

Why transportation planners want small area data



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Home-to-work flows are part of travel demand models

- The smaller the geography, the better trips can be assigned to network links.
- Advances in computer processing makes more links possible in the model.
- Transition to microsimulation makes small geography even more attractive.

Generalized Network



Detailed Network



Data Sources for Transportation Planning

Source	Number of MPOs	% of MPOs responding
Decennial Census	138	91%
CTPP	112	74%
CPS	46	30%
Travel Surveys	21	14%
ACS	18	12%
State employment data	17	11%
MPO employment data	13	9%
Commercial Employment Data	4	3%

23%

Main CTPP products

- Residence Tables: Households, Persons, Workers
- Workplace Tables of Workers
 - Mode to work * Characteristics like Income, vehicle availability
 - Industry and Occupation
- Flow between Home and Work
 - Count of workers
 - Means of Transportation by Vehicle Availability
 - Means of Transportation by Household Income

DRB Rules for CTPP2000 resulted in too much suppression

- Don't know what rules will be for ACS.
- Rules for CTPP 2000 included rounding and thresholds.
 - Threshold requirement (3 unweighted records) resulted in too much suppression. Based on 3-Counties, 65-70 % of tract-to-tract flows suppressed, the 80-90 % of TAZ-to-TAZ flow suppressed.
- Interested in alternatives to thresholds.

ACS sample is about $\frac{1}{2}$ that of
decennial long form

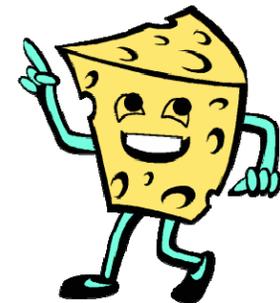
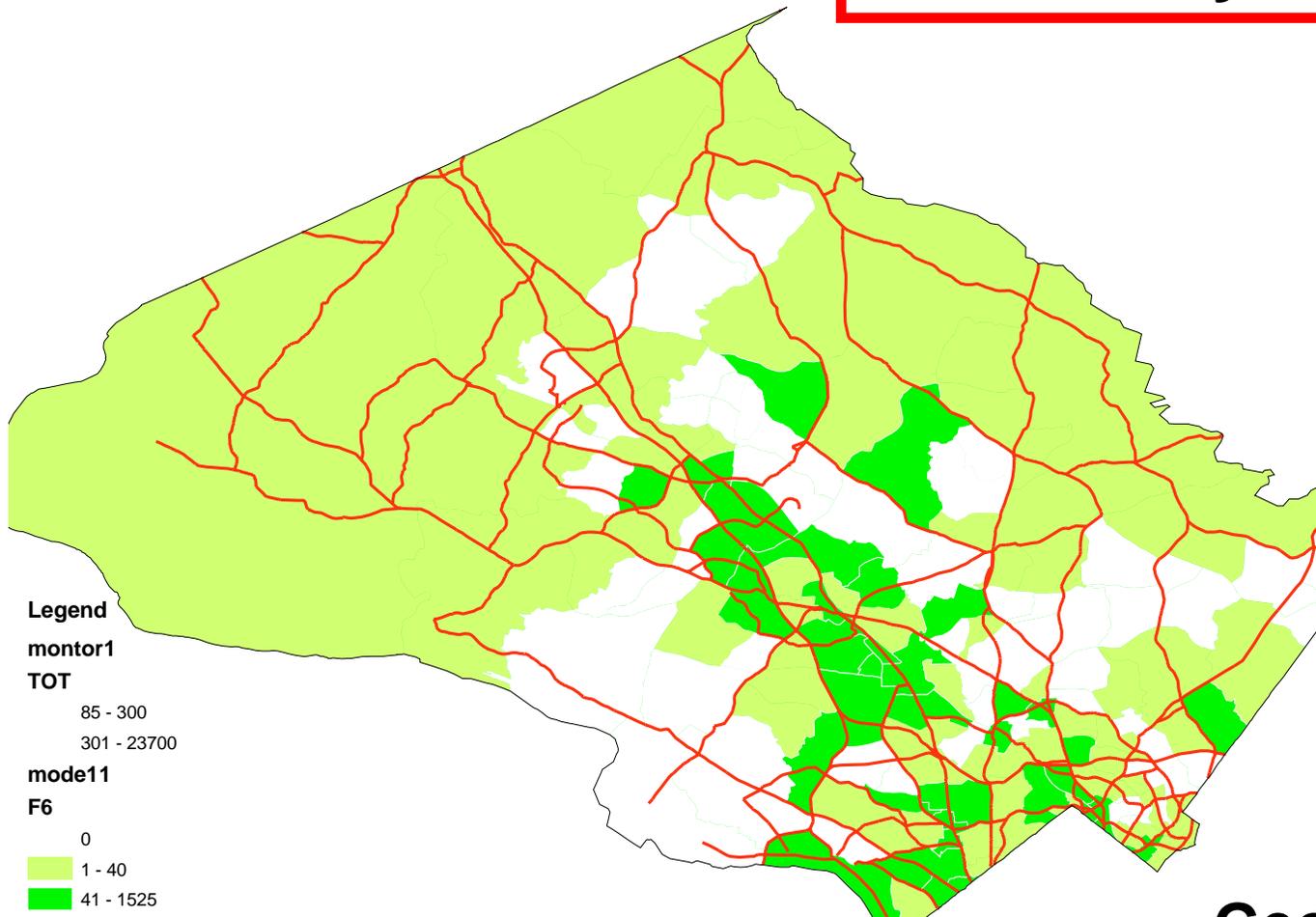
- Therefore thresholds based on unweighted cell counts (3) are likely to result in even more suppression of small geographic areas.

