

BUSINESS GIS CASE STUDY

TITLE: LOCATE SAN FRANCISCO STUDENT APARTMENTS NEAR STARBUCKS

Author

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NOTES:

1. This case study has a lab component.
2. Software requirements: Esri's Business Analyst Online
3. Adopted in: BUAD 683 Information and Knowledge Management (core course in *MBA program*)
4. Approx. 1,248 words excluding figures, tables, references.
5. Data for this case study may be requested by emailing gisab@redlands.edu.
6. **Keywords:** location analytics, drive time analysis, tapestry 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.**

BACKGROUND:

You will be analyzing: Distance from an apartment location to Starbucks in the City of San Francisco with respect to *Laptops and Latte* Tapestry areas. This exercise is based on the article "San Francisco rule would encourage building student housing," *L.A. Times*, July 9, 2012. Last accessed from <http://articles.latimes.com/2012/jul/09/local/la-me-sf-student-housing-20120709> on September 23, 2013. Read this article first to understand the motivation for this case study.

ESRI's Tapestry, is an example of a geo-segmentation, which refers to the process of characterizing a neighborhood by its average characteristics. Tapestry divides all U.S. neighborhoods into 65 different Tapestry segments, under such names as Top Rung, Suburban Splendor, Boomburbs, Sophisticated Squires (this best characterizes Redlands), Laptops and Latte, Up and Coming Families, Prosperous Empty Nesters, Metropolitans, etc.

All 65 Tapestry segments are explained the Esri document located at www.esri.com/library/brochures/pdfs/tapestry-segmentation.pdf


CONSIDER THESE QUESTIONS:

Which apartments are located in downtown San Francisco and are available for student rentals?

What apartments are located within densely populated *Laptops and Latte* segment areas?

What are the closest apartments to student gathering areas, such as a Starbucks, once the Tapestry segment is overlaid on the map with rings for distance? Which are the farthest?

This is a description of ESRI's Tapestry *Laptops and Latte* segment, which will be examined as a target group for students and Starbucks in San Francisco.

Segment Code.....08	
Segment NameLaptops and Lattes	
LifeMode Summary GroupL4 Solo Acts	
Urbanization Summary GroupU1 Principal Urban Centers I	

Demographic

With no home ownership or child-rearing responsibilities, residents of *Laptops and Lattes* neighborhoods enjoy single life in the big city. Most households are singles who live alone or with a roommate. The average household size remains constant at 1.8. Although this segment is slowly increasing, it is maturing and diversifying more quickly. The median age is 38.7 years. Although most of the population is white, Asians represent 10.4 percent of the total population.

Socioeconomic

This segment is affluent; the median household income of \$93,899 supports these residents. The median net worth is \$285,718. *Laptops and Lattes* residents are highly educated. More than 70 percent of residents aged 25 years and older hold a bachelor's or graduate degree; approximately 90 percent have attended college. The percentage enrolled in college or graduate school is more than three times the national level. Two-thirds of the employed residents work in professional or management positions, especially in the scientific, technical, finance, insurance, educational services, health care, and information industry sectors. More than half receive investment income; 19 percent earn self-employment income.

Residential

Laptops and Lattes residents prefer to live in major metropolitan areas such as New York City, Los Angeles, San Francisco, Boston, and Chicago. They are more likely to rent than own their homes; home ownership is at 39 percent. The majority of housing is apartments in multiunit buildings, especially those with 20 or more units. These neighborhoods are older and virtually untouched by urban renewal. Although 38 percent of the housing units were built before 1940, they are not inexpensive. The average gross rent is 85 percent higher than the US level, third highest of the Tapestry segments. The median home value is \$634,295, second only to Top Rung. Thirty percent do not own a vehicle.

