

# Maps of County Commute Patterns

Ron Caluza  
GIS Specialist

Geographic Information Systems (GIS) Unit  
Labor Market Information Division  
California Employment Development Department

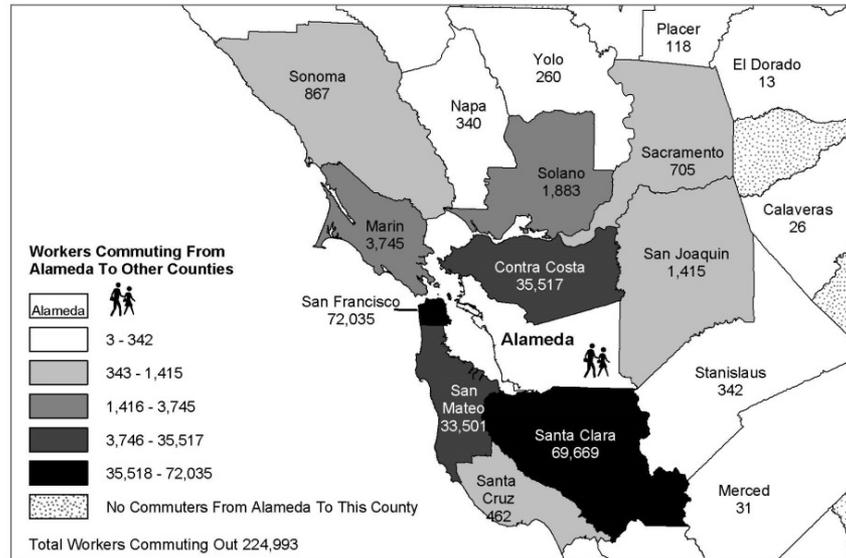
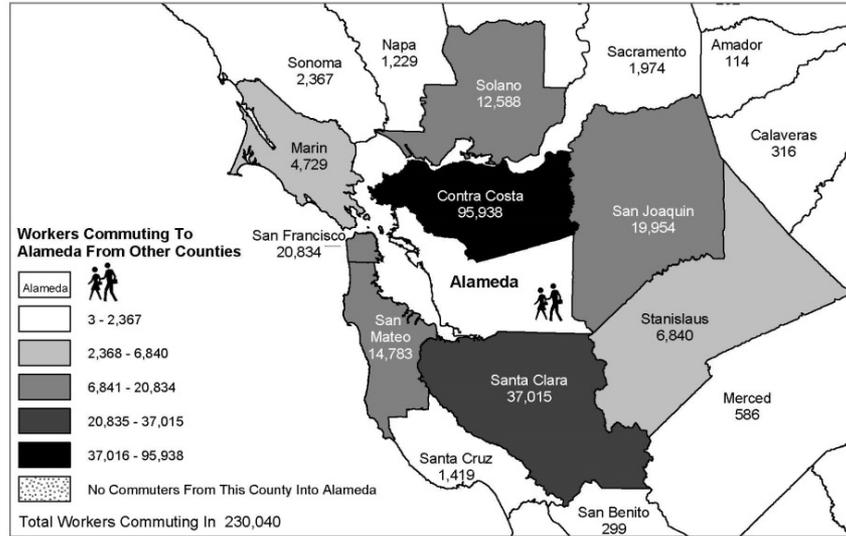
# Two types of Commute Map Products:

- ▶ I. County-to-County Commute Maps
  - ▶ II. Statewide County Commute Maps
- 

# County-to-County Commute Maps



# Alameda County to County Commuting



Total Workers That Live And Work In Alameda 453,917

Data Source: U.S. Census 2000

# Alameda County to County Commuting Estimates



Total Workers That Live And Work in Alameda: 468,181

Data Source:  
Special Report of 2006 to 2010 County-to-County Commuting Flows,  
American Community Survey, U.S. Census Bureau,  
report released January 2013

Cartography by:  
Labor Market Information Division  
California Employment Development Department  
September 2015



# Old VS. New Maps

## Old Maps

- ▶ Black & White / Grayscale
- ▶ Data source:  
2000 Census – Long Form  
(social and economic data)

## New Maps

- ▶ Color
- ▶ Data source:  
American Community Survey  
*special data release*
  - Commuting data is not a standard ACS product
  - 2006–2010 data
  - Released in 2013

# Data source

- ▶ Download California county commuting data from the CA Dept. of Finance ACS webpage
- ▶ [http://www.dof.ca.gov/research/demographic/state\\_census\\_data\\_center/american\\_community\\_survey/#Commute](http://www.dof.ca.gov/research/demographic/state_census_data_center/american_community_survey/#Commute)

# Margin of Error

From CA Department of Finance, Demographic Research Unit:

- ▶ Since these estimates are based on survey responses, they are subject to error.
- ▶ The Margin of Error (MOE) is a value that is added or subtracted from the estimate to define a 90% Confidence Interval. Meaning there is a 90% chance that the actual value is between these two values.

