

Environmental Justice Index User Guide

2019-2023 AMERICAN COMMUNITY SURVEY EDITION
NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS



What is NCTCOG?

The **North Central Texas Council of Governments** (NCTCOG) is a voluntary association of, by, and for **local governments** within the 16-county North Central Texas Region. The agency was established by state enabling legislation in 1966 to assist local governments in **planning** for common needs, **cooperating** for mutual benefit, and **coordinating** for sound regional development. Its purpose is to strengthen both the individual and collective power of local governments, and to help them recognize regional opportunities, resolve regional problems, eliminate unnecessary duplication, and make joint regional decisions – as well as to develop the means to implement those decisions.

North Central Texas is a 16-county **metropolitan region** centered around Dallas and Fort Worth. The region has a population of more than 7 million (which is larger than 38 states), and an area of approximately 12,800 square miles (which is larger than nine states). NCTCOG has 229 member governments, including all 16 counties, 169 cities, 19 independent school districts, and 25 special districts.

NCTCOG's **structure** is relatively simple. An elected or appointed public official from each member government makes up the **General Assembly** which annually elects NCTCOG's **Executive Board**. The Executive Board is composed of 17 locally elected officials and one ex-officio non-voting member of the legislature. The Executive Board is the policy-making body for all activities undertaken by NCTCOG, including program activities and decisions, regional plans, and fiscal and budgetary policies. The Board is supported by policy development, technical advisory and study **committees** – and a professional staff led by **R. Michael Eastland**, Executive Director.

NCTCOG's offices are located in Arlington in the Centerpoint Two Building at 616 Six Flags Drive (approximately one-half mile south of the main entrance to Six Flags Over Texas).



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NCTCOG's Department of Transportation

Since 1974 NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation for the Dallas-Fort Worth area. NCTCOG's Department of Transportation is responsible for the regional planning process for all modes of transportation. The department provides technical support and staff assistance to the Regional Transportation Council and its technical committees, which compose the MPO policy-making structure. In addition, the department provides technical assistance to the local governments of North Central Texas in planning, coordinating, and implementing transportation decisions.

Prepared in cooperation with the U.S. Department of Transportation (Federal Highway Administration and Federal Transit Administration) and the Texas Department of Transportation. The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation.

Table of Contents

About the Environmental Justice Index	1
Methodology.....	1
Environmental Justice Index Variables	2
Displaying the Results	3
Supplemental Layers	4
Calculating the Ratio to Regional Percentage	5
Applications for Equity Analysis, Planning, or Outreach	6
Data Dictionary	8
Changes Between Editions of the Environmental Justice Index.....	16
Conclusions.....	17
Benefits of Using the Environmental Justice Index.....	17
Limitations of the Environmental Justice Index	17
Data Sources	18

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About the Environmental Justice Index

Executive Order 12898 defines environmental justice populations as low-income and minority groups. This rule states that federally funded agencies must identify and address disproportionately high and adverse impacts of their programs, policies, and activities on environmental justice populations.

In addition, Executive Order 13985, signed on January 20, 2021, requires the federal government to pursue a comprehensive approach to advancing equity. Equity is defined as “the consistent and systematic fair, just, and impartial treatment of all individuals,” including people of color, religious minorities, LGBTQ+ persons, people with disabilities, people who live in rural areas, and people “otherwise adversely affected by persistent poverty or inequality.” This order may affect how equity is addressed in transportation planning in the future.

The Environmental Justice Index is a method to identify environmental justice populations using demographic data at the Census block group level. The method was developed by the North Central Texas Council of Governments (NCTCOG). Block groups displayed as either yellow, blue, or green are above the regional percentage of low-income individuals, total minority populations, or both, respectively. When the population density supplemental layer is used, darker shades of each color indicate higher population density.

The Environmental Justice Index map on page 3 is meant to identify where further analysis is needed and is not meant to act solely as the analysis itself. The scope and specific needs of your project should be examined when determining the appropriate criteria for further analysis. Data for the index is based on American Community Survey (ACS) 5-Year Estimates. The map can be accessed in two formats: online or using geographic information systems (GIS). Online users can view data by clicking on the interactive map. GIS users can download the data from the online site www.nctcog.org/ej.

