

Reconnecting Pasadena: Understanding the geo-spatial contexts of the 710 Northern Stub

Introduction

When the Bipartisan Infrastructure Law was ratified in 2021, one unique offering was the Reconnecting Communities grant program. With this discretionary grant program one billion dollars in funds were pledged to be distributed over the following five years with the aim to begin to undo the social, economic, and environmental damage done by previous transportation infrastructure projects. As per their own description, “The purpose of the RCP Program is to reconnect communities by removing, retrofitting, or mitigating transportation facilities, like highways or rail lines, that create barriers to community connectivity, including to mobility, access, or economic development. The program funds planning and capital construction to address infrastructure barriers, reconnect communities, and improve peoples’ lives.”

(Reconnecting...)

To diversify the projects supported by the program, an effort was made to choose applicants from a range of regions across the country. Looking at the non-awardees from the 2022 Fiscal Year, 50 separate funding applications came from California, only five were funded, and despite the plethora of divisions created by infrastructure in the region, only two came from Southern California. Both of these projects, though located in entirely different cities in the metropolitan area, relate to a single regional freeway, the 710. In this paper, I will be examining one of these projects, the Redevelopment of the Northern Stub of the 710, as well as the demographics and historical contexts of the surrounding area. While USDOT has made an effort to conduct webinars and other outreach events to express what they want to see in applications, I

believe it is important to look to successful past precedents to develop an understanding of not only what USDOT is looking to fund, but also what the communities in Los Angeles are fighting to remedy.

Data Sources

National Highway System - Caltrans GIS Data

US Census Tracts - LA County GIS Data

Median Home Values - Zillow (ZHVI Database)

USA Zip Codes - Esri Shapefiles

USDOT Reconnecting Communities Project Information

Data Processing

To begin, I isolated the plot of the 710 freeway from the Caltrans data file which included all of the California Highways. With this layer in place, I could then select the regions of interest from the other layers based on their proximity to this data. The first layer I used this practice on was the census tracts from LA County's GIS Data Source. I selected the tracts by location within 1 US Survey mile of the 710, as plotted in the file from the Caltrans file. I then enriched these tracts with variables pertaining to race and income (2023 Diversity Index and Median Household Income).

The next step was to clean and prepare the Zillow Home Value Index (ZHVI) data, which also required the introduction of zip code shapefiles as Zillow records within these areas, rather than Census Tracts. Once I downloaded the ZHVI data, I had to clean it by making zip code column text and eliminating unnecessary text columns (Metropolitan Area, duplicated state

names, etc). From there, I chose to keep the home value estimate data for October 2023 to have the most up to date information. I then repeated the proximity selection process used for the Census Tracts with the USA zip codes from Esri, again setting inclusion radius to 1 US Survey Mile. Finally I added the ZHVI data to the map and joined it with the zip code layer.

Finally, there is no shapefile data available for RCP projects, so I chose to represent them myself in the graphics layer. Based on the available information online regarding preliminary designs and proposals, I drew on the RCP project footprint. The final map is shown below in Figure 1.

