

Data Basics and Justice40 Information

Dream.org

Heron Bridge Education

Miami Climate Alliance

Leah Boher, MSI

9/19/2023

Table of Contents

Table of Contents	1
What is data?	2
What is primary data? What is secondary data?	2
What is GIS?.....	2
Notes on working with government data:.....	2
Data Usage	2
Data Formats	3
Citing Data	3
Data Analysis	4
Specific Datasets that may be of Assistance	4
• EPA EJSCREEN EJ Indices.....	4
• EPA EJSCREEN EJ Socioeconomic.....	4
• ACS Data Current.....	4
• Medically Underserved Status.....	4
• Designated Rural or urban status.....	5
• Contamination Locator Map.....	5
What is Justice40?	5
Interim Guidance	6
The White house has issued guidance on the Justice40 Initiative.....	6
• M-21-28 July, 20, 2021 Interim Implementation Guidance for the Justice40 Initiative.....	6
• M-23-09 January, 27, 2023 Addendum to the Interim Implementation Guidance for the Justice40 Initiative, M-21-28, on using the Climate and Economic Justice Screening Tool (CEJST).....	6
To what agencies does Justice40 apply?	6
Agencies with covered programs according to the most recent program list include:.....	6
• U.S. Army Corps of Engineers.....	6
• Corporation for National and Community Service.....	6
• Department of Agriculture.....	6
• Department of Commerce.....	6
• Department of Energy.....	6
• Department of Health and Human Services.....	6
• Department of Homeland Security.....	6
• Department of Housing and Urban Development.....	6
• Department of the Interior.....	6
• Department of Labor.....	6
• Department of State.....	6
• Department of Transportation.....	6
• Department of Veteran Affairs.....	6
• Environmental Protection Agency.....	6
• National Aeronautics and Space Administration.....	6

● National Science Foundation.....	6
● Small Independent Agencies.....	6
○ Appalachian Regional Commission.....	6
○ Delta Regional Authority.....	6
○ Denali Commission.....	6
To what programs does Justice 40 apply?.....	6
Agencies and Organizations Contributing to Justice40 Tools.....	6
● Environmental Protection Agency.....	6
● Census Bureau.....	6
● Department of Housing and Urban Development.....	6
● Department of Transportation.....	6
● Department of Energy.....	6
● Office of Energy Efficiency and Renewable Energy.....	7
● Office of Air and Radiation (Environmental Protection Agency).....	7
● Federal Emergency Management Agency.....	7
● Centers for Disease Control.....	7
● First Street Foundation.....	7
● Multi-Resolution Land Characteristics (MRLC).....	7
● Trust for Public Land.....	7
● American Forests.....	7
● Department of the Interior.....	7
● U.S. Army Corps of Engineers.....	7
● Bureau of Indian Affairs.....	7
What tools exist for the Justice40 efforts?.....	7
CEJST 1.0.....	7
● Data for Download at: https://screeningtool.geoplatform.gov/en/downloads	7
● CEJST 1.0 Technical Support Documentation.....	7
CEJST (Beta).....	8
ETC.....	8
DOT ETC Explorer Technical Documentation.....	8
DOT ETC Explorer Access Link.....	8
ETCE.....	9
DOE Energy Justice Dashboard.....	9
■ J40 DAC Data Descriptions and Technical Documentation.....	9
DOE Energy Justice Dashboard (Beta).....	11
■ Additional information about the DOE DACs definition can be found in the Energy Justice Dashboard (BETA) Resource Area and on the Justice40 Initiative page located at Energy Justice Dashboard (Beta) and FAQ Link.....	12
Justice40 Non-Specific Tools.....	12
Justice40 Accelerator.....	12
The Justice40 Accelerator provides a Featured Funding Opportunities Tool located here.....	12

EPA EJScreen..... 12

- Technical Documentation..... 14
- EJScreen Technical Document Appendix – October 2022..... 14

Notes

Data gathered from 5/13/2023-7/17/2023 and subject to change.

What is data?

Loosely speaking, Data is information in a format that is readable, processable, or transferable by some means. Data can then be broken down into types of data, analysis of data, and many other specific definitions including parameters that constrain that data.