Methodology

To identify environmental justice (EJ) populations, a regional percentage is calculated for the Low-Income and Total Minority variables by summing the number of individuals who meet the definition of each of these EJ variables and dividing this number by the known total population, or universe, for each variable. Block groups are then shown as above the regional percentage, or equal to or below the regional percentage for either one or both EJ variables. Population density is provided as a supplemental layer, resulting in darker shades of each color, indicating higher population density as a secondary consideration. A dot density layer is also available that shows dots that each represent 250 individuals (for layers representing individuals) or 100 households (for layers representing households) within each block group that meet the definition of each EJ variable.

In addition to layers that flag block groups above the regional percentage for minority and low-income, users may download the Environmental Justice Index (EJI) data from the website to

access additional demographic information through the EJI feature class's attribute table. (Note: This requires GIS software to open.) The attribute table has absolute numbers of individuals/households for each EJ variable listed below. It also contains fields that represent the percent of the total population in each block group for each EJ variable.

Environmental Justice Index Variables

Total Minority Populations

The Total Minority variable describes the percentage of total minority persons in the block group. Racial or ethnic minority groups that are included in the Total Minority variable for the Environmental Justice Index (EJI) include:

- American Indian or Alaska Native Race
- Asian Race
- Black or African American Race
- Hispanic or Latino Ethnicity
- Native Hawaiian or Other Pacific Islander Race
- Some Other Race (non-white)
- Two or More Races (could include white)

Total Minority is the sum of the number of individuals who are Hispanic or Latino and the number of non-Hispanic and non-Latino individuals who identify as one of the above minority race categories. This prevents double-counting of Hispanics or Latinos who also identified themselves as a race or races other than white. Each block group is displayed as either above or below/equal to the regional percentage for Total Minority.

Low-Income Populations

The Low-Income variable is the percentage of persons whose household income is below the Department of Health and Human Services poverty level. The Department of Health and Human Services does not provide spatial data associated with the number of people below the poverty level; therefore, ACS data must be used. The poverty threshold used by ACS may be less inclusive than the Department of Health and Human Services poverty level in some years and/or in some household sizes. Therefore, the EJI uses as a low-income threshold 125 percent of the ACS poverty level. This poverty threshold was used by NCTCOG for the first time with the 2013-2017 ACS edition of the EJI. Therefore, comparisons of low-income populations can be made between the 2013-2017 ACS edition and the 2019-2023 ACS edition, but comparisons should not be made with earlier editions of the EJI.

