2040 MTP Regional Growth Scenarios and their Performance

July 10, 2014
Common Element = Scenario Planning

- How we grow is not a forgone conclusion
- Allows us to ask: what if?

For example: What if future development takes place differently than it has in the past?
Scenario Planning

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Scenario Planning

- Approach that uses growth scenarios to understand costs and benefits of development patterns
  - Land consumption
  - Transportation conditions
  - Environmental impacts
  - Economic competitiveness

- Integrate land use and transportation planning to ensure effective long-term policy decisions

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Base Case</th>
<th>Alternate Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land We Will Consume:</td>
<td>365,000 acres</td>
<td>91,000 acres</td>
</tr>
<tr>
<td>Infrastructure Costs:</td>
<td>$6,957,085,995</td>
<td>$3,406,798,045</td>
</tr>
<tr>
<td>Intersections per acre:</td>
<td>.034</td>
<td>.11</td>
</tr>
<tr>
<td>New Road Miles:</td>
<td>4,544 miles</td>
<td>2,225 miles</td>
</tr>
<tr>
<td>Acres of New Impervious Surfaces:</td>
<td>62,444 acres</td>
<td>35,033 acres</td>
</tr>
<tr>
<td>Vehicle Miles of Travel Increase:</td>
<td>39 miles</td>
<td>35.9 miles</td>
</tr>
<tr>
<td>Density Patterns- Region Wide:</td>
<td>1.13 persons/acre</td>
<td>5.8 persons/acre</td>
</tr>
</tbody>
</table>

Example from Nashville MPO
2040 MTP: Scenario Planning

June 2013

- Identify Challenges
- Scenario Concepts
- Preliminary Scenarios
- Scenario Evaluation
- Refined Scenarios

Spring 2014

Fall 2014

LUTI Meetings / Workshops / Focus Groups

Summer 2014

Spring 2015

Futures 2040 Recommendations
What are the scenarios?

- Allowable Uses
- Emerging Lifestyles
- Balancing Jobs and Housing
What do the scenarios have in common?

- Local data (except zoning!!)
- Model structure & equations
- Roadway network
- Regional population projection
- Regional employment projection
Population Projection
Employment Projection

Mid-Region Council of Governments
Zoning: Allowable Uses
Zoning: Emerging Lifestyles
Zoning: Balancing Housing & Jobs
Housing by Scenario

Allowable Uses

Emerging Lifestyles

Balancing Housing & Jobs
Employment by Scenario

Allowable Uses

Emerging Lifestyles

Balancing Housing & Jobs
## Jobs to Housing Balance

<table>
<thead>
<tr>
<th></th>
<th>West</th>
<th>East</th>
</tr>
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<tbody>
<tr>
<td><strong>2012</strong></td>
<td>0.56</td>
<td>1.34</td>
</tr>
<tr>
<td>Allowable Uses</td>
<td>0.52</td>
<td>1.41</td>
</tr>
<tr>
<td>Emerging Lifestyles</td>
<td>0.53</td>
<td>1.40</td>
</tr>
<tr>
<td>Jobs &amp; Housing</td>
<td>0.71</td>
<td>1.27</td>
</tr>
</tbody>
</table>
Population Share by County

2012

- Bernalillo: 75%
- Sandoval: 14%
- SSF: 1%
- Torrance: 2%
- Valencia: 8%

AU

- Bernalillo: 69%
- Sandoval: 18%
- SSF: 1%
- Torrance: 1%
- Valencia: 11%

EL

- Bernalillo: 69%
- Sandoval: 17%
- SSF: 1%
- Torrance: 1%
- Valencia: 12%

JH

- Bernalillo: 69%
- Sandoval: 17%
- SSF: 1%
- Torrance: 1%
- Valencia: 12%
<table>
<thead>
<tr>
<th>County</th>
<th>2012 Share</th>
<th>AU Share</th>
<th>EL Share</th>
<th>JH Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bernalillo</td>
<td>86%</td>
<td>85%</td>
<td>83%</td>
<td>75%</td>
</tr>
<tr>
<td>Sandoval</td>
<td>9%</td>
<td>10%</td>
<td>12%</td>
<td>21%</td>
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<tr>
<td>Valencia</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Torrance</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>SSF</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Roadway Performance

- Systemwide Speed: -47%
- Vehicle Miles Traveled: -41%
- Transit Ridership: -37%

- Allowable Uses: 56% (Emerging Lifestyles), 49% (Jobs-Housing)
- 60% (Jobs-Housing), 57% (Emerging Lifestyles)
- 31% (Allowable Uses), 36% (Emerging Lifestyles), 29% (Jobs-Housing)
Commuting Measures

- Proximity to Employment Sites: 39%, 59%
- River Crossing Trips: 40%, 38%, 47%
- Average Commute Time (Minutes): 103%, 63%

Emerging Lifestyles: 42%, 44%
Sustainability Measures

- Emissions Levels (CO2)
  - Allowable Uses: 44%
  - Emerging Lifestyles: 31%
  - Jobs-Housing: 41%

- New Land Developed (Acres)
  - Allowable Uses: 51%
  - Emerging Lifestyles: 48%
  - Jobs-Housing: 51%

Mid-Region Council of Governments
Average Single Family Home Water Consumption by Zip Code (units/year)
Putting it All Together

- All scenarios show deteriorating travel conditions
- Zoning does have an impact on roadway performance; can test other strategies
- You can have fewer acres consumed by development and less congestion at the same time
- An increase in jobs west of the river appears to help alleviate the river crossing issue, but not commuting time
- Development patterns carry different benefits and costs to the region