Preferences

Cosmopolitan, connected, and politically liberal, *Laptops and Lattes* residents rely on their web-enabled cell phones instead of laptops to communicate. After the college segments, this is the top market to own an iPod and laptop or notebook computer. They go online to check e-mail, trade and track investments, review the latest news, arrange travel, and shop on sites such as amazon.com, ebay.com, and barnesandnoble.com. They also order items by phone. These residents travel, especially abroad, and enjoy a variety of vacations, such as backpacking, hiking, and beach trips. They stay at upscale hotels and rent cars when on vacation. A typical resident owns renter's insurance policies and uses dry cleaning services frequently.

Laptops and Lattes residents go to the movies, the theater, dance performances, rock concerts, museums, bars, nightclubs, baseball and football games, and professional basketball games. They watch foreign films or movie classics on DVD and news and music channels on cable TV. *Saturday Night Live* is a favorite program. They eat out frequently and take adult education classes. They shop at Target for essentials and luxuries at high-end department and home stores.

Residents exercise regularly at a health club and practice yoga, go downhill skiing, play tennis, jog, and bike. When they listen to the radio, they have a strong preference for classical music and all-news programs. They also listen to public radio and contribute to PBS. They read two or more daily newspapers; a variety of books such as history, biographies, and self-help; and travel, epicurean, airline, fashion, finance, and business magazines. They tend to buy organic and low fat/high fiber food. They eat nutrition/energy bars and take vitamins regularly. They get involved in community activities, write to elected officials, write articles that are published, and participate in environmental groups.

DOWNLOAD THE EXCEL FILES FROM THE MOODLE SITE:

- Download a copy of the Excel files needed for this exercise:

BUAD 683-GIS-BAO-Starbucks_Locations_City_San_Francisco-11-17-11.xls

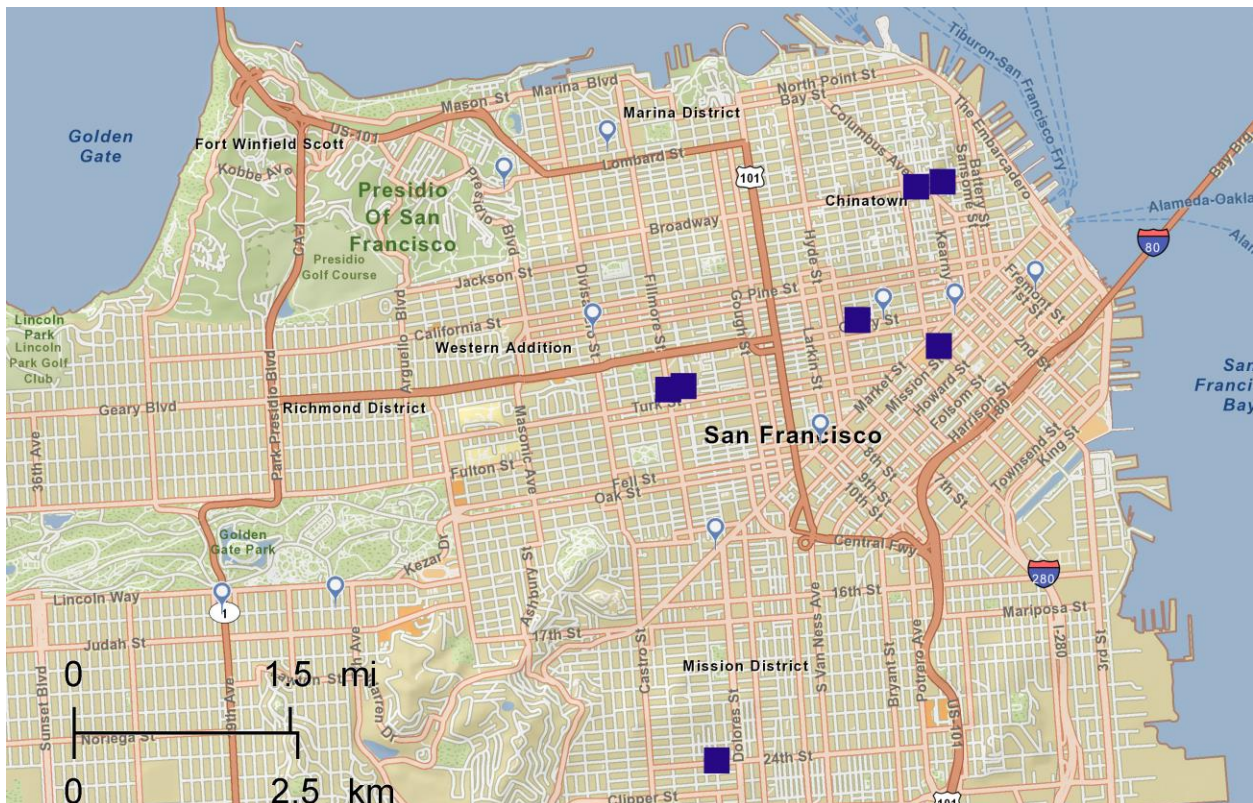
BUAD 683-GIS-BAO-Apartments_City_San_Francisco-7-14-12.xls

