

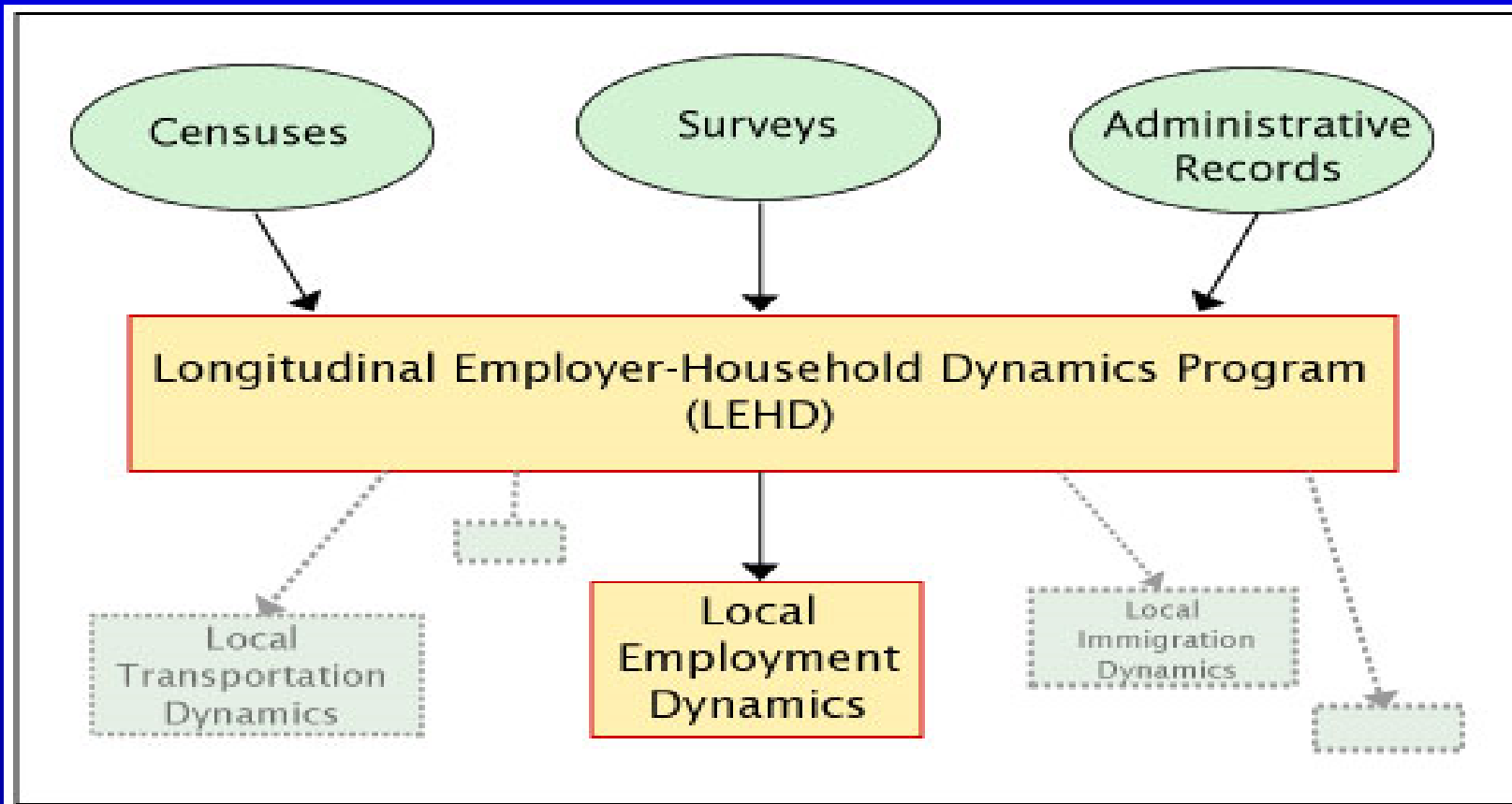
# On The Map – A New Online Mapping Application From the Census Bureau

