

# What-If Tool User Guide

## Content

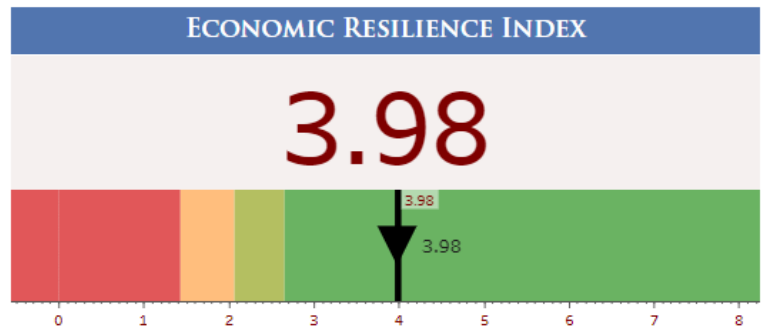
|   | Page |
|---|------|
| Dashboard sections                                    | 2    |
| Dashboard Economic Resilience Index Section Structure | 4    |
| Structure of Other Dashboard Sections                 | 5    |
| Using Dashboard                                       | 6    |

## Dashboard Sections

The dashboard window consists of six sections.

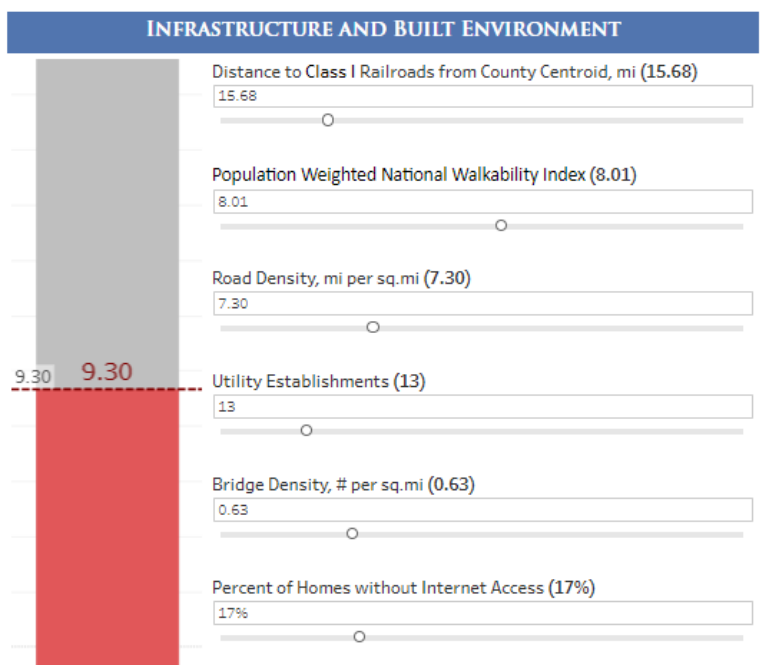
### 1. Economic Resilience Index.

The top section shows the overall Economic Resilience Index for the region. Economic Resilience Index is a derived metric based on infrastructure and built environment, human capital, social & political capital, labor characteristics, and financial capital factors.



### 2. Infrastructure and Built Environment Index

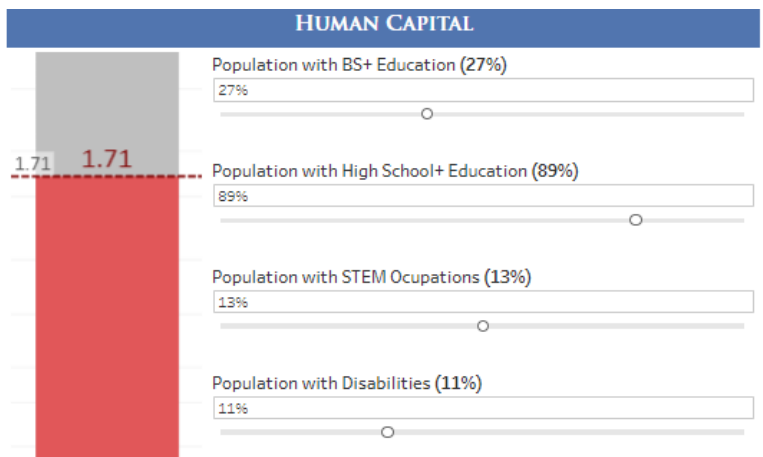
Infrastructure and built environment index is represented by six variables comprised of physical infrastructure such as roads and bridge density, proximity to railroads, presence of utility establishments, households without internet access, and availability of walkability infrastructure.