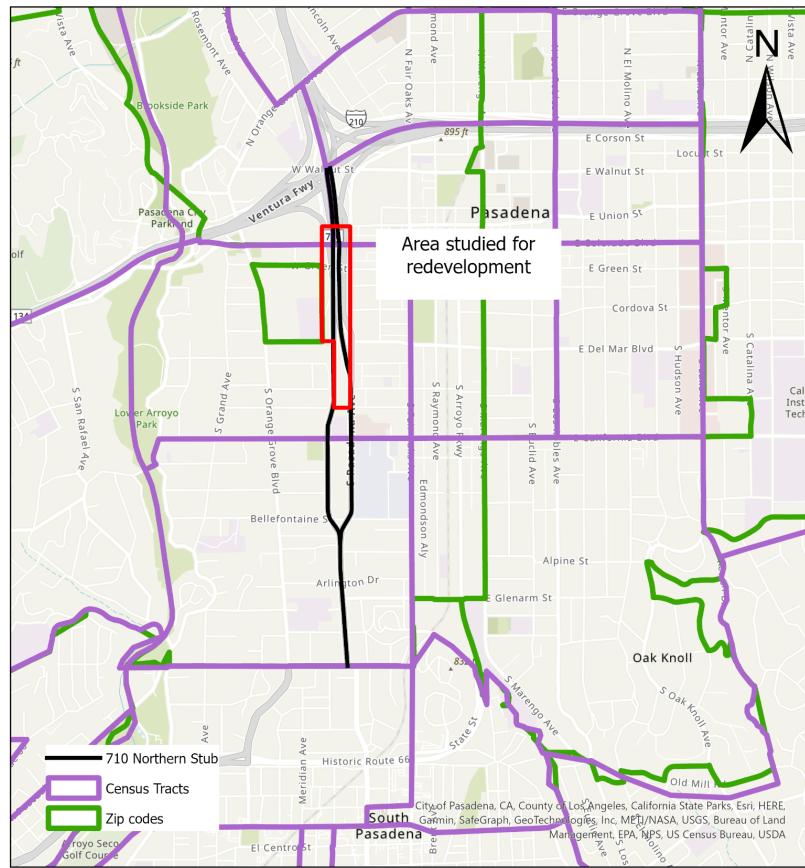


Figure 1: Map of relinquished 710 Northern Stub including area planned for redevelopment.

Analysis

The Northern Stub of the 710 freeway, located in the City of Pasadena, is a project that has been embroiled in decades of controversy. Originally meant to connect other contemporary routes, the 134 and 210, to the Long Beach-originating segment through South Pasadena, this Northern Stub was initially constructed in the early 1970s. The land was first acquired in the late 1960s through eminent domain, displacing an estimated 4,000 residents and leveling 1,500 houses. Figure 2 visualizes this displacement via aerial image from before and after the development of the Stub.

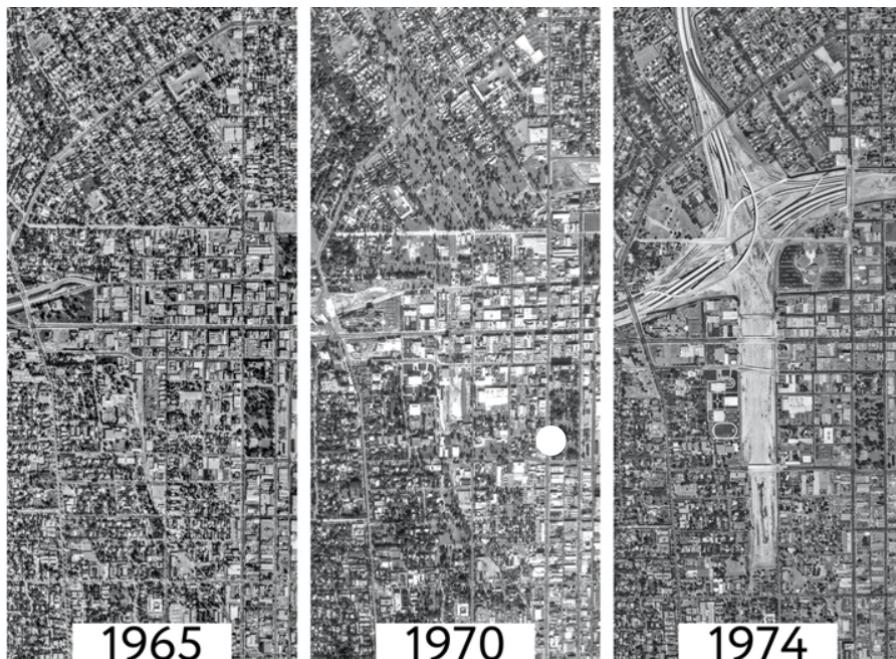


Figure 2: Aerial views of the area that became the Northern Stub, provided by the City of Pasadena (State Rte 710...).

Beyond this displacement, the construction of this segment isolated a residential area from the commercially and culturally vibrant Downtown Pasadena area to the west. As the

connecting route from the Stub to the end of the freeway in East LA was canceled, it became clear that the infrastructure would need to be overhauled. In 2022, the Northern Stub was relinquished from Caltrans to the City of Pasadena, clearing the way for a complete redesign of the area to facilitate connectivity within the community.

