

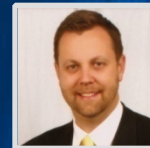


One Maryland One Centerline

GIS-T 2014
May 7, 2014



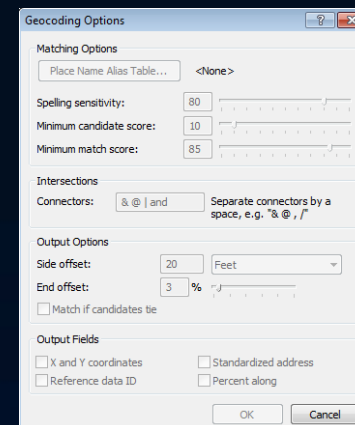
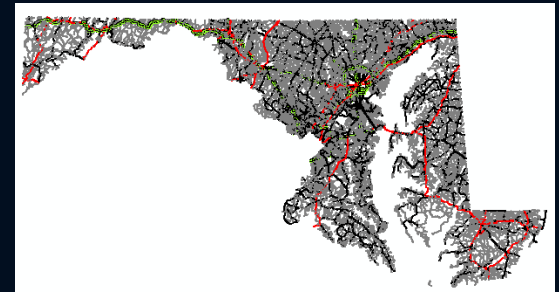
Erin Lesh, GISP, SHA



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Current Road Centerlines in Maryland

- SHA maintains a statewide centerline
 - Supports HPMS program
 - Represents state and local roads
 - Capturing dual carriageways
 - Seamless state-wide dataset
- Local governments maintain centerlines
 - Supports local government operations
 - E-911
 - Addressing
 - DPW Asset Management
 - Contains all roads (public and private)
 - Compiled to create state-wide geocoder



SHA Centerline Project Purpose

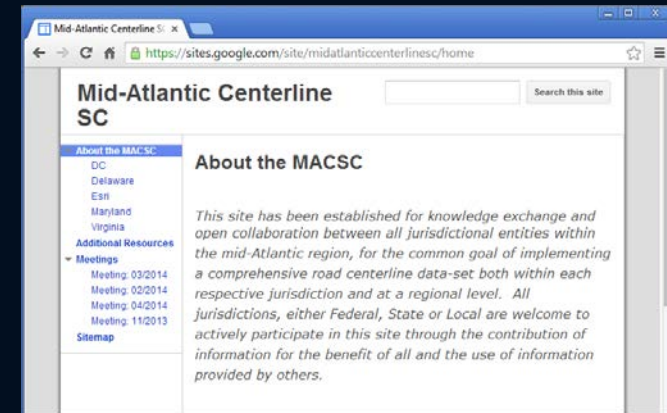
- Highway Performance Monitoring System (HPMS)
 - Provides data that reflects the extent, condition, performance, use, and operating characteristics of the Nation's highways
- SHA's Road Improvement Process
 - Paper-based submission to local jurisdictions
 - 23 counties plus Baltimore City
 - 146 municipalities
 - Paper-based submission of updates back to SHA
 - GIS updates added manually by SHA staff
 - Field verification and GPS capture

Why Change?

- 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21)
 - Authorizes federal funds for the production of statewide centerline data and attribution for all public roads
 - Beginning in 2014, states are required to include dual carriageways and all publicly maintained roads as part of HPMS Submission
- Leverage authoritative centerline data
- Duplication of centerline maintenance in Maryland
- Centerline data needed on daily/weekly basis instead of yearly
- One authoritative based dataset can lead to more coordinated initiatives, e.g. state-wide road closure tracking

Where We Are Now

- Procuring Esri Roads & Highways
- Outreach
 - MD counties & municipalities
 - Regional governments
 - Other state and local DOTs



- Mid-Atlantic Centerline Steering Committee
- Roads and Highways Users Group
- Coordination with MD GIO's Office Address Point Initiative
- Exploring implementation options



Where We're Going

- One seamless, authoritative, collaborative centerline
- Define implementation requirements
- Leverage authoritative data sources
- Equal state and local partnerships
- Routine meetings and information exchange with stakeholders