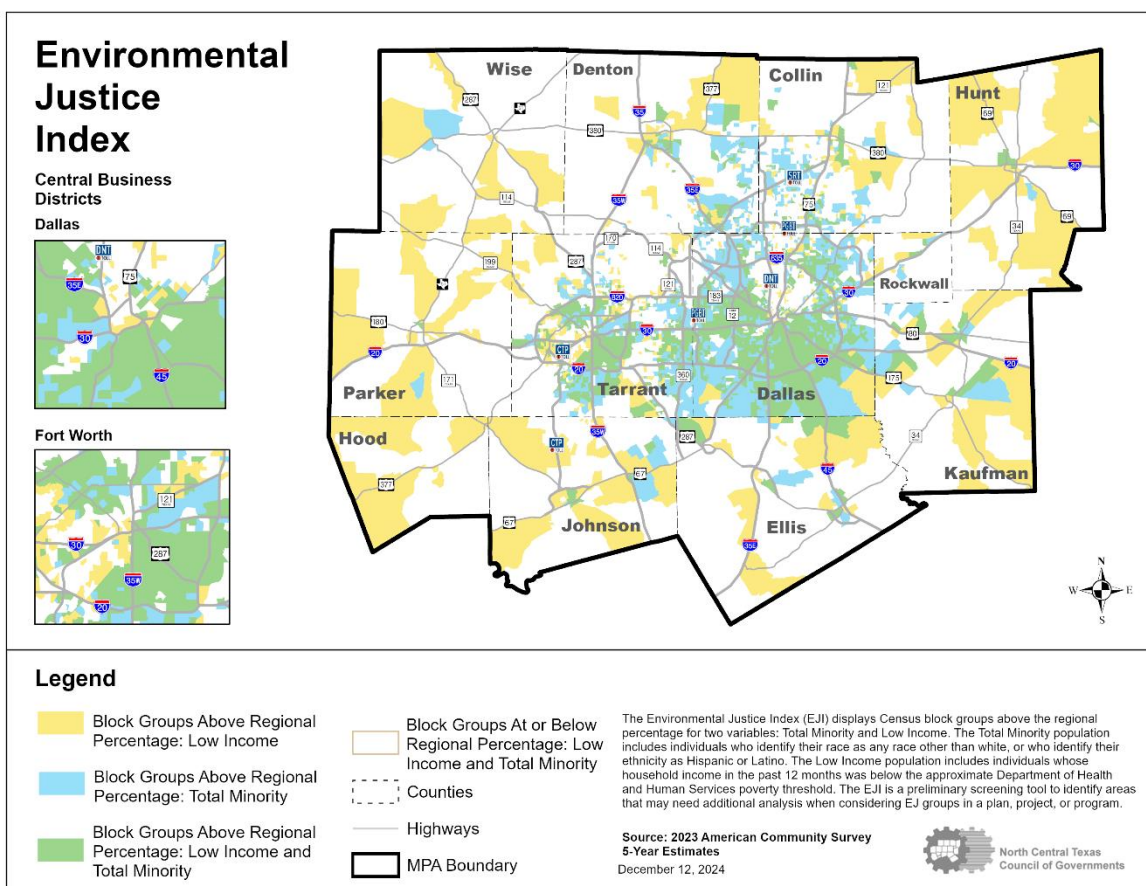
To establish the percentage of persons below the poverty level, the number of persons whose household income in the past 12 months fell below 125 percent of the ACS poverty level was divided by the total population for whom poverty status is determined. Percentages were calculated in this way because poverty status is not established for the region's total population; percentages could be underestimated had total population been used in the calculation. Each block group is displayed as either above the regional percentage or below/equal to the regional percentage for low-income.

Displaying the Results

The EJI was designed to represent block groups above the regional percentage for one or both EJ variables using an intuitive combination of colors.

Indicator	Block Group Percentage Relationship to EJ Variable Regional Percentage
No color	≤ Regional Percentage for Both Variables
Yellow	≤ Regional Percentage for Total Minority and > Regional Percentage for Low-Income
Blue	≤ Regional Percentage for Low-Income and > Regional Percentage for Total Minority
Green	> Regional Percentage for Both Variables

GIS users should not change the colors used in the EJI maps to ensure consistent data interpretation.



Supplemental Layers

Additional layers are available to supplement the EJI. These layers are not all federally mandated as EJ populations but can add value to analyses. These variables include:

- **Population Density:** Population density is defined as the number of people per square mile (sq. mi.) in a block group. To determine the density of each block group, the total population was divided by the total land area of the block group.¹ The population density supplemental layer is displayed as shades of gray that are visible beneath the Low-Income and Total Minority block groups. Block groups with relatively low population densities are displayed as lighter shades of gray; as population density increases, the shades of gray get darker.
- **Dot density:** Dot density layers use dots on the map to show the total individuals or households that reside within a given block group. Each dot represents 250 people (for layers representing individuals) or 100 households (for layers representing households). Areas with many dots indicate high concentrations of the given EJ variable; areas with fewer dots indicate lower concentrations. The dots are generated at the block group level and randomly distributed within each block group; users should be advised that the location of dots within each block group does not exactly correspond to the location of the population it represents.
- Individual “total” racial groups, including Some Other Race and Two or More Races
- Hispanic or Latino ethnicity
- Age 65 and Over Population
- People with Disabilities (only available at the Census Tract level)
- Zero-Car Households
- Female Head of Household (any household with children under 18 years of age and no husband present)
- Households without Internet Access at Home
- Limited English Proficient (LEP) Populations (individuals who speak English less than “very well”):
 - Total LEP Population
 - Spanish Languages LEP Population
 - Asian Languages LEP Population
 - Other Indo-European Languages LEP Population
 - Other Languages LEP Population

