

## Analyzing Regional Business Patterns: Convenience Stores

### Summary

Why are some businesses regional in scope, while others are national? What patterns do specific business types have? What shape do they have, and do they overlap? What factors influence the location of convenience stores locally, regionally, and nationally? Examine these questions and others in this lesson.

This activity uses Business Analyst Web, web-based GIS software, from Esri. This 30-question lesson is targeted toward university level learners; but could be used with upper secondary students. Estimated time for completion: 2-3 hours. Business Analyst Web requires a license to use; a trial version is available on [www.esri.com](http://www.esri.com).

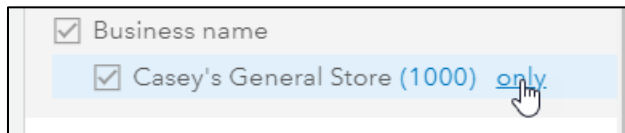
### Problem Statement

You work for a regional convenience store chain, Casey's General Stores. You are seeking to expand your market to the southwest side of your existing territory, and do not wish to intrude on the territory of your competitor to the southwest, Allsup's. How can you best understand your chain's region and plan an ideal location using GIS tools, business and demographic data, and the spatial perspective?

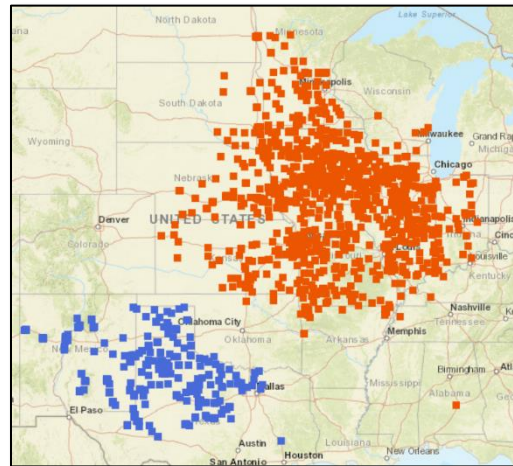
### Analysis

#### Regional Study

- (1) Access [Business Analyst Web](#). Make sure your country of selection in the upper right is USA. Start a new project and name it Regional Convenience Store Analysis. Zoom to the lower 48 US states.
- (2) Use Create Maps > Business and Facilities Search → Enter "Casey's General Store." In the results pane to the left of the map, click on Casey's General Store *only* (so you will only get the Casey's general stores and not anything else named Casey's):



- (3) Click > Next. At #3, style search results > make the symbol a 10 point red square. > Next.
- (4) At #4, "What do you want to do next?" > Save Layer, naming it "Casey's General Stores." > Click "I'm Done."



Map showing the locations of 2 regional convenience store chains that you will create as a part of this activity.

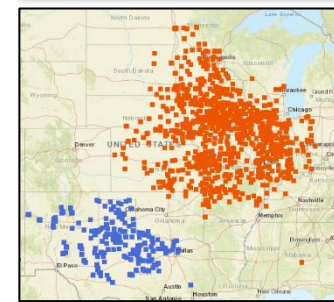
- (5) Examine your map. What states are included in Casey's territory? Note that the points are being clustered. Each number next to the points represents the number of Casey's stores in that area. Based on the patterns on this map, and knowing that Casey's expanded outward from a central headquarters, in what city and state do you think Casey's is headquartered? Do some additional research [online](#) and find out. Was your hypothesis confirmed? Where is Casey's headquarters?



- (6) To the right of the map > Legend > Map Contents > uncheck "cluster points" for Casey's. Now examine the map with all of the Casey's shown. Name 3 states that you would say make up most of Casey's total sales. Name 1 major metropolitan area that seems to have more Casey's than any other (name the city and state).



- (7) Zoom out to the 48 states again. Repeat steps (2)-(6) above for Allsup's, another regional convenience store chain. Under Industry Description, check "convenience stores *only*". Make the Allsup's symbols a 10-point blue square and uncluster the symbols. If you have successfully omitted everything named Allsup's (such as lawyers and lumberyards) but the Allsup's convenience stores, you will not see any Allsup's inside the Casey's territory, and vice versa (as shown).



