CT GIS Advisory Council Meeting

October 26, 2023

Data &
Policy
Analytics

CT Office of Policy and Management

Agenda

Data & Policy Analytics

Introductions

Introductory Remarks

Public Comment

Meeting Administration

GISO Priority Topics and Working Group Updates

- GIS Office Communications and Outreach
- Aerial Imagery
- Parcel Collection and Aggregation
- Broadband Mapping
- Parcel Creation Guidelines
- GIS Clearinghouse

GIS Strategic Plan

Addressing and NextGen911

Adjourn

Introductions

GIS Advisory Council

Appointing Authority	Appointee
OPM	Alfredo Herrera
OPM	Scott Gaul
DEEP	Stuart DeLand
ConnDOT	Jennifer Petrario
DESPP	Dan Czaja
DPH	Gary Archambault
CTCOG	Erik Snowden
CTCOG	Mark Hoover
CCM	Thad J. Dymkowski
CCM	John Guszkowski
UConn	Emily Wilson
PURA	Peter Sampiere
GA	Meghan McGaffin
GA	Vacant

Data & Policy Analytics

Introductory Remarks

GISO Priority Topics and Working Group Updates

Topics List

GIS Office Communications and Outreach

Aerial Imagery and Elevation Data Acquisition

Parcel Data Collection and Aggregation
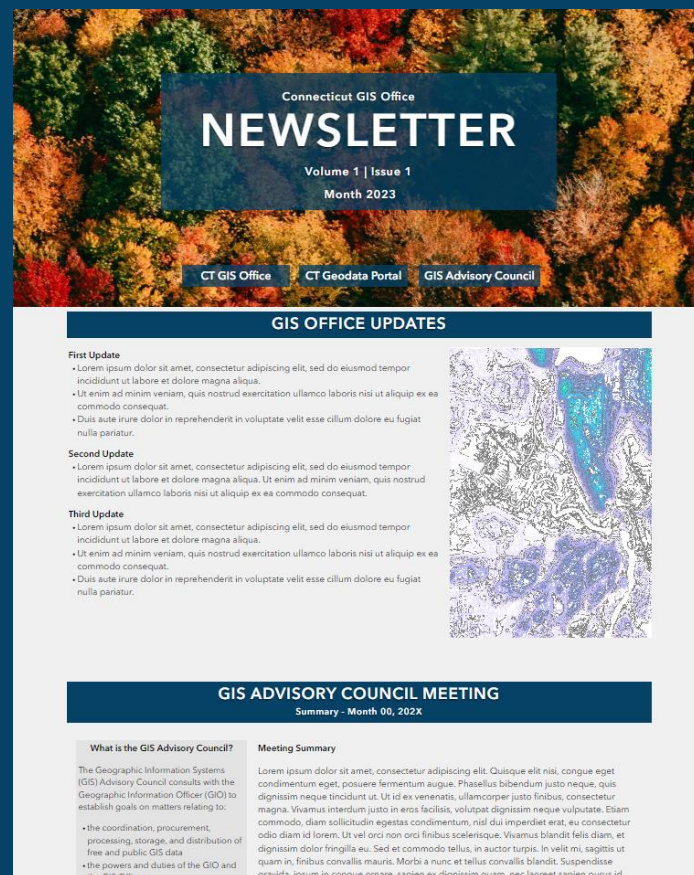
Broadband Mapping

Parcel Creation Guideline

GIS Clearinghouse

GIS Office Communications and Outreach

GIS Office Newsletter

- Newsletter will be published after every advisory council meeting. (First one will be out on Nov. 1, 2023)
- Will contain:
  - GIS Office Updates
  - GAC meeting updates
  - List of Upcoming Events and releases

New Interactions with State Agencies

- GIS Office collaborating with more and more state agencies to enable GIS and geospatial work.

Aerial Imagery Data Acquisition

Two imagery and LiDAR captures in Spring 2023 and Spring 2026.

Dewberry selected as the vendor, aerial acquisition complete, processing now underway.

Products purchased for both captures.

