

**City of
Bellevue**



Transportation Commission Study Session

DATE: June 17, 2021

TO: Chair Marciante and Members of the Transportation Commission

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SUBJECT: Mobility Implementation Plan

DIRECTION REQUESTED

Action

☒ **Discussion/Direction**

Information

Staff will continue to review MMLOS Performance Metrics for the Mobility Implementation Plan, and will discuss Performance Targets and Performance Management Areas, focusing on the vehicle mode.

INFORMATION

The Multimodal Level-of-Service Standard

In the policy recommendation to the Transportation Element, the Transportation Commission approved the term “multimodal-level-of-service concurrency standard” to define the new standard for concurrency:

New Policy A. Employ a citywide multimodal level-of-service concurrency standard that provides transportation facilities that meet the demand from new development.

This approach is consistent with the Growth Management Act requirements for jurisdictions to adopt a performance (level-of-service) standard and to adopt ordinances to enforce the standard. While the GMA is clear that a jurisdiction must define a concurrency standard and to deny a development application if the standard is not met, the law allows broad flexibility to a community to define concurrency. Each jurisdiction may develop a methodology that is best suited to its unique context. In fact, the GMA emphasizes the following goal, which is based in part on Bellevue’s efforts in 2009 to reshape Washington’s transportation concurrency practices:

“Transportation concurrency should encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.”

The state legislature recognizes that a prescriptive one-size-fits-all definition of level-of-service and concurrency will not meet the diverse needs of communities across the state. Given the local autonomy to address concurrency under the GMA framework, several jurisdictions have taken an explicitly multimodal approach to define a level-of-service/concurrency standard that meets the GMA requirements and reflects local priorities. In Redmond, for example, the city developed a “plan-based” concurrency level-of-service standard in 2009. Under this approach, Redmond commits to build out its multimodal transportation plan (which includes roadway, transit, pedestrian, and bicycle improvements) at a pace that is ahead of the planned growth in the community. Also, between 2012 and 2020, Kirkland, Kenmore, and Olympia adopted similar plan-based concurrency level-of-service standards. For additional information on the legal context and other background information, refer to Attachment 1: Bellevue Mobility Implementation Plan: Background, Context, Existing Conditions, and Best Practices. This report is intended to be a “chapter” in the Mobility Implementation Plan.

Performance Metrics, Performance Targets and Performance Management Areas

Previously, the Transportation Commission reviewed the Performance Metrics and Performance Targets for pedestrian facilities, bicycle facilities and transit travel speed and bus stop components. As described in the May 27, 2021 Transportation Commission meeting, the Mobility Implementation Plan is based on a concept called the “layered network” that considers the context and the transportation system “layers” that create the multimodal transportation system that offers mobility options for all.

At the May 27 meeting, staff discussed the Performance Metrics and Performance Targets for the pedestrian, bicycle, and transit layers; the final transportation mode of the layered network is the vehicle mode. On June 24, staff will review the Performance Metrics for the vehicle mode and will discuss initial concepts regarding Performance Targets and Performance Management Areas. *Note that staff thinking about vehicle Performance Targets and Performance Management Areas has evolved from the May 27, 2021 Transportation Commission agenda memo.*

Vehicle Performance Metrics

Consistent with the Transportation Commission’s MMLOS Metrics, Standards, and Guidelines Report, staff recommends two vehicle Performance Metrics for the Mobility Implementation Plan:

1. Intersections: PM peak period volume to capacity ratio (v/c) at system intersections.
2. Corridors: PM peak period corridor travel speed.

