

## BUSINESS GIS CASE STUDY

### TITLE: SITE SELECTION FOR UNIVERSITY OF REDLANDS REGIONAL CAMPUS

#### LOCATION

#### Author

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#### NOTES:

1. This case study has a lab component.
2. Software requirements: Esri's ArcGIS Online and Business Analyst Online
3. Adopted in: BUSB 433 GIS FOR BUSINESS (core course in *Bachelor of Science in Business (BSB) program*)
4. Approx. 1,450 words excluding figures, tables, references.
5. Data for this case study may be requested by emailing [gisab@redlands.edu](mailto:gisab@redlands.edu).
6. **Keywords:** location analytics, spatial thinking, drive time analysis, geodemographic segmentation
7. **If you are a member of the academic community outside the University of Redlands and are interested in adopting this case, please email the author directly to seek permission.**

**Disclaimer:** This exercise is for student and faculty teaching and learning use only, and is not for any marketing or administrative use by the University of Redlands.

#### OBJECTIVES:

1. Perform an analysis of demographic characteristics and drive times in order to recommend one or two locations of new regional campuses for the business programs at UofR. You need to consider the spatial distribution of our existing students and regional campuses, and see if there are distributional patterns of interest.
2. Next, you will examine the characteristics that surround one or two new regional campus locations. You will ask how the spatial distribution of new campuses will interact with the existing ones, and what kind of students the new campuses might be geographically close to.
3. Use BAO maps, facts, and reports to justify the location of one or two new sites as economically viable.
4. Examine the spatial distributions of education, income, and other demographics of the areas surrounding the one or two new sites. Decide on what one or two characteristics would make

the most sense geographically for the new site(s). What is the best map to inform the location of a new site?

5. How can you justify that the new site would have enrollment and economic advantages over the next five years.
6. Improve your geographic thinking. To make headway on geographic thinking, the student needs to break a geographic problem down into questions, determine existing data, identify new types of data that can be useful, make assumptions, and identify what answers are needed to solve the geographic problem. Although developing good spatial analytical skills can take time, this exercise can help the student start the process.

### **BACKGROUND:**

University of Redlands, School of Business would like to set up additional regional campuses. The school has a reputation of providing high quality education and has been ranked by:

- Forbes as the top 5% of America's Best Colleges.
- U.S News as being among the top 15 Western Universities in its 2012 Edition of America's Best Colleges and U.S News also ranks it an an A+ School and a "Great School, Great Price."
- The Chronicle of Higher Education lauded University of Redlands for its high percentage of Fulbright Scholars.
- Princeton Review lists the University of Redlands as one of the 123 Best Western Colleges in its "2011 The Best 376 Colleges" book.

The faculty members at the school are experienced, knowledgeable, and subject matter experts.

The strategic decision to add regional campuses has been based on the fact that, from the economic recession that started in 2007 and has lingered on into slow recovery. California's public universities are hit hard due to increase in fees and budget cuts that result in erratic class offerings. Many students are unable to graduate in time and find it necessary to move to other universities so they can complete the requirements to graduate. This could be a great opportunity for the University of Redlands to fill the void by adding new locations to satisfy the existing need. Long commute-time to Redlands is a downside to attracting students from across southern California to the main campus. The university realizes that locations should be in cities close to where the students work and live instead of having to travel for class meetings. Adding to the main campus and seven existing regional campuses would make it convenient for working professionals to attend classes and complete the requirements for the degree programs.

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The current 8 locations of the School of Business are in:

University of Redlands – Main Campus  
Henschke Hall and Other Classroom Locations  
1200 E Colton Ave  
Redlands, CA 92373  
Phone: (888) 999-9844

University of Redlands - Riverside Campus  
Central Plaza 3610 Central Ave, Suite 101  
Riverside, CA 92506  
Phone: (888) 999-9844

University of Redlands - Rancho Cucamonga/Ontario Campus  
9680 Haven Avenue, Suite 150  
Rancho Cucamonga, CA 91730  
Phone: (888) 999-9844

University of Redlands - Temecula Campus  
27720 Jefferson Avenue, Suite 400  
Temecula, CA 92590  
Phone: (888) 999-9844

University of Redlands - Torrance Campus  
19191 S. Vermont Avenue, Suite 450  
Torrance, CA 90502  
Phone: (888) 999-9844

University of Redlands - Burbank Campus  
Executive Plaza  
333 N Glenoaks Blvd #630  
Burbank, CA 91502  
Phone: (888) 999-9844

