City of Bellevue

Transportation Commission Study Session

DATE: May 20, 2021

TO: Chair Marciante and Members of the Transportation Commission

FROM: Kevin McDonald, Principal Transportation Planner, 425-452-4558 kmcdonald@bellevuewa.gov

SUBJECT: Mobility Implementation Plan

DIRECTION REQUESTED

	Action
X	**Discussion/Direction**
	Information

Discussion: This memo, and the discussion on May 27 is the introduction to the Mobility Implementation Plan – with multimodal concurrency policies now headed to the Planning Commission for review in the context of 2021 Comprehensive Plan amendments.

Staff will review MMLOS Performance Metrics and introduce preliminary recommendations for Performance Targets and Performance Management Areas.

INFORMATION

On January 4, 2021, the City Council approved a scope of work, budget, and direction to the Transportation Commission to prepare a Mobility Implementation Plan (MIP). During briefings with the Transportation Commission in December 2020 and January 2021, staff described the scope and timeline for completion of the Mobility Implementation Plan, with the first order of business to develop a multimodal concurrency recommendation that includes amendments to Comprehensive Plan policy and the Traffic Standards Code. Work on multimodal concurrency during Transportation Commission study sessions has identified key elements to be addressed in the Mobility Implementation Plan, in particular, Performance Metrics, Performance Targets, and Performance Management Areas.

Mobility Implementation Plan Outline

The Mobility Implementation Plan will articulate the continuing journey toward a complete and connected multimodal transportation system in Bellevue. The MIP will include implementation

strategies and will define the Performance Metrics, Performance Targets and Performance Management Areas that are applicable to each mode.

The following outline details the content of the MIP that the Transportation Commission will prepare during the coming months.

1. Introduction – A Multimodal Evolution in Bellevue
    - Comprehensive Plan transportation policy evolution
    - Shift toward Multimodalism
        - Complete Streets policy and ordinance
        - Modal Plans: Transit Master Plan, Pedestrian and Bicycle Transportation Plan
        - MMLOS Metrics, Standards, and Guidelines
        - Multimodal Concurrency
    - Why the Mobility Implementation Plan?
        - Bring together the documents and plans above into a unified strategy to build out the multimodal transportation system
        - Identify the tools available to identify and prioritize projects
2. Bellevue's Layered Network
    - "Layers" based on the Modal Plans (transportation) and Subarea Plans (land use)
    - Performance Targets based on MMLOS Metrics, Standards, and Guidelines
    - Define Performance Targets, Performance Management Areas and corridors
3. Evaluate Existing Conditions Performance
    - MMLOS Metrics, Standards and Guidelines
    - Equity analysis
4. Transportation Facilities Plan (TFP) Performance Evaluation
    - Evaluate the TFP using the Performance Targets across the Performance Management Areas
5. Transportation Project Prioritization
    - Prioritization framework for transportation investments for future updates to the TFP and for other City transportation investment programs (Neighborhood Sidewalks Program, Neighborhood Safety, Connectivity and Congestion Levy projects, etc.)
6. Transportation Concurrency
    - Describe Mobility Implementation Credit supply/demand system
    - Describe how concurrency is applied and rebalanced in the TFP
7. SEPA and Project Evaluation
    - Mobility Implementation Plan framework to evaluate transportation projects

Bellevue's Layered Network - Performance Metrics, Performance Targets and Performance Management Areas

The Mobility Implementation Plan is based on a concept called the "layered network". A layered network considers land use context and transportation system "layers" to describe the multimodal transportation system that offers mobility options for all people and that is

compatible with the land use that the transportation system supports. The layered network is an evolution of the Complete Streets philosophy. It acknowledges that the land use context helps to inform transportation performance expectations. For example, people can walk along all arterials in Bellevue, and that the facilities and the experience will vary depending on the land use context. The layered network acknowledges that there are constraints to providing an exceptional experience for all modes on all streets and in all places in the city. For example, along a major arterial like NE 8th Street, continuous pedestrian facilities are provided, but the volume and speed of vehicle traffic may create an environment in which a quiet pedestrian experience is not feasible.

