

Richland County Regional Planning Commission



GIS Dashboard for MPO Roadway & Transit Network Condition Inventory



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RCRPC GIS Dashboard for Roadway & Transit Network Condition Inventory



Overview

1. Purpose of the Projects
2. Development of Project Scope
3. Website based GIS Dashboard for Public
 - GIS Dashboard & Database Quick Overview/ Demo
 - Roadway & Transit Assets Condition Inventory

RCRPC GIS Dashboard for Roadway & Transit Network Condition Inventory



Purposes of RCRPC Pavement Survey for Local Road Inventory and Safety Project:

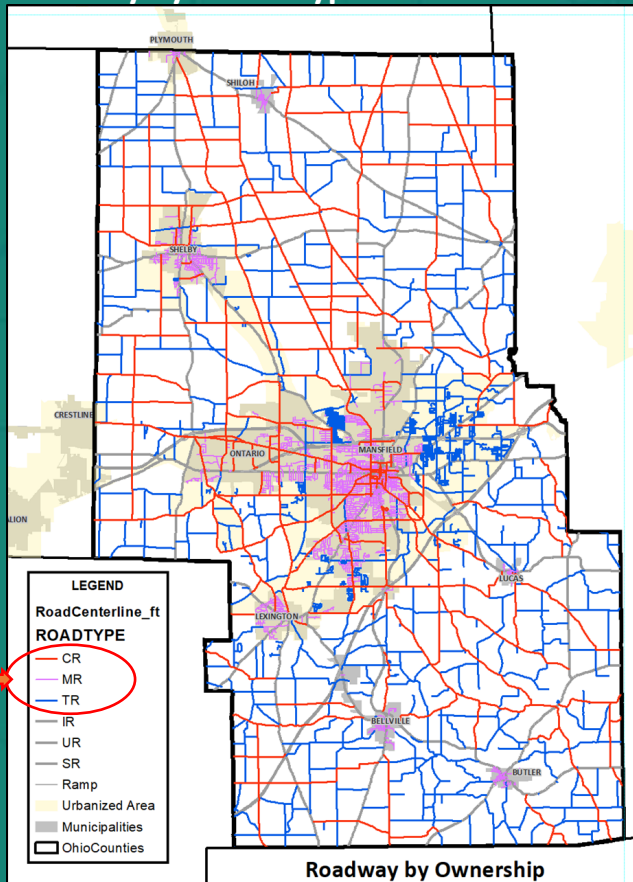
- Identifying potential project needs in developing MPO Long-Range Transportation Plan (LRTP).

The LRTP must include the required lists of a financially constrained projects. The requirement is mandated by federal guidelines for MPO to ensure the continuous receipt of transportation funding (The RCRPC current 2045 LRTP doesn't have a project lists).
- Helping MPO entities building consensus for projects to be included in the TIP short-term program.
- Equity: Ensure a distribution of benefits resulting from transportation plans, programs, and projects accrue to underserved communities

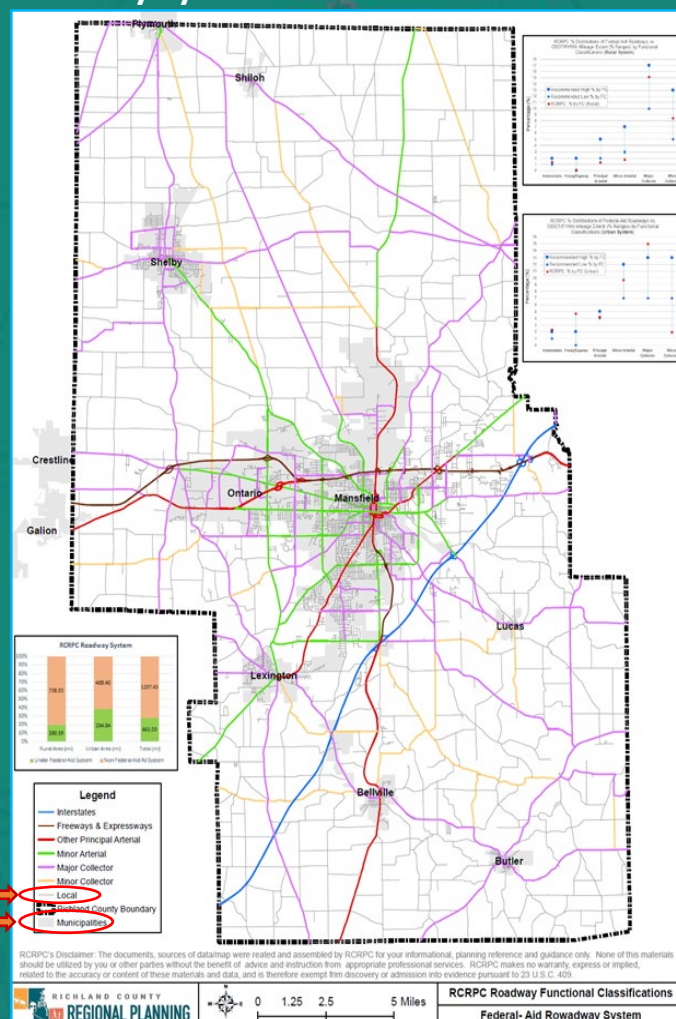
RCRPC GIS Dashboard for Roadway & Transit Network Condition Inventory



