

## User Guide

### About the NJTPA ViZtools Website

The NJTPA ViZtools Planning Visualization Tools website hosts a set of web-based tools to help residents of northern New Jersey better understand the factors that influence transportation and quality of life in our region and the options for shaping our future.

The tools on this website employ innovative approaches to visualization – putting data into visual form – including using maps, charts, images, and interactive technologies to display information about our communities and the region overall.

The tools are part of the development of the NJTPA Regional Transportation Plan (RTP) for 2040 — the federally required long-range plan that qualifies the region to receive \$1 billion or more in federal funding each year.

By using the tools and offering input, you can contribute to the dialogue about transportation and other challenges facing the region. These tools are intended to make technical knowledge of planning agencies more accessible to the general public. Explanations of technical concepts – such as the various performance indicators – are available throughout.

**What can you learn from this tool?** There are a variety of paths for exploration and learning as you use the tool:

- Examine your community. Look at existing conditions and data that planners and elected decision-makers work with today.
- Explore the future to the year 2040 to see what factors are predicted to change – for example, how will the population change, how are travel times predicted to be impacted?
- Experiment with your vision for your community; sketch a scenario of conditions you would like to see changed, and view the potential impact of those changes on your community.

The following user guide will walk you step-wise through the tool. To access the tool, go to [www.NJTPA.ViZtools.org](http://www.NJTPA.ViZtools.org) .....

Important Note: Proper use of the data available on this site requires technical expertise and may require specialized software. All data items identify points of contact for technical questions. However, no warranties or representations are expressed or implied concerning the information contained within this Website. The NJTPA strongly suggests that the user appropriately verify the accuracy of any information provided as indicated in the [NJTPA's website legal notice](#).



NJTPA Planning Visualization Tools

## Home Page – What You Will See

Home | Facebook | Twitter | NJTPA | Glossary/Acronyms | Contact Us

Assess Current Conditions | View 2040 Forecast | Sketch A Future Scenario

### About NJTPA Viz Tools

This site hosts a set of web-based tools to help residents of northern New Jersey better understand of the factors that influence transportation and quality of life in our region and the options for shaping our future. The tools in this website employ innovative approaches to visualization – putting data into visual form – including using maps, charts, images, and interactive technology to display information about our communities and the region overall.

The tools are part of the development of the NJTPA Regional Transportation Plan (RTP) for 2040 – the federally required long-range plan that qualifies the region to receive \$1 billion or more in federal funding each year. By using the tools and offering input you can contribute to the dialogue about transportation and other challenges facing the region. These tools are intended to make technical knowledge of planning agencies more accessible to the general public. Explanations of technical concepts – such as the various performance indicators – are available throughout.

getting started/ specific instruction

### Information Links at top of page:

- NJTPA – main website for the North Jersey Transportation Planning Authority
- Facebook – Follow NJTPA activities on Facebook
- Twitter – Follow NJTPA activities on Twitter
- Glossary/Acronyms – list of approximately 150 acronyms typically used at the NJTPA in its transportation planning activities
- Contact Us – Submit comments or questions to the NJTPA; sign up for the NJTPA mailing list

### Link to this User Guide, “Getting Started”

### Three Planning Tool Options to choose from:

- **Assess Current Conditions** – choose this option if you want to examine existing conditions in your study area of interest
- **View 2040 Forecast** - choose this option if you want to explore what your study area of interest is predicted to look like in the Year 2040
- **Sketch a Future Scenario** – choose this option if you want to experiment with making changes in a community when plans get implemented

## Assess Current Conditions

First, choose an NJTPA county, municipality, or local study area. Then examine your selected area of study either via the maps and legend items or select categories such as Place Types, Lenses, and/or Topics as well as Indicators to help you learn more.

What are these categories?

**Place Types** – A “place” for this site is a municipality generally, although since a few municipalities of the region are extremely large, and some are too diverse in land uses to be considered one similar type, a few municipalities were broken down to smaller parts.

For any comprehensive planning to be effective in a diverse region like northern New Jersey, it is necessary to divide the region into similar groupings so that distinct and appropriate objectives can be set for each grouping. For example, the planning and transportation objectives of a heavily urban area like Newark are obviously different from a rural town like Sussex or a suburban place like Roxbury. Grouping of places into similar types allows an opportunity to set objectives that are highly specific to each type of place.