# Some HIGH margins of error in commute data

## Example: Commuting into Alameda County

County	Estimate – commuting to Alameda	Margin of Error
Amador	198	+/- 121
Butte	223	+/- 122
Calaveras	484	+/- 180
Contra Costa	92,797	+/- 2,340
Del Norte	27	+/- 44
El Dorado	492	+/- 184
Fresno	330	+/- 135
Glenn	15	+/- 24
Humboldt	2	+/- 3
Kern	123	+/- 77
Lake	57	+/- 47
Los Angeles	1,355	+/- 357

# Guidelines for Using Estimates / MOE

From the CA Dept. of Finance, Demographic Research Unit:

- ▶ Since the MOE measures the error in an estimate, we use it to determine if an estimate has too much error to be reliable.
- ▶ Calculate the MOE as a percent of the estimate - we call this the “relative MOE”
- ▶ There is not a standard for the ranges of an acceptable “relative MOE.” Ultimately it is up to the users to decide if the estimates are suitable to their needs.
- ▶ Our recommendation is below 33% is “good,” 33% to 49% is “use with caution,” and **50% or more** is “unreliable”

County	Estimate	MOE	Relative MOE
Amador	198	+/- 121	61%
Butte	223	+/- 122	55%
Calaveras	480	+/- 180	37%
Contra Costa	92,797	+/- 2,340	3%
Sacramento	2,801	+/- 364	13%
Santa Clara	38,339	+/- 1,513	4%
Sutter	84	+/- 100	119%

# For County-to-County Commute maps, generally...

- ▶ Estimates for adjacent counties are more reliable
- ▶ Estimates for further counties are less reliable

# Alameda

## County to County Commuting Estimates



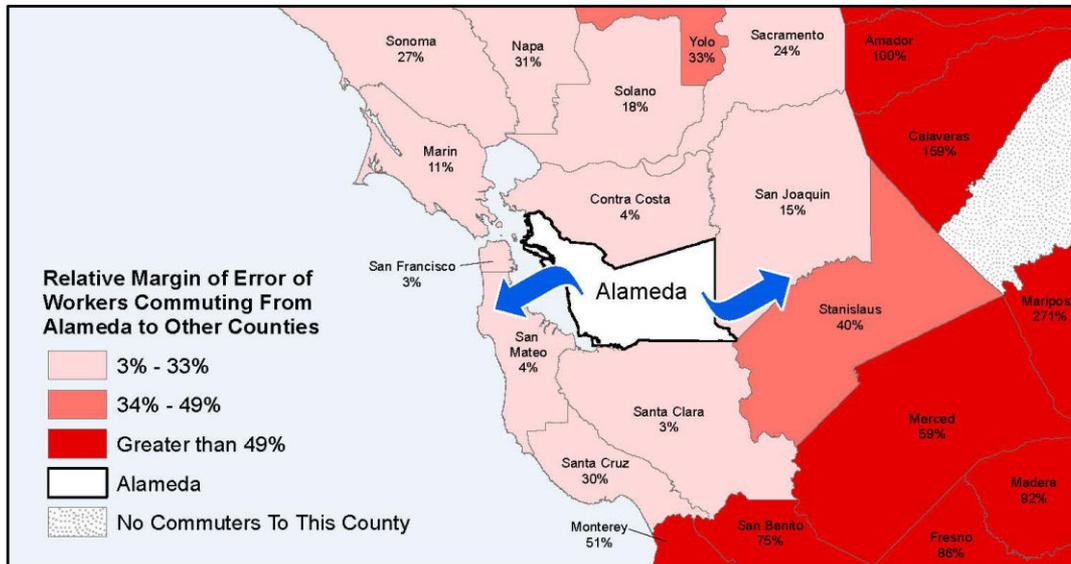
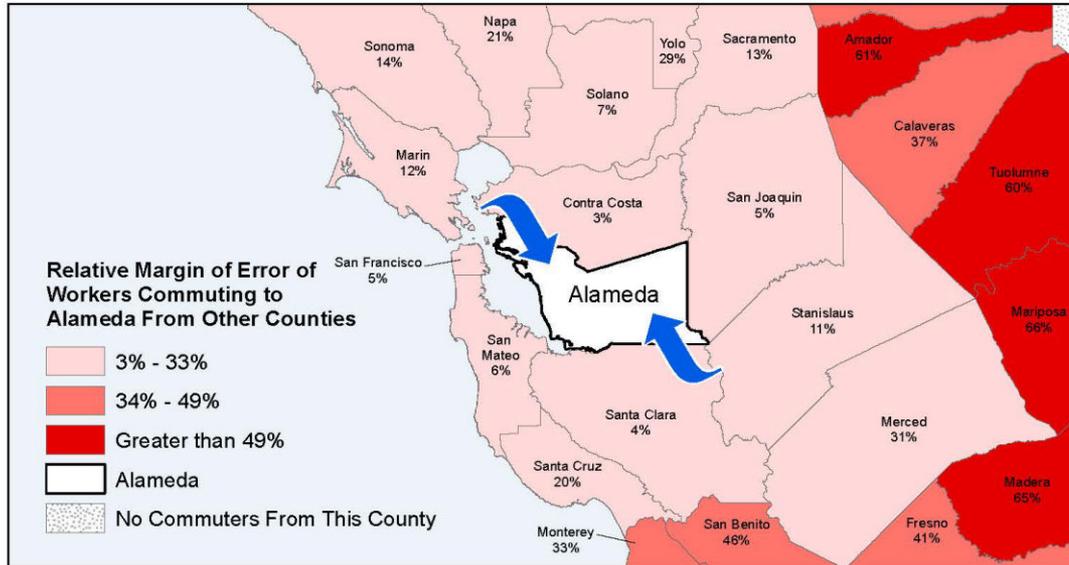
Total Workers That Live And Work in Alameda: 468,181