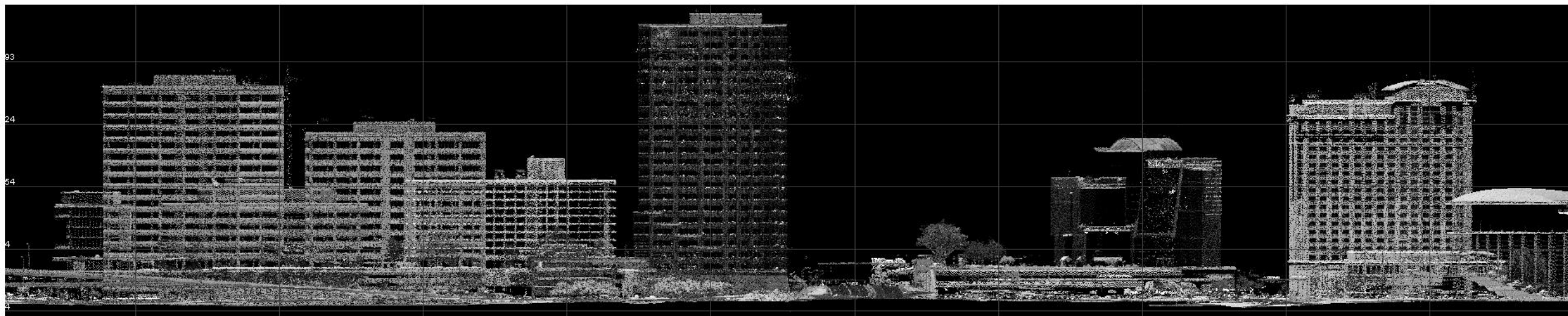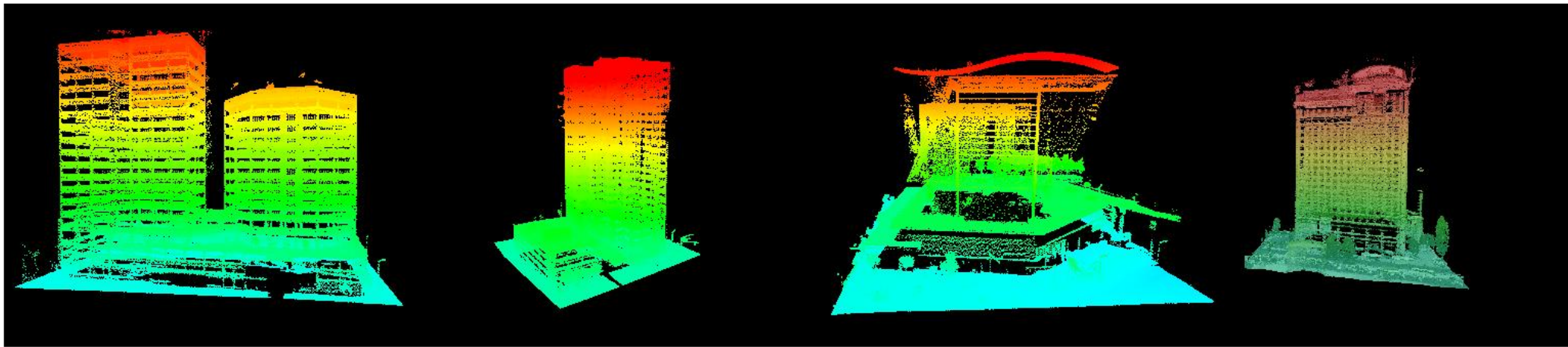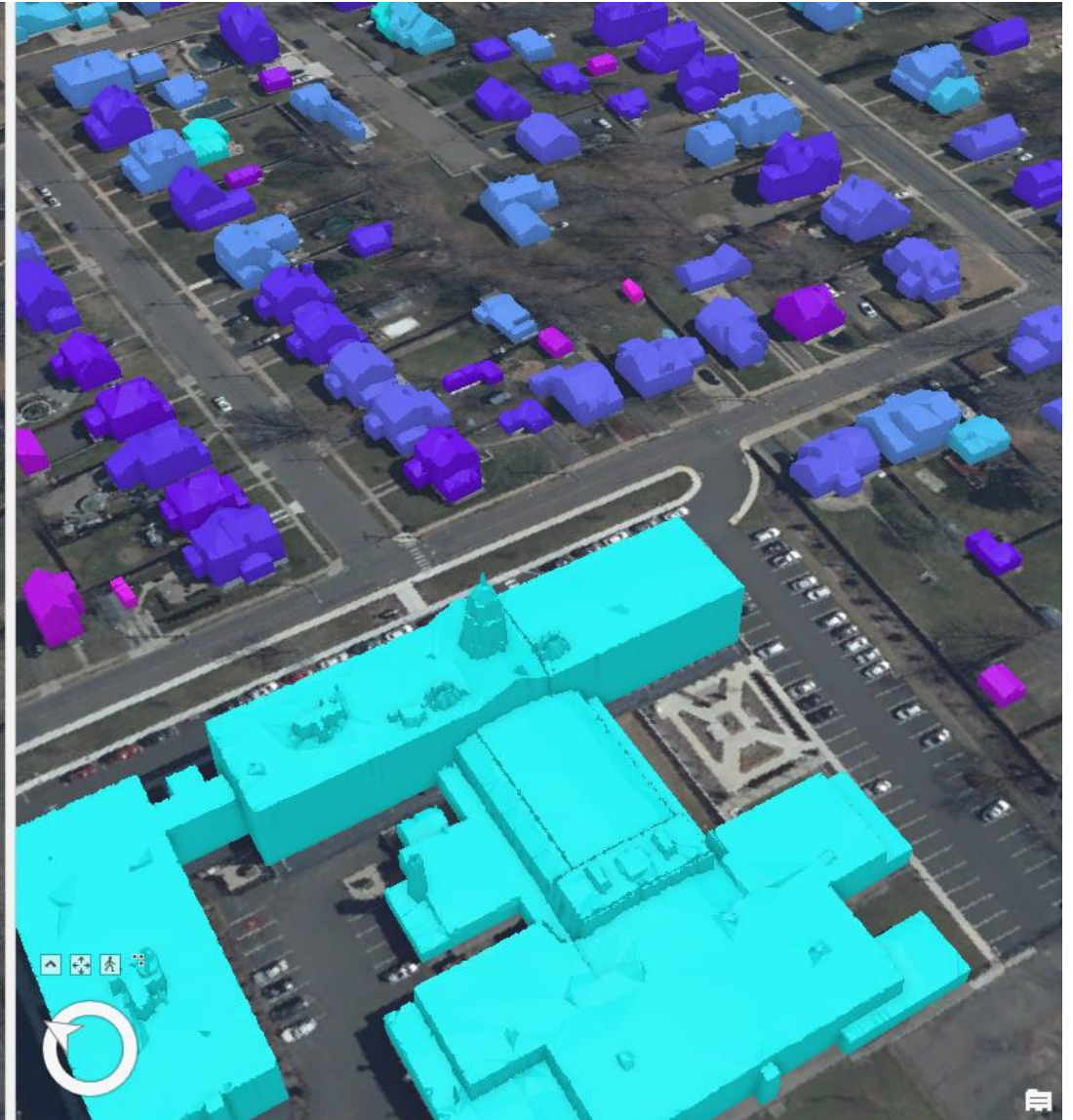| |
|---|
| 3" 4-band imagery |
| QL1HD LiDAR data (20ppsm coastal, 15ppsm inland) |
| ½ Meter DEM |
| 1 ft. Contours |
| Building Footprints |
| 3D Terrain and (LoD2) Building Models |

True Ortho

Not Corrected

Corrected

Lidar Point Cloud - Downtown Hartford

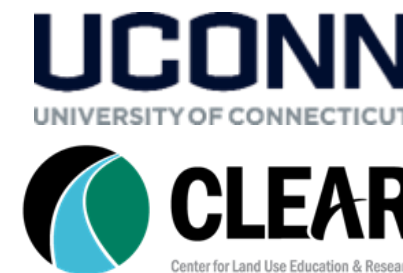# Derived Products – LOD2 3D Buildings

QA/QC Process

- Working on a plan to check imagery and LiDAR for quality and consistency during the bulk delivery period.