Data in terms of government grants and applications may be numerical readings of measurements of an environmental criteria, demographics, indexed data (Justice40 Data Tools, CDC SVI Index, etc.), visual data, geographic data, or any combination of all of these data types. It is important when working with data to cite it properly and make your work with data replicable.

What is primary data? What is secondary data?

In research, Primary data are the original data derived from your research endeavors. Secondary data are data derived from your primary data. Often, the distinction between primary and secondary data may be less than clear ([Source](#)) The Internet makes secondary research significantly easier for researchers today. Many government agencies and educational institutions, for instance, make their data available online so researchers can easily download information for their use. ([Source](#))

Most of the data referenced in this resource is secondary data (most often from government agencies). This data should come with a data guide or citation of the original data or methodology of the creation of said data.

 Primary vs Secondary Sources

 Primary vs. Secondary Sources: The Differences Explained | Scribbr 

What is GIS?

Many of the datasets that factor into Justice40 categories are available through GIS tools. A geographic information system (GIS) is a system that creates, manages, analyzes, and maps data. ([Source](#)) **GIS enables us to put What (data) and Where (location) together** . GIS is important for the Justice40 Initiative there are several tools that combine their data with GIS systems for an interactive visual interface.

<https://www.youtube.com/playlist?list=PLRNNjIk9ArAoB33sEGs-cpenhxqMt2ywD>

 What Is GIS?

Notes on working with government data:

Data from government agencies may be limited or only available for a larger geographic area in some areas to insure anonymity of those surveyed. This will most likely be disclosed in the data methodology/practices/documentation.

Data Usage

Datasets may have requirements such as:

- A specific crediting phrase which must be included
- Limited use (not commercial)
- Other usage restrictions

When in doubt:

- Keep track of every data source you might use (even if you do not end up using it)
- URLs
- Names
- Parameters
- Anything else that may be useful

Include this in grant proposals

Credit the data source in one or all of the above:

- Bibliography
- Report of Findings
- URL
- Other means (potentially included in the literature accompanying the data)

When working with data make sure you read the accompanying documentation and are using it for permitted use cases.

Data Formats

There are many data types and file formats. Some formats are not compatible with all softwares. When working with your data be aware of the software to which you have access to and the file formats that are compatible with them. File size limitations may also be a problem. The documentation for the software you are using (Excel, Google Sheets, Canva, ArcGIS, etc.) will most likely contain this information. ([Source](#))

Citing Data

- IN PRACTICE ([Source](#)): A data citation should include, at the very least, the following elements:
 - **Author(s):** the creator(s) of the dataset, in priority order. May be an institution or person(s).
 - If extant, the creator should include a "nameIdentifier," such as an Open Researcher and Contributor ID ([ORCID](#)) or International Standard Name Identifier ([ISNI](#))
 - **Publication/Release date:** Whichever is the later of: the date the dataset was made available, the date all quality assurance procedures were completed, and the date the embargo period (if applicable) expired.
 - **Title:** the formal title of the data set
 - **Version:** the precise version of the data used. Careful version tracking is critical to accurate citation.
 - **Publisher/Archive/Distributor:** the organization distributing or hosting the data, ideally over the long term
 - **Identifier:** a unique string that identifies the resource; should be a persistent scheme such as a [DOI](#) (10.1234/8675309), handle, or [ARK](#) (www.example.org/ark:/12345/lucky777).

- **Access Date:** because data can be dynamic and changeable in ways that are not always reflected in release dates and versions, it is important to indicate when on-line data were accessed.
- For more information
 - [Library of Congress Citing Datasets](#)

Data Analysis

Data analysis as a discipline has a variety of applications, fields, and components. In a generalized definition, Data analysis involves taking primary or secondary data and analyzing the data for trends, reporting, or exploratory purposes. You can analyze data in a variety of formats using a wide array of softwares and methodologies.

▶ A Beginners Guide To The Data Analysis Process

▶ Data Analytics For Beginners | Introduction To Data Analytics | Data Analytics Using R | S...