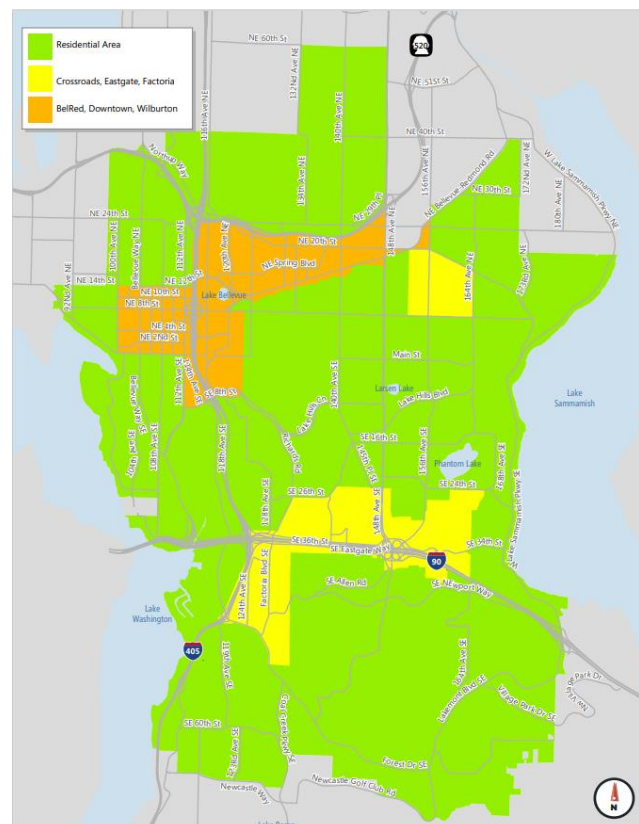
The v/c metric at system intersections is useful to identify intersection congestion “hot spots”, and it is easy to calculate, forecast, and monitor. The v/c metric is complemented by the corridor travel speed metric defined in the in the MMLOS Metrics, Standards, and Guidelines Report.

The corridor travel speed metric better captures how most people traveling in a vehicle experience congestion than the intersection metric alone. For example, a driver traveling along NE 8th Street will get more of the green signal time than a driver approaching from a perpendicular arterial – in this example, intersection v/c might be high, but travel speed on NE 8th Street is steady because of the coordinated and adaptive traffic signals. These two vehicle Performance Metrics together provide a more complete picture of intersection congestion and travel flow.

Vehicle Performance Management Areas

With only minor amendments over the decades, the Mobility Management Area (MMA) has been the geographic basis for transportation concurrency in Bellevue. The Traffic Standards Code (BCC 14.60.030) defines a range of v/c standards for each MMA that are grouped into several categories. The volume/capacity ratio standard is tailored for each Mobility Management Area to reflect distinct conditions and multiple community objectives. The existing concurrency standard also includes the concept of a “Congestion Allowance” that identifies the number of system intersections that can exceed the v/c standard for the MMA.

Following the Commission’s 2017 guidance to simplify the MMA structure and to focus on where growth is occurring and planned, staff suggests consolidating these 14 MMAs into seven Performance Management Areas that retain the concept of organization by land use type and mobility options.



The rationale for changing from 14 Mobility Management Areas to seven Performance Management Areas is to simplify the overall system – eliminating discrete geographic areas where separate vehicle performance analysis may not add value to the process of identifying and prioritizing transportation projects. The seven Performance Management Areas shown at right reflect the land use, transportation, and community expectations for peak period traffic conditions, similar to the Mobility Management Areas.

Vehicle Performance Targets

The existing v/c concurrency standard is based on the MMA where the intersection is located, and it is the average of the v/c of all system intersections in the MMA. Note that each intersection is not required to meet the v/c standard. A “Congestion Allowance” establishes the number of intersections in each

Existing MMA Category	Existing V/C Standard
Downtown	0.95
Activity Area	0.95
Mixed Commercial/ Residential Areas	0.90
Residential Group 1	0.85
Residential Group 2	0.80

MMA that may exceed the standard so long as the overall average is met. In this system, each intersection does not have to meet the v/c standard for the MMA

As a new Performance Target in the MMLOS report, the Commission developed the “Typical Urban Travel Speed” metric. Together with the intersection v/c metric, travel speed provides an additional indicator of congestion that will help the City identify where to focus attention on improving traffic operations, adding capacity, improving performance of other modes, or more aggressively managing vehicle trip generation from new development.