The index covers the presence and ease of access to the physical and digital infrastructure. All variables affect the resilience index positively except proximity to railroads and households without access to the internet because the lower the values of the two variables, the better it is for the economic resilience.

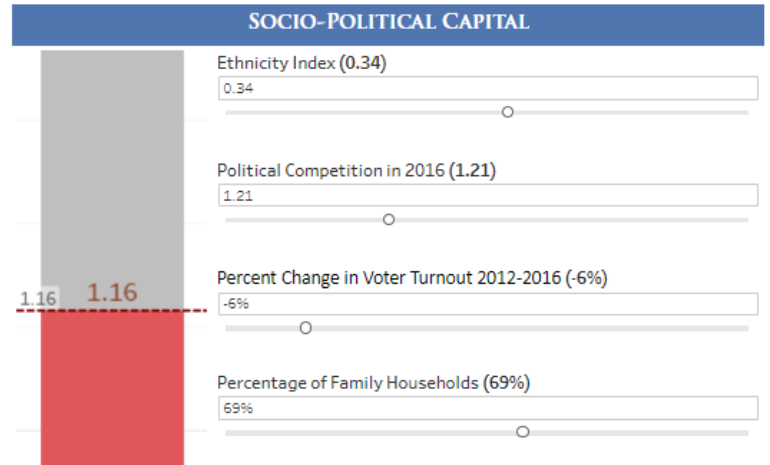
### 3. Human Capital Index

Human Capital is represented by four variables covering educational attainment at high school or above and bachelor’s level, availability of high-skilled technologically oriented occupations, and population with a physical disability. All variables affect the resilience index positively, which means increasing these variables enhances economic resilience.



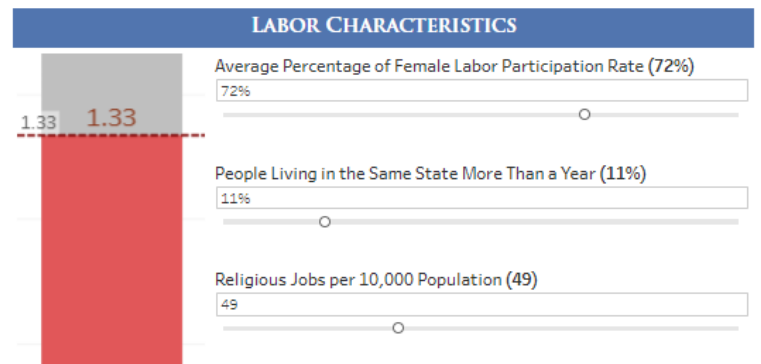
#### 4. Social and Political Capital Index

Social and Political Capital is represented by four variables varying from racial and ethnic diversity to political competition, voter participation, and enfranchisement, and proportion of the family-based households. All variables affect the resilience index positively except family-based households.



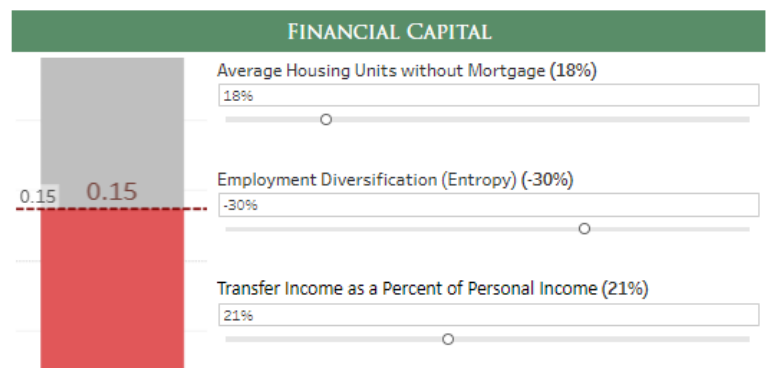
#### 5. Labor Characteristics Index

Labor Characteristics are represented by three variables ranging from female labor participation rate, geographic mobility within the same state, and jobs in the religious institutions. All variables affect the resilience index positively. All variables affect the resilience index positively, and increasing these variables should enhance economic resilience.



#### 6. Financial Capital Index

Financial Capital is represented by three variables ranging from housing units that are mortgage-free, infusion of transfer income (welfare, government support, social security, etc.) into the communities, and employment or industry diversification. All variables affect the economic resilience index positively.

