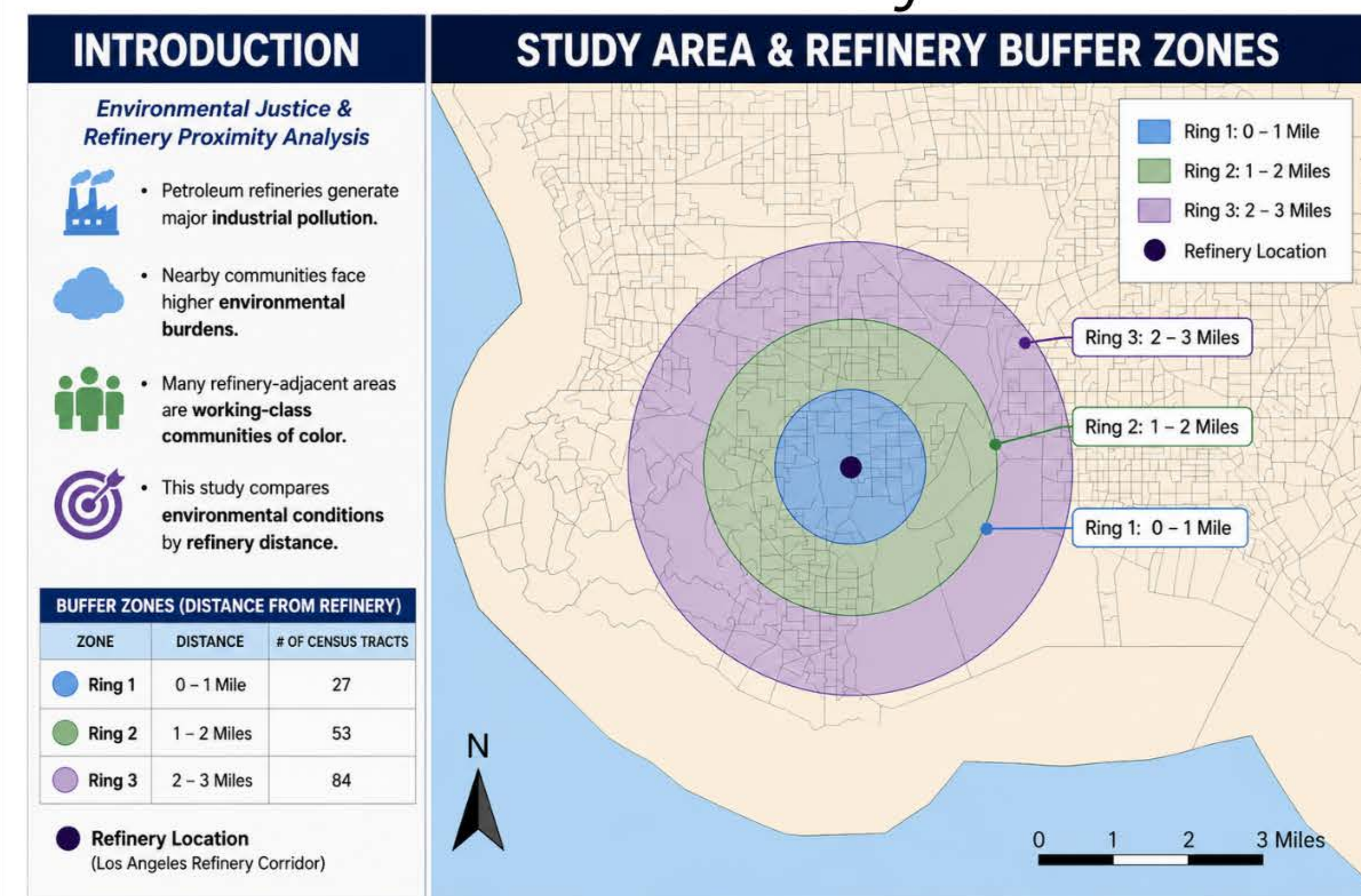


Environmental Justice Impacts of Petroleum Refineries in the Los Angeles Refinery Corridor

