Supplementing Census Data
SANDAG Case Study
DEMOGRAPHIC DATA
Dwelling Unit Counts

**Census (SF1)**
Resolution: Blocks (25,700)

**Property Record Files**
Resolution: Parcels (800,000)

**Aerial Photographs**
Resolution: Individual building
Limitations: Small areas only
Buildings, not units
Structure Type

**Census (SF3)**
Resolution: Block groups (2,200)
Limitations: Self-reported

**Property Record Files**
Resolution: Parcels (800,000)

**Aerial Photographs**
Resolution: Individual building
Limitations: Small areas only, Selected structure types
Employment Estimates

*Census (CTPP)*
- Resolution: CTPP zones (500)

*ES202 Files*
- Resolution: Individual employers
- Limitations: Confidentiality issues, Missing employers, Multiple Sites

*Derived from Building Floor Area*
- Resolution: Parcels (800,000)
Household Income

**Census (SF3)**
Resolution: Block groups (2,200)

**State Income Tax Returns**
Resolution: Tracts (600)
Limitations: Confidentiality issues, Definitional differences, Complex process
Case Study
Parcel Level Dwelling Units
MGRA Geography
Irregular Geography
Transit Access
Parcel and MGRA Geography
Block Group Check
Block Counts and Land Use
Residential Buildings
Problem Areas

**Census**
- Structure types
- Geo-coding quality
- Block definitions
- Senior housing

**Property Record Files**
- Units on public/non-taxable land

**Both**
- Units under construction
TRANSPORTATION DATA
Number of Vehicles

**Census (SF3)**
Resolution: Block groups (2,200)

**Department of Motor Vehicles**
Resolution: Countywide

**Home Interview Surveys**
Resolution: Large summary areas
Limitations: Sample bias
Average Trip Length (Minutes)

**Census (CTPP)**
- Resolution: CTPP zones (500)
- Limitations: Self-reported

**Speed Surveys/Transportation Models**
- Resolution: TAZs (4,600)

**Home Interview Surveys**
- Resolution: Large summary areas
- Limitations: Sample bias
Transit Mode Shares

Census (CTPP)
Resolution: CTPP zones (500)

Transit On-Board Surveys
Resolution: Small summary areas

Home Interview Surveys
Resolution: Very large summary areas
Limitations: Sample bias
Trip Tables

**Census (CTPP)**
Resolution: CTPP zones (500)

**Home Interview Surveys**
Resolution: Very large summary areas
Limitations: Sample bias
Case Study
Auto Travel Times
## Travel Time Surveys

<table>
<thead>
<tr>
<th>Route</th>
<th>AM</th>
<th>PM</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Modeled</td>
<td>Difference</td>
<td>Observed</td>
<td>Modeled</td>
<td>Difference</td>
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<tr>
<td>Calsbad-Escondido</td>
<td>26</td>
<td>30</td>
<td>4</td>
<td>15%</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>Chula Vista-Sorrento Mesa</td>
<td>54</td>
<td>54</td>
<td>0</td>
<td>0%</td>
<td>66</td>
<td>71</td>
</tr>
<tr>
<td>Downtown-Sorrento Mesa</td>
<td>29</td>
<td>32</td>
<td>3</td>
<td>10%</td>
<td>29</td>
<td>35</td>
</tr>
<tr>
<td>El Cajon-Downtown</td>
<td>28</td>
<td>29</td>
<td>1</td>
<td>4%</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Escondido-Calsbad</td>
<td>39</td>
<td>35</td>
<td>-4</td>
<td>-10%</td>
<td>43</td>
<td>40</td>
</tr>
<tr>
<td>Escondido-Downtown</td>
<td>62</td>
<td>64</td>
<td>2</td>
<td>3%</td>
<td>59</td>
<td>64</td>
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<tr>
<td>Escondido-Kearny Mesa</td>
<td>55</td>
<td>47</td>
<td>-8</td>
<td>-15%</td>
<td>44</td>
<td>46</td>
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<tr>
<td>MidCity-Kearny Mesa</td>
<td>15</td>
<td>16</td>
<td>1</td>
<td>7%</td>
<td>20</td>
<td>16</td>
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<tr>
<td>Mid City-Sorrento Mesa</td>
<td>26</td>
<td>31</td>
<td>5</td>
<td>19%</td>
<td>42</td>
<td>42</td>
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<tr>
<td>Oceanside-Downtown</td>
<td>63</td>
<td>62</td>
<td>-1</td>
<td>-2%</td>
<td>65</td>
<td>62</td>
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<tr>
<td>Rancho Bernado-Sorrento Mesa</td>
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<td>35</td>
<td>2</td>
<td>6%</td>
<td>51</td>
<td>50</td>
</tr>
<tr>
<td>Sorrento Mesa-Downtown</td>
<td>29</td>
<td>27</td>
<td>-2</td>
<td>-7%</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>SanYsidro-Downtown</td>
<td>27</td>
<td>36</td>
<td>9</td>
<td>33%</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>486</td>
<td>498</td>
<td>12</td>
<td>2%</td>
<td>515</td>
<td>539</td>
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</tbody>
</table>
California Statewide Travel Survey

- 1,200 San Diego County Households
- 180 Households with GPS-Equipped Vehicles
- 1,000 GPS trips out of 4,700 total survey trips
- February-October 2001
- GeoStats
GPS Coverage
GPS Points
Freeway Speed Comparison

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Speed (MPH) GPS</th>
<th>Speed (MPH) Model</th>
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<tbody>
<tr>
<td>Off-Peak</td>
<td>63.3</td>
<td>58.0</td>
</tr>
<tr>
<td>AM Peak</td>
<td>53.3</td>
<td>40.7</td>
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<tr>
<td>PM Peak</td>
<td>50.8</td>
<td>39.9</td>
</tr>
</tbody>
</table>

(Speeds in Miles Per Hour)
Arterial Speed Comparison

<table>
<thead>
<tr>
<th>Time Period</th>
<th>GPS</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Peak</td>
<td>26.3</td>
<td>22.7</td>
</tr>
<tr>
<td>AM Peak</td>
<td>26.3</td>
<td>22.1</td>
</tr>
<tr>
<td>PM Peak</td>
<td>23.7</td>
<td>21.6</td>
</tr>
</tbody>
</table>

Speed (MPH)
CTPP – Model Comparison

![Bar chart showing comparison between CTPP and Model for Minutes, Miles, and Speed, with percentage differences of -4%, -11%, and -7% respectively.]

- Minutes: -4%
- Miles: -11%
- Speed: -7%

CTPP
Model
Modeled Travel Times
Minutes to CBD by Auto

- 0-15
- 16-30
- 31-45
- 46 or more
- CBD
- Missing

SANDAG
Modeled Travel Times
Minutes to Suburb by Auto
Supplementing Census Data
SANDAG Case Study