

DOES THE LA BIKE PLAN 2010 SERVE THE RIGHT AREAS?

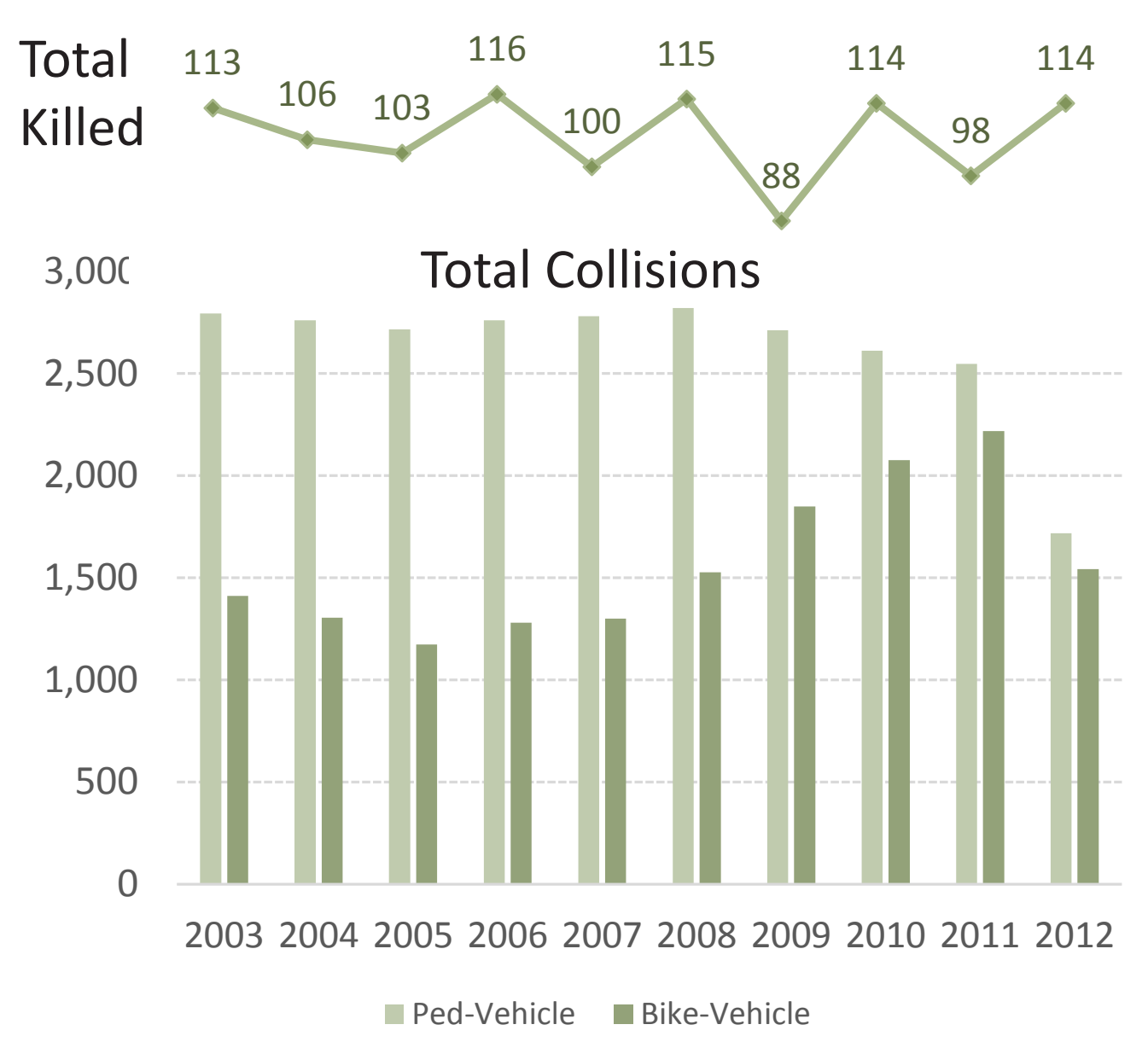


Spatial Analysis of Bicycle and Pedestrian Collision Hot Spots and LA Bike Plan 2010
 Lewis Center Award Winner for Innovative Use of Spatial Analysis and GIS in Policy Analysis