In the region surrounding this project, I examined three data points. Firstly, I examined economic indicators, namely Median Household Income within Census Tracts and Zillow's Home Value Index (ZHVI) within zip codes. From there, I wanted to understand the racial makeup of the area, which I chose to measure with the Diversity Index within each Census Tract.

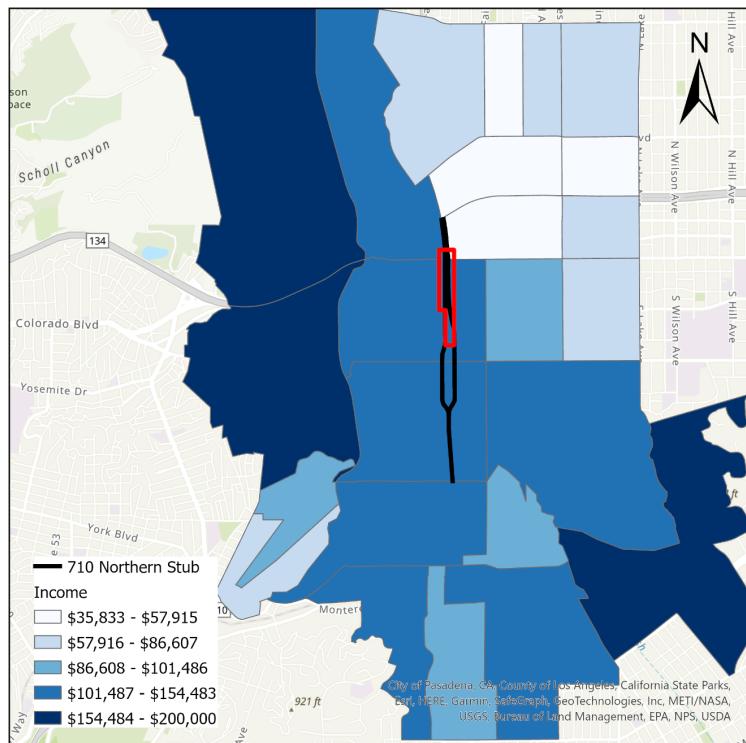


Figure 3: Map showcasing varying income levels in the tracts surrounding the 710 Northern Stub.