Land Use Category	Typical Urban Travel Speed Based on 40% of Posted Speed Limit within Performance Management Area Groups
Downtown/ Activity Center	Between 0.75 and 0.5 times the Typical Urban Travel Speed
Mixed Commercial/ Residential	Between 0.9 and 0.75 times the Typical Urban Travel Speed
Residential Group	Between 1.1 and 0.9 times the Typical Urban Travel Speed

Mobility Implementation Plan - Performance Targets applied to Intersections and Corridors

While the existing MMA level-of-service standards reflect the land use character, development density, and mode options at the neighborhood level, they do not consider the destinations and functions of the roadway corridors that traverse the MMA. The Transportation Commission recognized this situation in their 2017 MMLOS work, and recommended a “corridor-based” approach to evaluate and manage traffic congestion in the City. Therefore, staff recommends the Commission consider arterial function in the Mobility Implementation Plan, as discussed below.

An example of an arterial corridor that provides a citywide function is Bellevue Way. Bellevue Way traverses the heart of downtown and then passes through residential neighborhoods

north and south of Downtown between SR 520 and I-90. The operation of Bellevue Way through system intersections at Northup Way/SR 520, NE 24th Street, and 112th Avenue SE is defined by the “Residential Group” v/c standards. The current approach does not recognize that Bellevue Way serves as a primary connector between the Downtown activity center and the regional highway network. In other words, Bellevue Way serves a citywide role while it traverses low-density residential neighborhoods. To maintain the current “Residential” v/c ratios may require substantial widening of Bellevue Way, an expensive prospect that could adversely impact the livability and neighborhood character of Bellevue Way north and south of Downtown. Similar arterial corridors that serve activity centers, and also traverse residential areas include NE 8th Street, 148th Avenue and Coal Creek Parkway.

As the Transportation Commission sets vehicle Performance Targets for the Mobility Implementation Plan to complete Table 1, staff recommends evaluating the overall function of arterial corridors in terms of the primary land uses the corridors serve and to weigh that function against the expectations of the corridors as they traverse residential areas.

Table 1. MIP Performance Metrics, Performance Targets and Performance Management Areas

	TC Recommendation for MMLOS			Mobility Implementation Plan		
Mode	MMLOS Metric	MMLOS Target	MMLOS Geography	MIP Metric	MIP Target	MIP Geography
Pedestrian	Width of Sidewalk + Landscape	Varies by Land Use	Arterials Citywide	Per MMLOS	Per MMLOS	Per MMLOS
	Frequency and Treatment of Arterial Crossings	Varies by Land Use	Arterials Citywide	Per MMLOS	Per MMLOS	Per MMLOS
Bicycle	Level of Traffic Stress Corridors and Intersections	LTS 1 on Priority Bicycle Corridors LTS 2 or 3 on Bicycle Network Corridors	Citywide Corridors and Intersections	Per MMLOS	Per MMLOS	Per MMLOS
Transit	Transit Speed on Frequent Transit Network between Activity Centers	14 mph between Activity Centers	FTN between Activity Centers	Per MMLOS	Per MMLOS	Per MMLOS
	Bus Stop Components	Varies by Bus Stop Type	Citywide	Per MMLOS	Per MMLOS	Per MMLOS
Vehicle	Volume/Capacity at System Intersections	Varies by MMA	Mobility Management Area	V/C	Varies by Performance Management Area TBD	Performance Management Areas TBD
	Corridor Travel Speed	40% Speed Limit with MMA Group Overlay	Primary Vehicle Corridor	Corridor Travel Speed	Varies by Corridor TBD	Vehicle Corridors TBD

NEXT STEPS

In July, staff will seek recommendations from the Transportation Commission on the Performance Targets and Performance Management Areas for the vehicle mode – in the yellow highlighted sections of Table 1. To aid in this discussion, staff plans to present an existing conditions analysis of all the modes using the Performance Metrics that are recommended for the MIP.

During summer and fall 2021 study sessions, the Transportation Commission will assemble the components of the Mobility Implementation Plan, culminating with a deliverable to the City Council.

Because the Transportation Facilities Plan (TFP) will be the document that describes how transportation projects will support the forecast land use, staff will “test” the project list relative to the Performance Targets and the forecast land use for the 2033 update of the TFP. Staff will report the findings of this analysis, which will help to inform the final recommendation on Performance Targets.

Please feel free to contact me prior to the June 24 meeting if you have questions about the Mobility Implementation Plan scope of work or the Performance Metrics, Performance Targets and Performance Management areas.

ATTACHMENT

1. Bellevue Mobility Implementation Plan: Background, Context, Existing Conditions, and Best Practices