The “total” racial groups differ from the racial groups summed to create the Total Minority variable. The “total” racial groups include individuals who identify themselves *only* as a non-white race, plus individuals who identify themselves as *both* that race *and* identify their ethnicity as Hispanic or Latino.

GIS users should not change the symbology for population density so the consistency of maps displaying the EJI is maintained; however, they may change the symbology of the other supplemental layers. Users should also use caution when changing symbology of dot density

¹ Total land area is acquired from Census Bureau TIGER/Line shapefiles, which are usually available each August. The TIGER shapefile for the last year in the range for ACS data should be used. For example, for the 2015-2019 5-Year Estimates, the 2019 TIGER shapefiles were used.
https://www2.census.gov/geo/pdfs/maps-data/data/tiger/How_do_I_choose_TIGER_vintage.pdf

layers, as the number of individuals or households per dot will no longer be directly comparable to other layers.

Pre-made legend content is available for NCTCOG staff using the EJI. Legends will be available for the base map and for the base map overlaid with population density – for the latter, the legend will show graduated shades indicating increasing population density. The contents of these legends have been converted to graphics so users can incorporate them into their own maps. Users should ensure that they also include text describing the EJI and the source information. For access to the legend, please contact NCTCOG EJ staff.

Layer	Regional Percentage
Total Black or African American	16.11%
Total American Indian or Alaska Native	0.60%
Total Asian	7.78%
Total Native Hawaiian or Other Pacific Islander	0.11%
Hispanic or Latino	29.29%
Total Some Other Race	7.98%
Total Two or More Races	14.5%
Total Minority*	56.7%
Low-Income/Below Poverty	14.02%
Persons with Disabilities	10.13%
Age 65 and Over	11.97%
Female Head of Household	8.03%
Zero Car Households	4.7%
LEP Total	11.1%
LEP Spanish	8.24%
LEP Asian Language	1.61%
LEP Other Indo-European Language	0.79%
LEP Other Language	0.46%
Households with No Internet Access at Home	5.37%

Calculating the Ratio to Regional Percentage

A ratio comparing the block group's relation to the regional percentage exists for each EJ variable and supplemental layer. This ratio offers data that can provide additional information during EJ analyses. The ratio is calculated by dividing the block group's percentage for a layer by the regional percentage for that layer. For example:

A block group in Dallas County has a population that is 27.78 percent Age 65 and Older. The regional percentage for the population Age 65 and Older is 10.54 percent. The ratio is calculated this way:

$$27.78 \div 10.54 = 2.63$$

This shows that the block group's percentage of residents Age 65 and Older is more than two-and-a-half times the regional percentage.

Applications for Equity Analysis, Planning, or Outreach

The Environmental Justice Index can support implementation of environmental justice principles in transportation planning and project delivery. The EJI, or a desktop analysis, can identify where further analysis is needed but should not be the sole tool for analysis. Ways to use the index are described here:

Avoiding, Minimizing, or Mitigating Disproportionately High and Adverse Effects

Users can identify the demographics of block groups relevant to a transportation project to understand whether effects may be predominantly borne by a minority population and/or a low-income population. Block groups that fall at or below a regional percentage threshold should not necessarily be excluded from analyses, because disproportionately high and adverse effects can affect even very small populations. EJ determinations are made based on the scale of the effect, not the population. Transportation projects may adversely affect:

- Soil, air, or water
- Man-made or natural resources
- Community cohesion
- Economic vitality
- Noise or vibration
- Residents or businesses via displacement
- Health or safety

Ensuring Full and Fair Participation in Transportation Decision-Making

Users can conduct strategic outreach to affected communities. This may involve identifying nonprofit organizations whose interests align with those of the community; translating documents and providing an interpreter at meetings; or selecting a meeting location that is accessible to residents without vehicles or the ability to drive. Strategic outreach allows transportation professionals to identify the community's transportation needs and the specific benefits and burdens of the project. Depending on the community's transportation needs, some residents may face the burdens of a transportation project without being able to enjoy the project's benefits. Outreach also can guide efforts to mitigate adverse effects.