Place of Work Data

Coverage for Montgomery County, MD

With the Rule of 3

Applying **the Rule of 3**
for Subway users



Geography = Tract

Importance of Home-to-Work Trips in the Travel Model

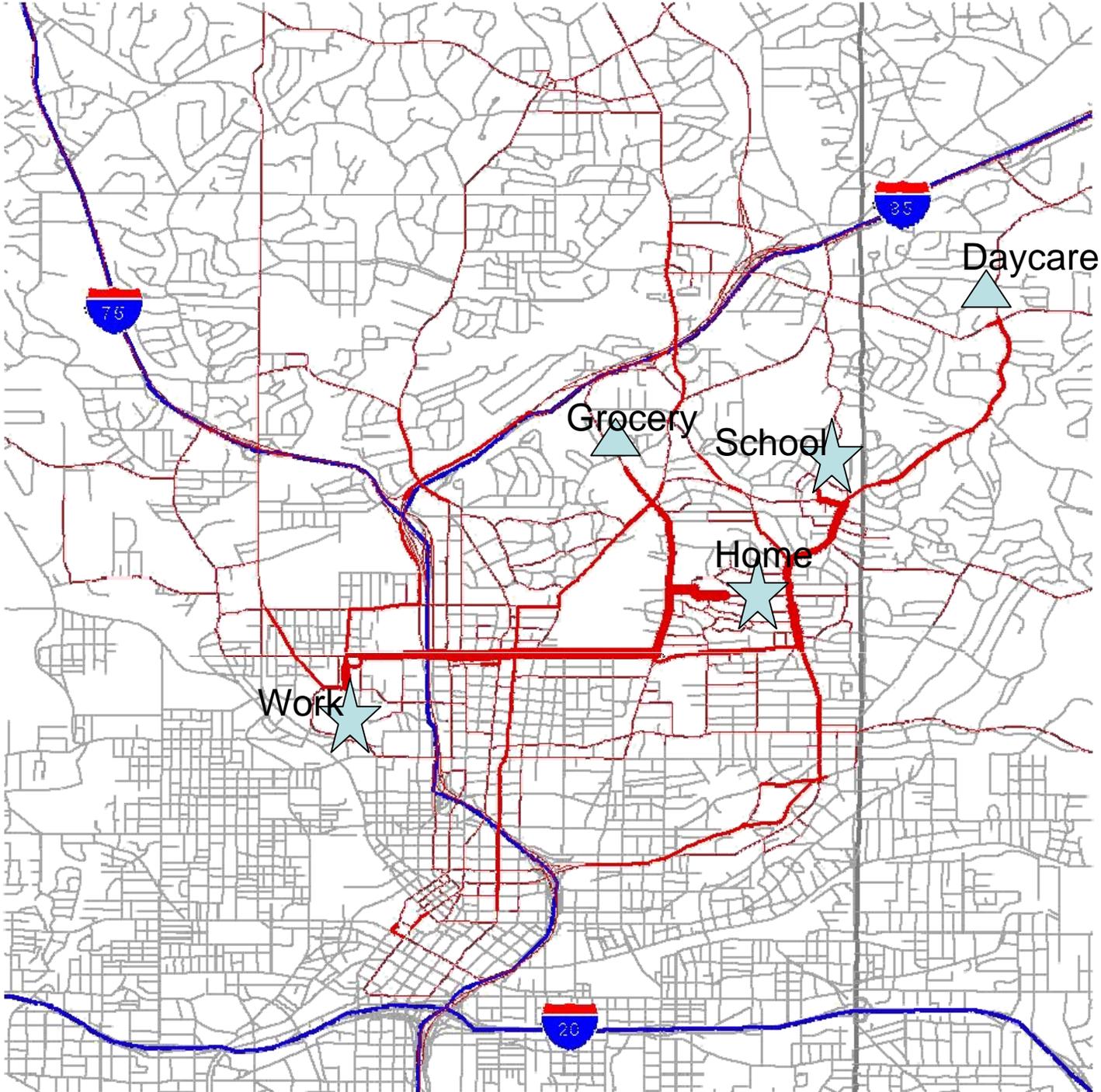
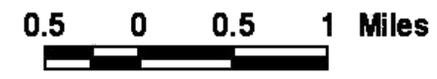
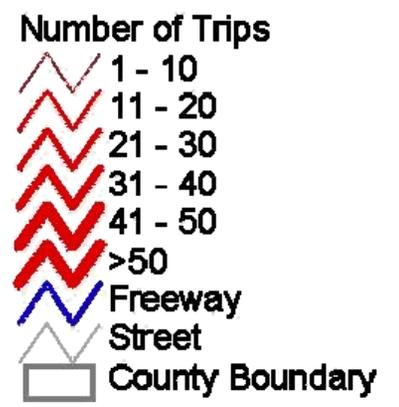
- The home-to-work trip is LONGER than other trip purposes, and more likely to occur in periods of congestion
- Often times, the home-to-work O/D data from the CTPP is the only local small area data available, aside from traffic counts