Fredrik Andersson & Jeremy Wu

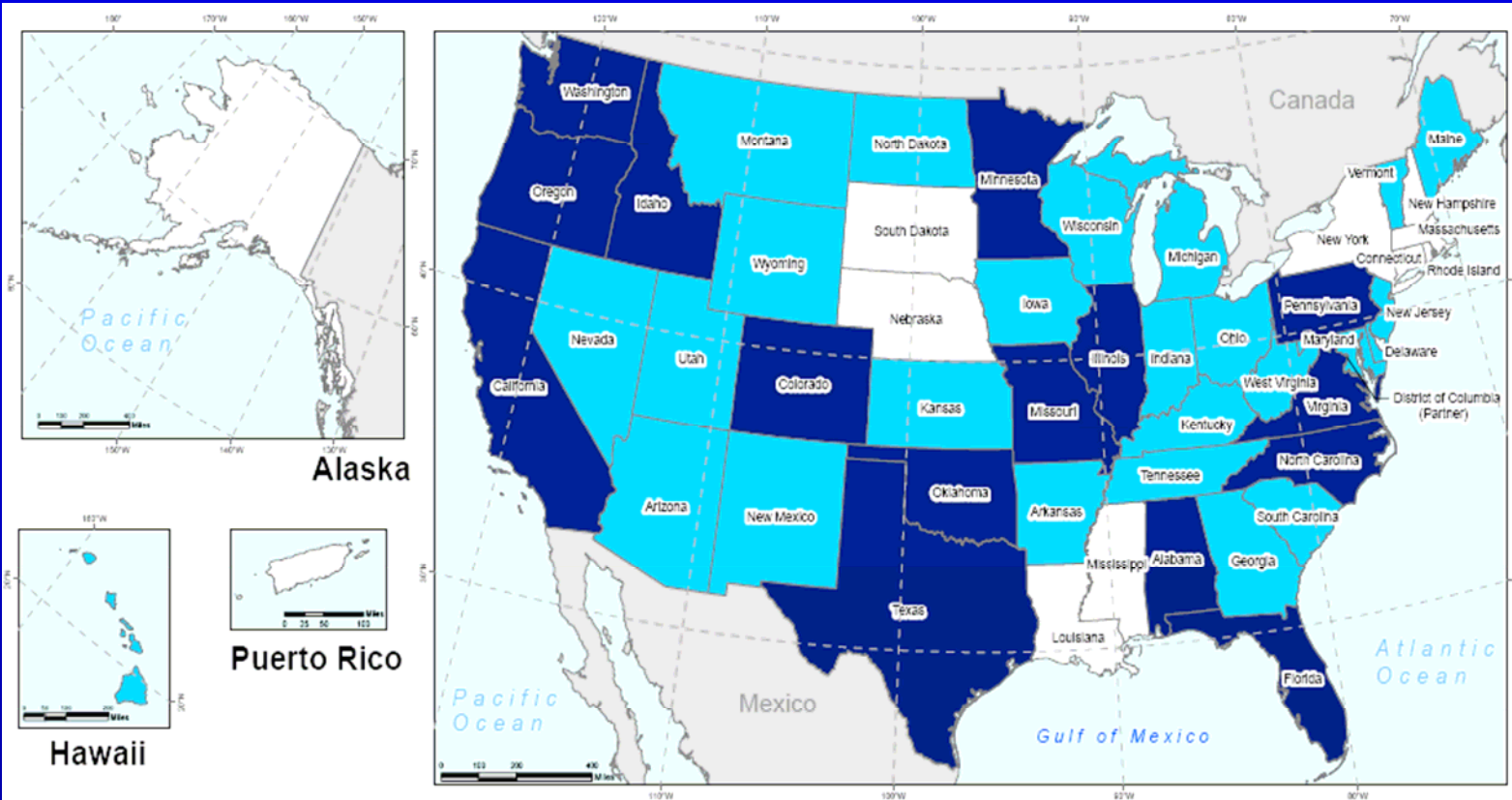
U.S. Census Bureau's LEHD Program

March 10, 2006

# The LEHD Concept



# 42 Partner States



Local Employment Dynamics  
Partner States

Partner States
  "On The Map" States
  Not Partner States

USCENSUSBUREAU

February 1, 2008

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# Quarterly Workforce Indicators (QWI)

