FDOT Roadway Characteristic Inventory (RCI) Quality Assurance
Methodology

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March 29, 2023
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Overview

xGeographic was tasked with quality assuring the FDOT speed limit and number of lanes GIS files in order to assist with the Speed Management work being done by MetroPlan Orlando. The process for completing these tasks is described below.

Data Download and Clip

FDOT RCI shapefiles were downloaded from the publicly available download portal. The number of lanes and posted speed limit files were downloaded and clipped to the MetroPlan Orlando region. Final shapefiles include only the records where a data error was found.

Speed Limit Q/A

The FDOT speed limits file depicts the posted speed limit on roadway segments. The xGeographic team used Google Maps "Streetview" to quality assure the FDOT field values, and the SPEED_2 field includes the updated speed limits identified as part of the xGeographic Q/A. The following rules were followed when altering speed limit values:

- The speed limit changes in the GIS file where the speed limit sign is located. In cases where the speed limit sign is located within approximately 100 feet of an intersection the speed limit was altered at the intersection.
- In circumstances where the speed limit is different based on travel direction, the higher of the two speed limits was used in circumstances where the FDOT file is populated with a "C" in the ROAD_SIDE field.
- In circumstances where no speed limit sign is present for large distances, it was assumed that there is no change in the speed limit.
- Streetview was used only when the date of the imagery was from June 2021 or later. The vast majority of the speed limit changes were made using Streetview imagery from mid-2022 or later, as Google updates its imagery on major roads with low latency.
- In rare circumstances, speed limits change for a few hundred feet (generally less than 300 feet) at major road curves, and the FDOT file does not always include these speed limit changes. Generally, speed limit changes along road curves were not included in the xGeographic Q/A. This is a rare circumstance that does not greatly impact the accuracy of the file.

Number of Lanes Q/A

The FDOT number of lanes file depicts the number of through lanes present on roadways. A review of this file revealed that the FDOT file is inconsistent in its inclusion of turn-only lanes, particularly near intersections. At times, turn lanes are included in the lane count and at other times turn lanes are not included. Due to this inconsistency, xGeographic focused its quality assurance primarily on areas where the FDOT file underrepresented the number of through lanes present. This occurred mostly in newly developed areas where lanes have been added but the file has not been updated to reflect the new travel lanes.

As part of the xGeographic quality assurance process locations were identified where the RCI file undercounted the number of through lanes. The LANE_CNT_2 field shows the areas where xGeographic identified changes needed to the FDOT file. For roadways with "R" and "L" in the ROAD_SIDE field, xGeographic used R to represent the east and north sides of the road, and L to represent the west and south side of the road.