Preventing the Denial of, Reduction in, or Significant Delay in the Receipt of Benefits

Users can analyze a single project, or multiple projects, to determine whether the scale and timing of benefits are equitable. Examples include:

- Identifying whether transit stops or access to a controlled-access roadway provide benefits equitably to environmental justice populations.
- Identifying whether a project would reduce benefits currently received by environmental justice populations.
- Analyzing the implementation timing of multiple projects to determine whether project prioritization is equitable. The results of outreach to identify a project's benefits and burdens can be incorporated into this analysis.

The Environmental Justice Index also can be used in selecting projects, comparing alternatives, measuring performance, and conducting a spatial equity analysis of transportation investments. For more information on environmental justice analysis, see:

Environmental Justice Analysis in Transportation Planning and Programming: State of the Practice (2019)

www.fhwa.dot.gov/environment/environmental_justice/publications/tpp/

Addressing Changing Demographics in Environmental Justice Analysis, State of the Practice (2019)

www.fhwa.dot.gov/environment/environmental_justice/publications/chng_demo/

Environmental Justice and Tolling: A Review of Tolling and Potential Impacts to Environmental Justice Populations (2016)

www.fhwa.dot.gov/environment/environmental_justice/publications/ej_and_tolling/index.cfm

EJ and NEPA

www.fhwa.dot.gov/environment/environmental_justice/resources/ej_and_nepa/index.cfm

Environmental Justice Policy Guidance for Federal Transit Administration Recipients (2012)

www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_EJ_Circular_7.14-12_FINAL.pdf

Environmental Justice FAQs

<https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/environmental-justice/environmental-justice-faqs>

Data Dictionary

A Data Dictionary for the information in the EJI and supplemental layers is shown below.

Alias Field	GIS Non-Alias Field	Description
GEOID20	Same as Alias	A unique set of 12 numbers that identify a Census block group.
County	Same as Alias	The county in which the block group is located.
Total Population	TotalPop	The total number of people, male and female, child, and adult, living in a geographic area.
Total Population Age 65 and Over	Age65Over	Any individual aged 65 and older.
Percent Age 65 and Over	Pct65_Over	The share of the population that is 65 years of age or older.
Ratio Age 65 and Over to Regional Percentage	Rat_65Over	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Asian LEP Population	AsianLEP	Individuals age 5 years and older who speak an Asian or Pacific Island language as their primary language and who reported that their ability to read, speak, write, or understand English is less than "very well."
Percent Total Asian LEP	Pct_AsnLEP	The share of the population age 5 years and older who speak an Asian or Pacific Island language as their primary language and who reported that their ability to read, speak, write, or understand English is less than "very well."

Alias Field	GIS Non-Alias Field	Description
Ratio Total Asian LEP to Regional Percentage	Rat_AsnLEP	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Households	TotalHH	Includes all housing units that are occupied as a primary residence.
Total Female Head of Households	TotalFHH	Includes any household with children under 18 years of age and with no husband present.
Percent Female Head of Households	Pct_TotFHH	The share of total households with children under 18 years of age and no husband present.
Ratio Female Head of Households to Regional Percentage	Rat_TotFHH	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Indo-European LEP Population	IELEP	Individuals age 5 years and older who speak an Indo-European language other than Spanish as their primary language and who reported that their ability to read, speak, write, or understand English is less than "very well."
Percent Total Indo-European LEP	Pct_IE_LEP	The share of the population age 5 years and older who speak an Indo-European language other than Spanish as their primary language and who reported that their ability to read, speak, write, or understand English is less than "very well."
Ratio Indo-European LEP to Regional Percentage	Rat_IE_LEP	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.