30 indicators on

- Employment, earnings, job creation and destruction, turnover

By

- Geography, industry, gender, age, time

State of the art confidentiality protection system

- Multiplicative noise infusion/synthetic data
- Cell suppression being phased out

## On The Map

- 15 participating states
  - 12 pilot states funded by ETA (CA, CO, FL, ID, IL, MN, MO, NC, OR, PA, WA, VA)
  - 3 new states (AL, OK, TX) joined since the start
  - ME in the process of joining
- 2002 and 2003 data (input files available on annual basis)

## On The Map

- Publicly released on February 3, 2006
- First ever synthetic data product released by the U.S. Census bureau
- Data available within a mapping application online: <http://lehd.dsd.census.gov>

# Where Are Workers Residing in Sausalito, CA Employed?

U.S. Census Bureau *LED On The Map*

LED Home [Help](#)

Place Name Lookup Points and thermals loaded.

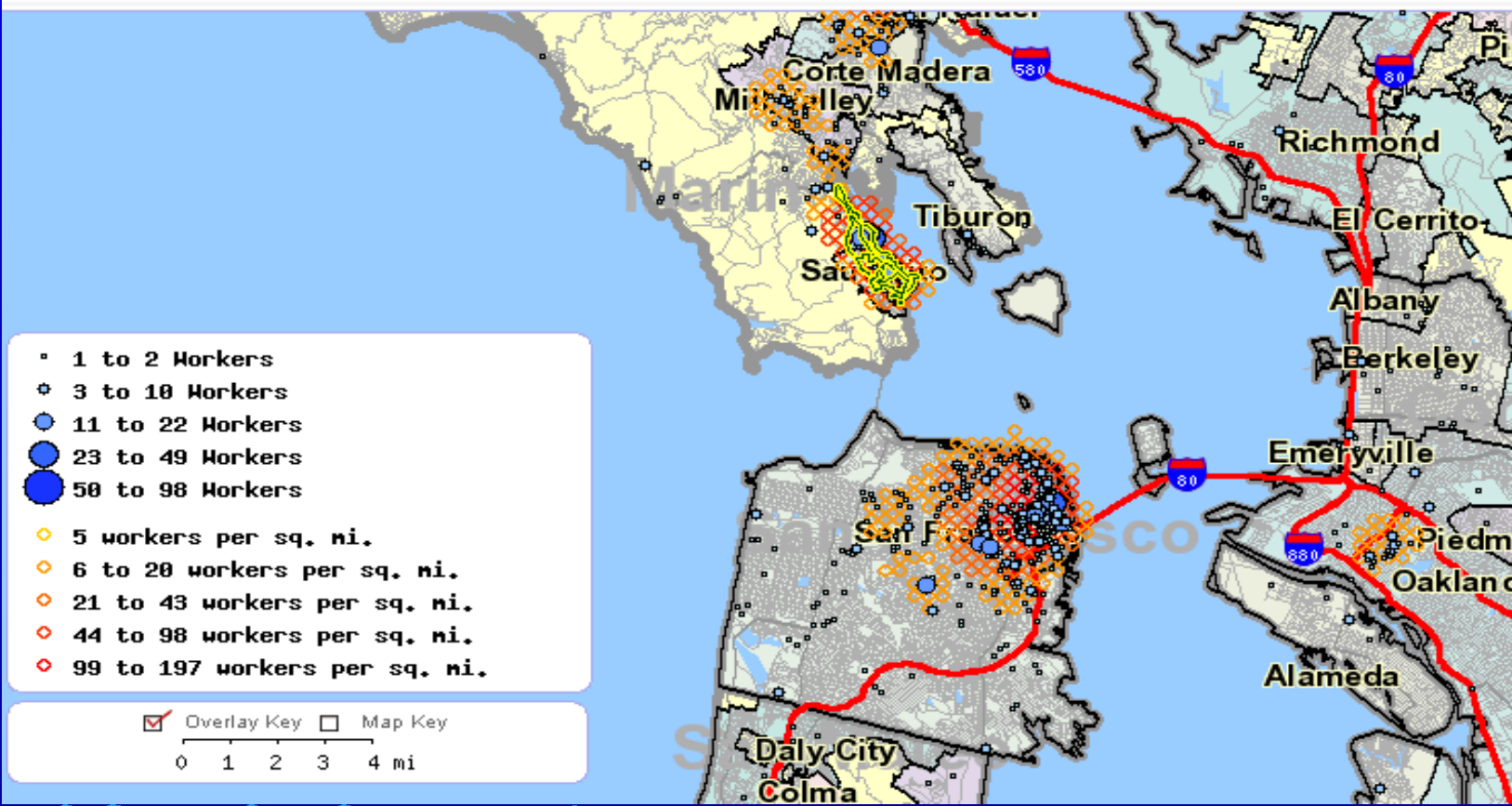
1) Background Map Tools:



2) Map Overlay tools:



3) Display Options:



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## On the Map Answers

- Where do workers live that are employed in the area?
- What are the workplace destinations for workers living in the selected community or neighborhood?
- What are the characteristics of home and workplace areas?



## On the Map Answers

- How do the employment areas compare in terms of worker origin-destination patterns, worker ages, monthly earnings, and industry level employment?
- How are these areas changing over time?

# On the Map Potential Uses

## Economic planning

- Where is the labor supply located?

## Transportation planning and analysis

- Between which areas do workers commute?

## Emergency management

- Daytime population estimates

## Before/after performance measures

# Origin-Destination Database



## • Home Profile - block group

- # workers
- Worker distribution
  - by age range (3)
  - by earnings range (3)
  - by industry (20 NAICS)

***All files have been approved by  
Census Bureau Disclosure  
Review Board***

## • Work Profile - block group

- # establishments
- # workers
- Worker distribution
  - by age range (3)
  - by earnings range (3)
  - by industry (20 NAICS)
- Demand/growth indicators
  - Job creation/loss
  - Hires/separations
  - Earnings hires/separations

# On the Map Technical Notes

Goal: “to protect confidentiality while preserving analytical validity of data”

- No cell suppression
- Synthetic place of residence data conditional on data on workplace and other characteristics
- Workplace data subject to QWI confidentiality rules
- Noise in data increases as cell sizes shrink

Imputation used to assign workers to multi-unit businesses

# To Start:

1. Click on map
2. Enter name or
3. Use text-only

U.S. Census Bureau *LED On The Map (beta)*

[LED Home](#)

[Help](#)

[On The Map tool](#)

[Text-based tool](#)

LED Pilot States "On The Map"

**ON THE MAP** is a live mapping demonstration project that shows in high definition the geographic relationships between where people live and where they work. Users begin by defining custom study areas using a freehand drawing tool or by simply clicking on a standard geography (e.g. city, county, zip code areas, census area, etc.). Then, based on the selected area, maps are produced showing where workers come from that are employed in the selected area (labor shed) or where workers are employed that live in the selected area (commute shed). This application also provides access to work force profile reports and additional analysis tools.



There are fourteen LED pilots states in the Continental US in this demonstration project. The map to the left shows which states are involved.

**START HERE:**

Enter a State, County or City:

Or you can choose a place working from the [US Map](#)

U S C E N S U S B U R E A U

# Optional Layers

Change the selected layers as required, and click the 'Update' button to confirm.

Update Layers

- ★ OneStop Career Centers
- Community & Technical Colleges
- Colleges & Training Centers
- Other Schools & Training Centers
- US Interstate Hwys
- Workforce Investment Areas
- Economic Development Regions
- Cities & Towns
- Minor Civil Divisions
- Zipcodes
- Census Block Groups
- Counties
- US & State Highways
- Local Roads
- Lakes & Rivers
- Military Bases
- Metropolitan Statistical Area (MSA)
- States

# Travel Shed Analysis Options

U.S. Census Bureau *LED On The Map (Beta)* LED Home

Placename Lookup Selected tool: Zoom In

1) Background Map Tools: In Out Re-Center Layers ?

2) Map Overlay tools: Create/Change Overlay Clear Print ?

3) Display Options: Points Thermals Both Selection Report

**Travel Shed Analysis:**  
Select the required options from left to right. After you make a selection in step 5 this window will close, and you can select the required area on the map. The overlay will be calculated after you finish drawing your selection area.