- Automation to be used to prioritize areas of interest for review.

- We will be reaching out for assistance with this task.

Hosting and Outreach

Collaboration with UConn CLEAR

- Publishing Image services to be made available on CT Eco and CT Geodata Portal

- Imagery and Elevation data to be made available as downloads

- Webinars, training, and other outreach material to be produced by both CLEAR and the GIS Office

- Workshops on using data products planned
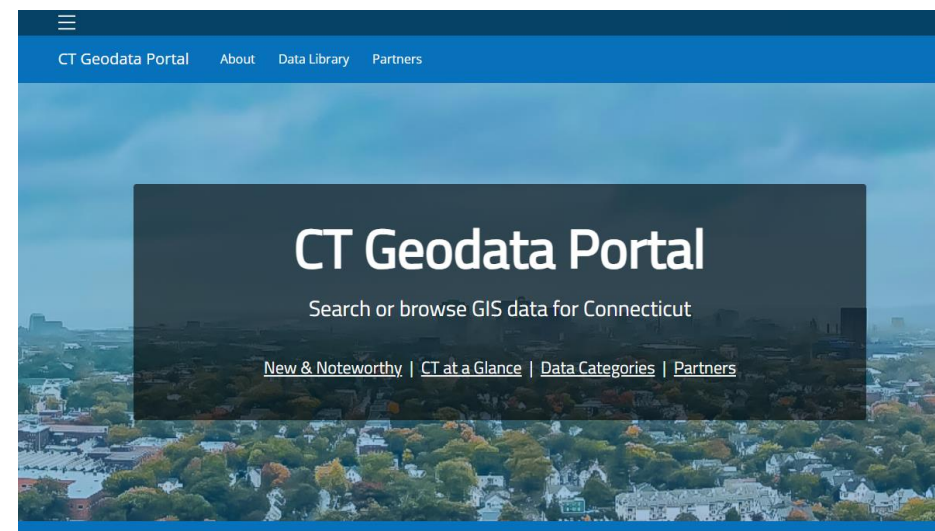
Parcel and CAMA processing

Broadband Mapping

Parcel Creation Guidelines

GIS Clearinghouse

- Statewide parcel layer complete, completing link field and domain verification and performance testing.

- Fourth data collection from ISPs complete to serve as a basis for the BEAD Initial Proposal. New public maps by Dec 1.

- Document is in the editing process and a draft will be submitted to the GIS Office by the end of the year.

Refer to memo

From: Carl L. Zimmerman, Ph.D. (GIS Coordinator for the GIS Office, CT OPM)
To: The Connecticut GIS Advisory Council
Re: Strategic Goals and Objectives for the 2023 Connecticut Geospatial Strategic Planning Process.
Date: October 24th, 2023

Summary:

This document includes five proposed Strategic Goals generated as part of the first annual Geospatial Strategic Planning Process and includes related objectives and activities for each item. Please review and prepare comments for the Advisory Council meeting on October 26th, 2023. These goals, as part of the CT Geospatial Strategic Plan, will be presented at the GIS Day on November 15th, 2023.

INTRODUCTION
The GIS Office coordinates and manages statewide GIS data acquisition, coordination, and related geospatial technologies. The GIS Advisory Council (GAC) and the GIS Office have a statutory requirement

What is a Geospatial Strategic Plan?

- ➤ Strategic Planning Workgroup

- ➤ Driven by statute

- ➤ A management activity used to set organization priorities, common goals, and assess and adjust the organization's directions (BSCI, 2023).

- ➤ Structured using Federal Strategic Planning Process Map (FGDC, 2009) and recent plans from Indiana, Montana, and Oregon
  - Provides a baseline for future DAPA Mission
  - Advisory Council, Geospatial Strategic Planning committee, other stakeholders

- Three parts
  - Data collection plan (April – June 2023)
  - Strategic plan (July-Oct. 2023)
    - Includes mission and vision statements
  - Implementation plan (October- Nov. 2023)

Updated Project Plan and Calendar

Month	Item	Notes
April 2023	Create and vet questionnaires Background and review of literature Project and communication plan	*Completed*
May 2023	Interviews and Surveys	*Completed*
June 2023	Initial data collection analysis	*Completed*
July 2023	Summary data collection report and analysis	*Completed*
August 2023	Strategic plan planning issues identified	*Completed*
Sept. 2023	Stakeholder outreach ((Farmington (*Completed*)) Internal review (round 1, *Completed*)	
Oct. 2023	Internal review (round 2, *Completed*) **Strategic Goals** with objectives and activities (*Completed*) Present document to Advisory Council (*Completed, today*) Deliverables (and Implementation plan)	
Nov. 2023	Present plan at GIS Day	Event scheduled and proposal submitted
Dec. 2023	Final reports and outputs to be completed	

Data Col.
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Impl Plan.