Alias Field	GIS Non-Alias Field	Description
Total Other LEP Population	OtherLEP	Individuals age 5 years and older who speak a language other than English, Spanish, Indo-European, Asian, or Pacific Island as their primary language and who reported that their ability to read, speak, write, or understand English is less than “very well.”
Percent Total Other LEP	Pct_OthLEP	The share of the population age 5 years and older who speak a language other than English, Spanish, Indo-European, Asian, or Pacific Island as their primary language and who reported that their ability to read, speak, write, or understand English is less than “very well.”
Ratio Total Other LEP to Regional Percentage	Rat_OthLEP	A block group’s relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Spanish LEP Population	SpanishLEP	Individuals age 5 years and older who speak Spanish as their primary language and who reported that their ability to read, speak, write, or understand English is less than “very well.”
Percent Spanish LEP	Pct_SpLEP	The share of the population age 5 years and older who speak Spanish as their primary language and who reported that their ability to read, speak, write, or understand English is less than “very well.”
Ratio Total Spanish LEP to Regional Percentage	Rat_SpLEP	A block group’s relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total American Indian or Alaska Native Population	TotAI	Includes individuals who identify their race as American Indian or Alaska Native and individuals who identify their race as American Indian or Alaska Native and their ethnicity as Hispanic or Latino.

Alias Field	GIS Non-Alias Field	Description
Percent Total American Indian or Alaska Native	Pct_TotAI	The share of the population who identify their race as American Indian or Alaska Native and individuals who identify their race as American Indian Alaskan Native and their ethnicity as Hispanic or Latino.
Ratio Total American Indian or Alaska Native to Regional Percentage	Rat_TotAI	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Asian Population	TotAsian	Includes individuals who identify as having origins in any of the original people of the Far East, Southeast Asia, or the Indian subcontinent and individuals who identify their race as Asian and their ethnicity as Hispanic or Latino.
Percent Total Asian	Pct_TotAsn	The share of the population who identify as having origins in any of the original people of the Far East, Southeast Asia, or the Indian subcontinent and individuals who identify their race as Asian and identify their ethnicity as Hispanic or Latino.
Ratio Total Asian to Regional Percentage	Rat_TotAsn	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Black or African American Population	TotBlk	Includes individuals who identify their race as Black or African American and individuals who identify their race as Black or African American and identify their ethnicity as Hispanic or Latino.
Percent Total Black or African American Population	Pct_TotBlk	The share of the population who identify their race as Black or African American and who identify their race as Black or African American and identify their ethnicity as Hispanic or Latino.

Alias Field	GIS Non-Alias Field	Description
Ratio Total Black Population to Regional Percentage	Rat_TotBlk	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Native Hawaiian or Other Pacific Islander Population	Tot_HPI	Includes individuals who identify as having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands and individuals who identify their race as Native Hawaiian or Other Pacific Islander and identify their ethnicity as Hispanic or Latino.
Percent Total Native Hawaiian or Other Pacific Islander	Pct_TotHPI	The share of the population who identify as having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands and individuals who identify their race as Native Hawaiian or Other Pacific Islander and identify their ethnicity as Hispanic or Latino.
Ratio Native Hawaiian or Other Pacific Islander to Regional Percentage	Rat_TotHPI	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Hispanic or Latino Population	Hispanic	Includes individuals who identify their ethnicity as belonging to Mexican; Puerto Rican; Cuban; Dominican; Salvadoran; Guatemalan; Argentinean; Colombian; Spaniard; or other Hispanic, Latino, or Spanish cultures or origins, regardless of race.
Percent Total Hispanic or Latino	Pct_Hisp	The share of the population who identify their ethnicity as belonging to Mexican; Puerto Rican; Cuban; Dominican; Salvadoran; Guatemalan; Argentinean; Colombian; Spaniard; or other Hispanic, Latino, or Spanish cultures or origins, regardless of race.