Roadway by Street Type



Roadway by Functional Class



2. Scope Development

Complexities involved in establishing the scope for RCRPC roadway pavement condition, safety and assets inventory project concerning “Local Road”

1. Federal-Aid System: local roads classified under the roadway functional classification system fall under a classified number “7”

2. Streets by Ownership: This category includes roadway owned by types ownership: CR, TR, MR, SR, IR, etc..

3. ODOT Maintained Survey Program: ODOT has its own pavement survey program for roadways owned by state and U.S., but do not cover roadways within municipal boundaries, which needs to be included in the MPO’s project scope

4. County Maintained Survey Program: the County has its own pavement survey program for roadways owned by County., but do not cover roadways within municipal boundaries, which needs to be included in the MPO’s project scope as well

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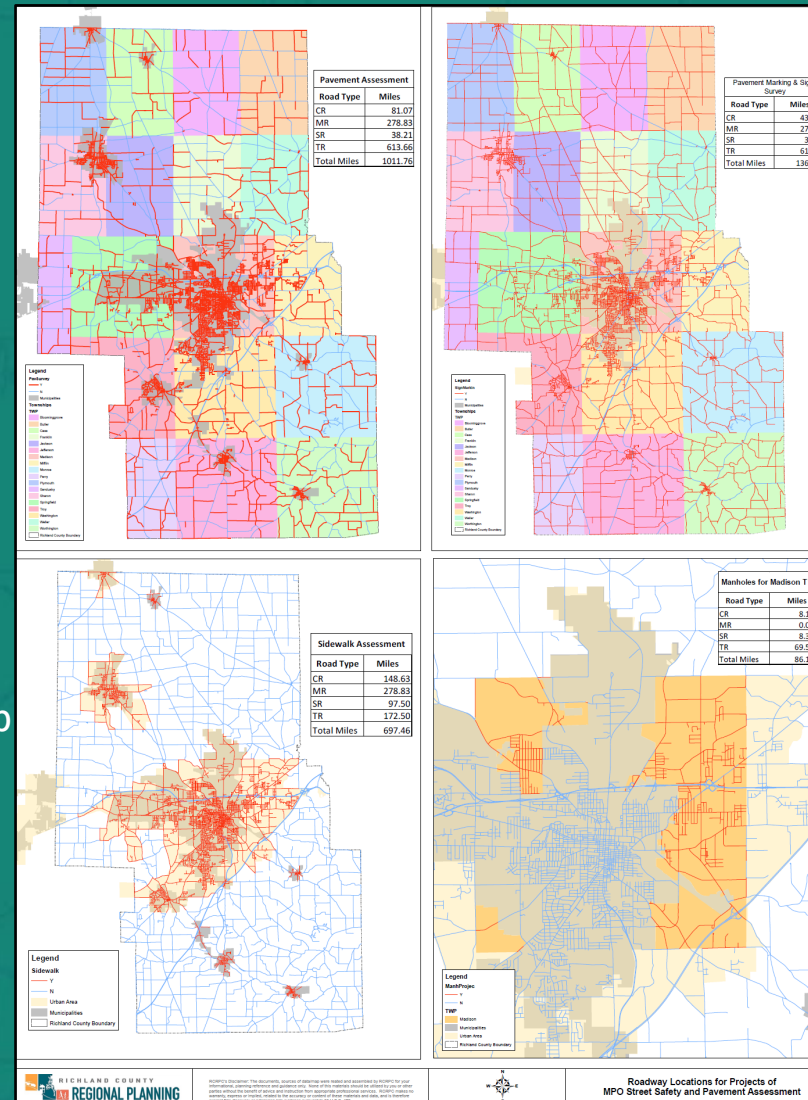
2. Scope Development

