

ILGISA Chicago Regional



Enterprise Use of Street Level Imagery

June 2026



Cyclomedia Team Introduction

Bill Wetzel

Account Executive –
Midwest

bwetzel@cyclomedia.com

630.815.6520

Session Topics

Cyclomedia Overview

Hennepin County MN Project

Enterprise Use Cases

Integrations

Questions & Discussions



Cyclomedia Overview

Cyclomedia Overview

HD 360° street level imagery and mobile Lidar

Rapid capture, processing and delivery of imagery and mobile Lidar data via cloud-based environment

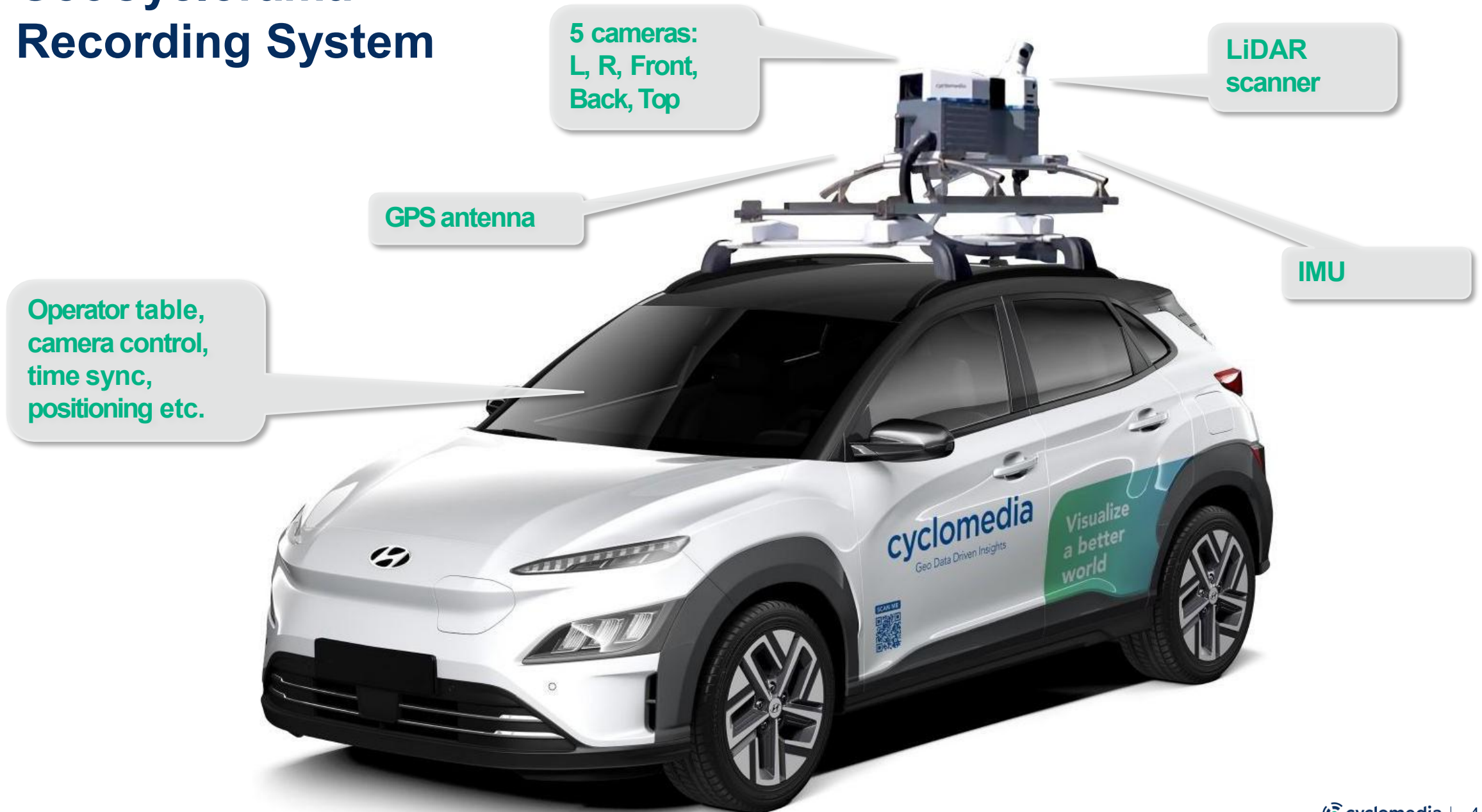
3D streetscapes to view, manage and assess the condition of ROW assets, structures and properties

AI-driven 3D asset extraction

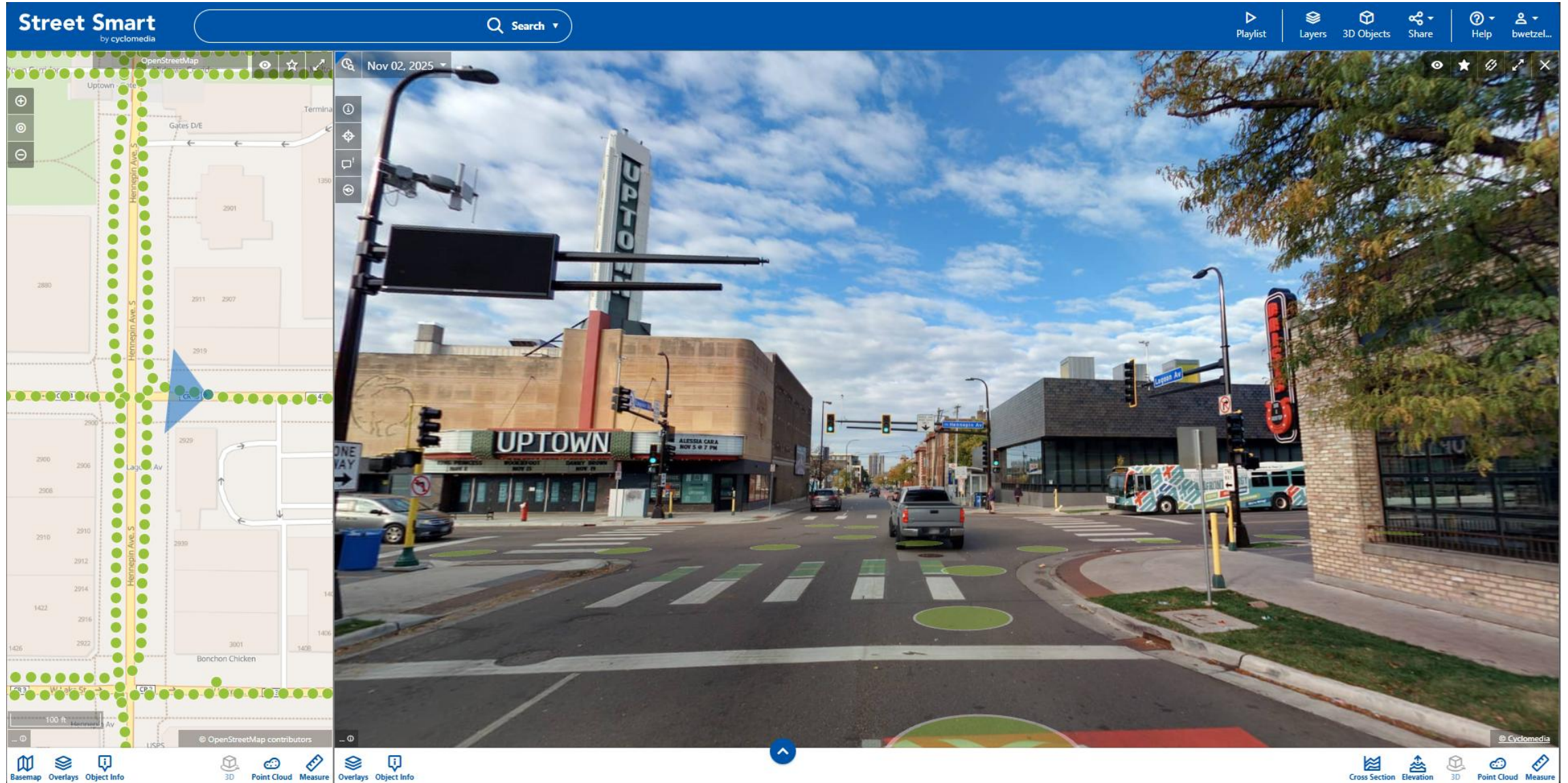
Delivery of asset data in GIS data formats for Integration into current applications and workflows