▶ Introduction to Data Analysis with Excel: 2-Hour Training Tutorial

Specific Datasets that may be of Assistance

- EPA EJSCREEN EJ Indices
 - <https://ejscreen.epa.gov/mapper/>
 - <https://www.epa.gov/ejscreen/ejscreen-videos>
 - <https://www.epa.gov/ejscreen/learn-use-ejscreen>
 - <https://www.epa.gov/ejscreen/ejscreen-office-hours-training>
- EPA EJSCREEN EJ Socioeconomic
 - <https://ejscreen.epa.gov/mapper/>
 - <https://www.epa.gov/ejscreen/ejscreen-videos>
 - <https://www.epa.gov/ejscreen/learn-use-ejscreen>
 - <https://www.epa.gov/ejscreen/ejscreen-office-hours-training>
- ACS Data Current
 - <https://www.census.gov/programs-surveys/acs/data.html>
 - <https://www.census.gov/data/academy.html>
 - <https://www.census.gov/data/academy/topics/data-census-gov.html>
- Medically Underserved Status
 - The UDS Mapper has a MEDICALLY UNDERSERVED AREAS/POPULATIONS (MUA/PS) Layer (Info Retrieved 7.10.2023)
 - Description
 - Displays Medically Underserved Areas/Populations (MUA/Ps), which have been found to have a shortage of health services and may be urban or rural areas or population groups.
 - Data Source(s)
 - HRSA Data Warehouse (data.hrsa.gov), April 21, 2023

- Next Planned Update
 - June 15, 2023
 - Where It's Found in the UDS Mapper
 - Boundaries & Optional Layers Tool
 - <https://maps.udsmapper.org/map>
 - <https://udsmapper.org/tutorialsandresources/>
 - <https://udsmapper.org/tutorials/>
 - <https://support.udsmapper.org/hc/en-us>
- Designated Rural or urban status
 - <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>
 - [Rural Health Grants Eligibility Analyzer](#)
 - <https://data.hrsa.gov/tools/rural-health?tab=Address>
 - Health care providers who are located in geographic areas that are defined as Rural are eligible to apply for Rural Health Grants. Enter an address or choose a state and county to check for eligibility status.
 - Search by Address or State/County
- Contamination Locator Map
 - <https://prodenv.dep.state.fl.us/DepClnup>
 - Using the Florida Department of Environmental Protection's (DEP) Contamination Locator Map (CLM - "Clem") by specifying an address, a city or a zip code, you can use CLM to locate nearby sites that are currently under DEP's cleanup oversight. Using search criteria, CLM identifies sites by name, address, facility identification number, and cleanup status - active or pending.
 - For more information see: <https://floridadep.gov/waste>
- State of Florida health data by census tract or zip code.
 - [Community Health Assessment Resource Tool Set](#)
 - <https://www.flhealthcharts.gov/charts/default.aspx>
 - [Florida Health Charts Mapper](#)
 - <https://www.flhealthcharts.gov/ChartsReports/rdPage.aspx?rdReport=ChartsMaps.chartsMapper>
 - More data available
 - <https://www.floridahealth.gov/statistics-and-data/index.html>

What is Justice40?

On January 27, 2021, President Biden signed Executive Order 14008, which tasked a group of executive branch officials with developing recommendations for ensuring that 40% of the overall benefits of federal investments in climate-related programs flow to disadvantaged communities – the Justice40 Initiative (J40I). The J40I

does not include specifically earmarked funds but is rather a "whole-of-government approach" to advancing environmental justice and economic inclusion. ([Source](#))

Interim Guidance

The White house has issued guidance on the Justice40 Initiative

- [M-21-28 July, 20, 2021 Interim Implementation Guidance for the Justice40 Initiative](#)
- [M-23-09 January, 27, 2023 Addendum to the Interim Implementation Guidance for the Justice40 Initiative, M-21-28, on using the Climate and Economic Justice Screening Tool \(CEJST\)](#)

To what agencies does Justice40 apply?

