




DIVERSITY Expedition
What is MMLOS?

- Is this a nice place to walk?
- Is this a nice place to bike?
- Is transit convenient?
- **Bottom line** - Are there options besides the car?



DIVERSITY Expedition
What is MMLOS?

			
Automobile Level of Service	Transit Quality of Service	Bicycle Quality of Service	Pedestrian Quality of Service
<p> A +No delay at intersections.</p> <p>C/D +Drivers wait no more than 1 red light</p> <p> F -Longer delays at intersections.</p>	<p> A +More frequent service, stops, and amenities. +Attracts riders who choose transit over other modes.</p> <p>C/D +Good bus service +Basic stops and amenities</p> <p> F -Limited or no service. -Fewer stops and amenities</p>	<p> A +Complete system for all types of users. +Good condition, few stops, and conflicts with autos</p> <p>C/D Cyclists of various skill levels are able to bike comfortably to key destinations</p> <p> F -More gaps in system -More stops and auto conflicts -Poor pavement</p>	<p> A +Complete system +Easier to cross +Improved Comfort</p> <p>C/D An adequately complete network of decent sidewalks</p> <p> F -Gaps in system. -Poor pavement -Less inviting.</p>

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Bellevue MMLoS
Expedition

Mode	LOS Metric
Vehicle	Volume/Capacity at Intersections
	Typical Urban Travel Speed on Arterials
Pedestrian	Sidewalk plus Landscape buffer
	Pedestrian Comfort, Access and Safety at Intersections
Bicycle	Level of Traffic Stress on Corridors
	Level of Traffic Stress at Intersections
Transit	Passenger Comfort, Access and Safety
	Transit Travel Speed on Corridors

Level-of-Service in Bellevue
Toward a Multimodal Approach to Mobility

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Expedition

- Use average delay at intersections for long range planning and evaluation
- Designate Primary Vehicle Corridors to evaluate traffic flow to assist in project identification and prioritization
- Metric is actual vehicle speed as a percent of "typical urban travel time" along a defined corridor segment

— Primary Vehicle Corridor
 ▲ City of Bellevue

A Primary Vehicle Corridor is defined - specifically and only for MMLoS purposes - as an arterial that provides an important, vehicle connection within Bellevue and/or to a regional route for the movement of people and goods.

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LOS	Average Speed Along a Defined Corridor Segment 5 Minutes per mile PM Peak is "Typical" urban travel time*
●	Less than 90% of typical urban travel time
●	90-110% of typical urban travel time
●	110-155% of typical urban travel time
●	155-200% of typical urban travel time
●	More than 200% of typical urban travel time

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Bellevue MMLOS - Drivers
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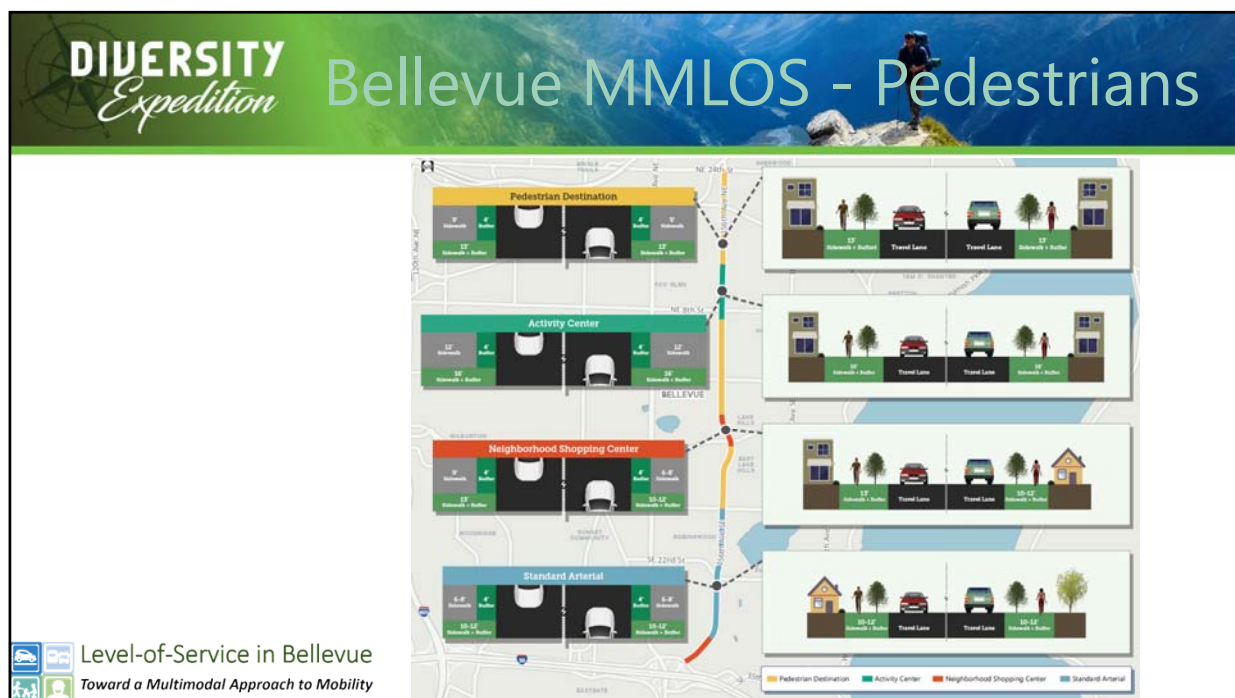
LOS	Recommended LOS Standard
●	North Bellevue, South Bellevue, Richards Valley, East Bellevue, NE Bellevue, Bridle Trails, Newport Hills
●	Wilburton, Crossroads
●	Downtown, BelRed, Factoria

