

The Massachusetts Master Address Database (MAD)

What It Is And How It Supports The Census

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Executive Office of Technology Services and Security (EOTSS)



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EOTSS Mission: To provide secure and quality digital information, services, and tools to constituents and service providers when and where they need them.



Massachusetts Master Address Database (MAD)

Presentation Topics

1

History of the MAD – What necessitated its creation, and how it was designed and built.

2

Contents of the MAD – What addressing and locational information is maintained in the database and what it looks like

3

Usage of the MAD - How the MAD contributes as a resource to support services and analytics, including 911 and the Census



Massachusetts Master Address Database (MAD)

MAD History

Why did the Master Address Database (MAD) need to be created?

- NextGen 911





Massachusetts Master Address Database (MAD)

MAD History

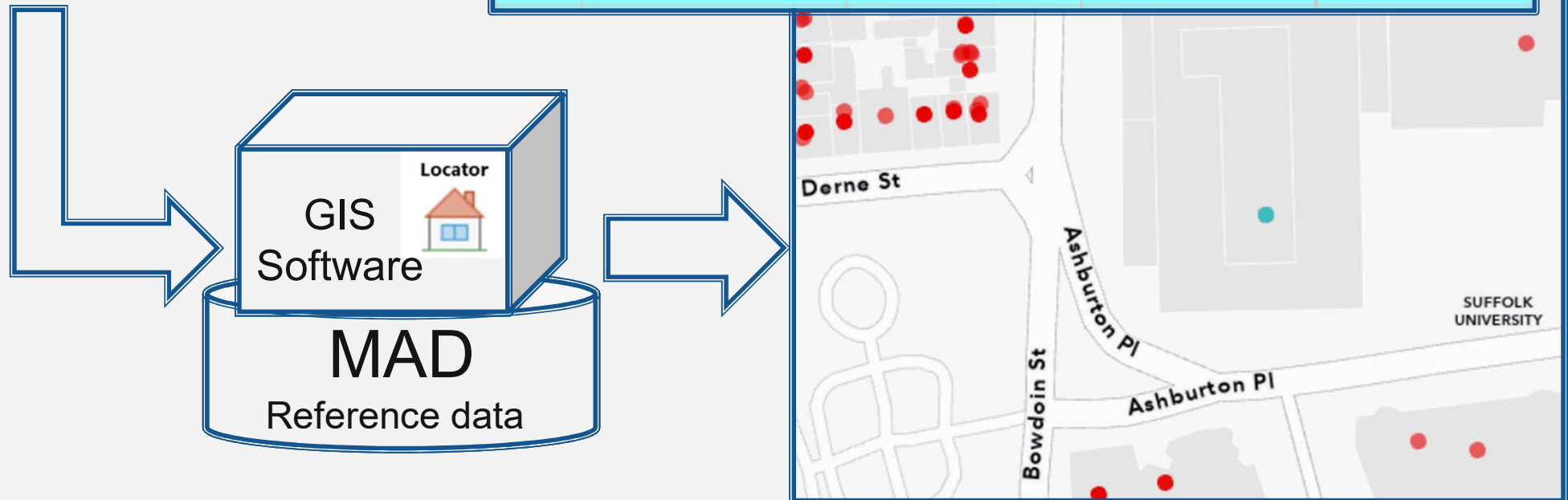
Why did the Master Address Database (MAD) need to be created?

- Standardized address validation

Input address:

1 Ashburten St, Boston MA

Shape *	ADDRESS_NUMBER	STREET_NAME	GEOGRAPHIC_TOWN	MASTER_ADDRESS_ID
Point	1	ASHBURTON PLACE	BOSTON	35179632





Massachusetts Master Address Database (MAD)

MAD History

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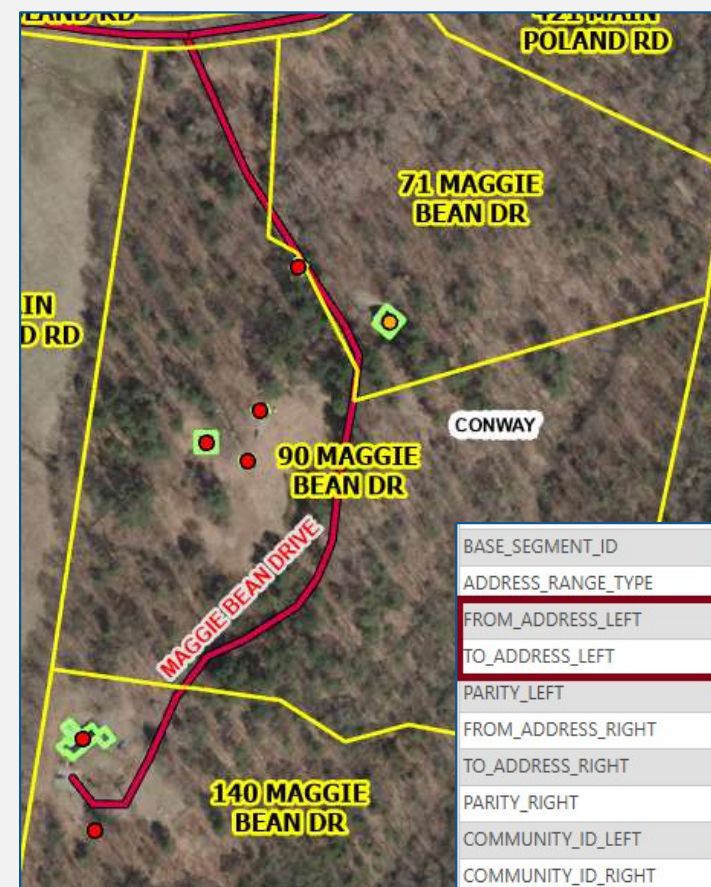
- Address Mapping Accuracy



Address Input: 28 Gage Dr, Falmouth



MassGIS Address Match: 28 Gage Dr, Falmouth



BASE_SEGMENT_ID	{CF4D9DFD-D2A8}
ADDRESS_RANGE_TYPE	B
FROM_ADDRESS_LEFT	1
TO_ADDRESS_LEFT	71
PARITY_LEFT	O
FROM_ADDRESS_RIGHT	2
TO_ADDRESS_RIGHT	140
PARITY_RIGHT	E
COMMUNITY_ID_LEFT	73
COMMUNITY_ID_RIGHT	73



Massachusetts Master Address Database (MAD)

Address Inputs

What Address Sources Contribute(d) To the MAD?