University of Redlands - Orange County Campus  
Campus Hutton Center  
200 E. Sandpointe Avenue, Suite 300  
Santa Ana, CA 92707  
Phone: (888) 999-9844

University of Redlands - San Diego Campus  
Centrum Complex  
9040 Friars Road, Suite 310  
San Diego, CA 92108  
Phone: (888) 999-9844

### **PROJECT:**

Based on the enrollment history, the School of Business recognizes the fact that most of their students are re-entry students from diverse backgrounds. The students have full time jobs and would like to have a guarantee that classes will be offered throughout the year and they will finish the program in two years assuming they have their pre-requisites done. Campuses should be located close to their work or where they live.

Since you are a student of GIS, the school, the exercise would like you to use your expertise to locate some sites with high market potential taking into consideration all of the above. (Note: the exercise is for teaching and learning purposes only; none of your outputs will be provided for any marketing administrative purpose at the university).

### **STEPS:**

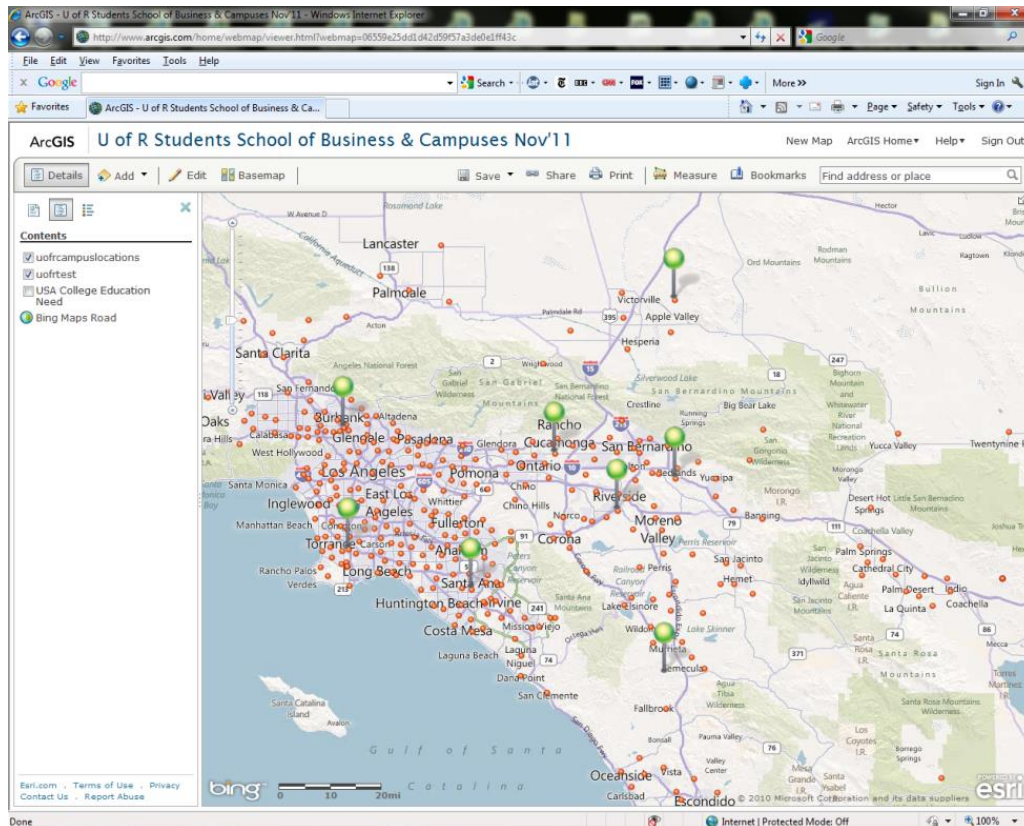
In order to ascertain the geography, let us plot the current campus locations and the current student locations.

There are files uploaded on the BUSB 433 course's Blackboard site that have been set up for your use. These files have the:

- Campus locations by zip and their latitude longitudes.
- Current student zip and their latitude longitudes and the number of students from each zip code.

By going to [www.arcgis.com](http://www.arcgis.com), you can create a map that looks as follows. The red dots show the students from various zip codes and the green markers are for the existing campus locations. You can search for relevant boundary layers and associated data that you can add as layers. The layers could pertain to education/income/demographics/etc. Make sure the data are from a reputable source.

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## The Steps in the BAO Exercise

Now let us start to use Business Analyst Online.