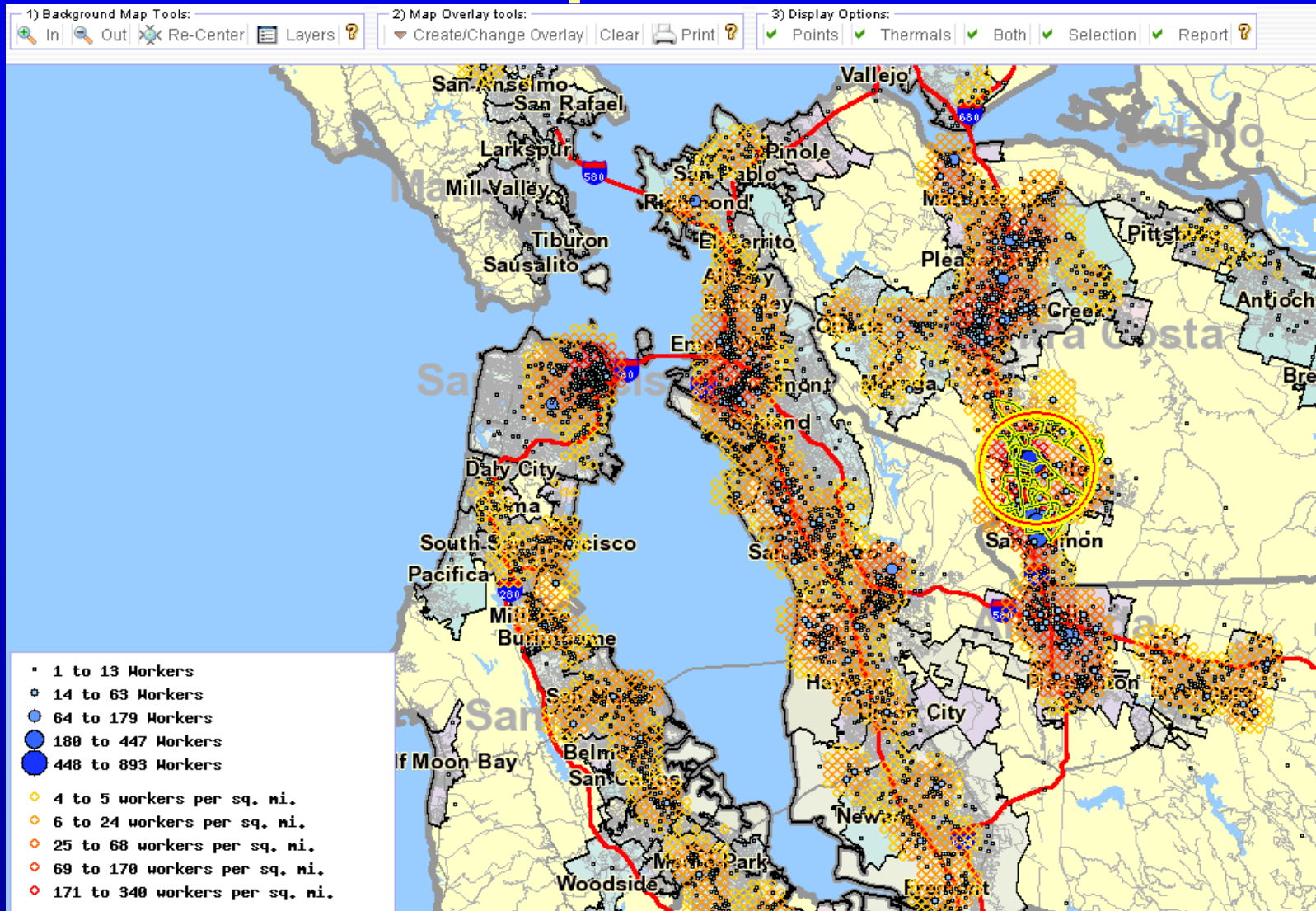
<p>1) Year:</p> <p><input checked="" type="radio"/> 2003</p> <p><input type="radio"/> 2002</p>	<p>2) Job Type:</p> <p><input type="radio"/> All Jobs</p> <p><input checked="" type="radio"/> All Primary</p> <p><input type="radio"/> Private Jobs</p> <p><input type="radio"/> Private Primary</p>	<p>3) Live or Work:</p> <p><input checked="" type="radio"/> Commute shed (Selects a home area and maps where people work)</p> <p><input type="radio"/> Labor shed (Selects an employment area and maps where workers live)</p>	<p>4) Report Type:</p> <p><input checked="" type="radio"/> Shed report</p> <p><input type="radio"/> Area profile report</p> <p><input type="radio"/> QWV report</p> <p>Name:</p> <input type="text" value="11370223034662"/>	<p>4c) Format:</p> <p><input checked="" type="radio"/> HTML</p> <p><input type="radio"/> PDF</p> <p><input type="radio"/> CSV</p>	<p>5) Selection Tool:</p> <p><input checked="" type="checkbox"/> Re-use selection</p> <p><input type="checkbox"/> Freehand</p> <p><input type="checkbox"/> Layer Selection</p> <p><input type="checkbox"/> Buffered Selection</p> <p><input type="checkbox"/> Circle Selection</p>
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# Where People Work - Circle