Complexities involved in establishing the scope for RCRPC roadway pavement condition, safety and assets inventory project concerning “Local Road”

Understanding these classifications is crucial as we define our project scope.

Additionally, the MPO internal GIS and SQL database skills are instrumental in identifying specific project locations through various conditions.

Maps and tables for locations of pavement, traffic signs, sidewalks, manholes, etc. by each link, township and municipality were created as the major documents of the scope of project



last_edt_1	Mile	ID	Selection	Sidewalk	PavSurvey	SignMarkin	ManhProjec
6/15/2023	0.0578	36728	CR_Rural	Y	N	Y	N
6/15/2023	0.0772	36729	CR_Rural	Y	N	Y	N
6/15/2023	0.2599	36730	CR_Rural	Y	N	Y	N
6/15/2023	0.1027	36731	CR_Rural	Y	N	Y	N
6/15/2023	0.3409	36732	CR_Muni	Y	Y	Y	N
6/15/2023	0.4491	36733	CR_Rural	Y	N	Y	N
6/15/2023	0.1956	36734	CR_Rural	Y	N	Y	Y
6/15/2023	0.0987	36735	CR_Rural	Y	N	Y	N
6/15/2023	0.0993	36736	CR_Muni	Y	Y	Y	N
6/15/2023	0.1612	36737	CR_Muni	Y	Y	Y	N
6/15/2023	0.2527	36738	CR_Muni	Y	Y	Y	N
6/15/2023	0.3461	36739	CR_Muni	Y	Y	Y	N
6/15/2023	1.1281	36740	CR_Muni	Y	Y	Y	N
6/15/2023	0.2611	36741	CR_Muni	Y	Y	Y	N
6/15/2023	0.1472	36742	CR_Muni	Y	Y	Y	N
6/15/2023	0.602	36743	CR_Muni	Y	Y	Y	N
6/15/2023	0.0761	36744	CR_Rural	Y	N	Y	Y
6/15/2023	0.3766	36745	CR_Rural	Y	N	Y	Y
6/15/2023	0.8952	36746	CR_Rural	Y	N	Y	N
6/15/2023	0.2923	36747	CR_Rural	Y	N	Y	N
6/15/2023	0.2595	36748	CR_Rural	Y	N	Y	N
6/15/2023	0.5428	36749	CR_Rural	Y	N	Y	N
6/15/2023	0.0659	36750	CR_Rural	Y	N	Y	N
6/15/2023	0.0928	36751	CR_Rural	Y	N	Y	N
6/15/2023	0.2888	36752	CR_Rural	Y	N	Y	N
6/15/2023	0.016	36753	CR_Rural	Y	N	Y	N
6/15/2023	0.0579	36754	CR_Rural	Y	N	Y	N
6/15/2023	0.1929	36755	CR_Muni	Y	Y	Y	N
6/15/2023	0.2538	36756	CR_Rural	Y	N	Y	N
6/15/2023	0.3257	36757	CR_Rural	Y	N	Y	N
6/15/2023	0.1763	36758	CR_Muni	Y	Y	Y	N
6/15/2023	0.5541	36759	CR_Muni	Y	Y	Y	N
6/15/2023	0.0127	36760	CR_Muni	Y	Y	Y	N
6/15/2023	0.293	36761	CR_Muni	Y	Y	Y	N
6/15/2023	0.1695	36762	CR_Rural	Y	N	Y	N
6/15/2023	0.011	36763	CR_Rural	Y	N	Y	N
6/15/2023	1.5083	36764	CR_Rural	N	N	Y	N
6/15/2023	0.9606	36765	CR_Rural	N	N	Y	N
6/15/2023	1.1095	36766	CR_Rural	N	N	Y	N
6/15/2023	0.5707	36767	CR_Muni	Y	Y	Y	N
6/15/2023	0.0602	36768	CR_Muni	Y	Y	Y	N