Agencies with covered programs according to the [most recent program list](#) include:

- [U.S. Army Corps of Engineers](#)
- [Corporation for National and Community Service](#)
- [Department of Agriculture](#)
- [Department of Commerce](#)
- [Department of Energy](#)
- [Department of Health and Human Services](#)
- [Department of Homeland Security](#)
- [Department of Housing and Urban Development](#)
- [Department of the Interior](#)
- [Department of Labor](#)
- [Department of State](#)
- [Department of Transportation](#)
- [Department of Veteran Affairs](#)
- [Environmental Protection Agency](#)
- [National Aeronautics and Space Administration](#)
- [National Science Foundation](#)
- [Small Independent Agencies](#)
 - Appalachian Regional Commission
 - Delta Regional Authority
 - Denali Commission

To what programs does Justice 40 apply?

It is important to clarify that resources continue to be built upon and updated, the more recent program list is the [4/20/23 Covered Programs List](#). To see if this remains the most recent list see [this page](#).

Agencies and Organizations Contributing to Justice40 Tools

- Environmental Protection Agency
 - [Justice40 at EPA](#)
- Census Bureau
 - [Using Census Tools for Environmental Justice Training](#)
- Department of Housing and Urban Development
 - [HUD Pursuing Environmental Justice](#)
- Department of Transportation
 - [DOT Justice40 Initiative](#)

- Department of Energy
 - [DOE Justice40 Initiative](#)
- Office of Energy Efficiency and Renewable Energy
 - [DOE Justice40 Initiative](#)
- Office of Air and Radiation (Environmental Protection Agency)
 - [Justice40 at EPA](#)
- Federal Emergency Management Agency
 - [FEMA Strategic Plan pertaining to Justice40](#)
- Centers for Disease Control
 - [Department of Health and Human Services Justice40](#)
- First Street Foundation
 - [First Street Foundation](#)
- Multi-Resolution Land Characteristics (MRLC)
 - [Multi-Resolution Land Characteristics \(MRLC\) Consortium](#)
- Trust for Public Land
 - [Trust for Public Land](#)
- American Forests
 - [American Forests](#)
- Department of the Interior
 - [DOI Justice40](#)
- U.S. Army Corps of Engineers
 - [USACE Environmental Justice](#)
- Bureau of Indian Affairs
 - [DOI Justice40](#)

What tools exist for the Justice40 efforts?

[CEJST 1.0](#)

Launched on November, 22, 2022, The purpose of the tool is to help Federal agencies identify disadvantaged communities that are marginalized, underserved, and overburdened by pollution. Communities that are disadvantaged live in tracts that experience burdens.

The current version of the tool provides socioeconomic, environmental, and climate information to inform decisions that may affect these communities. The tool identifies disadvantaged communities through publicly-available, nationally-consistent datasets. The CEJST will be updated on an annual basis, generally with the start of each Federal Fiscal Year in the fall. The CEJST will be continuously updated and refined based on feedback and as new datasets and research become available. ([Source](#))

The current version of the tool is in a 1.0 version and will be updated based on feedback and research.

The tool utilizes the census tract boundaries from 2010. This was chosen because many of the data sources in the tool currently use the 2010 census boundaries.

- [Data for Download at: https://screeningtool.geoplatform.gov/en/downloads](https://screeningtool.geoplatform.gov/en/downloads)
- [CEJST 1.0 Technical Support Documentation](#)

Data Limitations

- Geography
 - Uses 2010 Census Tract Shapefiles for All U.S. states, the District of Columbia, and U.S. territories

[CEJST \(Beta\)](#)

No longer recommended for use. The beta version of the methodology and data was used during the public beta period to get feedback on the tool from Feb 18, 2022 - Nov 22, 2022. Available [here](#) for download.

[ETC](#)

In January 2022, in support of the Justice40 Initiative, the Department of Transportation (Department) developed the Transportation Disadvantaged Census Tracts (Historically Disadvantaged Communities) tool which the Department is currently proposing to update and rebrand as the United States Department of Transportation (USDOT) Equitable Transportation Community (ETC) Explorer.

The tool is an interactive web application that explores the cumulative burden disadvantaged communities experience resulting from underinvestment in transportation in the areas of Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability.

