

Using VBA/ArcObjects to Develop a New Statewide Linear Referenced Geodatabase From Legacy Formats

Developed for
Maryland State
Highway
Administration

Maryland 
State Highway Administration

Brief History

- Maryland State Highway Administration GIS Section maintained Route Network for State Maintained Routes only in ArcINFO coverage
- SHA Mapping Team Maintained Representation of All Maryland Roads in its Cartographic Products.
- Inventory Group of SHA has inventory information for All Roads in State as Well as Some GPS Information
- Most Local Governments Maintained Highly Accurate E-911 Centerlines.
- Desire was to Marry All of these Datasets and Attain Other Enhanced Information Such as Address Ranges.

Business Need

- **Efficient Method to Create Measured Routes for Dynamic Segmentation From Multiple Source Formats to Support Existing and Future Business Processes**

Goals

- **Prepare and Develop Centerlines** for
 - Loading into Transportation Spatial Database
 - Data Sharing Between State and Local Govt's
- **Utilize Existing Resources** With Minimal Training and Ramp Up Time
- **Support Existing Business Needs** with New Data Model

Planning

- Developed Methodology to Complete without Automation
- Determined Procedures to Automate
- Assessed Data Needs
- Procure Centerline Data
- Develop and Prepare Supporting Data Sets

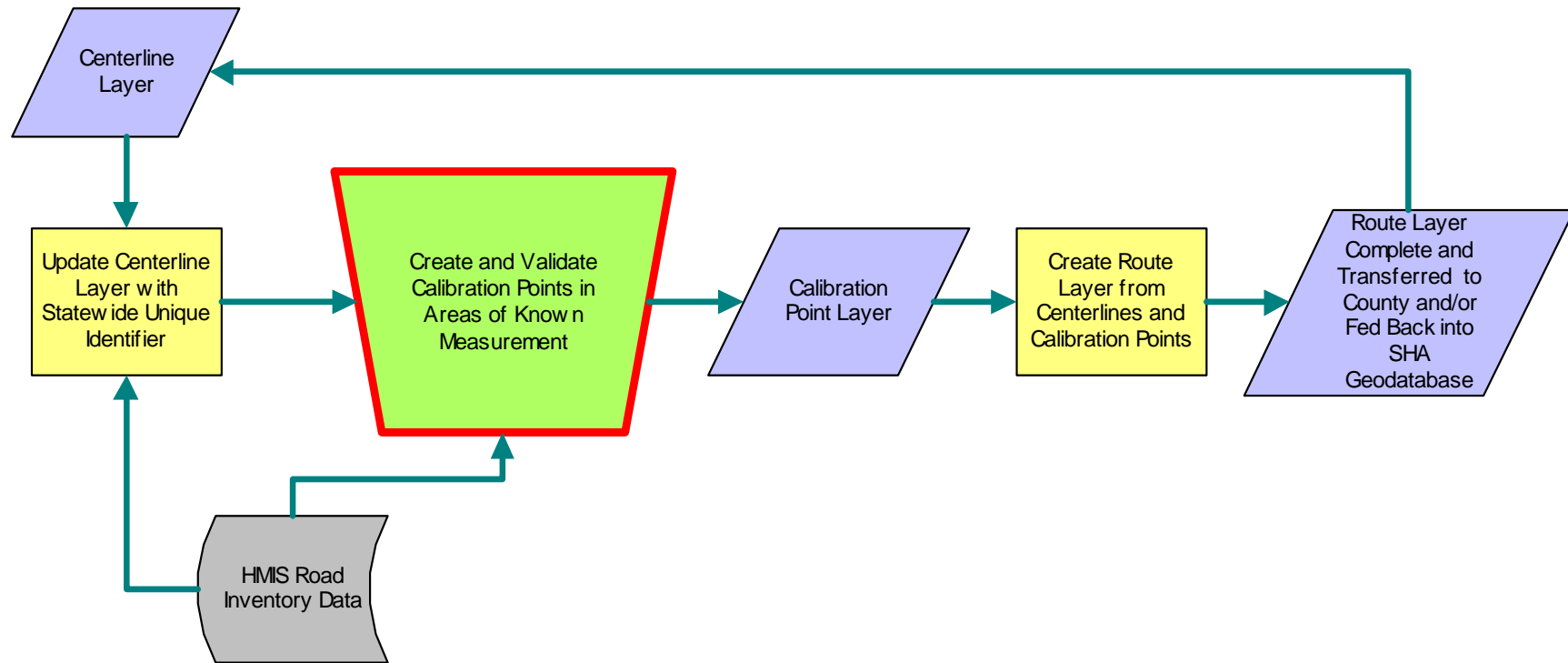
Technology

- ESRI ArcGIS 8.3 (ArcINFO level)
- ESRI ArcSDE for Oracle 9i
- ESRI ArcObjects/VBA
- Bentley Microstation