- Emergency Service List (ESL) – State 911
- Municipal Assessor Property Records
- Voter Registration Information System (VRIS)
- Property Sales Records
- Miscellaneous (Utilities, maintenance updates)

What Other Address Sources Could Contribute To the MAD?

- Registry of Motor Vehicles (RMV)
- United States Census Bureau
- United States Postal Service (USPS)



Maintaining the Master Address Database

Address Notification

How does MassGIS learn about new addresses?

- **Notify911Address** – Cities and towns send address updates to MassGIS' Outlook Notify911Address mailbox.
- **State 911 Grant Requirements** – Municipalities in the Commonwealth are required to report on addresses and parcels to MassGIS
- **Structure Updates** – A derivative of imagery and LIDAR; maintaining structure polygons provides a safety net for our address workflow
- **Assessor Updates** – Property records contain multiple address fields and often provide insight into the 'correct' address at a site



Address Variants and Master Addresses in the MAD

Fully Standardized Addresses

ADDRESS VARIANTS

❖ TOWN	❖ SOURCE_TYPE	❖ INPUT_FULL_NUMBER	❖ INPUT_FULL_STREET_NAME	❖ INPUT_FULL_LOCATION	❖ MASTER_ADDRESS_ID
CAMBRIDGE	VRIS	14	COTTAGE PARK AVE	(null)	3625390
CAMBRIDGE	L3	14	COTTAGE PK ST	(null)	3625390
CAMBRIDGE	MUNI	14	Cottage Park Ave	(null)	3625390
CAMBRIDGE	WG	14	Cottage Park Ave	(null)	3625390

MASTER ADDRESS

❖ MASTER_ADDRESS_ID	❖ ADDRESS_NUMBER	❖ STREET_NAME	❖ TOWN	❖ ZIPCODE	❖ ADDRESS_POINT_ID	❖ STATUS	❖ CLASS
3625390	14	COTTAGE PARK AVENUE	CAMBRIDGE	02140	M_230208_905460	ACTIVE	RES



Massachusetts Master Address Database (MAD)

STREET NAME VARIANTS AND MASTER STREET NAMES

Street Name Variants contribute to Master Street Names the same way Address Variants contribute to Master Addresses.

42 communities in the Commonwealth have a street named...

MASSACHUSETTS AVENUE

"MASCHSTS AV"

"MASSACHUSETTS AVENUE"

"MASSACHUSETTS"

"MASSACHUSETTS AVENUE BRANCH"

"MASSACHUSETTS AVENU"

"MASCHSTS AVENUE"

"MASSACHUSETTS AV"

"MASS AV"

"Mass Ave"

"Massachusetts Ave"

"MASSACHUSETTS AVENUE"

"MASSACHUSETT AVE"

"S MASSACHUSETTS AV"

"MASS AVE"

"Massacusetts Ave"

"Massachusetts"

"MASS AVENUE"

"MASSACHUSETTS AVE"

"MASCHSTS AVE"

"S MASSACHUSETTS AVE"



Address Points in the MAD





MAD Statistics

How Much Addressing and Location Data Is In The MAD?

As of September 15, 2025...

- Number of input address records in the address variants list:
10,098,878
- Number of master address records in the master address list:
3,494,079 (residential addresses: **2,877,943**)
- Number of unique street names in the master streets list:
136,391
- Number of statewide address points:
2,191,046
- Number of structures identified in the Commonwealth:
2,547,612 (**2,357,890** are 250 sq. ft. or more)



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Census Impacts

How Does the MAD Influence The Census?

- Critical resource for the Donahue Institute (UMDI)

The MAD contributes to the Population Estimates Program (PEP), facilitating better data-driven outreach to municipalities and data validation efforts during LUCA (Local Update of Census Addresses) The final Census 2020 population counts for Massachusetts exceeded expectations.
- Addresses linked to Census Geography IDs

MassGIS has provided technical expertise and data quality assurance services to Secretary Galvin's Census team with voting district data validation and the assignment of geographic Census identifiers and coordinates to addresses using the MAD.
- Address locations shared directly with the Census Bureau

All information in the MAD was directly shared with the Census Bureau prior to the 2020 Census. Over a million address locations in the federal data were updated using the address points in the MAD.



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Future Considerations

The Future Of The MAD

- Better Data

The MAD continues to improve in quality as issues are researched, and new development continues to be communicated to MassGIS via its Notify911 solution. (12 fulltime MassGIS staff are dedicated to this)

- Expanded Services

Address validation and location services continue to expand in use throughout several state agencies.

- Wider Adoption

Municipal outreach is growing as more communities are exploring the creation of or upgrades to their own local address databases.

This increased focus on addresses generates better results for the Census.

(and all the benefits for Massachusetts that come with it)



MassGIS, The Census, and The Legislature

GIS Day – 2002 & 2006



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