SFTA Origin-Destination Freight Data
1993/1994 – 2002 Spring/Summer 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

- **Northbound**
  - Loaded: 2,676
  - Empty: 1,375
  - Total: 7,605

- **Southbound**
  - Loaded: 4,051
  - Empty: 2,868
  - Total: 2,546

- **Both Directions**
  - Loaded: 2,546
  - Empty: 1,312
  - Total: 15,314

- **Total**
  - Loaded: 2,868
  - Empty: 7,909
  - Total: 3,858

- **Comparison Years**
  - 1993/1994
  - 2002
Percentage of Empty/Loaded Trucks on I-5 by Direction and Year

- Northbound
  - 1993/1994: 66%
  - 2002: 34%
  - Both Directions
  - 1993/1994: 62%
  - 2002: 38%
  - Southbound
  - 1993/1994: 66%
  - 2002: 34%
  - Both Directions
  - 1993/1994: 64%
  - 2002: 36%

I-5 Corridor
Truck Configuration Profiles on I-5 by Year

Truck Configuration (%), I-5

Truck Configuration Profile for I-5 in Percentages by Season

- Unknown: 0.5%, 0.8%
- Straight Truck: 19.0%, 16.6%
- Straight Truck with Trailer: 18.5%, 22.0%
- Tractor Only: 2.0%, 3.8%
- Tractor and Trailer: 45.4%, 48.2%
- Tractor with Two Trailers: 14.6%, 8.5%
- Other: 0.0%, 0.1%
Origin/Destination (%), I-5

Percentage of Truck Trips by Origin/Destination on I-5 by Year

- **In-State/In-State**: 28% (1993/1994), 39% (2002)
Daily Truck Trips, I-90

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

- **Eastbound**: 1993/1994: 953, 1,671; 2002: 1,135, 1,745
- **Both Directions**: 1993/1994: 1,431, 2,845; 2002: 1,522, 2,225, 5,070

Bar chart showing daily truck trips for loaded and empty trucks by direction and year.
Percentage of Empty/Loaded Trucks on I-90 by Direction and Year

- **1993/1994**
- **2002**

<table>
<thead>
<tr>
<th>Direction</th>
<th>Eastbound</th>
<th>Westbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loaded</td>
<td>67%</td>
<td>75%</td>
</tr>
<tr>
<td>Empty</td>
<td>59%</td>
<td>78%</td>
</tr>
<tr>
<td>Loaded</td>
<td>33%</td>
<td>25%</td>
</tr>
<tr>
<td>Empty</td>
<td>41%</td>
<td>22%</td>
</tr>
<tr>
<td>Both Directions</td>
<td>67%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Note: The graph compares the percentage of loaded and empty trucks on I-90 by direction and year for 1993/1994 and 2002.
Truck Configuration Profiles on I-90 by Year

- Unknown: 32/11
- Straight Truck: 234/330
- Straight Truck with Trailer: 578/1,205
- Tractor Only: 38/61
- Tractor and Trailer: 1,713/3,153
- Tractor with Two Trailers: 568/535
- Other: 7/5
Truck Configuration (%), I-90

Truck Configuration Profile for I-90 in Percentages by Season

- **Unknown**: 1.0%, 0.2%
- **Straight Truck**: 7.4%, 6.2%
- **Straight Truck with Trailer**: 18.2%, 22.7%
- **Tractor Only**: 1.2%, 1.2%
- **Tractor and Trailer**: 54.0%, 59.5%
- **Tractor with Two Trailers**: 17.9%, 10.1%
- **Other**: 0.2%, 0.1%
Daily Truck Trips, Hwy-395

Daily Truck Trips on Southbound US-395, by Empty/Loaded Status and Year

- **Loaded**
  - Southbound: 936
  - 1993/1994: 2,380
- **Empty**
  - Southbound: 271
- **Total**
  - Southbound: 1,207
  - 1993/1994: 3,283

Legend:
- **1993/1994**
- **2002**
Loaded/Empty Trucks, Hwy-395

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

- 1993/1994:
  - Loaded: 78%
  - Empty: 22%

- 2002:
  - Loaded: 73%
  - Empty: 27%
Truck Configuration Profiles on Southbound US-395 by Year

- **Unknown**
  - 1994/1993: 80
  - 2002: 0

- **Straight Truck**
  - 1994/1993: 308
  - 2002: 0

- **Straight Truck with Trailer**
  - 1994/1993: 268
  - 2002: 598

- **Tractor Only**
  - 2002: 70

- **Tractor and Trailer**
  - 1994/1993: 1,000
  - 2002: 2,096

- **Tractor with Two Trailers**
  - 1994/1993: 218
  - 2002: 386

- **Other**
  - 1994/1993: 0
  - 2002: 0
Truck Configuration (%), Hwy-395

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

- Unknown: 0.0% 0.0%
- Straight Truck: 6.0% 8.9%
- Straight Truck with Trailer: 20.2% 17.3%
- Tractor Only: 1.0% 2.0%
- Tractor and Trailer: 56.4% 60.6%
- Tractor with Two Trailers: 16.4% 11.2%
- Other: 0.0% 0.0%
Origin/Destination (%), Hwy-395

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

- In-State/In-State: 20%
- In-State/Out-of-State: 57%
- Out-of-State/In-State: 7%
- Out-of-State/Out-of State: 16%

1993/1994 vs 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.
US 395 Summary Findings

• 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-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