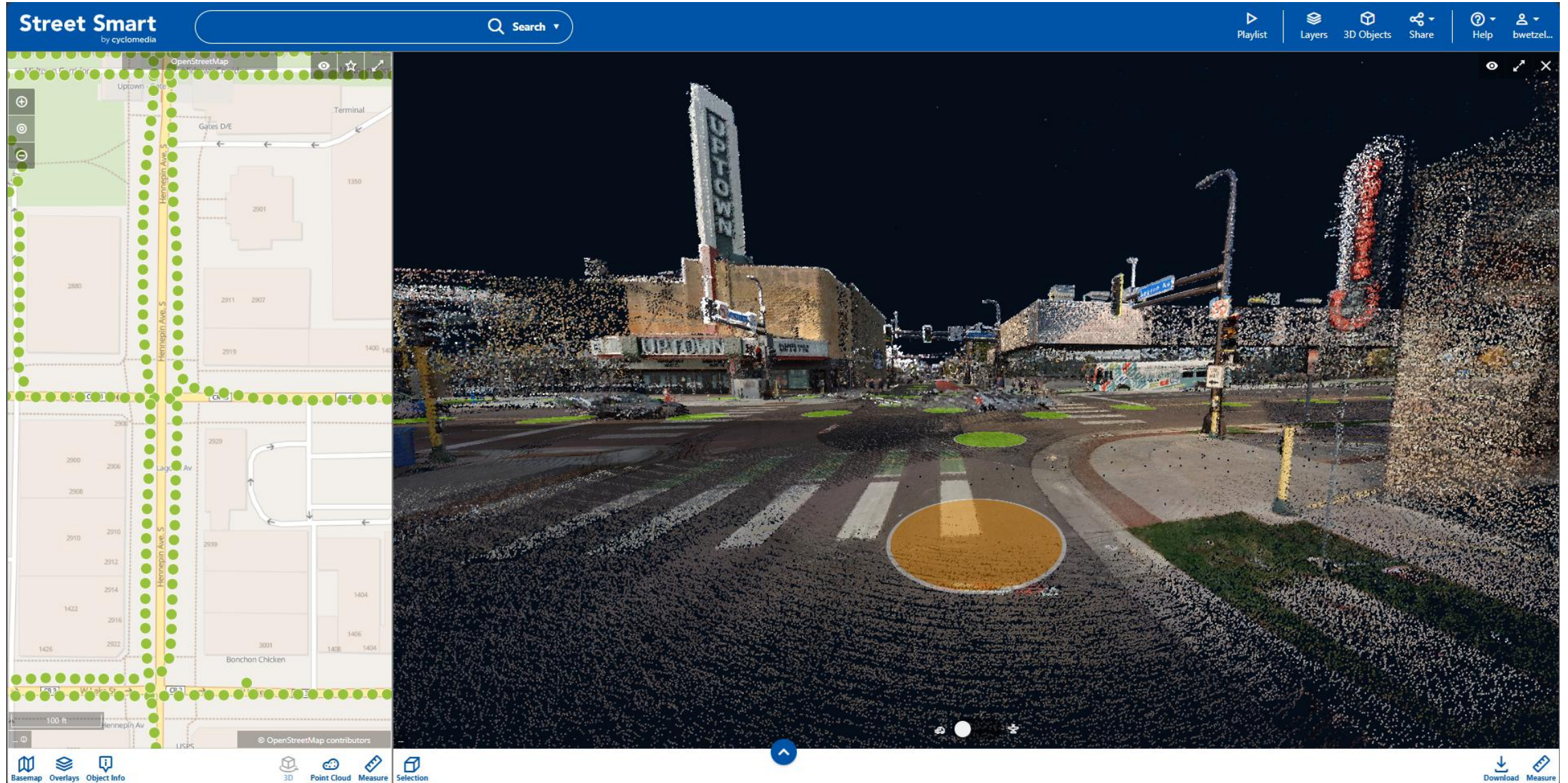
GeoCyclorama Recording System



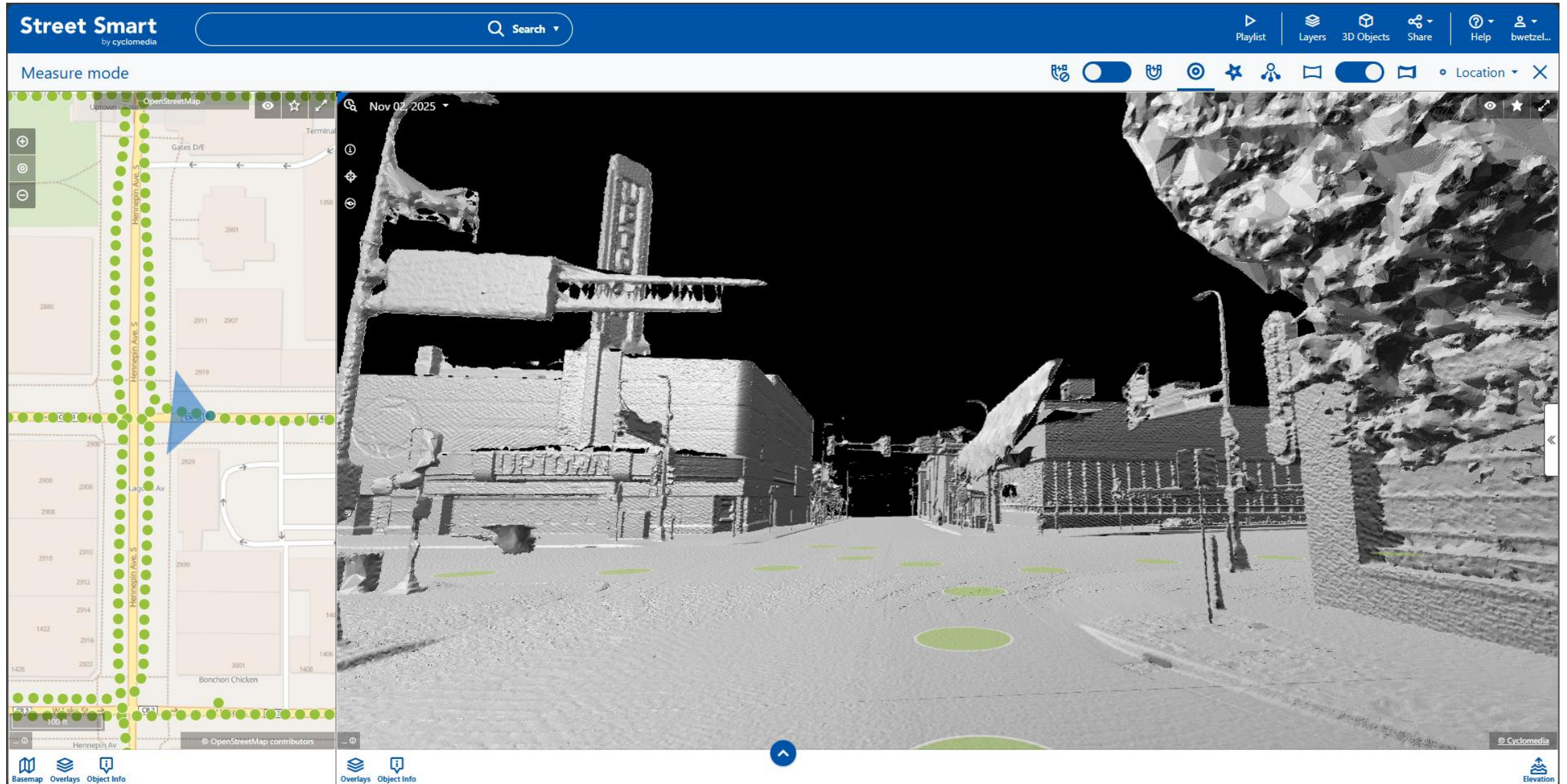
Street Level Imagery



Mobile LiDAR



LiDAR Depth Surface



Data Insights - 3D Data Assets



ADA Ramps



Pavement Condition



Traffic Signs



Road Markings



Public Lighting



Manholes



Road Features



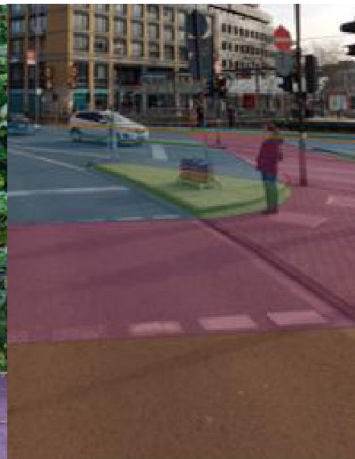
Traffic Lights



Driveway, Sidewalk and Edge of Pavement



Cabinets



Area Mapping



Valves, Vaults and Substructures



Drains and Catch Basin



Trees



Fire Hydrants

3D Feature Extraction

3D Feature Extraction from imagery and Lidar

- AI-based with rigorous QA/QC procedures

Phase 0 preliminary delivery

- Verifies accuracy and completeness of data dictionary content

Geospatial data deliveries

95% accuracy and completeness standards



Public Lighting

Manholes

Road Features



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Substructures

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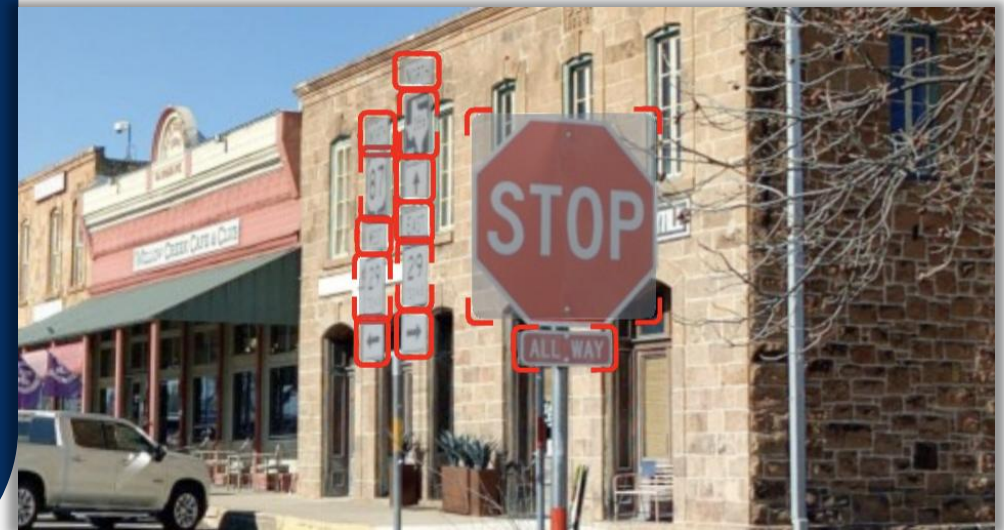
Cyclomedia & AI

Integrating various techniques into operations:

- Computer Vision (CV)
- Large Language Models (LLMs)
- Machine Learning (ML)
 - Object Detection - identifies and locates objects within images to efficient extract valuable information
 - Image Segmentation - pixel classification of objects within an image to gather complex geometries
 - Classification - categorizing objects or elements within images into predefined classes, facilitating organized and systematic data analysis. (e.g. classifying sign MUTCD codes)



Pixel segmentation for paint striping identification.



Object detection models for identifying and locating objects within an image.



Hennepin County MN Project

Hennepin County MN Project

Led and funded by County Assessment

- 5 Year cycle 2025 and 2020

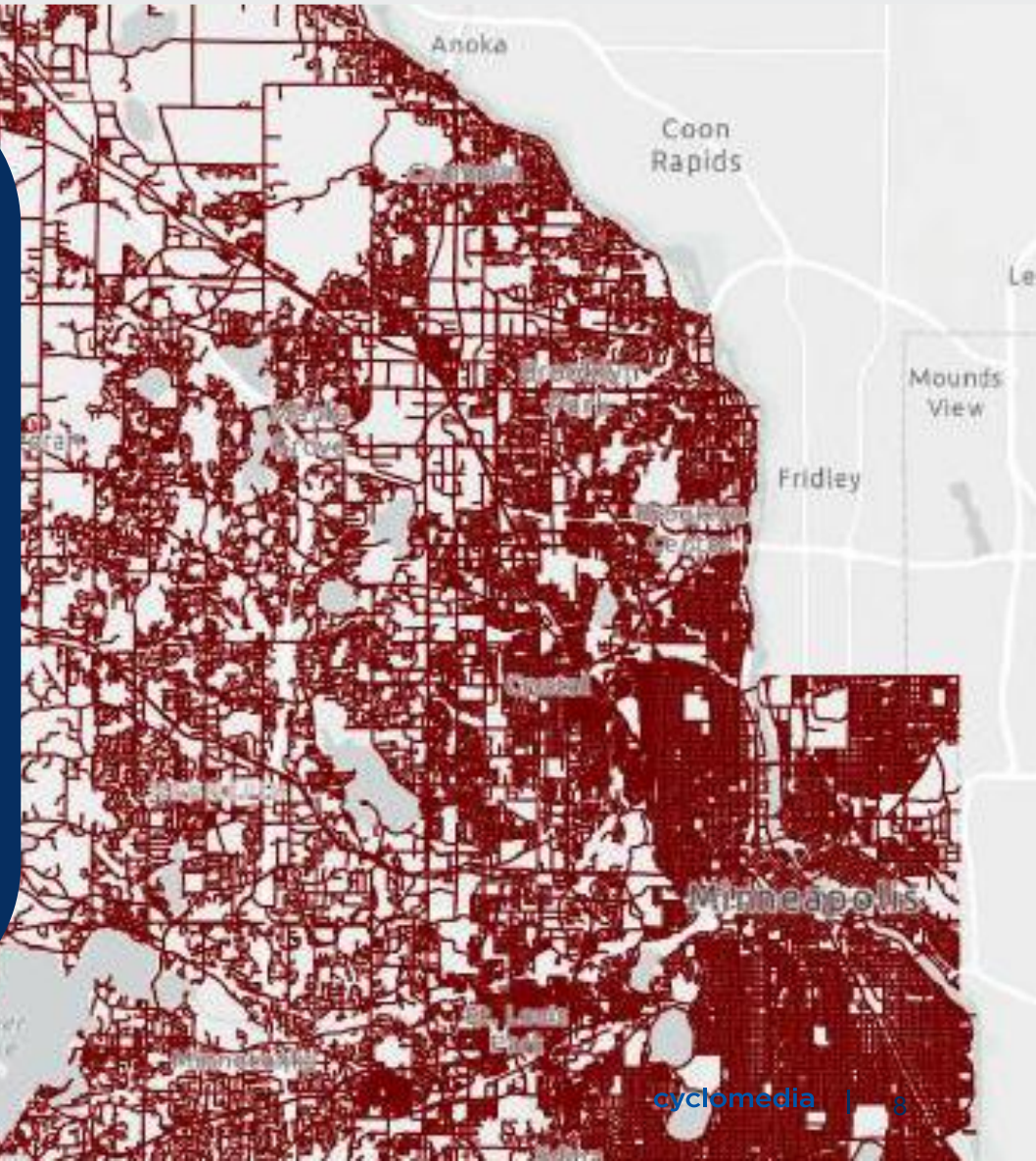
Countywide GeoCyclorama imagery and LiDAR Capture

- 6,732 project roadway miles
- 48 trail miles
- Blurring of faces and license plates