Bring up BAO by accessing <http://bao.esri.com> and enter your Username and Password.

We can look at demographic/tapestry/traffic/income levels and other data that would allow us to pinpoint a viable location for the new regional campus. This helps us in site selection and market analysis. It also helps us to look at lifestyles and behavior patterns and study age/income and consumer spending and competition as well.

The BAO report would look like:

**Demographic and Income Profile**  
Sample

City: Los Angeles  
County: Los Angeles  
State: CA  
Zip: 90018

Year	2000	2009	2013
Population	104,813	104,014	104,584
Households	41,658	41,463	41,507
Population Density	2,085	2,044	2,048
Average Household Size	2.51	2.51	2.52
Median Household Income	42,297	42,839	44,441
Median Age	31.4	32.2	32.4

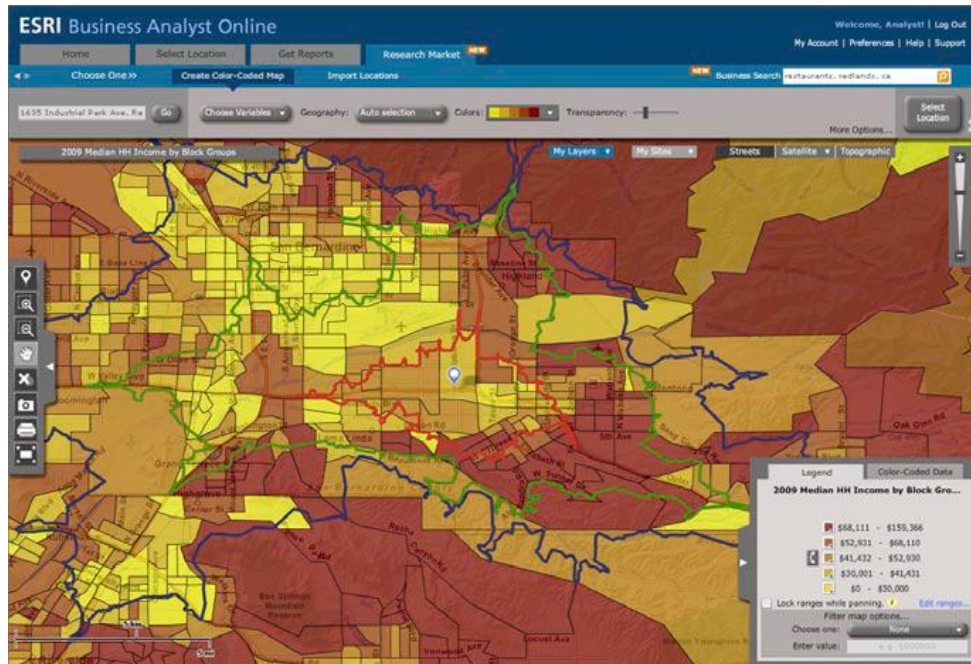
  

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The map pinpointing the median household income in 2009 for a location would look like this:



**DELIVERABLES:**

They would like to have each of the following questions answered in one-third page to one-half page answers along with supporting BAO maps and reports showing:

- 1) What one or two regional campus sites in California do you think would work best? Why? Support this answer with a map showing the point(s) for the proposed location(s).

- 2) For each site, why do you think this is a economically viable site? Please justify your answer with reasoning from BAO facts and BAO reports.
- 3) What are the geographic distributions of the features of education, income, and demographics of the surrounding area? Support this answer with a map showing one crucial feature for the proposed location. What does this map tell you about the good potential of the proposed site?
- 4) Do you see growth potential of the proposed regional campus site(s) in the next few years? Please justify your answer with facts and reports that you looked at.

Please note that your analysis makes several important assumptions:

- Commute times between students and the prospective new campus site(s) are a factor.
- Distances are associated with student home locations or student employment locations. This depends on the jump-off location to get to class.

Some points you might consider as part of your analysis are the following.

- Should we consider placing a new center in a location that would potentially compete with an existing regional location?
- Do we wish to locate a new center in a strategic position relative to the known competition (i.e. other providers of university-level business education)

You may not consider these points to be important, and you are strongly encouraged to bring forward other important points of your own that you prefer to consider

Please e-mail your assignment to the instructor.

It does not have to be completed during the in-class lab session, but can be e-mailed to the instructor by the following Saturday.

Please be sure to put your name of the homework assignment.

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For more information, visit <http://www.redlands.edu/businessGIS>.