- The addresses within these files were obtained from InsiderPages.com
 - Apartment locations :
<http://www.insiderpages.com/search/search?query=apartments&location=San+Francisco%2C+CA&commit=Search>
 - Starbucks locations:
<http://www.insiderpages.com/search/search?query=starbucks&location=San+Francisco%2C+CA&radius=0&order=best&commit=Submit>
- Go to the InsiderPages.com site and examine how the apartment and Starbucks addresses can be selected for San Francisco and other cities.
- The apartment names and Starbucks IDs were obtained from the InsiderPages.com apartment names and user reviews of the San Francisco Starbucks sites.

Start BAO:

- Open the BAO Web site <http://bao.esri.com/?from=marketing>
- Load in the SF Starbucks locations by opening the "Select Location" tab.
 - Click on Select Location - Find Location- Import File - Browse -Open - Import
 - Go to the directory where you stored the Excel files, highlight the Starbucks file, and click "Open."
 - Then click "Import" in BAO.
 - Confirm that the "Fields" in BAO correctly corresponds to the "Columns" in Excel file
 - BAO also indicates "Select column for Site Name."
 - Select Column for Site Name: Under "Select Column" field - scroll down to ID -Import
 - Make sure 10 locations were "successfully found." Click Next.
 - Select " location symbol" by clicking radio button next to blue pin and click "Add Selected Locations." If you wish - change the radio button and color to a blue square.
- Load in the SF apartment locations by opening the "Select Location" tab.
 - Click on Find Location- Import File - Browse -Open - Import
 - Go to the directory where you stored the Excel files, highlight the Apartment locations file, and click "Open."
 - Then click "Import" in BAO.

