

# Using Geographic Data in Higher Education Advocacy

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# Using Geographic Data in Higher Education Advocacy

## **GUIDING QUESTIONS**

What is geographic data (geodata)?

What makes geodata valuable?

What makes geodata valuable to the University of California?

How does the University of California use geodata in advocacy?

Questions / Discussion

# Using Geographic Data in Higher Education Advocacy

## LEARNING

What is geodata?

Geodata consists of two basic components:

- spatial data (the where: a location)
- attribute data (the what: a program and all attributes of the program)

Geodata sometimes includes:

- temporal data (the when)

**takeaway: if a data record has an address or X,Y coordinate—it is geodata**

# Using Geographic Data in Higher Education Advocacy

## LEARNING

### What is spatial geodata?

Spatial data is the locational information describing where phenomena exist.

- point data (a program site)
  - represented by an X,Y coordinate (latitude and longitude)
- line data (a campus commuter route)
  - is a series of X,Y coordinates all next to each other
- area data (a congressional district)
  - is line data that forms a closed polygon



point



line



area

**takeaway: a data record can be made geodata by appending location**

# Using Geographic Data in Higher Education Advocacy

## LEARNING

What is **attribute** and **temporal** geodata?

- the program site (point)
  - attributes: name, category, type, number of participants
  - temporal: when it was founded, when it will sunset, when it meets
- the campus commuter route (line)
  - attributes: name, mode, direction
  - temporal: time, duration
- the congressional district (area)
  - attributes: name, population, total area
  - temporal: voting schedule, redistricting timeline

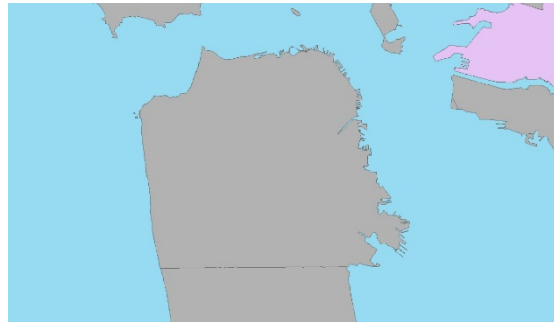
**takeaway: attribute data is all aspects of what is at or in the spatial data**

# Using Geographic Data in Higher Education Advocacy

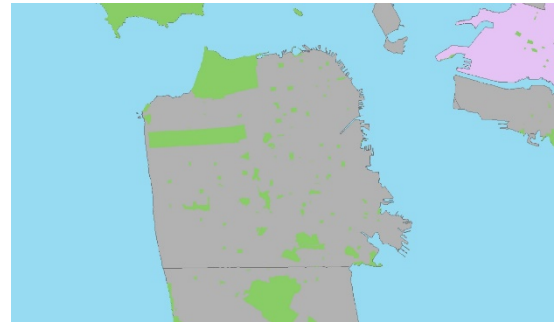
## LEARNING

What makes geodata valuable?

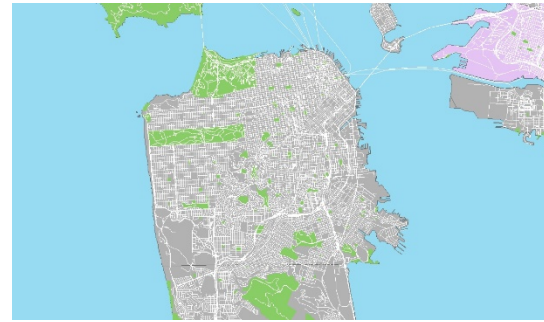
Geodata establishes context of space and creates place.



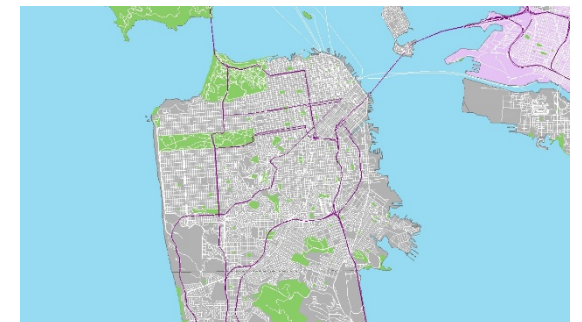
space



spaces



place



places

**takeaway: geodata adds a human scale and relatability to any data**

# Using Geographic Data in Higher Education Advocacy

## LEARNING

What makes geodata valuable?

Maps are a powerful tool for disseminating data and storytelling:

- maps are an invitation (their graphic nature pulls one in)
- maps are democratic (all types of learners have an entry point)
- maps are personal (they allow one to “find” themselves)
- maps carry authority (they are believable and can be verifiable)

**takeaway: geodata is data that can be mapped**



# Using Geographic Data in Higher Education Advocacy

## LEARNING

What makes geodata valuable?

Maps have limitations:

- maps are an invitation (their graphic nature pulls one in)

**NOT ACCESSIBLE**

- maps are democratic (all types of learners have an entry point)

**MESSAGING CONTROL**

- maps are personal (they allow one to “find” themselves)

**NEVER BAD**

- maps carry authority (they are believable and can be verifiable)

**MISINFORMATION**

takeaway: mapping takes careful consideration



# Using Geographic Data in Higher Education Advocacy

## LEARNING

What makes geodata valuable to the University of California?

UC is interested in demonstrating fulfillment of the institutional mission of teaching, research and public service

- to government
- to the public

**takeaway: maps are an effective advocacy tool**

# Using Geographic Data in Higher Education Advocacy

## LEARNING

How does the University of California use geodata?

Employing maps across multiple channels with a common goal:

- static maps
- interactive dashboard maps
- a hybrid static/interactive map application

