**METHODS**

Questions to answer:

* Which zip code in Los Angeles has experienced the most Gentrification since 2000 (or 1990)?

Approach to use:

* Housing, demographic, employment, transportation, land use, and policy data for 10-year intervals from 2000 and 2013.
  + Median home value, educational attainment, median household income
* Using this data, divide into low-income tracts and high-income.
  + A Census **Block Group** is a geographical unit used by the United States Census Bureau which is between the Census Tract and the Census **Block**. It is the smallest geographical unit for which the bureau publishes sample data, i.e. data which is only collected from a fraction of all households.
  + **Census Tracts** are small, relatively permanent statistical subdivisions of a county or equivalent entity that are updated by local participants prior to each decennial **census** as part of the **Census** Bureau's Participant Statistical Areas Program.

**SPATIAL NOTES**

Information about the locations and shapes of geographic features and the relationships between them, usually stored as coordinates and topology.

• Any data that can be mapped.

• Vector:

* Can usually be opened in a web map or GIS software with no additional processing. – Represent information using points, line, and polygons. – .shp/shapefile (saved as .zip for uploading), .gpx, .kml, kmz, .geojson, .osm, .bz2

• Tabular

* Will need to be “georeferenced” or “geocoded” to translate coordinates or addresses into vector shapes (points, lines, etc.).
* Can be joined to vector data if there is a common ID. – .csv, .txt, .xls, .xlsx, .tab, .sql, .ods
* **Latitude** values range from -90 at the South Pole to 90 at the North Pole. All along the equator the latitude value is 0.
* **Longitude** values range from -180 to 180, and the line where these meet, which cuts through the Pacific in north/south direction, is called the antimeridian. The value of 0 is defined as the Prime Meridian, which cuts through Africa and Europe (specifically the Royal Observatory, in Greenwich, London).
  + The combination of latitude and longitude is usually called a coordinate, and can be represented as ‘latitude, longitude’, or ‘longitude, latitude’: historically, the former was standard, but ‘longitude, latitude’ has recently gained popularity because it mirrors the ‘X, Y’ ordering of coordinates in math’s Euclidean space.
  + Coordinate ordering can cause some confusion, as browser based mapping software often expects ‘latitude, longitude’, whereas many wire formats specify ‘longitude, latitude’.
  + Sometimes more than just the latitude, longitude position is recorded as data: altitude can also be included, as well as time of capture and other factors. In the case of including altitude, it’s usually stored as a third coordinate, like ‘longitude, latitude, altitude.’

• Raster/Image:

* Pixelated data that can be added to a map, but cannot always be edited. – May need to be georeferenced. – Geotiff, .jpg (and other image formats)
* In its simplest form, a **raster** consists of a matrix of cells (or pixels) organized into rows and columns (or a grid) where each cell contains a value representing information, such as temperature. **Rasters** are digital aerial photographs, imagery from satellites, digital pictures, or even scanned maps.

• Metadata:

* Information about the data layer
* Read the metadata to determine who created the data, when it was created, what the codes in the table mean, if there are constraints on how it can be used, etc.
* You can find metadata: Downloaded with your data layers or on the website where you got your data – sometimes you may need to contact the data provider to get metadata
* Metadata is most commonly in html/xml format, text files, or in a table format, such as excel or csv.

• Data Quality

* FGDC (Federal Geographic Data Committee) • ISO (International Organization for Standardization) • List how the data should be described. • Include standard headings/tags for each element about the data.

• Lineage

• Accuracy (spatial, temporal, thematic/attribute)

• Consistency

• Completeness

• Type

* Environmental
* Demographic
* Economic
* *\*This list is not by any means exhaustive or complete.*

• Collection (technique)