On the basis of the above considerations, 10 place types were identified, each having distinct characteristics. The factors considered to arrive at the place types were population size and density; number, type and age of housing units; and number and type of jobs.

**Lenses** – View facts about your study area through different “Lenses”:

- **Land Use** – Look at indicators that have to do with residents, employment, and the built environment excepting transportation.
- **Economic** – Look at indicators that have to do with the overall economic health and prosperity, particularly with respect to employment and economic self-reliance of an area including strategies that retain and increase economic activity and competitiveness.
- **Equity** – Look at indicators that describe the differential impacts on people in categories of gender, age, ethnicity, disability, geography, and income.
- **Environment** – Look at indicators that have to do with the natural environment including air, water, land, climate change, and ecological systems of an area.
- **Transportation** – Look at indicators that have to do with infrastructure, travel behavior and modes, transit systems, access, mobility, connectivity and travel patterns.



*NJTPA Planning Visualization Tools*

- **Fiscal** – Look at indicators that have to do with agency investments and expenditures. This category contrasts with **Economic** category because it has to do with how much plans cost to implement, not how they affect the overall economy of the region.

**Topics** – there are two topics under which to view the NJTPA region:

- **Livability.** Strategies and projects intended to promote multiple, convenient transportation and housing options as well as destinations easily accessible to people traveling in and out of cars. Typical projects are transit-oriented development (TOD), mixed-use development (MXD), complete streets, a more even job-housing balance and walkable communities.
- **Transportation Investment.** Strategies that seek to create a balanced, realistic approach to regional transportation spending. These strategies arise from recognition that transportation needs have to be prioritized due to limited resources. These needs are the result of a variety of transportation challenges, among them: growing population, aging infrastructure and requirements to preserve open space.

**Indicators** – there are 27 indicators by which to view NJTPA regional planning:

- **Age:** Age reflects the duration of life for persons in a particular area and the existence of various generations.
- **Annual Improvement Costs (Costs):** Strategies that seek to create a balanced, realistic approach to regional transportation spending.
- **Average Trip Distance:** The average distance in miles of residents' car journey to work.
- **Average Trip Time (to work):** Average Trip Time is the number of minutes it takes for an average trip.  
Bicycle Trail Density Regional bike trails region provide a "snap shot" of bike lanes and multi-use paths in the NJTPA region.
- **Bicycle Trail Density:** Regional bike trails region provide a "snap shot" of bike lanes and multi-use paths in the NJTPA region.
- **Brownfields:** The term "brownfield site" means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.
- **Emissions per Capita:** Amount of air pollutants produced by motor vehicles in the NJTPA region that have been measured at unhealthy levels either in the past and/or in the present: carbon monoxide (CO), ozone and fine particulate matter (PM2.5).



*NJTPA Planning Visualization Tools*

- **Employment Density:** Employment density is the total number jobs divided by the total area of a geography.(i.e. Jobs/Acre or Jobs/Square Mile).
- **Employment (Jobs):** Jobs are documented tasks, assignments, charges, duties, enterprises, functions, and works in which individuals get paid to perform.
- **Household Units:** A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room occupied, or intended for occupancy, as separate living quarters.
- **Housing Affordability:** A measurement of whether or not a typical family could qualify for a mortgage loan on a typical home. A value of 100 means that a family with the median income has exactly enough income to qualify for a mortgage on a median-priced home. An index above 100 signifies that family earning the median income has more than enough income to qualify for a mortgage loan on a median-priced home, assuming a 20 percent down payment. (**Source:** National Association of Realtors®.)
- **Impervious Surface:** Percentage of land area that is impervious, not allowing the passage of water.
- **Parks:** Percent of the area that is covered by designated local, state, or national parks.
- **Intersection Density:** The number of roadway intersections per square mile.
- **Job Centers:** Job centers are areas that contain an above average number of jobs.
- **Jobs-Housing Balance:** The ratio between the total number of jobs and the total number housing units within the proximity of a certain area.
- **Jobs-Housing Proximity:** The distance between residential areas and major employment centers.
- **Open Space:**
- **Parks:** Percent of the area that is covered by designated local, state, or national parks.
- **Population:** Total number of people in an area.
- **Proximity to Transit:** A count of the number of households that are within 1 mile of a rail station or ¼ mile of a bus stop. Other forms of transit, such as carpool and ferry, are also important but they are not included in this particular measurement.
- **Ridership:** The number of persons who ride a system of public transportation.
- **Transit Score:** Developed by NJ Transit, the Transit Score indicator reflects an area's household density, population density, employment density, and zero and one car household densities.
- **Travel Time by Mode (county level only):** The average number of minutes residents spend commuting to or from work, broken out by mode of travel (car, carpool, transit, or other).