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Geospatial universe in CT:
The seven building blocks of geospatial strategy

1. Workforce:
   a. GIS Office
      i. Staff
   b. Education
      i. State of Connecticut workforce
      ii. Higher Education, CC, K-12
      iii. Geospatial workforce
   c. Cultural Values
      i. Equity and social values
2. Processes
   a. Governance
      i. GIS Advisory Council
         1. Municipalities
         2. Council of Governments
         3. Private sector
         4. Professional organizations
      ii. GIS Network
      iii. Technical Work Groups
      iv. Hub Initiatives
      v. OPM interactions
      vi. Vendor Management

3. Operations
   i. Broadband
   ii. Outreach to State Agencies
   iii. Outreach to other Stakeholders like Municipalities
   iv. CT Eco
   v. Web service (e.g. geocoding/addresses)
4. Technologies
   a. Data
      i. Standards creation
      ii. NSDI
      iii. Analysis and Downstream
      iv. Web services
   b. Infrastructure,
      i. Servers
      ii. Workstation laptops
      iii. GeoData Portal
   c. Applications
      i. Hub
      ii. Data Ingestion Application
      iii. SHPO

https://www.esri.com/about/newsroom/arcuser/how-to-review-a-geospatial-strategy/

Data & Policy Analytics

Survey ex: Roles of the GIS Office

Themes

- Some familiarity with the CT GIS Office and GIO, and excitement about the potential to bring together different GIS projects in the state.
- Desire for GISO to provide authoritative and high-quality data, data governance and maintenance, and collaborate effectively.
- Focus on big challenges and solutions
- Centralized programs and funding coordination are appreciated
- Funding for staffing and grants, imagery, land records program, and training

Survey 123: Open-ended question

How familiar are you with the CT GIS Office and what are your expectations for it?*

Follow-up:
Additional thoughts/concerns on the structure, funding, staffing, or governance aspects of the CT GIS Office?

Responses

- Identifying data work flows for non-geospatial wizards. I.e. I want to do x, what data layers do I use and how do I access them.
- To be connected and educate users and potential users on state GIS topics.
- Communication
- Offering suggested pathways to digitize data. In many cases that is the greatest barrier to higher level compilation.
- Geospatial lead agency in the state for data and standards.
- GIS Office should influence how data is gathered by CT departments. e.g. DOH gathers affordable housing data for each town but only publishes aggregate numbers, no GIS available to see concentrations
- Standardize GIS for the COGs -- some have a lot of staff, expertise, data, etc... Others have very little of the same. Push for statewide coverage of digital flood data.

Examples of issues ranked from internal prioritization of Strategic Goals

Strategic Theme/Issue	Strategies/Issues	Building Block Trend and (Year)	AH Yes/no	SG Yes/no	DL Yes/no	LH Yes/no	SH Yes/no	CZ y/n	Additional Themes
State Agencies	Talent pool is shallow in state agencies. Uptake of more sophisticated analysis approaches is limited outside of DOT, DEEP, DPH. Increase capacity	State Agencies (2023)	Y						Standards
Communication and Outreach	Improve awareness and utility of Geodata Portal as a tool for communication, visualization, and outreach	Geodata Portal (2023)	Y	Y		y	y		
Communication and Outreach	Ensure consistent, periodic communication between all levels of government and other stakeholders such as private sector using a variety of communication formats	Governance (2023)	Y	Y				y	

Note: Over 50 highest ranking themes and issues

Example of issues ranked from external prioritization of Strategic Goals

Engagement Workshop: Identifying Priorities and Themes for the Geospatial Strategic Plan

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WELCOME

Pick 8 from each list

• Data Collection Themes (2+)

- Limited use and awareness of the geodata portal but believe it will be beneficial in time. Stakeholders suggested outreach, advertisements, and demonstrations to increase use.
- Two important themes: Hands-on learning and tailoring education to specific needs of stakeholders.
- Better communication across levels of governments and domain areas were received. Stakeholders want consistent and regular communication formats.
- Lack of Sustainable funding: desire for authoritative data sets and standardization requires ongoing procurement and planning. Stakeholders continue to mention this need.
- Support small towns with data and technical support. A few worries were noted about the issues of centralization
- Data sets and frequency of capture: Addresses and Cadastral data were considered by stakeholders to need the most frequent update

• Strategic Themes (2+)

- Improve awareness and utility of Geodata Portal as a tool for communication, visualization, and outreach
- Expand outreach and support to State Agencies to better support their use of GIS
- Expand geospatial literacy, GIS Science methods, and ethical use of geospatial data for state workforce and administrative leadership
- Identify professional groups that should be actively sought for participation in GIS Advisory Council (ex. NGOs, Surveyors, other Universities
- Support centralized access to data
- Parcel acquisition system and data quality has been problematic and difficult to organize (data acquisition system)
- Improve and formalize training to State Agencies to improve overall geospatial literacy
- Invest in technologies that allow parcels and other data to be collected in a less burdensome fashion from towns and COGs
- Improve visibility usage and data on Geodata Portal

#14

: **Data (Vote for Category here:)**

Focus	Issues from Data Collection	Vote Issue Here
Data Distribution, Services, and Standards (2023)	1. Stakeholders want centralization, standardization, and authoritative data sources. 2. Stakeholders want data sources with standards to improve integration, accuracy, and interoperability. 3. Ortho-imagery, cadastral data, and governmental unit data were considered highly important to respondents, and they want them supported. 4. High-resolution land cover, building, and addresses were also important. Other important data sets from open-ended responses were transportation, environmental and infrastructure/utilities. 5. Addresses and Cadastral data were considered by stakeholders to need the most frequent update along with ortho-imagery, transportation data sets, land-use/land cover, and planimetric data. 6. Parcel quality and standards has been problematic and	

