Session Abstracts

Advancing Equity and Efficiency in Sidewalk and Ramp Requests: A GIS-Driven Approach for the City of Houston
Presented by Jessica Lott, dymaptic

Description: The City of Houston has transformed its sidewalk and ramp request process through a GIS-driven solution focused on efficiency, accessibility, and equity. The system includes a public app for residents to submit requests, an internal review platform for staff, and a Sidewalk Priority Dashboard to guide equitable infrastructure investment.

Residents can easily submit requests, which are validated in real time using GIS and routed to an internal app integrated with the city's work order system, reducing manual effort and processing time. The Priority Dashboard combines a Social Vulnerability Index (SVI), machine learning, and Distance to Assets analysis to help prioritize projects and address gaps in access to essential resources.
This approach demonstrates how GIS can modernize city services and support more equitable, data-driven decision-making.
Keywords: *Equity, SVI, Social Vulnerability, Machine Learning*

Mapping Safety for Children: Using GIS to Prioritize Traffic Safety Around Schools and Parks
Presented by Oghenetega Ogodo, TYLin International City Solutions (Formerly Sam Schwartz

Description: Traffic safety investments have traditionally focused on locations with documented crash histories. However, this approach can overlook communities where vulnerable populations, particularly children, face higher safety risks. This presentation demonstrates how GIS can support transparent and equitable prioritization of safety improvements around schools and parks.
The session presents a GIS-based analytical workflow that combines crash data and spatial analysis to identify locations where children and other vulnerable road users may face elevated risk. The methodology uses measures such as severe crashes, youth-involved crashes, and pedestrian and bicyclist crashes to help agencies identify priority locations for intervention.
The presentation also discusses how safety scores can be combined with built environment data such as sidewalks, traffic calming features, and ADA infrastructure to support planning decisions and guide investments toward areas with the greatest safety needs.
Keywords: *GIS, Traffic Safety, Equity, School Safety, Vulnerable Road Users, Spatial Analysis, Crash Analysis, Transportation Planning*

Mapping the Impacts of Gentrification: A GIS Framework for Analyzing Displacement
Presented by Reginald Archer, Tennessee State University

Description: This project investigates the impacts of gentrification on community stability and social cohesion using GIS methodologies. By mapping displacement patterns over a ten-year period in the greater Nashville region, the study seeks to answer key questions such as: Which neighborhoods are currently gentrifying? In which neighborhoods do those displaced by gentrification tend to cluster? What is the proximity of these clusters to the downtown area? Are the displaced populations moving into disadvantaged communities, or are they transitioning from disadvantaged to non-disadvantaged neighborhoods? By integrating spatial analysis and community engagement data, the project identifies clusters of displaced populations, tracks their movement, and examines the characteristics of their destination neighborhoods. This comprehensive approach to urban transformation informs strategies to mitigate negative outcomes for vulnerable residents.
Keywords: *gentrification, displacement, cluster analysis*

Population Shift-Share Analysis: Planning in No Growth Scenarios
Presented by Lynn Dupont, and Malissa Givhan, New Orleans Regional Planning Commission

Description: The New Orleans Regional Planning Commission (RPC), functions as the Metropolitan Planning Organization (MPO) and the Planning and Development District (or COG) for the nine parishes (counties) of southeast Louisiana surrounding the city of New Orleans. Hurricanes, oil spills, intense storms, including Katrina, have tested the region resulting in the movement of people. Total regional population is stable but not growing. People are moving around the region. Tracking who is moving where and providing varying transportation alternatives to accommodate slowly changing needs requires frequent updates to key planning indicators. Many citizens are being forced to purchase automobiles for the first time, patterns are shifting due to increased working from home and home delivery of goods. RPC has employed increased community outreach and closer connections to local information to improve data analysis in determining applicable data indicators behind what we believe is occurring.
Keywords: *Planning, Growth, Shift-share, demographics, planning indicators, community outreach, transportation*