,145	<b>3,532,117</b>	76	636	<b>712</b>
5	Crossroads	160,163	635,816	179,333	<b>975,312</b>	49	3,909	<b>3,958</b>
6	Northeast Bellevue	460,140	14,393	621,901	<b>1,096,434</b>	3,308	255	<b>3,563</b>
7	South Bellevue	1,241,418	251,247	1,261,587	<b>2,754,252</b>	2,605	2,011	<b>4,616</b>
8	Richards Valley	237,870	81,761	217,812	<b>537,443</b>	2,496	3,523	<b>6,019</b>
9	East Bellevue	583,905	452,564	1,466,735	<b>2,503,204</b>	6,803	2,580	<b>9,383</b>
10	Eastgate	4,104,352	560,003	1,771,681	<b>6,436,036</b>	235	829	<b>1,064</b>
11	Southeast Bellevue	140,261	126,804	763,997	<b>1,031,062</b>	8,399	1,068	<b>9,467</b>
12	Bel-Red Northup	3,225,208	2,427,382	3,516,079	<b>9,168,669</b>	1	2,407	<b>2,408</b>
13	Factoria	1,467,893	858,020	370,016	<b>2,695,929</b>	354	1,236	<b>1,590</b>
14	Newport Hills	10,439	96,830	152,517	<b>259,786</b>	2,680	472	<b>3,152</b>
<b>Total</b>		<b>26,247,330</b>	<b>10,819,468</b>	<b>14,461,311</b>	<b>51,528,109</b>	<b>30,872</b>	<b>35,683</b>	<b>66,555</b>

Source: King County Tax Assessor's Office, City of Bellevue Community Development Department and Development Services Department

### ***Transportation Network***

The adopted 2019-2025 CIP is the basis for identifying transportation projects to be included in this analysis. The concurrency model network includes all fully funded projects that would be completed and in operation by 2024. These capacity projects include roadway widenings, intersection signalization and channelization, and access improvements. These capacity projects are described in Table 6 and shown in Figure 2.

Major capacity projects funded by WSDOT and Sound Transit that are expected to be completed by 2024, namely the I-90 auxiliary lanes between Eastgate and Issaquah and the East Link Light Rail Extension, are also included. Improvements at the two intersections on the city boundary – Bel-Red Road/NE 24th Street and 156th Avenue NE/Bel-Red Road – were funded and will be constructed by City of Redmond. The improvements add exclusive southbound right turn lanes at those intersections.

### ***Traffic Counts***

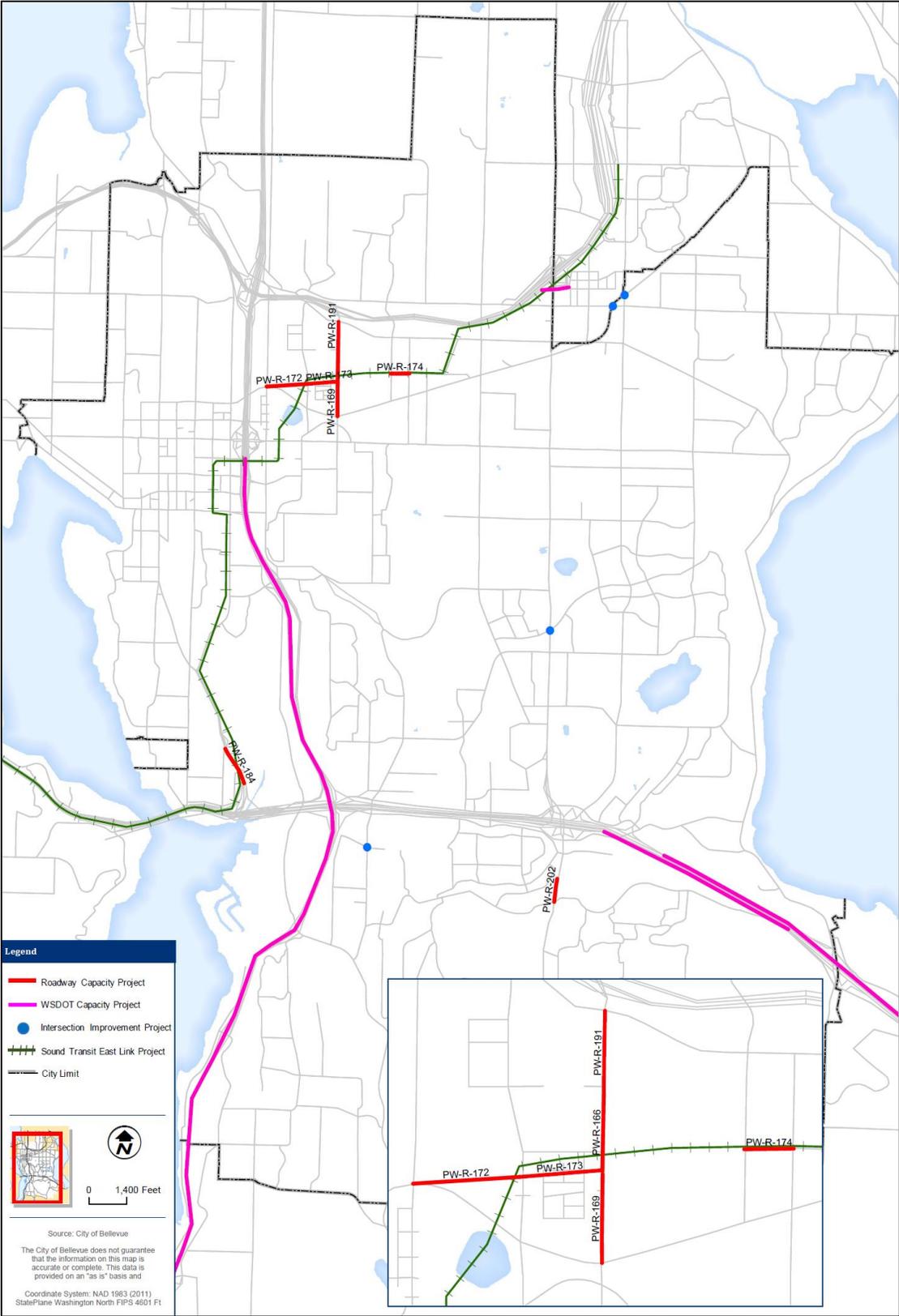
The latest PM peak, two-hour average vehicle and pedestrian counts (mostly collected in February, April and October 2018) were used along with the 2018 existing intersection geometry and signal timing plans to calculate intersection V/C ratios for the existing condition. These counts were also used to adjust the outputs from the 2019 Concurrency Platform (MP6-R16) to account for model validation differences.