Alias Field	GIS Non-Alias Field	Description
Ratio Total Hispanic or Latino to Regional Percentage	Rat_Hisp	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Population 5 Years and Over	PopOver5	The total population of individuals age 5 years and older.
Total LEP Population	TotalLEP	Individuals age 5 years and older who do not speak English as their primary language and who reported that their ability to read, speak, write, or understand English is less than "very well."
Percent Total LEP	Pct_TotLEP	The share of the population age 5 years and older who do not speak English as their primary language and who reported that their ability to read, speak, write, or understand English is less than "very well."
Ratio Total LEP to Regional Percentage	Rat_TotLEP	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Some Other Race Population	TotOther	Includes individuals who identify themselves as a race other than White, Black or African American, American Indian or Alaska Native, Asian, or Native Hawaiian or Other Pacific Islander. Respondents reporting entries such as multiracial, mixed, interracial, or a Hispanic or Latino group (for example, Mexican, Puerto Rican, Cuban, or Spanish) in response to the race question are included in this category.
Percent Some Other Race	Pct_TotOth	The share of the population who identify their race as Some Other Race or who reported their race as multiracial, mixed, interracial, or a Hispanic or Latino group (for example, Mexican, Puerto Rican, Cuban, or Spanish).

Alias Field	GIS Non-Alias Field	Description
Ratio Total Some Other Race to Regional Percentage	Rat_TotOth	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with value less than 1 are below the regional percentage.
Total Two Races Population	Tot2Race	Includes individuals who identify their race as Two or More Races, including individuals who identified one of their races as Some Other Race. This category also includes individuals who identify their race as Two or More Races and individuals who identify their race as Two or More Races and their ethnicity as Hispanic or Latino.
Percent Total Two Races	Pct_Tot2Ra	The share of the population who identify their race as Two or More Races, including individuals who identified one of their races as Some Other Race. This category also includes individuals who identify their race as Two or More Races and identify their ethnicity as Hispanic or Latino.
Ratio Total Two Races to Regional Percentage	Rat_Tot2Ra	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Total Minority Population	TotalMin	Includes individuals who identify their race as any race other than white, or who identify their ethnicity as Hispanic or Latino.
Percent Total Minority	Pct_TotMin	The share of the population who identify their race as any race other than white, or who identify their ethnicity as Hispanic or Latino.
Ratio Total Minority to Regional Percentage	Rat_TotMin	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.

Alias Field	GIS Non-Alias Field	Description
Individuals for Whom Poverty Status in Known	TotPSK	The total number of individuals for whom poverty status was surveyed.
Total Below Poverty Population	BlwPov	Includes individuals whose household income in the past 12 months was below 125 percent of the US Census poverty threshold. This is inclusive of individuals whose household income in the past 12 months was below the US Department of Health and Human Services poverty threshold.
Percent Below Poverty	Pct_BlwPov	The share of the population whose household income in the past 12 months was below 125 percent of the US Census poverty threshold. This is inclusive of the share of the population whose household income in the past 12 months was below the US Department of Health and Human Services poverty threshold.
Ratio Below Poverty to Regional Percentage	Rat_BlwPov	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Zero Car Households	NoCar	The number of housing units that have no vehicle available.
Percent Zero Car Households	Pct_NoCar	The share of total housing units that have no vehicle available.
Ratio Zero Car Households to Regional Percentage	Rat_NoCar	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Households With No Internet Access at Home	NoInt	The number of housing units that have no internet access at home
Percent Households With No Internet Access at Home	Pct_NoInt	The share of total housing units that have no internet access at home