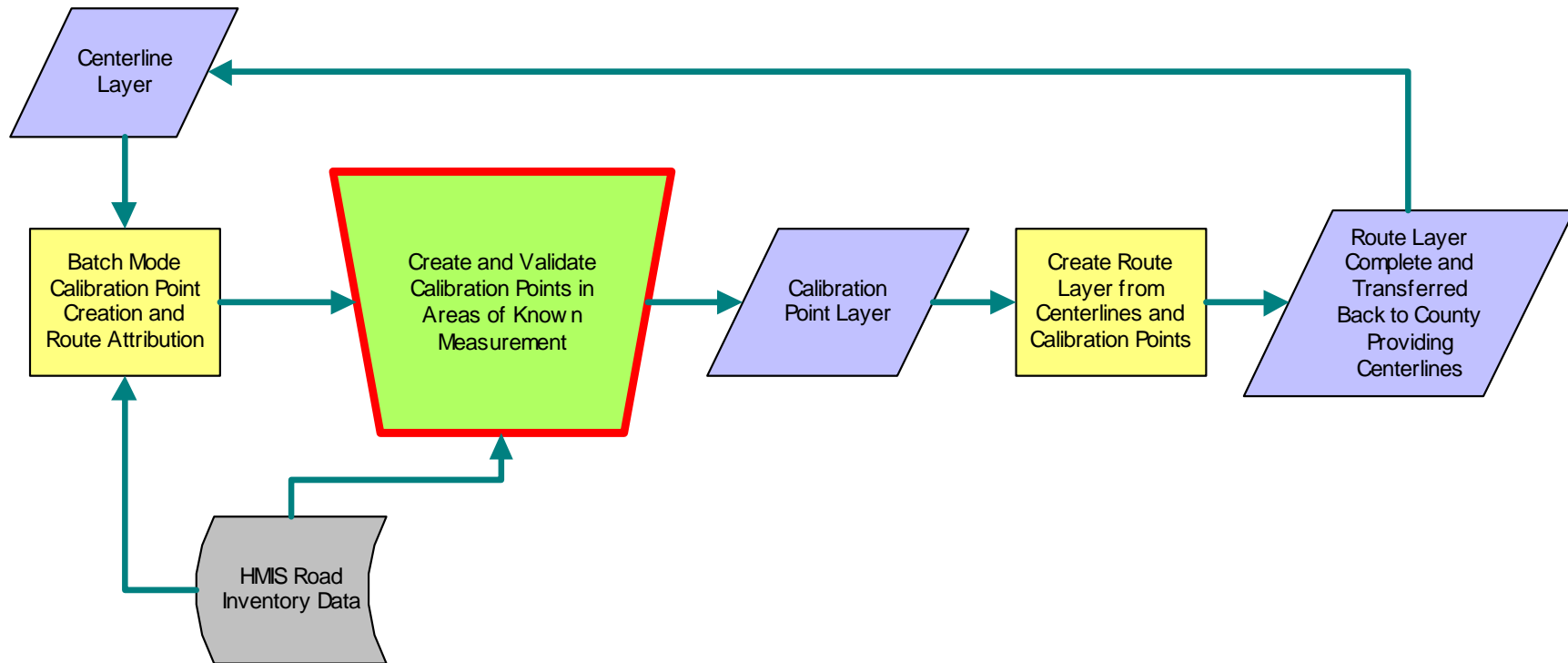
Datasets

- Centerlines of Various Origins
 - Local Gov't E911 Centerlines
 - Microstation CAD Polyline
 - SHA GPS from Asset Inventory
 - Existing Route Network (State Maintained Only)
- Supporting Datasets
 - Annotation from SHA Grid Maps
 - Highway Management Information System Inventory Tables

Process Flow for Route Creation



Procedure Automation



Benefits of Automation

- 50%-75% Centerlines Attributed Automatically
 - Batch Update Compares Inventory Table Road Name to Centerline Road Name
- 50% of Final Total of Calibration Points added as a Result.
 - Application Matches Road Names and Intersections of Centerline and Tries to Find Match in Inventory.
- Manual Processing Takes Care of Remainder
- QA/QC Can Begin During Manual Processing

Benefits (Continued)

- Conversion From Totally Manual Process to Semi-Automated Process Cuts Completion Time in **HALF!**

Contact Information

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