



# TOUGH CHOICES FOR TOUGH TIMES: USING DATA-GUIDED DECISION TOOLS

**CCCAOE Fall Conference**

**October 21, 2011**



**C·O·E**

CENTERS OF EXCELLENCE

Inform Connect Advance

**Welcome!**



**WHAT TOUGH DECISIONS DO YOU FACE?**

**WHAT KINDS OF INFORMATION DO YOU USE  
TO GUIDE YOU?**



# Session Objectives



- ✓ Overview of four key data sources for decision-making
- ✓ How various data can (and should) be used together
- ✓ Benefits and limitations of the tools
- ✓ Information available through Centers of Excellence



# Four Data Sources



## 1. Traditional LMI:

*EMSI*

## 2. Real Time LMI:

*Burning Glass and Help Wanted OnLine*

## 3. GIS:

*Business Analyst*

## 4. Economic Impact:

*IMPLAN and EMSI*



# Economic Modeling Specialists, Inc. (EMSI)



- Proprietary resource/ traditional LMI ([www.economicmodeling.com](http://www.economicmodeling.com))
- Combines multiple sources of data; requires subscription to access online
- Provides data for a custom region (ZIP code or county level)
- Outputs Include:
  - **Industry & Occupational Employment Reports**
  - **Various Economic Indicators** (unemployment, export, import, etc.)
  - **Economic Impact Analysis**
  - **Basic Demographic Reports**
  - **Program Completion Reports** (uses IPEDS data)
  - **GIS Mapping**
  - **New Gainful Employment feature for colleges**



# Economic Modeling Specialists, Inc. (EMSI)



## Benefits

- Occupational reports (customized projections)
- Staffing patterns reports (what occupations are employed in an industry)
- IPEDS data conveniently packaged
- Provides multiple data elements in one place
- Easy to use and quick to share

## Limitations

- Cost
- Data limitations (e.g. reports data for 2-digit “catch-all” Government NAICS code; no breakdown for public education and other public services)
- No data for emerging industry or occupation
- Projections are based on historic data



# Applications for EMSI



Provides good LMI data & projections for traditional occupations and industries to:

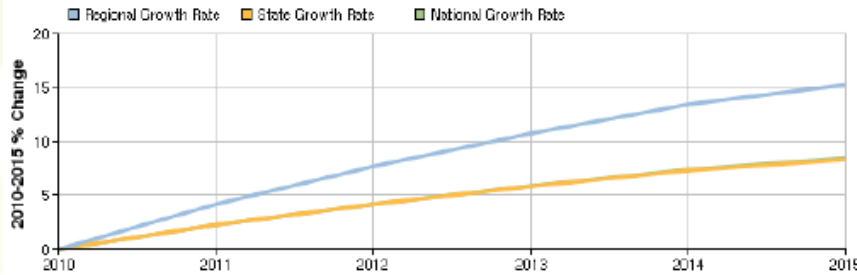
- ✓ support grant applications
- ✓ support new program development
- ✓ inform regional planning regarding the top growing industry clusters in a region (using county level data)
- ✓ partly inform District's/College's strategic planning related to program offerings



