UPDATE ON THE MSDI AND ON ADDRESSES

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(aka MassGIS)

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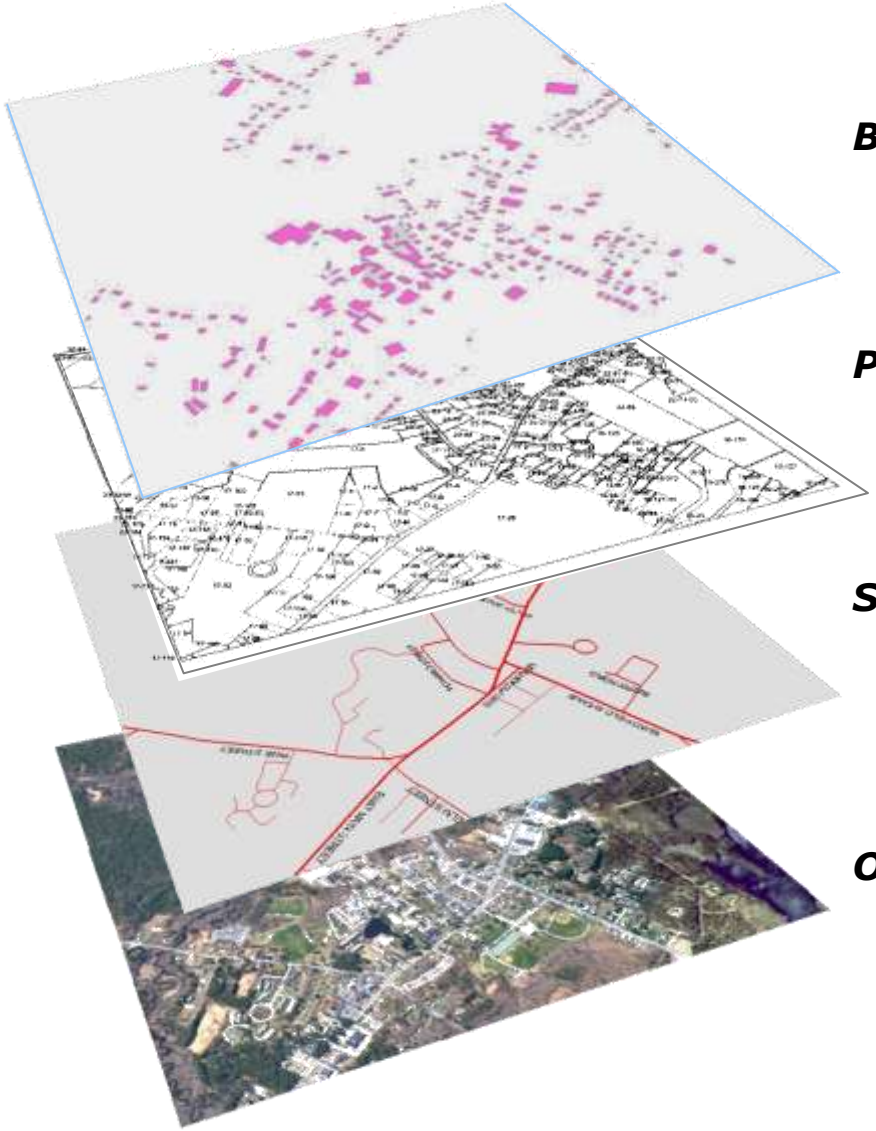
Information Technology Division
Executive Office for Administration and Finance

TWO PARTS TO THIS UPDATE

1. **MSDI data development**
2. **Building master address points and files**

MassGIS spatial data infrastructure



Buildings

- Accurately mapped using imagery and parcel owner/address info

Parcels and Point Addresses

- Boundaries and more accurate addresses
- Created on ortho and road base

Streets and Geocoding

- Created on ortho base
- address matching (geocoding)

Orthophoto

- Accurate, intuitive base for all other GIS development eg building footprints

FY11-12 MSDI Data Developments

- **Complete street map and authoritative street list to support linear geocoding (address matching)**
- **Procured new orthoimagery base map**
- **Aggregate and standardize digital parcel maps**
- **Statewide mapping of roof outlines from existing orthoimagery**
- **Begin developing master address files for municipalities**
- **Begin developing master address points for municipalities**

