Urban Transportation, Land Use, and the Environment in Latin America: A Case Study Approach

Lecture 5

Introducing the Case Study Cities and the Case Study Approach
## The Two Cities

<table>
<thead>
<tr>
<th>Category</th>
<th>Mexico City</th>
<th>Santiago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>18 million (18% of national)</td>
<td>5.5 million (40% of national)</td>
</tr>
<tr>
<td>Urbanized area</td>
<td>1,500 km²</td>
<td>600 km²</td>
</tr>
<tr>
<td>Density (pop./ km²)</td>
<td>12,000 (center) 2,700 (periphery)</td>
<td>11,000 (center) ~3,000 (periphery)</td>
</tr>
<tr>
<td>VKT (KMs/Day)</td>
<td>153 million</td>
<td>55 million</td>
</tr>
<tr>
<td>% Days Ozone Exceeded Std.</td>
<td>~80 (1999)</td>
<td>40 (1999)</td>
</tr>
<tr>
<td>Peak PM$_{10}$ conc.</td>
<td>202 µ/m$^3$ (1999)</td>
<td>335 µ/m$^3$ (1999)</td>
</tr>
<tr>
<td>NO$_x$ (tonnes/yr)</td>
<td>206,000 (1998) (80% vehicles)</td>
<td>55,000 (2000) (84% vehicles)</td>
</tr>
<tr>
<td>VOC (tonnes/yr)</td>
<td>475,000 (1998) (40% vehicles)</td>
<td>81,000 (2000) (20% vehicles)</td>
</tr>
<tr>
<td>Local Jurisdictions</td>
<td>54</td>
<td>~40</td>
</tr>
<tr>
<td>Pop. Growth (90s)</td>
<td>1.7%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Household Size</td>
<td>4.2</td>
<td>4.2</td>
</tr>
</tbody>
</table>
The Case Study

Approach

The “Consultant Team”
- Working with “Directors” (Joe, Chris)
  - 1 “progress assessment” meeting per week
- Answering to “Stakeholders” (rest of class)
- 4.5 Weeks
  - Approximately 200 person-hours
A Strategic Transportation Infrastructure and Land Use Plan for the Metro Region

- Covering a 20-Year Time Horizon
- Understanding the Planning Context
  - Applying the CLIOS construct
- Showing Range Estimates of Key Influencing Factors
  - Economy, Demographics, Traveler Demand (trips, distances, modes, etc.), Freight Transport Demand, Land Development Demand, Technology, …
Expected Output (cont’d)

- Identifying Goals, Objectives, Indicators
  - For Sustainability

- Identifying the “Regional Architecture” and influencing factors
  - Public & Private Institutions
  - Role of Relevant national policies
  - Dynamic Issues

- Outlining major options to be considered to fulfill goals/objectives
  - Infrastructure & Land Development
  - Policy & Technology deployment
Presenting the Framework for evaluating and justifying the selected options
  – Fulfillment of goals and objectives
  – Recognition of trade-offs

Presenting the Proposed Financing Plan
  – Including fees, taxes, charges, transfers

Presenting the Proposed Implementation Plan
  – Institutional responsibilities
  – Public Participation

Identifying Main Sources of Uncertainty
  – Highlighting data and methodological needs
Expected Products

- **Interim Presentation (week 3)**
  - For stakeholder feedback

- **Final Presentation (week 4)**
  - Incorporating stakeholder concerns

- **Final Report (due in class, week 5)**
  - Approximately 30 pages

**Expectations**

- **Add value** to the already existing information (i.e., readings); indicate additional resource consultations.
- Scenario Planning is encouraged, but not required.