The layered network framework is inherent in the MMLOS Metrics, Standards and Guidelines report, and it helps define Performance Metrics and Performance Targets for each mode, as well as the new geographic areas that will be called Performance Management Areas in the Mobility Implementation Plan.

The Transportation Commission built the foundation for monitoring the performance of the transportation system in its MMLOS Metrics, Standards and Guidelines report. The Commission has expressed the intent to refine and refresh several components of performance including modifications to vehicle Performance Targets and Performance Management Areas. These will be embedded into the Mobility Implementation Plan.

Working through the summer, the Commission will develop recommendations to define Performance Management Areas and Performance Targets for the MIP. In this memo, staff describes a proposed set of Performance Management Areas and Performance Targets for the Transportation Commission's consideration. Note that these Performance Management Areas and Targets are a draft proposal as staff is working to determine how they will function in practice, by applying them to the proposed Transportation Facilities Plan. Working with the Transportation Commission, staff anticipates refinements of the proposed Performance Targets and Performance Management Areas before they are finalized in the Mobility Implementation Plan.

For the purposes of the May 27 discussion, this memo provides a description of the potential refinements to vehicle performance evaluation and how it differs from the existing concurrency standard. Table 3 summarizes a set of potential Performance Management Areas for all modes and Performance Targets.

- Vehicle Performance Targets

  The classic volume to capacity ratio (v/c) for vehicles at system intersections in the PM two-hour peak period would be retained as a Performance Metric. This Performance Metric has proven useful to identify traffic congestion hot spots, and is easy to calculate, forecast, monitor and report. This Performance Metric would be monitored as a Performance Target rather than as the concurrency standard in the existing system.

Staff identified potential Vehicle Performance Targets that would vary according to three Performance Management Areas, shown in Table 1.

In addition, staff sees value in also using Corridor Travel Speed as a Performance Metric. Staff proposes that the Performance Target for the Corridor Travel Speed be based on the primary Performance Management Area the corridor serves, rather than the MMA in which the corridor is located as recommended in MMLOS. Staff has identified 29 Primary Vehicle Corridors along which the Performance Targets would apply, described in Table 2. These may change as work continues to apply this Performance Target to the TFP.

- Vehicle Performance Management Areas

  With only minor amendments over the decades, the Mobility Management Area (MMA) has been the geographic basis for transportation concurrency. The Traffic Standards Code (BCC 14.60.030) recognizes a range of v/c standards across MMAs that are grouped into several categories. These existing v/c standards are tailored for each Mobility Management Area to reflect distinct conditions and multiple community objectives, with an area-average approach used to measure the performance of system intersections. The existing standards include the concept of a "congestion allowance" that identifies the number of system intersections that can exceed the v/c standard.

  Staff suggests consolidating these MMA groups into three Performance Management Areas, and adjusting Performance Targets. In addition, the staff proposal would eliminate the averaging of system intersection performance across the entire Performance Management Area and would also eliminate the congestion allowance. Staff proposes to independently evaluate and monitor all intersections to identify any v/c performance gaps that may warrant an intervention in the form of modifying traffic control, expanding capacity, or reducing demand through exceptional transportation demand management strategies.

  The rationale for consolidating the existing 14 Mobility Management Areas to three Performance Management Areas is to reflect the distinctly different land use, transportation, and community expectations for peak period traffic conditions. By looking at the performance of each intersection individually and not focusing on an overall average or considering "congestion allowance" intersections, there is no need to retain the small MMA geographic areas to characterize overall area traffic congestion. The performance of each intersection would be individually monitored and evaluated, while traffic flow along a corridor would be evaluated using the Corridor Travel Speed metric.

  The proposed v/c Performance Targets reflect the evolution of Bellevue toward greater density and mix of land uses, in the context of regional growth with accompanying rising land values and construction costs. Therefore, it is financially feasible nor is it compatible with the entirety of community values to provide relatively free-flowing

vehicle travel 24 hours a day, seven days a week. The proposed v/c Performance Targets reflect the expectation that PM peak period vehicle travel in the residential neighborhoods will be less congested than the densest areas of the city with the greatest travel options, but that in the future, residents should anticipate more PM Peak period vehicle congestion as the city and region continue to grow. The higher v/c Performance Targets reflect that staff proposes a new system - v/c ratios intersection would no longer be averaged across an MMA with some intersections allowed to exceed the v/c standard with the congestion allowance. This existing system inherently allows uncongested intersections to balance out overall congestion in the MMA, even though an average driver might not experience this "balancing" effect.