**Table 6 Capacity Projects Included in the 2019 Concurrency Platform Analysis**

<b>CIP# or Sponsor</b>	<b>Project Name</b>	<b>Description</b>
R-166	124th Avenue NE - Spring Boulevard to Ichigo Way (NE 18th Street)	Widen and raise the profile for 124th Avenue NE from NE Spring Boulevard to Ichigo Way (NE 18th Street). The roadway cross-section will consist of five lanes, including two travel lanes in each direction with turn pockets or a center turn lane, install curb, gutter and sidewalk on east side and sidewalk on west side from NE Spring Boulevard to NE 16th Street.
R-169	124th Avenue NE - NE 12th Street to NE Spring Boulevard	Construct improvements to 124th Avenue NE from NE 12th Street (BelRed Road) to NE Spring Boulevard. The roadway cross-section of this segment consists of five lanes, including two travel lanes in each direction with turn pockets or a center turn lane; curb, gutter and separated multi-use path on both sides.
R-170	130th Avenue NE/NE 20th to NE BelRed Road	Construct improvements to 130th Avenue NE from NE 20th Street to NE BelRed Road. The roadway cross-section will include one through lane in each direction, and an additional center turn lane between NE Spring Blvd and BelRed Road.
R-172	NE Spring Boulevard (Zone 1) - 116th Avenue NE to 120th Avenue NE	Construct a new multi-modal arterial street connection between NE 12th Street/116th Avenue NE and 120th Avenue NE. to include two travel lanes in each direction with turn pockets, along with new traffic signals at the NE 12th Street and at 120th Avenue NE intersections. NE 12th Street will be widened from the new connection to 116th Avenue NE.
R-173	NE Spring Boulevard (Zone 2)- 120th Avenue NE to 124th Avenue NE	Construct a new arterial street connection between 120th and 124th Avenues NE, including signalized intersections at 120th, 121st, 123rd, and 124th Avenues NE. The planned roadway cross-section will include two travel lanes in each direction with bicycle facilities, turn pockets or center medians, curb, gutter, and sidewalks on both sides.
R-174	NE Spring Boulevard - 130th Avenue NE to 132nd Avenue NE	Construct a new arterial roadway connection between 130th Avenue NE and 132nd Avenue NE. The project includes a single travel lane in each direction and traffic signals at the 130th Avenue NE and 132nd Avenue NE intersections. Signals will also accommodate East Link light rail traffic.
R-185	Newport Way/150th Ave Intersection	Add southbound turn lanes from 150 Ave SE to SE Newport Way.
R-190	124th Avenue NE/NE 8th to NE 12th Streets	This project involves taking a NB lane to make room for the construction of a separated multipurpose pathway on both side son 124th Avenue NE between NE 8th and NE 12th Streets.
R-191	124th Avenue NE/Ichigo Way (NE 18th St) to Northup Way	Construct improvements to 124th Avenue NE between Ichigo Way (NE 18th Street) and Northup Way. The roadway cross-section of this segment consists of five lanes, including two travel lanes in each direction with turn pockets or a center turn lane; curb, gutter and sidewalks on both sides. A new signal at Ichigo Way.
Bellevue*	148th Avenue SE/Lake Hills Boulevard Intersection	Intersection operation improvement: minor widening to add a second westbound left turn lane.
Bellevue*	Factoria Boulevard SE/ SE 38th Street Intersection	Intersection operation improvement: minor widening to add a second westbound left turn lane.
WSDOT	I-90 Auxiliary Lanes	Adds an auxiliary lane each direction to I-90, eastbound from 150th Ave SE to Lakemont Blvd, westbound from SR 900 to Eastgate.
WSDOT	SR 520 - Overlake Access Ramp	Adds a new eastbound SR 520 ramp to southbound 148th Avenue NE and extends the existing eastbound ramp underneath 148th into the planned Overlake Village area.
WSDOT	I-405 - Renton to Bellevue Widening and Express Toll Lanes	Adds new capacity to create a two-lane express toll lane system between SR 167 in Renton and NE 6th St in Bellevue.
Sound Transit	Bellevue Way/South Bellevue Park & Ride to I-90	Construct southbound HOV lane from South Bellevue Park & Ride to I-90 (funded by Sound Transit as part of the East Link project).
Sound Transit	East Link Light Rail	Construction of the East Link light rail project from Seattle to the Overlake Station in Redmond.

\* Bellevue Neighborhood Congestion Levy Fund Project

**Figure 2 Capacity Projects Included in the 2019 Concurrency Platform Analysis**



## Concurrency Analysis Findings

The V/C ratios for the two scenarios are compared to the city's concurrency standard as depicted in Table 7.

