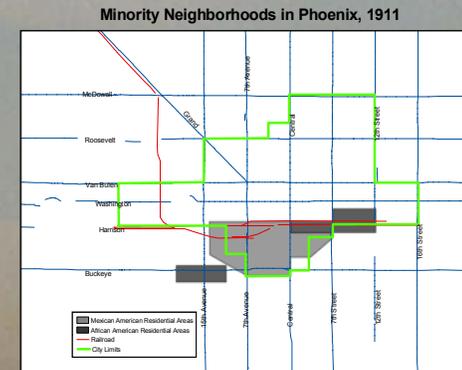
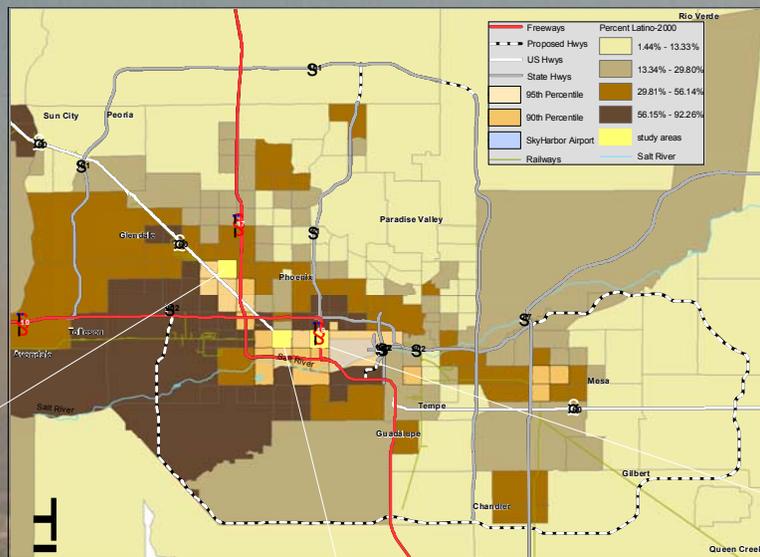


Toxic Tracts: A Historical Geography of Environmental Inequality in Phoenix

Bob Bolin¹, Scott Smith², Ed Hackett¹, Sara Grineski¹, Tim Collins², Deepa Vuppaladadi³, Jennie Kronenfeld¹. ¹Department of Sociology, Arizona State University, PO Box 872101, Tempe AZ 85287-2101. ²Department of Geography, Arizona State University, PO Box 870104, Tempe AZ 85287-0104. ³Center for Environmental Studies, Arizona State University, PO Box 873211, Tempe, AZ 85287-3211.

Abstract: In this research we examined the development of environmental inequalities in the Phoenix, Arizona metropolitan area. Based on late 1990s locations of Toxic Release Inventory facilities, Large Quantity Generators of hazardous waste, Treatment, Storage and Disposal Facilities, and toxic contamination sites, high hazard areas in the Phoenix metro area were identified. Using current patterns of environmental inequalities, case studies were developed that traced the development of contaminated neighborhoods within the city over a period of more than a century. Our focus has been on identifying historical-geographic changes in land uses, demographic composition of neighborhoods and the siting/abandonment of hazardous industrial facilities that have eventuated in pronounced environmental inequities by race and class in Phoenix. We examined a complex of social, political, and economic factors operating at different spatial scales that, over time, have produced inequities in the distribution of industrial hazards and contamination sites. A chief element in the evolution of environmental injustice in Phoenix has been the persistent sociospatial effects of racial segregation, industrial concentration, and transportation corridors. How those three phenomena are imbricated with subsequent development patterns engendered by rapid postwar suburbanization, urban redevelopment, and industrial decentralization were examined. Detailed historical geographies of areas with high hazard loads were used to illustrate these processes. The research concludes with a discussion of environmental inequalities in relation to patterns of uneven geographic development and urban planning issues in the Phoenix metropolitan area. The research has significance both for scientific understanding of urban ecological processes that produce environmental inequalities. It also provides disadvantaged groups with greater understanding of environmental conditions in neighborhoods and the historical processes that create environmental burdens.

