

# Workplace Geocoding Issues

ACS Data Users' Conference

May 2014

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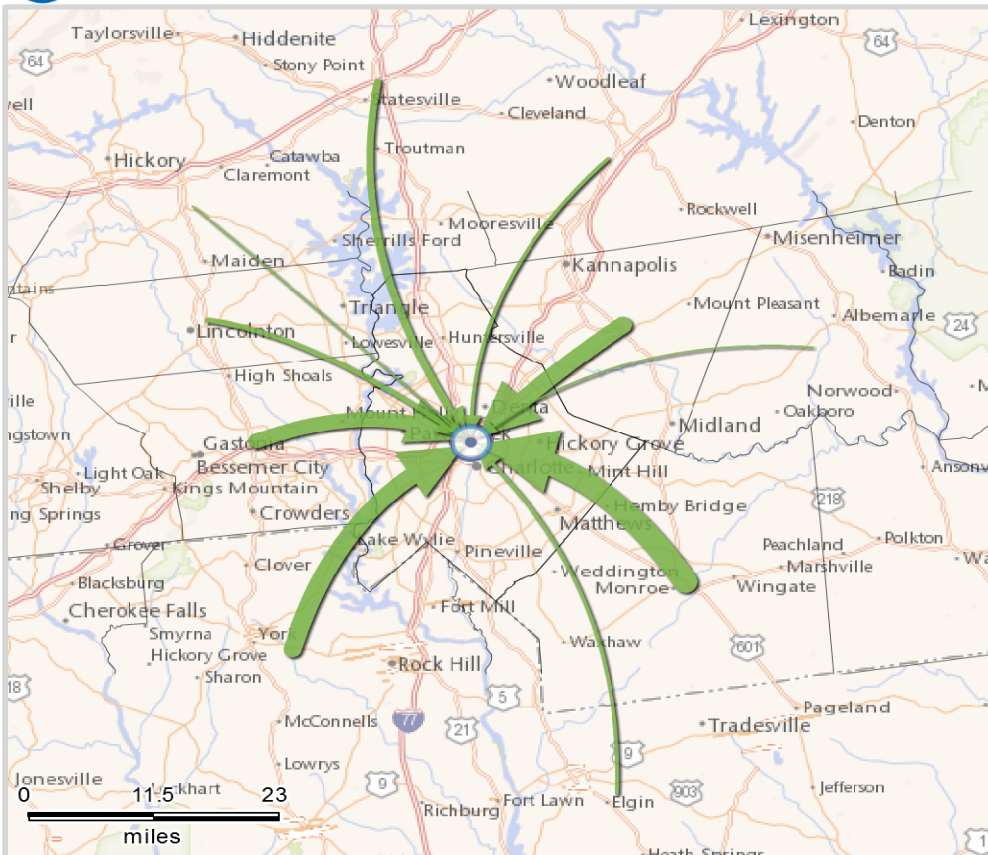
FHWA, USDOT