On the whole, staff considers that the individual intersection evaluation with fewer v/c Performance Targets is a more understandable and transparent way to identify performance gaps in vehicle traffic congestion.

Table 1.
Comparing Existing System Intersection V/C Standards to Potential System Intersection Performance Targets

Existing MMA Category	Existing V/C Standard	Potential Performance Management Area Category	Potential V/C Performance Target
Downtown/ Regional Center	0.95	Downtown*	1.0
Activity Area	0.95	Activity Centers*	0.95
Mixed Commercial/ Residential Areas	0.90		
Residential Group 1	0.85	Residential Areas*	0.90
Residential Group 2	0.80		

* *See map in Table 3*

Table 2. Potential Primary Vehicle Corridors and Corridor Travel Speed Targets

Corridor *See map in Table 3*	From	To	Corridor Travel Speed Target
Bellevue Way	SR 520	NE 12th St	
Bellevue Way	Main St	112th Ave SE	
Bellevue Way	112th Ave SE	I-90	
112th Ave SE	Main St	Bellevue Way	
Richards Road	Lake Hills Connector	I-90	
Factoria Blvd	SE 41st Pl	Coal Creek Pkwy	
Coal Creek Pkwy	I-405	Newcastle	
148th Ave NE	Redmond	SR 520	
148th Ave	SR 520	Lake Hills Connector	
148th Ave SE	Lake Hills Connector	Eastgate Way	
150th Ave SE	Eastgate Way	Newport Way	
West Lake Sammamish Pkwy	Redmond	Northup Way	
West Lake Sammamish Pkwy	Northup Way	SE 38th St	

Corridor *See map in Table 3*	From	To	Corridor Travel Speed Target
West Lake Sammamish Pkwy	SE 38th St	I-90	
Lakemont Blvd	I-90	164th Ave SE	
Lakemont Blvd	164th Ave SE	Newcastle	
Northup Way	Bellevue Way	124th Ave NE	
NE 20th St	124th Ave NE	156th Ave NE	
Northup Way	156th Ave NE	West Lake Sammamish Pkwy	
NE 8th St	Medina	100th Ave NE	
NE 8th St	I-405	156th Ave NE	
NE 8th St	156th Ave NE	Northup Way	
SE 8th/Lake Hills Connector	112th Ave SE	Richards Road	
Lake Hills Connector	Richards Road	148th Ave SE	
Eastgate Way	Richards Road	150th Ave SE	
Eastgate Way	150th Ave SE	161st Ave SE	
SE 35th Pl/SE 38th St	161st Ave SE	West Lake Sammamish Pkwy	
Newport Way	Factoria Blvd	150th Ave SE	
Newport Way	150th Ave SE	Lakemont Blvd	

Figure 1. Corridor Travel Speed Metrics from MMLOS Metrics, Standards, and Guidelines Report

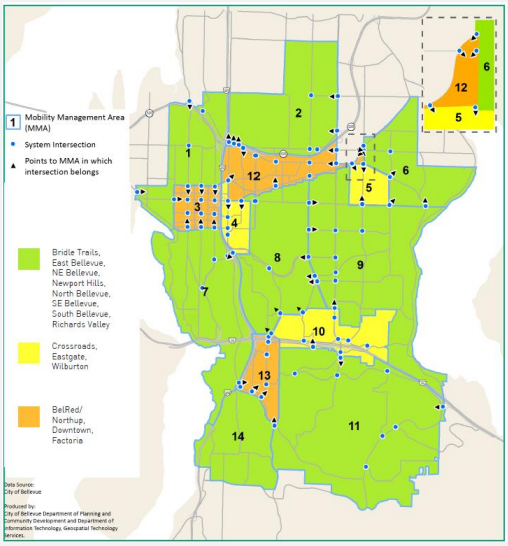
LOS	Typical Urban Travel Time/Travel Speed on Corridors Based on 40% of the Posted Speed Limit
	Less than 90% of Typical Urban Travel Time | Faster than 1.1 times the Typical Urban Travel Speed
	90-110% of Typical Urban Travel Time | Between 1.1 and .9 times the Typical Urban Travel Speed
	110-155% of Typical Urban Travel Time | Between .9 and .75 times the Typical Urban Travel Speed
	155-200% of Typical Urban Travel Time | Between .75 and .5 times the Typical Urban Travel Speed
	More than 200% of Typical Urban Travel Time | Slower than .5 times the Typical Urban Travel Speed