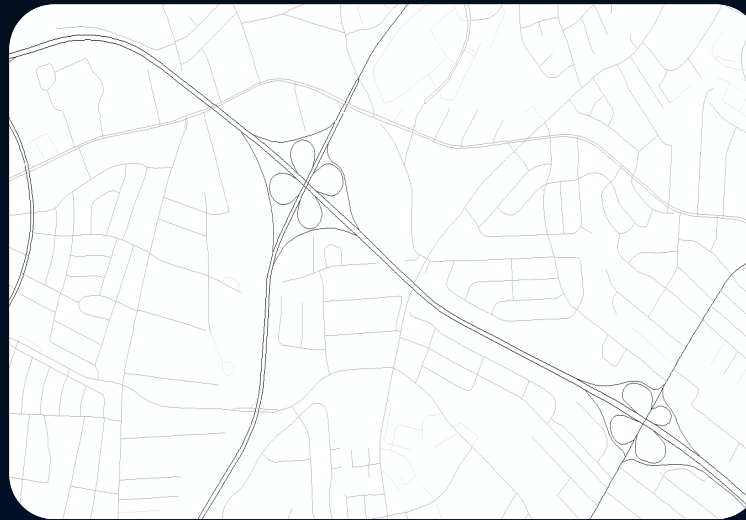


One Maryland One Centerline Project Overview

Authoritative Data



One Geometry



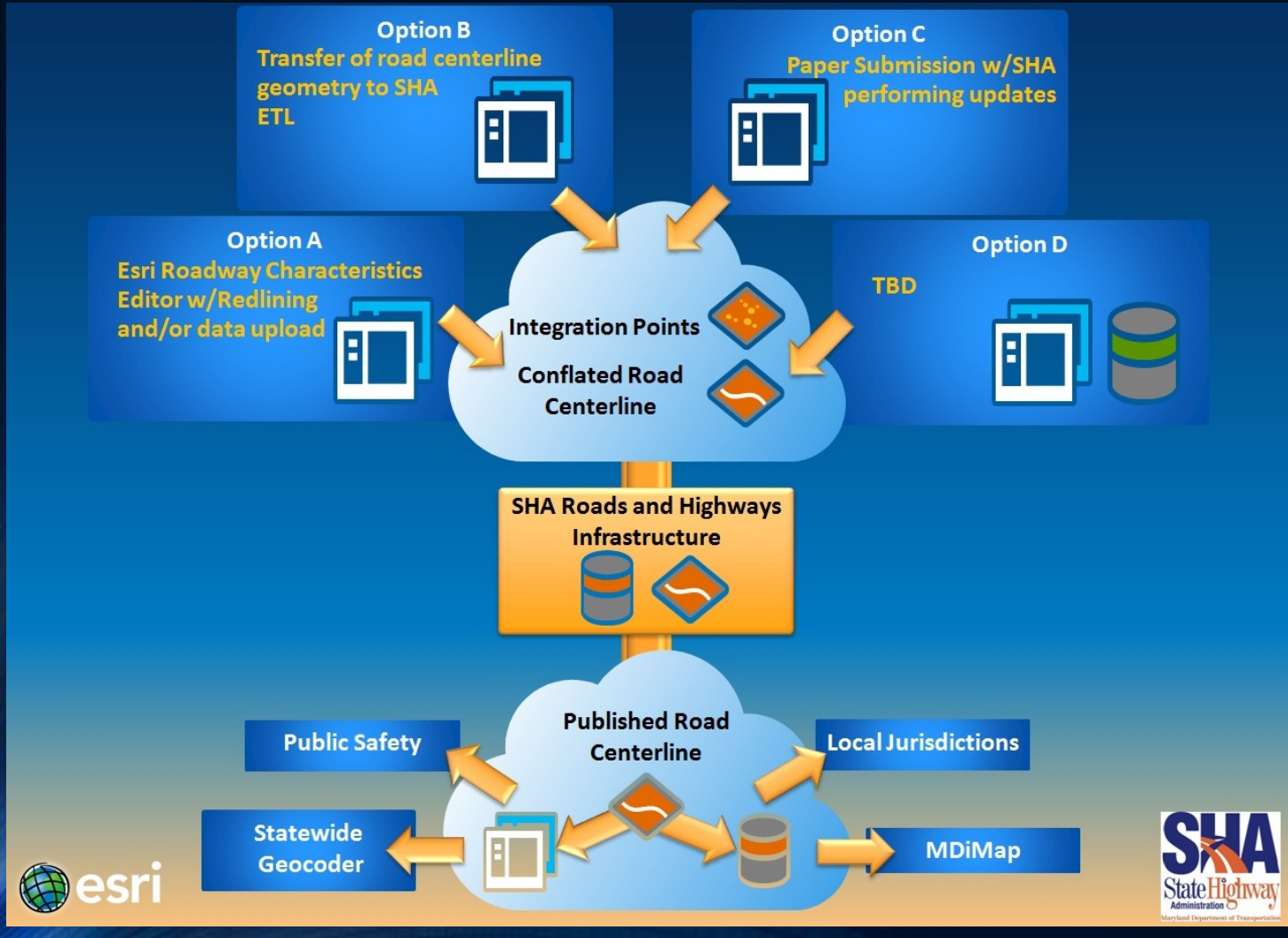
Supports Multiple Functionalities

Linear
Referencing

Geocoding

Routing

One Maryland One Centerline Workflow Overview



Data Integration Points

- What are Data Integration Points?
 - Points established and agreed upon between State and local representative as to where authoritative road centerline geometry maintenance starts and stops
- What Data Integration Points are NOT
 - A representation of a political feature starting or stopping
 - An official representation of where roadway maintenance starts and stops