* I.E. A **multibeam echosounder** is a type of **sonar** that is used to map the seabed. Like other **sonar** systems, **multibeam** systems emit sound waves in a fan shape beneath a ship's hull. The amount of time it takes for the sound waves to bounce off the seabed and return to a receiver is used to determine water depth.
* **I.E. GPS**, the satellite constellation that gives your cell phone a blue dot on the map, is the foundation of collecting accurate vector data. Surveyors will drive with highly accurate GPS units and combine their results into something trustworthy. – Also accuracy.
* I.E. Observational **satellites and airplanes** collect most raster data we have today, constantly taking photos from different altitudes and combining them into something that looks a little like a picture of the world. The same sensors also capture what we call ‘non-visible spectrums’, like infrared light that’s useful for mapping agriculture and deforestation. Some tricked-out rigs include [LiDAR](http://en.wikipedia.org/wiki/Lidar), a kind of laser sensor that measures altitude and yields us raster altitude data.
* *\*This list is not by any means exhaustive or complete.*

**Analysis**

* **Voronoi diagrams** take a set of points and turn them into polygons of all of the area around them. This example [is of airports](https://www.jasondavies.com/maps/voronoi/airports/).
  + Whereas aggregation takes lots of data and distills it into something simpler to analyze and visualize, interpolation ‘fills in the blanks’ between values. Interpolation is often used for datasets like elevation, where you have raster data values that records the height of every inch of a mountain, but there are a few places missing from the data - what programmers call null values.
* Fundamentally, data doesn’t look like anything: a list of pixel values or road lines is just as well represented in a spreadsheet or a chart as it is on a map. Thus to ‘convert’ is not the right word for what we do with data: The decision is more about how to render it.
  + Symbolization is a fancy word for the particular ways that data is transformed into graphics in the world of maps.
  + Symbolic techniques include anything representable in graphics or even 3D.

Source: <https://ocw.mit.edu/resources/res-str-001-geographic-information-system-gis-tutorial-january-iap-2016/spatial-data/MITRES_STR_001IAP16_Intro.pdf>

**GENTRIFICATION NOTES**

* In general, most view gentrification as the arrival of a more affluent class of residents into a poorer neighborhood, often resulting in displacement.
* Since 2000, urban neighborhoods have gentrified at twice the rate of the 1990s.
* In 2014, just under half (49.3 percent) of American renters were housing cost burdened, spending more than 30 percent of income on housing costs. This represents a record high of 21.3 million renters with cost burdens, and includes 11.4 million (26.4 percent) with severe cost burdens, spending more than half of income on housing.
* The median US renter household earned $34,000 in 2014 and spent $930 per month on housing costs. Renter housing costs are [**gross rents**](http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2014_ACSSubjectDefinitions.pdf#page=19), which include contract rents and utilities.

* Click the shaded areas of the map to see housing cost burdens for all renter households within each [**metro and micro**](http://www.census.gov/population/metro/) area.

Ong Research

In examining how neighborhoods have changed from 2000 to 2013, Ong and his team found that areas near light-rail or subway projects were more likely to be associated with increases in white, college-educated, higher-income households and greater increases in the cost of rents, versus neighborhoods not near transit lines.

* Ong said that most of those who can afford higher housing costs do not purposefully want to displace people living in poorer households, “but, nonetheless, gentrifiers are a part of the larger socioeconomic process.” The goal of the Urban Displacement Project, according to the researchers, is not to stop neighborhood change because many people can benefit from these developments. “The challenge,” Ong said, “is ensuring that progress is fair and just.”
  + Areas around transit stations are changing and many of the changes are in the direction of neighborhood upscaling and gentrification.
  + Examining changes relative to areas not near light-rail or subway projects from 2000 to 2013, neighborhoods near those forms of transit are more associated with increases in white, college-educated, higher-income households and greater increases in the cost of rents. Conversely, neighborhoods near rail development are associated with greater losses in disadvantaged populations, including individuals with less than a high school diploma and lower-income households.
  + The impacts vary across locations, but the biggest impacts seem to be around the downtown areas where transit-oriented developments interact with other interventions aiming to physically revitalize those neighborhoods.
* The dark irony of displacement along transit lines is that lower-income households constitute [our transit system's core ridership](http://www.latimes.com/local/california/la-me-ridership-slump-20160127-story.html), and they are also far more likely to be car-free than higher-income households.
* In a conversation with LAist, he underscored the role public policy could play in preserving affordable housing, particularly in enforcing existing laws around the [Ellis Act](http://laist.com/2015/12/17/rent_control_airbnb_lawsuit.php), a state law that allows landlords to evict tenants in order to "go out of business" (i.e. if they are selling the property, or converting it from rental units to sell as condos), but is often violated by landlords who then illegally return the units to the rental market at higher prices after evicting their longtime tenants.
  + - Source: <http://laist.com/2016/08/30/gentrification_map.php>
* “Sometimes, landlords aggressively — and perhaps illegally — force them out,” said Ong, who is also a member of the [UCLA Institute of the Environment and Sustainability](http://www.ioes.ucla.edu/). “Higher rents make it difficult for low-income households to move into the neighborhood, so we see a net decline in their numbers. They are replaced by those who can afford the higher housing cost — people referred to as ‘gentrifiers.’”