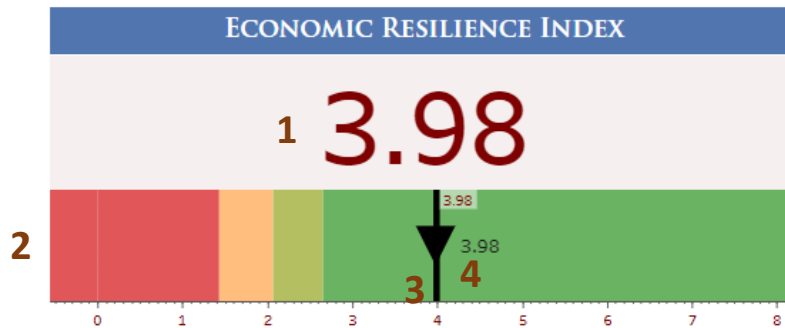


*Please note that while contributing to overall model during research calculations the Financial Capital Index is not directly connected to overall Economic Resilience Index on the dashboard. Therefore, changing parameters in Financial Capital setion will not affect the value of other indices as well as overall Economic Resilience Index.*

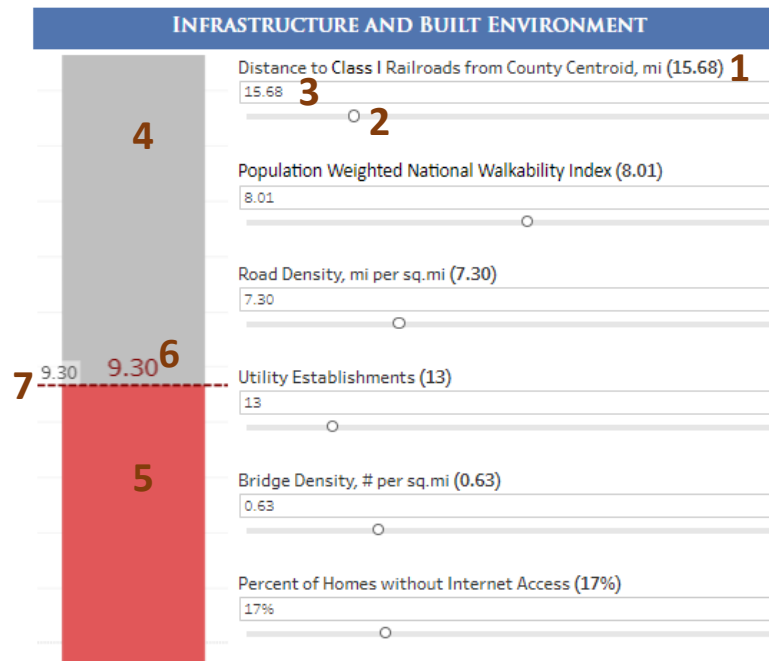
## Dashboard Economic Resilience Index Section Structure

Economic Resilience Index has the following components:

- **Numerical Index value** (1)
- **Bar with colored scale** that shows data quartiles (2). The minimum and maximum values of this index represent the range of values obtained from 250 counties in Midwest during the research. Black vertical line (3) shows the starting point, e.g. the value of current status of the region. Black triangle and black number next to it show the modified index value (4).



## Structure of Other Dashboard Sections



Each dashboard section except Economic Resilience Index has the following components:

- **Parameter controls on the right side.** Each parameter control has name, current state value in parenthesis (1), slider to modify the parameter (2) and window to show changed value (3). The minimum and maximum values of each parameter represent the range of values obtained from 250 counties in Midwest during the research.
- **Bar chart with Index value on the left side.** The grey bar represents the entire range of values for this index (4) that was calculated for 250 counties in Midwest during research stage. Colored bar represents the current index value (5). Above the colored bar, you will find the current index value (6). The dotted line shows the starting point, e.g. the value of current status of the region (7).

## Using Dashboard

In order to improve Economic Resilience of your region you can work with parameters in different sections of the dashboard.

When you move sliders (1) to change parameter value, you will see the following changes in the section:

- the index value will change (2)
- colored bar will change its size (3)

However, the dotted line will continue to show the starting point, e.g. the current status value (4).

As you move sliders and change parameters and sub-index value, the overall Economic Resilience Index in the top section of dashboard changes as follows:

- Numerical index value changes (5)
- Black triangle moves and black numerical value next to it changes as well (6).

To reset values of your dashboard to default values you will need to either move sliders to their original values indicated in parenthesis next to each parameter title (less accurate) or reload the entire webpage.

### USAGE NOTES:

- Some indices are dependent on other indices. For example, Human Capital Index incorporates Social and Political Capital Index. Changing parameters in Social and Political Capital section will affect not only the Social and Political Capital Index but Human Capital Index as well.
- Relationship between some input variables and index value may be negative. For example, increasing the Percentage of Population without Internet will decrease the Infrastructure and Built Environment Index.