Data collection winnowing
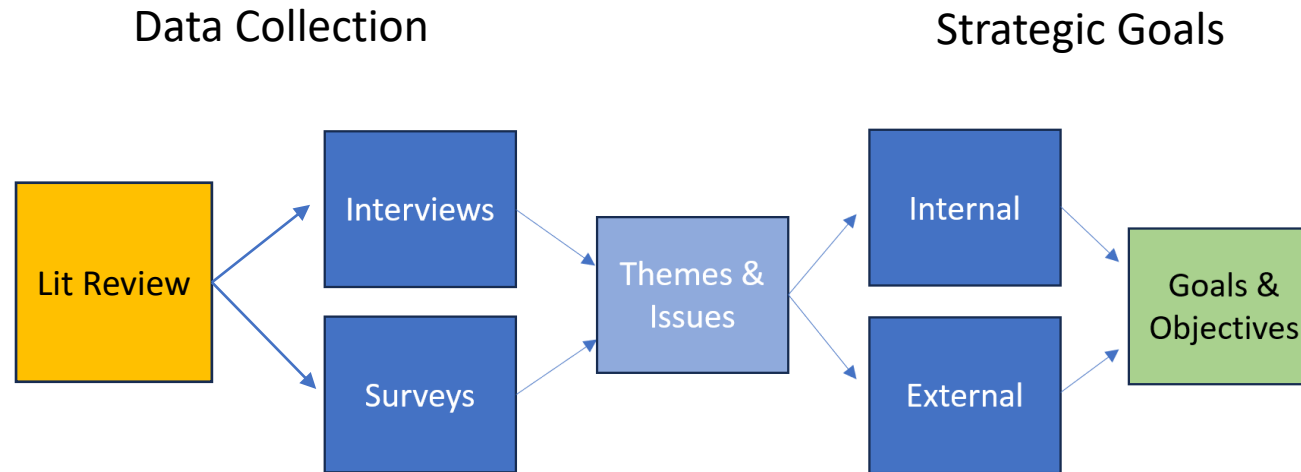
Highest ranking themes

- ❑ **The role of the GIS Office and communication with stakeholders**
- ❑ **Support of local communities and organizations**
- ❑ **The role of the GAC**
- ❑ **Optimizing the usage of the GeoData Portal**
- ❑ **GIS data, standards, acquisitions, and services**
- ❑ **Planning for future funding of imagery**
- ❑ **Societal and equity issues**

Dept. of Commerce: Geospatial Strategic Action Plan

Goal 3: Enable and promote collaborative partnerships

Enable and promote collaborative partnerships to meet Commerce geospatial needs, priorities, and missions

OBJECTIVES	ACTIVITIES	DELIVERABLE	RESPONSIBLE PARTIES	TARGET DATE
Objective 3.1: Support the international geographic communities and share our expertise globally	3.1.1 Continue to lead and participate in the UN-GGIM US Delegation activities	UN-GGIM Annual Session working group reports and/ or intervention statements	Agency UN GGIM delegates	Ongoing
Objective 3.2: Foster partnerships to support NGDA themes by engaging with external and internal groups and communities	3.2.1 CGWG reporting on the NGDA activities to the CDGB and GDA WG	CDGB meeting minutes, GDA WG meeting minutes, and OIG Audit Report	SAOGI, CGWG	FY23 Q4
Objective 3.3: Develop a Commerce	3.3.1 CGWG will assess current partnership agreements, and develop a proposed approach for	Proposal for leveraging partnerships	CGWG	FY22 Q3

UN Strategic Plan

THE STRATEGIC DRIVERS OF THE GEOSPATIAL STRATEGY

VISION
The effective, efficient and universal use of geospatial information in support of all mandates and operations of the United Nations for a better world

MISSION
To mainstream the use of geospatial information across the United Nations for unified, integrated, and accessible information, analysis, and visualization for evidence-based decision-making and action in support of the mandates of the United Nations

STRATEGIC DRIVERS
Charter of the United Nations and its five main mandates on peace and security, human rights, international law, humanitarian aid and development 2030 Agenda for Sustainable Development

PRINCIPLES

Global values & mandates	Strategic leadership	Collaboration, cooperation & subsidiarity	Reliable, transparent & accountable	Integrative & innovative solutions	Insightful, accessible & actionable	Sustainable & valued

GOAL 1
Universal fundamental global geospatial data, standards, methods, tools and services

DELIVERY
Strengthen geospatial mandates, activities and authoritative services to underpin all aspects of the work of the Organization

GOAL 2
Geospatial information benefits to mandates, operations & decision-making requirements

DELIVERY
Enhance innovative geospatial services & analytics for users' problem-solving and decision-making for the mandates of the Organization

GOAL 3
Capacity, expertise and integrated geospatial systems across the Organization

DELIVERY
Foster a global, integrated & multi-disciplinary geospatial services delivery across the United Nations system, to "Deliver as One"

GOAL 4
Awareness on geospatial information and harness international partnerships

DELIVERY
Engage in partnerships with the global community for enhanced geospatial capacity & delivery for societal, environmental and economic benefits

STRATEGIC PATHWAYS

DATA & STANDARDS | CAPACITY & TALENT | GOVERNANCE & POLICIES | INNOVATION | COMMUNICATION | PARTNERSHIPS

Format: Goals > Objectives > Activities

Goal 4: *Provide direct analytic support and enhance capacity building for State Agencies*

Objectives	Activities	Notes
Objective 4.1: Improve geospatial literacy and ethical use of geospatial data across Agencies and enlarge the community of practice for the state workforce	Provide direct trainings, learning materials, and technical support to Agencies including consultancy-type services	
Objective 4.2: Enhance access to geospatial analytic services and improve analytic capacities of Agencies	Build agency specific web applications for critical data sets	
	Provide regular technical and analytic assistance such as a regular help desk or office hours	
	Encourage spatialization of data to improve interoperability	

Strategic Planning Goals

Goal 1

- *Use effective governance, policies, and standards to manage geospatial data*

Goal 2

- *Implement a sustainable funding model for imagery acquisition, GIS data, and geospatial technologies*

Goal 3

- *Increase access to data, spatial analysis, web services, and visualization capabilities for local governments, community organizations, the private sector, and other stakeholders*

Goal 4

- *Provide direct analytic support and enhance capacity building for State Agencies*

Goal 5

- *Broaden communication and engagement across different levels of government and other organizations*

Refer to memo

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INTRODUCTION

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Responses and comments?