MSDI - STREET MAP

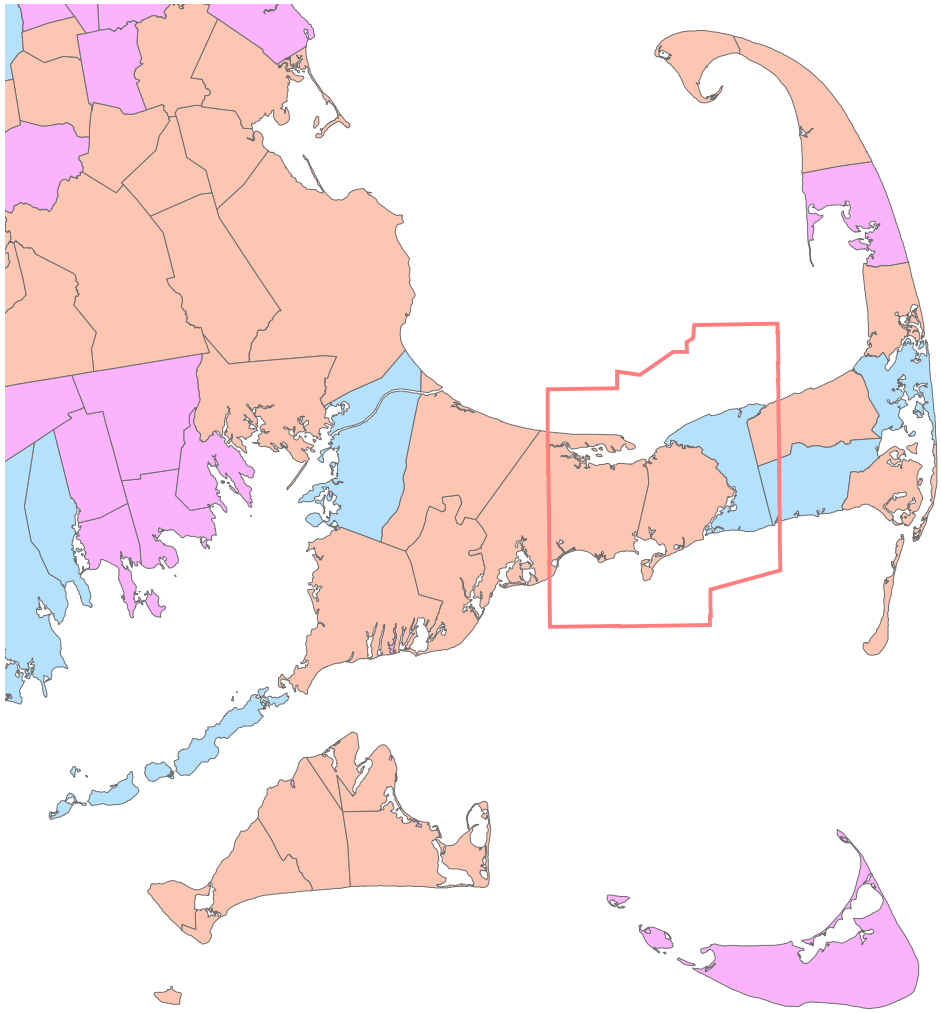
- **18,546 records sent to NAVTEQ for field verification**
  - 3612 new streets added
  - 1454 records with mistakes were corrected by NAVTEQ
- **~ 24,000 new NAVTEQ records checked, edited**
  - 2000 (average) new NAVTEQ records every quarter
- **17,724 address ranges modified**
  - issues with mixed parity or overlap identified
- **Match on distinct streets –**
  - September 2007 - 87%
    August 2010 - 96%
  - August 2011 – 99.5% (not counting source errors)
- **Better than 99% geocoding hit rate on Emergency Service List (ESL)**
  - NENA considers 85% - 90% "good"

MSDI - IMAGERY REFRESH

2008 / 2009

2011 (licensed)

Parcels and Imagery Update



calendar year expected or delivered

- <Null>
- 2011
- 2012
- 2013

All imagery Spring 2011 except outline area to be updated Spring 2012

MSDI - STRUCTURE ROOF LINES

What is an address?
What data do we need?