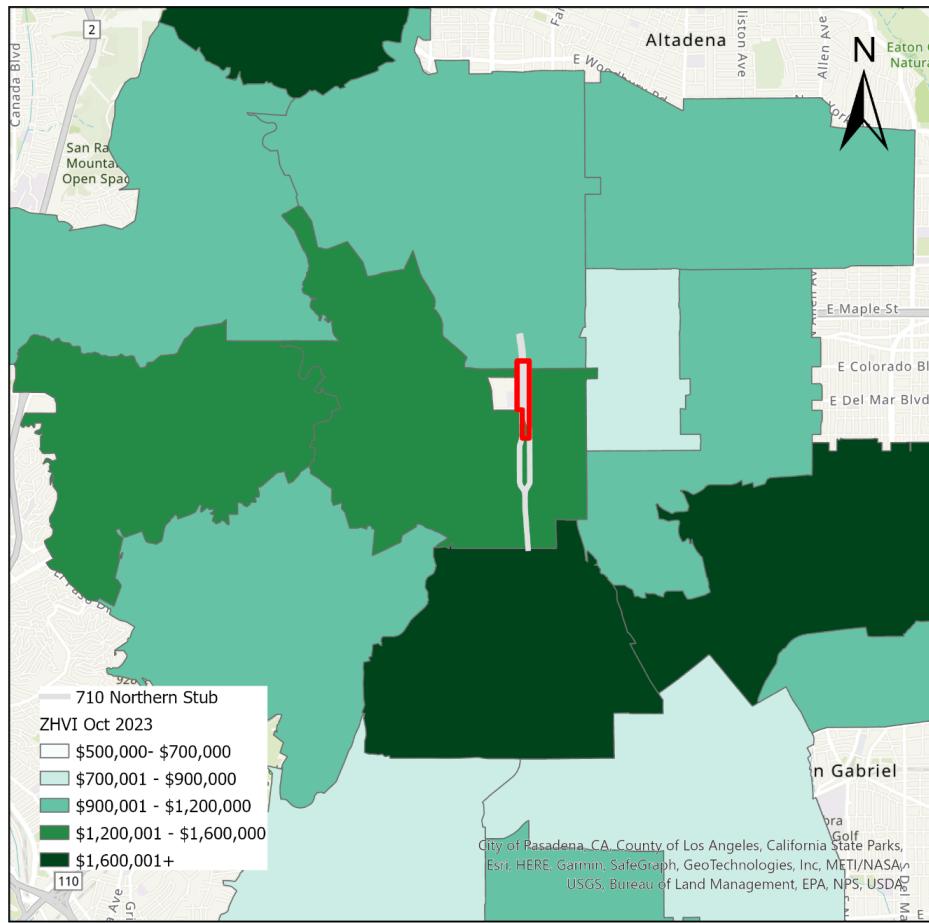


Figure 4: Map depicting the variation in Home Value Index in zip codes surrounding the Northern Stub as reported by Zillow in October 2023.

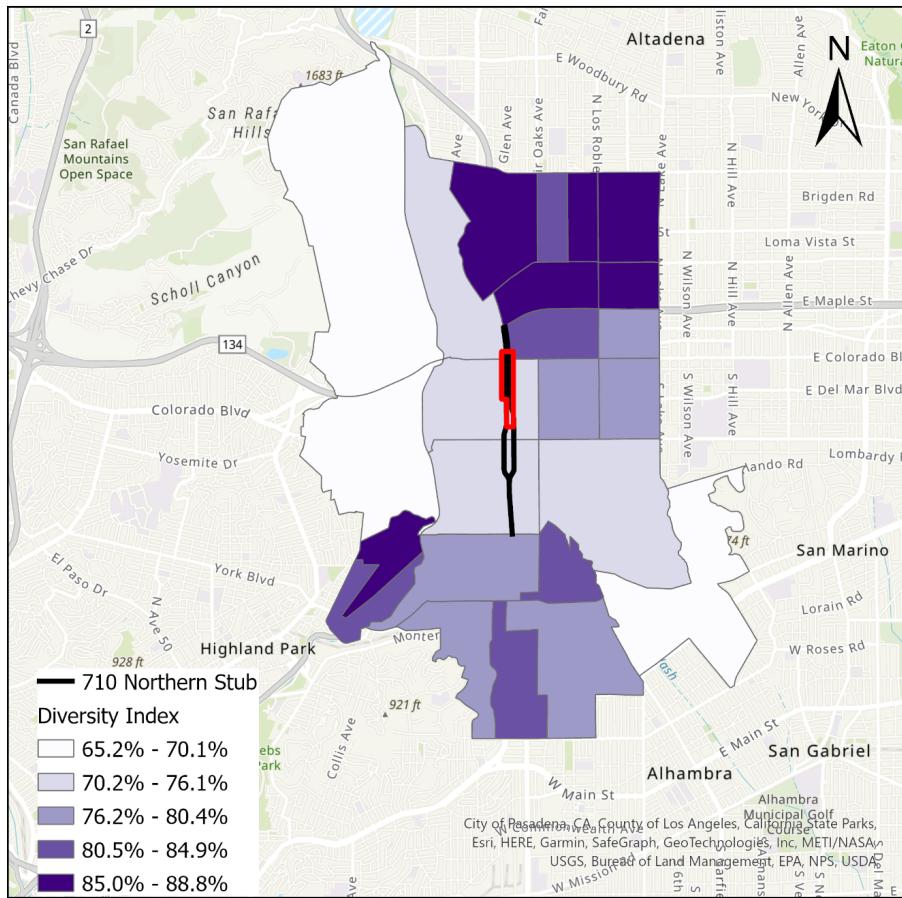


Figure 5: Map depicting the variation in Diversity Index across the region.

Following these three analyses, I became curious about the broader context of the 710 and how the area surrounding the Northern Stub may compare to the areas along the rest of the freeway. In particular, I wanted to understand the differences in Home Value Indexes as home values would be a clear indication of the impact of the presence of a freeway in a neighborhood (Appendix D). The result of this is shown in Figure 6.