**takeaway: maps are effective in many formats**

## Using Geographic Data in Higher Education Advocacy

### LEARNING

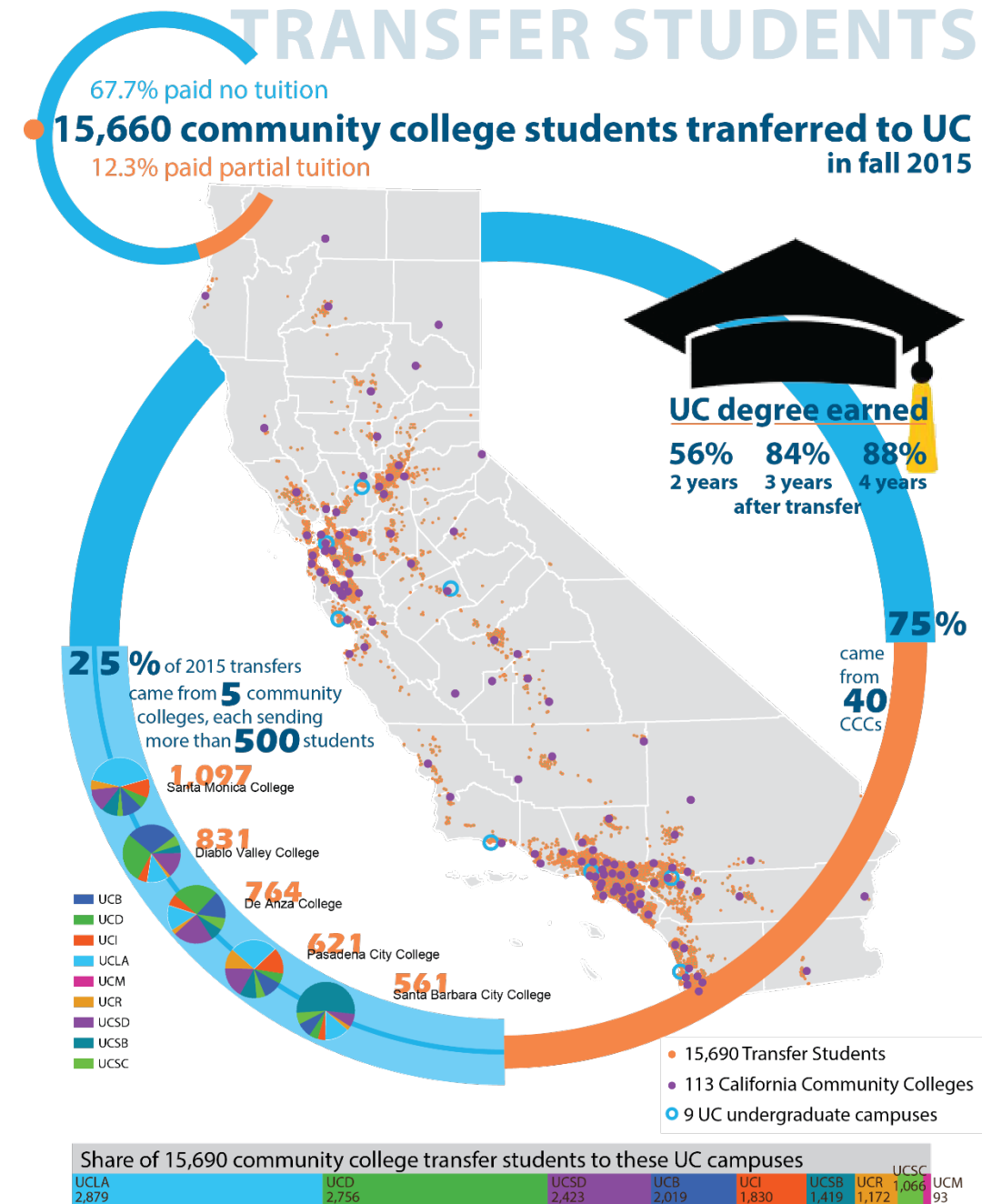
How does the University of California use geodata?

static map in an infographic

Demonstrates UC's commitment to intersegmental transfers.

Audience:

- community college students
- community college counselors
- the media



## Using Geographic Data in Higher Education Advocacy

### LEARNING

How does the University of California use geodata?

static map as a poster

UC President's immediate office

Demonstrates the economic impact on the state of UC's research activities.

Audience:

- local governments
- state legislators
- general public
- the media

UNIVERSITY  
OF  
CALIFORNIA

## UC RESEARCH IMPACTS IN CALIFORNIA

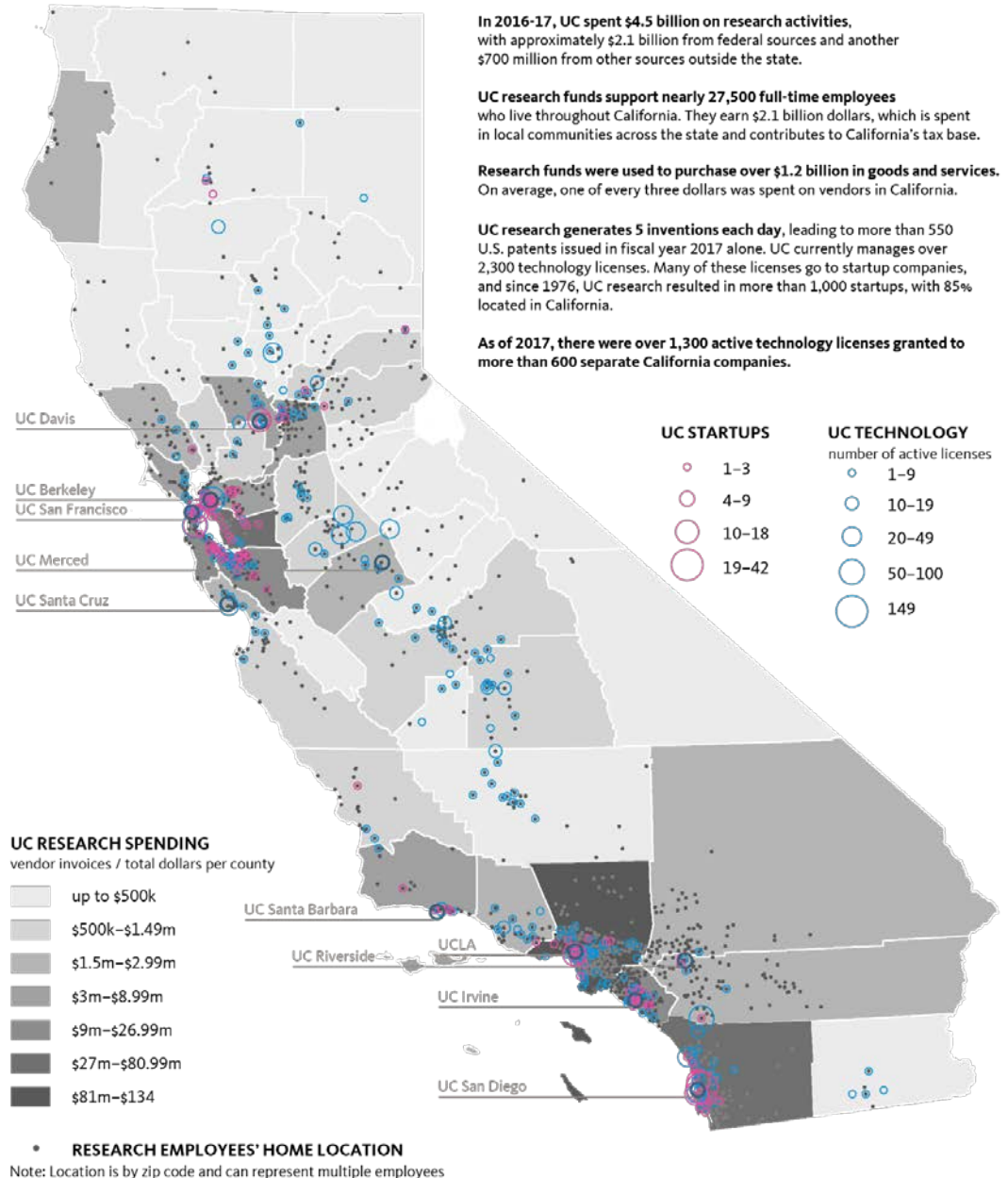
In 2016-17, UC spent \$4.5 billion on research activities, with approximately \$2.1 billion from federal sources and another \$700 million from other sources outside the state.