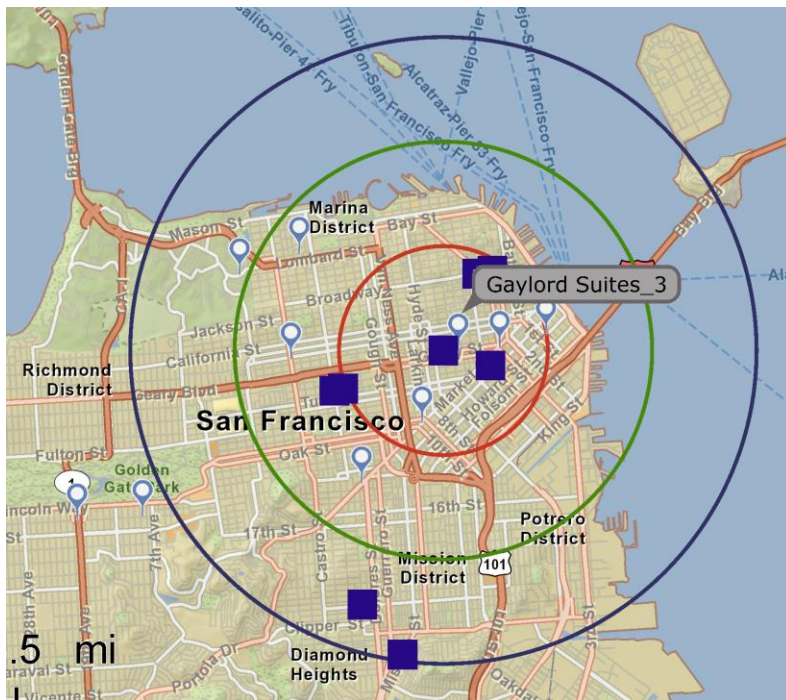
- Confirm that the “Fields” in BAO correctly corresponds to the “Columns” in Excel file
- BAO also indicates “Select column for Site Name.”
- **Select Column for Site Name:** Under "Select Column" field - scroll down to **ID** -Import
- Make sure 10 apartment locations were "successfully found." Click Next.
- Select " location symbol" by clicking radio button next to blue pin and click “Add Selected Locations.” If you wish - change the radio button and color to a purple square.
- As you go along, **save key maps** by clicking on the Screenshot tool in the toolkit (it looks like a camera) or .pdf by clicking on the button and saving the map image with a filename you assign to a folder on your own computer.
 - Note: .pdfs may take a couple of minutes to generate and will be stored under Get Reports tab - Previous Reports (top right side) -Custom Pdf Maps
- Your map will look like this one: Blue pins are Starbucks locations and purple boxes are apartment locations.



TRANSPORT TIMES:

You are now ready to study the transport times between the Starbucks and apartment locations.

- Locate the “Gaylord Suites” apartment locations in the north east area of the city.
 - Add *Drive Times* for this location by double clicking on the label for “Gaylord Suites” and select “Add rings, drive times or donuts.”
 - Select **Drive Times**, the middle tab, and indicate Drive Times of 1, 2, and 3 minutes. Click Apply.
 - Click "Deselect all." Then check only the “Gaylord Suites” location. Click Apply.
 - It will **process for some time** and then will give a map of the 1, 2, and 3 minute drive times for this location.
- Scroll over the colored areas.
 - You should have two Starbucks (Great Service and Clean) within the drive times,
- Next, you will select 1, 2, and 3 mile *rings* for “Gaylord Suites” locations,
 - Double clicking on the label for “Gaylord Suites” and select “Add rings, drive times or donuts.”
 - **Select rings** and indicate rings of 1, 2, and 3 minutes. Click Apply
 - Click "Deselect all." Then check only the “Gaylord Suites” location. Click Apply.
 - This calculation may take some time so be patient. The map will show 1, 2, and 3 mile rings for this location.
- Create the .pdf map for Gaylord Suites rings.



TAPESTRY STUDY

- Eliminate the rings and retain the 10 Starbucks locations.
 - Select the **Clear Map** tool and then re-load the Excel files to add back the locations.
 - Or you can click on “Organize Sites” and select your location, and click delete selected and then close the window.