Source: <http://luskin.ucla.edu/2016/08/29/gentrification-displacement-southern-california/>

CityLab Research

* The research shows that [places](http://www.urbandisplacement.org/sites/default/files/images/case_studies_on_gentrification_and_displacement-_full_report.pdf) such as [San Francisco’s Chinatown](http://urbandisplacement.org/sites/default/files/chinatown_final.pdf), [East Paolo Alto](http://urbandisplacement.org/sites/default/files/east_palo_alto_final.pdf), and Marin County have resisted displacement pressures through a combination of subsidized housing, tenant protections, and strong community organizing. They can serve as good models as cities prepare for the future.
* More than 53 percent of low-income households in all of the Bay Area lived in neighborhoods that are experiencing, or at risk for, displacement and gentrification pressures.
* The project only analyzed data up till 2013 so actual number may be higher.
  + - Source: <http://www.citylab.com/housing/2015/08/mapping-gentrification-and-displacement-in-san-francisco/402559/>

UCLA Research

* In the early 2000s, author and urban theorist Richard Florida popularized the concept of the “creative class,” with its purported ability to revitalize cities. This notion has encouraged culture-based economic growth strategies and approaches — by public officials and private developers alike — in urban centers such as Los Angeles.
* As a means for neighbourhood improvement, cultural urban revitalisation seeks to draw business growth and investment by attracting a creative class of young urban professionals. Though criticisms abound that these strategies benefit the wealthy and displace low-income communities, there is little research focusing on how the efforts of social actors can shape or resist this process.
* By approaching ‘revitalisation’ as an arena where different neighbourhood groups can compete to achieve their goals, it argues that we scrutinise prevailing notions of gentrification and seek to understand the values and actions of stakeholders involved in order to enable more equitable outcomes of urban revitalisation.

Source: <http://la.curbed.com/la-gentrification>



**LA (SPECIFIC) NOTES**

**Renter households with incomes under $15,000 in the Los Angeles-Long Beach-Anaheim, CA Metro Area**

|  |  |
| --- | --- |
| Share of renters with cost burdens (%) | 90.1 |
| Share of renters with severe cost burdens (%) | 82.4 |
| Renter cost burden rank among metros or micros | 63 (of 381) |
| Renter households with cost burdens | 342,400 |
| Renter households with severe cost burdens | 312,900 |
| Renter median monthly housing costs ($) | 980 |

**Renter households with incomes $30,000–44,999 in the Los Angeles-Long Beach-Anaheim, CA Metro Area**

|  |  |
| --- | --- |
| Share of renters with cost burdens (%) | 78.0 |
| Share of renters with severe cost burdens (%) | 25.3 |
| Renter cost burden rank among metros or micros | 13 (of 381) |
| Renter households with cost burdens | 276,100 |
| Renter households with severe cost burdens | 89,600 |
| Renter median monthly housing costs ($) | 1,210 |
| **All renter households in the Los Angeles-Long Beach-Anaheim, CA Metro Area**   |  |  | | --- | --- | | Share of renters with cost burdens (%) | 58.5 | | Share of renters with severe cost burdens (%) | 32.8 | | Renter cost burden rank among metros or micros | 22 (of 381) | | Renter households with cost burdens | 1,295,500 | | Renter households with severe cost burdens | 726,600 | | Renter median household income ($) | 40,500 | | Renter median monthly housing costs ($) | 1,310 | |  |

**Source:** <http://harvard-cga.maps.arcgis.com/apps/MapSeries/index.html?appid=b05d4c1daa2042489bdd99b3e89a27dd>

Source: <http://harvard-cga.maps.arcgis.com/apps/MapSeries/index.html?appid=9a24bdf3ae8c4272a58b0309890d5835>