Data Source:  
 Special Report of 2006 to 2010 County-to-County Commuting Flows,  
 American Community Survey, U.S. Census Bureau,  
 report released January 2013

Cartography by:  
 Labor Market Information Division

# Alameda

## Relative Margin of Error - Commuting



Total Workers That Live And Work in Alameda: 468,181

Data Source:  
Special Report of 2006 to 2010 County-to-County Commuting Flows,  
American Community Survey, U.S. Census Bureau,  
report released January 2013

Cartography by:  
State Information Division

# Los Angeles County to County Commuting Estimates



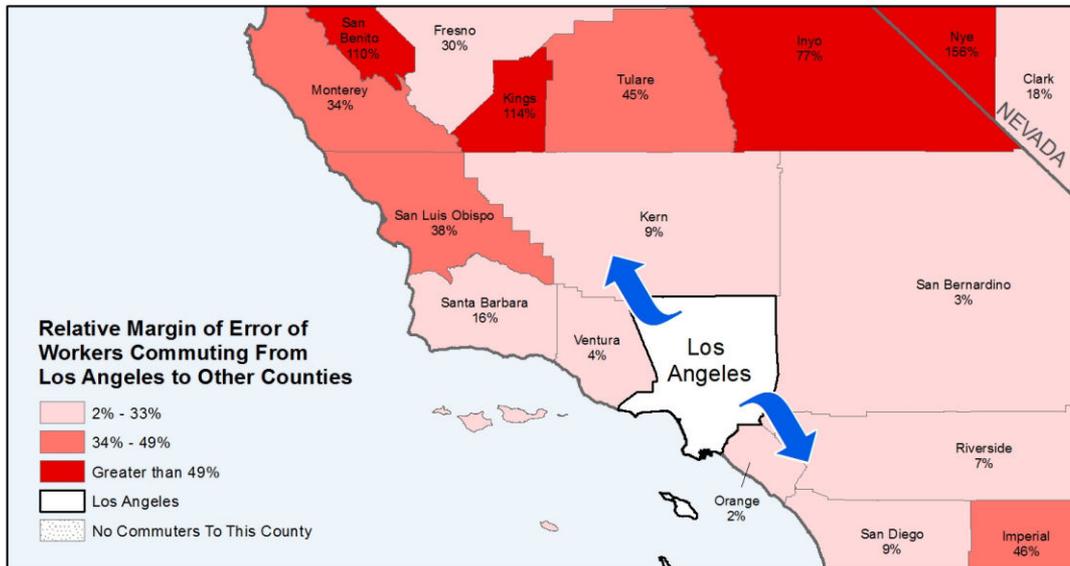
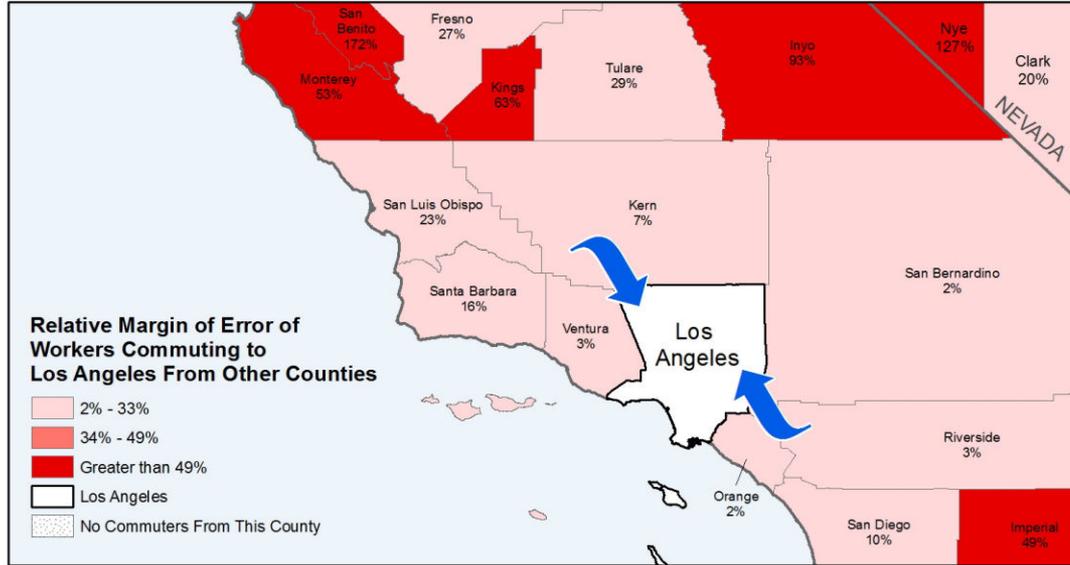
Total Workers That Live And Work in Los Angeles: 4,063,663