**Table 7 Concurrency Analysis Results by MMA**

MMA		Concurrency Standard		2018 Existing Condition				2019 Concurrency Platform			
		V/C Ratio	Congestion Allowance	V/C Ratio	Remaining Capacity (V/C Ratio)	Congestion Allowance Consumed	Remaining Congestion Allowance	V/C Ratio	Remaining Capacity (V/C Ratio)	Congestion Allowance Consumed	Remaining Congestion Allowance
1	North Bellevue	0.85	3	0.62	0.23	0	3	0.62	0.23	0	3
2	Bridle Trails	0.80	4	0.66	0.14	2	2	0.68	0.12	2	2
3	Downtown	0.95	9	0.72	0.23	2	7	0.74	0.21	3	6
4	Wilburton	0.90	3	0.75	0.15	1	2	0.78	0.12	1	2
5	Crossroads	0.90	2	0.71	0.19	0	2	0.71	0.19	0	2
6	Northeast Bellevue	0.80	2	0.70	0.10	0	2	0.71	0.09	0	2
7	South Bellevue	0.85	4	0.76	0.09	1	3	0.82	0.03	1	3
8	Richards Valley	0.85	5	0.70	0.15	1	4	0.73	0.12	1	4
9	East Bellevue	0.85	5	0.83	0.02	5	0	0.83	0.02	4	1
10	Eastgate	0.90	4	0.68	0.22	1	3	0.65	0.25	0	4
11	Southeast Bellevue	0.80	3	0.72	0.08	3	0	0.70	0.10	2	1
12	BelRed/Northrup	0.95	7	0.72	0.23	1	6	0.75	0.20	2	5
13	Factoria	0.95	5	0.82	0.13	0	5	0.84	0.11	1	4
14	Newport Hills	-	-	-	-	-	-	-	-	-	-

\* There are no system intersections in MMA 14 and, therefore, is not included in the analysis.

### Average V/C Ratios Analysis by MMA

Under 2018 existing conditions, the V/C ratios for individual MMAs ranged from 0.62 (MMA 1 – North Bellevue) to 0.83 (MMA 9 – East Bellevue). The average remaining capacity ranged from 0.02 (MMA 9 – East Bellevue) to 0.23 (MMA 1 – North Bellevue, MMA 3 – Downtown and MMA 12 – Bel-Red/Northrup). Remaining is the capacity available to accommodate future development without exceeding the concurrency standard; it is the difference between calculated V/C ratio and V/C ratio standard. Under the 2019 Concurrency Platform with the funded capacity projects completed and approved development in place, the analysis indicates that all MMAs meet their respective V/C ratio standard, although the East Bellevue and South Bellevue MMAs are close to exceedance levels.

### Intersection Congestion Analysis by MMA

The V/C ratio analysis for individual system intersections by MMA for the two scenarios are shown in Table 8. Based on the analysis result, each intersection is then subjected to the test of “does it meet the standard?” The answers are “yes”, “barely”, or “no”, defined as follows:

*Yes: Intersection with a V/C ratio of at least 0.05 from exceeding the standard*

*Barely: Intersection with a V/C ratio lower than but within 0.05 of the standard*

*No: Intersection with a V/C ratio that exceeds the standard*

**Table 8 Intersection Congestion Analysis by MMA**

**MMA 1: North Bellevue, V/C Standard: 0.85, Congestion Allowance: 3**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
69	Bellevue Way NE	NE 24th Street	0.67	Yes	0.67	Yes
74	Bellevue Way NE	Northup Way NE	0.60	Yes	0.60	Yes
78	108th Ave NE	Northup Way NE	0.66	Yes	0.65	Yes
93	Lk Washington B	NE 1st/NE 10 St.	0.54	Yes	0.57	Yes
<b>Areawide</b>			<b>0.62</b>	<b>Yes</b>	<b>0.62</b>	<b>Yes</b>

**MMA 2: Bridle Trails, V/C Standard: 0.80, Congestion Allowance: 4**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
64	140th Ave NE	NE 24th Street	0.79	Barely	0.83	No
79	148th Ave NE	NE 40th Street	0.65	Yes	0.67	Yes
114	116th Ave NE	Northup Way NE	0.73	Yes	0.74	Yes
116	115th Place NE	Northup Way	0.81	No	0.80	Barely
118	Northup Way	NE 24th Street	0.44	Yes	0.47	Yes
123	140th Ave NE	NE 40th Street	-	-	-	-
188	148th Ave NE	NE 29th Place	0.86	No	0.88	No
189	NE 29th Place	NE 24th Street	0.36	Yes	0.36	Yes
<b>Areawide</b>			<b>0.66</b>	<b>Yes</b>	<b>0.68</b>	<b>Yes</b>

**MMA 3: Downtown, V/C Standard: 0.95, Congestion Allowance : 9**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
3	100th Ave NE	NE 8th Street	0.64	Yes	0.62	Yes
5	Bellevue Way NE	NE 12th Street	0.70	Yes	0.72	Yes
7	Bellevue Way NE	NE 8th Street	0.78	Yes	0.76	Yes
8	Bellevue Way NE	NE 4th Street	0.69	Yes	0.73	Yes
9	Bellevue Way	Main Street	0.94	Barely	0.97	No
20	108th Ave NE	NE 12th Street	0.51	Yes	0.53	Yes
21	108th Ave NE	NE 8th Street	0.66	Yes	0.64	Yes
22	108th Ave NE	NE 4th Street	0.79	Yes	0.84	Yes
24	108th Ave	Main Street	0.36	Yes	0.36	Yes
25	112th Ave NE	NE 12th Street	0.74	Yes	0.79	Yes
26	112th Ave NE	NE 8th Street	1.00	No	1.05	No
36	112th Ave	Main Street	0.98	No	1.02	No
72	112th Ave NE	NE 4th Street	0.67	Yes	0.66	Yes
<b>Areawide</b>			<b>0.72</b>	<b>Yes</b>	<b>0.74</b>	<b>Yes</b>

Note: Dash indicates an unsignalized intersection, which is not included in the calculations.