* Housing prices in Los Angeles have grown four times faster than incomes since 2000.
* Los Angeles the least affordable of the nation's 381 metropolitan areas
* Half of all households in the region are considered "cost burdened" - families spend at least 30% of their income on rent or mortgage payments.
* One in four households spends at least half its income on housing.
* Roughly half of middle-income households were rent burdened in 2011, compared with just 11% in 2000.
* One in three households earning $50,000 to $75,000 spend more than a third of their income on rent.
* L.A. County has seven of the 10 ZIP Codes with the worst housing overcrowding in the nation.

Source: <http://www.latimes.com/opinion/editorials/la-ed-affordable-housing-part-1-20150111-story.html>

* Presently, the pressures of gentrification along the designated transit corridor using Transit Oriented Development (“TOD”) plans has already pushed many low-income families out of their rental units, the most egregious example is Village Trailer Park, that resulted in more than 100 rent controlled units and the displacement of dozens of long- time elderly residents of Santa Monica.

Source: http://www.antievictionmappingproject.net/santamonica.html

* Chinatown, Echo Park, Boyle Heights, and Highland Park going through tremendous changes.
* Pattern:
  + outside corporations are coming and building huge mixed-use market rate apartment complexes. Residential buildings are being bought, tenants are being evicted or pressured out, and buildings are being converted into expensive residential units.
  + Actions/processes will directly and indirectly lead to rent increases and the displacement of current residents and mom and pop stores.

Source: <http://sparcinla.org/ucla/isabel/?page_id=107>

* In comparing Gallery Row, characterized as a linear district consisting of new art galleries, bars and restaurants, to the Skid Row area of Los Angeles, Collins and Loukaitou-Sideris said they sought to answer questions such as how various groups — from local residents, advocates and community organizations to public and private developers, as well as investors and local, state and federal government — shape the process of revitalization and whether cultural revitalization actually benefits only “wealthy gentrifiers.”
* “Gentrification is not always a zero-sum game where gentrifiers win,” said Collins. “By providing a snapshot of the efforts by individuals working on the ground and behind the scenes in Skid Row to shape the social and physical landscape, we show how marginalized groups can use art and culture as a means for resistance.”

Source: <http://la.curbed.com/la-gentrification>

Spot zoning

* The report, authored by urban planner C.J. Gabbe, tracked the zoning of every parcel in Los Angeles between 2002 and 2014. Properties which allowed for more residential density at the end of the 12-year period were determined to be "upzoned," while those which could accommodate less density were regarded as "downzoned."

Source: <http://blogs.anderson.ucla.edu/zimancenter/2016/08/urbanize-la-when-and-where-does-upzoning-actually-happen.html>

* **Economic Analysis**, which focuses on a number of areas, including ten unincorporated case study communities: Altadena, Avocado Heights, East Rancho Dominguez, East Los Angeles, Florence‐Firestone, South San Jose Hills, West Athens‐Westmont, West Rancho Dominguez‐ Victoria, West Carson and West Whittier‐Los Nietos.
* **Infill Analysis**, which focuses on a number of areas, and identifies five unincorporated areas with the potential for residential infill: Avocado Heights, East Rancho Dominguez, East Los Angeles, Florence‐Firestone and West Carson.

Source: <http://planning.lacounty.gov/assets/upl/project/housing_2008-infill-study-phaseii.pdf>

**GOAL 1:** A City where housing production and preservation result in an adequate supply of ownership and rental housing that is safe, healthy and affordable to people of all income levels, races, ages, and suitable for their various needs.