Alias Field	GIS Non-Alias Field	Description
Ratio Households With No Internet Access to Regional Percentage	Rat_NoInt	A block group's relation to the regional percentage with 1 equaling the regional percentage. Block groups with a value greater than 1 are above the regional percentage. Block groups with a value less than 1 are below the regional percentage.
Persons with Disabilities	Sum_PWD	Any civilian, non-institutionalized individual with at least one disability that may limit the individual's ability to care for himself or herself.
Percent Persons with Disabilities	RegPct_PWD	The share of civilian, non-institutionalized individuals with at least one disability that may limit the individual's ability to care for himself or herself.
Ratio Persons with Disabilities to Regional Percentage	Ratio_PWD	A Census tract's relation to the regional percentage with 1 equaling the regional percentage. Census tracts with a value greater than 1 are above the regional percentage. Census tracts with a value less than 1 are below the regional percentage.
Population Density	ACS_PopDen	The number of people per square mile of land area in a block group, as reported in the 2019-2023 American Community Survey 5-Year Estimates.

Changes Between Editions of the Environmental Justice Index

The Environmental Justice Index described in this User Guide continues and refines an EJI methodology first used by NCTCOG in late 2016. As noted in the Methodology: Environmental Justice Index Variables section of the User Guide, Low-Income data in the current EJI cannot be compared to Low-Income data from EJI editions that precede the 2013-2017 ACS edition.

Additionally, results of the current EJI methodology cannot be compared to the EJI methodology used before late 2016. The previous methodology aggregated Total Minority, Low-Income, and Population Density data to produce one numeric score.

The Internet Access variable was added to the current EJI and thus cannot be compared to previous editions of the EJI.

Conclusions

The Environmental Justice Index can help agencies initially identify where concentrations of EJ populations are located, but it should not be the sole analysis used in a project. In conjunction with more detailed, project-specific analyses, the EJI can be treated as a preliminary step toward avoiding or mitigating disproportionately high and adverse impacts of plans and policies on EJ populations. As the North Central Texas region continues to change demographically, adjustments may be made to the EJI methodology to better reflect individual variables.

Benefits of Using the Environmental Justice Index

The Environmental Justice Index can help transportation agencies comply with federal rules related to the avoidance of adverse impacts that plans and policies may have on EJ populations. Furthermore, the EJI can be used as a screening technique to identify areas where more detailed assessment should take place for long-range transportation planning, project programming, public outreach, identifying potential needs for transit service, and other applications. Finally, the EJI facilitates this screening process because it allows users to look at population characteristics on a single map.

Limitations of the Environmental Justice Index

The Environmental Justice Index is intended as a preliminary screening tool. Block groups that fall at or below the regional percentage threshold for either Total Minority or Low-Income should not necessarily be excluded from analyses. The Federal Transit Administration cautions that “a very small minority or low-income population (statistically ‘insignificant’) in the project, study, or planning area does not eliminate the possibility of a disproportionately high and adverse effect on these populations.”²

The results of the index are meant to serve as a guide to identify concentrations of EJ populations for further analysis; they do not definitively locate EJ communities. The data for the EJI is based on ACS 5-Year Estimates because the decennial Census does not provide data on all the population characteristics included in the EJI. A known limitation of the ACS is that the dataset surveys only a sample of the US population.

² Environmental Justice FAQs, <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/environmental-justice/environmental-justice-faqs>

Data Sources

American Community Survey Tables Used for Demographic Data

Population Characteristic	Data Source (ACS 5-Year Estimates)
Age 65 and Over	SF Table B01001
Asian LEP	SF Table B16004
Low-Income/Below Poverty	SF Table C17002
Female Head of Household	SF Table B11005
Indo-European LEP	SF Table B16004
Other LEP	SF Table B16004
Persons with Disabilities	SF Table B18101
Spanish LEP	SF Table B16004
Total American Indian or Alaska Native	SF Table B03002
Total Asian	SF Table B03002
Total Black or African American	SF Table B03002
Total Native Hawaiian or Other Pacific Islander	SF Table B03002
Total Hispanic or Latino	SF Table B03002
Total LEP	SF Table B16004
Total Minority	SF Table B16004
Total Two Races	SF Table B03002
Total Some Other Race	SF Table B03002
White Alone	SF Table B03002
Zero Car Households	SF Table B25044
Households With No Internet Access at Home	SF Table B28011