Address needs to define a location so that you can find it quickly

In a GIS context "location" could be

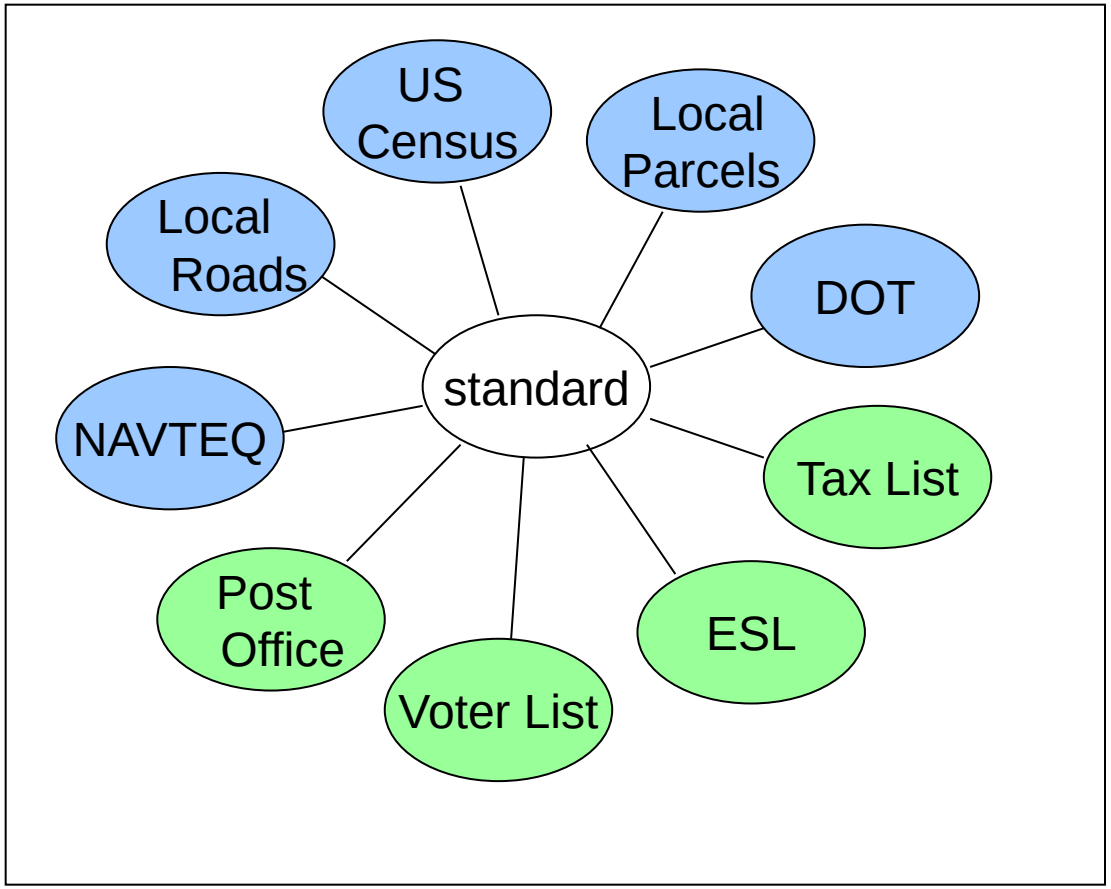
- unit within a building
- entrance to a building –*sweet spot for public safety*
- building itself
- identifier for parcel with a range of addresses

Location on a college campus, condo complex, etc. may require sub-address

A standard needs to handle addresses at all these levels

Why we need an address standard

- **A standard allows for matching between address lists & mapping**
  - **ESL is no longer complete list**
  - **need to use clerk's list, local public safety e.g. reverse 911, others**
  - **tax assessor list and parcel mapping will provide better location**



Address Standard – FGDC (slightly modified)

Address Number – Prefix, Number, Suffix

- prefix "B18", "Milepost 12.2"
- number "247"
- suffix "12A", "14 ½"
- ranges "12-14"

Street Name – FGDC says fully spelled out – at a minimum street name must be fully spelled out and standard abbrevs. used for other parts

- pre-mod "Old North Coach Road", "Upper Hampden Road"
- pre-dir "South Main"
- pre-type "Avenue A"
- street-name "Broadway"
- post-type "Market Street"
- post-dir "Washington Street South"
- post-mod "Charles Street Place", "Chatham Street Extension"