*NJTPA Planning Visualization Tools*

- **VMT:** A measure of the amount of vehicular travel. One vehicle traveling the distance of one mile equals one VMT.
- **VMT per Capita:** Average number of miles per day that each resident travels by car. Calculated by dividing VMT by population.
- **VTD (Traffic):** Average vehicle trips per person per day. These are "single-ended" trips, so that for example traveling from home to work and back counts as two trips.
- **Zero-Car Household Density:** Density Zero-Car Household Density is a measure of auto ownership in an area, specifying the concentration of households (per square mile) that don't own any cars or own only one car.
- Amount of greenhouse gases produced by motor vehicles in the NJTPA region.



**References and Sources:**

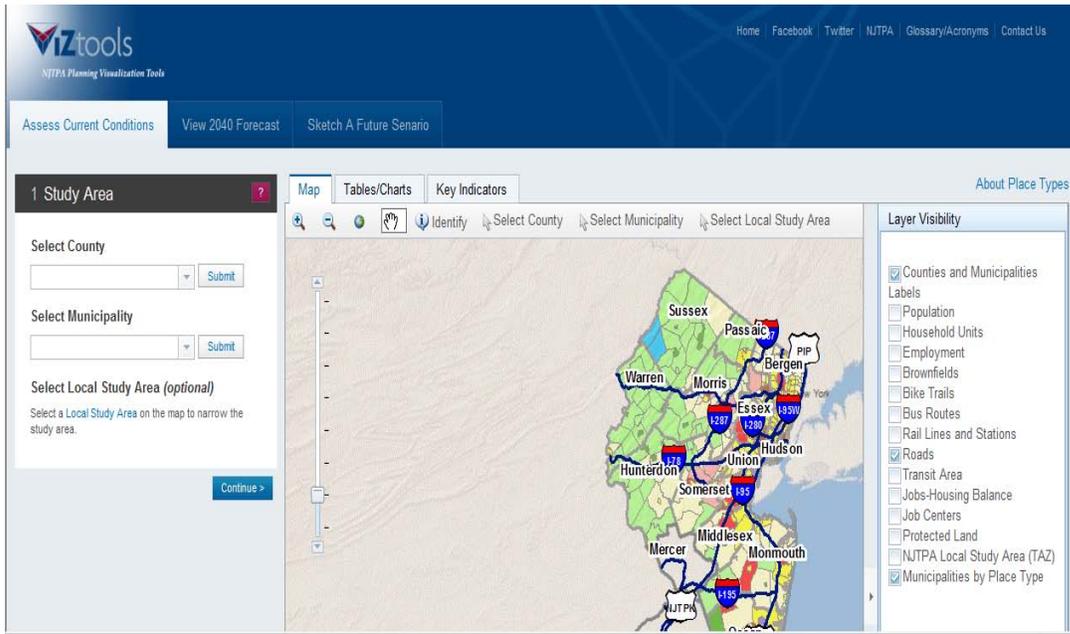
Text, photos, videos, and data on this site are from the North Jersey Transportation Planning Authority (NJTPA) unless otherwise noted.

Most data and map layers are sourced from the NJTPA Geoportal at: <http://geoportal.njtpa.org:8080/geoportal/catalog/main/home.page> and are updated quarterly or as data become available.

Refer to the "About Indicators" hyperlink on the ViZtools site for more information about specific data sources.