Cloud hosted and accessed via SaaS application

APIs / add-ins & widgets for the Esri platform

Training and Technical Support



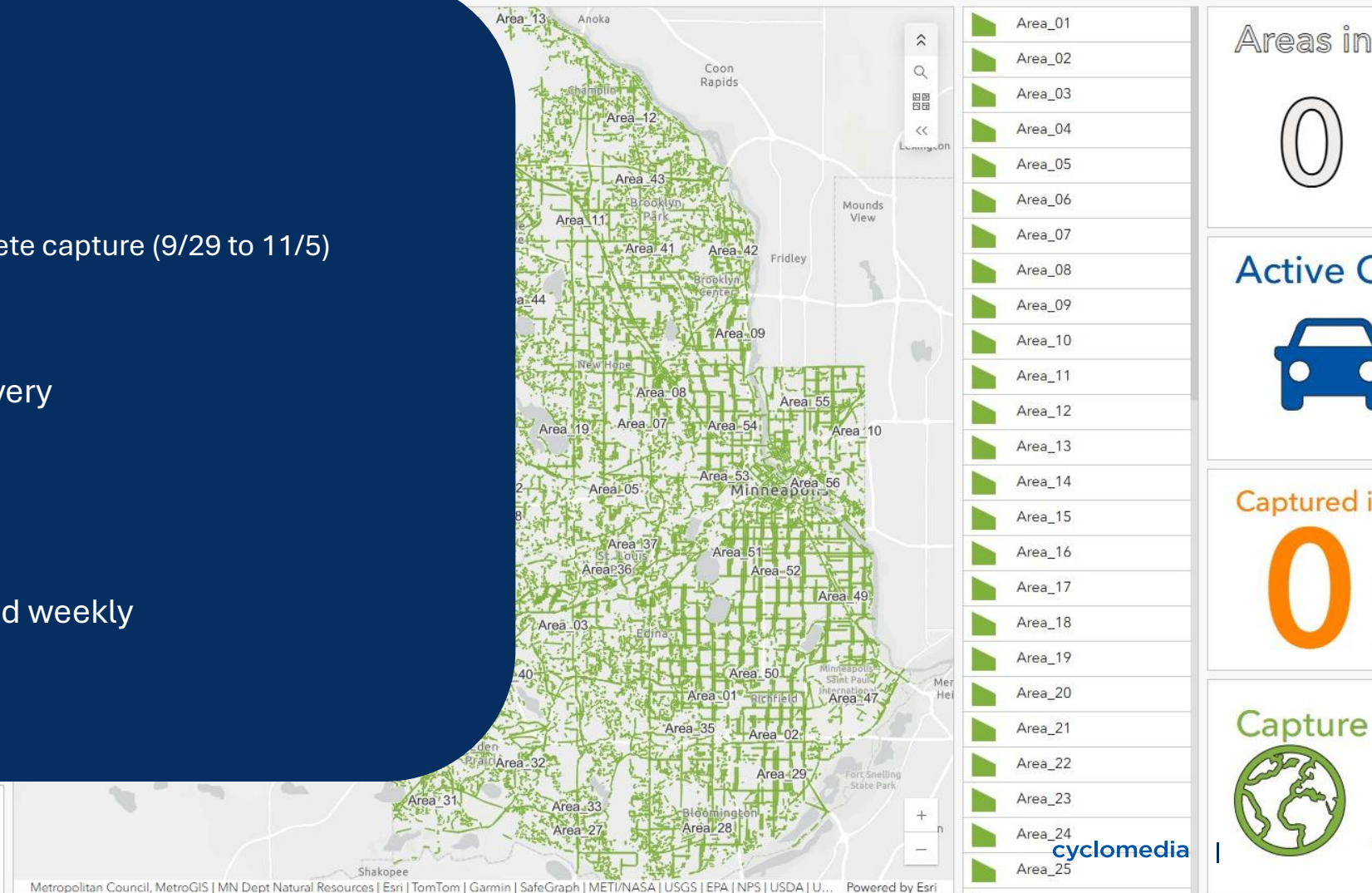
Hennepin County MN Project

Area Project Dashboard for Hennepin MN

Project timeline

- Fall of 2025
 - Approx 6 weeks to complete capture (9/29 to 11/5)
 - 2 weeks of rework (11/21)
- Rolling processing and delivery
 - 4 to 6 after capture
 - Final delivery 12/1
- Progress dashboard updated weekly

is updated each complete.



Hennepin County MN Project

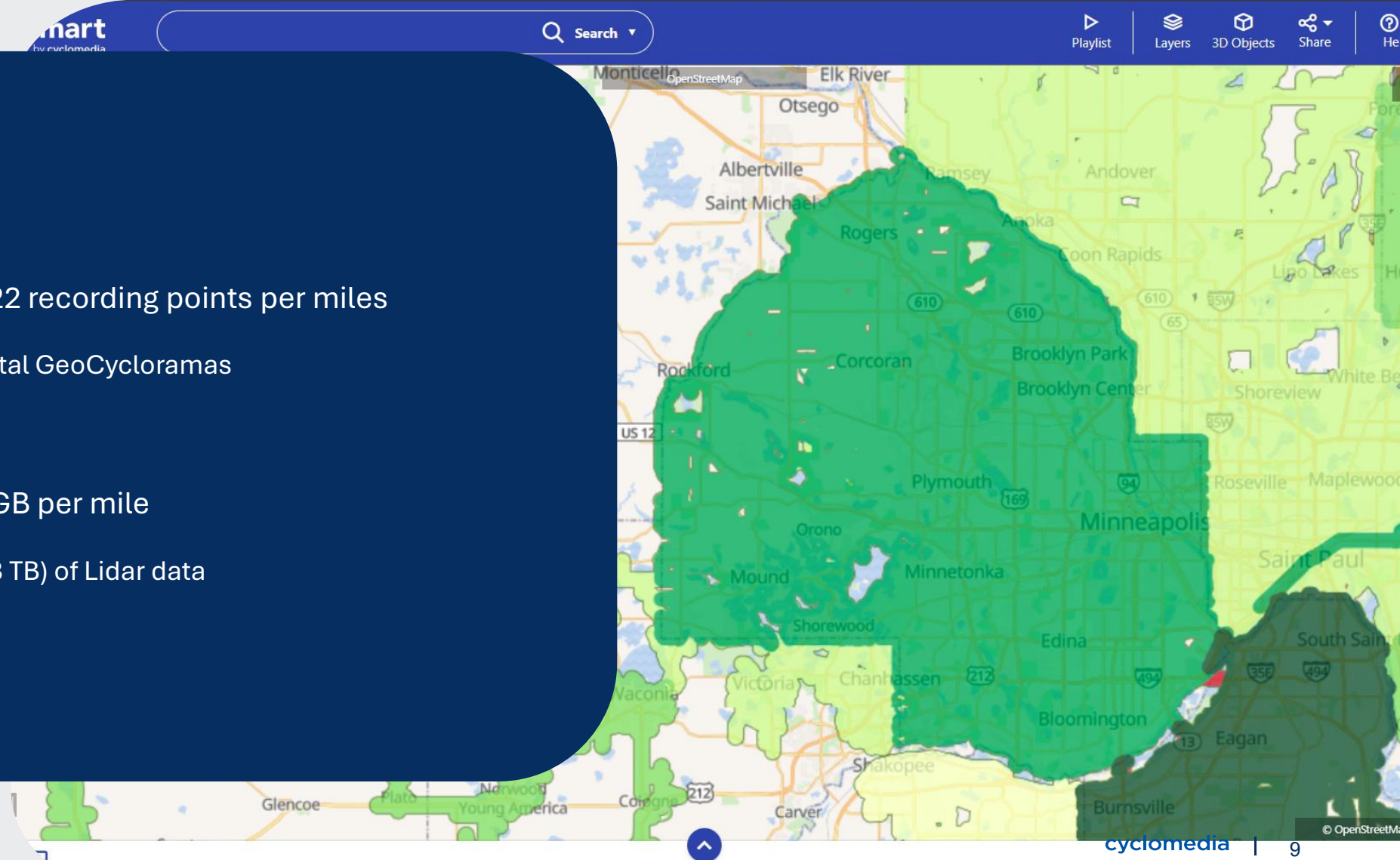
Project Statistics

GeoCycloramas

- 6,780 miles @ 322 recording points per miles
 - 2,183,160 total GeoCycloramas

Lidar Data

- 6,780 miles x .5 GB per mile
 - 3,390 GB (3.3 TB) of Lidar data



Hennepin County MN

County Departments

- Assessor
- Public Works
- GIS
- Operations BIO
- Admin
- Health & Human Services
- Public Safety
- Resident Services
- Sheriff
- MESB

Municipalities

- Minneapolis
- Bloomington
- St. Louis Park
- Minnetonka
- Maple Grove
- Edina
- Eden Prairie
- Brooklyn Park
- Robbinsdale
- Champlin
- Shorewood
- Plymouth

- Rogers
- Brooklyn Center
- Richfield
- Orono
- Woodland
- Deephaven
- Golden Valley

Other Local Govt

- LOGIS
- Mississippi WMO



Hennepin County MN Project

Enterprise License

Account Management

- Manage accounts and users
- Usage statistics
 - By Account
 - Municipality
 - Per user
 - Integrations/APIs

SSO configuration

	2025 - 11	2025 - 12	2026 - 1	2026 - 2	2026 - 3	2026 - 4	2026 - 5	2026 - 6	Total
	-	-	2	-	-	-	-	-	2
	-	-	1	-	-	-	-	-	1
	-	-	36	-	-	-	-	-	36
	-	-	24	-	-	-	-	-	24
	-	-	88	-	-	-	-	-	88
	1	-	-	-	-	-	-	-	1
	1	-	-	-	-	-	-	-	1
	-	-	-	-	-	-	-	-	2
	88	1,662	4,096	9,454	5,004	2,078	2,377	3,588	35,035





Enterprise Projects and Use Cases

Cyclomedia's Solution Benefits Your Entire Organization



Public Works

Leverage current, high-resolution data to visualize, validate, and manage assets and projects across your jurisdiction.



Property Appraisal

Remotely verify attributes of properties (grade and condition, measurements, neighboring properties, etc.)



Public Safety

Improve emergency response with detailed imagery and enhanced spatial intelligence.

GIS



Integrate high resolution street level imagery and terrestrial lidar into your GIS to map all assets in a 3D environment with high accuracy.



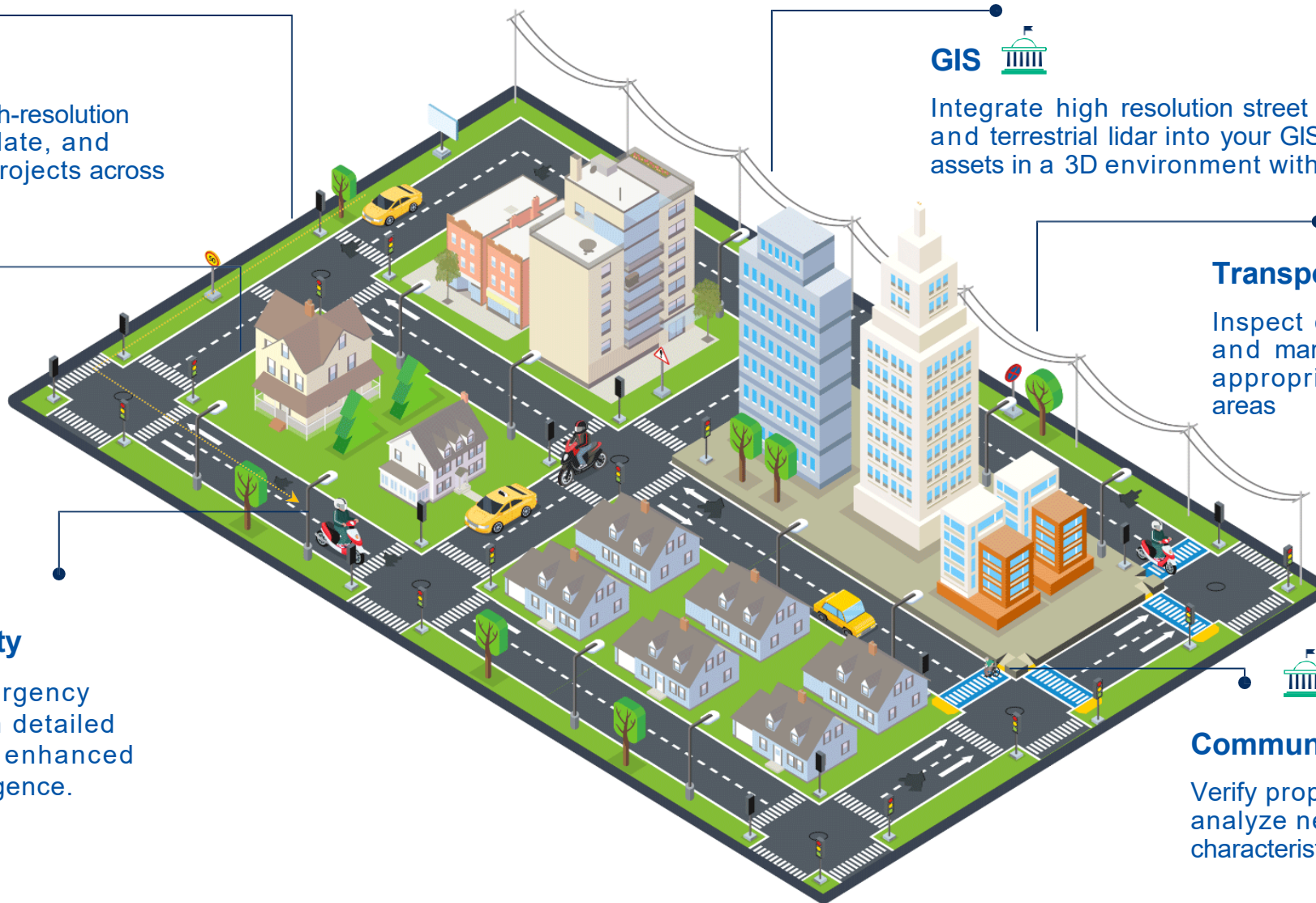
Transportation

Inspect quality of public roadway and markings to ensure funding is appropriated to the most needed areas



Community Development

Verify property conditions and analyze neighborhoods for blight characteristics



Property Assessment

Accurate Measurements:

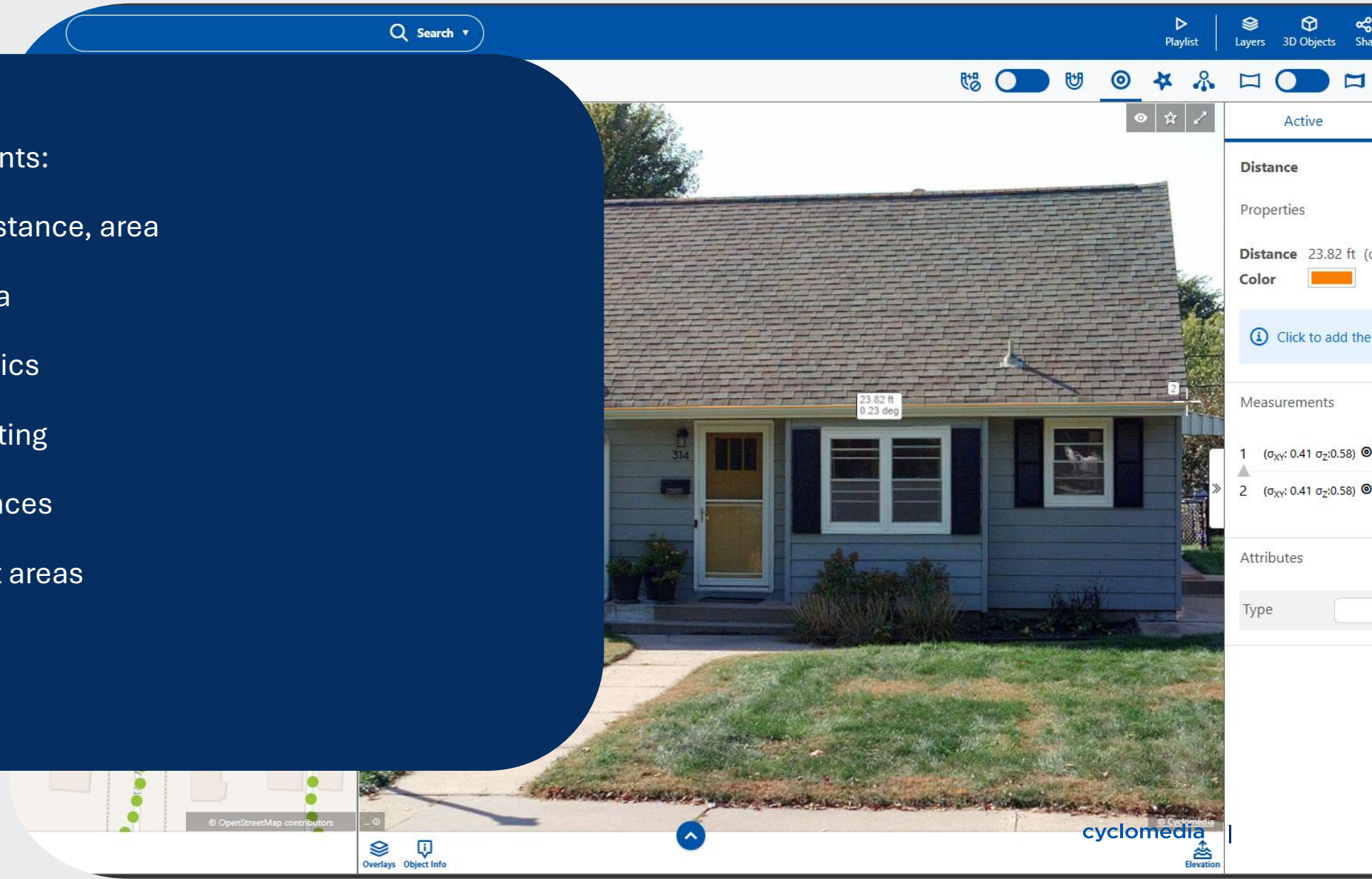
- Height, width, distance, area
- Verify sketch data

Property characteristics

- Condition and rating

Neighborhood influences

- Map assessment areas



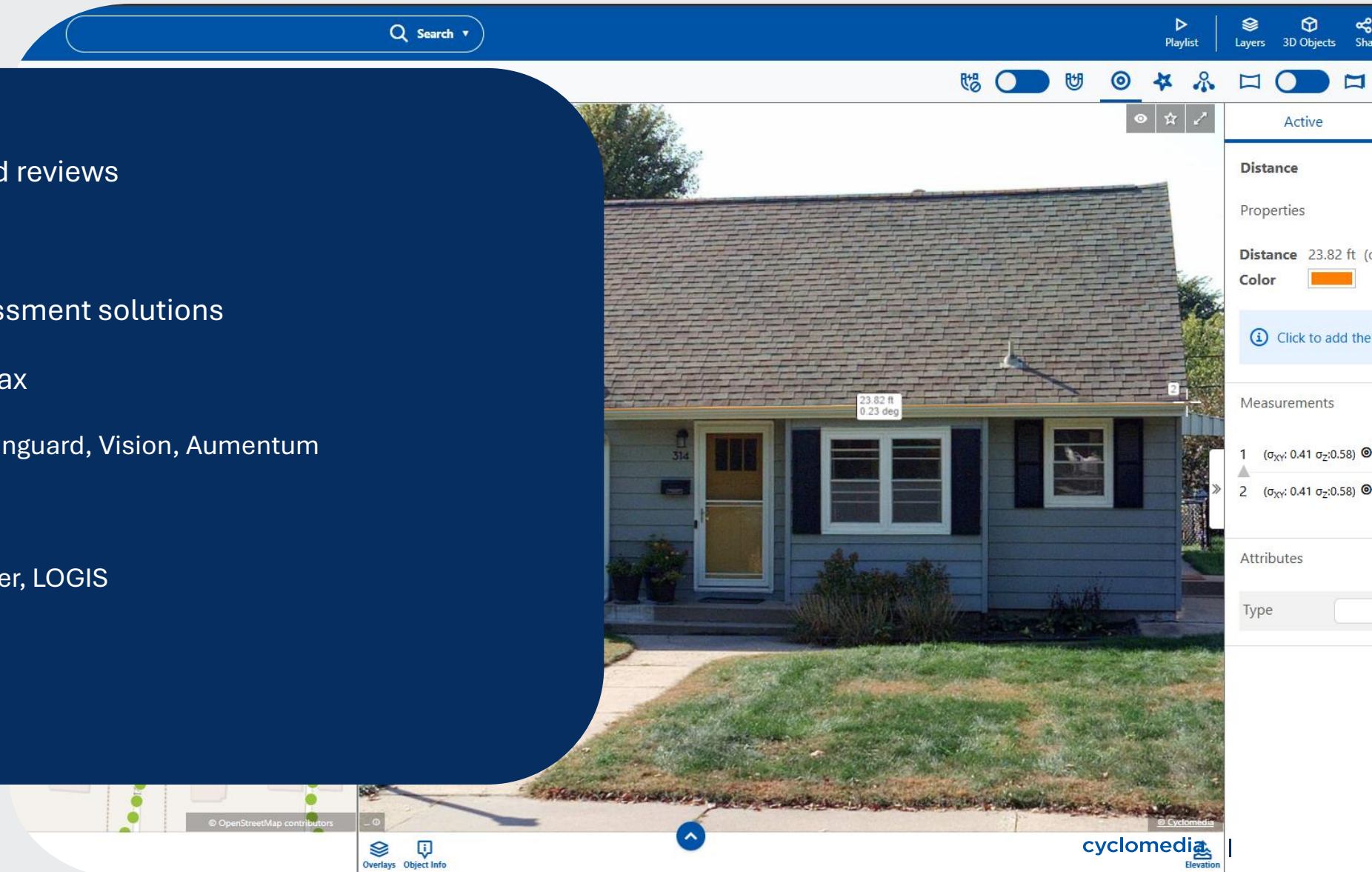
Property Assessment

Allows desktop-based reviews

- IAAO MARP 3.3.5

Integration with assessment solutions

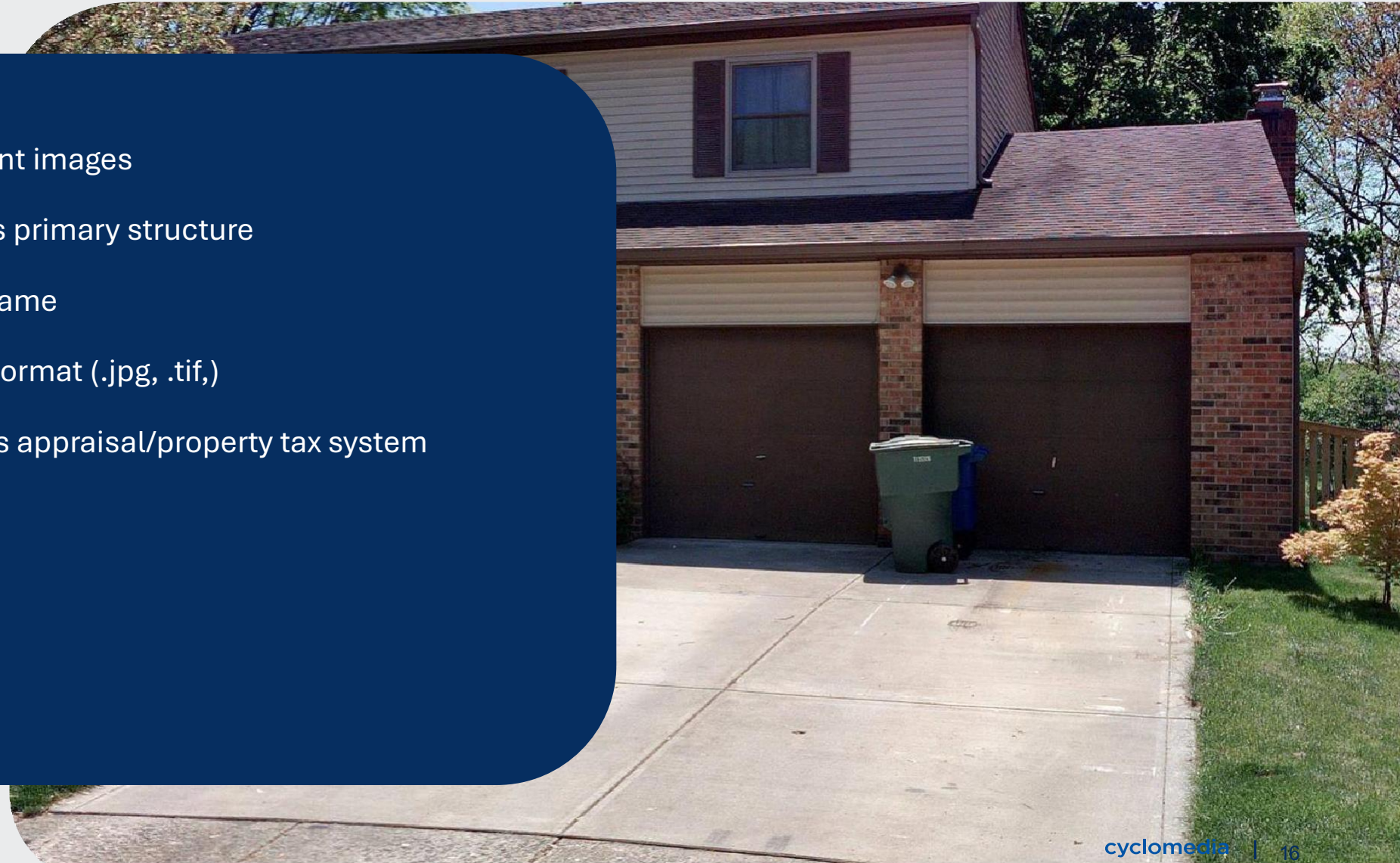
- CAMA/Property tax
 - Tyler Tech, Vanguard, Vision, Aumentum
- GIS applications
 - Esri, Schneider, LOGIS



Property Assessment

Standard property front images

- Oriented towards primary structure
- Parcel ID as filename
- Standard image format (.jpg, .tif,)
- Upload into mass appraisal/property tax system



Property Assessment / Community Development

1/26/2020
severity 1 - slightly damaged structure, some trash

severity 2

severity 3 - significantly damaged structure, lots of trash

severity 4

severity 5 - burnt structure, structural damage, unlivable

DeKalb - Batch 26 - Parcel 182 of 200
3507 Mosley Road Ellenwood, GA 30294
33.655660, -84.245991
2272446, 1329776
15 027 02 005



roof - damaged roof, boards, tarps, missing shingles, holes

siding - missing or damaged paint or siding, graffiti, holes

trash - trash in yard

windows - broken or boarded windows, tarps

Parks and Trails

Trail Management

- 48 miles captured
- Asset inventories
- Trail condition
- Vegetation management