# Example: Copper Mountain College Starting Culinary Arts Program

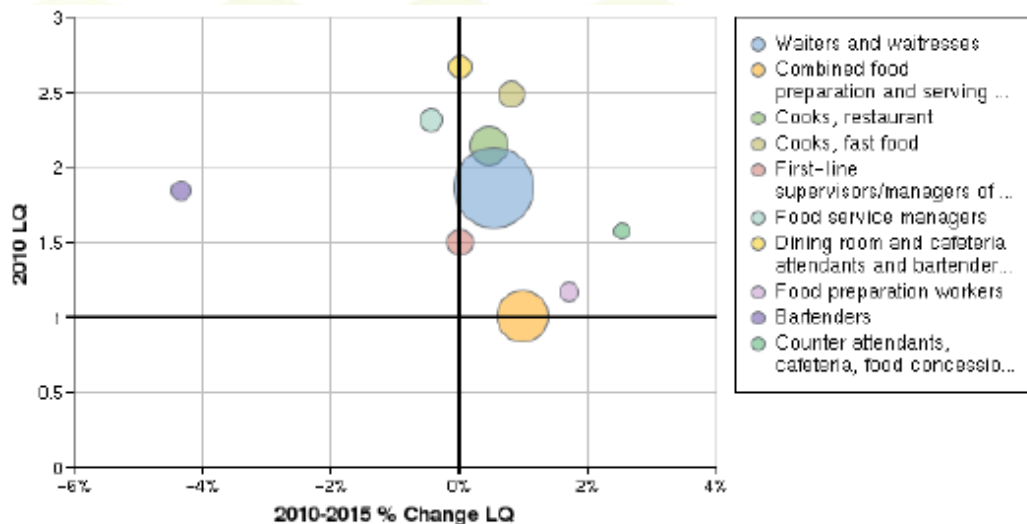


CENTERS OF EXCELLENCE  
Inform Connect Advance



Region	2010 Jobs	2015 Jobs	Change (new jobs)	% Change	Openings (new & repl. jobs)	Median Hourly Earnings
Regional Total	17,541	20,214	2,673	15%	5,714	\$10.32
State Total	1,254,206	1,358,332	104,126	8%	314,189	\$10.42
National Total	11,175,006	12,117,291	942,285	8%	2,815,896	\$9.68

Source: EMSI Complete Employment - 4th Quarter 2010



\*Bubble size represents 2010 jobs in each occupation.

LABOR MARKET REPORT  
**CULINARY AND FOOD SERVICE OCCUPATIONS**  
In Copper Mountain College Service Area & Coachella Valley

FEBRUARY 2011

# Real Time LMI



## ***What is real time LMI?***

- Labor market intelligence derived from the analysis of job postings and resumes placed into public and private labor exchanges.
- “Spidering” to various job boards such as Monster, Indeed, Dice, etc.

## ***Why is it real time?***

- Data represents aggregated totals from job postings pulled from the internet daily.



# What Are Some Real Time Tools?



- Wanted Analytics
- Help Wanted on Line (Conference Board)
- Monster Government Solutions
- Burning Glass Technologies



# Real Time LMI



## Benefits

- Continuously updated
- Searchable occupational titles
- Names of employers posting job openings
- May include new and emerging occupations
- Can identify “hot” skills and certifications
- Supplements traditional LMI, not a replacement

## Limitations

- Frequent duplication of job openings, often not easily detected
- Job postings vary across industries
- Over half of the listings are for Bachelors degrees and above
- Job openings do not equal vacancies
- Recruitment tool



# Applications for Real Time LMI



C·O·E

CENTERS OF EXCELLENCE

Inform Connect Advance

- Determine which degrees, program majors, and occupational certifications are in greatest demand
- Assess how aligned are programs against current employer job and skill demands
- Make a case for “retooling” traditional programs to reflect the skills in demand today
- Identify new targets of opportunity in emerging industries along with the associated skills in highest demand
- Identify locations where our occupational program demand is highest
- Improve connections with industry

# Example: Mobile Media Scan

**Table 2: 2011 Mobile Media Job Openings from March 2011 – August 2011 by Region and Occupation**

Occupations	Bay Area	LA/ Orange County	SoCal (excl. LA/OC)	Greater Sacramento	Central Valley	Total
Software engineers	2,985	541	312	57	85	3,980
Computer support specialists	98	24	26	16	1	165
Project managers	88	28	7	5	5	133
Web developers	1,158	541	151	47	41	1,938
Graphic designers and/or multi-media artists	133	74	30	8	0	245
Computer programmers	1,175	460	199	43	8	1,885
<b>Regional Totals</b>	<b>5,637</b>	<b>1,668</b>	<b>725</b>	<b>176</b>	<b>140</b>	<b>8,346</b>



# Geographic Information Systems (GIS)



C·O·E

CENTERS OF EXCELLENCE

Inform Connect Advance

## ***What is GIS?***

- A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. ([www.gis.com](http://www.gis.com))

## ***Why GIS?***

- GIS allows us to view and visualize data in many ways that reveal patterns, and trends in the form of maps, reports, and charts.



