

Courses: We selected five courses for the first cohort (e.g., ANTH3200 – Where in the California Community Are You?; GEOG3690 – Fundamentals of GIS; SOC348 – Sociology of Race/Ethnicity, Class, and Gender; SOC4050 – Service Learning and Sociology Internships; and SOC4420 – Social Change). A total of 104 students who enrolled in the redesigned courses consulted with 28 nonprofits and produced 41 projects (Big Data Community Forum, 2019). One student, for example, created a Spyglass app that allowed users to see how rent burdens differentially affect neighborhoods of color (Figure 1) (Examples of products,

2019). Additional examples of student projects that are important to our communities are shown in Figures 2-4.

Interns: We selected seven SEEDS to work with seven nonprofit organizations during the summer of 2019. Collectively, SEEDS worked a total of 1,440 hours (SEEDS projects 2019). Most began with a low level of confidence in their technical skills and all finished their internships confident in their projects and in their technical growth, which included strides in using the LA GeoHub, statistical computing and data management software, and coding. Many students were able to leave behind instruction manuals and structural frameworks for nonprofit employees and future interns to keep the projects going. All nonprofits expressed interest in more workshops, more help, and a long-term connection with the project having seen the immediate pay offs in the first year.

The impact of students' academic trajectory and self-assurance in using GIS was remarkable. Tarkhanyan Takouhi, a senior in Psychology and a GIS novice, cleaned up the Los Angeles Regional Reentry Project's (LARRP) outdated

database and created an interactive map of resources and services for the reentry community. LARRP used her product to secure a \$175,000 grant and offered her a full-time position that she described as "a dream job". She will further expand these interactive maps as a tool for their community resource advisors. Another student, Alfredo Estrada, a geology major, taught himself Visual Basic coding and cleaned and organized over 100,000 data entries for City Plants (during 2014-2019). He produced visualization products and set up automatic updates when new entries are added to the datasheet. Now, City Plants can see the distribution of their trees and spot underserved areas where they need to focus for the next year. City Plants is a partner of Mayor Garcetti's urban forest development to combat climate crisis (Mayors' Office Press release, 2019). Alfredo, inspired by internship experience, decided to enroll in our GIS certificate program. Martha Solorio, a junior in geology who worked with Wildwoods Foundation, increased her interests in GIS and took more GIS and coding courses. Her skills and interest secured her a summer internship position at ESRI for the upcoming summer 2020.

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Figure 2:
Gentrification map in North East Los Angeles (change in white non-Hispanic population).

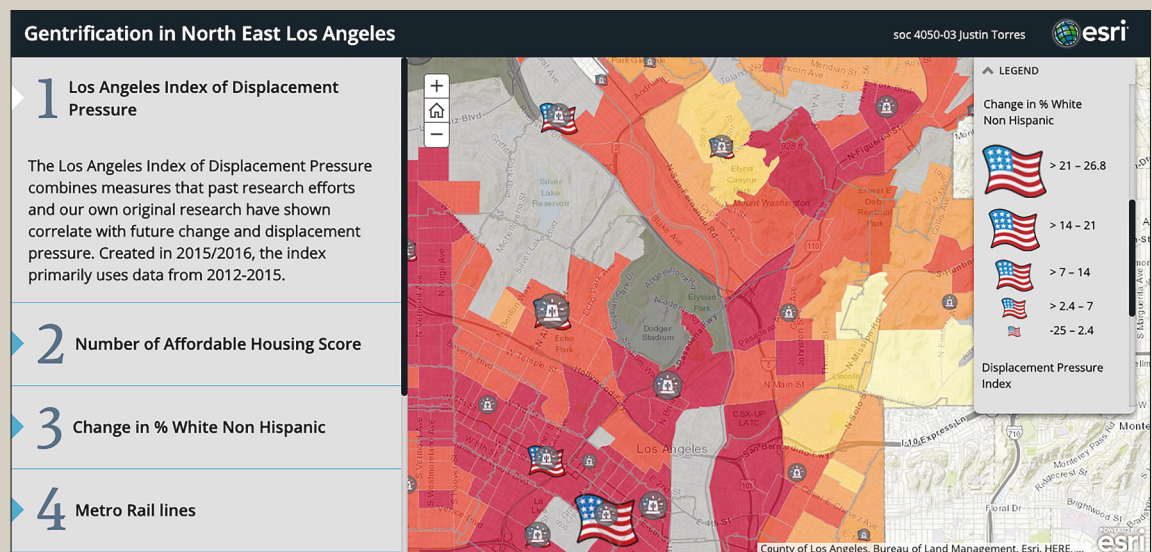
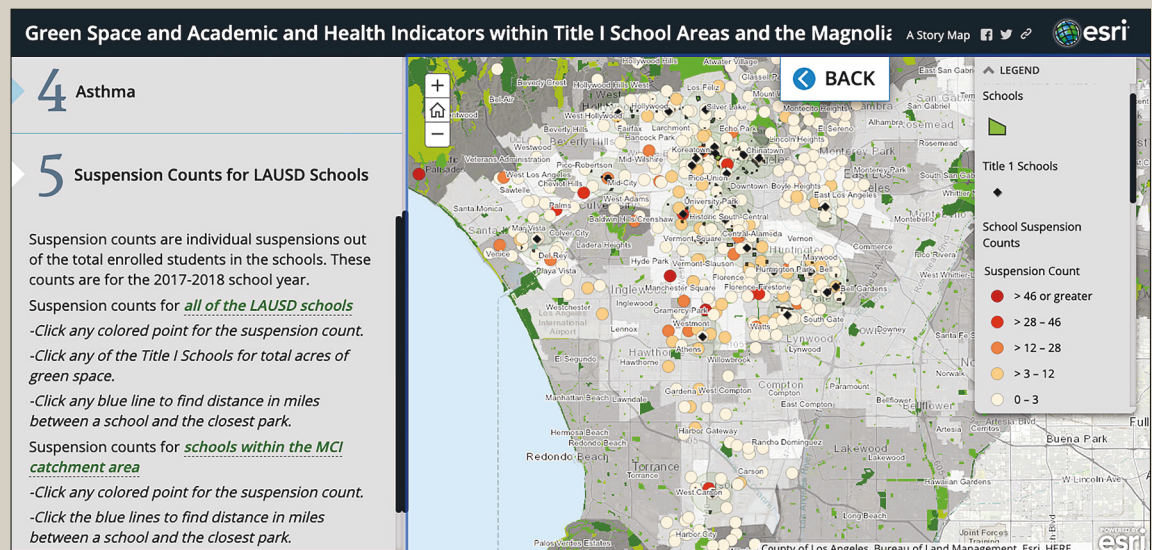