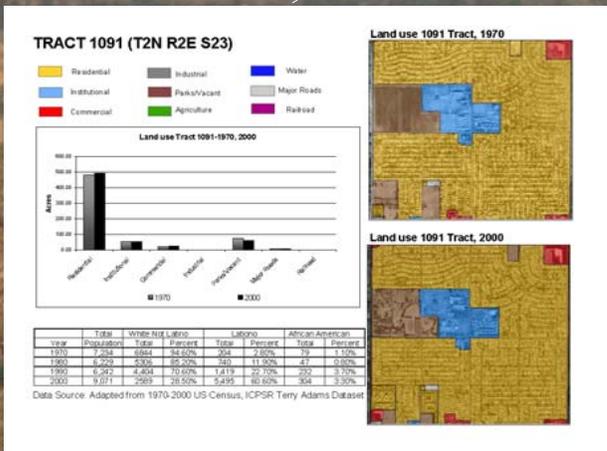
Metropolitan Phoenix Base Map - 90th Percentile tracts and Minority Distribution



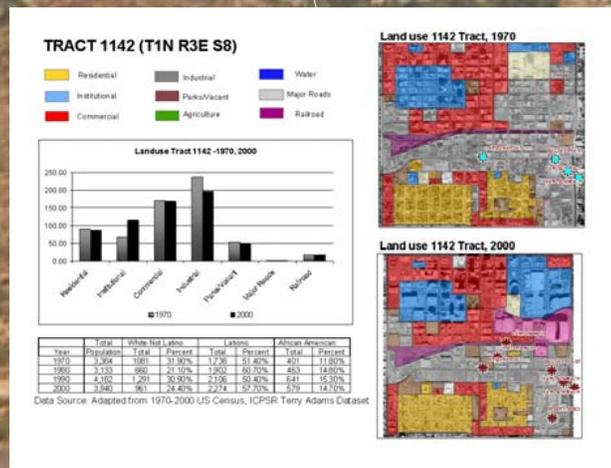
This map (after Roberts, 1973) shows early patterns of racial segregation in Phoenix. The railroad has functioned as a north-south racial dividing line in the city from early in the 20th Century while also anchoring a zone of industrial development in south of the central city.

This map displays the L shaped toxic zone that follows major transportation corridors through South Phoenix and into west central Phoenix. This mixed zone of industrial land uses and minority neighborhoods is an area

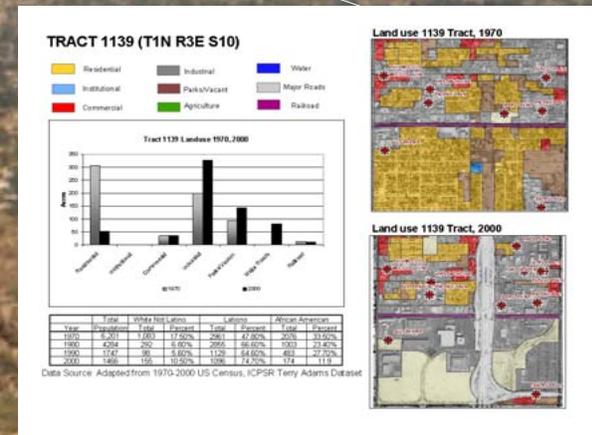
with a pronounced pattern of environmental inequality. It reflects historical patterns of segregation as well as planning and development decisions that have failed to protect low income and minority residents from industrial and transportation related hazards.



Tract 1091 is an older post-war suburban neighborhood in proximity to an area of heavy industrial contamination in west central Phoenix. The tract has exhibited a pronounced pattern of ethnic churning and white flight over the last two decades as environmental conditions have deteriorated. The proximity to major highways, industrial land uses and zones of contamination have worked to erode property values in the neighborhood, making housing in the neighborhood more affordable for low income residents.



Tract 1142 is an older central city neighborhood in the South Phoenix area. Historically it is a Latino area that has undergone slow but steady encroachment from industrial development adjacent to the railroad corridor. Economic revitalization plans resulted in a number of new hazardous industries locating in this area of Phoenix in the 1970s, adding to environmental burdens. Central city redevelopment activities in the 1990s have produced no tangible economic benefits in this neighborhood.



Tract 1139 contains the historic Golden Gate barrio. Of the tracts surveyed in this study, it has undergone the most dramatic land use change as the completion of I-10 in the 1980s and the extension of Sky Harbor runways resulted in wholesale removal of residents. The presence of a central city airport and the industrial activities it supports has increased environmental burdens on residents who remain in this tract.