Sub-address (postal secondary location)

- Name, type pairs as needed
- Examples: "West Campus, Building A Rear"
  type="Area", name= "West Campus"
  type="Building", name="Building A"
  type="Position", name="Rear"

Keywords Tabl

In automated process, abbreviations for pre-directional, street type etc. (all parts but street name) get looked up and translated into standard form using this table

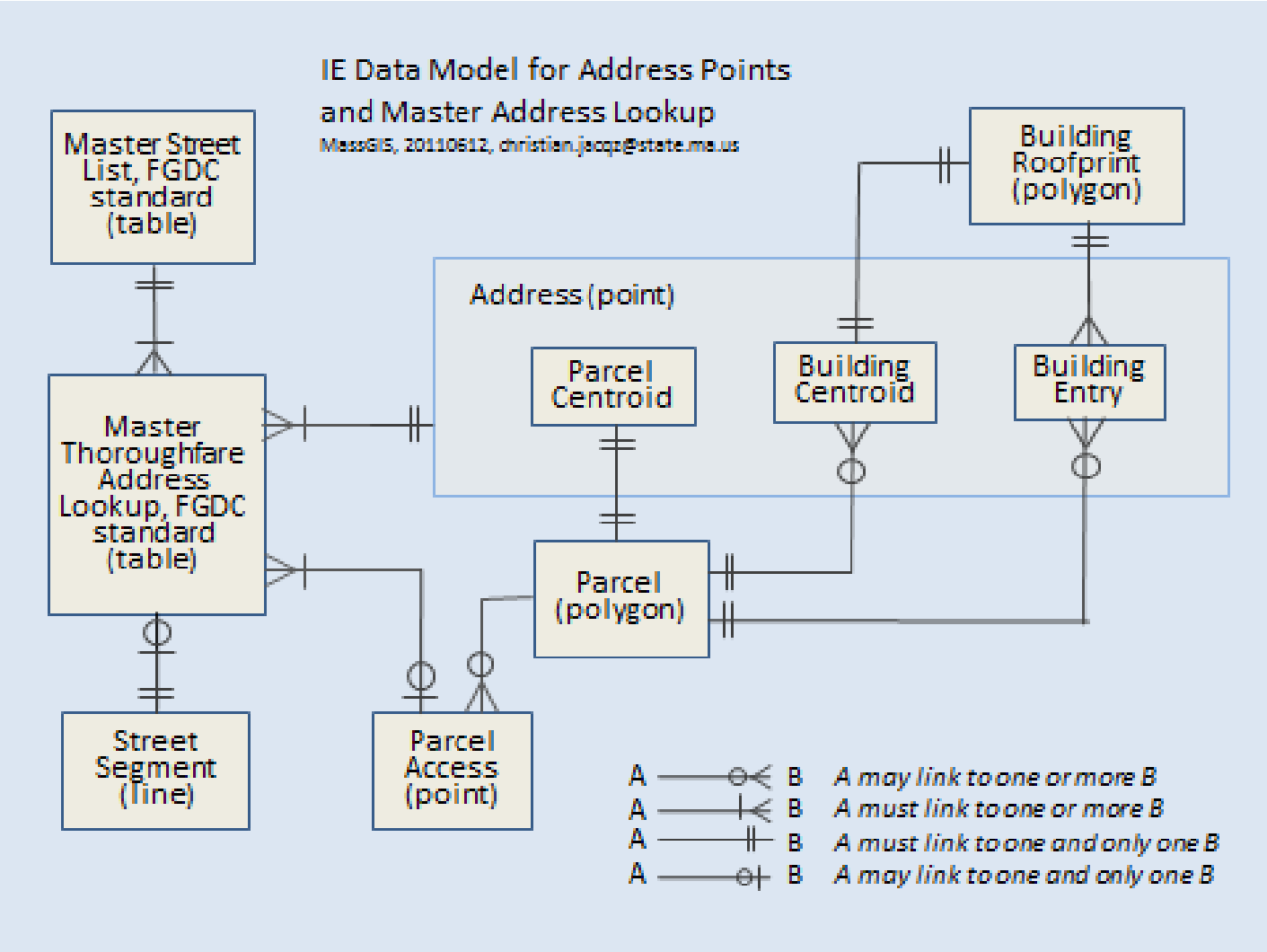
INPUT_TOKEN	NO_ TOKENS	DOMAIN _CODE	STD_OUTPUT	PRIORITY	SEQ_NO
XING	1	ST	CROSSING	2	5
CRSG	1	ST	CROSSING	1	5
XING	1	SM	CROSSING	1	7
CROSSING	1	BN	CROSSING	1	4
CROSSING	1	SM	CROSSING	3	7