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2. Scope Development



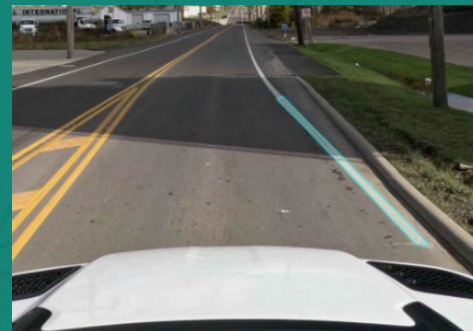
1000+ miles evaluated for **pavement condition** - 3,800 street records



41,000+ **signs detected**, classified and condition rated



5,000+ **pavement markings** detected, classified, and condition rated



1800+ miles **pavement striping** detected, classified, and condition rated



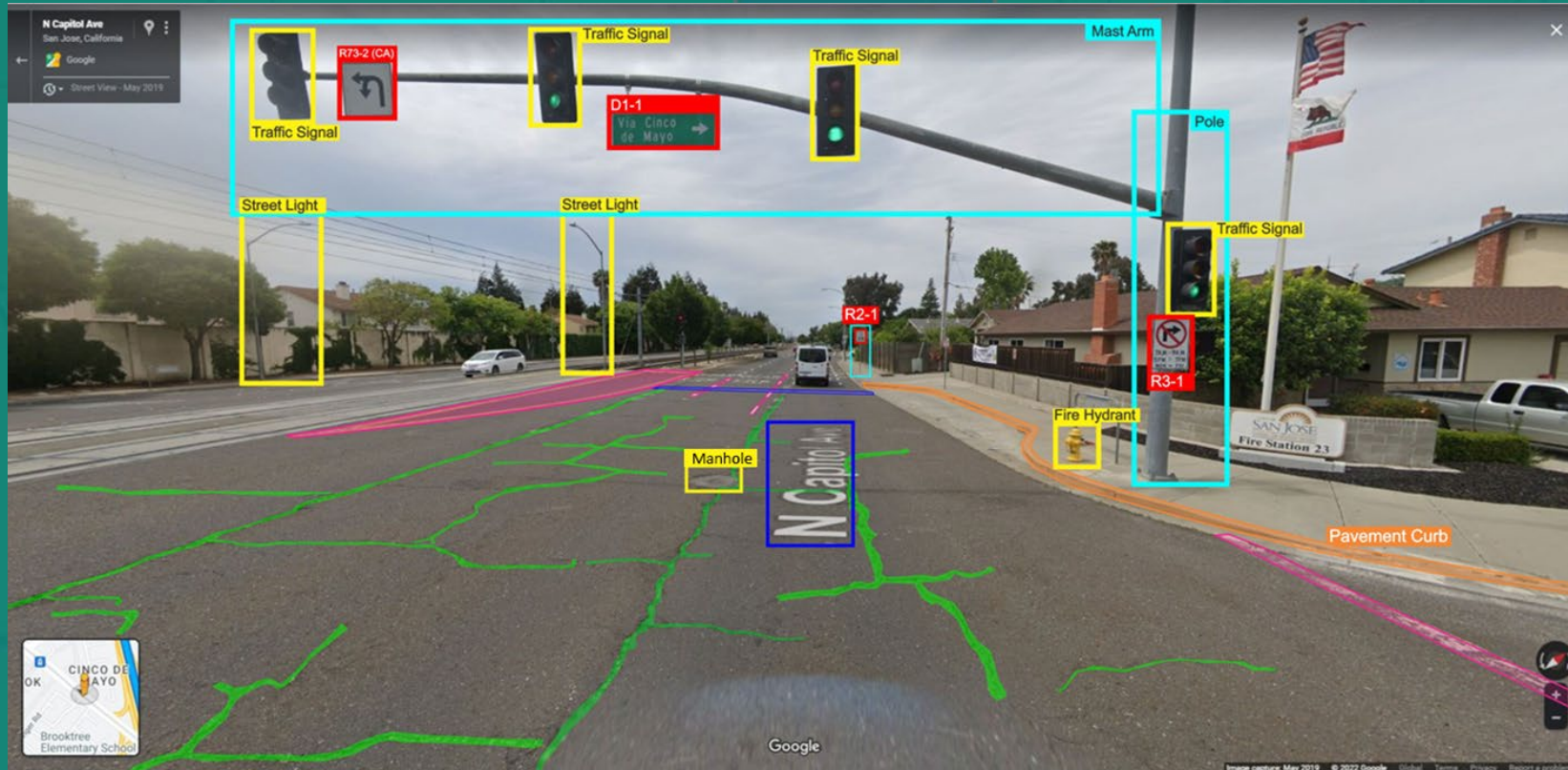
760 miles of **sidewalks** detected, condition rated, width measurement detected