# What are GIS tools?



- Esri ([www.esri.com](http://www.esri.com))
- CLARITAS ([www.claritas.com](http://www.claritas.com))
- EMSI GIS tool ([www.economicmodeling.com](http://www.economicmodeling.com))
- Others: GeoLytics ([www.geolytics.com](http://www.geolytics.com)), etc.



# Esri's Business Analyst

- An extension of Esri's software that provides useful tool for mapping and analyzing businesses, industries, and communities.
- Available as an Online tool as well

## Demographic Data



## Business Data



## Geographic Data



## Outputs Include:

- Demographic data reports for a customized geography
- Demographic GIS Maps
- Business Distribution Maps
- Employment Maps
- Overlay maps of various boundaries
- Various analytical maps (simple ring, drive-time ring, etc.)

# Esri's Business Analyst



## Benefits

- Visually displays business concentration & demographic data
- Provides access to the most up-to-date demographic data
- Generates listings of businesses for an specific industry
- Provides data for a custom geography (not just ZIP codes, but simple ring, drive-time, buffer, etc.)

## Limitations

- Cost
- Requires some level of skills to use
- InfoUSA business data limitations
- Data is static



# Uses of GIS/ Business Analyst



Visually displays industry/business and demographic data for region(s) allowing to :

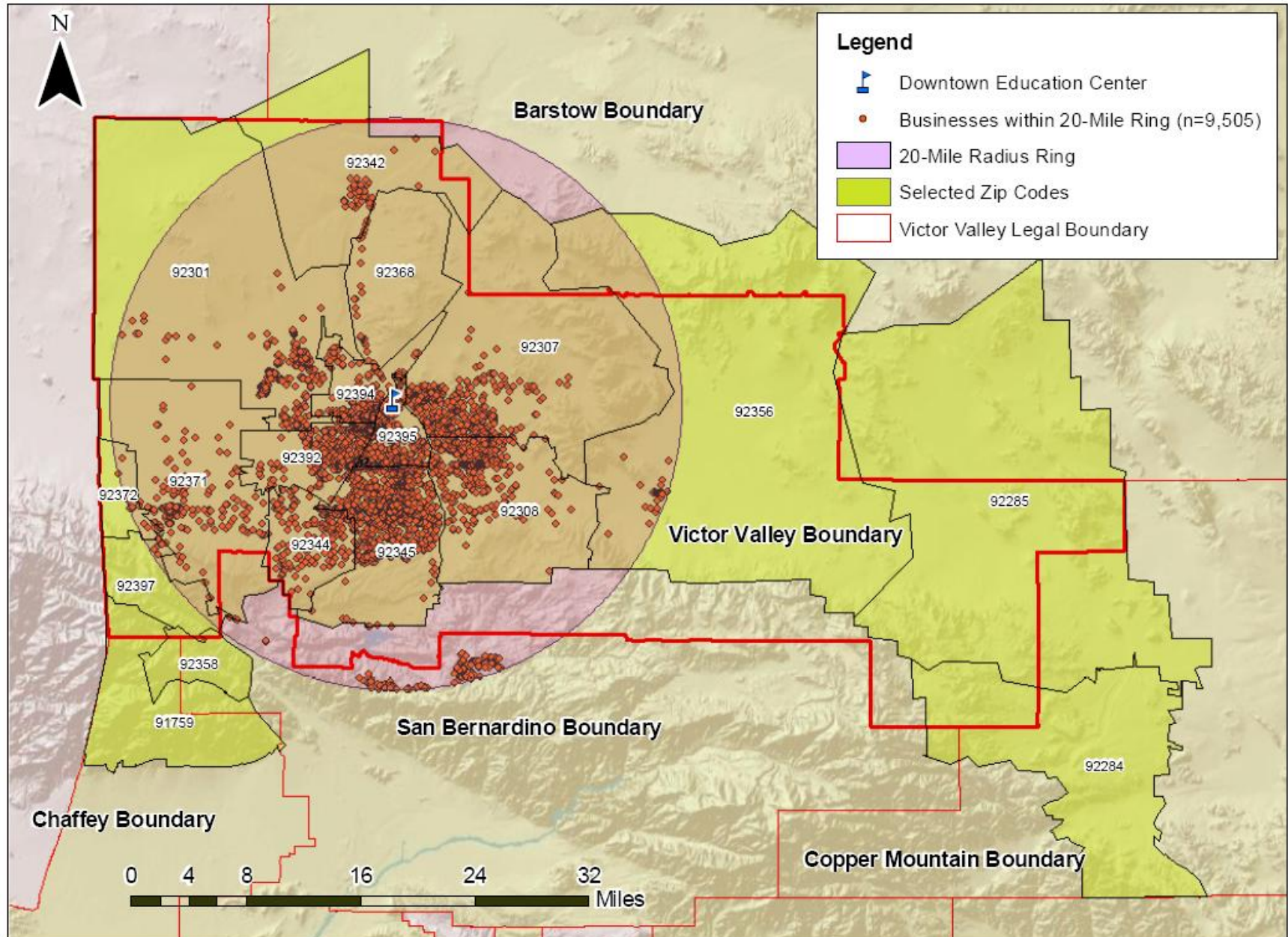
- compare regional and sub-regional clustering of industries & employment
- make decisions regarding a new location (e.g. training center)
- understand demographics of a region/sub-region to better target your services
- identify employers
- use data to apply for grants
- [if student/client data is available] show and analyze student population data