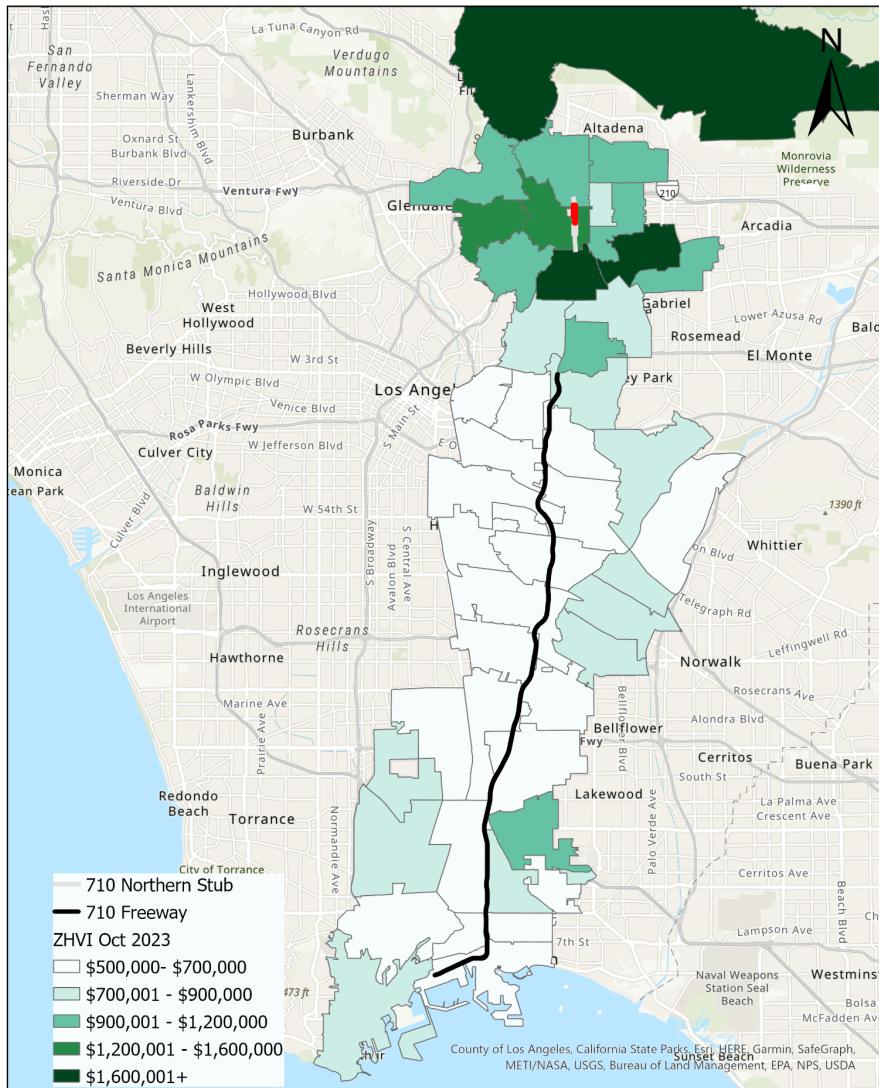


Figure 6: Map depicting the variation in Home Value Index in zip codes surrounding the entire 710 freeway, including the Northern Stub, as reported by Zillow in October 2023.

The racial breakdown of Pasadena is comparatively similar to Los Angeles as a whole, shown in Table 1, so while ethnic enclaves and historically segregated neighborhoods will show geographically, the analysis of this data would need the detailed understanding of a unique paper. On the surface, Pasadena has a larger white, non-Latinx community and a larger Asian community than the larger LA area. On the other hand, the percentages of Black and Latinx residents are both smaller in Pasadena than in the greater LA area.

Race/Hispanic Origin	Pasadena	Los Angeles
White (Not Hispanic/Latino)	33.8%	28.1%
Black or African American	7.8%	8.6%
Native American	0.4%	0.9%
Asian	17.9%	11.7%
Pacific Islander (Including Native Hawaiian)	0.1%	0.2%
Hispanic or Latino	36.1%	48.4%
Two or More Races	10.0%	9.8%
White (Including Hispanic/Latino)	45.1%	44.9%

Table 1: Comparison of Racial Breakdown from US Census for Cities of Pasadena and Los Angeles.