UC research funds support nearly 27,500 full-time employees who live throughout California. They earn \$2.1 billion dollars, which is spent in local communities across the state and contributes to California's tax base.

Research funds were used to purchase over \$1.2 billion in goods and services. On average, one of every three dollars was spent on vendors in California.

UC research generates 5 inventions each day, leading to more than 550 U.S. patents issued in fiscal year 2017 alone. UC currently manages over 2,300 technology licenses. Many of these licenses go to startup companies, and since 1976, UC research resulted in more than 1,000 startups, with 85% located in California.

As of 2017, there were over 1,300 active technology licenses granted to more than 600 separate California companies.



## Using Geographic Data in Higher Education Advocacy

### LEARNING

How does the University of California use geodata?

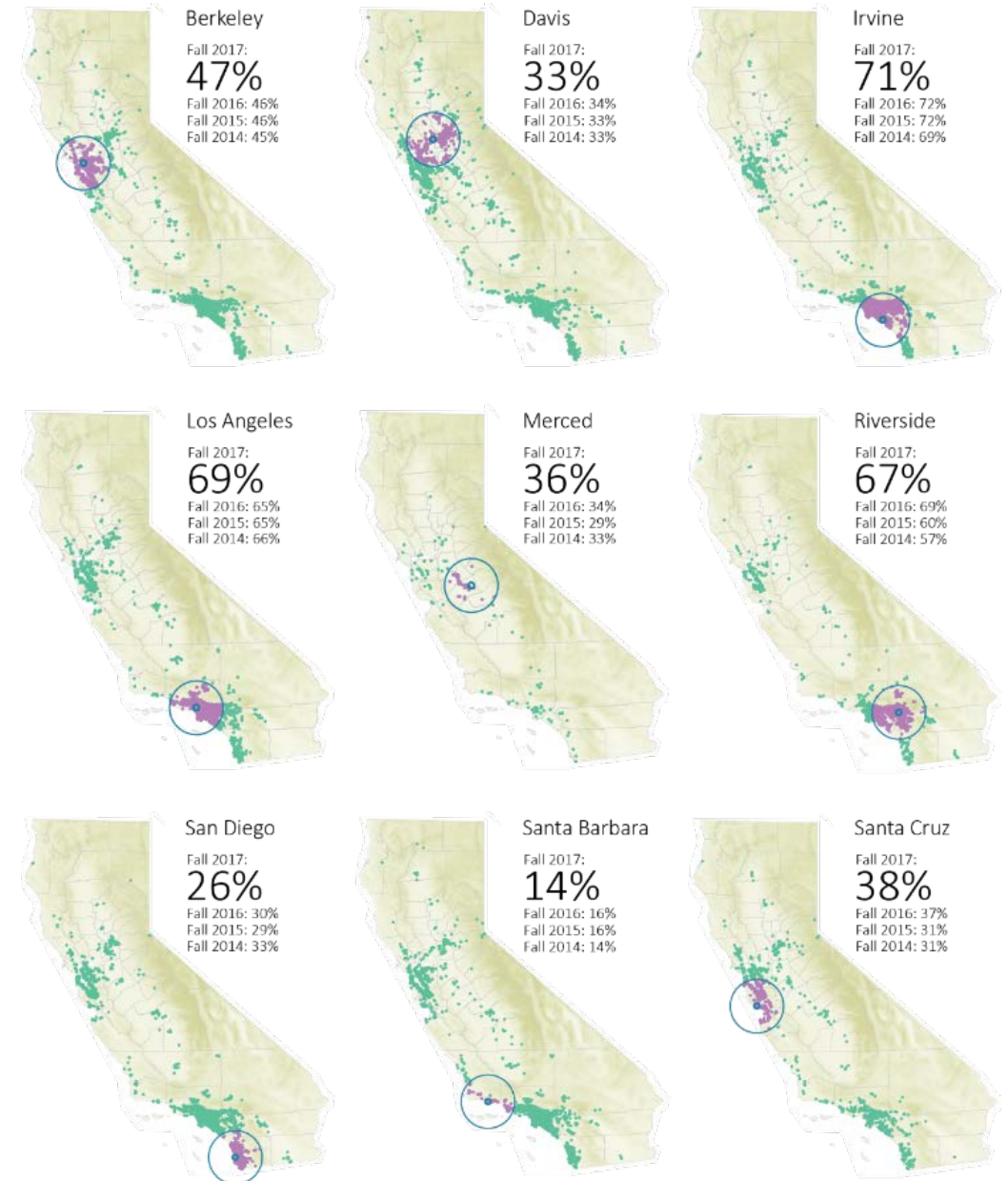
#### static maps

UC Accountability Report

Demonstrates UC's consistent local enrollment numbers.

Audience:

- campus communities
- state legislators
- families



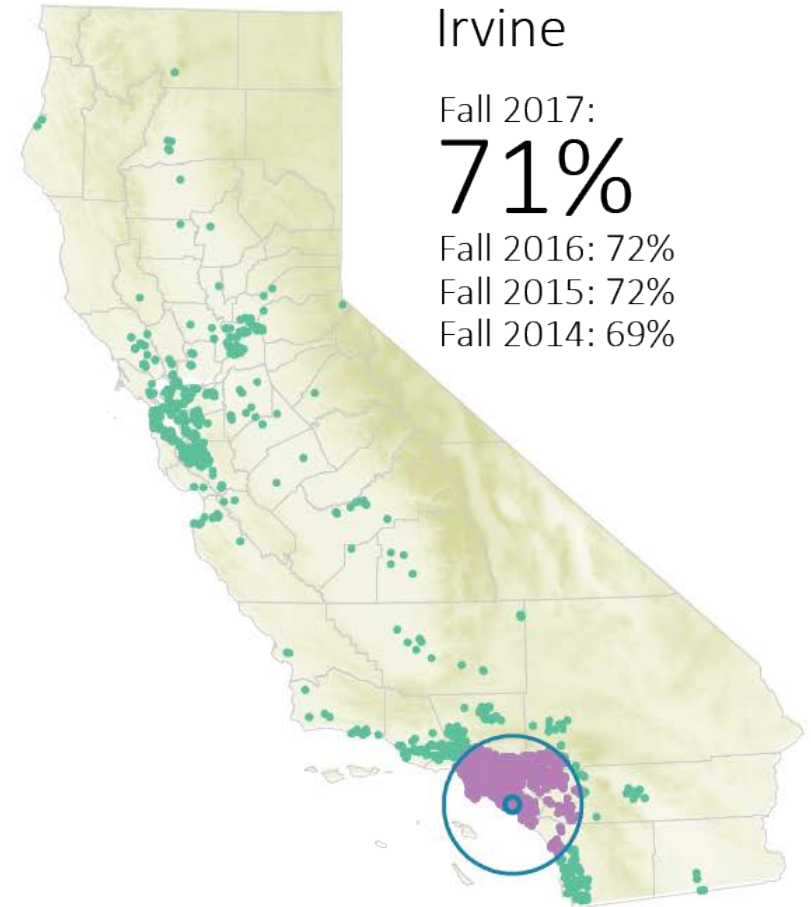
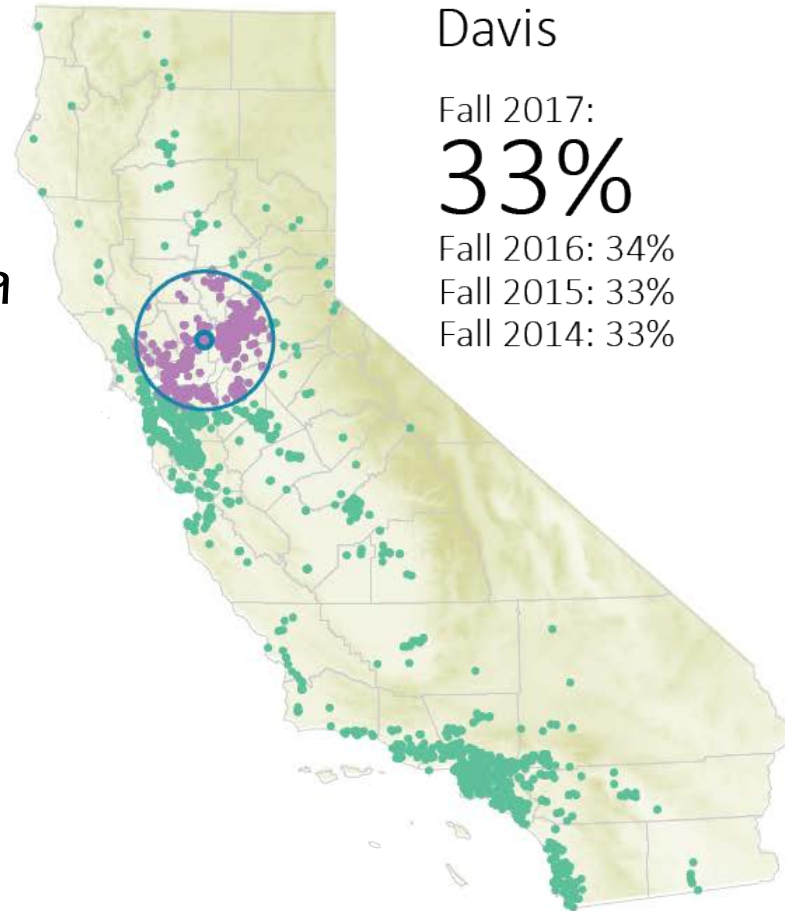
## Using Geographic Data in Higher Education Advocacy

### LEARNING

How does the University of California use geodata?

static maps

layers of temporal data





## Using Geographic Data in Higher Education Advocacy

### LEARNING

How does the University of California use geodata?

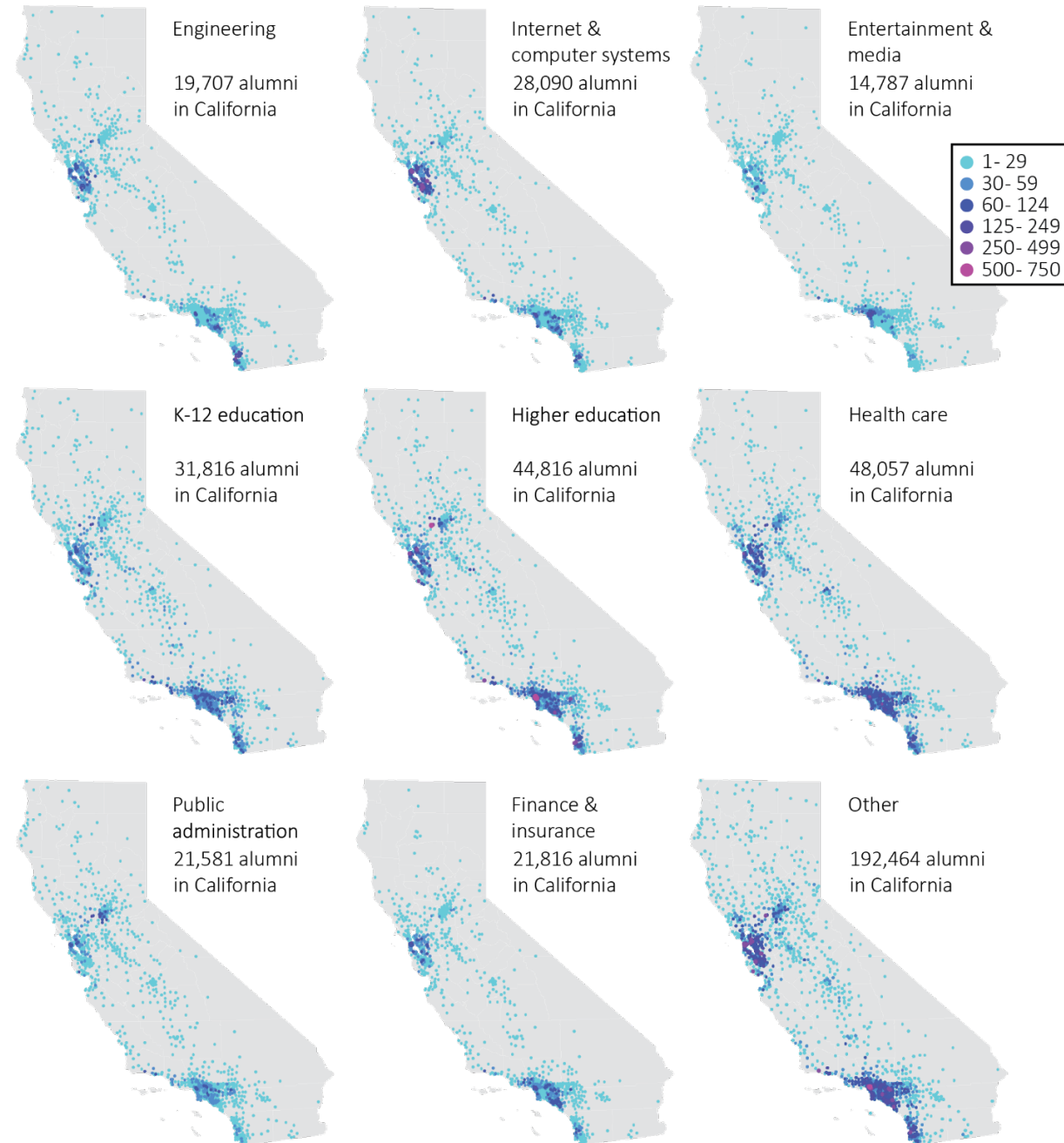
#### static maps

UC Accountability Report

Visualizes UC alumni employment by industry across the state.