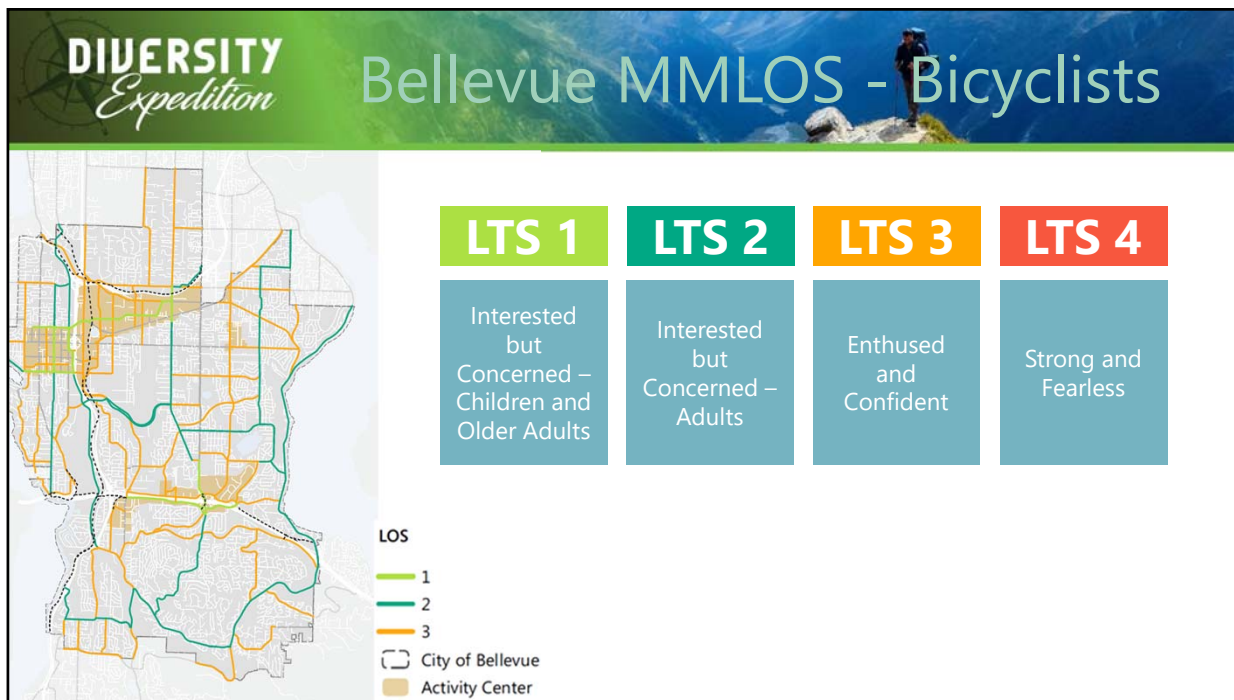
DIVERSITY Expedition Bellevue MMLOS - Pedestrians

Context: Component	Downtown	Activity Centers	Neighborhood Shopping Center	Pedestrian Destinations	Elsewhere
Sidewalk Width and Landscape Buffer Width	Meet standards in the Downtown Land Use Code	Meet Land Use Code* or 16 feet for designated arterials in activity center.	13 feet adjacent to shopping center	13 feet total adjacent to pedestrian destination or within 100 feet of a FTN stop	Meet standards in the Design Manual (6-8 foot sidewalk and 4 foot landscape buffer = 10-12 feet total width)
Arterial Crossing Frequency**	Consistent with Downtown Transportation Plan (≤ 300 feet)	≤ 800 feet: Factoria ≤ 600 feet: Elsewhere	One crossing every 600 feet or less within shopping center area	Within 600 feet of destination's primary entrance. Within 300 feet of bus stop pair on FTN.	Not Applicable
Signalized Intersection Treatment	Meets Downtown Transportation Plan Designation	Meets Land Use Code* or Downtown Transportation Plan Enhanced	Per Design Manual	Per Design Manual	Per Design Manual