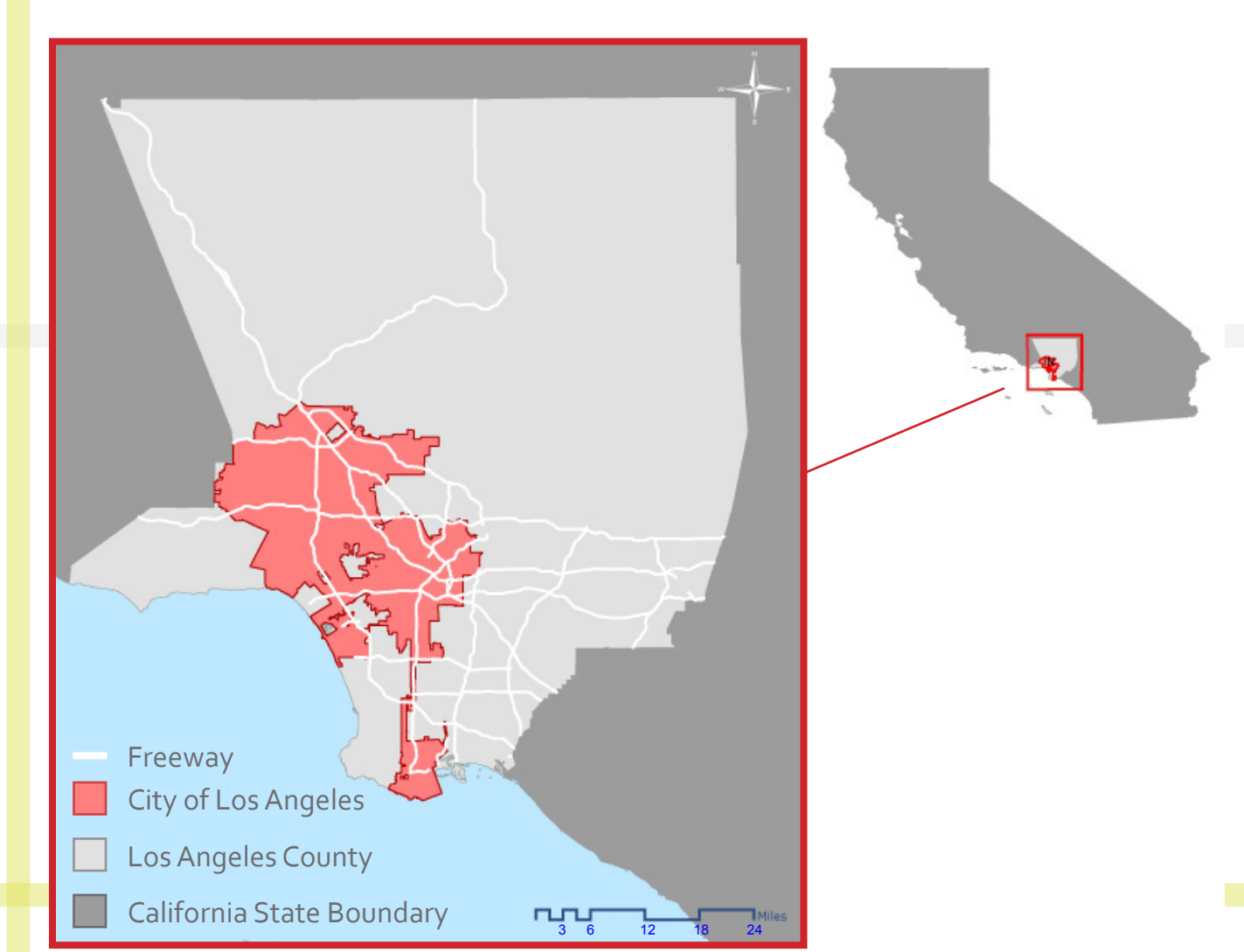
By Hyeran Lee

BACKGROUND

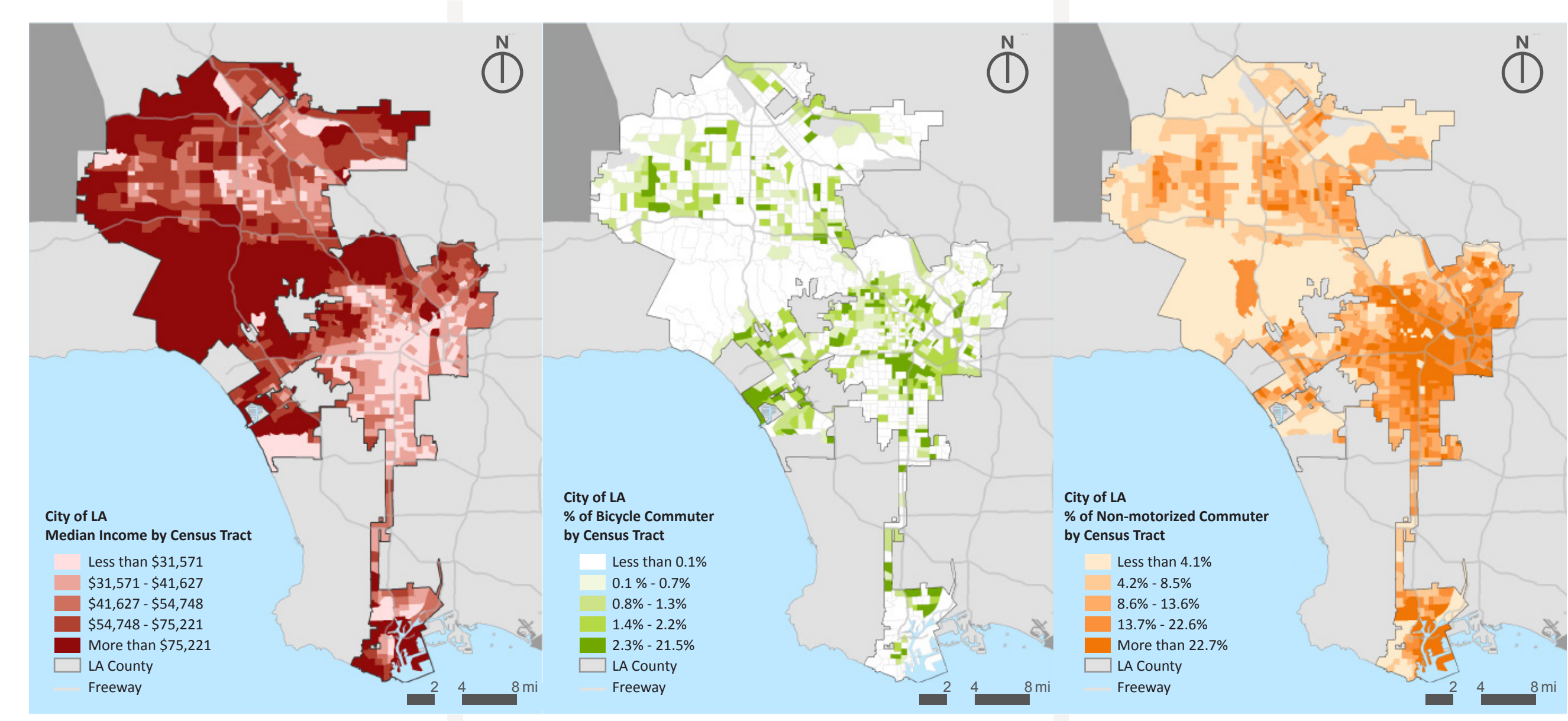
Every year, about 5,000 people are injured and 100 are killed by collisions in Los Angeles¹. In 2011 alone, 82 pedestrians and 6 cyclists lost their lives on the road. The newly adopted LA Bike Plan 2010 is a great opportunity for the City to reduce collisions substantially because bike facilities improve road safety for both pedestrians and cyclists². The plan includes implementation of 1300 miles of new bikeways, 200 miles of which are prioritized projects for the first five years. The purpose of this analysis is to identify spatial relationships between current collision hot spots and the first 5 year priority projects and demonstrate effectiveness of the prioritized projects.