Data Source:  
Special Report of 2006 to 2010 County-to-County Commuting Flows,  
American Community Survey, U.S. Census Bureau,  
report released January 2013

Cartography by: [unclear]

# Los Angeles

## Relative Margin of Error - Commuting



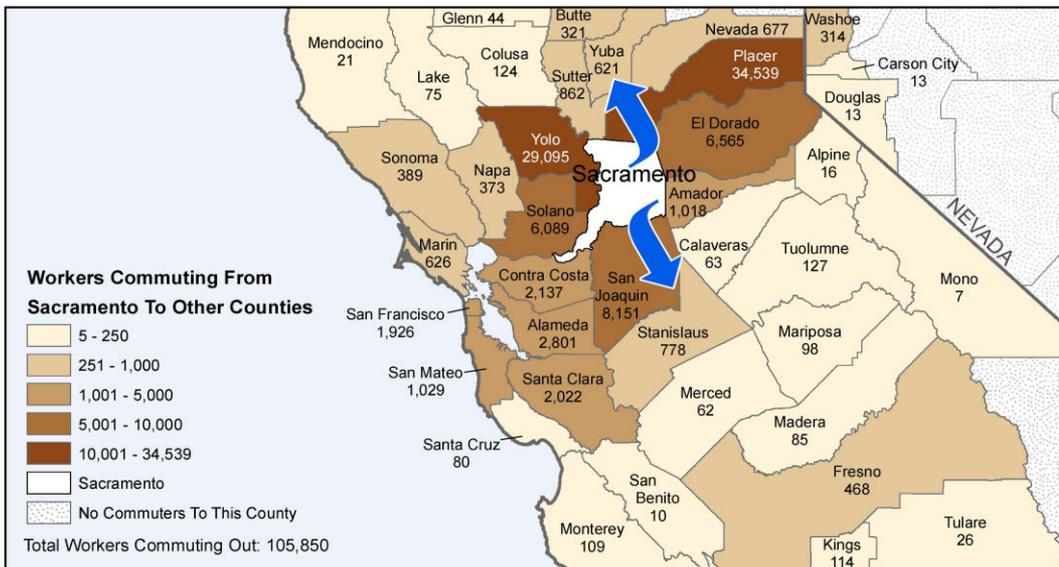
Total Workers That Live And Work in Los Angeles: 4,063,663

Data Source:  
 Special Report of 2006 to 2010 County-to-County Commuting Flows,  
 American Community Survey, U.S. Census Bureau,  
 report released January 2013

Cartography by:

# Sacramento

## County to County Commuting Estimates



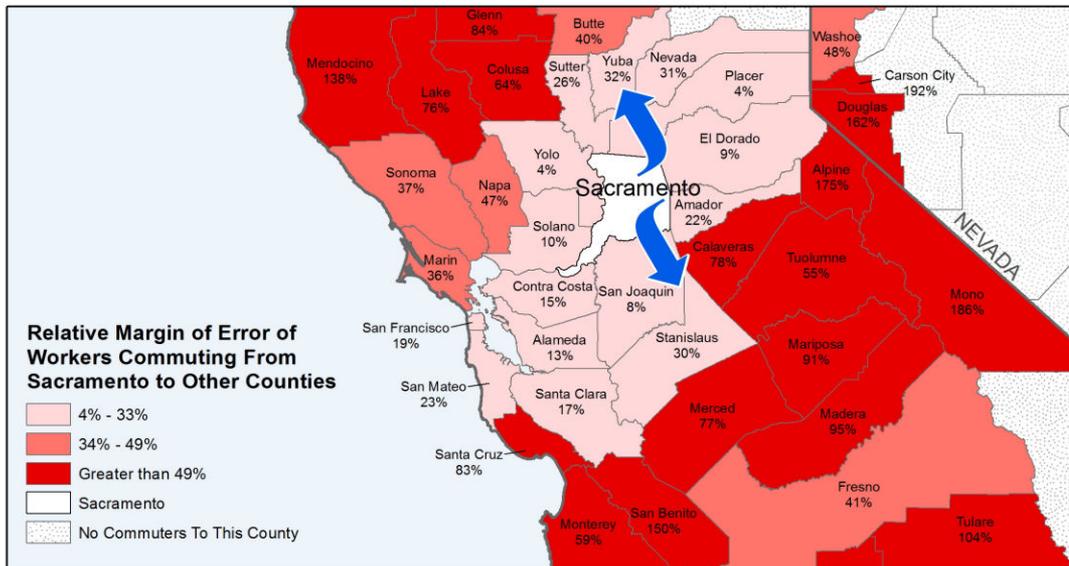
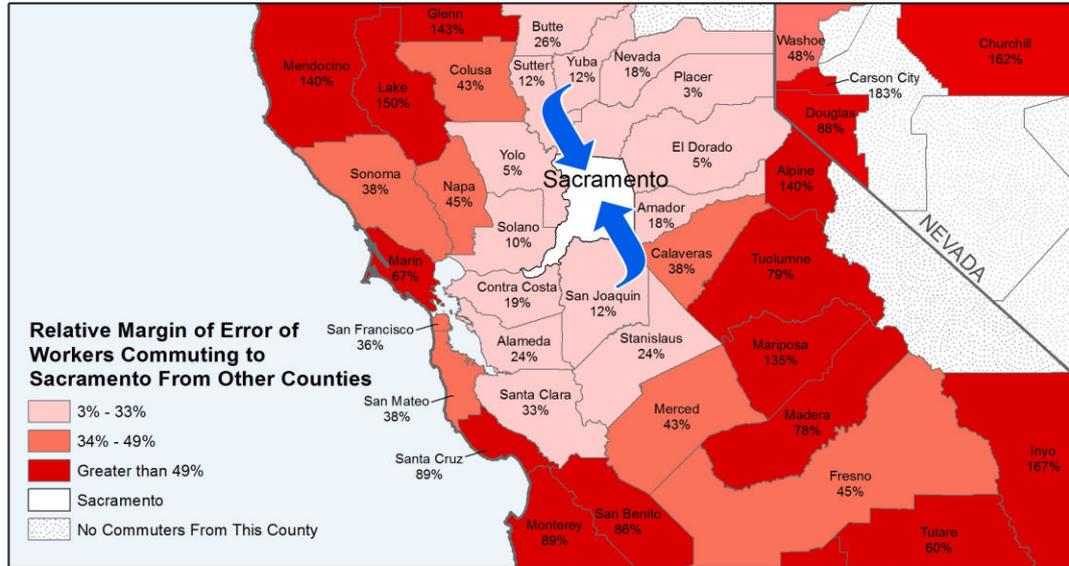
Total Workers That Live And Work in Sacramento: 502,114

Data Source:  
 Special Report of 2006 to 2010 County-to-County Commuting Flows,  
 American Community Survey, U.S. Census Bureau,  
 report released January 2013

Cartography by:

# Sacramento

## Relative Margin of Error - Commuting



Total Workers That Live And Work in Sacramento: 502,114

Data Source:  
Special Report of 2006 to 2010 County-to-County Commuting Flows,  
American Community Survey, U.S. Census Bureau,  
report released January 2013

Cartography by:

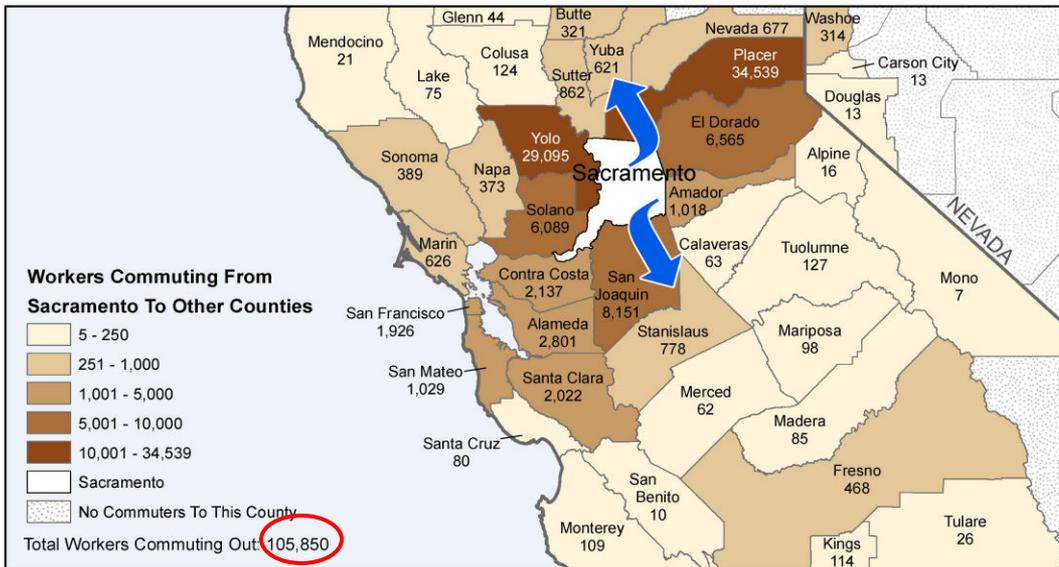
# Guidelines for County-to-County Commute Maps:

- ▶ Use maps to get the general pattern of county to county commuting
- ▶ Be cautious of estimates further from the focus county. These tend to be less reliable.

# Statewide County Commute Maps

# Sacramento

## County to County Commuting Estimates



Total Workers That Live And Work in Sacramento: 502,114

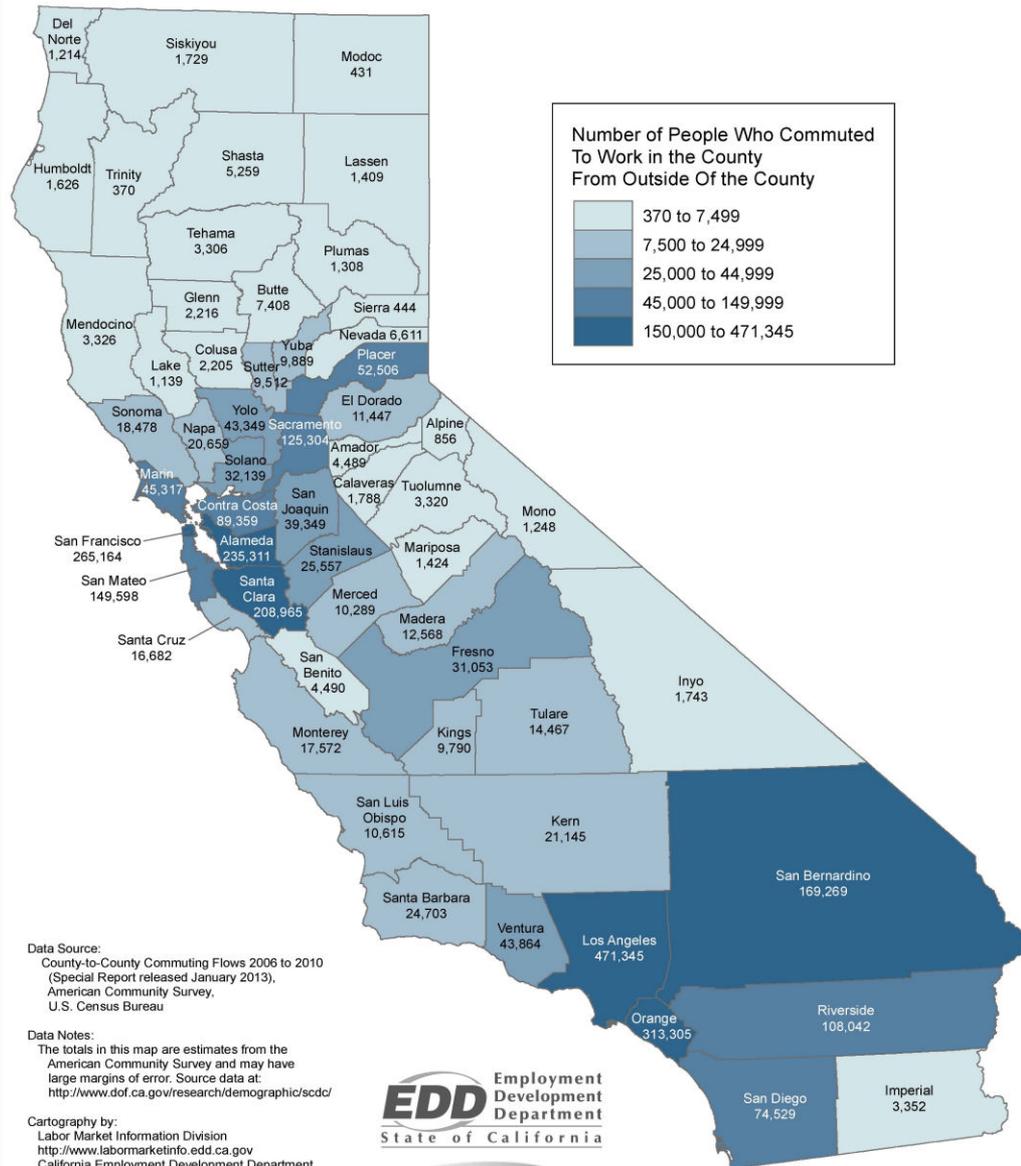
Data Source:  
Special Report of 2006 to 2010 County-to-County Commuting Flows,  
American Community Survey, U.S. Census Bureau,  
report released January 2013