CROSSING	1	ST	CROSSING	2	5
XING	1	PM	CROSSING	1	1
CROSSROAD	1	ST	CROSSROAD	1	5
XRD	1	ST	CROSSROAD	1	5
XRDS	1	ST	CROSSROADS	1	5
CROSSROADS	1	ST	CROSSROADS	1	5
E BRIDGEWATER	2	BN	EAST BRIDGEWATER	4	4
EAST BRIDGEWATER	2	BN	EAST BRIDGEWATER	4	4
E BROOKFIELD	2	BN	EAST BROOKFIELD	4	4
EAST BROOKFIELD	2	BN	EAST BROOKFIELD	4	4
PK	1	ST	PARK	3	5
PARK	1	ST	PARK	2	5
PARK	1	SM	PARK	1	7
PARK	1	BN	PARK	3	4
PRK	1	ST	PARK	1	5
PK	1	BN	PARK	1	4
PKWY	1	ST	PARKWAY	1	5
PKY	1	ST	PARKWAY	1	5
PARKWAY	1	BN	PARKWAY	1	4
PARKWY	1	ST	PARKWAY	1	5
PARKWAY	1	ST	PARKWAY	2	5
PKWAY	1	ST	PARKWAY	1	5
PKWYS	1	ST	PARKWAYS	1	5
PARKWAYS	1	ST	PARKWAYS	1	5