# We ♥ CTPP flow data

## Place of Work is critical



### POW County - Flows to Mecklenburg Map



#### LEGEND

State-County

Workers 16 and Over Estimate to Mec

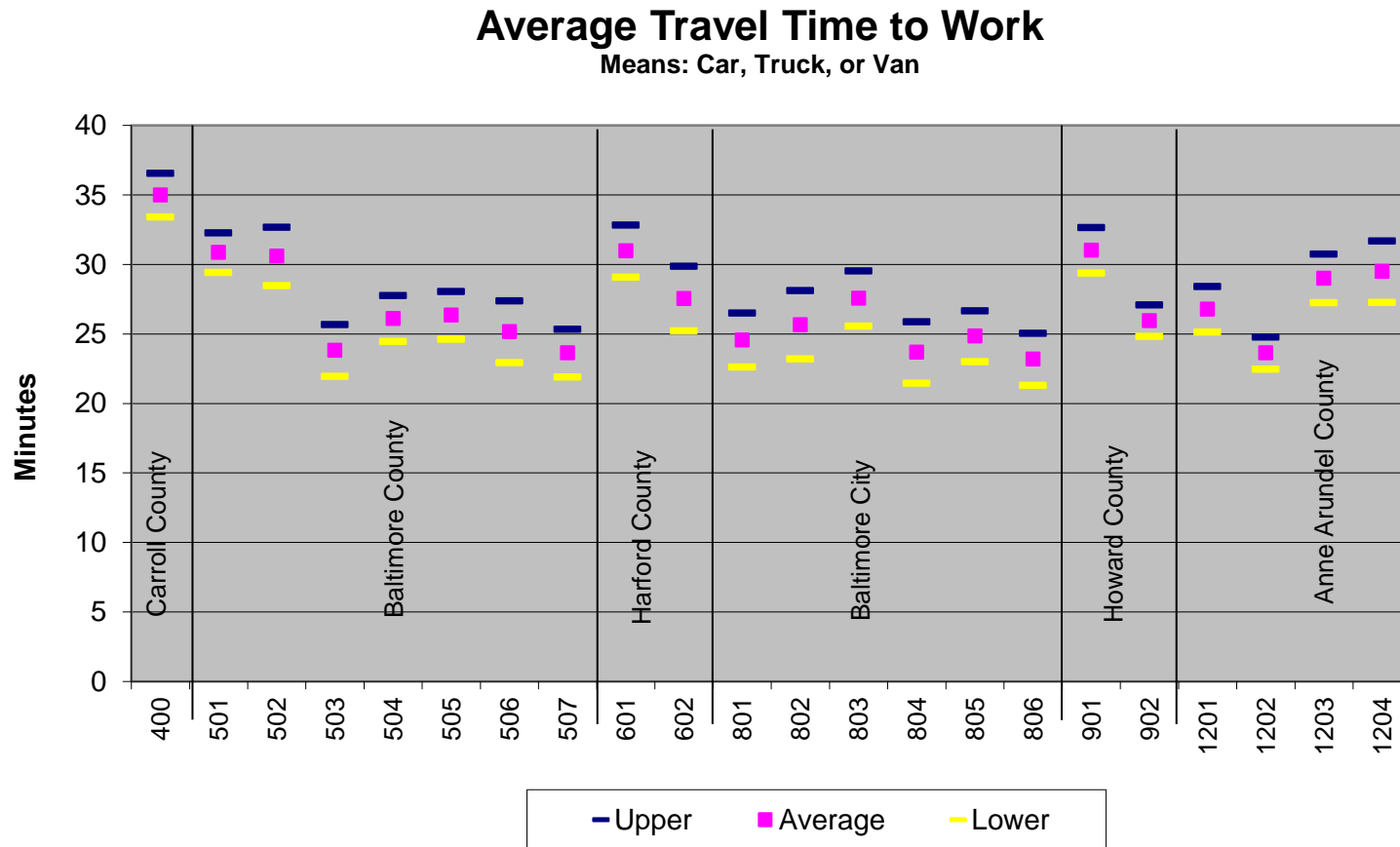


Monday, October 28, 2013



# We rely on ACS and CTPP

## Travel Time data



Source: 2006 American Community Survey

**30** At what location did this person work **LAST WEEK?** If this person worked at more than one location, print where he or she worked most last week.

a. Address (Number and street name)

915 Second Ave

If the exact address is not known, give a description of the location such as the building name or the nearest street or intersection.

b. Name of city, town, or post office

Seattle

c. Is the work location inside the limits of that city or town?

☒ Yes

☐ No, outside the city/town limits

d. Name of county

King

e. Name of U.S. state or foreign country

WA

f. ZIP Code

98174

**31** How did this person usually get to work **LAST WEEK?** If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.

- |   |                                     |
|---|-------------------------------------|
| <input type="checkbox"/> Car, truck, or van       | <input type="checkbox"/> Motorcycle |
| <input type="checkbox"/> Bus or trolley bus       | <input type="checkbox"/> Bicycle    |
| <input type="checkbox"/> Streetcar or trolley car | <input type="checkbox"/> Walked     |
| <input type="checkbox"/> Subway or elevated       | <input type="checkbox"/> Worked at  |

information for his/her last job or business.

**41** Was this person – Mark (X) **ONE** box.

- ☐ an employee of a **PRIVATE FOR-PROFIT** company or business, or of an individual, for wages, salary, or commissions?
- ☐ an employee of a **PRIVATE NOT-FOR-PROFIT**, tax-exempt, or charitable organization?
- ☐ a local **GOVERNMENT** employee (city, county, etc.)?
- ☐ a state **GOVERNMENT** employee?
- ☒ a Federal **GOVERNMENT** employee?
- ☐ **SELF-EMPLOYED** in own **NOT INCORPORATED** business, professional practice, or farm?
- ☐ **SELF-EMPLOYED** in own **INCORPORATED** business, professional practice, or farm?
- ☐ working **WITHOUT PAY** in family business or farm?

**42** For whom did this person work?

If now on active duty in the Armed Forces, mark (X) this box → ☐  
and print the branch of the Armed Forces.

Name of company, business, or other employer

USDOT

**43** What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, bank)

government

**44** Is this mainly – Mark (X) **ONE** box.

- ☐ manufacturing?
- ☐ wholesale trade?
- ☐ retail trade?

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☐ Car, truck, or van

☐ Motorcycle

☐ Bus or trolley bus

☐ Bicycle

☐ Streetcar or trolley car

☐ Walked

☐ Subway or elevated

☐ Worked at home → SKIP to question 39a

☐ Railroad

**41** Was this person – Mark (X) ONE box.

☒ an employee of a PRIVATE FOR-PROFIT company or business, or of an individual, for wages, salary, or commissions?

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☐ a local GOVERNMENT employee (city, county, etc.)?

☐ a state GOVERNMENT employee?

☐ a Federal GOVERNMENT employee?

☐ SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm?

☐ SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm?

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**42** For whom did this person work?

If now on active duty in the Armed Forces, mark (X) this box → ☐ and print the branch of the Armed Forces.

Name of company, business, or other employer

Boeing

**43** What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, bank)

aircraft

**44** Is this mainly – Mark (X) ONE box.

☒ manufacturing?

☐ wholesale trade?

☐ retail trade?



# Different locations for Boeing “in Seattle”

Google Maps search results for "boeing". The map shows the Seattle area with several locations marked with red pins and labeled A through E. The left sidebar lists the details for each location.