Figure 3: An interactive story map showing student suspension counts and green spaces in a student class project: Green Space and Academic and Health Indicators within Title 1 School.



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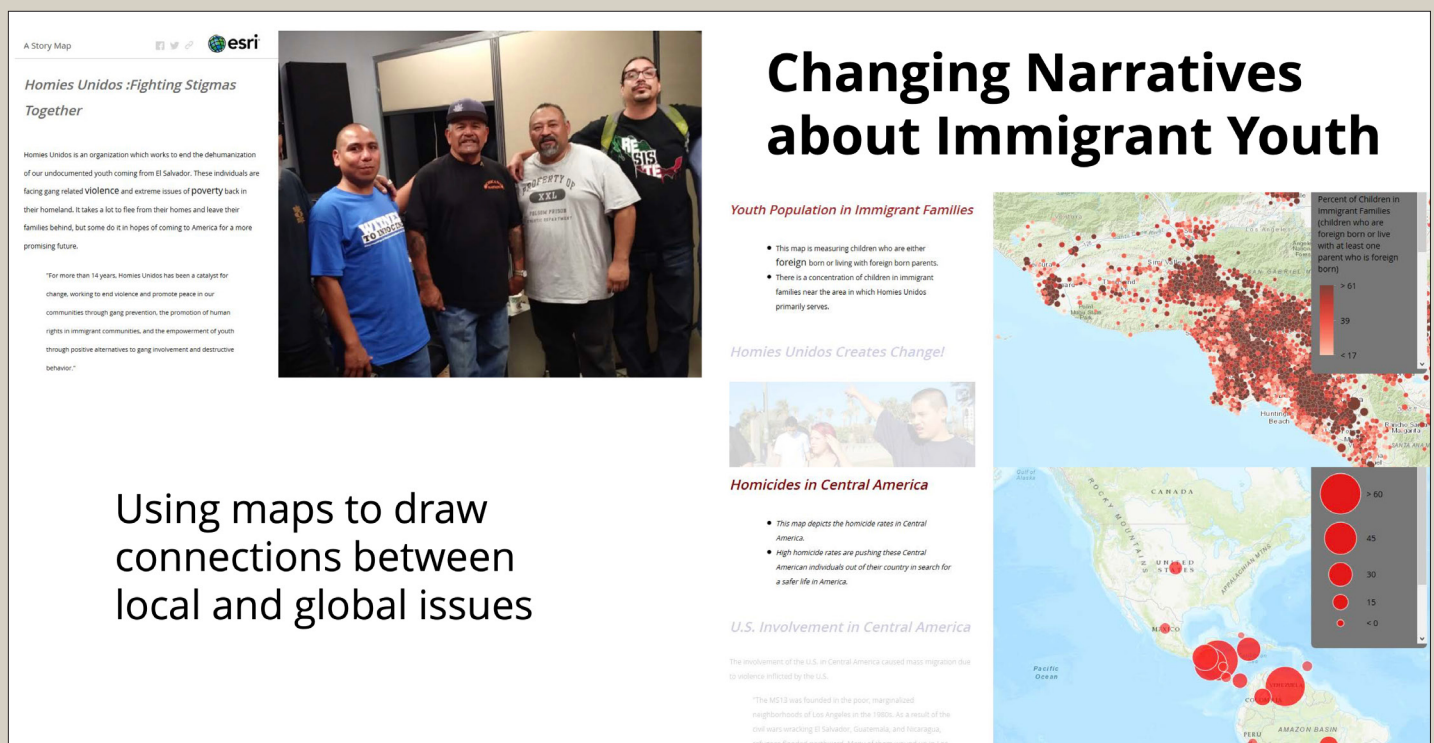


Figure 4: Mapping immigrant communities against homicide rates to situate local issues in global processes of Change.