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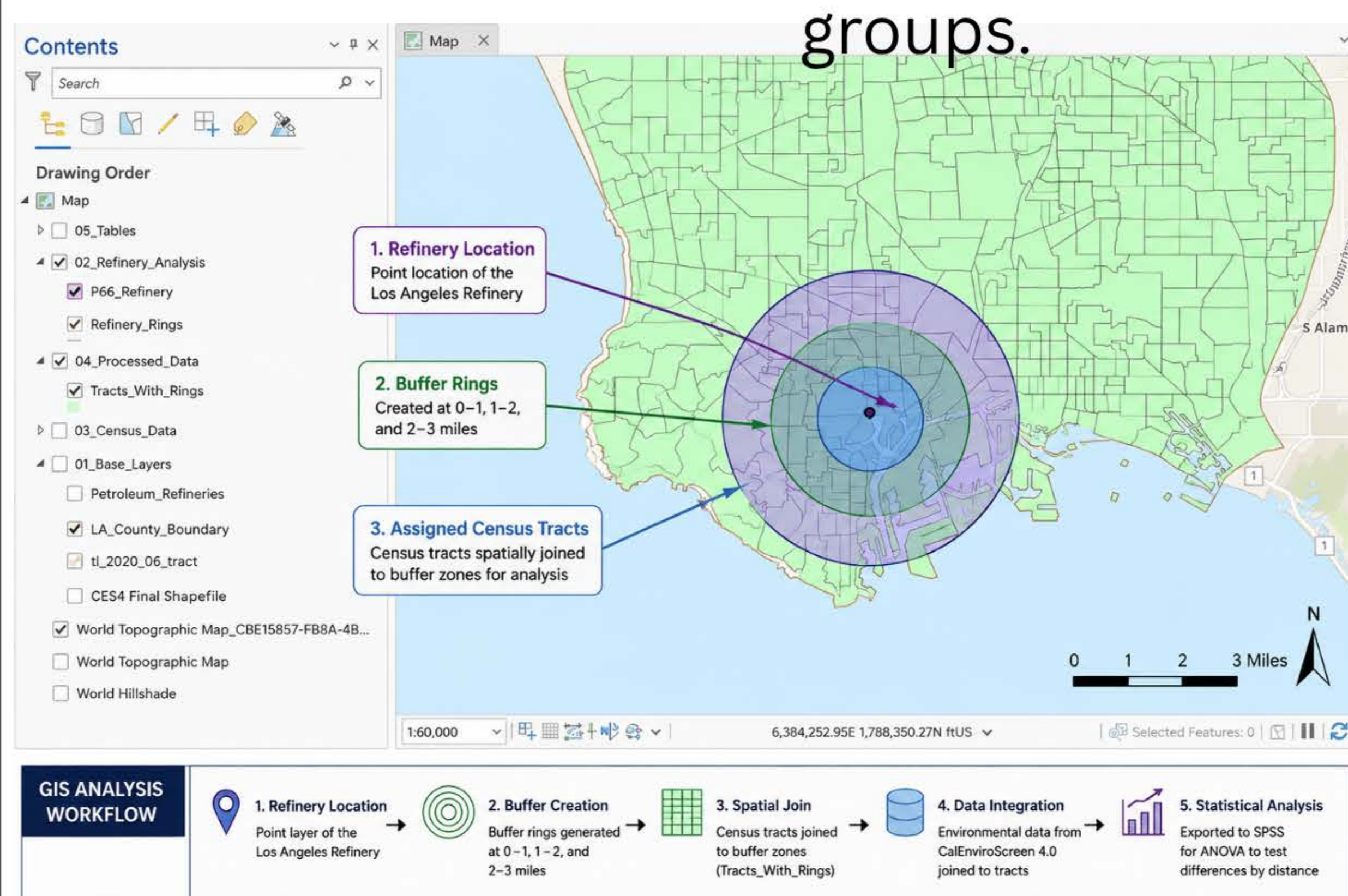
Introduction

- Petroleum refineries generate major industrial pollution.
- Nearby communities face higher environmental burdens.
 - Many refinery-adjacent areas are working-class communities of color.
- This study compares environmental conditions by refinery distance.