**boeing**

Get directions My places

**A Boeing Radiation Effects Laboratory** ▾  
1420 S Trenton St, Seattle, WA  
(206) 544-0364 · [boeing.com](http://boeing.com)  
4.2 ★★★★★ 6 reviews ·  
aircraft · tour guide · factory tour · gift shop · airplanes

**B The Boeing Company** ▾  
1901 Oakesdale Ave SW, Renton, WA  
(206) 766-2910 · [boeing.com](http://boeing.com)  
environmental performance · global services · capital corporation · commercial airplanes · dreamliner

**C Boeing** ▾  
7755 East Marginal Way S, Tukwila, WA  
(206) 655-2121 · [boeing.com](http://boeing.com)  
1 review ·  
airplane · missiles

**D Boeing Recreation Center** ▾  
6400 36th Ave W, Everett, WA  
(425) 717-6661 · [boeing.com](http://boeing.com)  
1 review ·

**E The Boeing Store** ▾

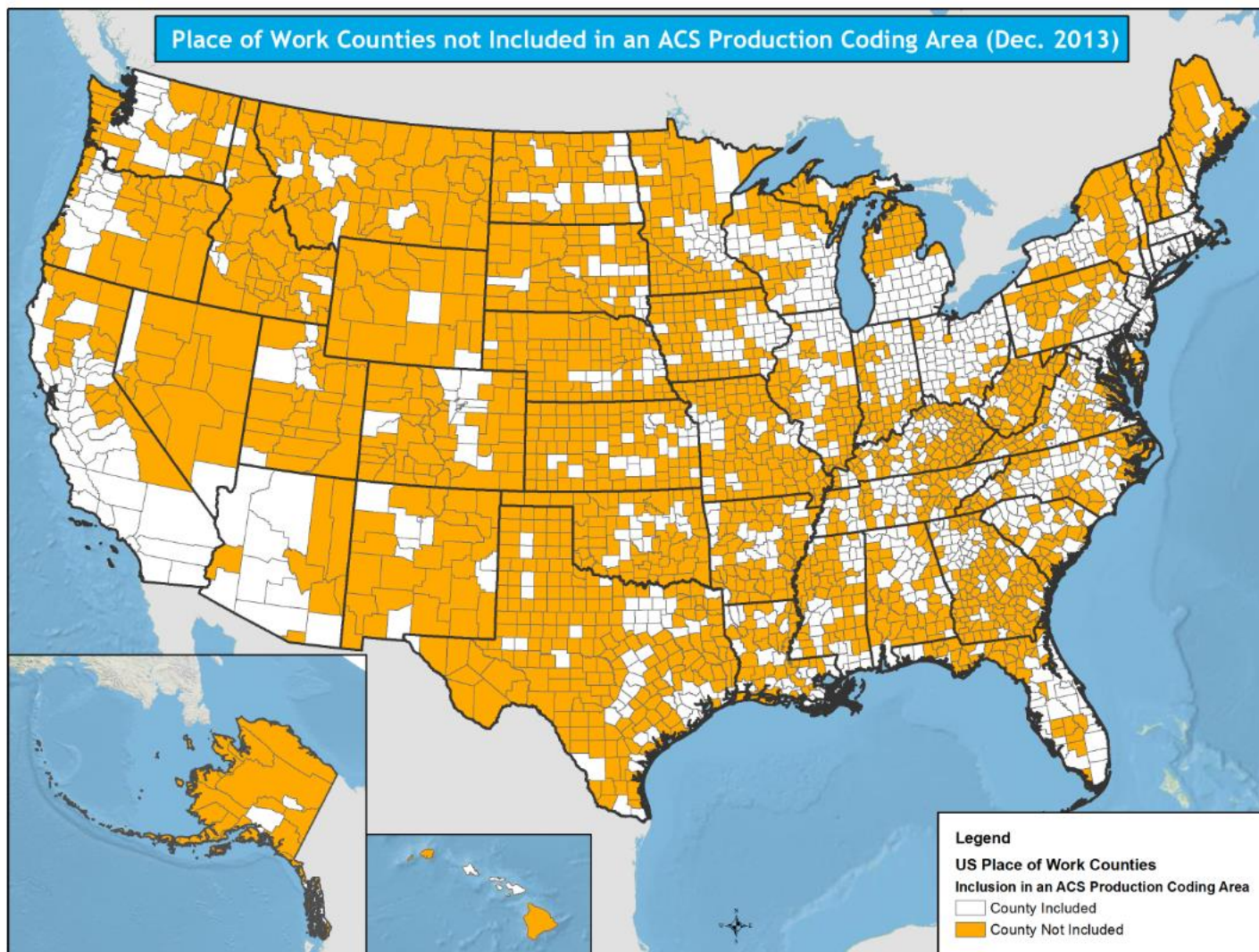
Map labels: Sequim, Port Townsend, Camano Island, Port Susan, Tulalip, North Marysville, Lake Stevens, American Legion Memorial Park, Willis Tucker Park, Lynnwood, Shoreline, Woodinville, Lake City, University District, Redmond, Sammamish, Issaquah, Snoqualmie, North Bend, Maple Valley, Kent, Federal Way, Gig Harbor, Belfair, Bethel, Bremerton, Silverdale, Chico, Bainbridge Island, Dosewallips State Park, Monroe, Sultan, Wallace State, Mt Pilchuck State Forest.