## Get Started – Take A Tour:

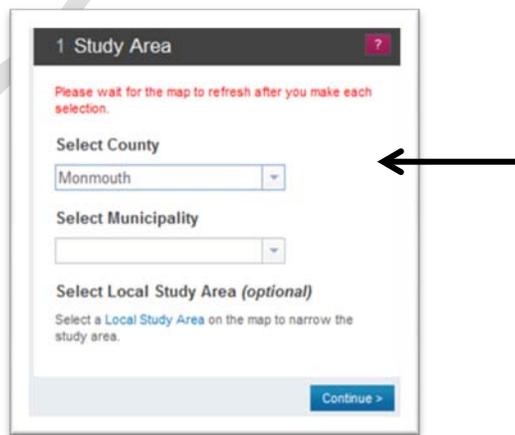
Click on the “Assess Current Conditions” logo button. View screen below.



### STEP 1: Select a STUDY AREA of your choice:

Select a county within the region.

Select a County from the drop down menu (accessed by clicking on the down arrow). The map will refresh.



To narrow your focus further, select a municipality within the county.

Select a municipality from the drop down menu (accessed by clicking on the down arrow). The map will refresh. Then click “Continue”.

Learn more about your study area by researching **PLACE TYPE**.

Your study area has an identified “Place Type”. Click on the “Place Type” hyperlink to view a Place Type information card. Select “x” in the top right corner of the information card to close the pop-up window.

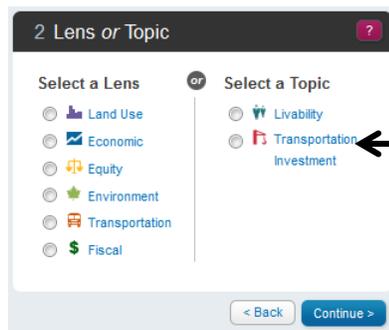
Example of a “Place Type” Information Card:



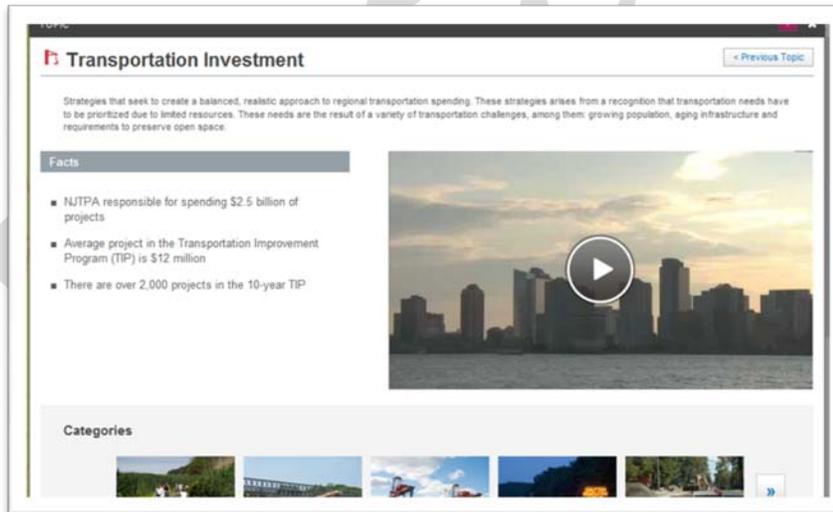
**STEP 2:** Learn more about your study area by using TOPIC and LENS tools:

Learn more about your study area by **TOPIC**. Choose one of two “Topics”:  
“Livability” or “Transportation Investment”.

To learn about, for example, Transportation Investment, click on the Topic name, “Transportation Investment” (hyperlink), to view that “Topic” information card. Select “x” in the top-right corner of the information card to close the pop-up window.



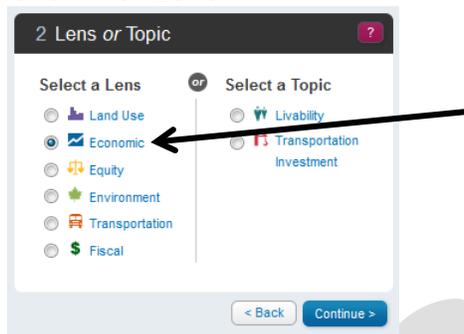
Example of a “Topic” Information Card (includes video clip):



