Environmental Justice GIS Web App

Innovation Purpose

To comply with Federal regulations, the NDOT Civil Rights section reviews census data (and other relevant information sources) to identify groups or clusters of Minority and/or Low-Income persons in a project study area. Prior to the creation of the Environmental Justice GIS Web application, the data was manually reviewed by comparing project information/maps to information available on the US Census website. Next, data tables were exported to Microsoft Excel and modified, and the necessary calculations were completed by hand. The tables were then copied/pasted to a word document and information added to create a report. A similar process was also being conducted to identify persons with Limited English Proficiency (LEP) within a project study area by evaluating language census data. This was a cumbersome and time-consuming process. It also allowed for a greater chance of error when processing the data.

Innovation Description

The Environmental Justice GIS Web application was developed using the GIS census block group 2020 layer and tables from the Census American Community Survey data. Using the existing Clarity state and local programmed projects in GIS, the NDOT Civil Rights section can then search for a state or local project within the EJ GIS Web application and produce a report that includes an overview of the methodology, a summary of the project (using information pulled from Clarity), and a standardized project area map. The report also includes tables with percentages of Minority Populations, Low-Income Populations, and Languages Spoken within the specific project location and buffer distance, as well as comparison data for the state and applicable city and county. If the project has a detour, the NDOT Civil Rights section can add the detour route within the GIS web application (if not already provided) and run the same report. The report provides information for the project area and detour route and identifies whether the census block groups are within the project area, detour, or both. When new 5-year estimates of the American Community Survey are available, the EJ GIS web application will be updated to provide the latest information available.

Implementation Date

June 2021

Innovation Highlights

The Environmental Justice Web App helps provide a quick look to identify potential EJ/LEP populations within a project area. The entire process now takes less than 5 minutes, when before it would take 1-4 hours to review and process the census data. This efficiency allows the Civil Rights section to have more time available for other project and program reviews required by FHWA.

Division/District

Business Technology Support, Program Management