Scale: 10 mi, 20 km

# 2006-2010 CTPP

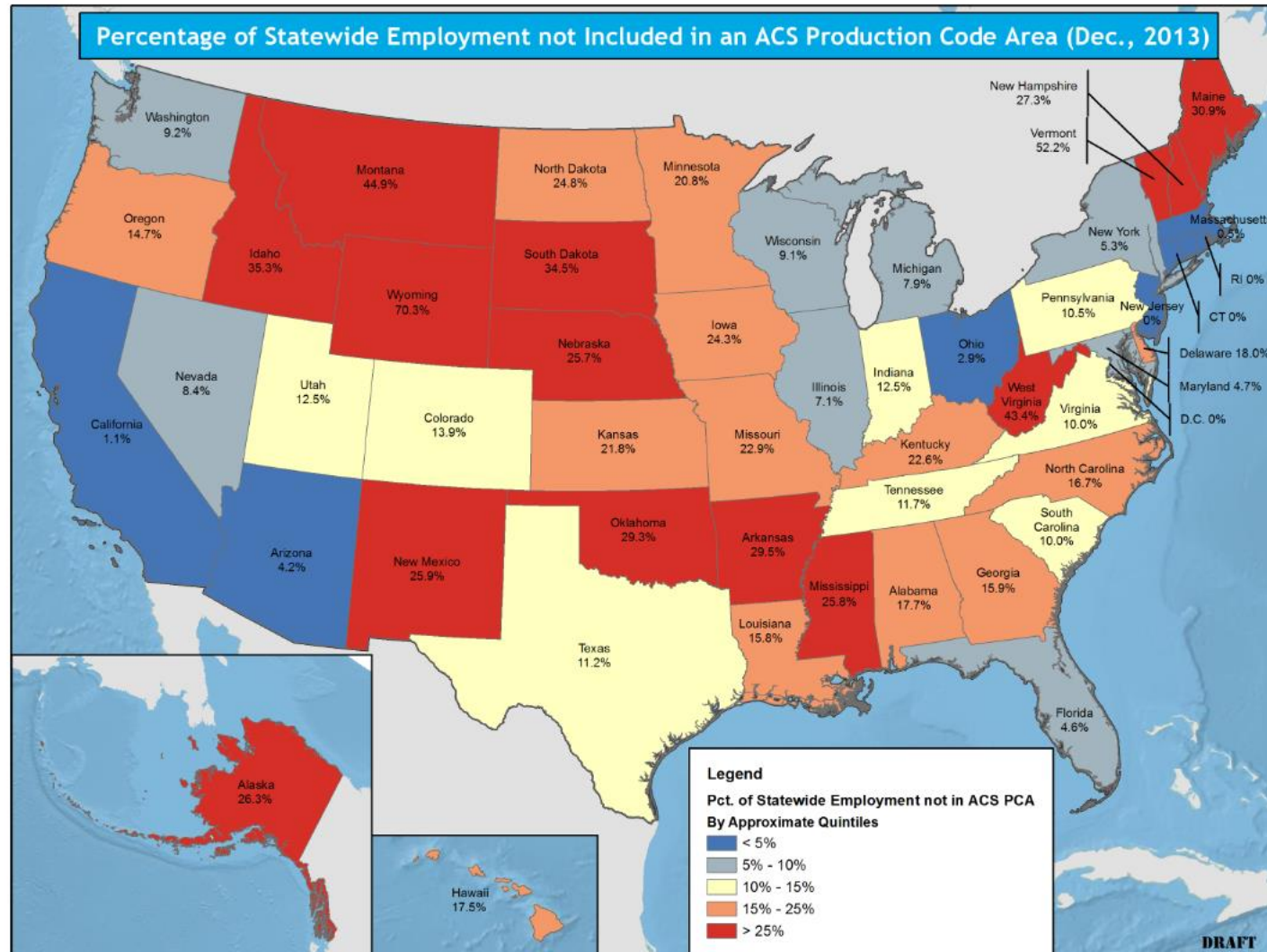
- AASHTO is already working on the next round of CTPP.
- Standard geocoding – about 75% coded to small geography
- Extended workplace allocation – additional 15%
- 9-10% of records only have a County and Place geocode, not fine enough for TAZ or tract