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* Meets BelRed Land Use Code in BelRed Subarea
 ** Must be an appropriately marked and potentially signalized crossing at locations determined by the Transportation Department





DIVERSITY Expedition Bellevue MMLOS - Bicyclists

Speed Limit (mph)	Arterial Traffic Volume*	No Marking	Sharrow Lane Marking	Striped Bike Lane	Buffered Bike Lane	Protected Bike Lane	Physically Separated Bikeway
≤25	<3k	1	1	1	1	1	1
	3-7k	3	2	2	2	1	1
	≥7k	3	3	2	2	1	1
30	<15k	4	3	2	2	1	1
	15-25k	4	4	3	3	3	1
	≥25k	4	4	3	3	3	1
35	<25k	4	4	3	3	3	1
	≥25k	4	4	4	3	3	1
40	Any volume	4	4	4	4	3	1

* Approximate volume thresholds
Number in each cell represents Bicycle LOS

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Bellevue MMLoS Transit

Context:	Local Stop Transit Master Plan	Primary Stop Transit Master Plan	Frequent Transit/ RapidRide Stop Transit Master Plan
Component			
Weather Protection*	Yes, 25+ daily boardings	Yes	Yes
Seating*	Yes, near uses like retail, schools, healthcare, or senior housing	Yes	Yes
Transit Landing Zone**	15-30' long	40' long	60' long
Wayfinding***	No	Yes	Yes

* Building mounted weather protection and seating is preferred where building abuts the back of the sidewalk
 ** Passenger Landing Zone is a solid paved surface between the back of curb and sidewalk to facilitate passenger boarding and alighting. The width will match the landscape buffer. Street trees in tree wells will meet the curbside landscape buffer requirement in this zone.
 *** To be determined by City staff

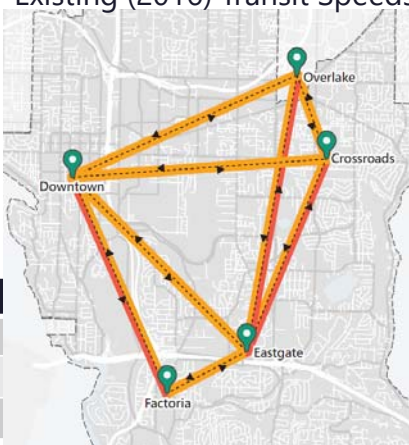
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 Toward a Multimodal Approach to Mobility

DIVERSITY Expedition
Bellevue MMLoS Transit

Recommended speed standards

1. Applied to Frequent Transit Network (FTN) Connections between Activity Centers
2. Based on target speeds in Transit Master Plan
3. Standard: 14 mph or faster on FTN connections

Existing (2016) Transit Speeds




LOS Rating	Speed
●	< 10 mph
●	10-14 mph
●	> 14 mph

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Bellevue MMLOS - Implementation

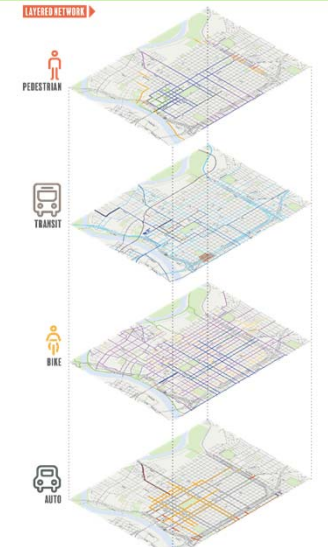
- Determining what projects to build:
 - City identifies expected LOS and the facility type needed to achieve it
- Prioritizing projects:
 - City looks at MMLOS metrics, standards and guidelines considering factors such as travel speed, bicycle LTS and sidewalk width
- Implementing projects:
 - City considers impact fees, CIP and development review as resources



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MMLOS Conclusions

- City of Bellevue applied the MMLOS recommendations to the development of Bellevue Way
- MMLOS allows for development of priority networks for each mode – not all streets are treated the same







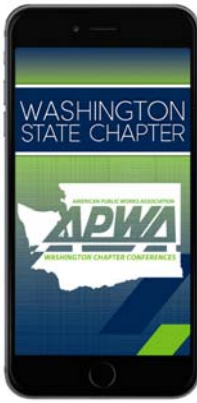
Thank You

Questions?

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