**Table 8 Intersection Analysis by MMA, Cont'd**

**MMA 4: Wilburton, V/C Standard: 0.90, Congestion Allowance: 3**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
30	116th Ave NE	NE 8th Street	0.73	Yes	0.75	Yes
73	116th Ave	Main Street	0.65	Yes	0.70	Yes
131	116th Ave SE	SE 1st Street	0.85	Barely	0.87	Barely
139	116th Ave NE	NE 4th Street	0.92	No	0.98	No
233	120th Ave NE	NE 8th Street	0.62	Yes	0.62	Yes
<b>Areawide</b>			<b>0.75</b>	<b>Yes</b>	<b>0.78</b>	<b>Yes</b>

**MMA 5: Crossroads, V/C Standard: 0.90, Congestion Allowance: 2**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
58	Bel-Red Rd	NE 20th Street	0.54	Yes	0.53	Yes
62	156th Ave NE	Northup Way	0.85	Barely	0.86	Barely
63	156th Ave NE	NE 8th Street	0.75	Yes	0.76	Yes
<b>Areawide</b>			<b>0.71</b>	<b>Yes</b>	<b>0.71</b>	<b>Yes</b>

**MMA 6: North-East Bellevue, V/C Standard: 0.80, Congestion Allowance: 2**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
75	164th Ave NE	NE 24th Street	0.69	Yes	0.69	Yes
76	164th Ave NE	Northup Way	0.74	Yes	0.73	Yes
87	164th Ave NE	NE 8th Street	0.68	Yes	0.70	Yes
111	Northup Way	NE 8th Street	-	-	-	-
<b>Areawide</b>			<b>0.70</b>	<b>Yes</b>	<b>0.71</b>	<b>Yes</b>

**MMA 7: South Bellevue, V/C Standard: 0.85, Congestion Allowance: 4**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
14	112th Ave SE	Bellevue Way SE	0.77	Yes	0.73	Yes
89	112th Ave SE	SE 8th Street	0.64	Yes	0.65	Yes
102	118th Ave SE	SE 8th Street	1.02	No	1.19	No
219	I-405 NB Ramps	SE 8th Street	0.71	Yes	0.79	Yes
226	I-405 SB Ramps	SE 8th Street	0.66	Yes	0.77	Yes
<b>Areawide</b>			<b>0.76</b>	<b>Yes</b>	<b>0.82</b>	<b>Yes</b>

*Note: Dash indicates an unsignalized intersection, which is not included in the calculations.*

**Table 8 Intersection Analysis by MMA, Cont'd**

**MMA 8: Richards Valley, V/C Standard: 0.85, Congestion Allowance: 5**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
35	124th Ave NE	NE 8th Street	0.53	Yes	0.58	Yes
43	140th Ave SE	SE 8th Street	0.82	Barely	0.83	Barely
44	145th Place SE	Lake Hills Blvd	0.60	Yes	0.62	Yes
45	145th Place SE	SE 16th Street	0.67	Yes	0.71	Yes
71	Lk Hills Connector	SE 8th St	1.03	No	1.09	No
82	Richards Rd	Kamber Rd	0.81	Barely	0.85	Barely
85	Richards Rd	SE 32nd Street	0.61	Yes	0.64	Yes
134	Richards Rd	Lk Hills Connector	0.66	Yes	0.66	Yes
280	139th Ave SE	Kamber Road	0.60	Yes	0.61	Yes
<b>Areawide</b>			<b>0.70</b>	<b>Yes</b>	<b>0.73</b>	<b>Yes</b>

**MMA 9: East Bellevue, V/C Standard: 0.85, Congestion Allowance: 5**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
41	140th Ave NE	NE 8th Street	0.79	Yes	0.80	Barely
42	140th Ave	Main Street	0.60	Yes	0.62	Yes
49	148th Ave NE	NE 8th Street	0.99	No	1.01	No
50	148th Ave	Main Street	0.95	No	0.95	No
51	148th Ave SE	Lake Hills Blvd	0.97	No	0.86	No
52	148th Ave SE	SE 16th Street	0.88	No	0.89	No
55	148th Ave SE	SE 24th Street	0.87	No	0.85	Barely
65	148th Ave SE	SE 8th Street	0.79	Yes	0.79	Yes
83	156th Ave	Main Street	0.69	Yes	0.70	Yes
<b>Areawide</b>			<b>0.83</b>	<b>Yes</b>	<b>0.83</b>	<b>Yes</b>

**MMA 10: Eastgate, V/C Standard: 0.90, Congestion Allowance: 4**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
56	148th Ave SE	SE 27th Street	0.64	Yes	0.61	Yes
86	156th Ave SE	SE Eastgate Way	0.58	Yes	0.43	Yes
92	161st Ave SE	SE Eastgate Way	0.46	Yes	0.52	Yes
101	150th Ave SE	SE Eastgate Way	1.01	No	0.90	Barely
171	142nd Ave SE	SE 36th Street	0.80	Yes	0.80	Yes
227	150th Ave SE	I-90 EB Off-Ramp	0.84	Yes	0.85	Barely
272	139th Ave SE	SE Eastgate Way	0.45	Yes	0.45	Yes
<b>Areawide</b>			<b>0.68</b>	<b>Yes</b>	<b>0.65</b>	<b>Yes</b>

