The Work Trip in the Context of Daily Travel

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Q: How Important is the Work Trip to our Understanding of Daily Travel?

- Overall, one out of five trips and one out of four miles are traveled in commutes.

- For workers, over 40 percent of miles and minutes of travel on weekdays is spent in commutes.

- Commuting continues to predominate weekdays and peak periods, (nearly 72 percent of workers depart between 5:00 and 9:00 am) contributing to congestion.

- The proportion of direct (non-stop) trips to work continues to decline. In 2001, over half of commuters made non-work trips during their commutes.
Work Trips Have Declined as a Proportion of All Trips

Work Travel as a Proportion of All Travel

- Person Trips
- Person Miles of Travel
- Vehicle Trips
- Vehicles Miles of Travel

Graph shows trends from 1969 to 2001*.
Other Types of Trips are Growing Faster than Work Trips

Added Annual Trips per Person by Purpose 1990 - 2001

- To/From Work
- Family & Pers Errands
- Shopping
- Soc/Rec (inc Visit)
Workers Account for A LOT of Daily Travel

Comparison of Travel by Workers and All Others 16+

- Workers
- All Others 16+

<table>
<thead>
<tr>
<th>Category</th>
<th>Workers</th>
<th>All Others 16+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>Tripmakers</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>Person Trips</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>Vehicle Trips</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>PMT</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>VMT</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Sum of All Travel Time</td>
<td>100%</td>
<td>0%</td>
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Workers do More Than Commuting

Proportion of Work- and Non-Work Trips Made by Weekday Workers

<table>
<thead>
<tr>
<th>Category</th>
<th>Work Trips</th>
<th>Non-Work</th>
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<tbody>
<tr>
<td>Person Trips</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Vehicle Trips</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>PMT</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>VMT</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>PMT IN POV</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>SUM OF ALL TT</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Even When They Have Long Commutes

Weekday Minutes of Travel

<table>
<thead>
<tr>
<th>Commute Time Categories</th>
<th>Work Tours</th>
<th>NonWork</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;15 mins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-29 mins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-44 mins</td>
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<td></td>
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<tr>
<td>45+ mins</td>
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</table>
Less Than Half of Commuters Make Direct Trips to Work

Mean HBW Trips

1990 2001

Sun Mon Tue Wed Thu Fri Sat
The Mountain of Growth in Non-Work Travel

Difference in Number of Trips by Time of Day, 1990 - 2001
Using Work Tours Captures More Realistic Picture

![Bar chart showing mean HBW or Work Tours per worker by day of the week. The chart compares HBW Trips (light blue) and Work Tours (green) for each day from Sun to Sat. The chart highlights that Work Tours capture a more realistic picture of travel patterns.](image)
We Think We Know What Complex Work Tours Look Like

Home

Drop Child At Daycare

Pick-up Present for Boss' Birthday

Work

Pick-up Groceries for Dinner

Pick Child up at Daycare

Boss' Birthday

Lunch
But, Do We Really?
But, Is a Good Household Travel Survey Good Enough?

Unique pairs of Worker Residence and Work Location Tracts, n=445
Not for Small-Area Geographic Coverage

Unique pairs of worker residence and workplace locations, n=8,953
HTS Overstates Some Potential Flows and Misses Others Completely

Total Workers Trips into Albany = 106,058
Journey-to-Work Flows
More Reasonable

Total Work Flows into Albany=218,715
In major characteristics, Census data matches ‘real’ commutes

How usual is a ‘Usual’ day:

- Mode of travel matched for over 70 percent of commutes

- Travel time matched better for workers with short commutes (70 percent) than with long travel times (30-50 percent)

- Departure time also very, very similar
Best of All Possible Worlds:

Work flows at small-area geography
AND
Descriptions of the real-life travel behavior from a household travel survey
Conclusion

- What makes the JTW invaluable?
  It is the work trip data collected *in conjunction* with the residence and workplace locations with such *precise geographic detail*.

- Transportation planners can evaluate potential work travel at small-area geography
  While using *other data sources* to expand their understanding of the work trip to the whole of daily travel.
Conclusion

The journey-to-work data are still relevant and needed for small-area planning, and are widely used by transportation planners and analysts.

There is a particular need for these data in areas that do not have a local, current household travel survey.
Looking Forward

- ACS will result in fewer flows, and fewer OD pairs
- Planners hope that they can learn to make these data as useful and relevant as the CTPP
- This conference is a good overview of issues (e.g. confidentiality and thresholds, sample sizes, uses in modeling)
- Guidebook will be vital in helping local planners
We Need to Connect Workplace Data to Daily Trip-making

- Journey-to-work flows are *not trips*

- LED promises comprehensive employment summaries, *but not trip attraction rates*

- For instance, 15 employees at a small fast-food place can attract 1500 daily trips

- We need to know the 1500, not just the 15