



## NJTPA ViZtools

User-Friendly Web-Based Planning Visualization Tools

**Location:** Northern New Jersey

**Partners:** North Jersey Transportation Planning Authority, Placeways, Parsons Brinckerhoff, Fitzgerald & Halliday, Inc., Azavea

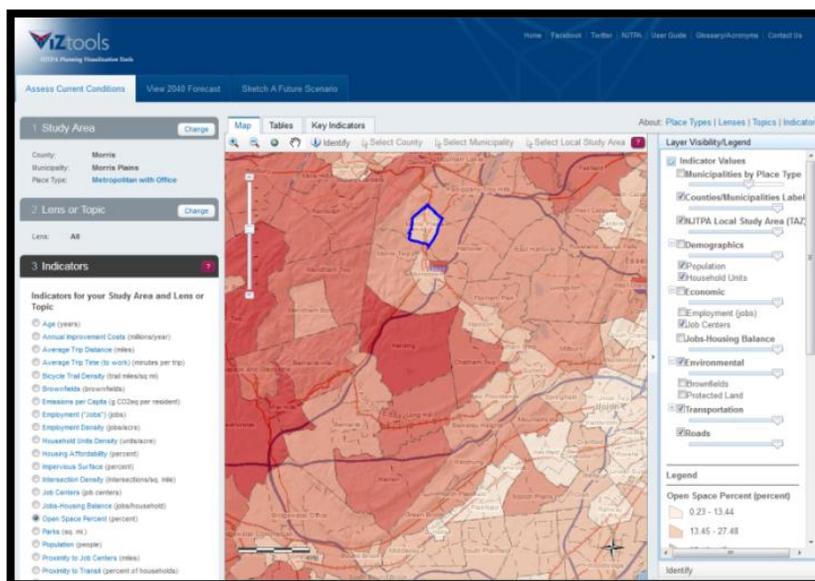
**Context:** The North Jersey Transportation Planning Authority (NJTPA) is a regional transportation leader and provides technical and information resources for the northern New Jersey region. As part of the periodic update to their regional transportation plan, they are seeking to initiate meaningful dialogue with stakeholders, municipal leaders and the general public, which can be challenging because so many factors and topics of interest arise when making planning decisions. The NJTPA decided the best way to demonstrate how different factors relate to regional planning and development was to build an online tool, accessible to any party interested in current and future scenarios throughout the region. The web-based visualization tool would assess current conditions and potential future impacts and benefits, and would synthesize transportation, land use, and environmental strategies through a transparent and easily accessible program.

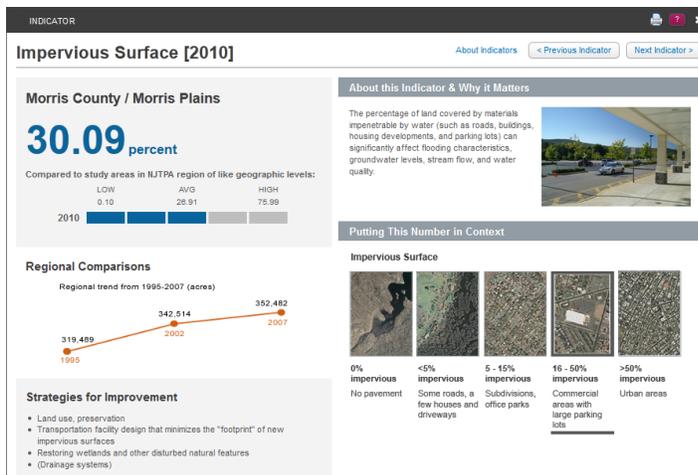
**Project Description:** As a result, the NJTPA is working with Placeways, Parsons Brinckerhoff, Fitzgerald and Halliday Inc., and Azavea to build the web-based visualization tool, NJTPA ViZtools. The main objective of ViZtools is to create an easily accessible portal for decision makers as well as the general public in order to gain an understanding of how planning decisions and strategies shape the region's future.

