MMLOS TEAM

Staff Team
Kevin McDonald - PM
• Darcy Akers
• Drew Folsom
• Vangie Garcia
• Moly Johnson
• Mike Kattermann
• Emil King
• Kurt Latt
• Eric Miller
• Shuming Yan
Paula Stevens - Advisor

Consultants
• Chris Breiland
• Don Samdahl

Transportation Commission
Janice Zahn, Chair
Vic Bishop, Vice Chair
• Cliff Chirls
• Scott Lampe
• Todd Woosley
• Lei Wu
• Francois Larrivee
MMLOS – PRIORITIZING MODAL INVESTMENTS

Objective at this Workshop:

- Review metrics and standards for each mode
PART 1
CONFIRM AND FINALIZE MMLOS RECOMMENDATIONS FOR EACH MODE
VEHICLE LOS RECOMMENDED STANDARDS

Retain system of Mobility Management Areas and volume/capacity ratio metrics at system intersections for transportation concurrency

Use average delay at intersections for long range planning and evaluation
VEHICLE LOS RECOMMENDED STANDARDS

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

Note: 150th Ave SE Corridor evaluation used travel time to analyze project benefits
**PRIMARY VEHICLE CORRIDORS – RECOMMENDED METRIC AND STANDARDS**

<table>
<thead>
<tr>
<th>LOS</th>
<th>Average Speed Along a Defined Corridor Segment 5 Minutes per mile PM Peak is “Typical” urban travel time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>🟢</td>
<td>Less than 90% of typical urban travel time</td>
</tr>
<tr>
<td>🟠</td>
<td>90-110% of typical urban travel time</td>
</tr>
<tr>
<td>🟡</td>
<td>110-155% of typical urban travel time</td>
</tr>
<tr>
<td>🟢</td>
<td>155-200% of typical urban travel time</td>
</tr>
<tr>
<td>🟥</td>
<td>More than 200% of typical urban travel time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOS</th>
<th>Recommended LOS Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>🟢</td>
<td>North Bellevue, South Bellevue, Richards Valley, East Bellevue, NE Bellevue, Bridle Trails, Newport Hills</td>
</tr>
<tr>
<td>🟡</td>
<td>Wilburton, Crossroads</td>
</tr>
<tr>
<td>🟥</td>
<td>Downtown, BelRed, Factoria</td>
</tr>
</tbody>
</table>

* Based on the Highway Capacity Manual – Chapter 16
# Pedestrian LOS Recommended Standards

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

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

---

**Context:**
- **Downtown**
- **Activity Centers**
- **Neighborhood Shopping Center**
- **Pedestrian Destinations**
- **Elsewhere**

---

**Component:**
- **Sidewalk Width and Landscape Buffer Width**
- **Arterial Crossing Frequency**
- **Signalized Intersection Treatment**

---

**Arterial Crossing Frequency**:
- **Consistent with Downtown Transportation Plan** (≤300 feet)
- ≤800 feet; Factoria ≤600 feet; Elsewhere

---

**Signalized Intersection Treatment**:
- Meets Downtown Transportation Plan Designation
- Meets Land Use Code* or Downtown Transportation Plan Enhanced
- Per Design Manual

---

**Per Design Manual**
- Meets standards in the Design Manual (6-8 foot sidewalk and 4 foot landscape buffer = 10-12 feet total width)

---

**Context**:
- **Downtown**
- **Activity Centers**
- **Neighborhood Shopping Center**
- **Pedestrian Destinations**
- **Elsewhere**

---

**Component**:
- **Sidewalk Width and Landscape Buffer Width**
- **Arterial Crossing Frequency**
- **Signalized Intersection Treatment**

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**Arterial Crossing Frequency**:
- **Consistent with Downtown Transportation Plan** (≤300 feet)
- ≤800 feet; Factoria ≤600 feet; Elsewhere

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**Signalized Intersection Treatment**:
- Meets Downtown Transportation Plan Designation
- Meets Land Use Code* or Downtown Transportation Plan Enhanced
- Per Design Manual

---

**Per Design Manual**
- Meets standards in the Design Manual (6-8 foot sidewalk and 4 foot landscape buffer = 10-12 feet total width)
PEDESTRIAN NETWORK
LAND USE CONTEXT

1. Downtown
2. Activity Center
   • BelRed
   • Crossroads
   • Factoria
   • Wilburton
   • Eastgate
3. Neighborhood Shopping Center
   • Northtowne
   • Lake Hills
   • Newport Hills
   • Other similar centers
4. Pedestrian Destination
   • School
   • Park
   • Community Center
   • Frequent Transit Network Stop
   • Trail Crossing
   • Library
5. Elsewhere in the City
PEDESTRIAN LOS CROSS-SECTION EXAMPLES
# BICYCLE LOS RECOMMENDED CORRIDOR STANDARDS

<table>
<thead>
<tr>
<th>Speed Limit (mph)</th>
<th>Arterial Traffic Volume*</th>
<th>No Marking</th>
<th>Sharrow Lane Marking</th>
<th>Striped Bike Lane</th>
<th>Buffered Bike Lane</th>
<th>Protected Bike Lane</th>
<th>Physically Separated Bikeway</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤25</td>
<td>&lt;3k</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3-7k</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>≥7k</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>30</td>
<td>&lt;15k</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>15-25k</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>≥25k</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>35</td>
<td>&lt;25k</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>≥25k</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>40</td>
<td>Any volume</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

* Approximate volume thresholds
Number in each cell represents Bicycle LOS
# BICYCLE LOS RECOMMENDED INTERSECTION STANDARDS

<table>
<thead>
<tr>
<th>Crossing Treatment: Bike LOS</th>
<th>Bike Signal</th>
<th>Crossing Treatment</th>
<th>Near-Side Intersection Treatment</th>
<th>Near-Side with Right Turn Lane Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bike signal on near and far side of intersection; leading bicycle phase or other bike-favorable signal timing as appropriate</td>
<td>Green solid or skip stripe</td>
<td>Green bike box; two-stage turn box as appropriate</td>
<td>Dutch intersection design</td>
</tr>
<tr>
<td>2</td>
<td>Bike signal on near and far side of intersection; leading bicycle phase or other bike-favorable signal timing, as appropriate</td>
<td>Dotted line extension/ elephant-foot striping</td>
<td>Standard bike box; two-stage turn box as appropriate</td>
<td>Green bike lane to the left of right turning lane; green skip stripe conflict zone</td>
</tr>
<tr>
<td>3</td>
<td>Initial green cycle length is adequate for bicycle to clear intersection</td>
<td>Sharrow lane markings</td>
<td>None</td>
<td>For right turn lane &gt;150' through bike lane to left of right turn lane</td>
</tr>
<tr>
<td>Trail</td>
<td>Signalization as warranted</td>
<td>Green solid or skip stripe</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
BICYCLE LOS: EXISTING VS BRIP
BICYCLE LOS RECOMMENDED STANDARDS:
# TRANSIT LOS: RECOMMENDED STOPS/STATIONS STANDARDS

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

* 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
TRANSIT LOS: 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

<table>
<thead>
<tr>
<th>LOS Rating</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;10 mph</td>
</tr>
<tr>
<td></td>
<td>10-14 mph</td>
</tr>
<tr>
<td></td>
<td>&gt;14 mph</td>
</tr>
</tbody>
</table>

Existing (2016) Transit Speeds
End of Part 1
Discussion
THANK YOU!

CHRIS BREILAND AND DON SAMDAHL

FEHR PEERS