Can provide specific written comments to CZ or AH...

Scope of goals, tone?

Objectives?

Activities?

Carl.Zimmerman@ct.gov

Alfredo.Herrera@ct.gov

Addressing and NextGen911

Connecticut 9-1-1
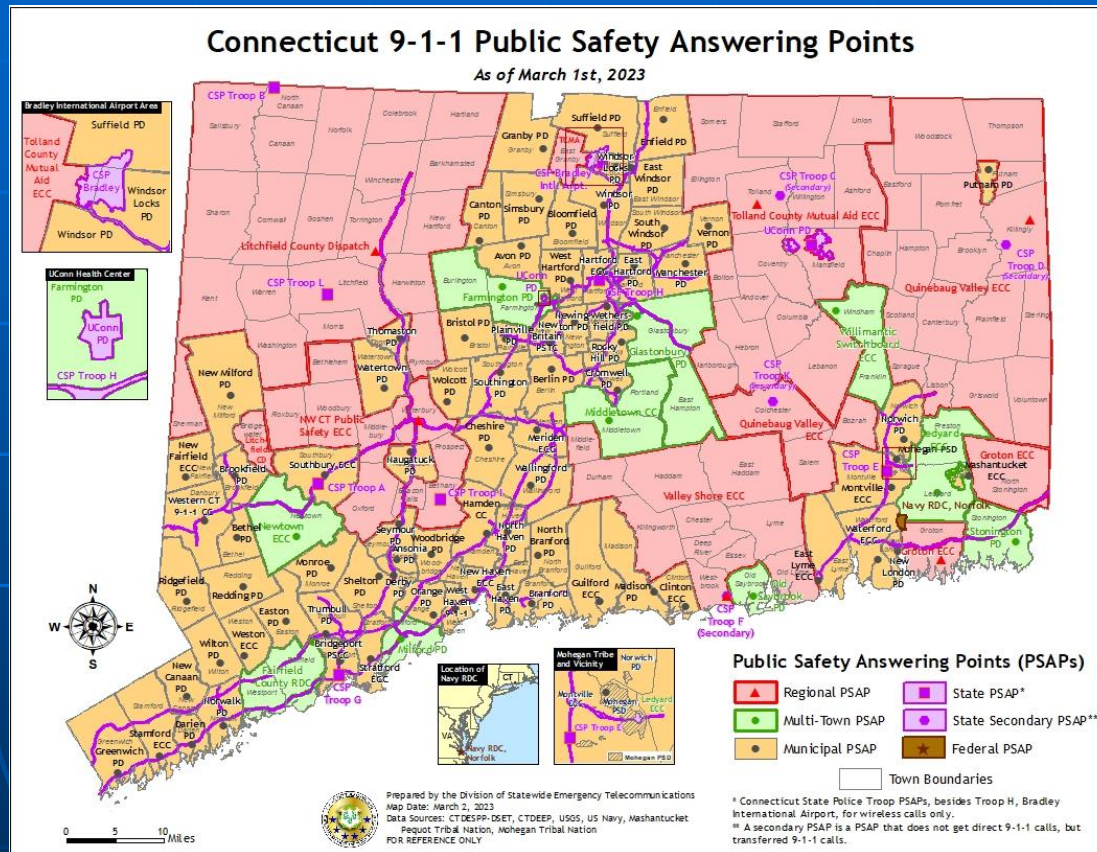

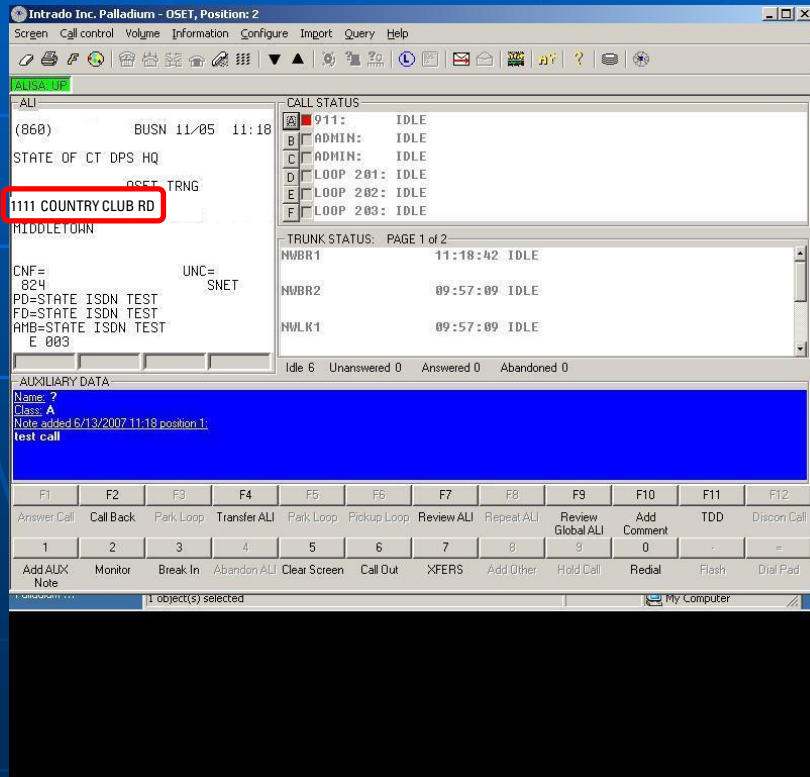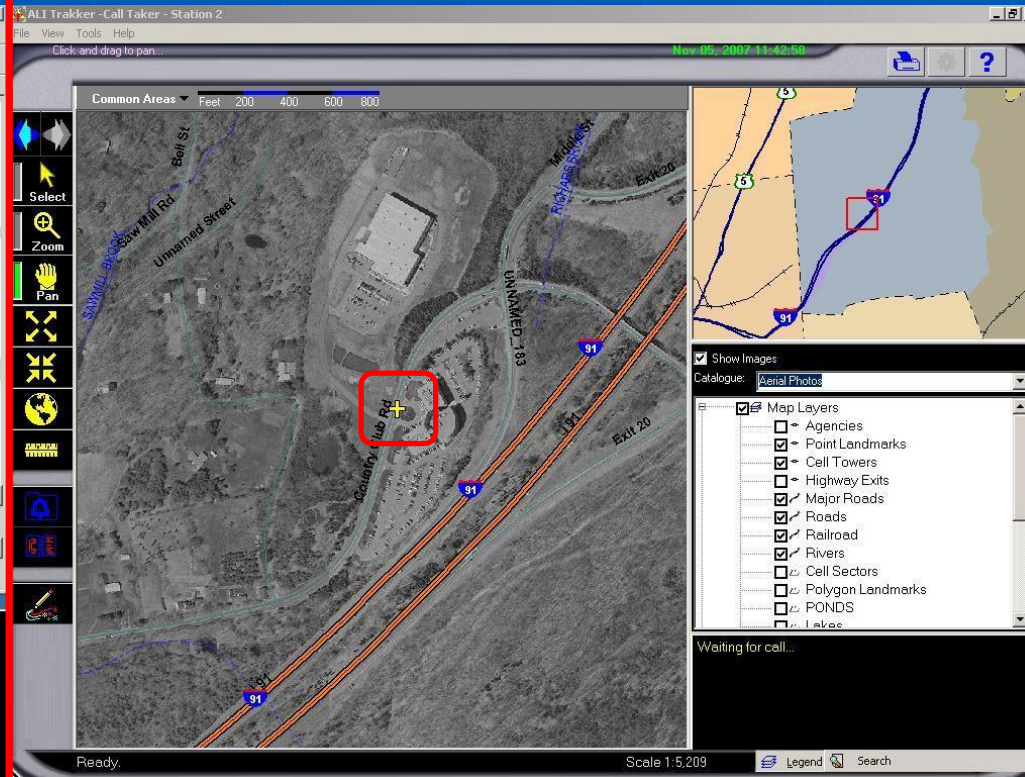Connecticut 9-1-1 Public Safety Answering Points
As of March 1st, 2023