*The web application is designed with a user-friendly interface that allows a user to quickly and intuitively drill down to more detailed information.*

The advanced geospatial web application combines a rich ArcGIS Server map viewer with user-friendly HTML5 and JavaScript functions to provide visual tools for outreach and education. The application

targets decision-makers and members of the public interested in regional land use and long-term transportation planning. Reference data from the NJTPA's enterprise GIS is served through multiple map services to provide base layers and data. A simple, step-by-step interface allows untrained users to study particular areas and discover more information and metrics called indicators. Interpretation is aided by a variety of visual tools including photos, videos, charts and map symbology. The application works across scales ranging from neighborhoods to municipalities to counties, and at



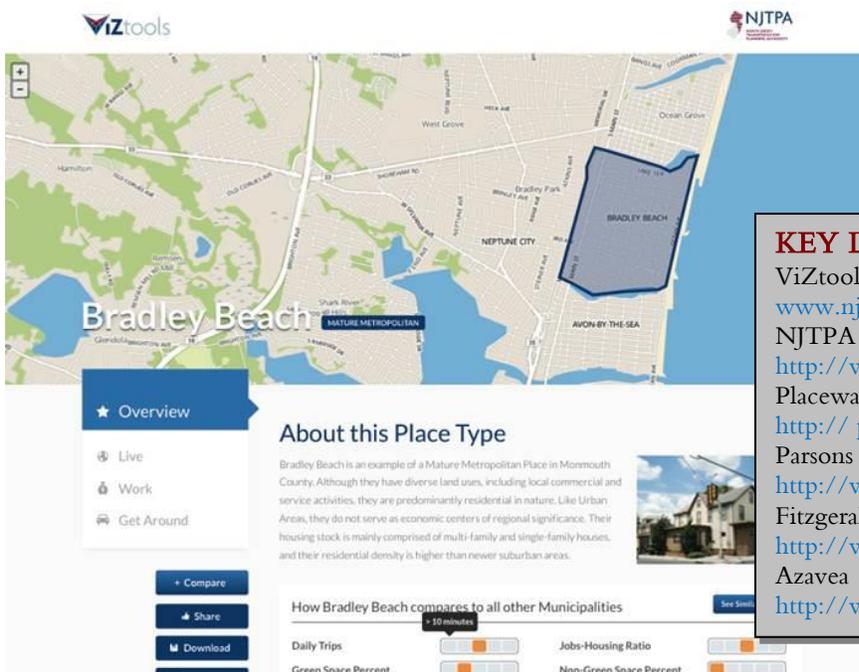


two points of time: 2010 and 2040. An additional application allows users to experiment with alternative development scenarios and see the resulting impacts as indicators updated in real-time. The web application is designed with a user-friendly interface that allows a user to quickly and intuitively drill down to more detailed information. The screen capture shown above illustrates some of the features of the application. On the left, a user has navigated through a set of simple steps to choose topics and indicators for an area of interest. The center display is a thematic

map of the user's choice to examine open space percentages for a designated study area (outlined in blue) and the surrounding region. The list of indicators in the lower left shows a wide variety of other information available to help users learn about the region and how it functions. On the right, reference layers are available for display and comparison. The slider bars control layer transparency.

The application also allows users to access detailed information in an educational and visually appealing layout. In this second screen capture, a user has drilled down to find out more about a particular indicator; in this case, impervious surface. The window here shows the study area's score alongside contextual data such as regional trends and helpful explanations. Data is updated in real time with the user's navigation and selections.

**Technology and Partners:** Placeways is leading the consulting team and providing the GIS mapping and regional planning models. Partners include Parsons Brinckerhoff who added modeling and analysis expertise as well as user-oriented design skills, FHI who is contributing outreach and public-engagement skills, and Azavea who will perform HTML5-based design and application development in Phase 2 of the project.



**Availability:** Development work was complete in June, 2013 and the tool is expected to go live in the near future.

### KEY LINKS

- ViZtools
- [www.njtpa.org/plan/need/viztool/viztool.aspx](http://www.njtpa.org/plan/need/viztool/viztool.aspx)
- NJTPA
- <http://www.njtpa.org/>
- Placeways LLC
- <http://placeways.com>
- Parsons Brinckerhoff
- <http://www.pbworld.com/>
- Fitzgerald & Halliday, Inc.
- <http://www.fhiplan.com/>
- Azavea
- <http://www.azavea.com/>