Public Works / Engineering

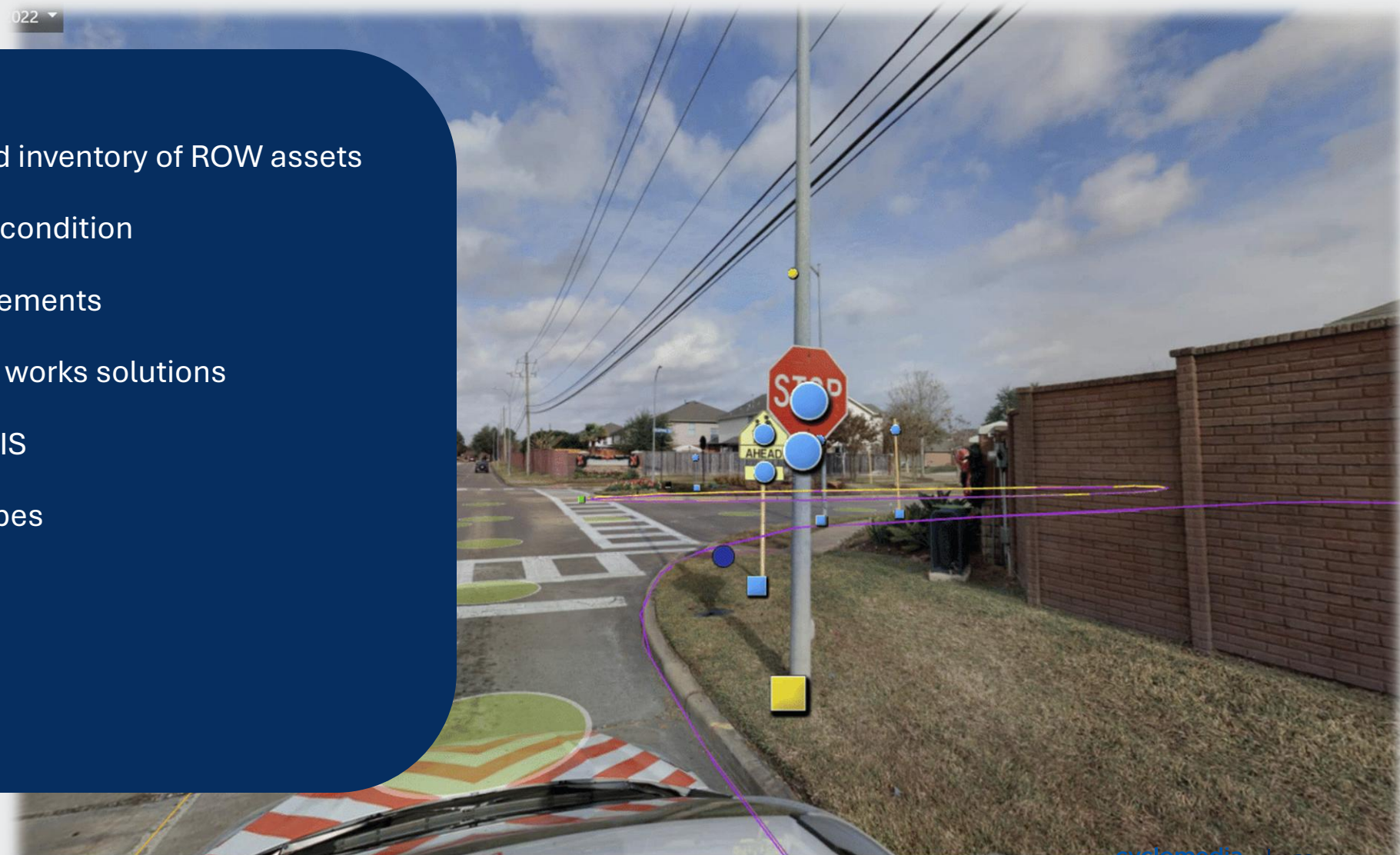
Rapid assessment and inventory of ROW assets

- 3D locations and condition
- Sub-inch measurements

Integration into public works solutions

- OMS, CAD and GIS

Digital Twin Streetscapes



Data Insights - 3D Data Assets



ADA Ramps



Pavement Condition



Traffic Signs



Road Markings



Public Lighting



Manholes



Road Features



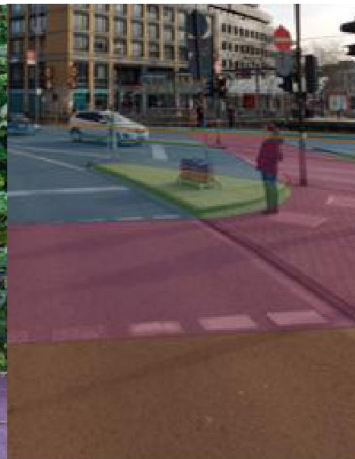
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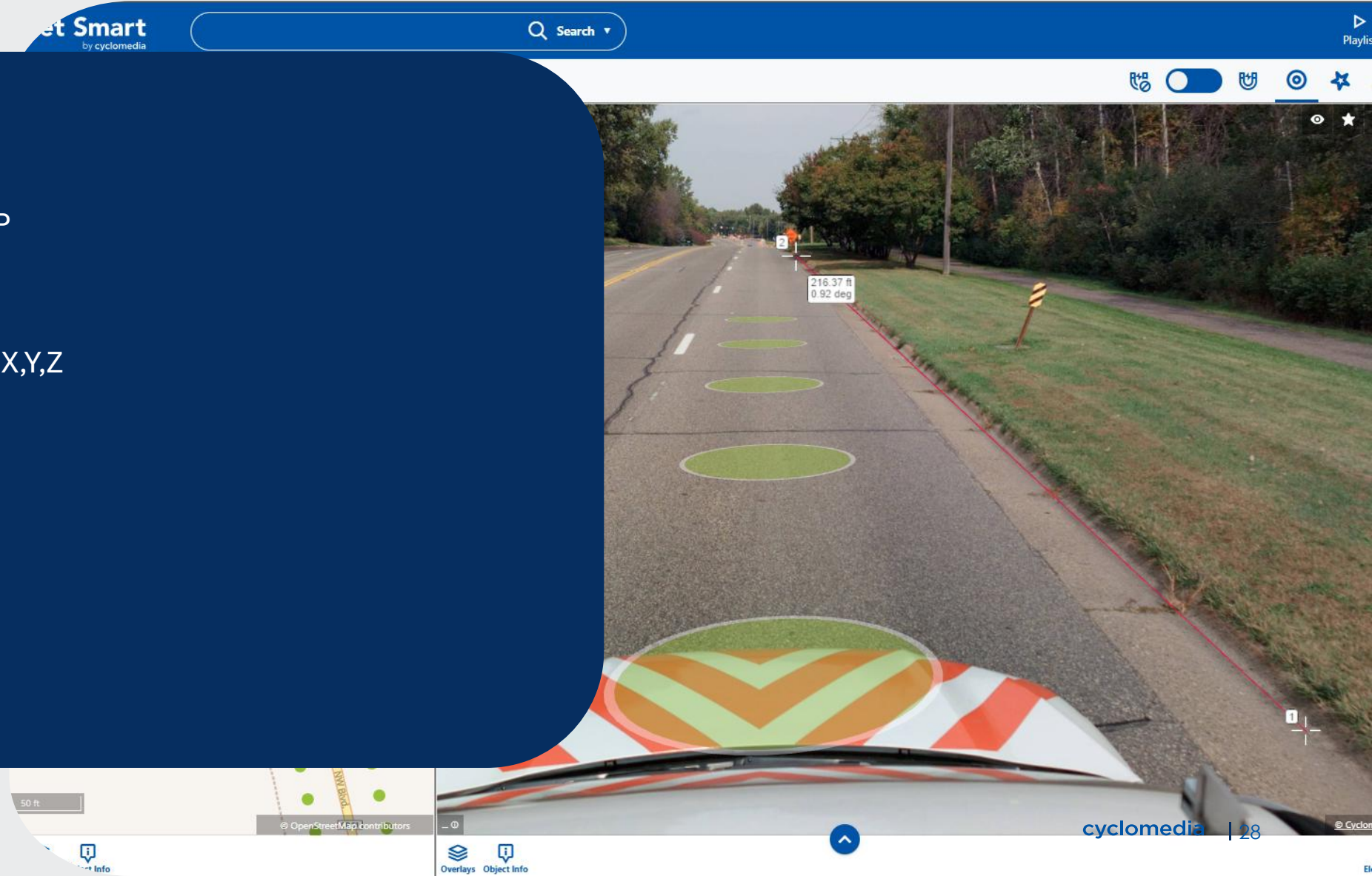
Fire Hydrants

Public Works / Engineering

Pavement Assets

Curb and Gutter / EOP

- Linear feature
- Begin X,Y,Z – End X,Y,Z
- Length
- SS URL



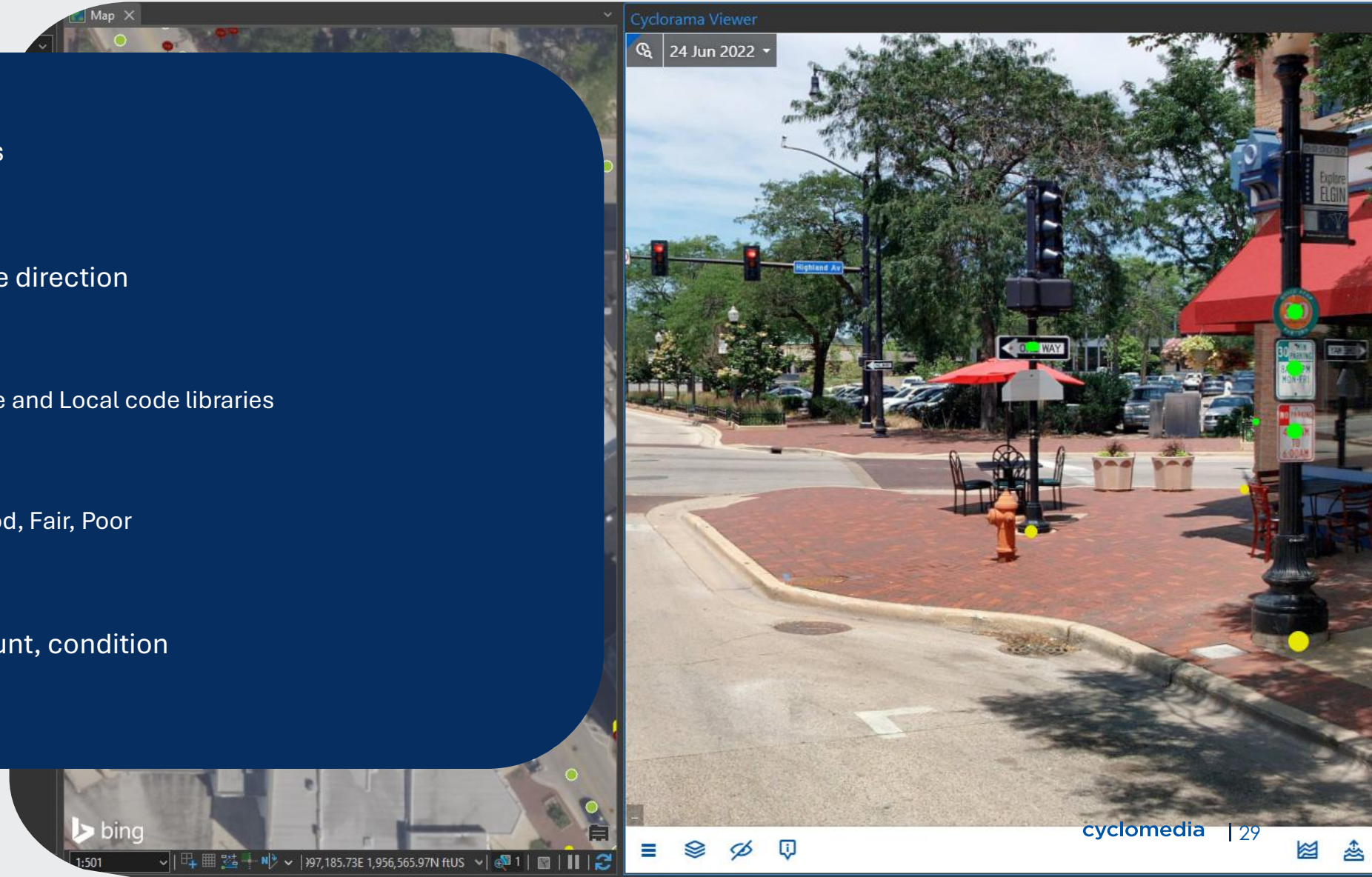
Public Works / Engineering

Traffic Signs/Structures

- X,Y,Z at center
- Height, width, face direction
- MUTCD code
 - National, State and Local code libraries
- Condition
 - Excellent, Good, Fair, Poor