It is designed to be effective in helping increase the understanding of how communities are experiencing transportation disadvantage at the local level. The Explorer uses newly available 2020 Census Tracts and data, adds additional indicators reflective of disadvantage related to lack of transportation investment and updates its methodology. In the Explorer individual indicators and datasets are combined to create a score for each component (Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability).

[DOT ETC Explorer Technical Documentation](#)

[DOT ETC Explorer Access Link](#)

The tool reflects the data in multiple ways.

- ETC Explorer- National Results - is an interactive dashboard to allow users the ability to understand how a community or project area is experiencing transportation disadvantage compared to all other Census Tracts nationally across the five disadvantage component areas and forty indicators used to develop the five components. Popup Databoxes provide more specific data on Transportation Insecurity for each Census Tract.
- ETC Explorer- State Results - is an interactive dashboard to allow users the ability to understand how a community or project area is experiencing transportation disadvantage compared to all other Census Tracts within a state across the five disadvantage component areas and forty indicators used to develop the five components. Popup Databoxes provide more specific data on Transportation Insecurity for each Census Tract.
- Transportation Insecurity Analysis Tool (TIAT) - The Transportation Insecurity Analysis Tool visually displays the raw data for a select group of indicators at the state or national level, that reflect transportation insecurity. This application is an interactive mapping tool to understand where transportation insecurity is most acute in communities across the country. This technical document provides an in-depth explanation of the data and techniques used to select the indicators and construct the indices.

[ETCE](#)

No longer recommended for use, unless you are using this tool to respond to a Notice of Funding Opportunity that directed you to this site, they encourage you to instead use USDOT's updated disadvantaged communities tool - [USDOT Equitable Transportation Community \(ETC\) Explorer \(arcgis.com\)](#).

- [Historic Guidance on Use of Tool](#)

[DOE Energy Justice Dashboard](#)

This tool is intended to allow users to explore and produce reports on census tracts that the U.S. Department of Energy (DOE) has categorized as disadvantaged communities, or DACs, pursuant to Executive Order (EO) 14008 - Tackling the Climate Crisis at Home and Abroad.

There are thirty-six (36) burden indicators that reflect:

- fossil dependence
- energy burden
- environmental and climate hazards
- socio-economic vulnerabilities

The characterization of DACs was created using data at the census tract level. There are 73,056 census tracts in the U.S., excluding U.S. territories. DOE's working definition of disadvantage is based on cumulative burden. To be considered a DAC, a census tract must rank in the 80th percentile of the cumulative sum of the 36 burden indicators and have at least 30% of households classified as low-income. Additionally, federally recognized tribal lands and U.S. territories, in their entirety, are categorized as DACs in accordance with OMB's Interim Guidance "common conditions" definition of community.

Data Sources Descriptions

- American Community Survey (ACS) 5-year estimates, 2015-2019
- Longitudinal Employer-Household Dynamics (LEHD) Survey
- EPA Environmental Justice Screening Tool (EJScreen)
- Census Tract - City Place Relationship Table
- Low-Income Energy Affordability Data (LEAD) Tool
- Current Employment Statistics (CES)
- Electric Emergency Incident and Disturbance Report
- Food Access Research Atlas Data
- Housing and Transportation Affordability Index (H+T® Index)
- Indicators of Broadband Need Map
- USA Parks geodatabase
- Continuum of Care GIS Tools, 2019
- LMISD - All Block Groups, Based on 2011-2015 ACS
- FEMA National Risk Index (NRI), 2020
- [J40 DAC Data Descriptions](#) and [Technical Documentation](#)
 - This documentation breaks down the DOE Categories by the following groups:
 - Energy Burden (5)