# Counties with extended allocation (in WHITE)





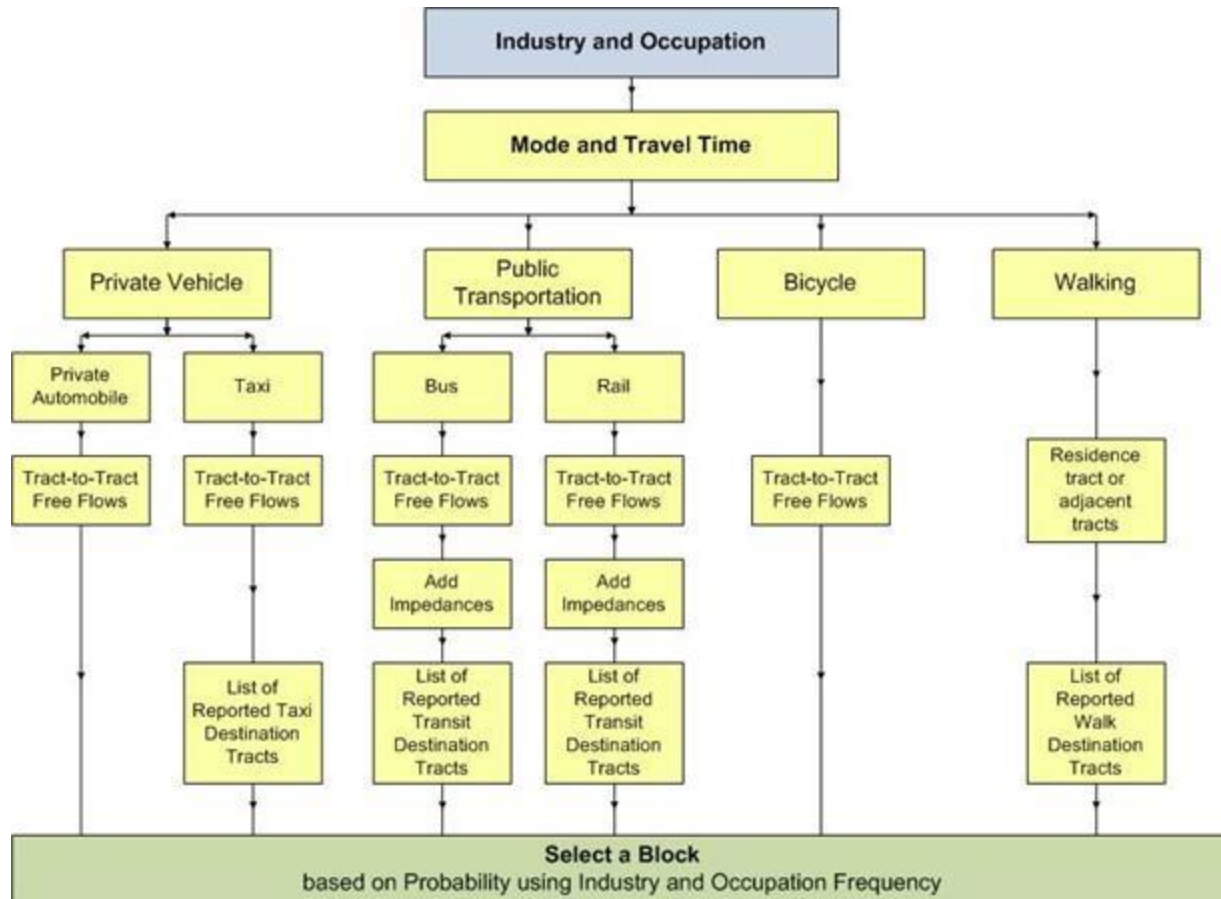
# Percent of Workers in each State living in County without extended allocation



# Extended Workplace Allocation

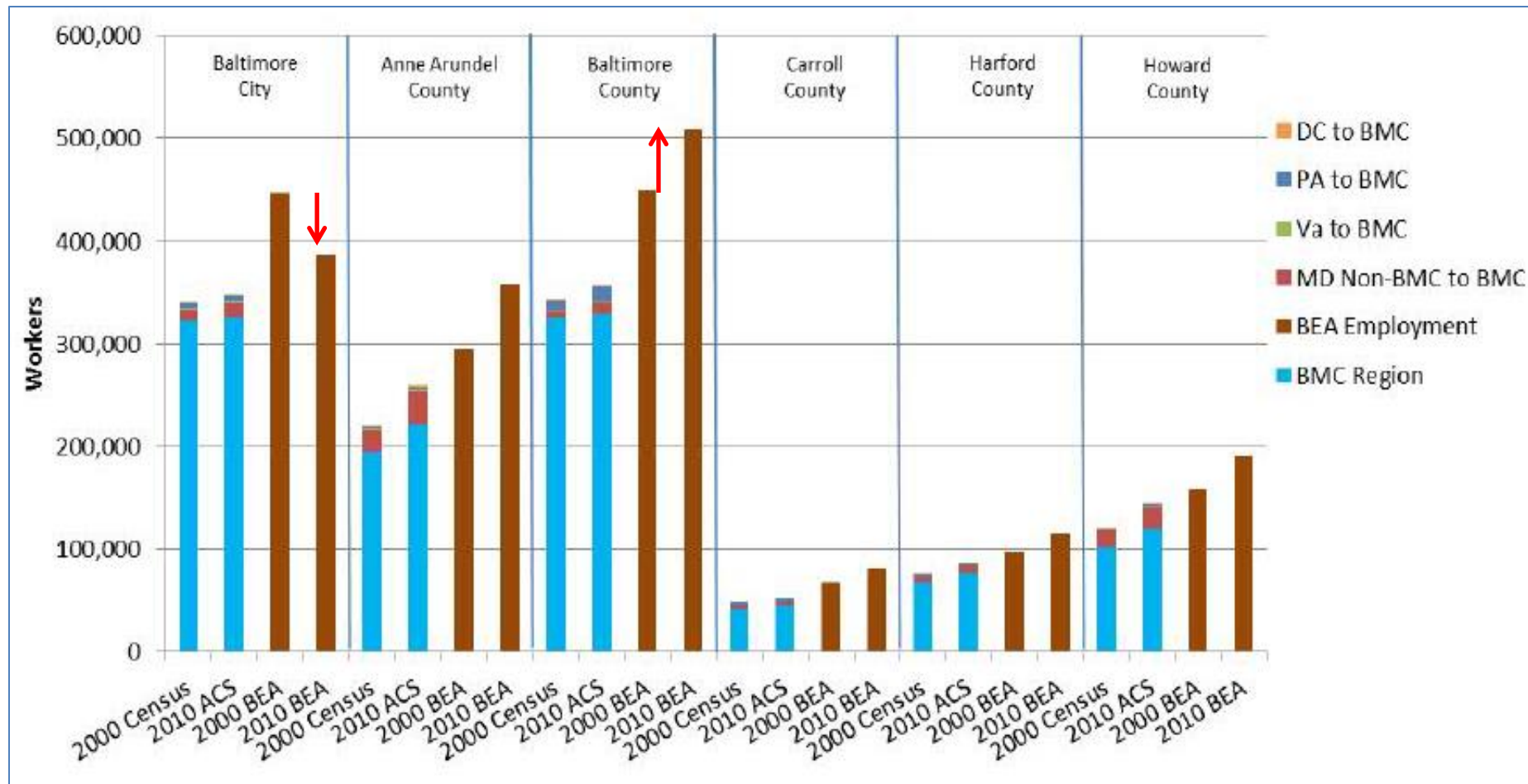
- Industry
- Occupation
- Means of Transportation to Work
- Travel Time to work

