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Disparities in Active Transportation Safety in the SCAG Region

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# Disparities in Active Transportation Safety in the SCAG Region

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## Issue

Southern California's streets are increasingly dangerous for pedestrians. In 2017, California had the 10th highest per capita pedestrian fatality rate in the nation, with more deaths occurring in Los Angeles and Orange counties than anywhere else in the state. The Southern California Association of Governments (SCAG) allocates statewide funds for pedestrian and bicycle infrastructure, planning, and education for these and other neighboring counties. SCAG also prepares a regional plan every four years describing how the region will reduce greenhouse gas emissions to meet climate goals, and their most recent plan aims for an increase of 28 percent in walking and 71 percent in biking between 2016 and 2040.

Achieving these lofty goals will require officials to prioritize the most efficient and equitable active transportation projects and build the necessary political coalitions to complete these projects. This study supports both objectives by identifying high-collision areas, ranking which factors predict crashes, and demonstrating that these areas tend to be low-income communities and communities of color.

## Main Findings

- Fourteen demographic and built environment variables account for 57 percent of the variation in pedestrian crashes and 49 percent of the variation in bicycle crashes per census tract. All predictor variables are statistically significant at a 95-percent confidence level.
- Rail stations in high-poverty areas tend to be more dangerous for active transportation compared to stations in low-poverty areas. Poverty rate is a strong predictor of pedestrian and bicycle crashes near Metrolink stations and bicycle crashes near Metro stations.
- At the census-tract level, the top three pedestrian crash predictors are the number of transit stops, the population per square mile, and the poverty rate. The top three bicycle crash predictors are population density, number of intersections, and number of transit stops.
- Within a quarter-mile of LA County's Metro rail stations, the most influential pedestrian crash predictors are the combined walking and transit commute mode share, vehicle-miles traveled, and the under 18 population share. The three highest bicycle crash predictors were

## KEY TAKEAWAYS

- Crashes occur disproportionately in high-poverty communities of color. A higher poverty rate and Hispanic/Latino population share each predict more pedestrian-involved crashes and bicycle-involved crashes per census tract.
- High crash rates near bus stops suggest dangerous transit access conditions. The number of major transit stops per tract is the strongest predictor of pedestrian crashes and third strongest predictor of bicycle crashes.
- Biking and walking conditions near rail stations in high-poverty areas are more dangerous compared to stations in low-poverty areas. Poverty rate is a top predictor of pedestrian and bicycle crashes near Metrolink stations and bicycle crashes near Metro stations.
- High vehicle traffic hinders rail access in LA County. Vehicle-miles traveled is a strong predictor of pedestrian and bicycle crashes near Metro stations.

vehicle-miles traveled, population density, and the poverty rate.

- Within a half-mile of Metrolink stations, population density, poverty rate, and the number of schools are the strongest pedestrian crash predictors. Population density, share of the population under 18, and poverty rate are the strongest predictors of bicycle-involved crashes.

## Study

The researcher developed six linear regression models to identify predictors of pedestrian- and bicycle-involved crashes at three geographic scales: census tract, Metro station area, and Metrolink station. The study considered 14 possible predictors, including built environment factors such as intersection density and commercial land use, transportation variables such as transit stops and vehicle-miles traveled, density variables such as the number of people and jobs, and socioeconomic variables such as poverty rate and Hispanic/Latino population share.

## Recommendations

- According to state law, 25 percent of Active Transportation Program (ATP) funds must benefit disadvantaged communities, which are identified based on their median household income, exposure to pollution, and other factors. This study reinforces the importance of the 25-percent requirement and justifies increasing this proportion.
- As the number of major transit stops is a strong predictor of pedestrian- and bicycle-involved crashes at the census tract level, the study recommends enhancing funding guidelines with language and scoring criteria pertaining to first/last mile connections to bus stops and rail stations.
- A major limitation in this study is the lack of clear pedestrian and bicycle data for the SCAG region, which poses a barrier to knowing whether high crash rates result from unsafe conditions or simply more walking and biking. To address this, SCAG could work to obtain privately owned active transportation data or invest in automatic pedestrian and bicycle counters.

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## For More Information

O'Brien, R. (2018). *Unequal streets, unequal stations: Active transportation safety disparities in the SCAG region* (Masters capstone, UCLA). Retrieved from <https://drive.google.com/file/d/15rrFURsLen7WEq3szpqF8JlQI7LlINySD/view>

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