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2. Scope Development

TRANSCONOMY: AI can detect and rate condition of any asset within 20 feet of the roadway.



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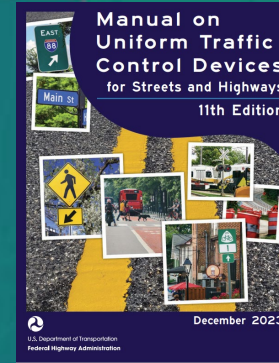


2. Scope Development

AI Based Pavement Survey Results



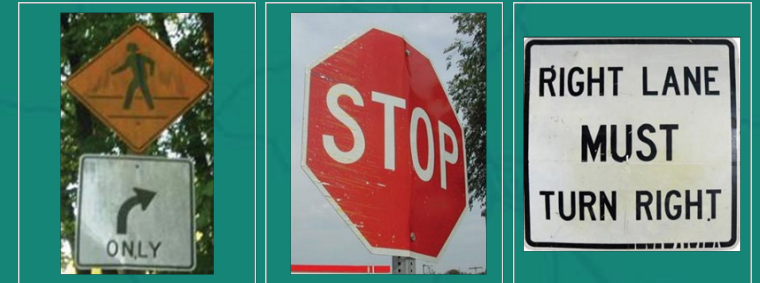
AI Based Sign Inventory and Condition Survey



Good



Fair

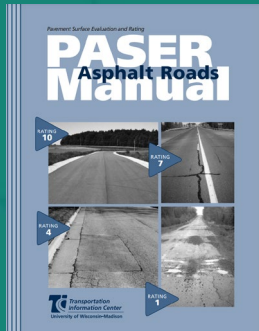
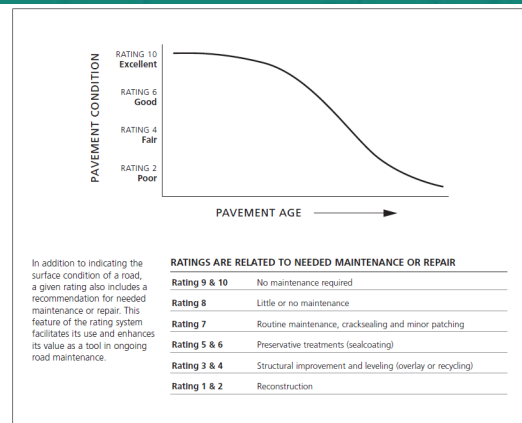


Poor



Attributes Surveyed:

- MUTCD Code
- MUTCD Name
- Sign Text
- Sign Condition
- Sign Orientation
- Post Type
- Post Material
- GPS location



RCRPC GIS Dashboard for Roadway & Transit Network Condition Inventory



Overview

3. [Website based GIS Dashboard for Public](#)

- [GIS Dashboard & Database Quick Overview/ Demo](#)
- [RCRPC - Roadway/Transit Asset Condition Assessment & Inventory \(arcgis.com\)](#)

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Questions

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Thanks

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Website Based GIS Dashboard

the GIS-based online map in RCRPC' website:

<https://www.rcrpc.org/maps-and-data>

GIS Dashboard & Database Quick Overview/ Demo

1. [RCRPC - Roadway Asset Inventory/Assessment \(arcgis.com\)](#)
2. [RCRPC - Transit Route Assessment \(arcgis.com\)](#)