Audience:

- Undergraduates
- industry groups



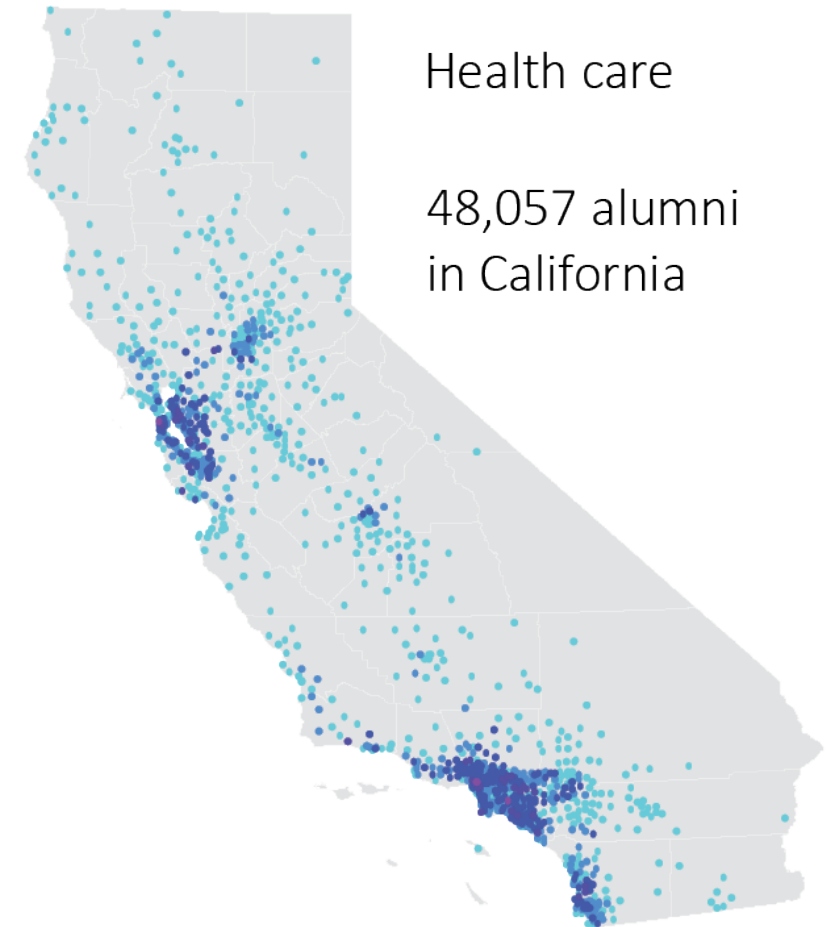
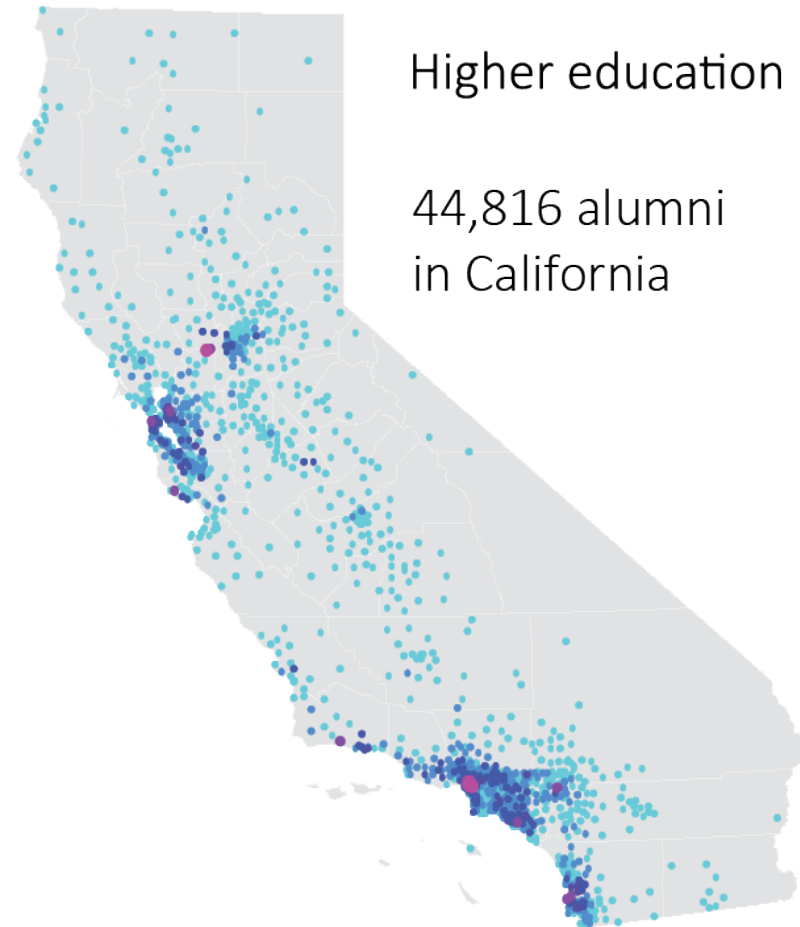
## Using Geographic Data in Higher Education Advocacy

### LEARNING

How does the University of California use geodata?