# Extended Allocation Process for 2006-2010 CTPP



Source: Rapino, M. In CTPP Status Report, September 2012

# BEA vs. ACS results in Baltimore City and Baltimore County

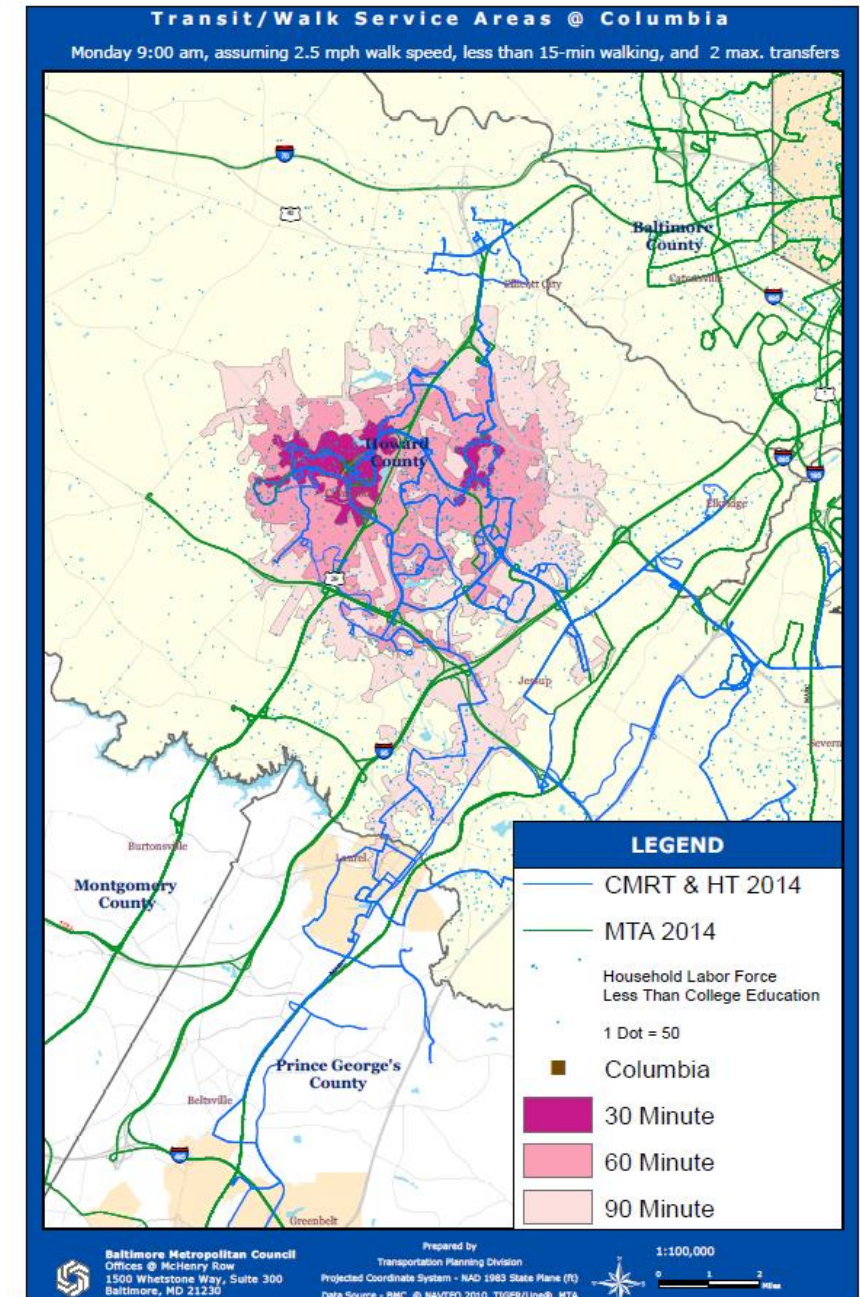