**Table 8 Intersection Analysis by MMA, Cont'd**

**MMA 11: Southeast Bellevue, V/C Standard: 0.80, Congestion Allowance: 3**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
99	Somerset Blvd	SE Newport Way	0.63	Yes	0.69	Yes
133	150th Ave SE	SE Newport Way	0.89	No	0.83	No
174	150th Ave SE	SE 38th Street	0.86	No	0.94	No
218	Lakemont Blvd	SE 63rd St	0.66	Yes	0.65	Yes
228	Lakemont Blvd	SE Newport Way	0.89	No	0.77	Barely
242	164th Ave SE	Lakemont Blvd	0.62	Yes	0.55	Yes
257	164th Ave SE	SE Newport Way	-	-	-	-
274	Village Park Dr	Lakemont Blvd	0.52	Yes	0.46	Yes
<b>Areawide</b>			<b>0.72</b>	<b>Yes</b>	<b>0.70</b>	<b>Yes</b>

**MMA 12: Bel-Red/Northup, V/C Standard: 0.95, Congestion Allowance: 7**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
29	116th Ave NE	NE 12th Street	0.80	Yes	0.88	Yes
32	120th Ave NE	NE 12th Street	0.57	Yes	0.79	Yes
34	124th Ave NE	Bel-Red Rd	0.82	Yes	0.75	Yes
37	130th Ave NE	Bel-Red Rd	0.57	Yes	0.59	Yes
39	140th Ave NE	NE 20th Street	0.67	Yes	0.71	Yes
40	140th Ave NE	Bel-Red Rd	0.69	Yes	0.65	Yes
47	148th Ave NE	NE 20th Street	0.95	Barely	0.98	No
48	148th Ave NE	Bel-Red Rd	0.98	No	0.98	No
59	Bel-Red Rd	NE 24th Street	0.62	Yes	0.53	Yes
60	156th Ave NE	Bel-Red Rd	0.79	Yes	0.71	Yes
61	156th Ave NE	NE 24th Street	0.83	Yes	0.85	Yes
68	130th Ave NE	NE 20th Street	0.60	Yes	0.73	Yes
81	148th Ave NE	NE 24th Street	0.93	Barely	0.93	Barely
88	124th Ave NE	Northup Way NE	0.67	Yes	0.82	Yes
117	120th Ave NE	NE 20th Street	0.31	Yes	0.44	Yes
<b>Areawide</b>			<b>0.72</b>	<b>Yes</b>	<b>0.75</b>	<b>Yes</b>

**MMA 13: Factoria, V/C Standard: 0.95, Congestion Allowance: 5**

Intersection			2018 Existing		2019 CP	
ID#	Cross Streets		V/C	Standard Met?	V/C	Standard Met?
98	Coal Creek Pkwy	Forest Drive	0.86	Yes	0.90	Barely
105	Richards Rd	SE Eastgate Way	0.77	Yes	0.80	Yes
202	Factoria Blvd.	SE Newport Way	0.72	Yes	0.77	Yes
203	Factoria Blvd.	Coal Creek Pkwy	0.78	Yes	0.81	Yes
204	Factoria Blvd.	SE 36th Street	0.92	Barely	0.97	No
220	I-405 NB Ramps	Coal Creek Pkwy	0.86	Yes	0.88	Yes
221	I-405 SB Ramps	Coal Creek Pkwy	0.78	Yes	0.79	Yes
222	Factoria Blvd.	SE 38th Place	0.89	Yes	0.84	Yes
284	124th Ave SE	Coal Creek Pkwy	0.80	Yes	0.83	Yes
<b>Areawide</b>			<b>0.82</b>	<b>Yes</b>	<b>0.84</b>	<b>Yes</b>

Note: Dash indicates an unsignalized intersection, which is not included in the calculations.

Under 2018 existing conditions, the total number of intersections that do not meet the MMA V/C standard is 17, compared to the total of 56 allowed for all MMAs. Under the 2019 CP, with the CIP and other funded projects completed and approved development in place, all MMAs meet their respective congestion allowance standards. The number of intersections that do not meet the standard is expected to be the same at 17, but the number of intersections approaching the V/C standards increased from 9 to 12. Results for each MMA are as follows:

- North Bellevue (MMA 1): Under both the 2018 existing condition and 2019 CP, all four system intersections met the standard.
- Bridle Trails (MMA 2): In 2018, two intersections did not meet the V/C standard. Under the 2019 CP, the number of intersections exceeding the standard is expected to remain the same, with the V/C ratio at 140th Ave NE/NE 24th Street Intersection increasing from 0.79 (barely met standard) under the 2018 existing condition to 0.83 and the V/C ratio at 115th Place NE/Northrup Way intersection changing from 0.81 (exceed the standard) under the 2018 existing condition to 0.80 (barely met standard) in 2019 CP.
- Downtown Bellevue (MMA 3): Under the 2018 existing condition, two of the 13 system intersections did not meet the V/C standard. This number is expected to increase to three under the 2019 CP, within the nine allowed.
- Wilburton (MMA 4): In 2018, one intersection did not meet the V/C standard. Under the 2019 CP, the number of intersections exceeding the standard is expected to remain at one, within the three allowed.
- Crossroads (MMA 5) and North-East Bellevue (MMA 6): All system intersections met the standard under the existing condition; little change is expected under the 2019 CP.
- South Bellevue (MMA 7): In 2018, one intersection did not meet the V/C standard. This number is not expected to change under the 2019 CP.
- Richards Valley (MMA 8): Under the existing condition, one of the nine system intersections did not meet the standard, within the five allowed. No major change is expected under 2019 CP.
- East Bellevue (MMA 9): This MMA has the smallest cushion between the calculated V/C and the standard. Under existing conditions, the MMA's average V/C ratio is 0.83 compared to the standard of 0.85; the number of intersections exceeding the standard is five, the maximum allowed. Under the 2019 CP, the number of intersections exceeding the standard is expected to decrease to four, with two approaching the standard.