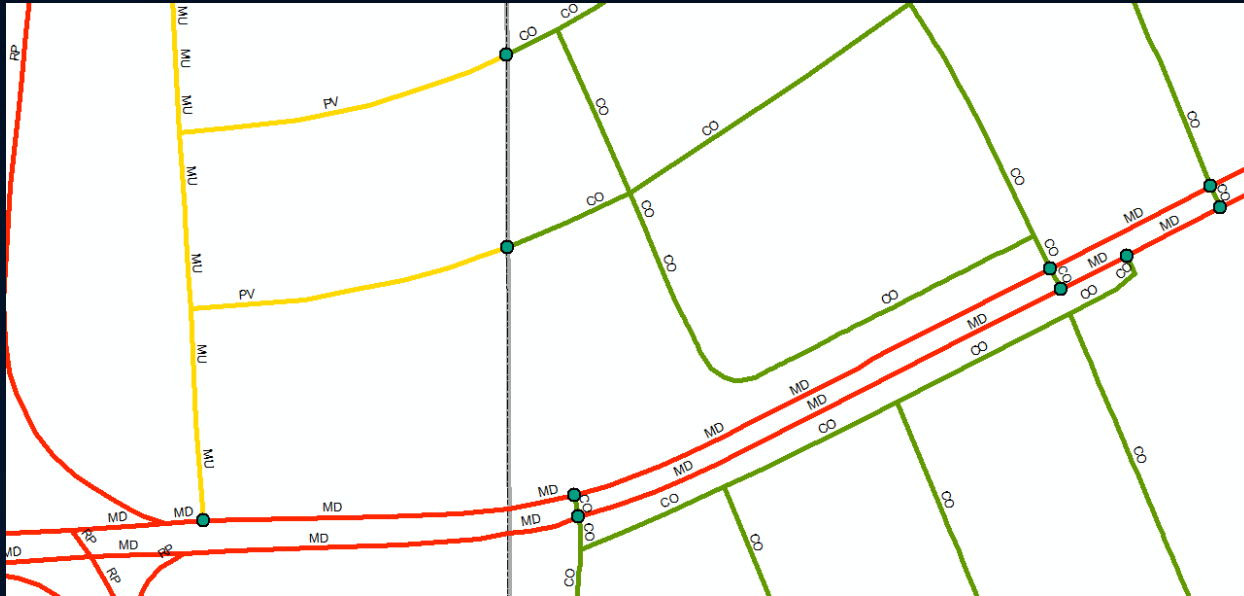
Data Integration Points Benefits

- Establishes mutual data ownership
- Local government engagement early on in the process
- Streamlined conflation of State and local road centerline data
- Address potential authoritative data issues early
- Established/agreed upon data control points

Data Integration Points Workflow Overview

- Determine an attribute in the State's comprehensive road centerline database designating the road centerline segment recognized to be the authoritative source for that geometry based on yearly HPMS reporting from the local jurisdictions
- Create initial integration points at any intersection of road centerline where the data provider attribute changes
- Intersect with bridge polygon layer to identify and remove integration points where roads are not intersecting
- Provide integration points to local jurisdictions for review/comment and acceptance
- State and locals edit their respective centerline data to coincide at integration points

Data Integration Points Example



Data Integration Points Application

MDSHA Integration Points
Esri Demo: MDSHA Integration Points

Integration Points

- Yes
- No

Press the **Ctrl** key to disable snapping.

Snapping settings:

Layer	Vertex	Edge
Roads by Provider 72k	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Integration Points	<input checked="" type="checkbox"/>	<input type="checkbox"/>

City of Baltimore, VTA, Esri, DeLorme, HERE, Intermap, iPC, TomTom, ...

Project Outline

Roads & Highways

Implement Roads & Highways at SHA for internal LRS and road inventory management and HPMS reporting



Implement Roads & Highways Server and RCE for data updates and interaction with local jurisdictions



Configure and customize Roads & Highways to include other desired functionality



Interface with other SHA business systems

Conflation

Solidify integration points with local jurisdictions



Align centerlines with integration points



Conflate geometry and attribution



Maintain authoritative geometry and utilize change detection tools

Lessons Learned

- Leverage past experience of others
- Everyone has an equal voice
- Acceptance of local geometry and attribution as is
- Collaboration goes a long way
- Top-down support

Contact Us

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