Cartography by:



# County to County Commuting Estimates

## Commuting Into County



Data Source:  
 County-to-County Commuting Flows 2006 to 2010  
 (Special Report released January 2013),  
 American Community Survey,  
 U.S. Census Bureau

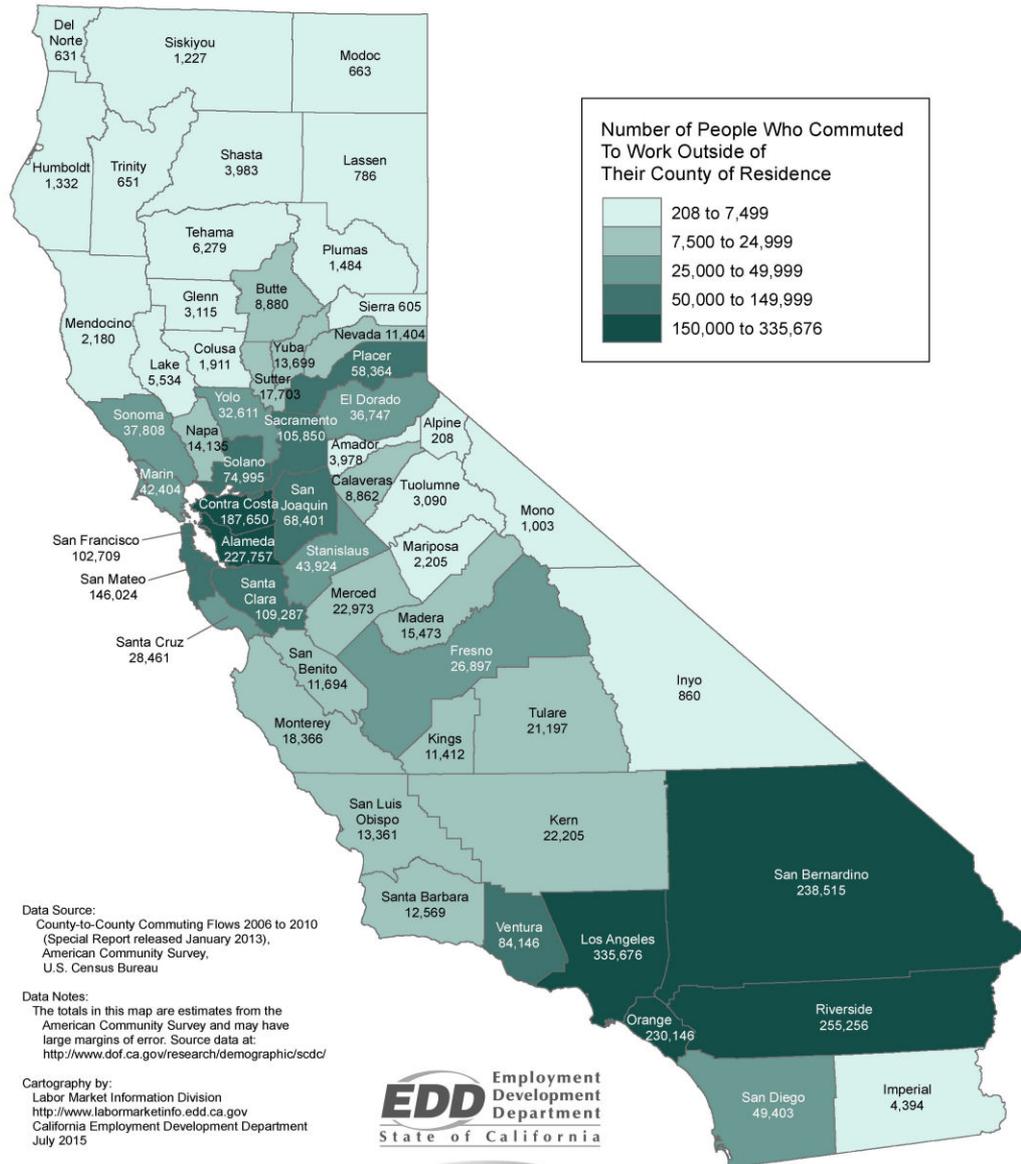
Data Notes:  
 The totals in this map are estimates from the  
 American Community Survey and may have  
 large margins of error. Source data at:  
<http://www.dof.ca.gov/research/demographic/scdc/>