static maps

diffuse distribution





## Using Geographic Data in Higher Education Advocacy

### LEARNING

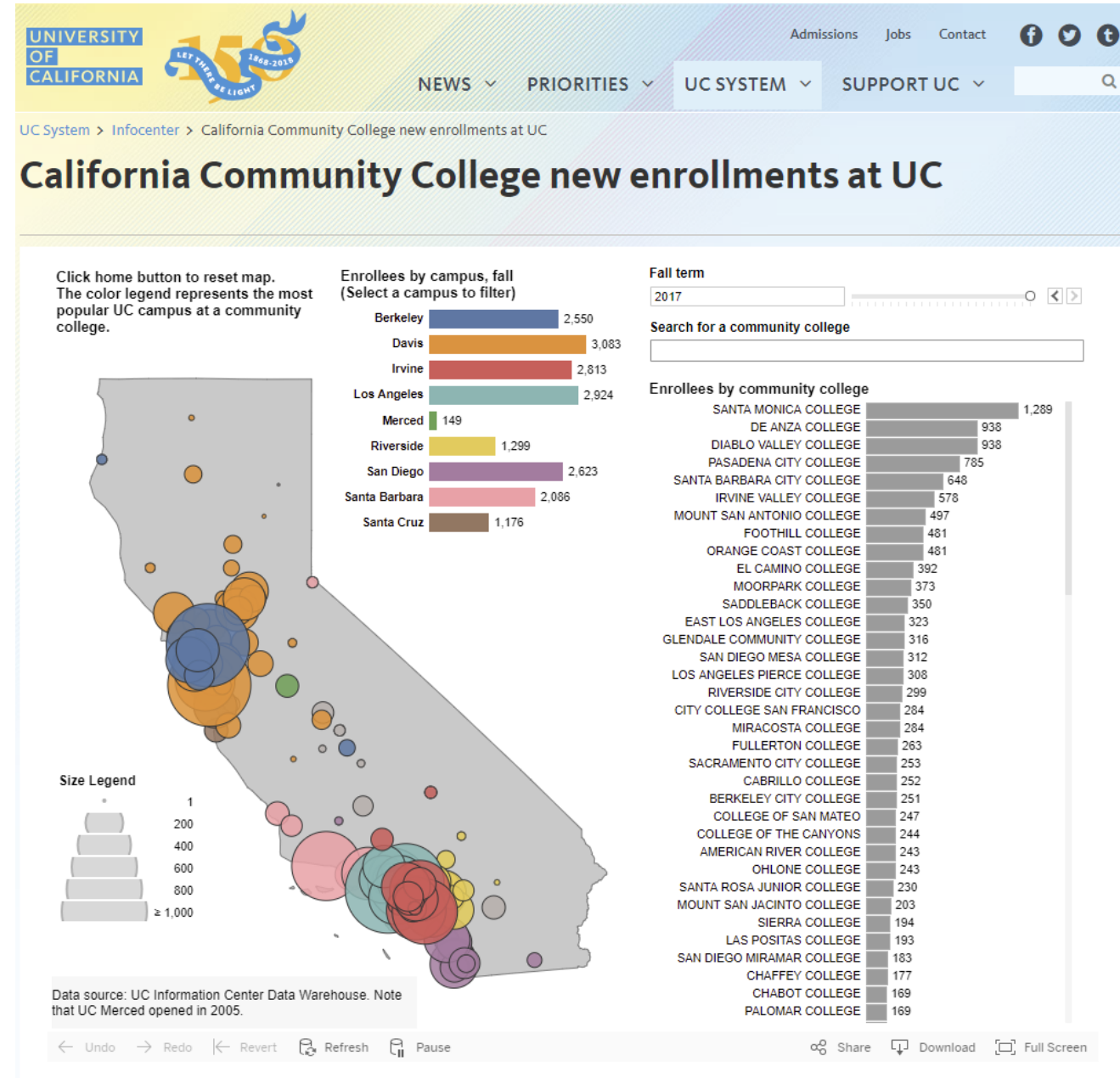
How does the University of California use geodata?

interactive dashboard maps  
[UC Information Center](#)

Shows the origin schools of UC's California Community College transfer students.

Audience:

- community college students
- community college counselors
- families



## Using Geographic Data in Higher Education Advocacy

### LEARNING

How does the University of California use geodata?

interactive dashboard maps  
[UC Information Center](#)

Shows the distribution of UC's annual sponsored research grants and contracts.

Audience:

- state and federal legislators
- international governments
- research professionals
- corporations

#### INTERNATIONAL PROJECT SPONSORS

Nearly one billion dollars in project funding over the last five years has come to UC from sponsors outside the United States. Pharmaceutical companies based in Japan, Great Britain and Switzerland are among the largest project sponsors, sponsoring both fundamental medical research and clinical trials of new therapies. International automobile and chemical companies also contribute significantly to UC research in engineering and material science.

Selecting a country in this world map displays the total five-year support to UC, and a list of the individual sponsors.

#### International Sponsors

Enter a country name to filter (click "x" at right to reset)

#### quartiles

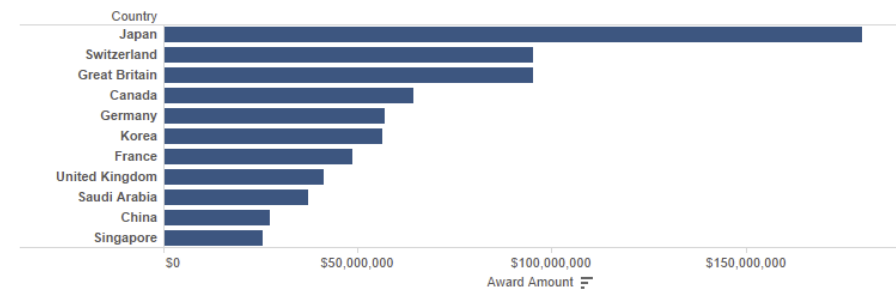
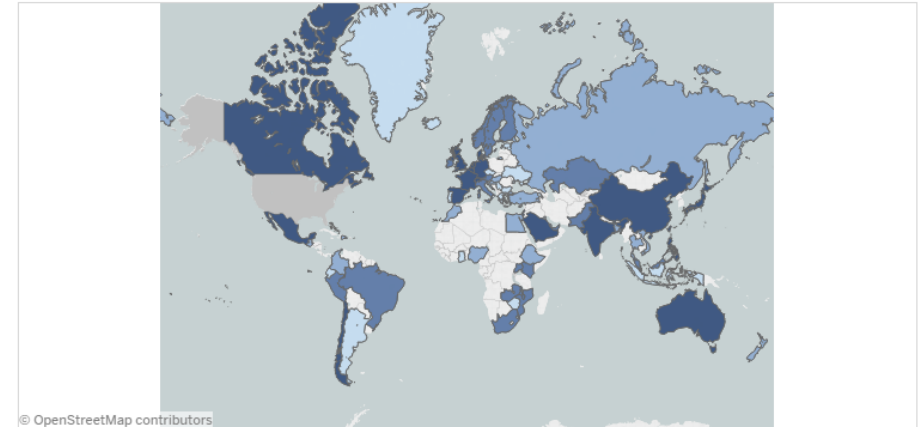
- Bottom 25%
- Second bottom 25%
- Second top 25%
- Top 25%

#### discipline

(All) ▼

#### funding source

(All) ▼



# Using Geographic Data in Higher Education Advocacy

## LEARNING

How does the University of California use geodata?