- (8) Name 1 reason why Casey's and Allsup's do not interfere in each other's regions. Consider a national convenience store chain such as 7-Eleven or Circle K. Name 1 advantage of a chain being regional rather than national. Name 1 advantage of a chain being national or international rather than regional.
- (9) Examine a national store's website ([Circle K](#)) and note the regional offices listed under its "contact us" link. Why do you think the company has adopted a regional office approach?
- (10) Based on the patterns on your map, and knowing that Allsup's expanded outward from a headquarters inside its current region, in what city and state do you think Allsup's is headquartered? Do some additional research online and find out. Was your hypothesis confirmed? Where is Allsup's headquarters?
- (11) Would the headquarters city of a regional business always have the most establishments of that business? Why or why not? What is 1 factor that might be even more important to determine the number of establishments for a given city?
- (12) Based on your observations of the map, which business—Casey's or Allsup's—is spread over a larger geographic area?
- (13) To verify your answer about the market area for each business, to the right of the map > go to the Measure Distance and Area tool > Draw Polygon, and draw a polygon around the Casey's area and then the Allsup's area. Indicate the total area covered by each of the 2 businesses, indicating the units (square miles or square km) that you are using for your measurement. Comparing the two market areas, was your answer in the previous question correct?
- (14) Do some research online about [Casey's](#) and [Allsup's](#). Can you detect any difference in their corporate vision, target market, or strategy?

- (15) Name 2 products or services that Casey’s and Allsup’s each promote on their websites.

### Studying Businesses in 2 Cities

- (16) The population of the metropolitan areas of Lincoln, Nebraska and Amarillo Texas are both around 325,000 people. Find these cities using the find tool to the upper right of the map. Does Casey’s locate in cities of this size (Lincoln)? Does Allsup’s locate in cities of this size (Amarillo)? Name 1 reason why a convenience store chain would choose to locate in a larger city such as Lincoln or Amarillo. Name 1 reason why a convenience store chain would avoid a larger city such as Lincoln or Amarillo.
- (17) Pan your map to the smaller towns around Lincoln and take note of Casey’s locations. Are Casey’s located in some of these smaller towns? Next, pan your map to the smaller towns around Amarillo. Are Allsup’s located in some of these smaller towns? Zoom back out to the 48 states.
- (18) Change the basemap to “Open Street Map”, and as you pan the map, note the location of Casey’s and Allsup’s compared to major highways. How important is a highway location to a convenience store? Why?

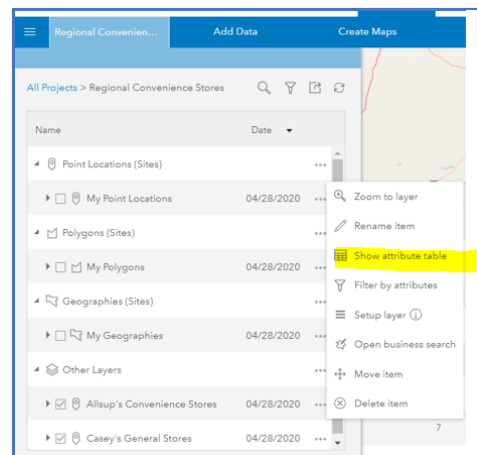


### Studying Businesses in 1 City

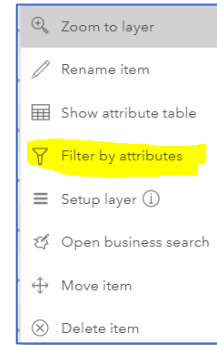
- (19) Change the base map to “satellite” and zoom to Clovis, New Mexico. Go to 2 of the locations where Allsup’s are located. What types of things (buildings or something else) are under each of the two roofs (circled in white) that you see at each location?
- (20) Describe the land use in 2 neighborhoods where 2 Allsup’s are located. Are they primarily residential, commercial, or industrial neighborhoods?
- (21) Change the basemap back to Open Street Map. To the right of the map, add the historical traffic layer and accept the defaults. Access the map legend tool to the right of the map so that you understand the traffic counts symbols. Are the Allsup’s in Clovis located on the busier streets of the town? Why or why not?

### Examining the Number of Stores and Sales Volume

- (22) Zoom back to the lower 48 states. Go to the project tab > examine your map layers > Casey’s General Stores > Show attribute table (as shown): Scroll to the bottom of the table. How many Casey’s General Stores exist? One thing to be aware of: When you searched for the stores, you did not uncheck the box for “limit search to 1000”. Hence, undoubtedly more than 1000 Casey’s exist in total. Repeat the process for Allsup’s. How many Allsup’s exist?