With the addition of a second westbound left turn lane, the V/C ratio at the 148th Ave SE/Lake Hills Blvd is expected to improve from 0.97 to 0.86. This one project helps to

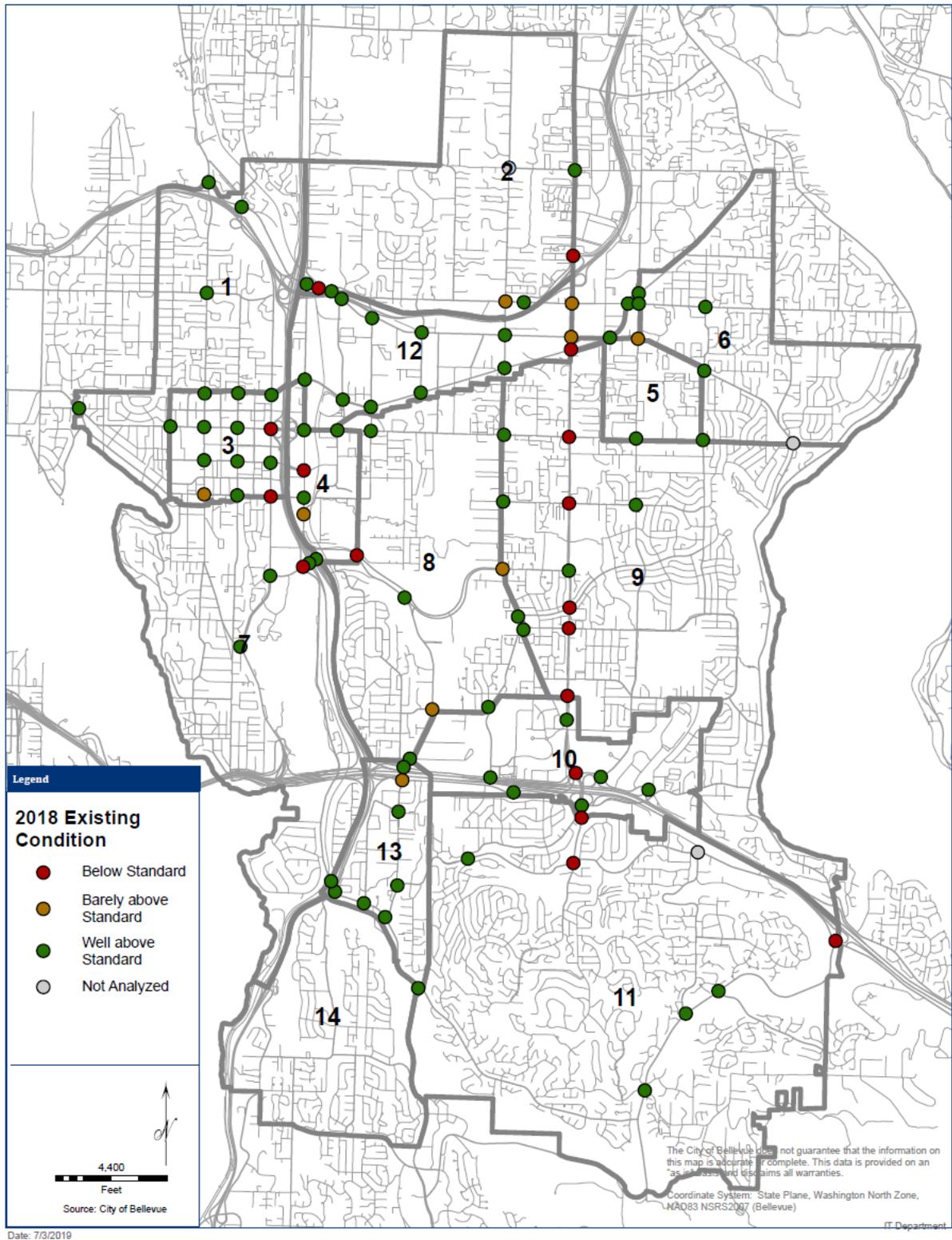
offset increases at several other intersections and keeps the overall area V/C ratio unchanged from the existing condition.

Since the majority of the MMA's System intersections are on 148th Ave and because 148th Ave is a major arterial that serves Bellevue and connects to Redmond's rapidly redeveloping areas of Overlake Village and the Microsoft campus, close coordination with Redmond to identify and implement transportation strategies in the area is essential to ensure continued mobility.