Structure

- Post type, sign count, condition



Public Works / Engineering

ADA Transition Assets

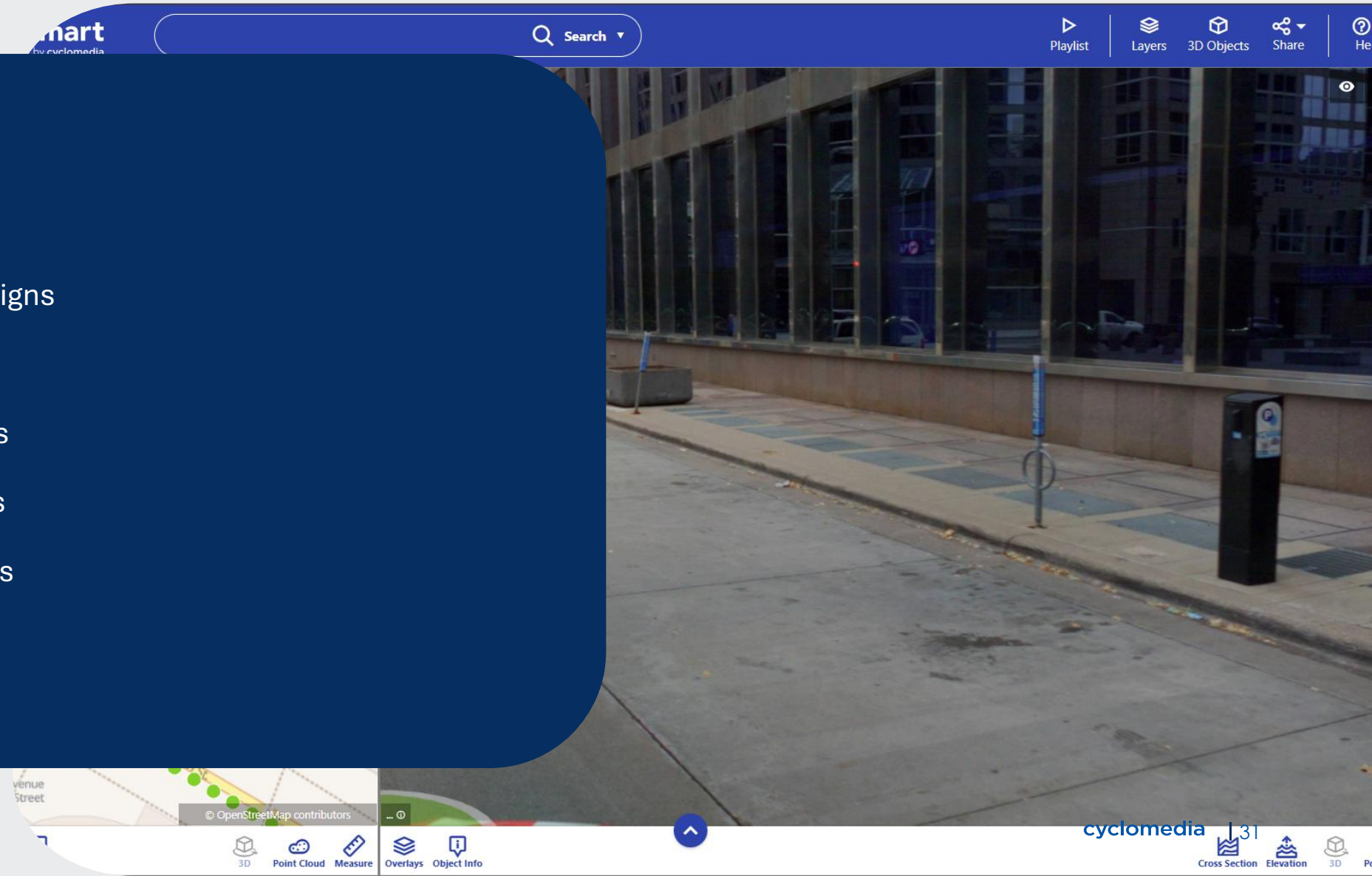
- DWS locations and ramp measurements
- Push Buttons
- Sidewalks
- Crosswalks



Public Works / Engineering

Curb Management

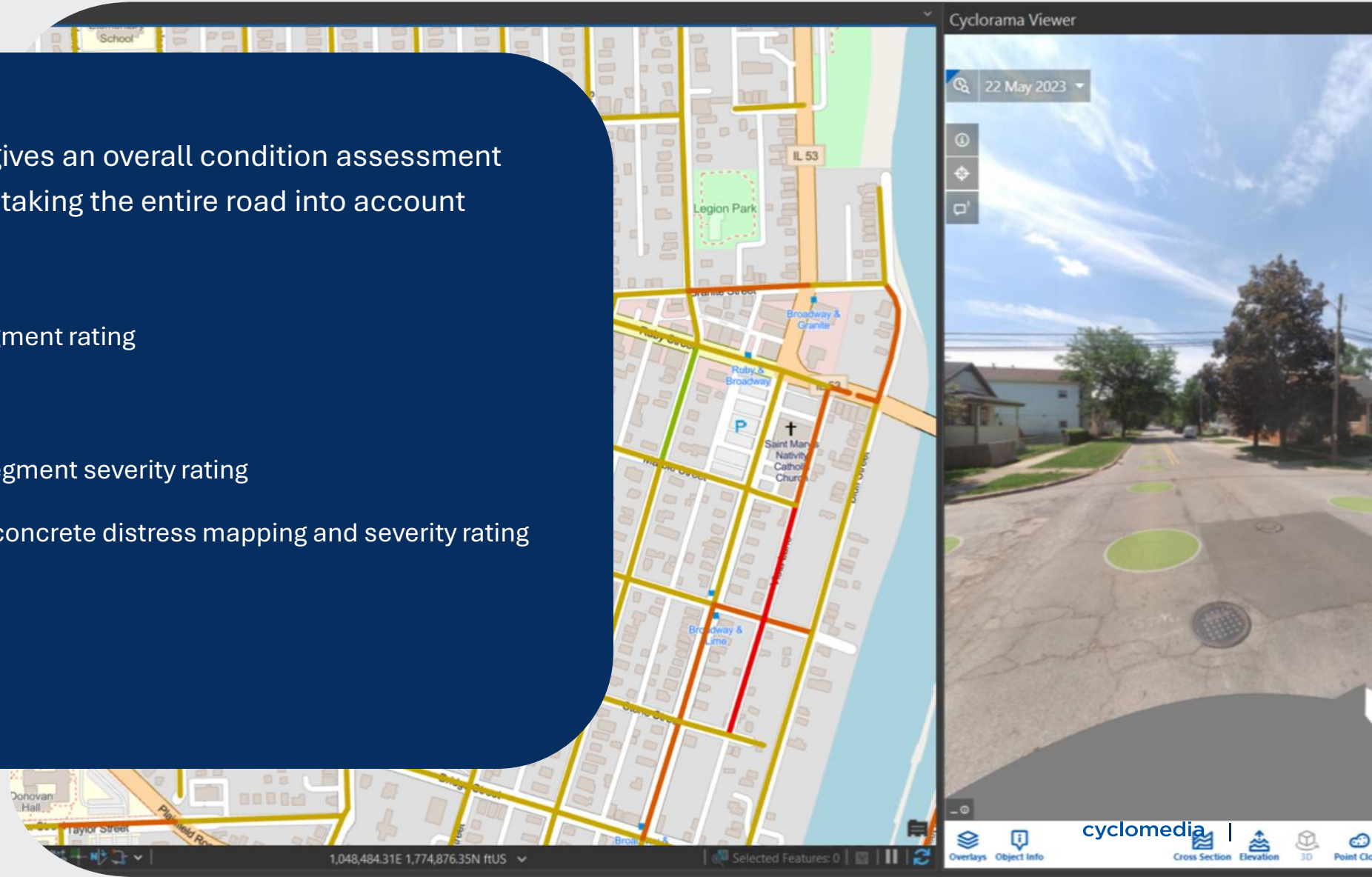
- Curb Condition
- Parking zones / signs
- Parking Meters
- Bike lanes / racks
- Bus lanes / stops
- Ride share assets



Public Works / Engineering

Pavement condition gives an overall condition assessment of the road segments taking the entire road into account

- RSA – PASER
 - 1-10 road segment rating
- RSA – ASTM
 - 1-100 road segment severity rating
 - Asphalt and concrete distress mapping and severity rating



Public Works / Engineering

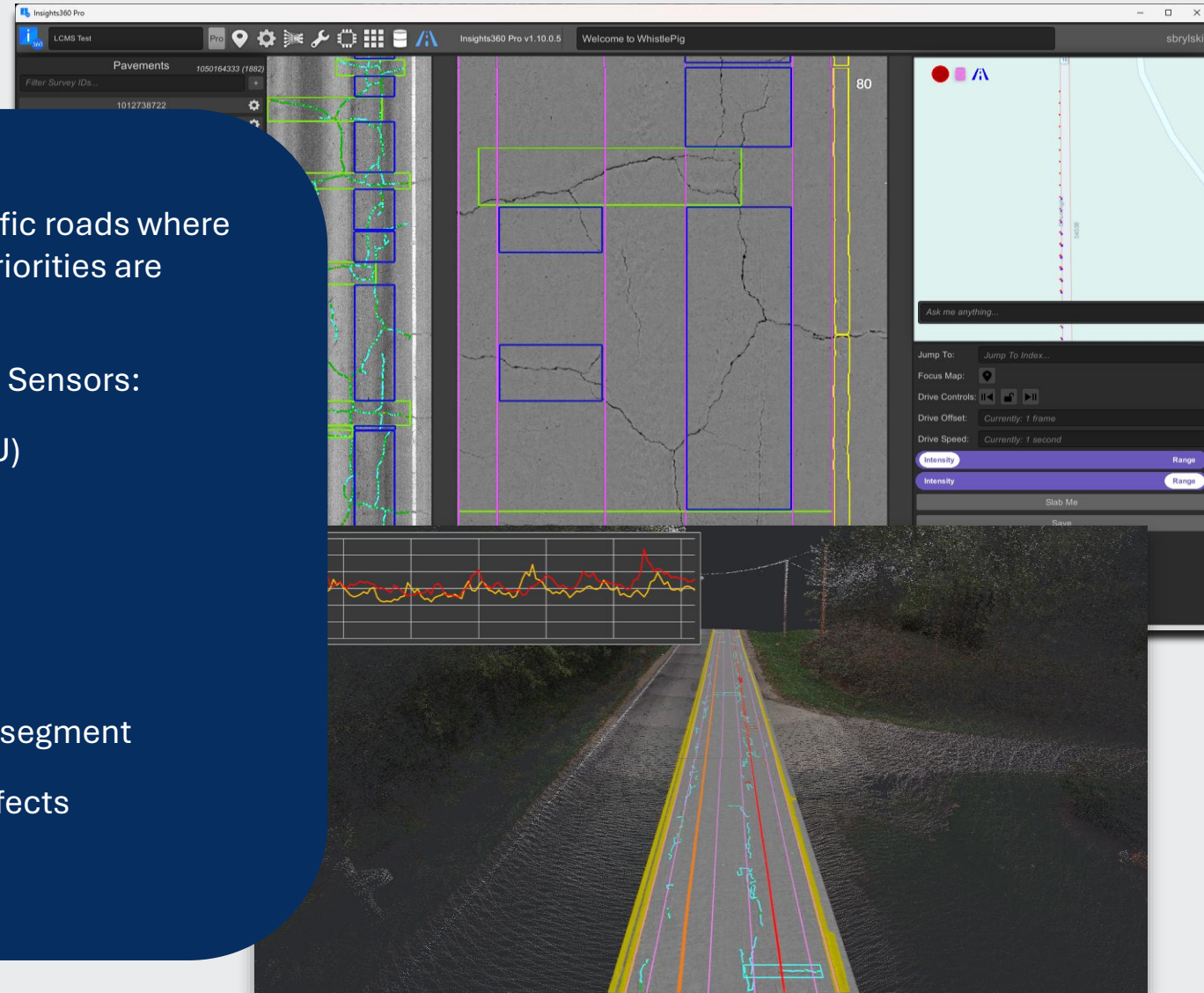
Pavement Condition analysis for high volume traffic roads where rutting and ride quality as well as maintenance priorities are difficult to maintain.