- Environmental and Climate Hazards (10)
- Socio-economic Vulnerabilities (19)
- Fossil Dependence (2)
- Informational and Computed Values
- Geographic
- This documentation also provides:
 - Description
 - Definition
 - Variable Name (Short)
 - Source
 - Agency
 - Dataset
 - Years of Data Collection
- Breakdown of Categories
 - Energy Burden (5)
 - Energy Burden
 - Non-grid connected heating fuel
 - Outage Duration
 - Outage Events
 - Transportation Costs
 - Environmental and Climate Hazards (10)
 - Cancer Risk
 - Climate Hazards Loss of Life Estimates
 - Diesel
 - Homes Built Before 1960
 - NPL Proximity
 - PM25
 - RMP Proximity
 - Traffic Proximity
 - TSDF Proximity
 - Water Discharge
 - Socio-economic Vulnerabilities (19)
 - >30 min commute
 - Disabled Population
 - Food Desert
 - Homelessness
 - Housing Costs
 - Incomplete Plumbing
 - Internet Access
 - Job Access
 - Less HS Education
 - Linguistic Isolation
 - Note: The CEJST Tool Removed this for Puerto Rico due to feedback of their Beta Tool
 - Low Income Population
 - Mobile Home

- No Vehicle
 - Parks
 - Population 65+
 - Renters
 - Single Parent
 - Unemployed
 - Uninsured
 - Fossil Dependence (2)
 - Coal Employment
 - Fossil Energy Employment
- Informational and Computed Values
 - DAC Score
 - DAC Status
 - Low Income Population
 - National Ranking
 - Population
 - State Ranking
- Geographic
 - CBSA Name
 - Census Tract FIPS Code
 - City
 - Core-Based Statistical Area
 - County FIPS Code
 - County Name
 - State Abbreviation Code
 - State FIPS Code
 - State Full Name

DOE Energy Justice Dashboard (Beta)

Not be confused with the DOE Energy Justice Dashboard, The Energy Justice Dashboard (BETA) is a pilot data visualization tool that displays DOE-specific investments in communities across the country

- The Dashboard displays
 - DOE cost data
 - Grants
 - Cooperative agreements
 - Contracts
 - Data from more than twenty-five DOE program offices, for the fiscal years 2019 to present.
- The Energy Justice Dashboard (BETA) uses:
 - Environmental indicators from the U.S. Environmental Protection Agency's iconic EJSCREEN tool (Version 1.0)
 - Energy burden using data from DOE's Low-Income Energy Affordability Data (LEAD) Tool
 - US Department of Education, 2020 Eligibility Matrix. Retrieved May 18, 2021
 - US Census Tract Boundaries (2010)

- Provisional COVID-19 Death Counts in the United States by County Retrieved September 14th, 2022

The DOE working definition for DACs includes data for thirty-six (36) indicators collected at the census tract level that each represent a distinct dimension of disadvantage.

These indicators can be grouped across the following categories

- Fossil Dependence (2)
 - Energy Burden (5)
 - Environmental and Climate Hazards (10)
 - Vulnerability (socioeconomic, housing burden, transportation burdens, etc.) (19)
- Additional information about the DOE DACs definition can be found in the Energy Justice Dashboard (BETA) Resource Area and on the Justice40 Initiative page located at [Energy Justice Dashboard \(Beta\)](#) and [FAQ Link](#).

Justice40 Non-Specific Tools

Justice40 Accelerator

The Justice40 Accelerator provides a Featured Funding Opportunities Tool located [here](#).

Note: The Justice40 Accelerator is not affiliated with the Biden Administration. The Justice40 Accelerator is completely independent of the federal Justice40 Initiative. It is designed, however, to support Black and historically disinvested communities of color in having greater access to government funding opportunities. Funding for the Justice40 Accelerator is provided by private philanthropic organizations, including but not limited to Builders Initiative, JPB Foundation, David & Lucille Packard Foundation, and The Solutions Project.

[EPA EJScreen](#)

EJScreen is EPA's environmental justice (EJ) screening and mapping tool that utilizes standard and nationally-consistent data to highlight places that may have higher environmental burdens and vulnerable populations. The tool offers EJ indexes by combining environmental and demographic indicators in basic geographic units of Census block groups. The tool also provides a variety of powerful data and mapping capabilities that enable users to access environmental and demographic information across the entire country, at high geographic resolution, displayed in color-coded maps and standard data reports. The geographic framework for EJScreen was built from 2020 Census TIGER/Line data for all 50 states, the District of Columbia, and Puerto Rico. EPA annually updates EJScreen with the newest datasets available and improvements to the interface. For more information on the updates to EJScreen over time, visit the EJScreen Change Log.