- Statewide 9-1-1 service completed between 1987-1989

- 102 PSAPs

- 2,039,982 9-1-1 calls in 2022
  - *83% Wireless*

Addressing has always been important to 9-1-1
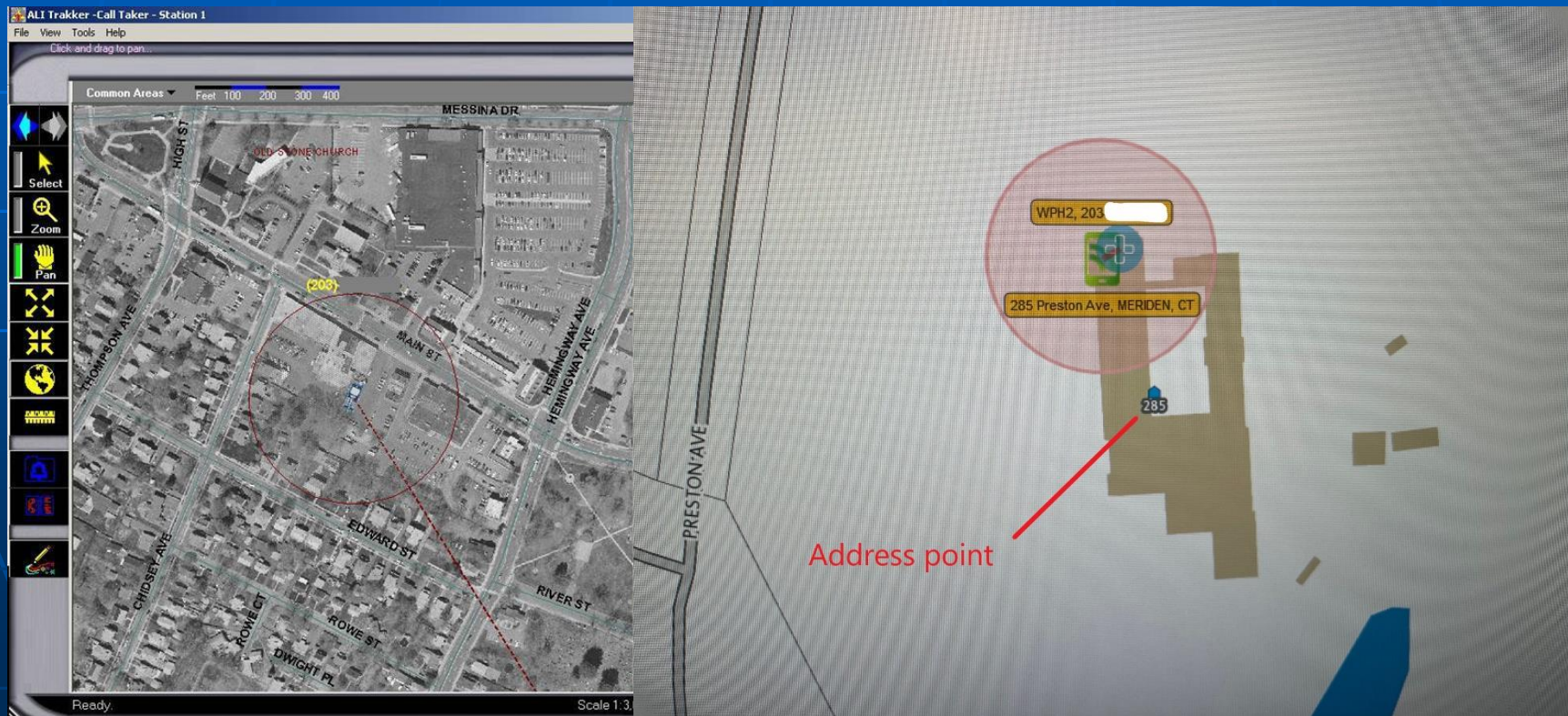
E9-1-1 Workstation
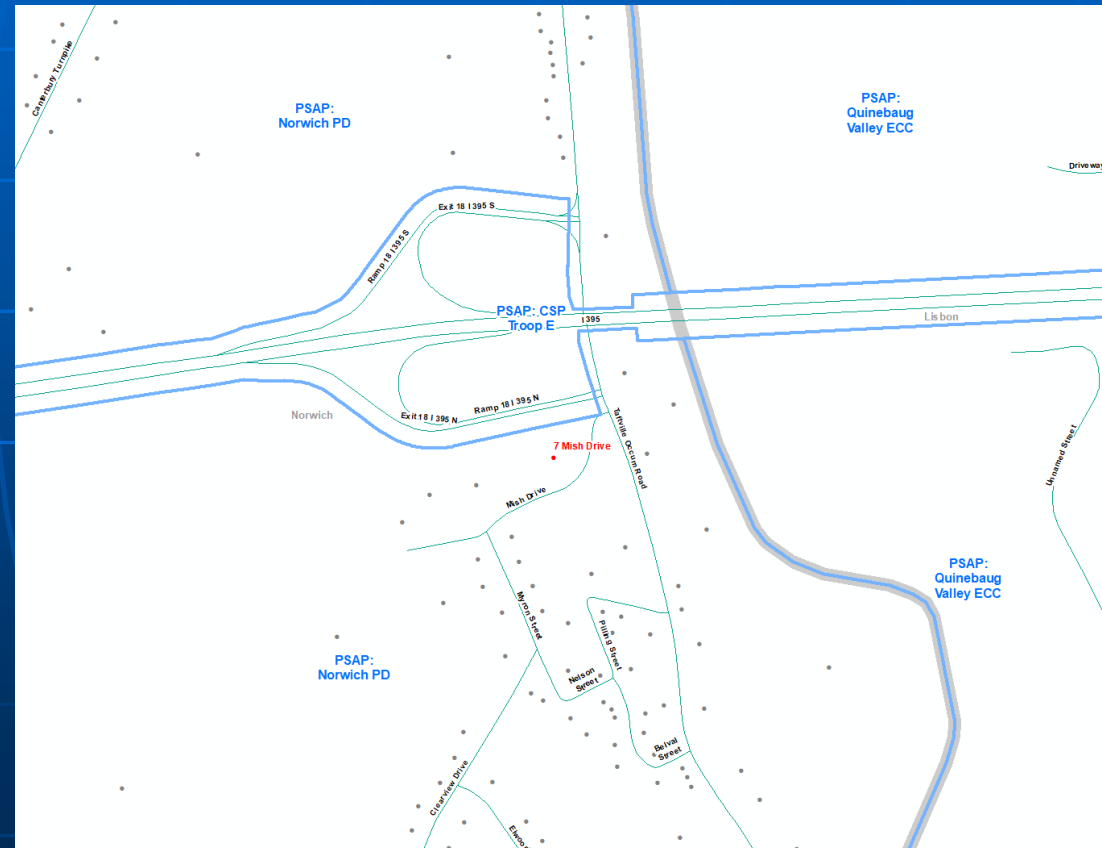Call Handling