# Example

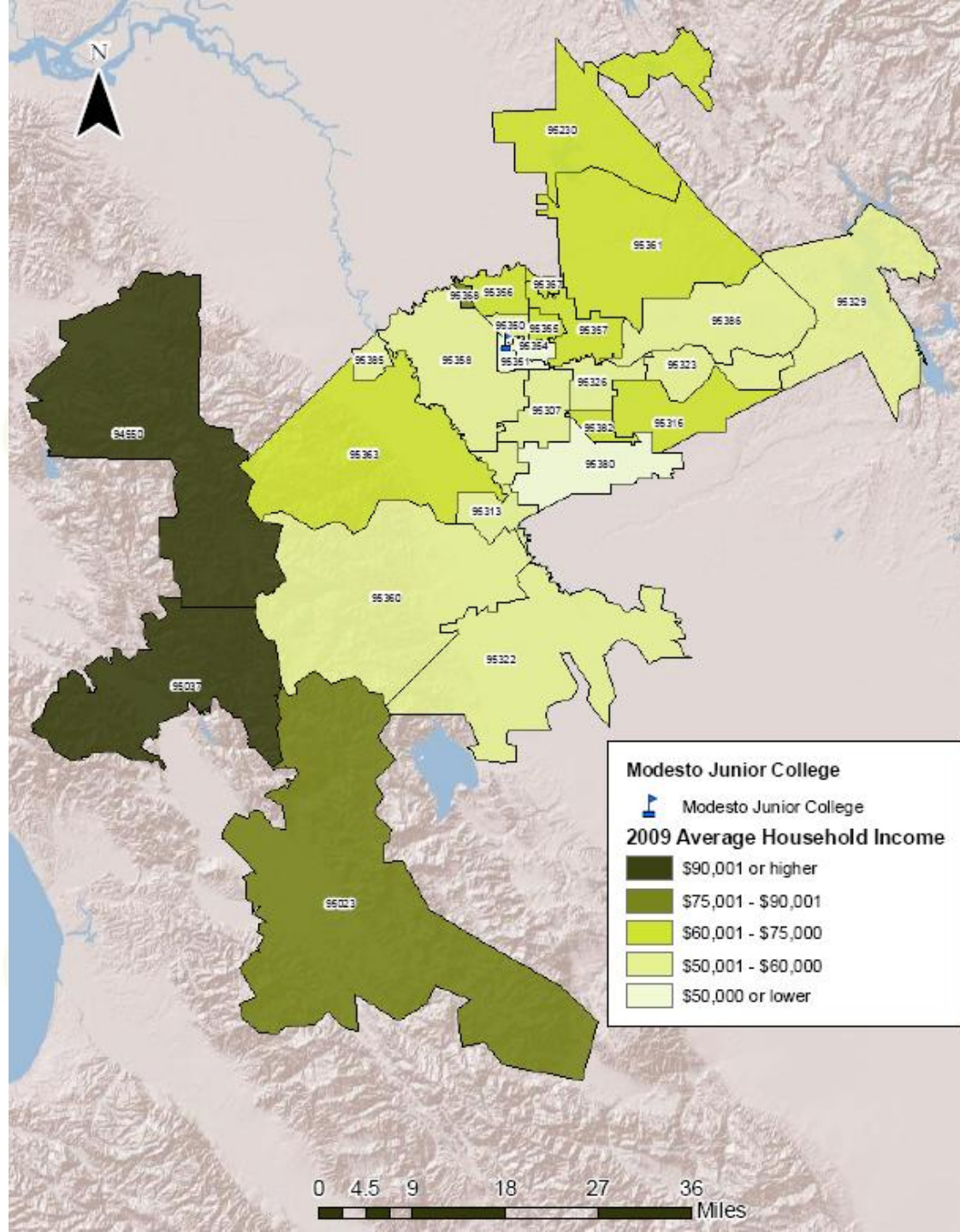


Businesses within 20-Mile Radius of Downtown Education Center in Victor Valley College Service Area, 2009