Street level imagery, mobile LiDAR and Advanced Sensors:

- Cyclomedia DCR10 (imagery, lidar, GPS, IMU)
- LCMS-2
- SSI Zero-speed profiler

Delivery includes:

- Overall quantity (area/length) of defects per segment
- IRI, Rutting, and other linear and polygon defects

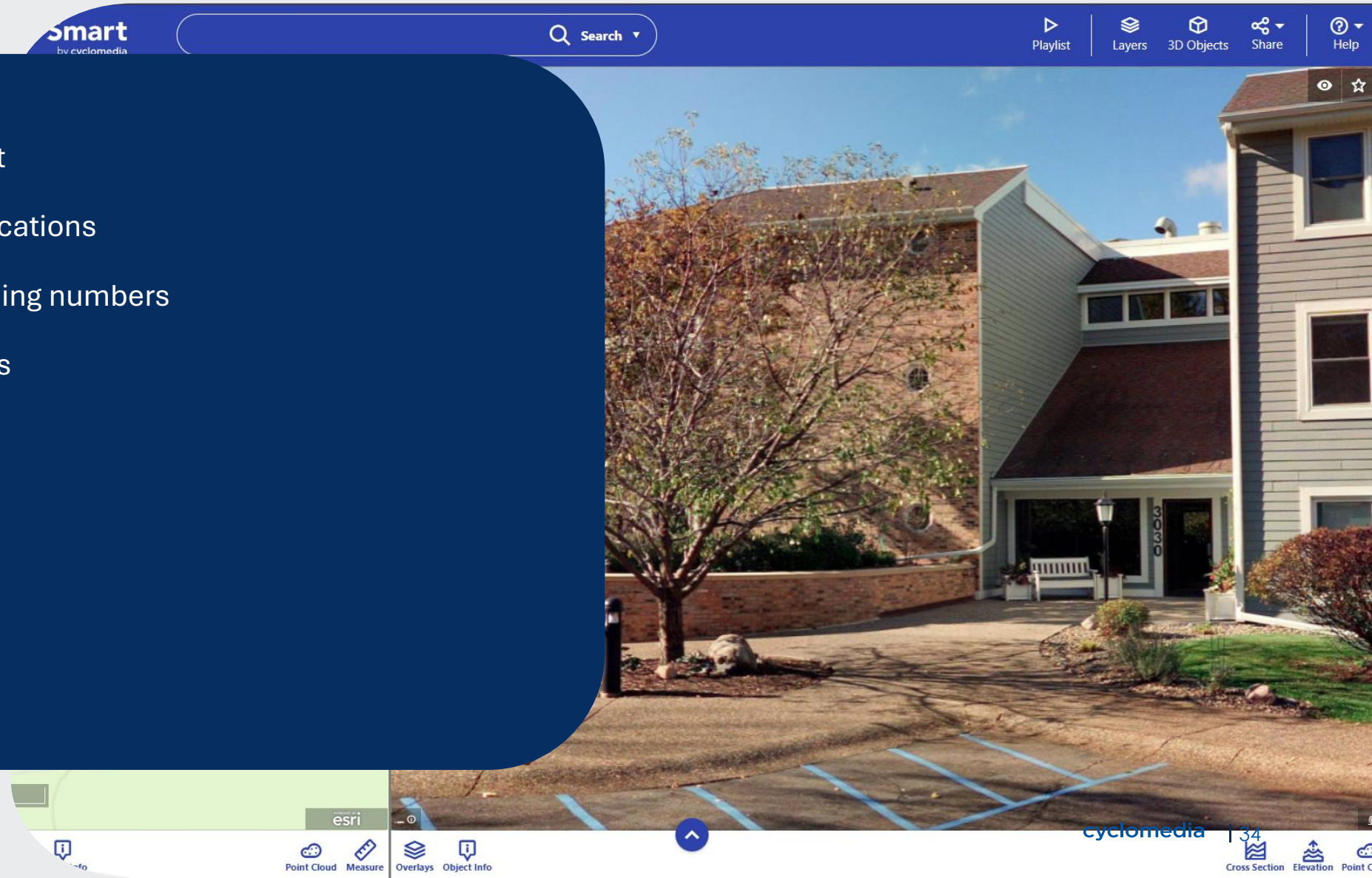


Public Safety /NG911

Address Management

- Verify address locations
- Apartment building numbers

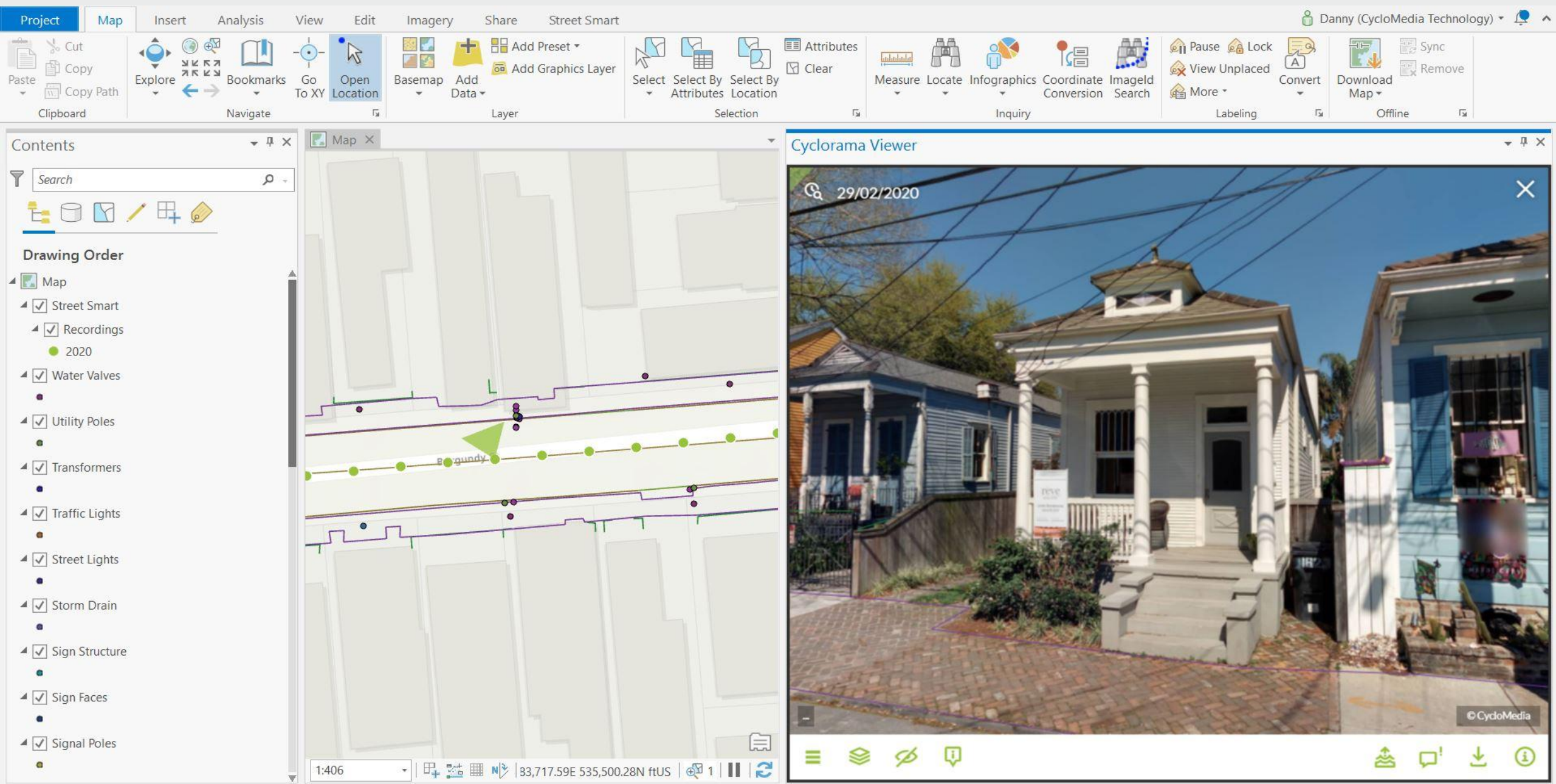
Situational awareness





Integrations

ESRI ArcGIS Pro Desktop Integration



ESRI Experience Builder

San Bernardino Pavement Distresses



San Bernardino Asphalt Segments

San Bernardino Individual Distresses

PCI_Score	PCI_Rating	SegmentID	CustID	Pavement	Length	InspectDat
70.51	Satisfactory	0	102400010	Asphalt	947.01	09/20/2020
53.54	Poor	1	102550010	Asphalt	155.87	09/20/2020
64.58	Fair	2	103450010	Asphalt	267.09	09/25/2020
30.78	Very Poor	3	104650010	Asphalt	2641.73	09/20/2020
73.56	Satisfactory	4	113350010	Asphalt	2975.62	09/25/2020
47.31	Poor	5	113350020	Asphalt	2380.48	09/25/2020

Tyler Technologies – CAMA Integration



AUDITOR OFFICE

SEARCH

ONLINE TOOLS

REFERENCE

CONTACT MICHAEL

- Summary
- Land Profile
- Residential
- Commercial
- Improvements
- Permits
- Mapping
- Sketch
- Photo
- StreetSmart**
- Aerial Photos
- Transfers
- BOR Status
- CAUV Status
- Tax & Payments
- Tax Distribution
- Tax Calculators
- Value History
- Rental Contact
- Incentive Details
- Quick Links

Parcel ID: 010-001045-00
TUCKER ROBERT

Map Routing: 010-K045 -107-00
677 MOLER ST



EagleView / Pictometry Integration

CONNECTEXPLORER™

Click a location to view.

Link Portal

S Home Search User

Esri World Street 6/19/2018

20 m

esri

© CycloMedia

© 2016 Pictometry

map: Auto (Oblique) Mar 2016 - May 2016 image 4 of 6 03/06/2016

20 ft 10 m

← → ↺ 🏠 <https://qpublic.schneidercorp.com/Application.aspx?AppID=960&LayerID=21179&PageTypeID=1&PageID=0&Q=1359694107&KeyValue=2> ... 🛡️ ☆

📁 Import bookmarks... 🌐 Getting Started ⚙️ Most Visited 🟢 Street Smart 🚗 Account Management... 🟡 Dynamics 🟢 NLC Events - National Leag... 📁 Other Bookmarks

ST. JOHNS COUNTY
PROPERTY APPRAISER
Eddie Creamer

St. Johns County, FL

Log In
Search

Layers | Map | Real Property Search | Results | Report | Sales Search | Sales List | Property Type Search | Tangible

Layer List | Legend

Quick Links:

- [Property Search](#)
- [Tangible Property Search](#)
- [View Map](#)

Layers:

Personal Property

- ☒ Parcels
- ☐ Parcel Numbers
- ☐ Address Numbers
- ☐ Yearly Sales
- ☒ Roads
- ☐ Railroads
- ☒ Cities
- ☐ Dimensions
- ☐ Tax Districts
- ☐ Special Taxing Districts
- ☐ Voter Precincts
- ☐ Water
- ☐ Sec-Twn-Rng
- ☐ Parks
- ☐ Subs And Condos
- ☐ Lots
- ☐ Zoning
- ☐ Flood Map
- ☒ County Outlines
- ☒ 2021 Pictometry
- ☐ 2020 Pictometry
- ☐ 2019 Pictometry

Parcel ID	2203800000	Physical Address	22 COQUINA AVE SAINT AUGUSTINE	Building Value	\$117,314	Last 2 Sales	
Property Class	0100 - Single Family	Mailing Address	HENDREN DANIEL PATRICK,FREEDOM RENEE	Extra Feature Value	\$14,137	Date	Price Reason Qual
Taxing District	City of St Augustine		22 COQUINA AVE SAINT AUGUSTINE FL 32080-4529	Total Land Value	\$151,940	11/1/1983	\$49000 01 Q
Acres	0.23			Just Value	\$283,391	n/a	0 n/a n/a
				Total Deferred	\$91,513		
				Assessed Value	\$191,878		
				Total Exemptions	\$50,000		
				Taxable Value	\$141,878		

Cyclomedia Panorama

12/1/2020

Results:

Parcel ID - 2203800000
Address - 22 COQUINA AVE
Owner - HENDREN DANIEL PATRICK,FREEDOM RENEE
HENDREN FREEDOM RENEE
Acres - 0.23
Sale Date - 11/1/1983
Sale Price - 49000
[View: Report | 360° View | Homestead Fraud | Sales Questionnaire | Google Maps opens in a new tab](#)

Parcel ID - 0174900080
Address - COUNTY ROAD 13 N
Owner - HENDREN ROBERT,SUSANNA ETAL
HENDREN SUSANNA HENDREN DANIEL P,FREEDOM R
HENDREN FREEDOM R
Acres - 3.1
Sale Date - 10/6/2017
Sale Price - 95000
[View: Report | 360° View | Homestead Fraud | Sales Questionnaire | Google Maps opens in a new tab](#)

Parcel ID - 2205600000
Address - 19 COQUINA AVE
Owner - HENDREN ROBERT,SUSANNA REV

CATALIS – CAMA integration

TEST AssessPro.NET - Version: 5.99.1102 : Database Version: 5.99.1102 - Welcome apro

Lookup by Criteria

Edit

Navigate

Tools

Settings

New Construction

Mobile

2016

Acct: 2435576

Street: POINSETTA AVE

City: CAPE CANAVERAL...

Owner: GAROFANO, DENNIS E

User Acct: 24 372302

4

Closed: ☒

ID: 24 3723-02--4

#: 7507

Show: All

All

Primary

Bldg: 1 - 1 Of 1

RE Account

Location

Owner

Misc

CATALIS™

ADVANCING GOVERNMENT. ENGAGING CITIZENS.

Add

Modify

Delete

Save

Calc

Cancel

Print

Test

This Year Only

A - Reg/Active

Bldg: 1

Of 1

Exemptions

GIS Pro

Curr MV: \$126,770

Prop Use: 0135 - TOWNH...

Mkt Sub: 171523

Res Mkt: 171523

Site Cd: 0001

Condo No:

Real Estate

Account Detail

Street Smart

Personal Property

Account Detail

Activity

Appeals

Buildings

Calc History

Comp Sales

Condo Detail

Contacts

District Inquiry

Districts

Document Links

Exemption Appli...

Exemption Deni...

Exemptions

Homestead Inv...