Master Street Table Based on Standard

LOCATION_TYPE	FULL_STR	FULL_STR_STD
TIGER_09	**Garden Street Ct**	**GARDEN STREET COURT**
MGBASE_1007	**GARDEN ST CT**	**GARDEN STREET COURT**
NT_09Q3	**GARDEN STREET CT**	**GARDEN STREET COURT**
MSAG_090512	**GARDEN ST CT**	**GARDEN STREET COURT**
WG_2009	**Garden Street Court**	**GARDEN STREET COURT**
MSAG_090512	**E Spring St RR Xng**	**EAST SPRING STREET RAILROAD CROSSING**

We have implemented the Federal Geographic Data Committee Standard for Postal, Thoroughfare and Landmark Addresses
We wrote code based on this standard to parse 750K street names from DOT, US Census, the Warren Group, NAVTEQ and 911.
Automated matching was followed by manual review
Standard does not allow abbreviations – thus no ambiguity
Product allows us to match from any source to any other

MASTER ADDRESS FILES

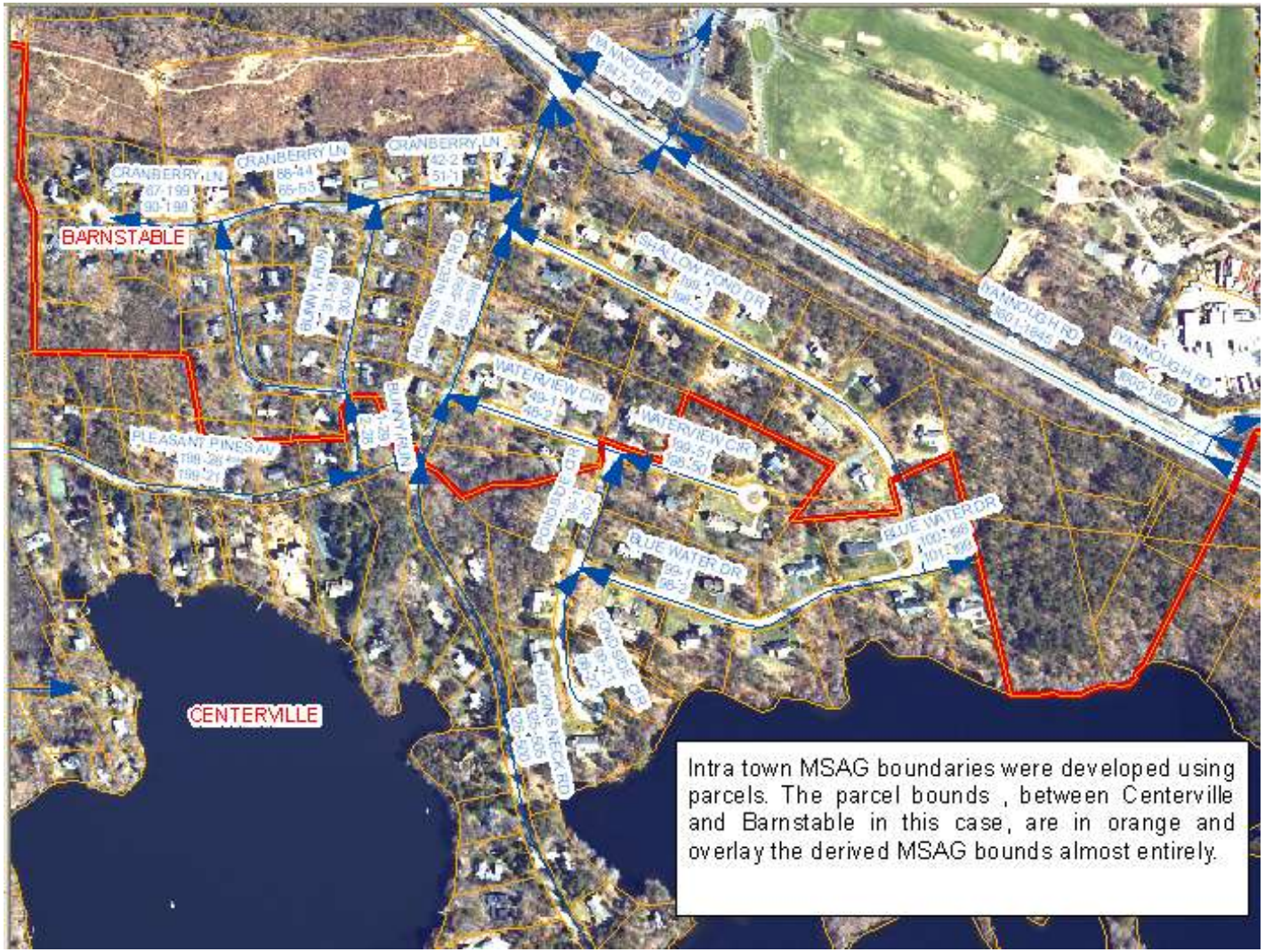


Building points and labels

every building tagged with an address from parcels or manually coded for institutional settings