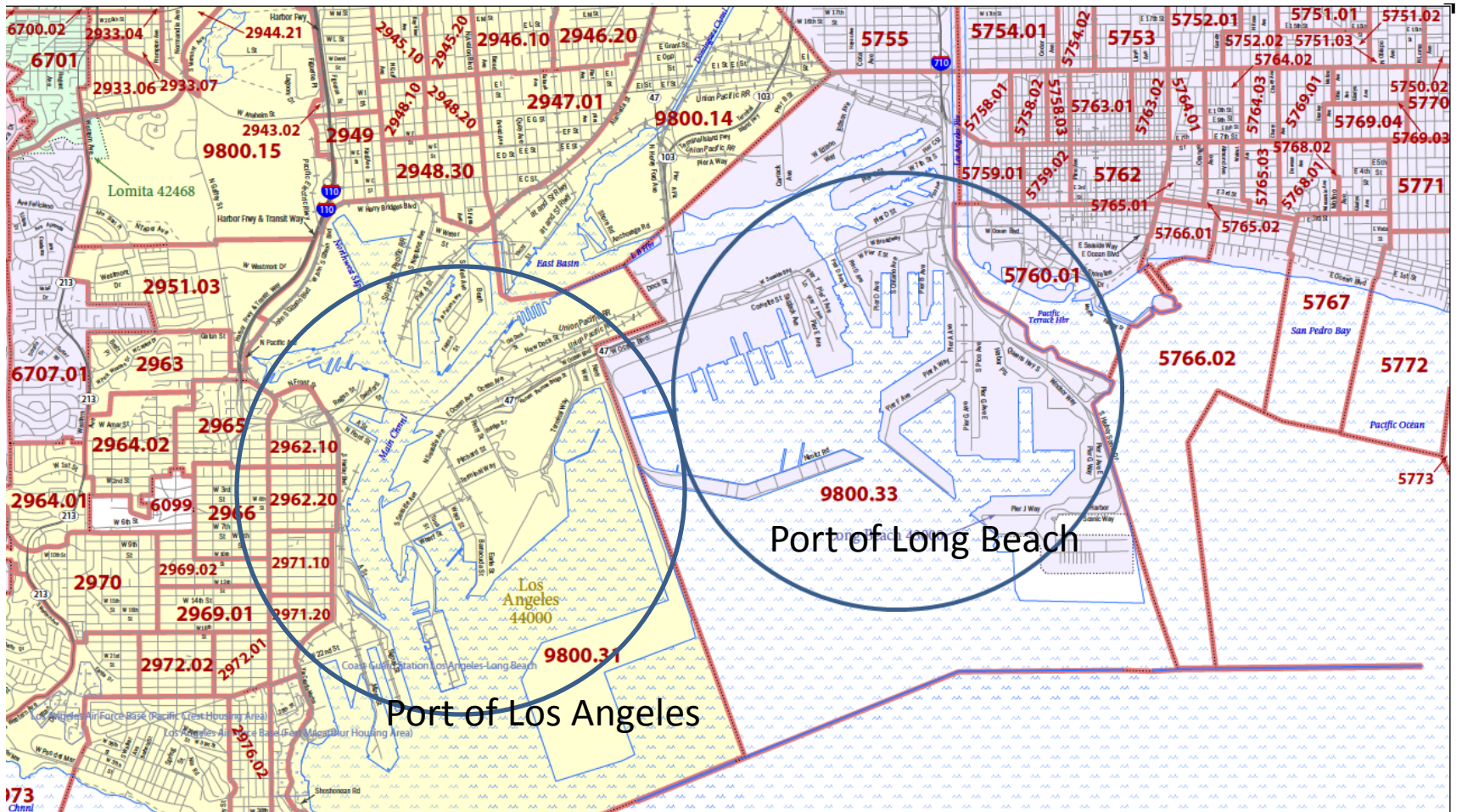
# Ladders of Opportunity

Connecting people to jobs with supportive wages.

Using home and workplace location, with travel mode, time of departure, for transit service planning