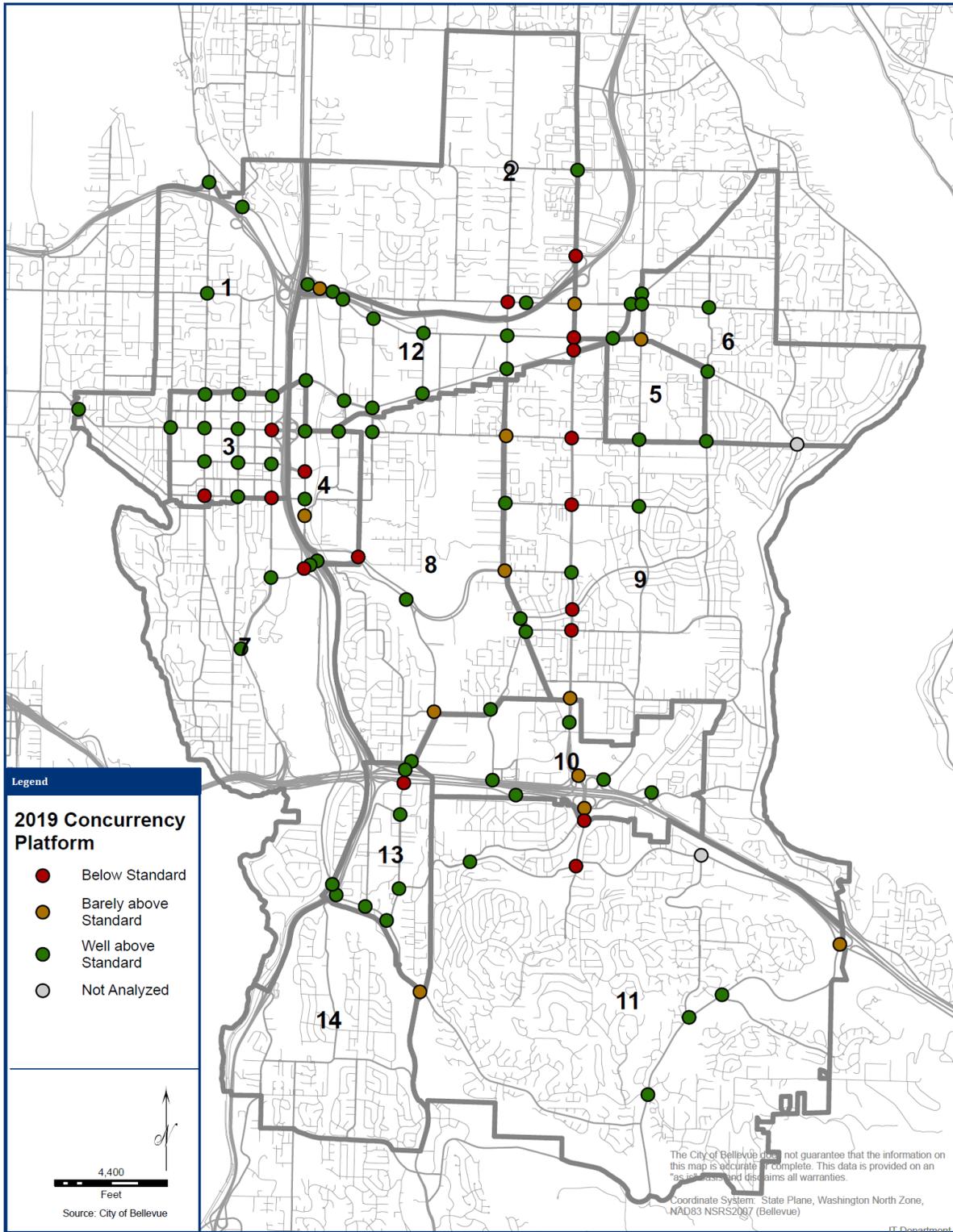
- Eastgate (MMA 10): The number of intersections exceeding the V/C standard is one under existing conditions. Under the 2019 CP, the completion of the I-90 Auxiliary Lane Project between Eastgate and Issaquah is expected to improve traffic operations in this MMA, particularly along Eastgate Way at 150th Avenue SE and at 156th Avenue SE. The V/C ratio at 150th Avenue SE/SE Eastgate Way is expected to improve from 1.01 to 0.90. As such, all intersections are expected to meet the standard under the 2019 CP.
- Southeast Bellevue (MMA 11): Under the 2018 existing condition, the analysis revealed that three system intersections exceeded the V/C standard, the maximum allowed. Under the 2019 CP, this number is reduced to two, helped by the expected completion of the I-90 Auxiliary Lane Project.
- Bel-Red/Northup (MMA 12): Under the 2018 existing condition, one of the system intersections exceeded the standard. Under the 2019 CP the number of intersections exceeding the standard is expected to increase to two, within the seven allowed. The V/C ratio at 148th Avenue NE/NE 20th Street Intersection would increase from 0.95 (barely meet standard) under the 2018 Existing Condition to 0.98 (would not meet standard) under the 2019 CP. In this MMA, recent and planned arterial improvements will need to be considered as amendments to the Traffic Standards Code and incorporated into future concurrency analyses.
- Factoria (MMA 13): Under the 2018 existing condition, all intersections met the standard. Under the 2019 CP, one intersection is expected to exceed the standard, within the congestion allowance of five. The East Bellevue Transportation Study (July 2019) identified an intersection improvement at Factoria Boulevard and SE 38<sup>th</sup> Street to improve westbound traffic operations. This project will be implemented in early 2020.
- Newport Hills (MMA 14): this MMA has no designated system intersections.

Figures 3 and 4 depict the system intersection analysis results for the 2018 existing condition and the 2019 Concurrency Platform. Intersections operating below the concurrency standard (with V/C ratios exceeding the respective MMA V/C standard) are shown in red. Intersections that barely meet the concurrency standard (with calculated V/C ratios lower than but within 0.05 of the V/C standard) are shown in orange. The remaining system intersections are shown in green, indicating they are within their respective MMA's concurrency standard.

Figure 3 2018 Existing Condition (PM Peak) System Intersection Assessment



**Figure 4 2019 Concurrency Platform (PM Peak) System Intersection Assessment**



Date: 8/20/2019

## Conclusion

CIP funded transportation projects that increase vehicle capacity will accommodate the increased demand associated with new development permitted through December 31, 2018. All MMAs meet their congestion allowance and all MMAs are within the average V/C ratios allowed by the concurrency standards.