STUDY AREA

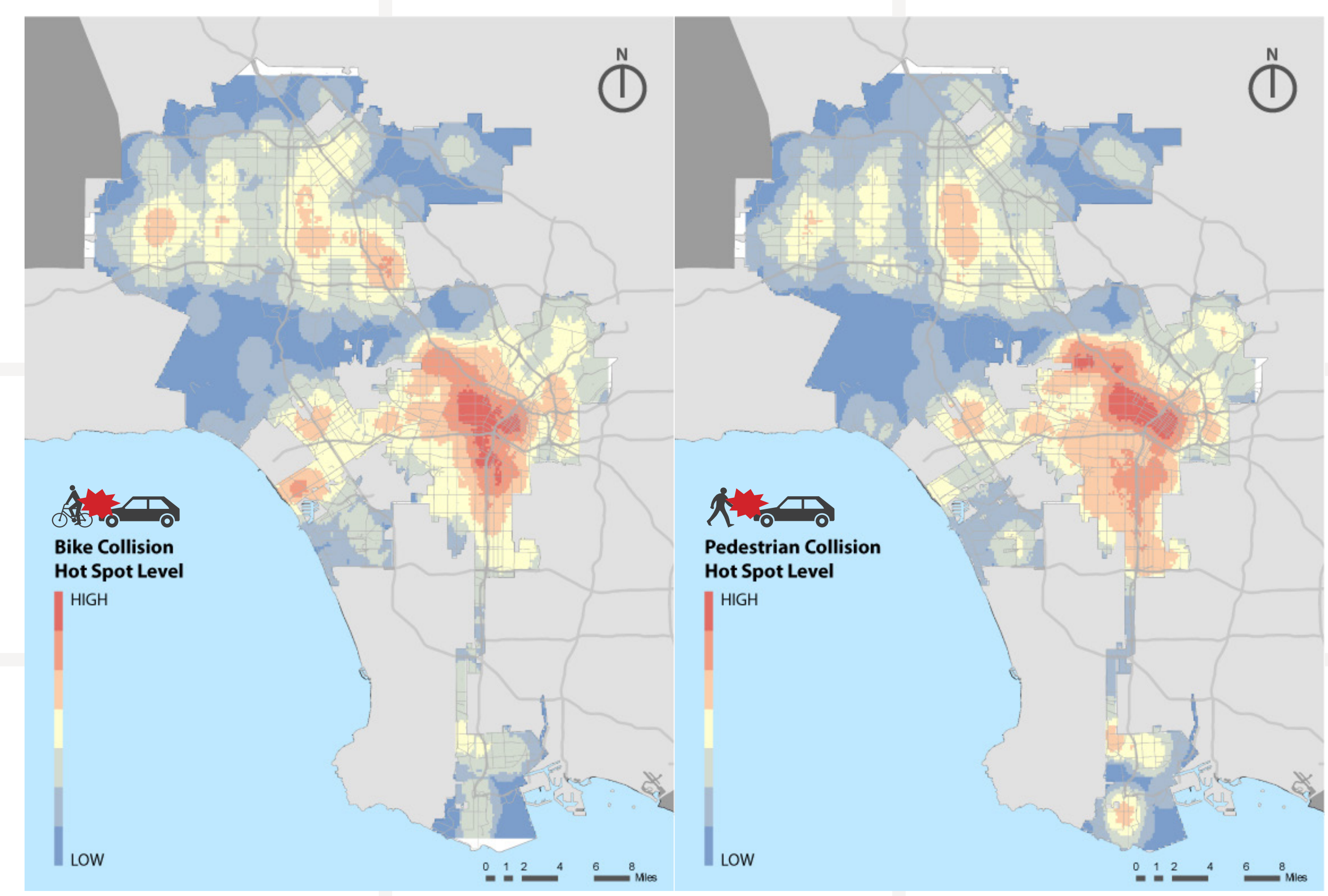


INCOME AND CYCLING & WALKING



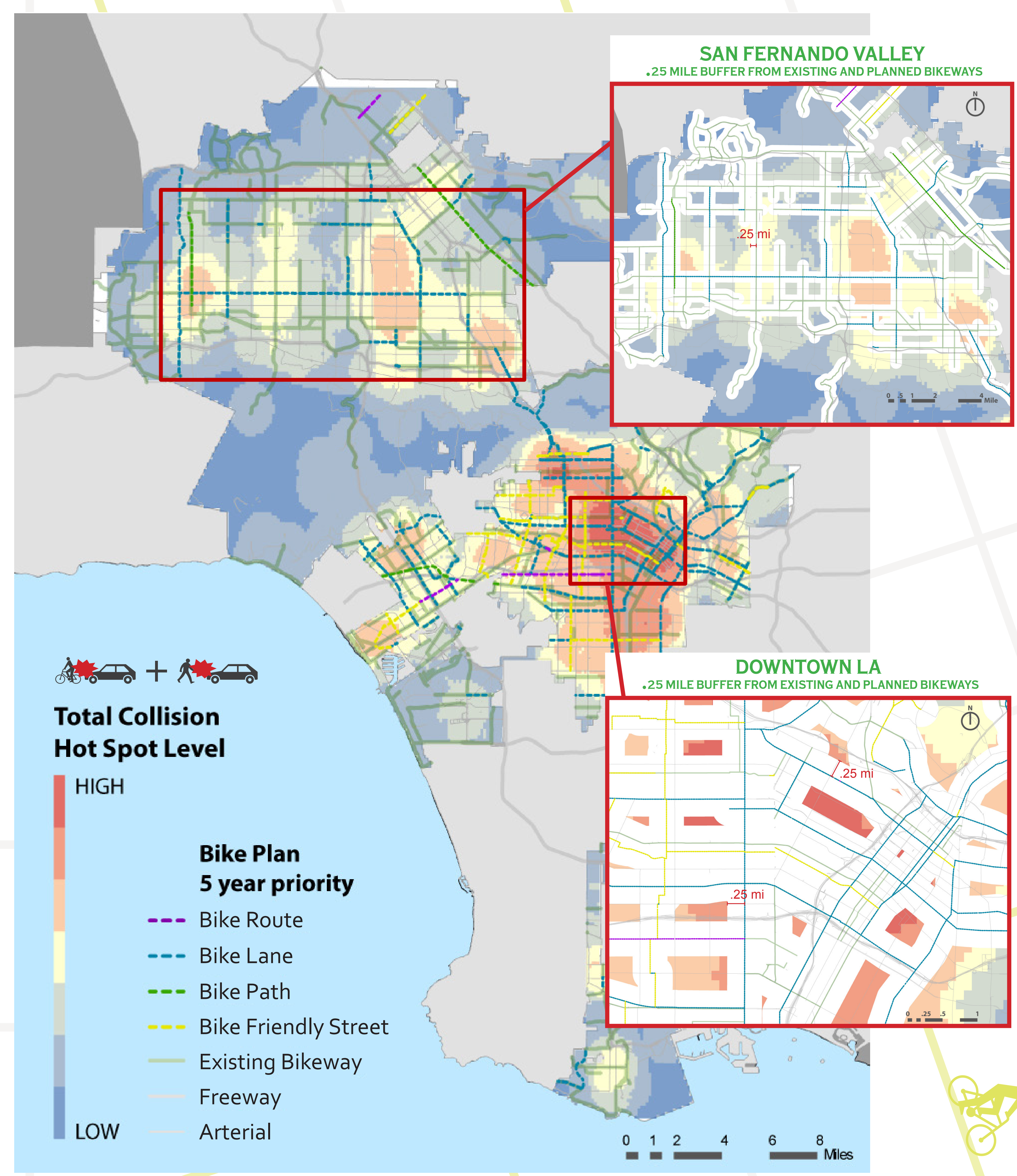
The maps³ show a clear inverse relationship between median income and the percentage of non-motorized transportation users by census tract. Cycling and walking are more prevalent in low-income areas than high-income areas. Improving bicycle and pedestrian infrastructure have direct impacts on those most vulnerable and least privileged population.

COLLISION HOT SPOT ANALYSIS



Bicycle and pedestrian collision hot spots³ were located in similar areas with high activities such as downtown LA, Hollywood, and Westwood. Bicycle hot spots were more dispersed than pedestrian hot spots. Central LA, also the lowest income area, had the highest collision density for both pedestrians and cyclists.

LA BIKE PLAN PRIORITY PROJECTS + COLLISION HOT SPOTS



Overall, existing and planned bikeways cover the entire city well. Looking closer, however, there is a spatial discrepancy in distribution of bikeways. While the downtown hot spots are well-served by bikeways, SF Valley are merely covered by few future bike lanes. It is understandable to put more bikeways in Downtown because of its high level of activities. Nonetheless, the bike plan may not improve street safety in the Valley by and large.

1. Approximate average calculated using Transportation Injury Mapping System collision data from 2003-2012, University of California, Berkeley. <http://tims.berkeley.edu>
 2. Pucher, J., Buehler, R., & Seinen, M. (2011). Bicycling renaissance in North America? An update and re-appraisal of cycling trends and policies. Transportation Research Part A: Policy and Practice, 45(8), 451-475. doi:10.1016/j.tra.2011.03.001
 3. Data Sources
 • Collision data: Transportation Injury Mapping System (TIMS), University of California, Berkeley. <http://tims.berkeley.edu>
 • Demographic data: Census Data 2011, American Factfinder. <http://factfinder2.census.gov>