Table 3. MIP Performance Metrics, Performance Targets and Performance Management Areas

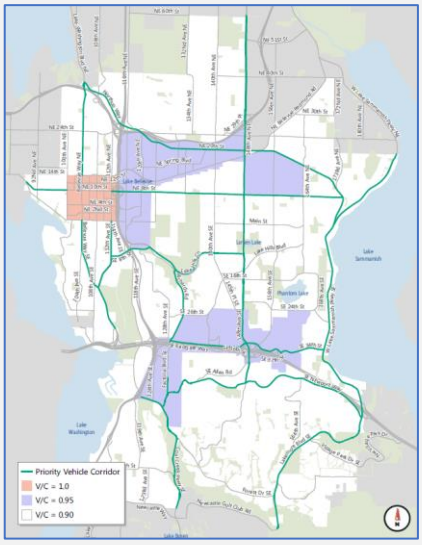
	TC Recommendation for MMLOS			Staff Recommendation for MIP		
Mode	**MMLOS Metric**	**MMLOS Target**	**MMLOS Geography**	**MIP Metric**	**MIP Target**	**MIP Geography**
Pedestrian	Width of Sidewalk + Landscape	Varies by Land Use *(MMLOS p. 21)*	Arterials Citywide	Per MMLOS	Per MMLOS	Per MMLOS
	Frequency and Treatment of Arterial Crossings	Varies by Land Use *(MMLOS p. 21, 22, 23)*	Arterials Citywide	Per MMLOS	Per MMLOS	Per MMLOS

	TC Recommendation for MMLOS			Staff Recommendation for MIP		
Mode	**MMLOS Metric**	**MMLOS Target**	**MMLOS Geography**	**MIP Metric**	**MIP Target**	**MIP Geography**
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 *(MMLOS p. 31)*	Per MMLOS	Per MMLOS with Growth Corridor Overlay	Per MMLOS with Growth Corridor Overlay
Transit	Transit Speed on Frequent Transit Network between Activity Centers	14 mph between Activity Centers	FTN between Activity Centers *(MMLOS p. 35)*	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 *(MMLOS p. 17)*	V/C	Varies by Performance Management Area (PMA) i. Downtown (1.0) ii. Activity Centers (0.95) iii. Residential (0.9)	Performance Management Areas (PMA) i.Downtown ii.Activity Centers iii.Residential
	Corridor Travel Speed	40% Speed Limit with MMA Group Overlay *(MMLOS p. 16, 19)*	Primary Vehicle Corridor	Corridor Travel Speed	Varies by Corridor	Primary Vehicle Corridor

MMA Group Overlay Map from MMLOS



Performance Management Area Map Staff Proposal



NEXT STEPS

During Summer and Fall 2021 Study Sessions, the Transportation Commission will build the Mobility Implementation Plan, culminating in a deliverable to the City Council.

May	June	July	September	October	November	December
27	10	8	9	14	11 (TBD)	
TC Approve Policy recommendation Send to Planning Commission					**TC Approve** MIP Traffic Standards Code Amendment Recommendation	Council asked to **approve** CPA and Traffic Standards Code
TC Review Transportation Element Policy recommendation	MIP	MIP	Traffic Standards Code Amendment	Traffic Standards Code Amendment	Traffic Standards Code Amendment recommendation	
MIP			MIP	MIP	MIP	

Please feel free to contact me prior to the May 27 meeting if you have questions about the Mobility Implementation Plan scope of work or the Performance Metrics, Performance Targets and Performance Management Areas.