Of all the MMAs, East Bellevue has the smallest cushion, both in terms of calculated V/C ratio and congestion allowance, to accommodate traffic growth. In conjunction with the City Council's recent approval of the 2019-2030 Transportation Facilities Plan, staff were directed to conduct a multimodal transportation study in the northeast area of Bellevue, which includes the East Bellevue MMA. The study will serve as a mechanism to identify policies and projects to address vehicle level-of-service issues and enhance other mobility options.

Since the majority of East Bellevue MMA's System intersections are on 148<sup>th</sup> Ave and since 148<sup>th</sup> Ave is a major arterial that serves Bellevue and connects to Redmond's rapidly redeveloping areas of Overlake Village and the Microsoft campus, close coordination with Redmond to identify and implement transportation system strategies in this area of Bellevue is essential to ensuring continued mobility.

As the BelRed area continues to grow and new roadway projects are completed and open for service, there will be a need to update the Traffic Standards Code to identify additional system intersections to make sure the area is appropriately and accurately represented in future concurrency analyses.

It should be noted that these concurrency findings reflect the impact of approved developments through the end of 2018. Looking ahead, there are several large developments in downtown, BelRed, Wilburton, and East Main Station areas currently undergoing development review, but not yet approved. The cumulative impact of these developments is expected to have significant effects citywide. Vehicle capacity improvements may be warranted along certain corridors, together with a range of mobility strategies that reduce vehicle travel demand and improve facilities and level of service for other modes. In addition, a comprehensive transportation master plan is needed to identify an effective and sustainable multimodal approach to mobility that will accommodate growth in a manner that is safe, equitable, and consistent with goals and policies of the Comprehensive Plan.

Following the release of this Concurrency Update Report, the 2019 Concurrency Platform (2019 CP, model version MP6-R16) will be used as the background condition for project-level development review modeling until a new concurrency update is completed.

The new BKR model, BKRCast, will be used for the next concurrency update. BKRCast is an activity-based travel demand forecast model. It incorporates the latest advancements and best practices in travel demand forecasting. It is designed to more accurately reflect the travel demand in mixed-use urban environments where destinations are close and transportation

choices are abundant. Compared to the existing BKR model, BKRCast has many more traffic analysis zones, job categories and travel modes. More details in BKRCast will enable it to perform more robust travel demand forecasts and to better evaluate travel demand and transportation system performance.

## Appendix A: Glossary of Terms

**Approved development** is a new proposed development that has either received building permit or design approval from the city.

**Capital Investment Program (CIP)** plan is the list of fully funded six-year vehicle capacity improvement projects as adopted every two years by the Bellevue City Council.

**Concurrency** is a requirement of the Washington State Growth Management Act (RCW 36.70A.070 (6), now or as hereafter amended) that the city must adopt level of service standard and enforce an ordinance precluding approval of a proposed development if that development would cause the level of service of a transportation facility to fall below the city's adopted standard, unless a financial commitment is in place to complete mitigating transportation improvements or strategies within six years.

**Concurrency standard** is a standard adopted in the city of Bellevue Traffic Standards Code (BCC Chapter 14.10) to meet GMA requirements. It establishes the City's transportation concurrency requirements, methodologies, and compliance determination process. It consists of two indicators: Congestion Allowance and maximum average system intersection V/C ratio by individual Mobility Management Area.

**Congestion allowance** means the number of signalized system intersections in a Mobility Management Area that are allowed to exceed the V/C standard adopted for that area as defined in the City's Traffic Standards Code.

**Highway Capacity Manual** is a traffic operation analysis procedural manual published by the Transportation Research Board. It is used by engineers and planners to assess the traffic and environmental effects of highway and arterial projects.

**Mobility Management Area (MMA)** is a geographic area, as defined in the City's Traffic Standards Code, for concurrency analysis and reporting purposes. There are 14 MMAs in the city. The MMA boundaries have evolved slightly over time to include newly annexed lands and to better align with existing land use characteristics, corridor travel patterns, and anticipated future development patterns.

**Model Platform MP6-R16** is the given model platform name and version where 6 represents a 6-year forecasting period and R16 indicates release number 16. It is the City's adopted model platform for concurrency review until the next version is available.

**Remaining capacity** refers to the capacity available in an MMA for additional vehicles before the V/C standard is exceeded. It is calculated by subtracting the modeled V/C ratio from the MMA concurrency standard.

**System intersections** are intersections that contribute to the system function within each mobility management area. System intersections within the mobility management areas are listed and mapped in BCC 14.10.060.

**Travel demand model** refers to a computerized program designed to develop travel demand forecasts, using transportation networks and land use information as inputs. The City of Bellevue uses EMME software developed by INRO Inc. from Montreal, Canada.

**Traffic Standards Code** is Chapter 14 of the Bellevue City Code. It sets forth specific standards providing for city compliance with the concurrency requirements of the state Growth Management Act (GMA) and for consistency between city and countywide planning policies under the GMA. The GMA requires that transportation improvements or strategies to accommodate the traffic impacts of development be provided concurrently with development to handle the increased traffic projected to result from growth and development in the city and region.

**V/C ratio** is an indication of congestion at intersections and the ability of the intersection to accommodate transportation demand. Intersection V/C ratio is the sum of the approaching “critical” lane volumes divided by the available corresponding capacity for those lanes. Critical lane volume is the number of vehicles/hour that use the same travel space to get to their destination during the two-hour PM peak analysis period.

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