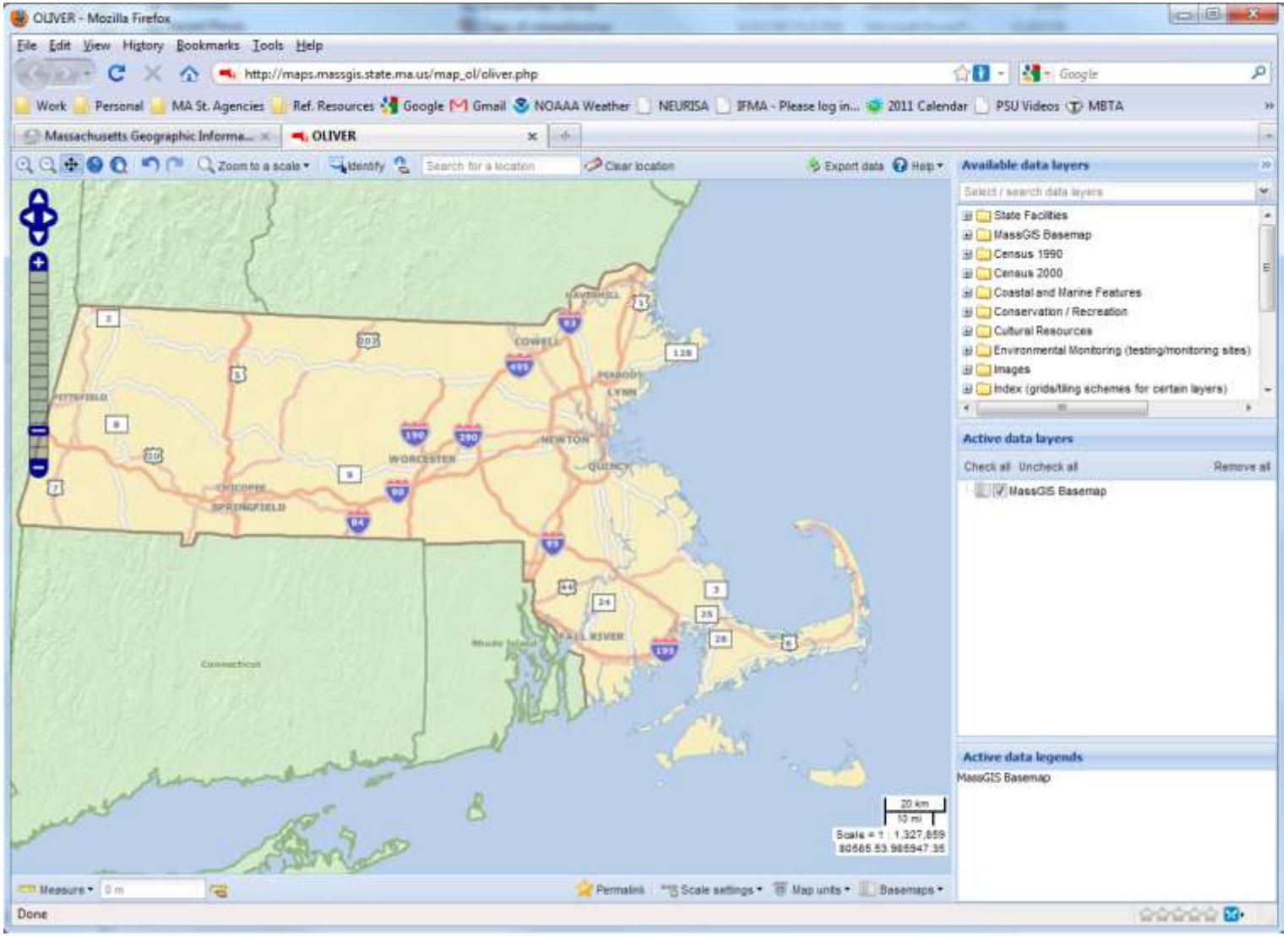
ESZ's from parcels

emergency service zones defined by parcels to match MSAG – this allows for geocoding any incoming location to correct responder



ON-LINE DATA VIEWER

MASSGIS ON-LINE DATA VIEWER (OLIVER)



MASSGIS ON-LINE DATA VIEWER (OLIVER)

OLIVER - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://maps.massgis.state.ma.us/map_ol/oliver.php

OLIVER help

Coastal Zone Management (CZM), the Massachusetts Office of Geographic Information (MassGIS), the Massachusetts Ocean Partnership (MOP), Applied Science Associates (ASA), and Charlton Galvarino. MORIS can be used to search and display spatial data pertaining to the Massachusetts coastal zone. Users can interactively view various data layers, create and share maps, and download the data for use in a Geographic Information System (GIS). MORIS connects to MassGIS's GeoServer-based web mapping service.

Terms and Conditions: By using MORIS you agree to the following terms.

Please note: MORIS is one of a family of applications, all built on the same template. Some of the other versions include OLIVER (the MassGIS Online Data Viewer) and SPOLIVER (the State Police Online Data Viewer). This user guide applies to all of these applications, so you may substitute "OLIVER," "SPOLIVER," etc. for "MORIS" as you read this guide.

CZM Massachusetts Office of Coastal Zone Management

MASSGIS Office of Geographic Information — A Statewide Resource for Geospatial Technology and Data

Massachusetts Ocean Partnership

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This guide is also available in a printer friendly version (PDF, 5.9 MB)

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- Navigating the Map
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- Viewing Metadata
- Searching for a Location
- Identifying Features
- Measuring Length or Area
- Bookmarking/Sharing a Map
- Downloading Data
- Printing and Saving a Map Image
- Using MORIS on a Mac
- Problems? Questions? Comments?

Measure 0 m | Permalink | Scale settings | Map units | Basemaps

Done

THANK YOU.

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