Cartography by:  
 Labor Market Information Division  
<http://www.labormarketinfo.edd.ca.gov>  
 California Employment Development Department  
 July 2015



# County to County Commuting Estimates

## Commuting Out Of County



Data Source:  
 County-to-County Commuting Flows 2006 to 2010  
 (Special Report released January 2013),  
 American Community Survey,  
 U.S. Census Bureau

Data Notes:  
 The totals in this map are estimates from the  
 American Community Survey and may have  
 large margins of error. Source data at:  
<http://www.dof.ca.gov/research/demographic/scdc/>

Cartography by:  
 Labor Market Information Division  
<http://www.labormarketinfo.edd.ca.gov>  
 California Employment Development Department  
 July 2015



# Two ways to find Commute Maps:

- ▶ <http://www.labormarketinfo.edd.ca.gov/>
  - Online Services → GIS Services and Maps
    - Special Interest Maps
      - County-to-County Commute Patterns
  
- ▶ <http://www.labormarketinfo.edd.ca.gov/>
  - LMI by Subject
    - Populations and Census
      - County-to-County Commute Patterns

## County to County Commute Patterns

**LMI Resources and Data:** [LMI Home](#) | [By Customer](#) | [By Subject](#) | [By Geography](#) | [Data Library](#) | [LMI Online Services](#)

Commuting, the flow of workers from one area to another, promotes efficient labor markets. Workers who are willing and able to travel outside their home area will have access to a wider range and greater number of jobs. Employers can manage costs better when they have more applicants for their jobs. For example, in areas where labor force participation is low, such as retirement communities, employers can import workers to provide goods and services to their not-in-the-labor-force populations.

In 2005 the U.S. Census Bureau began collecting worker data in the American Community Survey (ACS) instead of the long-form decennial census questionnaire. Since commuting flow estimates are not included among standard ACS products, the Labor Market Information Division (LMID) developed maps based on a 2013 data report from the U.S. Census Bureau, which used ACS data collected from 2006 to 2010. The California Department of Finance's Demographic Research Unit extracted the 2006-2010 commute flow data from the U.S. Census Bureau's web site and has made it available for download on the Department of Finance's [ACS data page](#).

Prior to the creation of the ACS, LMID developed maps based on the Census 2000 data about California residents and county commuting flow estimates. Responses to the Census 2000 long-form questionnaire provide the data at the county level about California residents and how far they travel to work. The U.S. Census Bureau uses "Residence County" for where people live and "Work County" for where people work. See "[County-To-County Worker Flow Files](#)" for the Census 2000 data.

LMID developed state and county maps to show the trip origins for people who work in each county and the work destinations for people who live in each county. The county commute pattern maps show the number of commuters to and from surrounding counties. In addition, the statewide maps show the percentage and number of commuters into and out of California counties.

### Current Maps

## Statewide Commuting Patterns

- [Statewide Maps](#)

## County-to-County Commute Patterns

County-to-County Commute Maps (PDF)

<a href="#">Alameda</a>	<a href="#">Imperial</a>	<a href="#">Modoc</a>	<a href="#">San Diego</a>	<a href="#">Sonoma</a>
<a href="#">Alpine</a>	<a href="#">Inyo</a>	<a href="#">Mono</a>	<a href="#">San Francisco</a>	<a href="#">Stanislaus</a>
<a href="#">Amador</a>	<a href="#">Kern</a>	<a href="#">Monterey</a>	<a href="#">San Joaquin</a>	<a href="#">Sutter</a>
<a href="#">Butte</a>	<a href="#">Kings</a>	<a href="#">Napa</a>	<a href="#">San Luis Obispo</a>	<a href="#">Tehama</a>
<a href="#">Calaveras</a>	<a href="#">Lake</a>	<a href="#">Nevada</a>	<a href="#">San Mateo</a>	<a href="#">Trinity</a>

# Questions?

Ron Caluza

GIS Specialist

Geographic Information Systems (GIS) Unit

Labor Market Information Division

California Employment Development Department

[Ron.Caluza@edd.ca.gov](mailto:Ron.Caluza@edd.ca.gov)