

# Commercial Parcels Within the Sacramento Grid Neighborhoods

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## Executive Summary:

With this python script, users are able to generate a series of maps, each focused on commercial areas in each neighborhood of the Sacramento grid area. Commercial use parcels were selected from a parcel data layer and exported to a new shapefile. The parcel data has a more limited geographic extent than the Sacramento neighborhoods layer. Because maps do not need to be created for neighborhoods that do not contain any parcel data, neighborhoods containing parcel data were selected and exported to a new shapefile. A map iteration process was implemented to create a series of map layouts, each framing a different Sacramento neighborhood. Final map products will have commercial parcels in red, and all other parcels in green. The map series will contain layout elements specific to the neighborhood, including the name of the neighborhood, creator of the map, and the date of creation. This series of maps could be used as a resource for potential property investors to understand the activity in the neighborhood.

## Purpose:

This analysis identifies commercial parcels within the Sacramento grid and then iterates a series of maps for each neighborhood in the grid. Mapping commercial areas offers a valuable resource for real estate investors, potential business owners, and even future residents by providing data in an easy-to-read and visually appealing format. By creating a different map for each neighborhood, map readers can restrict their searches by neighborhood and can see commercial parcel locations in more detail. This project provides suitable practice for the professional field I am interested in: urban planning.

## Inputs:

This analysis combines the following layers:

- 1) Sacramento neighborhood boundaries
- 2) Parcel data
- 3) Sacramento streets
- 4) A map layout template (.mxd)

## Outputs:

The output should be a series of map PDFs, each focused on a different Sacramento neighborhood with commercial areas highlighted in red. Street features have been provided as base information.

## Process:

The first step is to select the parcels zoned as commercial from the parcels layer. Commercial parcels were selected using Select By Attributes for parcels with the following attributes in the "Zone" field:

- 1) RMX: Residential Mixed Use Zone
- 2) RO: Residential Office Zone
- 3) OB: Office-Business Mixed Use Zone
- 4) C-1: Limited Commercial Zone
- 5) C-2: General Commercial Zone
- 6) C-3: Central Business District Zone
- 7) C-4: Heavy Commercial Zone

#### 8) HC: Highway Commercial Zone

All selected parcels were exported to a new shapefile called *CommercialParcels*.

The parcel data covers a smaller geographic area than the neighborhoods layer. Because maps will be generated for each neighborhood, and there is no need to create a map for neighborhoods that don't have any parcel data, it is efficient to select neighborhoods in which parcel data exists. Using Select by Location, all neighborhoods were selected that contained parcel data. These neighborhoods were then exported to a shapefile called *Neighborhoods\_Parcels*.

The *Neighborhoods\_Parcels* layer was then used to create a loop for a series of steps. This step loops through the Neighborhoods with parcel data to create a map specific to that neighborhood. A search cursor was used to run through the "Name" field in the layer to set the neighborhood, extent, and data frame scale. Map elements are altered to the specific map, including the title, neighborhood, author, and date. A PDF is then created for each neighborhood, with the file named after the corresponding neighborhood. A print command puts out a processing statement for each neighborhood before the map is created. When each map is completed, another print command informs the user that the map has been created. The final map may or may not display commercial parcels, depending on if commercial areas exist within the neighborhood.

A final print command is used to inform the programmer that the entire process has finished.

#### **Difficulties Encountered:**

Upon first running this script, I noticed that the number of maps created did not match the number of features selected when I carried out the same process in ArcMap. I realized that maps were only being created for neighborhoods that had commercial parcels, whereas I wanted to create maps for all parcel data. This was remedied by clearing selected features between the step to select commercial parcels and the step to select neighborhoods with parcel data.

Some neighborhood names are missing in the neighborhoods layer. Maps could not be created without an entry. Of the 6 that did not have a name attribute, only 2 contained parcel data. For these two neighborhoods, I used an edit session in ArcMap to create fake neighborhood names. Maps were then able to be generated using the names entered in that field.

For the query, I wanted to create a simple way to build a long query so that it could be easily modified in the future without rewriting the entire string entry. To do this, I created a for loop that would build the query string one entry at a time. The operator "OR" would be added to the end of each entry until the the process reached the last parcel code. This allows the user to simply enter the parcel types without having to rewrite each entry.

Finally, a map layout had to be created to build each neighborhood PDF. This included the map frame, a title of what was being depicted, a subtitle containing the neighborhood name, a legend, a north arrow, the author, and the date of creation. Although this process was somewhat simple, it did require a lot of trial and error to create map template that would work well for each neighborhood.

#### **Final Output:**

Final map PDF outputs should look similar to the map layout to the attached.



## Commercial Parcels

Alkali Flat

### Legend

-  Sacramento\_Streets
-  Highways
-  Neighborhoods\_Parcels
-  Neighborhoods
-  Commercial\_Parcels
-  Parcels



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