# Sample Shed Report

	2003		2002	
	Count	Share	Count	Share
<b>Number of Jobs Held by Residents</b>				
* All Jobs	22,559	100.0%	21,129	100.0%
* All Jobs (Private Sector Only)	20,174	89.4%	21,129	100%
* All Primary Jobs (Worker's highest paying job)	21,418	94.9%	20,159	95.4%
* All Primary Jobs (Private Sector Only)	19,128	84.8%	20,159	95.4%
<b>WHERE AREA WORKERS ARE EMPLOYED</b>				
	2003		2002	
	Count	Share	Count	Share
Total Workers (Primary Jobs - Private Sector)	19,128	100.0%	20,159	100.0%
<b>Cities/Towns Where Residents are Employed</b>				
* San Ramon	1,894	9.9%	2,057	10.2%
* Unincorporated Areas	1,739	9.1%	1,703	8.4%
* San Francisco	1,515	7.9%	1,670	8.3%
* Pleasanton	1,097	5.7%	1,162	5.8%
* Danville	1,077	5.6%	1,017	5%
* All Other Locations	11,806	61.7%	12,550	62.3%
<b>Counties Where Residents are Employed</b>				
* Contra Costa	5,991	31.3%	6,228	30.9%
* Alameda	4,799	25.1%	5,092	25.3%
* Santa Clara	1,773	9.3%	1,855	9.2%
* San Francisco	1,515	7.9%	1,670	8.3%
* Los Angeles	1,095	5.7%	1,133	5.6%
* All Other Locations	3,955	20.7%	4,177	20.7%

# Sample Profile Report

	2003		2002	
	Count	Share	Count	Share
<b>Number of Jobs Held by Resident Workers</b>				
* All Jobs	22,559	100.0%	21,129	100.0%
* All Jobs (Private Sector Only)	20,174	89.4%	21,129	100%
* All Primary Jobs (Worker's highest paying job)	21,418	94.9%	20,159	95.4%
* All Primary Jobs (Private Sector Only)	19,128	84.8%	20,159	95.4%
	2003		2002	
	Count	Share	Count	Share
Total Workers (Primary Jobs - Private Sector)	19,128	100.0%	20,159	100.0%
<b>Workers by Age</b>				
* Age 30 or younger	3,476	18.2%	3,764	18.7%
* Age 31 to 54	12,352	64.6%	12,959	64.3%
* Age 55 or older	3,300	17.3%	3,436	17%
<b>Workers by Earnings Paid</b>				
* \$1,200 per month or less	2,929	15.3%	3,217	16%
* \$1,201 to \$3,400 per month	3,462	18.1%	3,716	18.4%
* More then \$3,400 per month	12,737	66.6%	13,226	65.6%
<b>Workers by Primary Industry (2-digit NAICS)</b>				
* Agriculture, Forestry, Fishing and Hunting	90	0.5%	82	0.4%
* Mining	121	0.6%	129	0.6%
* Utilities	110	0.6%	140	0.7%
* Construction	1,043	5.5%	1,099	5.5%
* Manufacturing	2,073	10.8%	2,239	11.1%
* Wholesale Trade	1,444	7.5%	1,491	7.4%