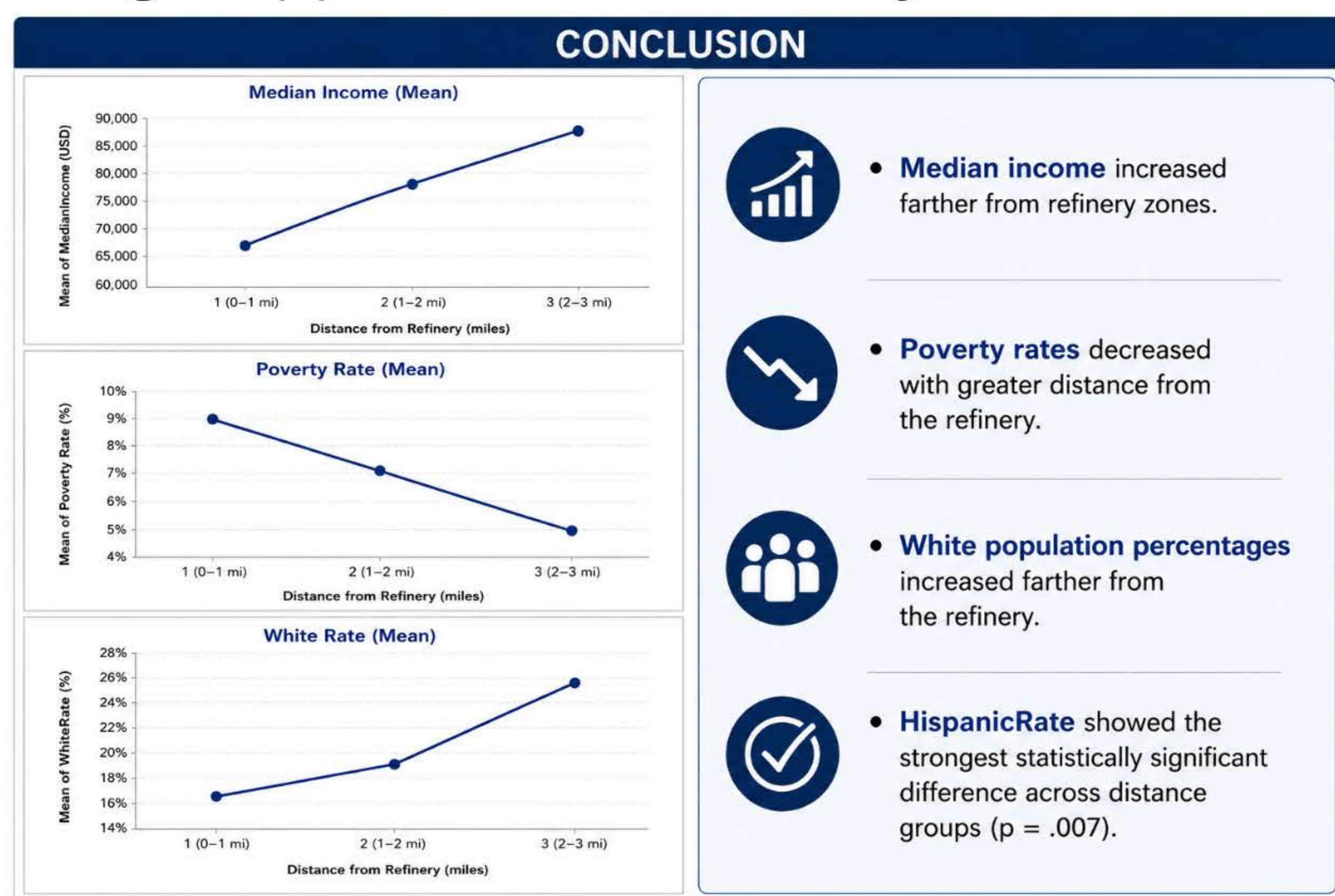
Method

- ArcGIS Pro was used to map refinery proximity zones.
 - Buffer rings were created at 0–1, 1–2, and 2–3 miles.
- Census tracts were spatially joined to refinery buffers.
- CalEnviroScreen 4.0 variables were joined to tract data.
 - SPSS ANOVA tested differences between distance groups.



Conclusion

- Refinery proximity influenced environmental burden patterns.
- Nearby communities experienced higher pollution exposure.
- Environmental burdens were not equally distributed.
- Findings support environmental justice concerns.



Key Findings

- Ring 1 recorded the highest Diesel PM exposure.
- Pollution burden was generally higher near refineries.
- Hispanic population percentages were highest near refinery zones.
 - Median income increased farther from refinery sites.
 - Poverty rates decreased with distance from refineries.



POLICY IMPLICATIONS & RECOMMENDATIONS

- Strengthen environmental monitoring near refineries.
 - Expand community health protections.
 - Use GIS screening tools for planning decisions.
- Prioritize vulnerable communities in policy responses.