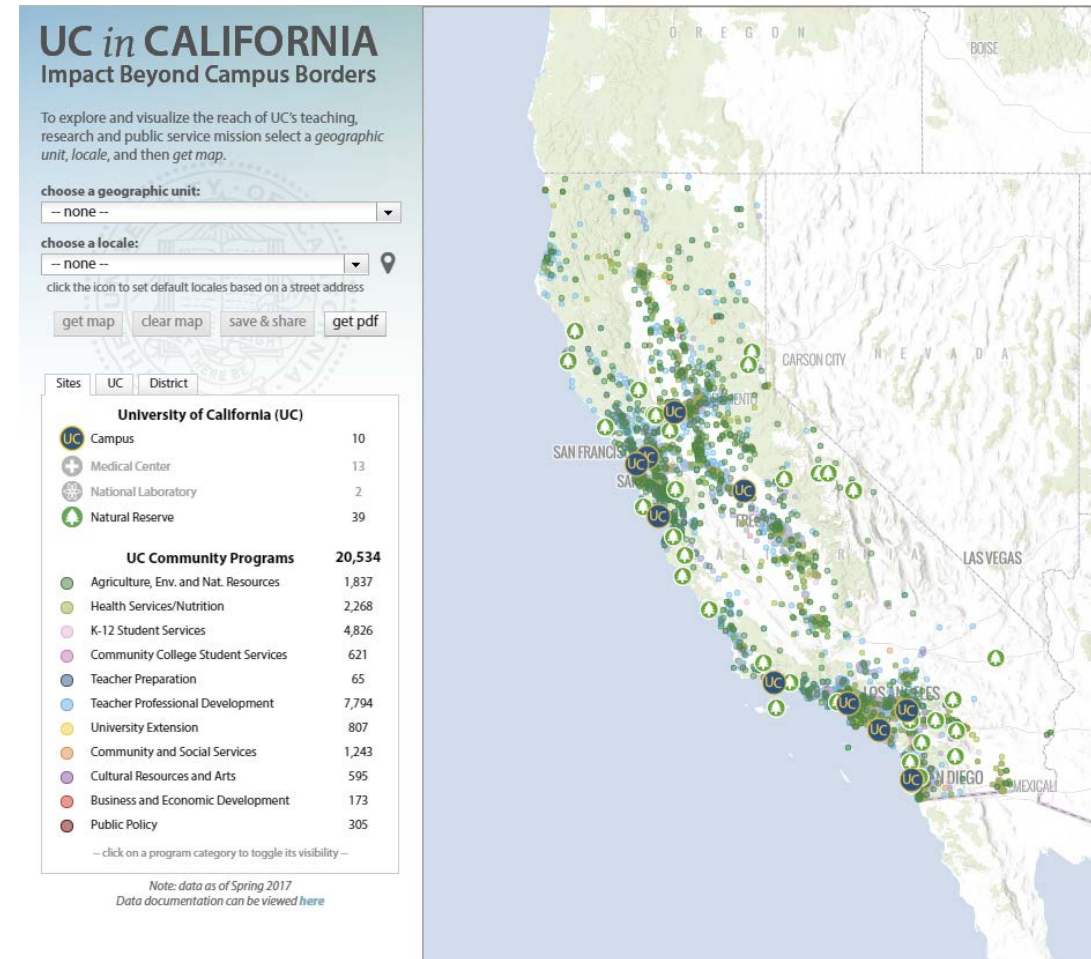
A hybrid static/interactive map application

### [UC in California:](#) [Impact Beyond Campus Borders](#)

UC's systemwide governmental advocacy tool

Audience:

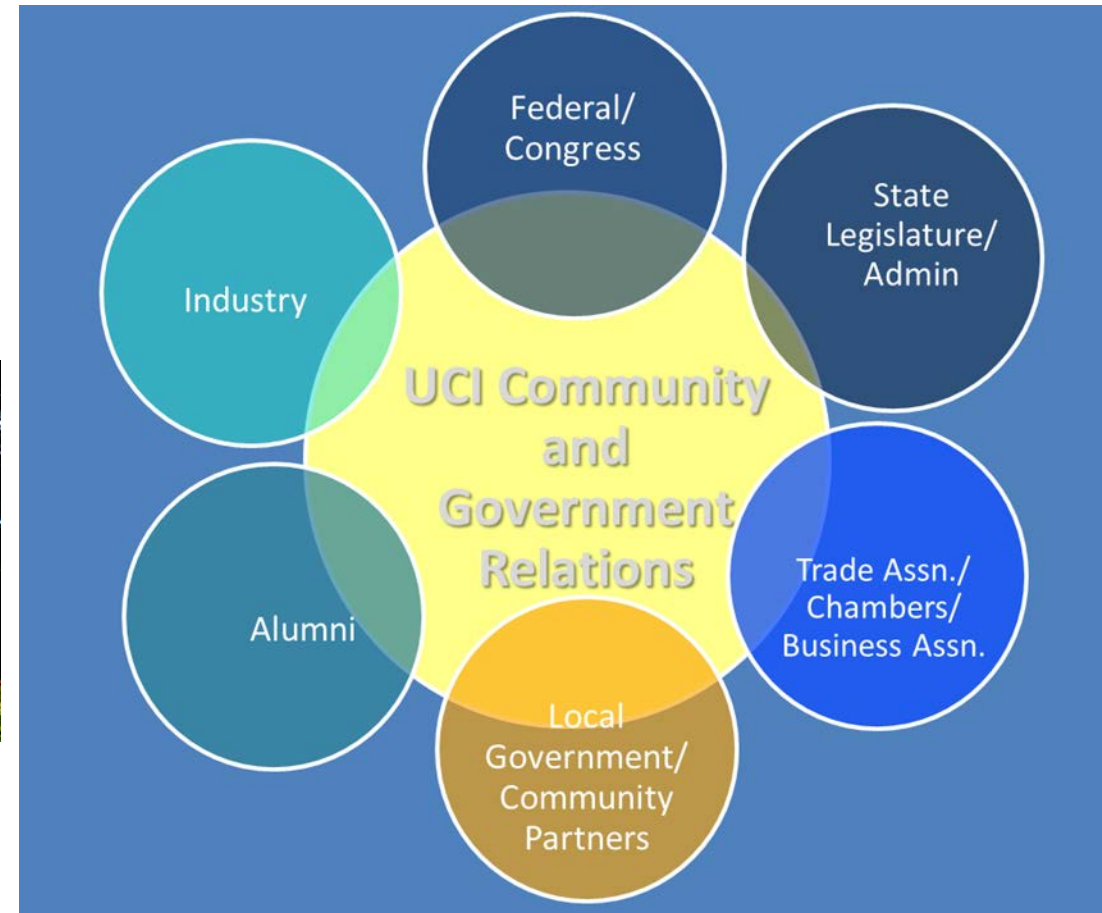
- Campus government relations professionals
- state and federal legislators
- general public