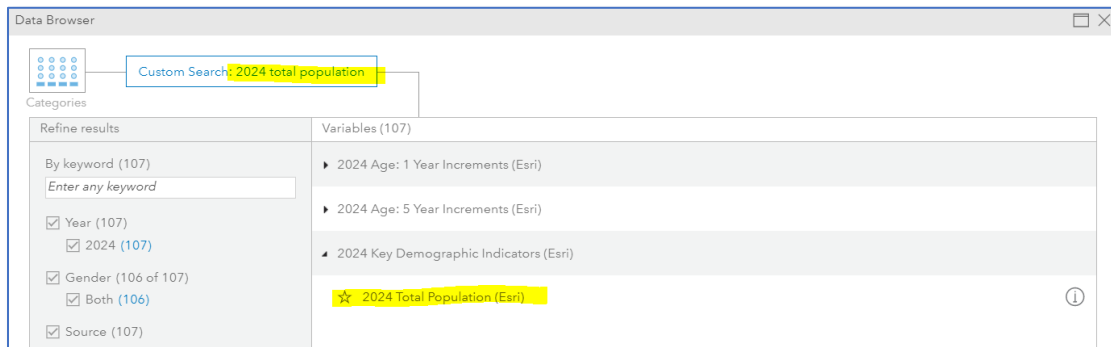


- (23) From the same list of layers > use Filter by Attributes (as shown) and filter by sales volume, sliding the filter vertical line in the graph until you only see the top 2 Casey's General Stores in the table and on the map. In the table, make sure you sort descending on sales volume. What is the sales volume? In which city(s) are they located? Why? Do the results surprise you? Clear filter.
- (24) Repeat the process for the top 2 Allsup's Convenience stores (make sure they are not "Allsup Petroleum"). What is the sales volume, and how does the sales volume compare to the top Casey's? In which city(s) are these 2 top Allsup's convenience stores located? Do the results surprise you?

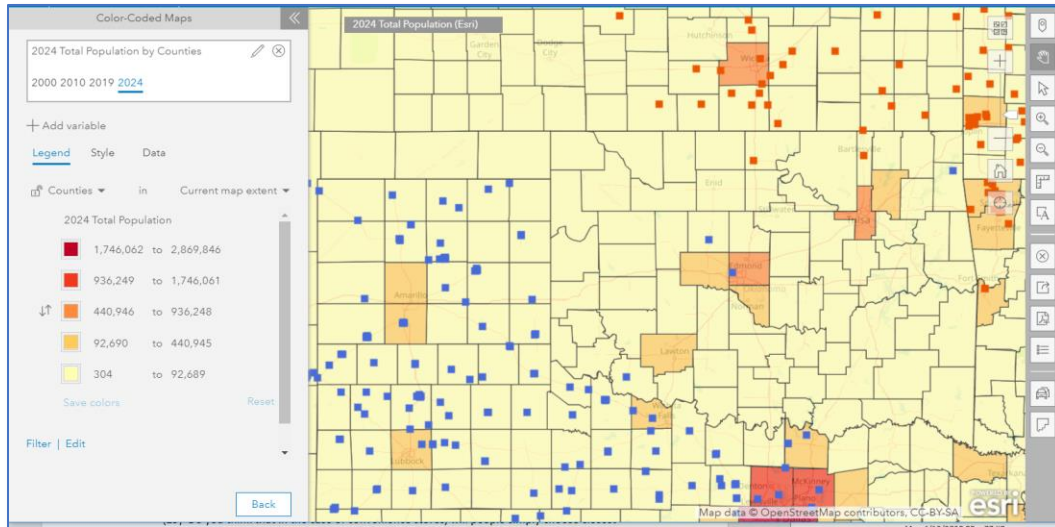


**Selecting the Ideal Location to Expand Casey's to the Southwest**

- (25) What state would be the ideal state for Casey's to expand to the southwest of its traditional region without infringing on Allsup's region?
- (26) You decide to analyze 1 additional variable to narrow your search in this state. First, zoom to this state (Oklahoma). Use Create Maps > Color Coded maps > Search on 2024 population (since you are planning for the future), and choose it from 2024 Key Demographic Indicators, as shown:



Zoom to the county scale (if your map is not already at the county scale) and examine the 2024 population by county, as shown:



Name the 2 counties in Oklahoma with the greatest population in 2024.

- (27) Another factor that could be important are competitors in that state that your map may not be showing at the current time. Your map is only showing Casey's and Allsup's. Map one potential competitor as follows: Use Create Maps > Business and Facilities search > Search on Quik Trip (note its particular spelling, and select Quik Trip convenience stores *only*). Choose a yellow or orange symbol. Leave clustering **on**. When done, you note that there are indeed many Quik Trip stores in the city and county of Tulsa. Approximately how many Quik Trips are there in the Tulsa metropolitan area? Given the number of Quik Trips there, you decide not to start in Tulsa County for your Casey's expansion.
- (28) Consider behavior at the local level. Do you think that in the case of convenience stores, will people simply choose closest convenience store to their current location? Why or why not? This local behavior is the subject of another lesson I have authored using Business Analyst Web.
- (29) Summarize in 3 sentences what you have learned about regional business patterns, and how mapping and location analytics helped you to visualize and understand spatial patterns.
- (30) Give a 5-minute oral presentation to your colleagues covering what you learned, using your maps as an integral part of your presentation. Using Business Analyst Web > Share Results, you can export your map(s) as PDFs or create a story map. Or you can show your results during your presentation directly from within Business Analyst Web.

•