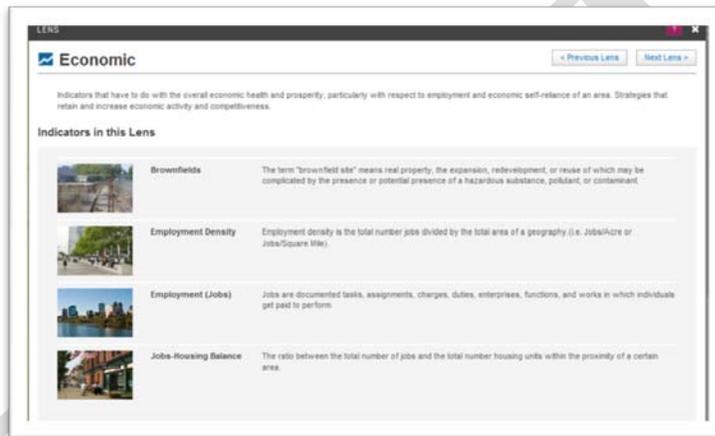
You can learn more and view facts about your study area through different **LENSES**.

Click on hyperlinks to view definitions of each “Lens” on a card. Select “x” in the top-right corner of the information card to close the pop-up window when done.

For example, click the “Lens” name, “Economic” (hyperlink), and you will view a “Lens” card with Indicators for this “Lens”.



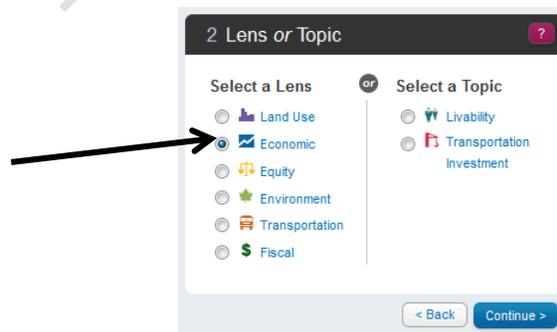
Example of a “Lens” Information Card:



**EXPLORE:**

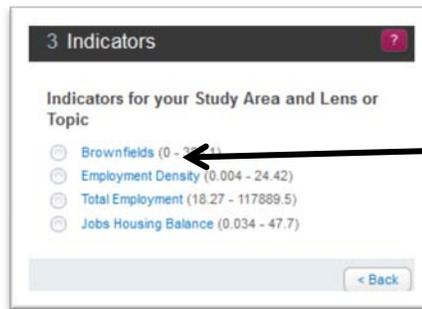
Now that you know more about Place Types, Lenses, and Topics, you can explore the tool further.

Click on the “radio” button for the “Lens” or “Topic” of your choice and hit “Continue”.

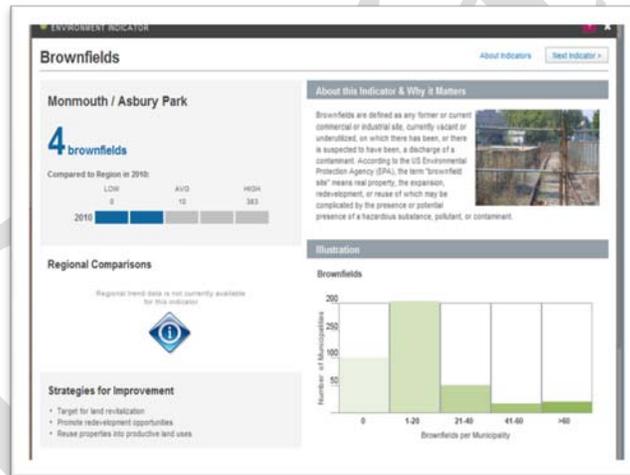


Once you click on the “radio” button for the “Lens” or “Topic” of your choice and hit “Continue”, a list of **INDICATORS** for your study area based on the “Lens” or “Topic” chosen in Step 2 will become visible.

