PLANNING FOR MICROTRANSIT:
A COMMUNITY’S SOLUTION TO INCREASED CONGESTION
KEY TAKEAWAYS

1 / EXISTING TOOLS CAN BE LEVERAGED TO ANALYZE EMERGING MODES
   • Build on existing analysis tools to help describe the benefits

2 / MICROMOBILITY HAS POTENTIAL TO REDUCE CONGESTION
   • Combine with TDM measures, dense land uses and high capacity transit for greatest impact
AGENDA

1 / COMMUNITY CONTEXT AND NEEDS: CITY OF BEND

2 / MODELING MICROTRANSIT AND MOBILITY HUBS

3 / RESULTS AND OUTCOMES
COMMUNITY CONTEXT AND NEEDS: CITY OF BEND
CITY OF BEND

• Employment hub
  > 49% of employees live in surrounding communities

• Tourist/recreational destination
  > Over 5 million visitors annually
  > 25-45% seasonal fluctuation in traffic

SOURCE: CITY OF BEND TRANSPORTATION SYSTEM PLAN, EXISTING CONDITIONS AND NEEDS
A GROWING COMMUNITY

CITY OF BEND POPULATION FORECAST

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Growth</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
<td>57,525</td>
<td>-</td>
</tr>
<tr>
<td>2019</td>
<td>98,500 (estimate)</td>
<td>-</td>
</tr>
<tr>
<td>2040</td>
<td>153,700 (forecast)</td>
<td>55k (56%)</td>
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</tbody>
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SOURCE: U.S. CENSUS, PORTLAND STATE UNIVERSITY POPULATION RESEARCH CENTER

Land Use Assumptions for New Growth Between 2014 and 2040

Employment Growth

Prepared 4/30/2018

Core Mixed Use Opportunity Areas:
1. Bend Central District
2. Central Westside
3. KoaPine
4. East Downtown
5. Inner Highway 20 / Greenwood Ave
Great communities don’t happen by chance.
NEEDS IDENTIFICATION

• Significant congestion needs
• East-west mobility constrained by US 97 and Deschutes River
• Community looking for innovative ways to reduce congestion
MODELING MICROTRANSIT AND MOBILITY HUBS
WHY MICROTRANSIT & MOBILITY HUBS

• Mobility hub incorporates range of mode choices
• Bend/OSU Cascades have implemented micromobility
• Future land use patterns conducive to success
  > Integrated Land Use and Transportation Plan (2016)
• Identified 175+ projects for evaluation across 7 TSP goals
• 18 performance measures including:
  > Demand-to-capacity ratio
  > Vehicle miles travelled (VMT) per capita
  > Mode split
• How can we model benefits of mobility hubs?
MODELING MOBILITY HUBS

• Utilized existing regional travel demand model

• High-frequency, low cost transit “shuttle” routes approx. 1 mi from hub

• Incorporated 2 HCT lines and 5 mobility hubs
RESULTS AND OUTCOMES
MODELING RESULTS - REGIONAL

- Significant transit mode shift (0.8% to 2.5%)
- Greater mode shifts when combined with parking pricing (~20% in one location)
- Decrease in regional VMT per capita over baseline
MODELING RESULTS - CORRIDOR

• Reduced vehicle demand below capacity on US 20
  > Combination of HCT and mobility hub
  > Intersections met mobility targets under average weekday conditions

• Reduced vehicle demand on Deschutes River crossings
  > Still over capacity but reduced demand by 6-10%

SOURCE: HTTPS://COMMONS.WIKIMEDIA.ORG/WIKI/FILE:BENDORPANORAMIC.JPG
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THANK YOU