EJScreen uses socioeconomics indicators as very general indicators of a community's potential susceptibility to the types of environmental factors included in EJScreen. There are seven socioeconomic indicators featured in EJScreen.

These indicators form the basis for both the demographic index and the supplemental demographic index:

- People of color:

- The percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word "alone" in this case indicates that the person is of a single race, not multiracial.
- Low-income:
 - The percent of a block group's population in households where the household income is less than or equal to twice the federal "poverty level."
- Unemployment rate:
 - The percent of a block group's population that did not have a job at all during the reporting period, made at least one specific active effort to find a job during the prior four weeks, and were available for work (unless temporarily ill).
- Limited English speaking household:
 - A "limited English speaking household" is one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well." In other words, all members 14 years old and over have at least some difficulty with English.
- Less than high school education:
 - Percent of people age 25 or older in a block group whose education is short of a high school diploma.
- Under age 5:
 - Percent of people in a block group under the age of 5.
- Over age 64:
 - Percent of people in a block group over the age of 64.

This section describes the environmental indicator data used in EJScreen. Some of these environmental indicators quantify proximity to and the numbers of certain types of potential sources of exposure to environmental pollutants, such as nearby hazardous waste sites or traffic. The lead paint indicator indicates the presence of older housing, which often, but not always, indicates the presence of lead paint, and therefore the possibility of exposure. In some cases, the term "exposure" is used very broadly here to refer to the potential for exposure. Other indicators in EJScreen are estimates of ambient levels of air pollutants, such as PM 2.5, ozone, and diesel PM. Still others are actual estimates of air toxics-related cancer risk or a hazard index (HI), which summarizes the ratios of ambient air toxics levels to health-based reference concentrations. In other words, these environmental indicators vary widely in what they indicate.

EJScreen contains these 12 environmental indicators:

- PM 2.5
 - PM 2.5 levels in air measured using an annual average.
- Ozone
 - Ozone summer seasonal average of daily maximum 8-hour concentration in air.
- Diesel PM
 - Diesel PM level in air.
- Air toxics cancer risk

- Lifetime cancer risk from inhalation of air toxics.
- Air toxics respiratory HI
 - Ratio of exposure concentration to health-based reference concentration.
- Traffic proximity and volume
 - Count of vehicles (annual average daily traffic [AADT]) at major roads within 500 meters, divided by distance in meters (not kilometers [km]).
- Lead paint
 - Percent of housing units built before 1960.
- Superfund proximity
 - Count of proposed and listed NPL sites within 5 km (or nearest one beyond 5 km), each divided by distance in km. Count excludes deleted sites.
- RMP facility proximity
 - Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in km.
- Hazardous waste proximity
 - Count of hazardous waste management facilities (TSDFs and LQGs) within 5 km (or nearest one beyond 5 km), each divided by distance in km.
- Underground storage tanks (UST) and leaking UST (LUST)
 - Count of LUSTs (multiplied by a factor of 7.7) and the number of USTs within a 1,500- foot buffered block group.
- Wastewater discharge
 - RSEI modeled Toxic Concentrations at stream segments within 500 meters, divided by distance in km.

EJScreen includes two demographic indexes based on different variations of the socioeconomic indicators. The two demographic indexes featured in EJScreen are:

- Demographic Index is based on the average of two demographic indicators: percent low-income and percent people of color.
- Supplemental Demographic Index is based on the average of five socioeconomic indicators: percent low-income, percent limited English speaking, percent less than high school education, percent unemployed, and low life expectancy.

The supplemental indexes are a combination of environmental indicators described above and the Supplemental Demographic Index. Similar to the EJ Indexes, EJScreen features a single supplemental index for each of the 12 environmental indicators.

- Supplemental Index Calculations: To calculate a single supplemental index, EJScreen combines a single environmental indicator with the Supplemental Demographic Index. Supplemental Index = Supplemental Demographic Index x Normalized Environmental Indicator where Normalized Environmental Indicator is Percentile of Environmental Indicator Source Data
- [Technical Documentation](#)
- [EJScreen Technical Document Appendix – October 2022](#)