## Problem 2: Port of Los Angeles– residence and total workers

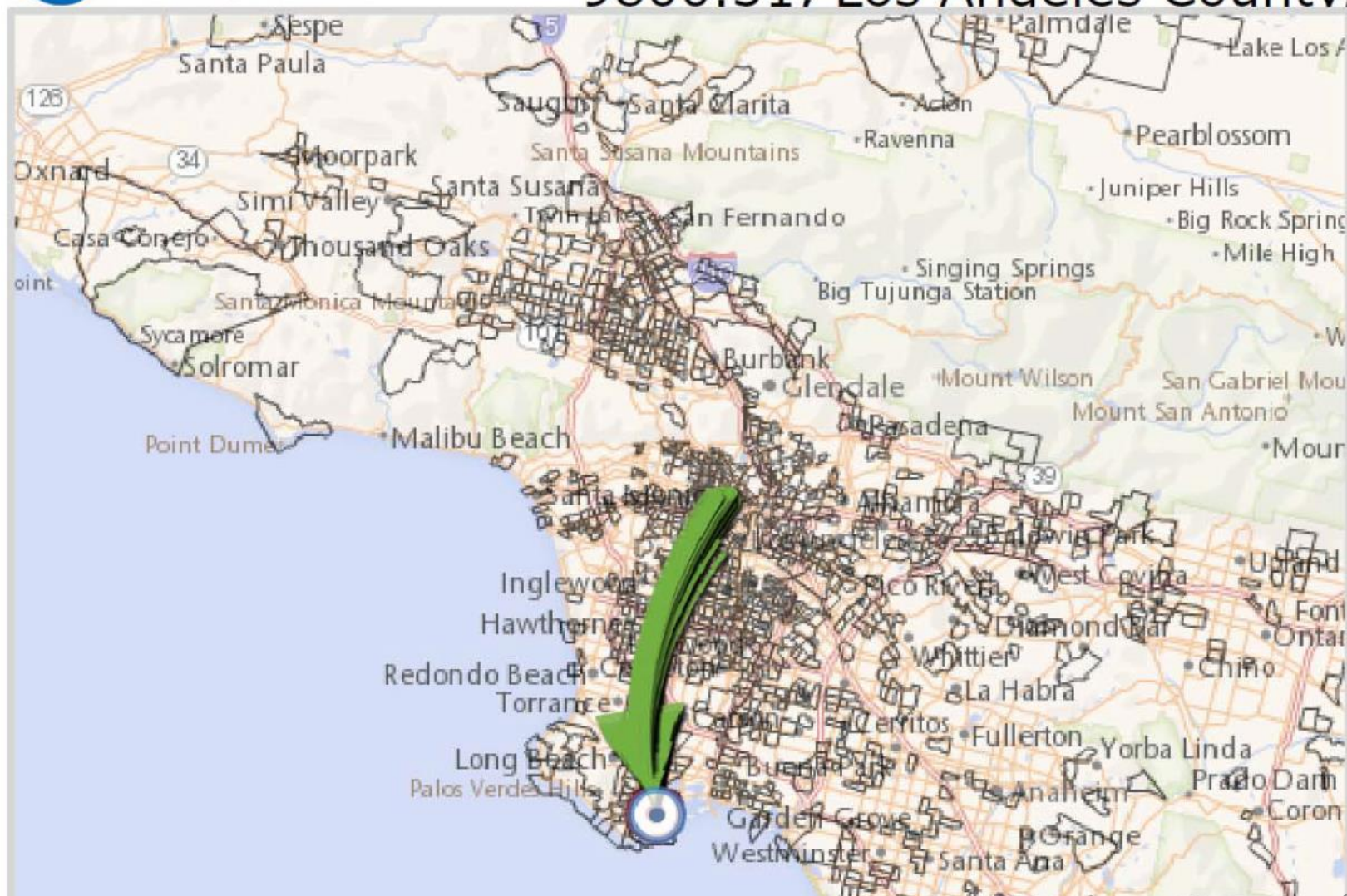






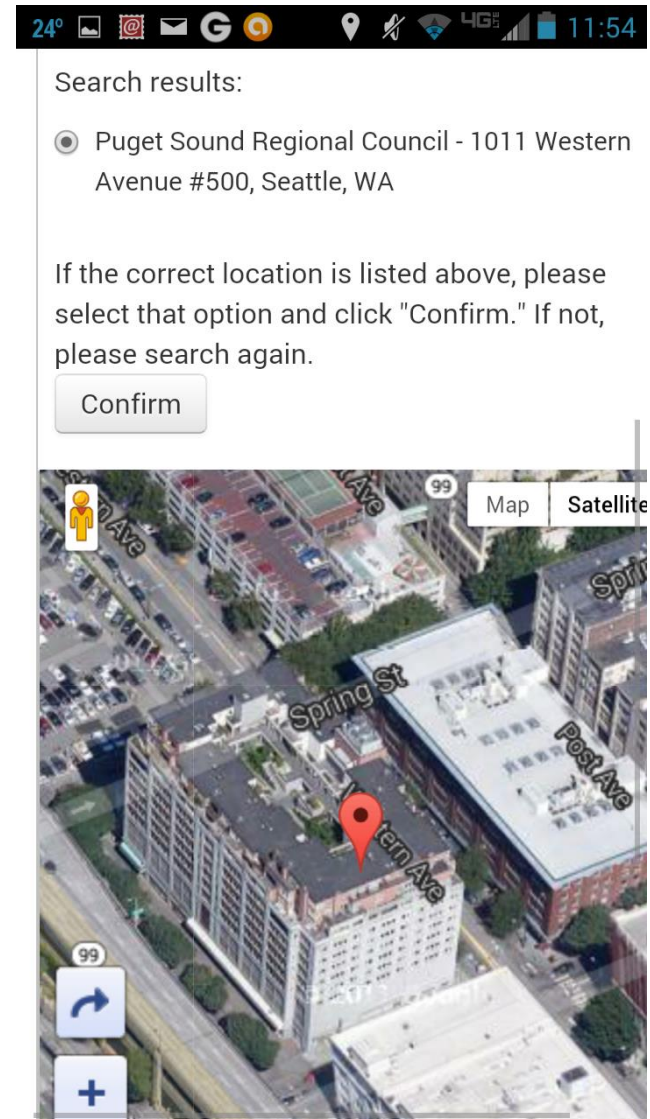
Census Transportation  
Planning Products

## POW State-County-Tract - Flows 9800.31, Los Angeles County,



# Continuous Business Process Improvement

- Will Internet response improve workplace geocoding? CB seeing about 60% of response using Internet
- Can the ACS Internet response include a “Google maps” component to spot mark their work location?
- Licensing updated business list from Dunn & Bradstreet





# Potential alternatives to using ACS for small area flows

- Administrative Records
  - LEHD/LODES alone
    - Difficulties with Multiple Worksites from LEHD/LODES
  - Combining ACS with LEHD/LODES
- Cellphone data (NCHRP 08-95 project)
- Household Travel Surveys





Thank you!  
We  ACS