Findings

In examining the region around the project, several observations stand out. If one compares Figures 3 and 5, an interesting trend presents itself. The tracts with higher incomes appear to have comparatively lower diversity indexes. In other words, the tracts with a higher

rate of racial diversity tend to have a lower median income. This stands out to me as an indication of larger systemic issues where economic inequality remains heavily correlated with race.

In terms of the Home Value Index, I was interested in the difference in how the disconnect was presented versus how it shows up within this map. The City of Pasadena notes that the freeway divided a residential area in the west from a commercial one in the east. This division can still be seen today, such as in Figure 7.

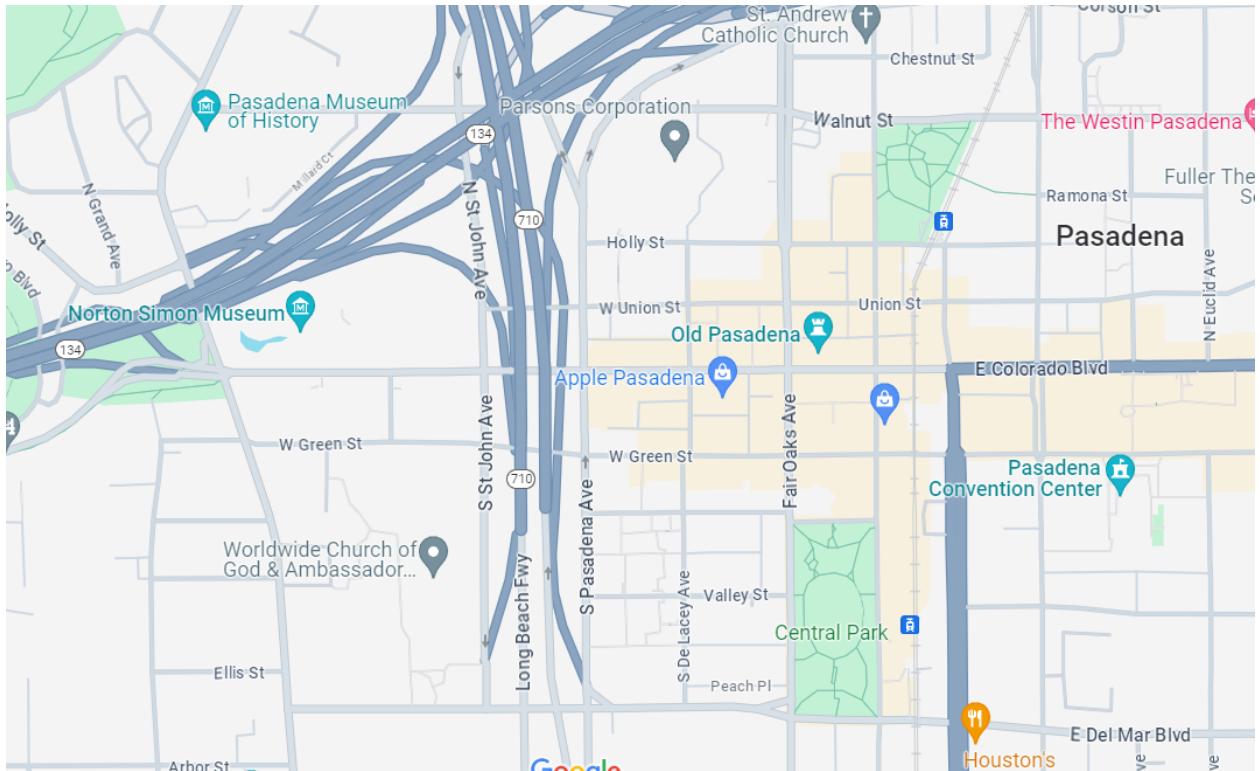


Figure 7: Google Maps aerial view of the Stub. The residential area is to the left of the stub and the commercial district, including Old Pasadena is to the right of the stub.

Despite this, the community separated from the downtown commercial district is shown to have higher home values than those that are not. Figure 5 shows that this divide is also inverse to the issue presented in the proposal. Tracts on the west of the Stub have higher incomes than those to the east.