**GOAL 2:** A City in which housing helps to create safe, livable and sustainable neighborhoods.

**GOAL 3:** A City where there are housing opportunities for all without discrimination.

**GOAL 4:** A City committed to preventing and ending homelessness.

<http://cityplanning.lacity.org/HousingInitiatives/HousingElement/Text/Ch6.pdf>

**DATA SOURCES**

<https://data.lacity.org/browse?limitTo=datasets&utf8=%E2%9C%93&q=demographics&sortBy=relevance>

<http://www.census.gov/ces/dataproducts/bds/>

<https://www.census.gov/geo/maps-data/data/tiger-data.html>

<https://data.lacity.org/browse?limitTo=datasets&utf8=%E2%9C%93&q=demographics&sortBy=relevance>

<http://egis3.lacounty.gov/dataportal/?s=zip+code>

<https://egis3.lacounty.gov/dataportal/2011/07/22/census-blocks-2010/>

* <http://www.census.gov/programs-surveys/acs/>
* <https://s4.ad.brown.edu/Projects/Diversity/Researcher/Bridging.htm>
* <http://geohub.lacity.org/datasets/ae5b02c220ff49c1badc1383e93649cb_3>
* <http://geohub.lacity.org/datasets/38f938d832c548c2a380e0b5e930a46a_15>
* <http://geohub.lacity.org/datasets/db877d37b0ce4e16baabfc3d967f11b6_0>
* <http://geohub.lacity.org/datasets/57e9231c3bd34d44ae49b309b0cb440e_1>
* <http://geohub.lacity.org/datasets?q=economic&page=2&sort_by=relevance>
* <https://egis3.lacounty.gov/dataportal/>
* <http://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2014_ACSSubjectDefinitions.pdf#page=19>
* http://www.census.gov/population/metro/
* <http://www.urbandisplacement.org/map/la>
* <https://egis3.lacounty.gov/dataportal/>
* <https://egis3.lacounty.gov/dataportal/2011/07/19/census-tracts-2010/>
* <http://planning.lacounty.gov/gis/maps>
* <http://zimas.lacity.org>
* <https://businesssearch.sos.ca.gov/>

**OTHER RESOURCES**

Articles

* <http://journals.sagepub.com/doi/pdf/10.1177/1078087404273341>
* <http://www.urbandisplacement.org/sites/default/files/images/rews_final_report_07_23_15.pdf>
* <http://www.smithsonianmag.com/innovation/these-maps-help-explain-numerous-complicated-factors-behind-income-inequality-180955941/>
* <http://planning.lacounty.gov/housing/initiatives>
* <http://cityplanning.lacity.org/HousingInitiatives/HousingElement/Text/Ch6.pdf>

Organizational Resources

* <http://www.elacc.org>
* <http://edn.la>
* <https://www.facebook.com/NELAAlliance>
* <http://www.hacla.org>

Online Resources

* http://www.census.gov/data.html
* <http://sparcinla.org/ucla/isabel/?page_id=107>
* <https://www.lacity.org>
* <http://planning.lacity.org/policyinitiatives/Housing/ProRept/APR2014.pdf>
* <http://harvard-cga.maps.arcgis.com/apps/MapSeries/index.html?appid=b05d4c1daa2042489bdd99b3e89a27dd>
* <http://harvard-cga.maps.arcgis.com/apps/MapSeries/index.html?appid=9a24bdf3ae8c4272a58b0309890d5835>
* <https://en.wikipedia.org/wiki/Ellis_Act>
* <http://www.betterinstitutions.com/blog/2017/1/11/top-7-reasons-to-oppose-measure-s-los-angeles>
* <http://www.antievictionmappingproject.net/sfredlining.html>
* http://www2.census.gov/geo/pdfs/reference/glossry2.pdf
* <http://gisgeography.com/best-free-gis-data-sources-raster-vector/>
* <http://www.urbandisplacement.org/map/la>
* http://gis.stackexchange.com/

Action Items:

1. Stay Informed

* **Pursuant to GC 65400 local governments must provide by April 1 of each year the annual report for the previous calendar year to the legislative body, the Office of Planning and Research (OPR), and the Department of Housing and Community Development (HCD). By checking the “Final” button and clicking the “Submit” button, you have submitted the housing portion of your annual report to HCD only. Once finalized, the report will no longer be available for editing.** 
  + **Jurisdiction Reporting Period**
  + **ANNUAL ELEMENT PROGRESS REPORT *Housing Element Implementation* (CCR Title 25 §6202 )**
* Section 3 of the "Local Zoning Decisions Protection Act of 2017," for example, would prohibit the use of federal funds to show racial disparities vis a vis geospatial information.
* Measure S
* Ellis Act

1. Stay active