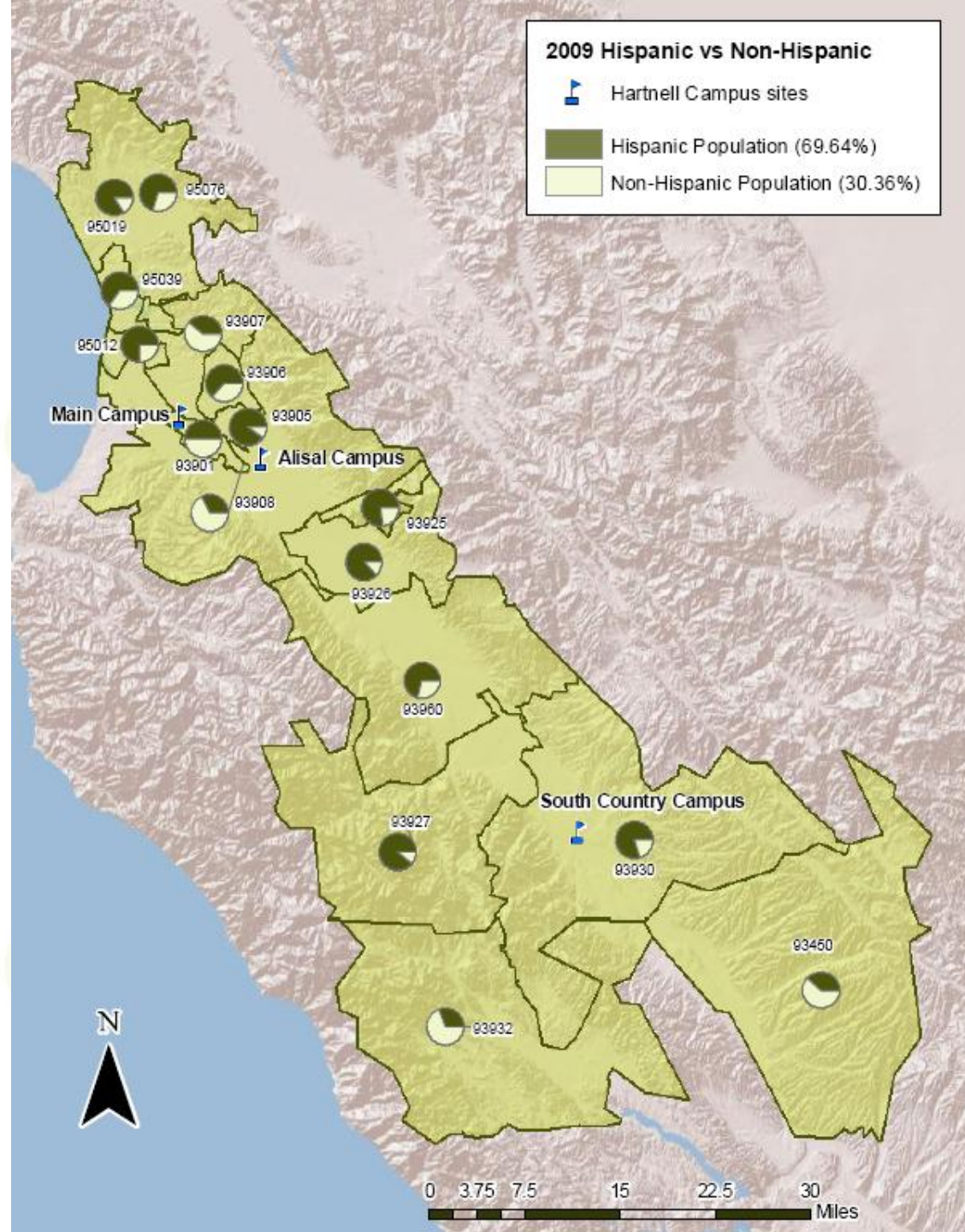
# Example

## Modesto Junior College Service Area: 2009 Average Household Income by Zip Code



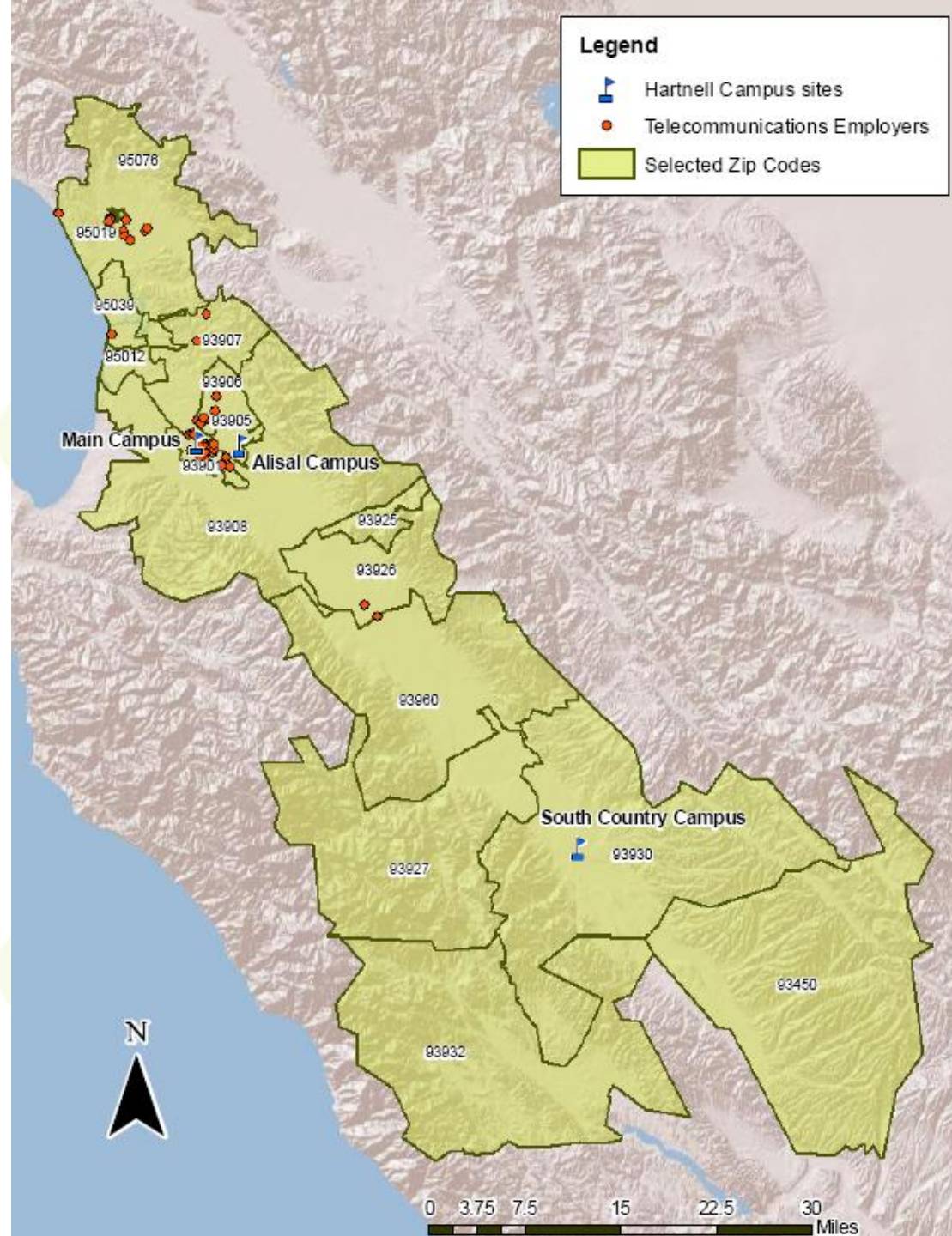
# Example

## Hartnell College Service Area: Total Hispanic Population vs. Non-Hispanic Population



# Example

## Hartnell College Service Area: Telecommunications Employers



# Economic Impact Modeling



- Provides a complete picture of the impact of a specific industry sector or specific scenario.
- Calculates the impact of a specific sector using three different measures:
  - **Direct Impacts** – represent the total jobs and other economic impacts that will be directly generated by the event or industry;