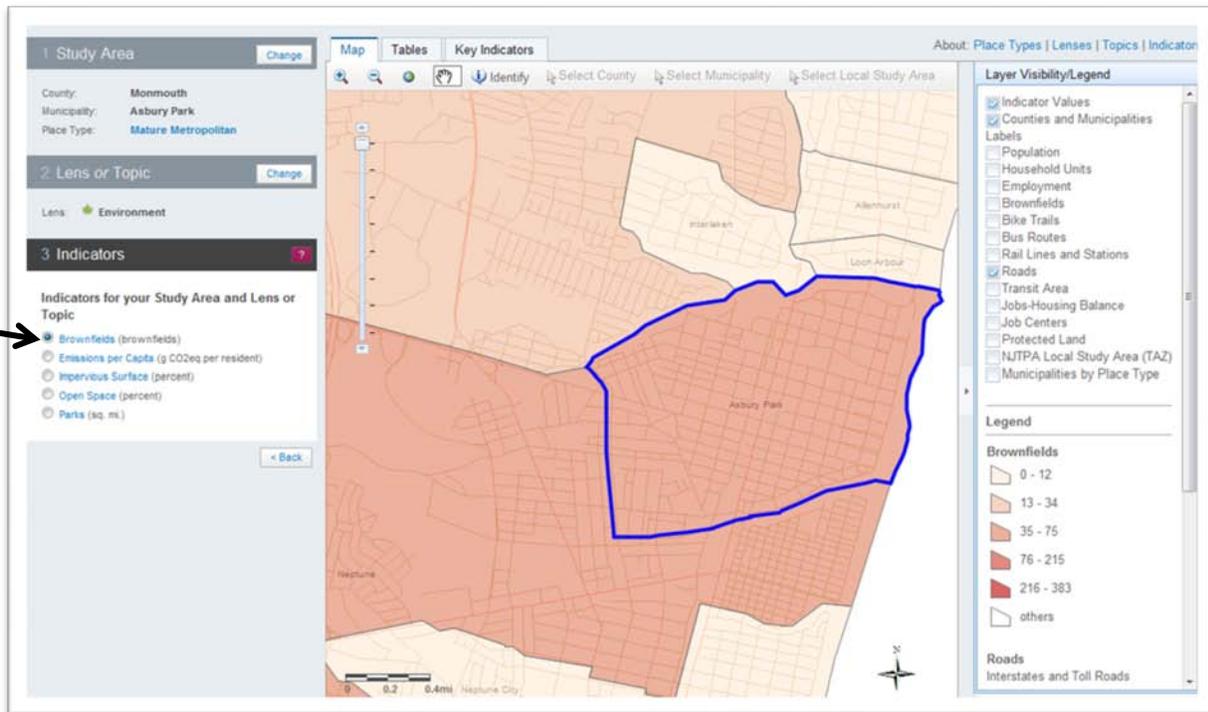
Select an “Indicator” name (hyperlink) to display an information card about that indicator. Successive selections will refresh the pop-up window content. Select “x” in the top-right corner of the information card to close the pop-up window.



Example of an “Indicator” Information Card:



Select one “Indicator” radio button to refresh the map with data for that indicator in your study area.



You will see that the map is automatically recolored. Areas with high numbers for that indicator have darker colors, while areas with low numbers have lighter colors. The areas shown are either represented as counties, municipalities, or local study areas, depending on the scale of the study area you have chosen.

Select the “Change” button for any previous step to return to that step and change viewing parameters.

**Once your tour is complete, go back and explore, try different places and different paths to learn about Current Conditions in the NJTPA region.**

**Explore other map reference layers:**

View the map.

- The “Layer Visibility” list can be used to activate different layers of information on the map. For example, if you want to view “Bike Trails” in the region, select that layer. The map and legend will refresh so that you can view identified bike trails. If you scroll down the legend bar, it will identify what each symbol represents in terms of numbers.
- The “Legend” identifies landmarks and boundaries.
- “Identify” lets you find out detailed information about particular features on the map.

Explore options to refine your search within a municipality:

To further refine the study area, select the highlighted link, “Local Study Area”. The map will refresh, and you will see local study area boundaries within the municipality. Use the mouse cursor to select a “Local Study Area” directly on the map. Hit “Continue”.

Select the tabs for “Map”, “Tables”, or “Key Indicators” to learn more about your “Local Study Area”.

Select a “Lens” or “Topic” and then select “Indicators” for your “Local Study Area” and “Lens” or “Topic” will provide data for your study area.

Study Area selections may also be made using the map tool bar immediately above the map, which also includes zoom and panning tools.