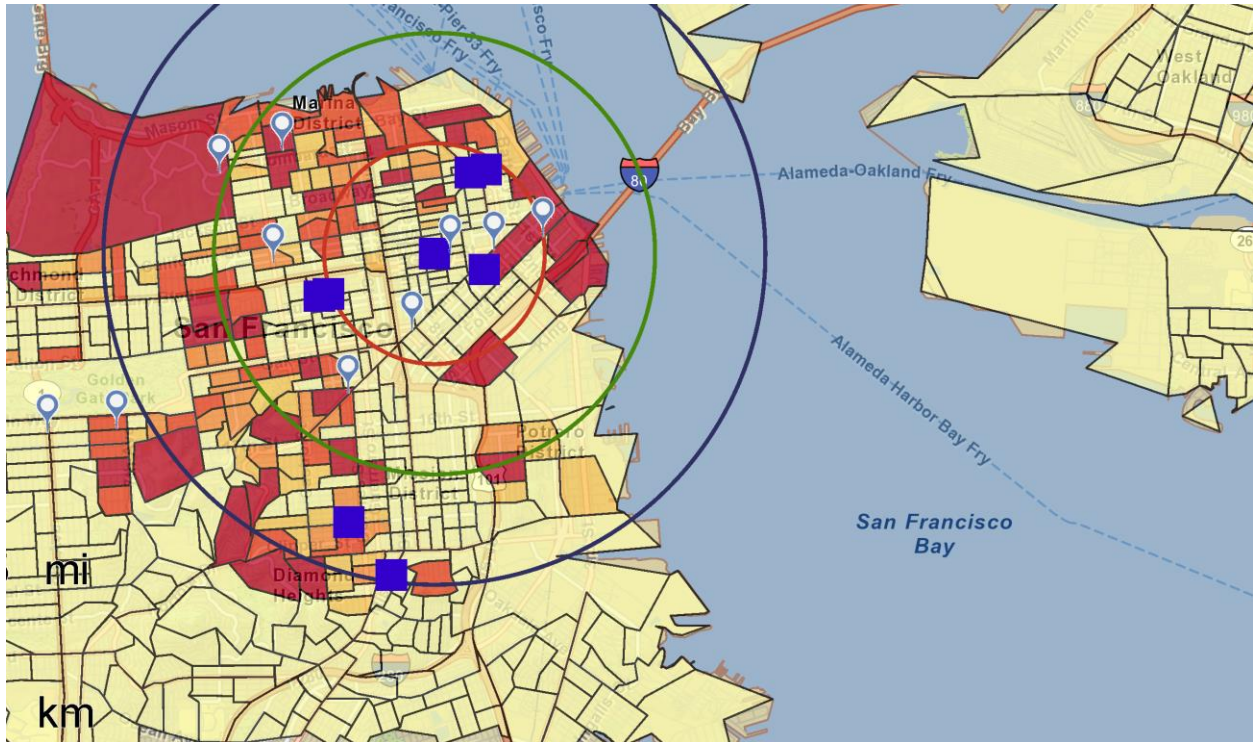
- Request the **Laptops and Lattes Tapestry** locations
 - Click on Research Market Tab - Create Color-Coded Map - Choose Variables
 - Go down on the pull-down screen to 2011 Tapestry Market Segmentation (Adults).
 - Click on the + Sign
 - Click on # symbol for 2011: Tapestry Adults: Laptops and Lattes.
 - Note: If you want to assign a different Tapestry, click the appropriate one for your city.
 - Then double-click on Laptops and Lattes. The red to white color ramps shows the areas that have the highest number of adults meeting this Tapestry designation.
 - Note: you can optionally adjust the ranges by clicking on “Edit Ranges.”
 - It is recommended you include five categories within the range.

- Add 1, 2, and 3 mile rings to the "Gaylord Suites" location.
 - Double clicking on the label for “Gaylord Suites” and select “Add rings, drive times or donuts.”
 - **Select rings** and indicate rings of 1, 2, and 3 minutes. Click Apply
 - Click "Deselect all." Then check only the “Gaylord Suites” location. Click Apply.
 - This calculation may take some time so be patient. The map will show 1, 2, and 3 mile rings for this location.

- A map of the 1, 2, and 3 mile rings for this location overlaid on the Laptops and Lattes Tapestry block groups with the highest density within a rings to the closest Starbucks

- Create the .pdf map for Gaylord Suites rings with the Tapestry overlay.

- Is Gaylord Suites the best location for student housing once the Tapestry segment is overlaid on the map with rings and Starbucks locations?
- Is there a better location for student housing that is close to a Starbucks and has a high population of the *Laptops and Latte* segment?



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