  - **Indirect Impacts (Industry Purchases)** – represent the jobs and other economic impacts that will be generated elsewhere in the region as a result of business-to-business relationships; and
  - **Induced Impacts (Employee Spending)** – represent the jobs and other economic impacts that will be generated through household purchases made in the region as a result of employee spending.



# EMSI Input/Output Modeling



- Provides analysis of the impact of an industry's expansion or retraction on other industries in a region
- Calculates direct and indirect effects of industry changes in terms of earnings and jobs.
- Analyzes effects of changes in an industry on:
  - Other industries
  - Specific occupations
  - Demographics



# IMPLAN Modeling Software



- Nationally recognized software for its ability to create complete, detailed economic impact models of local economies by industry or specific scenario.
- Applies predictive input-output multipliers that calculate the actual dollar amount of all business transactions taking place in a regional economy, including:
  - Institutional Demand
  - Households Consumer Demand
  - Inventory Purchases
  - Trade Flows
  - Transfer Payments



# Economic Impact Tools



## Benefits

- Powerful information
- Projects the economic and workforce impact of a specific scenario
- Useful for measuring regional differences
- Excellent for demonstrating the value of a specific program or industry

## Limitations

- Complexities require outside help
- Requires customized data that may be difficult to obtain
- Provides limited information for workforce planning