# Using Geographic Data in Higher Education Advocacy

## ADVOCACY

University of California, Irvine, Community and Government Relations

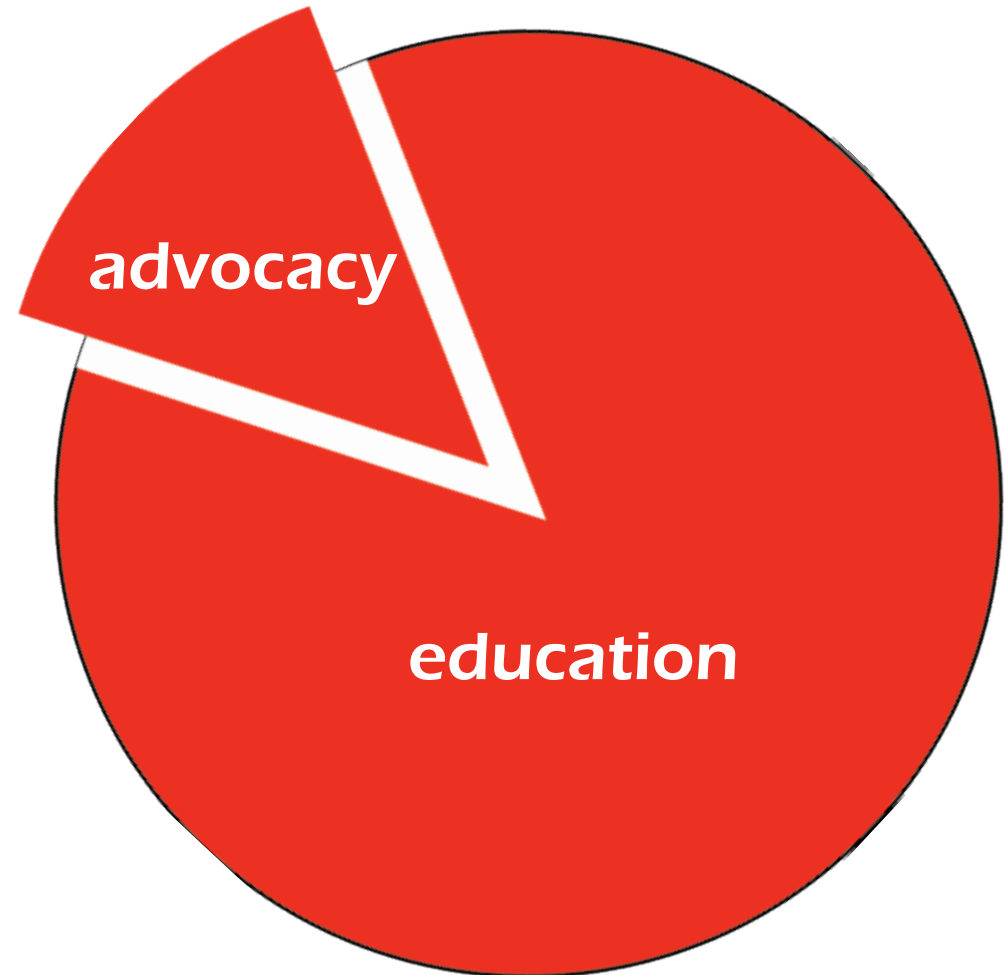




# Using Geographic Data in Higher Education Advocacy

## **ADVOCACY**

What is Community and Government Relations?



# Using Geographic Data in Higher Education Advocacy

## ADVOCACY

### Government Relations Objectives

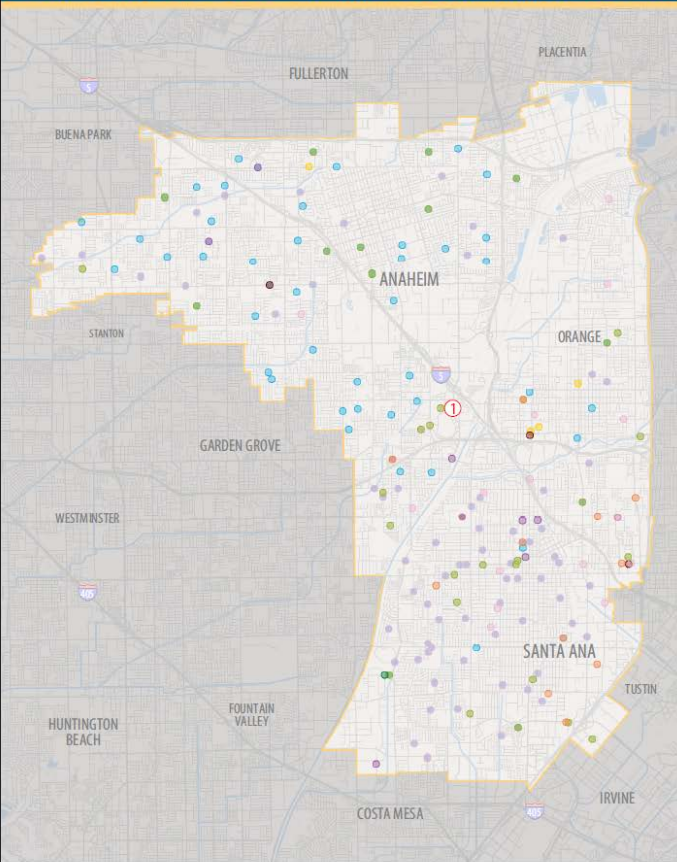
- Develop and maintain relationships with legislators/elected officials and their staff.
- Communicate higher education issues to public policy makers and how they impact the system and campus
- Deliver accurate, timely and relevant information to internal & external stakeholders, advocates and elected officials
- Develop & mobilize grassroots and grassroots advocates
- Utilize strategic intelligence to stay “In Front” of issues
- Serve as a resource to legislators for campus resources

# Using Geographic Data in Higher Education Advocacy

## ADVOCACY

### UC in your District

#### UNIVERSITY OF CALIFORNIA IN YOUR DISTRICT



- 362 UC Community Programs in Your District**
- Agriculture, Environment and Natural Resources - 1
  - Health Services/Nutrition - 38
  - K-12 Student Services - 149
  - Community College Student Services - 10
  - Teacher Professional Development - 130
  - University Extension - 9
  - Community and Social Services - 11
  - Cultural Resources and Arts - 11
  - Public Policy - 3
- 1 UC Medical Center & Hospital in Your District**
- ① UC Irvine Medical Center

#### UNIVERSITY OF CALIFORNIA IN YOUR DISTRICT

	Congressional District 46	UC Systemwide
Students, Fall 2016	---	270,110
Undergraduates	2,810	210,170
Veterans	24	1,680
Undergraduate Applicants for Fall 2017	2,680	210,320
Freshman Applicants	2,150	171,880
Alumni in CA	13,100	1.9M
Employees in CA	3,520	289,440
Payroll in CA	\$144.6M	\$14,704.1M
Retirees in CA	380	68,910
Medical Center Outpatient Visitors	---	4.9M
<b>State and Federal Funding for Student Aid</b>		
Cal Grant Recipients	1,960	73,580
Cal Grant Amount	\$23.3M	\$879.4M
Pell Grant Recipients	1,890	82,180
Pell Grant Amount	\$8.7M	\$370.1M
Federal Loan Recipients	1,400	80,870
Federal Loan Amount	\$9.2M	\$684.3M
<b>Federal Project Funding for UC</b>		
National Institutes of Health	---	\$3,339.4M
National Science Foundation	---	\$2,107.7M
Department of Defense	---	\$496.0M
Department of Energy	---	\$275.6M
NASA	---	\$131.3M
Department of Education	---	\$65.1M
Department of Agriculture	---	\$51.2M
Other Agencies	---	\$50.7M
Research Employees	280	\$161.9M
Research Payroll	\$5.5M	66,130
Startups	---	\$2,112.3M
Technology Licenses	4	500
		2,360

NOTE: Data current as of Spring 2017, map published 11/16/2017. If you have any questions, please contact UC Federal Governmental Relations at (202) 974-6300.

NOTE: Data current as of Spring 2017, map published 11/16/2017.

# Using Geographic Data in Higher Education Advocacy

## **QUESTIONS**

What questions do you have?



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