COMMUTE ATLANTA GPS

Number of Trips
By Roadway
Segment

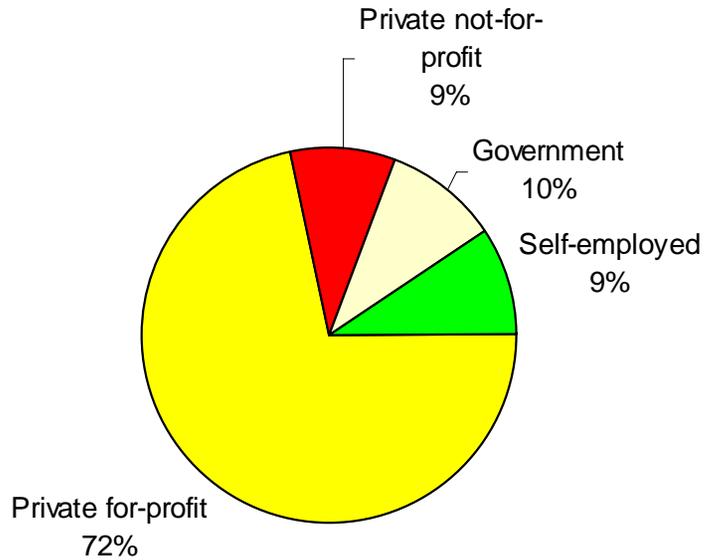
74 Days
313 Trips



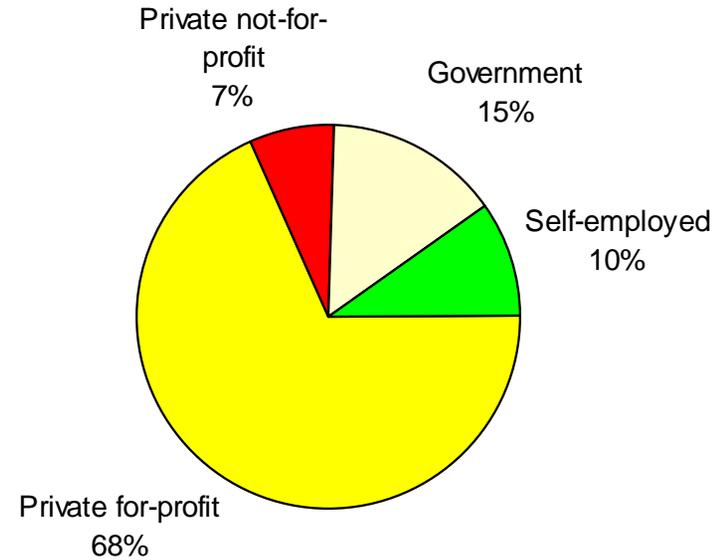
Potential benefits of LEHD

- Annual (quarterly) data on total employment for small area workplace geography. Synthetic data allows for small area tabulation without disclosure risk.
- Data on workers at residence geography for small areas.
- Data on FLOW between home and work. Very large # of O/D pairs.
- Accessibility to State files differs from state to state.

Class of Worker Census 2000



Hennepin County, MN



U.S. Total

Issues to explore, problems to resolve

- Large employers in one location.
 - Boeing, Microsoft. Are they included given Disclosure Avoidance rules?
- Self-employed.
- Government, including military.
- Informal labor force (Paul Ong)
- Commuting across State boundaries (test MO and IL)

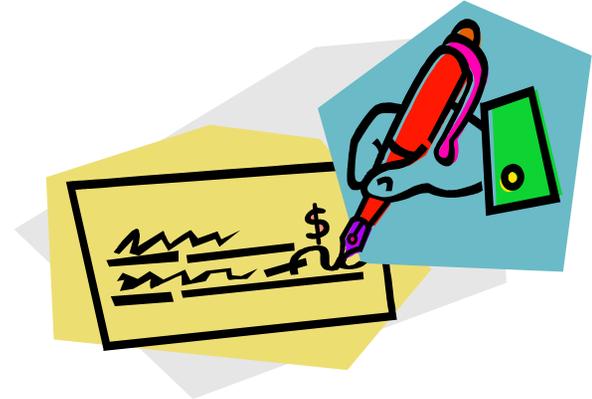
Let's evaluate the results.

- Will State ESD's share the results from the On the Map pilot test?
 - Several MPOs in CA, WA, MO, and FL State DOT want to review the data.
 - Twin Cities MPO (Bob Paddock) working on review.
- Compare employment counts at workplace location to: other State estimates, CTPP2000 Part 2, licensed private databases
- Compare worker counts to Census 2000.

Issues

- **Multiple site business lists.**
 - Gravity model developed from MN data.
 - Completeness – BTS project/ Mix and Fulton paper
 - Other states with actual link between individual to specific worksite?
- How well is the **imputation of persons to workplaces in multisite businesses** working? Should it be adjusted for specific kinds of businesses? How can it be evaluated?
- Is the quality of the data **consistent between States?**
 - Payroll office vs. workplace addresses
 - PO Boxes

Who will pay?



- What and how should the transportation community contribute to the LEHD program to further the project?
 - First step: MPO and State DOTs assist in evaluating the results of the “On the Map” pilot data.
 - Develop relationships between ESD/EDDs with MPOs and State DOTs to improve quality of workplace location data.
 - Consider task in AASHTO pooled fund for new CTPP.