SFTA Origin-Destination Freight Data
Preliminary Comparisons:

Presentation to

SFTA Advisory Committee Meeting
Walla Walla, Washington

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O-D Survey Sites
# Daily Truck Trips, I-5

## Daily Truck Trips on I-5 by Direction, Empty/Loaded Status and Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Loaded Northbound</th>
<th>Empty Northbound</th>
<th>Total Northbound</th>
<th>Loaded Southbound</th>
<th>Empty Southbound</th>
<th>Total Southbound</th>
<th>Total Both Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993/1994</td>
<td>2,676</td>
<td>1,375</td>
<td>4,051</td>
<td>1,312</td>
<td>1,200</td>
<td>2,512</td>
<td>7,709</td>
</tr>
<tr>
<td>2002</td>
<td>4,737</td>
<td>2,868</td>
<td>7,605</td>
<td>4,952</td>
<td>3,858</td>
<td>8,800</td>
<td>15,314</td>
</tr>
</tbody>
</table>

- **2002**: Red bars represent data for the year 2002.
Loaded/Empty Trucks, I-5

Percentage of Empty/Loaded Trucks on I-5 by Direction and Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Northbound</th>
<th>Southbound</th>
<th>Both Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993/1994</td>
<td>66%</td>
<td>66%</td>
<td>66%</td>
</tr>
<tr>
<td>2002</td>
<td>62%</td>
<td>64%</td>
<td>63%</td>
</tr>
</tbody>
</table>

- Percentage of Loaded Trucks:
  - Northbound: 66%
  - Southbound: 66%
  - Both Directions: 66%

- Percentage of Empty Trucks:
  - Northbound: 34%
  - Southbound: 34%
  - Both Directions: 34%
Truck Configuration (%), I-5

Truck Configuration Profile for I-5 in Percentages by Season

- Unknown
- Straight Truck
- Straight Truck with Trailer
- Tractor Only
- Tractor and Trailer
- Tractor with Two Trailers
- Other

Daily Truck Trips, I-90

Daily Truck Trips on I-90 by Direction, Empty/Loaded Status and Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Loaded Eastbound</th>
<th>Empty Eastbound</th>
<th>Total Eastbound</th>
<th>Loaded Westbound</th>
<th>Empty Westbound</th>
<th>Total Westbound</th>
<th>Total Both Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993/1994</td>
<td>953</td>
<td>478</td>
<td>1,431</td>
<td>1,135</td>
<td>388</td>
<td>1,522</td>
<td>5,070</td>
</tr>
<tr>
<td>2002</td>
<td>1,671</td>
<td>1,174</td>
<td>2,845</td>
<td>2,225</td>
<td>480</td>
<td>2,954</td>
<td></td>
</tr>
</tbody>
</table>
Loaded/Empty Trucks, I-90

Percentage of Empty/Loaded Trucks on I-90 by Direction and Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Eastbound Loaded</th>
<th>Eastbound Empty</th>
<th>Westbound Loaded</th>
<th>Westbound Empty</th>
<th>Both Directions Loaded</th>
<th>Both Directions Empty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993/94</td>
<td>67%</td>
<td>33%</td>
<td>75%</td>
<td>25%</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>2002</td>
<td>59%</td>
<td>41%</td>
<td>78%</td>
<td>22%</td>
<td>67%</td>
<td>33%</td>
</tr>
</tbody>
</table>
Truck Configuration (♯), I-90

Truck Configuration Profiles on I-90 by Year

Daily Truck Trips

Unknown  Straight Truck  Straight Truck with Trailer  Tractor Only  Tractor and Trailer  Tractor with Two Trailers  Other

1993/1994  32  234  578  38  1,713  568  7
2002  11  330  1,205  61  3,153  535  5

I-90 Corridor
Origin/Destination (%), I-90

Percentage of Truck Trips on I-90 by Origin/Destination and Year

- **In-State/In-State**
  - 1993/1994: 31%
  - 2002: 36%

- **In-State/Out-of-State**
  - 1993/1994: 30%
  - 2002: 19%

- **Out-of-State/In-State**
  - 1993/1994: 28%
  - 2002: 35%

- **Out-of-State/Out-of State**
  - 1993/1994: 11%
  - 2002: 10%
Loaded/Empty Trucks, Hwy-395

Percentage of Empty/Loaded Trucks on Southbound US-395 by Year

- 1993/1994: 78% Loaded, 73% Empty
- 2002: 22% Loaded, 27% Empty
Truck Configuration (#), Hwy-395

Truck Configuration Profiles on Southbound US-395 by Year

- Unknown
- Straight Truck
- Straight Truck with Trailer
- Tractor Only
- Tractor and Trailer
- Tractor with Two Trailers
- Other

Daily Truck Trips:
- 1994/1993
- 2002

- 1994/1993: 0, 0, 80, 268, 13, 749, 218, 0
- 2002: 308, 598, 2,096, 749, 386, 218, 0, 0
Truck Configuration (%), Hwy-395

Truck Configuration Profile for Southbound US-395 in Percentages by Season

- **Tractor Only**: 1.0% (1994/1993), 2.0% (2002)  
- **Tractor and Trailer**: 56.4% (1994/1993), 60.6% (2002)  
- **Tractor with Two Trailers**: 16.4% (1994/1993), 11.2% (2002)  
- **Other**: 0.0% (1994/1993), 0.0% (2002)  
- **Unknown**: 0.0% (1994/1993), 0.0% (2002)
Origin/Destination (%), Hwy-395

Percentage of Daily Truck Trips on US395 by Origin/Destination and Year

- **In-State/In-State**: 20% (1993/1994), 34% (2002)
I-5 Summary Findings

• Freight truck traffic increased 94% between 1994 - 2002.
• Northbound traffic slightly heavier.
• Proportion of loaded trucks roughly the same, slightly less.
• Tractor and trailer configuration represents the largest truck type, and the configuration with the largest increase, followed by truck and trailer.
• Out-of-State to In-State shipments represented the largest % in 1994, In-State to In-State shipments have the largest share in 2002.
I-90 Summary Findings

• Freight truck traffic increased 72% between 1994 - 2002.
• Eastbound traffic slightly heavier than westbound.
• Proportion of loaded trucks greater for westbound traffic.
• Tractor and trailer configuration represents the largest truck type, and the configuration with the largest increase, followed by truck and trailer.
• Big increase in In-State to In-State, and Out-of-State to In-State shipments.......decrease in In-State to Out-of-State and Out-of-State to Out-of-State shipments.
Freight truck traffic increased 172% between 1994 - 2002.

Proportion of loaded trucks roughly the same, slightly less.

Tractor and trailer configuration represents the largest truck type, and the configuration with the largest increase, followed by truck and trailer.

In-State to In-State shipments represent the largest relative increase, but In-State to Out-of-State shipments still represents the largest share.
Questions ?
Geo-Coding O-D Surveys

• What does it mean?

• Assigning a collection of road and highway segments to each individual truck shipment (survey). Every survey record will be linked to the collection of arcs that comprise that unique route.
Geo-Coded Routes
Geo-Coding O-D Surveys

• What analytical capabilities does it bring?
  • Associates all information captured from survey with specific geographical attributes (roads and highways).
    • Commodity (Industry)
    • Truck Configuration
    • Weight
    • Origin/Destination
    • Time of Day
    • Facility Type