# Example: Education in the Sacramento Region

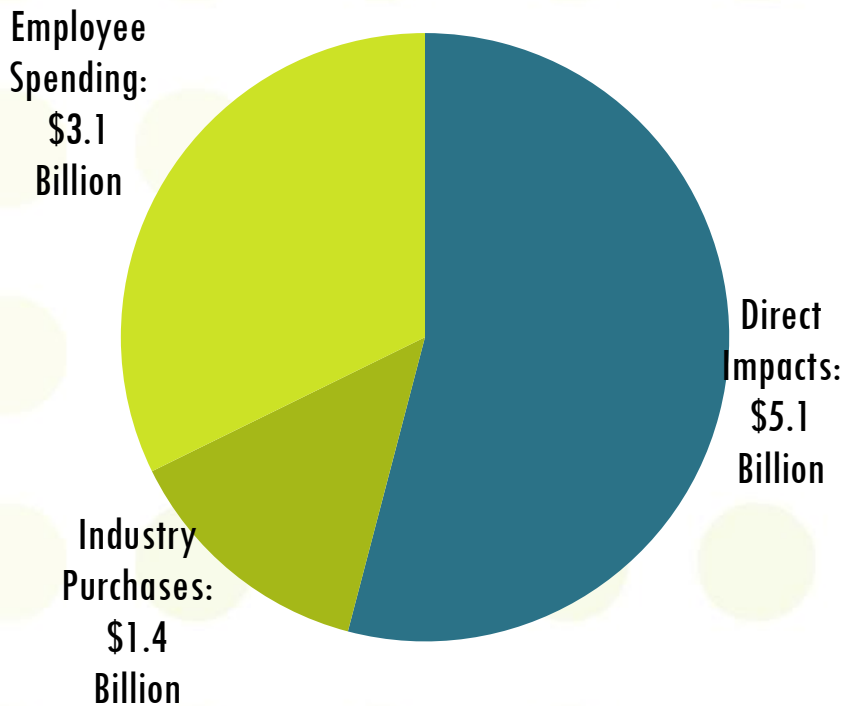


C·O·E

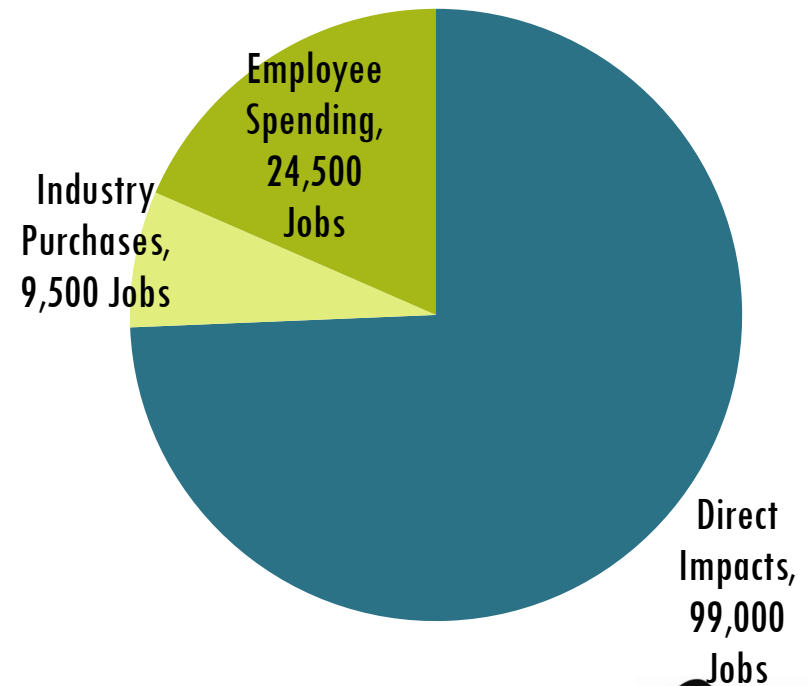
CENTERS OF EXCELLENCE

Inform Connect Advance

## Figure 1: Economic Impact, 2008



## Figure 2: Employment Impact, 2008



**ECONOMIC & WORKFORCE DEVELOPMENT**  
through the  
CALIFORNIA  
COMMUNITY  
COLLEGES

# Parting Thoughts



- ✓ There is no single tool that works for every purpose
- ✓ Choose from the toolbox based on the problem you need to solve
- ✓ ALWAYS use multiple data sources
- ✓ Outsource when necessary, but be clear in what you ask for
- ✓ Centers of Excellence can help!



# Thank You!



**Elaine Gaertner**

Statewide Director  
Centers of Excellence  
[elaineg@cccewd.net](mailto:elaineg@cccewd.net)

**Zhenya Lindstrom**

Director, Center of Excellence  
Inland Empire & San Diego-Imperial  
Regions  
[elindstr@sbccd.edu](mailto:elindstr@sbccd.edu)