Inc Actual

Inc Approach

Land

Legal

Locations

Lookup Grid

Mobile Homes

My Images

My Tasks

NC- Reval Detail

New Construction

Notes

Other Assmnt

Other Assmnt/ ...

Owners

Permits

Prev Values

Real Estate

Descriptive Tables

Calculation Tables

Utilities

Processes

5/19/2013

© CycloMedia

Open

User: apro

Server: patsde

Database: Assess50BRevardGIS

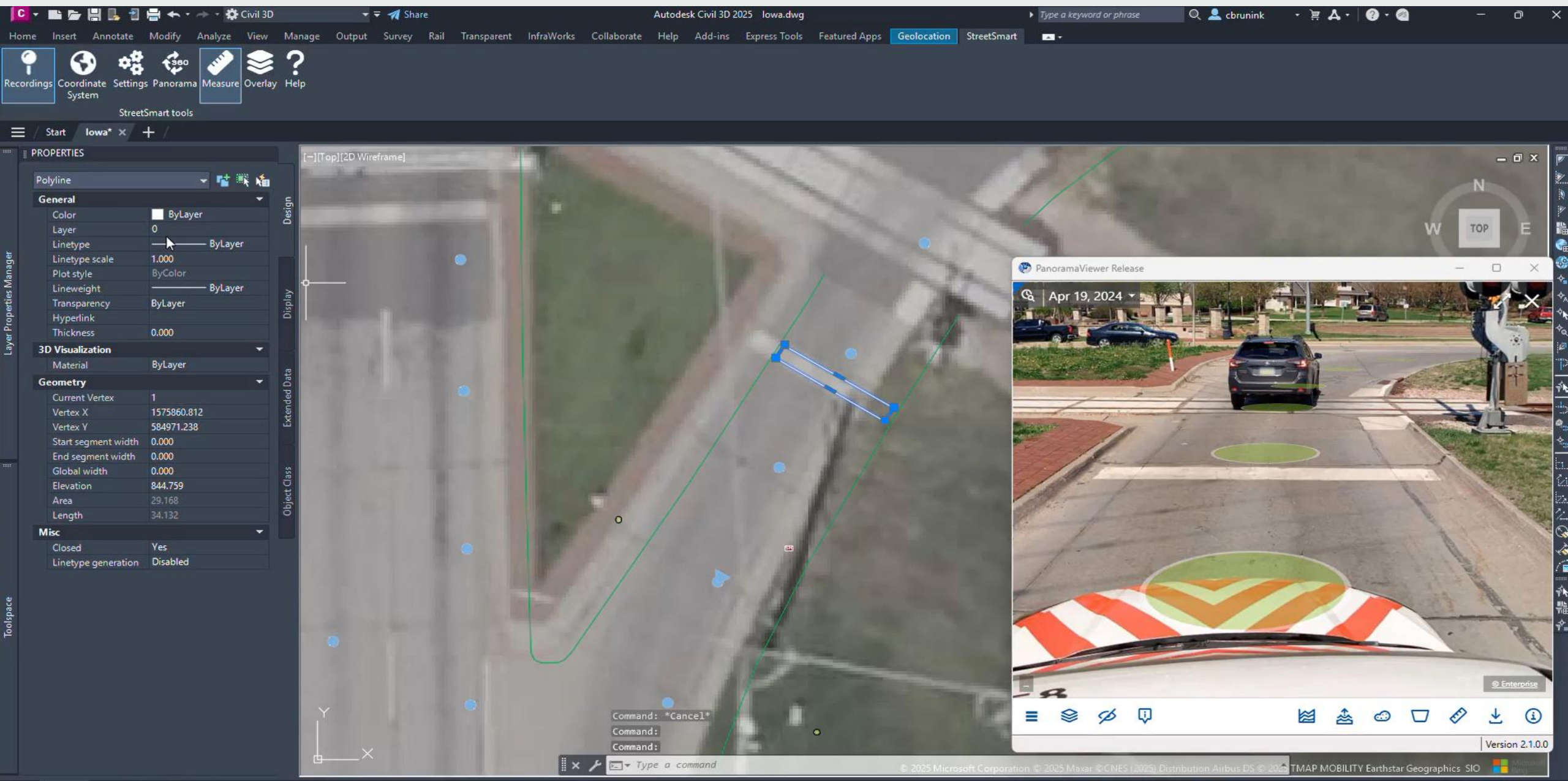
0 %

Type here to search

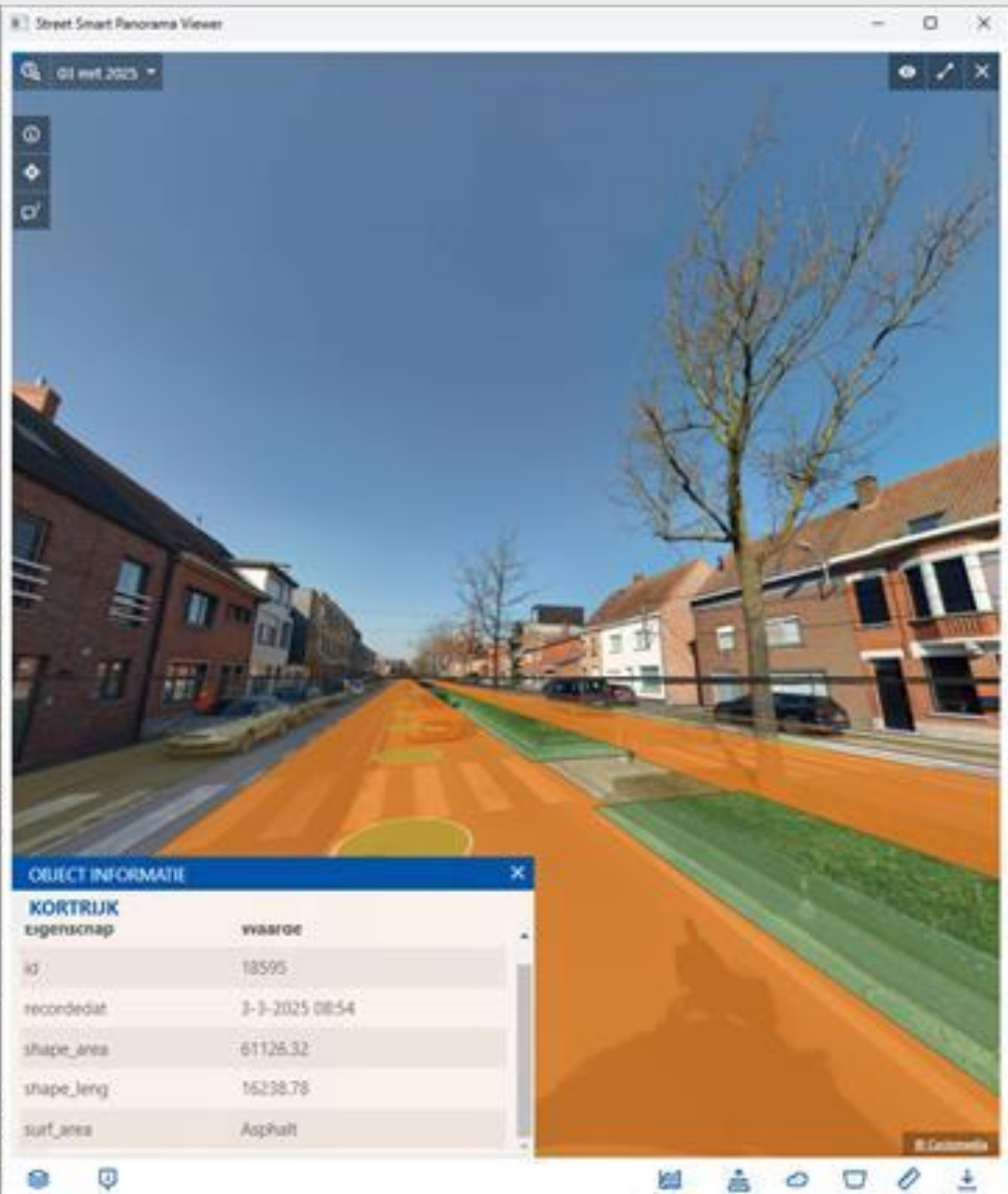
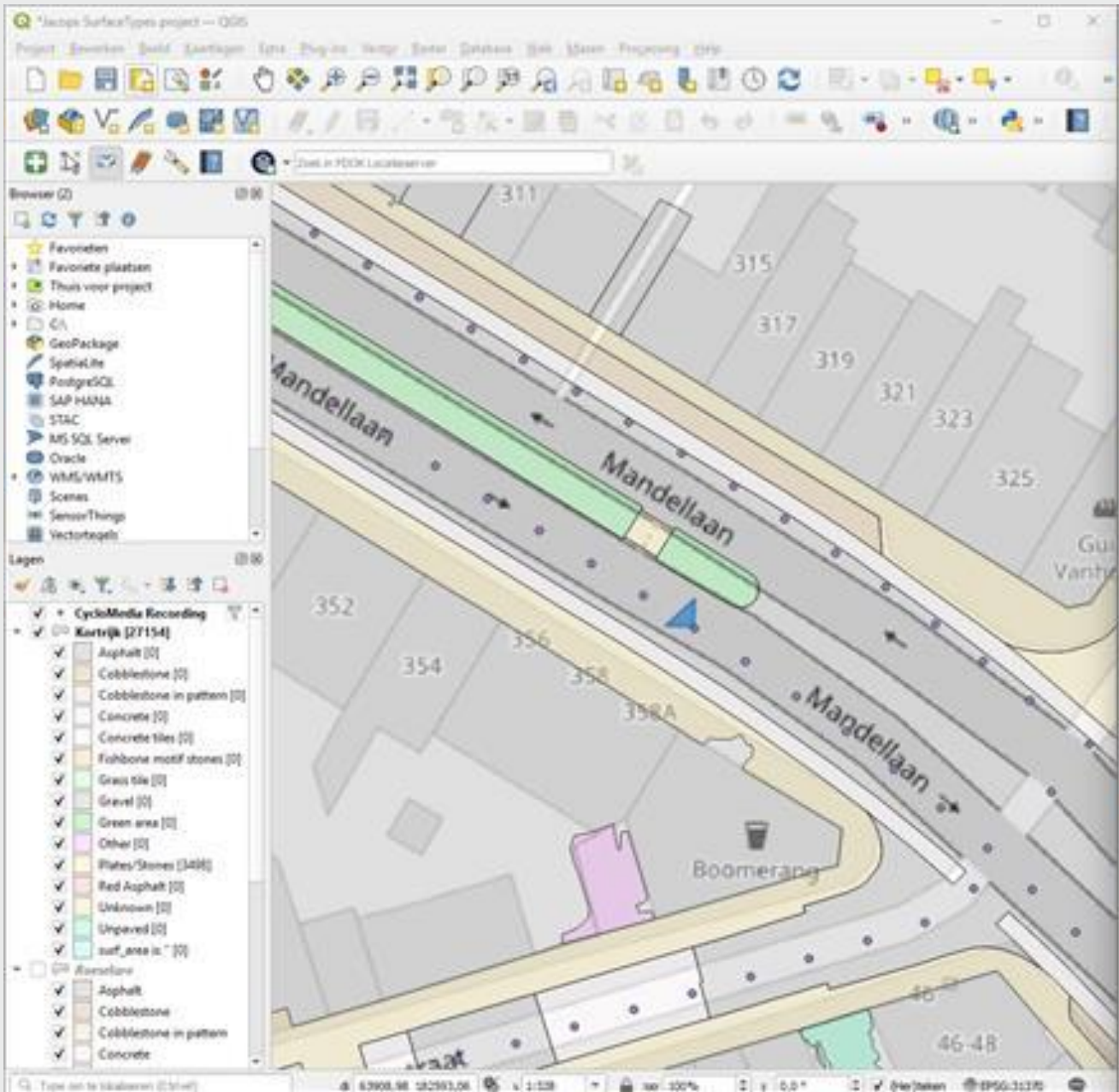
3:52 PM

11/2/2017

AutoCAD integration



QGIS integration



OpenGov/Cartegraph

Cartegraph

Requests

Work

Assets

Resources

Reports

Ben

Search

2

Back

Home > Assets

Create +

Reports

Actions

Assets

Add layer

All Water Hyd...

All Water Val... 43

All Supports 98

All Storm Ma... 74

All Signs 195

All Sidewalks

All Pavement 48

All Markings 22

All Light Fixt... 42

All Fences 28

All Trees 69

Map Filter

Search by address

Measure

Select

Street Smart for Ca...

+

-

256

255

125

144

BAGOT ST

85 m

Date (yyyymmdd): 20180903

S

Zoom to

City of Kingston, County of Frontenac, Ministry of Transportation, Ontario MNR, Esri Canada, Es...

POWERED BY esri

Asset Type

ID

Street

Estimated ...

Inspected ...

Criticality Fa...

Selected 0

1 - 1 of 619



Questions / Discussion



Thank You for your participation

Team Cyclomedia

Bill Wetzel