Finally, to complicate this situation further, Figure 6 shows a stark difference between the home values around the Northern Stub and those around the rest of the freeway. While the region around the Stub, particularly the zip codes in the San Marino area, show home value indexes upwards of \$1.6 million, the length of the functional freeway is mainly surrounded by home values well below \$700,000. While this point does not outright negate the stated values of the Reconnecting Communities Program, they do serve to complicate the broad notion of how these projects are chosen. A number of other projects were located in the southern regions where the 710 created more visual impact within this variable, but it was the Northern Stub project that was chosen for funding.

Additionally, this wider map allows one to visualize the impact of a freeway on not just those displaced by its construction, but the personal wealth of those permitted to stay. Coverage of this project often asks what would Pasadena look like if the Northern Stub had been connected to the rest of the freeway, or what could the community be if it had never been constructed. In this situation, with the relative wealth of the area around the Northern Stub, I want to ask something different. What about Pasadena made it more worthy of preservation than the other communities along the 710? Further, what would they look like if they had been able to grow without the freeway's impacts?

Limitations

One key limitation to note is that the Northern Stub Redevelopment project is very early on in its development. The RCP funding itself was for a feasibility study and in my research I did not find an official Request for Proposals or any indication of a consultant partner. This means that the project itself is subject to change and will take years for those details to be solidified.

Beyond this limitation is that of the variable used to determine the racial makeup of the region. This variable is calculated based on this general idea: If a person in this tract is randomly selected, what is the probability that the next randomly selected person will be of a different race? While this can give a good measure of the homogeneity of an area, it does not give population statistics of the actual racial breakdown. Additionally, an overarching limit for all racial measures is the inherent limitations of racial categorization. Particularly with the large Hispanic population present in Pasadena (36.1%) there can be many discrepancies as the overlaps of race and ethnicity complicate individual responses.

Finally, the conclusions discussed in this paper are limited by the admittedly small area of study. The one mile radius surrounding the Northern Stub can only encompass so much data, and so any analysis of such data should be applied to larger contexts with great prejudice.

Areas of Further Research

One interesting aspect of this project is its scalability. In this single paper, I only had the ability to look in depth at a single RCP project, but the process and methodology could easily be applied to any of the 44 projects that received funding in the 2022 cycle or any of those that receive funding in future rounds. One such project is also located along the 710, at the other end

in Long Beach. This project would be an immediate area of research that could add additional context to the appetite for RCP projects in the Southern California region.

Beyond this, several other RCP applications were submitted regarding communities along the 710, which were not granted funding in the FY2022 cycle. While it could be interesting to include these projects in another analysis to compare and contrast them with those that received funding, the information was too incomplete. There was no consistency in the publicly available information, nor the completeness of the plans themselves. While I felt it may have been interesting to look at these projects, each would need to have their own complications and constraints that would likely require extensive research and connecting with the applicants themselves to gain more insight.

One major area of further study in terms of other variables, would be the environmental and health impacts of the freeway. Many studies over the years have shown the 710 to be especially harmful in terms of emissions, air quality, and negative health outcomes for those who live in its proximity. As environmental justice is aligned with the RCP, examining the projects within its frameworks and by way of this key data could be a great expansion.

References

Appendix D -Transportation Effects on Property Values D1 -TRANSPORTATION EFFECTS on PROPERTY VALUES.

“Reconnecting Communities (Pilot) (RCP) Grant Program. | Caltrans.” *Dot.ca.gov*, dot.ca.gov/programs/local-assistance/fed-and-state-programs/rcp-grant-program. Accessed 22 Nov. 2023.

“Reconnecting Communities and Neighborhoods Grant Program | US Department of Transportation.” *Transportation.gov*, 2023, www.transportation.gov/grants/rcnprogram/about-rcp. Accessed 22 Nov. 2023.

State Route 710 Northern Stub Relinquishment - Department of Transportation.
www.cityofpasadena.net/transportation/transportation-improvements/710-northern-stub/.

The White House. “Fact Sheet: The Bipartisan Infrastructure Deal.” *The White House*, 6 Nov. 2021, www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/.