E9-1-1 Workstation
Mapping

Addressing is important for wireless calls too

E9-1-1 Workstation
Mapping with wireless call

NG9-1-1 Workstation
Mapping with wireless call

GIS Addressing data is also used to spatially route in NG9-1-1

GIS Addressing Data History

- Street centerline with address ranges since 2003
- Address Points begun 2015, complete town coverage in 2021

GIS Addressing Data History (Cont.)

Municipal Parcels with addresses

9-1-1 Building Address Points

Addressing GIS Data "Specs"

- Data schema based on the 9-1-1 NENA addressing standard where applicable

- With few exceptions, data is based on Municipal data or data that is approved by them.

- As of 10/1/2023, there are 1,181,724 address points

- Geocoding is just like other geocoding, except we us a 9-1-1 community name instead of zip code or town name.

- Internal ALI database match rate is 99.5% with geocoding thresholds set to 100%

How Does 9-1-1 Update the GIS Addressing Data?

- User driven – Telephone companies
- 9-1-1 driven – PSAPs send updates
- Town driven – Address adds and changes letters
- Town data driven – New parcel data, address point data, etc.
- Aerial imagery

Data Sources Used
Authoritative

- Municipal GIS data
- Municipal Online GIS/Assessment data
  - *Hack:Google "[Town Name] CT GIS"*
- Municipal Human Sources
- DOT street data

Data Sources Used
Non-Authoritative

- USPS (*I'll explain*)
- Google Maps Street View
- Bing Oblique imagery
- Zillow (real estate) websites
- Local real estate websites

These sources are used to support our authoritative government sources.

Future Addressing Opportunities

- Formalizing partnerships with other government entities to is the best way for 9-1-1 to maintain its GIS addressing.
  - More proactive for new addressing
  - "Pick the high hanging fruit"
    - Ex) Multi-address parcels = manual labor

- At the State level, this process will require responsibilities to be spelled out and possible technical obstacles to be overcome.

Future Addressing Opportunities (cont)

- Formalizing an address update process with municipalities and anyone else responsible for addressing
  - Give them the tools so that they know what the state wants.
    - Formal adoption of the State Addressing Guideline
    - Street and address point basic requirements
  - Always understand that Municipalities have different amounts of resources
    - ex) if a municipality sends a scanned map with addresses on it, we say thank you and then start doing some digitizing. Good enough data now is always better that perfect data later. (It can be made "perfect" later.)

Thank You

Dan Czaja

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Questions and Discussion