



Small Area Land Use Impact Tool

A customized, cloud-enabled version of CommunityViz® for MPO’s member agencies

Location: Northern New Jersey

Partners: North Jersey Transportation Planning Authority (NJTPA), Fitzgerald & Halliday, Inc.

Context: NJTPA, the regional transportation planning agency for northern New Jersey, is one of the largest and most technically sophisticated metropolitan planning organizations (MPOs) in the country. It serves 6.6 million people in 13 counties and oversees more than \$2 billion in transportation improvement projects each year. While it maintains a regional perspective, NJTPA also assists county planning agencies in a variety of ways that include technical assistance with local planning projects.



SALUIT Logo

In their day-to-day interactions with county planners, NJTPA staff often hear requests for help with evaluating proposed small-area projects. Example projects included transit-oriented developments (TODs), corridor redevelopment, and neighborhood revitalization. As proposals come forward in the form of proposed land use changes, county and local planners want ways to evaluate the projects’ potential impacts—on both transportation-related factors such as roadway system impacts and mode share, and on broader topics such as economics, environment, and housing. As a response to this need, NJTPA conceived the idea of software application that local planners could use. This “small area land use impact tool,” or SALUIT for short, would draw on NJTPA’s extensive cloud-based data resources and sophisticated modeling capabilities, but it would present a relatively straightforward face to users and make sense at small-area scales.

Project Description:

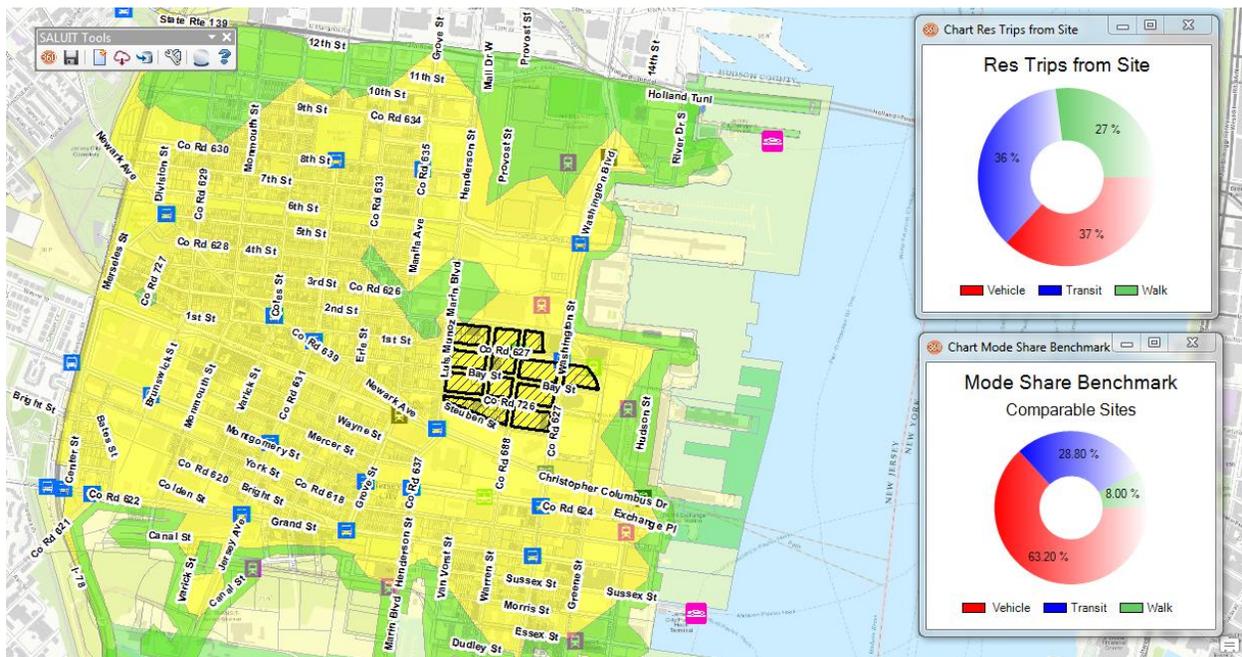
NJTPA selected Placeways and its partner Fitzgerald & Halliday, Inc. (FHI) to create the solution. Two aspects of their approach stood out: First, to capitalize on readily available existing technology, they designed the tool as an add-in to the already powerful and widely used CommunityViz® planning software platform. This provided a foundation that worked at both local and regional scales and offered a powerful framework for land use sketching and impact analysis. Second, to ensure that the new tool would have real-world practicality, they started with three representative pilot projects in communities representing the range of NJTPA’s region: urban, suburban, and rural. The experiences and lessons gathered from these pilots were used to guide the development of the ultimate tool.



The final product, called SALUIT, is now in production and available for use on any small-area project in the NJTPA region. It is implemented as an add-in to desktop ArcGIS® and CommunityViz, and it also takes advantage of extensive cloud-based data repositories and modeling libraries hosted by NJTPA.

In a typical project, a SALUIT user starts by designating the small area to be studied with simple custom digitizing tools. The tool automatically downloads all the relevant planning data for that area and calibrates its models to match. Using either standard ArcGIS tools or custom-built SALUIT tools, the user loads or sketches in the land-use proposal(s) being considered, and the tool immediately calculates dozens of impact indicators in categories such as roadway system impacts, environment, cost of municipal services, parking, flooding and drainage, transit, accessibility, and general household and employment demographics.

Results are presented in a sequence of slide-like “saved views” that include color-coded maps, charts, and interactive controls. Detailed reports and an online viewer are also available. For more detail, users can take advantage of the many customizable visualization and presentation tools available in the CommunityViz platform, or go on to do further custom analysis, scenario comparison, and more.



Technology and Partners: NJTPA sponsored the project, served as liaison to the pilot project communities, provided regional datasets, and provided or developed transportation and certain other models. Placeways led the consultant team, provided planning consulting services for the pilot projects, performed technical data processing and analysis, and developed the custom software. FHI researched and calibrated models and modeling parameters specific to the NJTPA region and provided additional assistance.

SALUIT is implemented as an ArcGIS Add-In, initially compatible with ArcGIS 10.2 and 10.3, and it adds a toolbar and other capabilities to CommunityViz 5.0. Extensive documentation and help resources are available.

Availability: SALUIT is in production and available from NJTPA.

KEY LINKS
 NJTPA SALUIT
njtpa.org/data-maps/land-use-impact-model.aspx
 Placeways LLC
placeways.com
 FHI
fhiplan.com