# Sample Quarterly Workforce Indicator (QWI) Report

	2003:Q2	2002:Q2
<b>QWI Indicators - Private Sector Jobs</b>		
* Employment (Beginning-of-2nd quarter)	32,562	35,851
* Employment Stable Jobs	29,088	31,554
* Separations Stable Jobs	2,593	3,169
* New Hires Stable Jobs	2,457	3,311
* Firm Job Gains	1,408	1,898
* Firm Job Loss	1,355	1,776
* Employment (reference quarter)	37,470	42,001
* Average Monthly Earnings Stable Jobs	\$ 4,317	\$ 4,188
* Average Monthly Separations from Stable Jobs	\$ 1,990	\$ 2,426
* Average Monthly Earnings New Hires Stable Jobs	\$ 3,234	\$ 2,898

# Concentric Ring Analysis

1) Background Map Tools: In | Out | Re-Center | Layers ?

2) Map Overlay tools: Create/Change Overlay | Clear | Print ?

3) Display Options:  Points  Thermals  Both  Selection  Report ?

**Concentric Ring Analysis:**  
Select the required options from left to right. After you click 'Pick Point' in step 5 this window will close, and you can select the required area on the map. The overlay will be calculated after you pick a point on the map.

1) Year:  2003  2002

2) Job Type:  All Jobs  All Primary  Private Jobs  Private Primary

3) Live or Work:  Commute shed (Selects a home area and maps where people work)  Labor shed (Selects an employment area and maps where workers live)

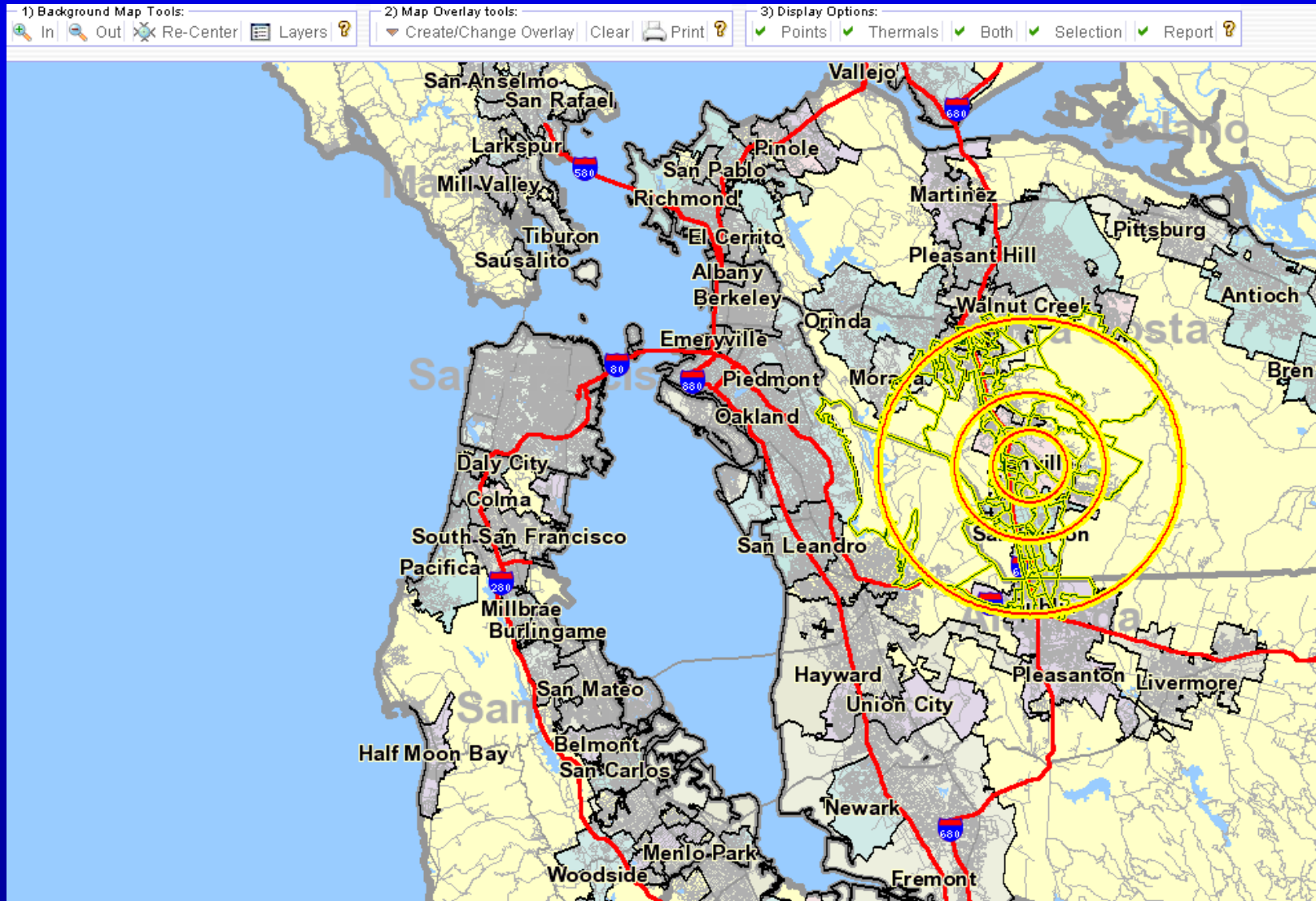
4) Report Type:  Concentric Ring report  
Name:

4a) Format:  HTML  PDF  CSV

5) Selection Tool: Ring 1:  miles    
Ring 2:  miles    
Ring 3:  miles

Map labels: San Anselmo, San Rafael, Vallejo, Larkspur, San Pablo, Pinole, San Ramon, Daly City, Colma, South San Francisco, Pacifica, Millbrae, Burlingame, San Mateo, San Leandro, San Ramon, Dublin, Hayward, Union City, Pleasanton, Livermore, Half Moon Bay, Belmont, San Carlos, Newark, Fremont, Menlo Park, Woodside.

# Concentric Circle Analysis



# Concentric Circle Report

	8 Mi. Radius		4 Mi. Radius		2 Mi. Radius	
	Count	Share	Count	Share	Count	Share
<b>Number of Jobs (Beginning of 2nd Quarter)</b>						
* All Jobs	78,487	100.0%	36,794	100.0%	14,863	100.0%
* All Jobs (Private Sector Only)	69,675	88.8%	32,873	89.3%	13,271	89.3%
* All Primary Jobs (Worker's highest paying job)	74,179	94.5%	34,902	94.9%	14,107	94.9%
* All Primary Jobs (Private Sector Only)	65,843	83.9%	31,156	84.7%	12,575	84.6%
<b>Total Workers (Primary Jobs - Private Sector)</b>						
	65,843	100.0%	31,156	100.0%	12,575	100.0%
<b>Workers by Age</b>						
* Age 30 or younger	13,373	20.3%	5,768	18.5%	2,253	17.9%
* Age 31 to 54	41,185	62.6%	20,068	64.4%	8,154	64.8%
* Age 55 or older	11,285	17.1%	5,320	17.1%	2,168	17.2%
<b>Workers by Earnings Paid</b>						
* \$1,200 per month or less	10,904	16.6%	4,805	15.4%	1,967	15.6%
* \$1,201 to \$3,400 per month	13,420	20.4%	5,594	18%	2,253	17.9%
* More then \$3,400 per month	41,519	63.1%	20,757	66.6%	8,355	66.4%
<b>Workers by Primary Industry (2-digit NAICS)</b>						
* Agriculture, Forestry, Fishing and Hunting	301	0.5%	144	0.5%	58	0.5%
* Mining	331	0.5%	199	0.6%	90	0.7%
* Utilities	507	0.8%	190	0.6%	86	0.7%
* Construction	3,663	5.6%	1,700	5.5%	635	5%
* Manufacturing	6,977	10.6%	3,423	11%	1,383	11%



# Further Enhancements

Cross-state origin-destination patterns

Origin-destination patterns by

- Industry
- Income groups

Incorporating data on federal employment and self-employed

Variance estimates

New tools for data dissemination

# Contact Us

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