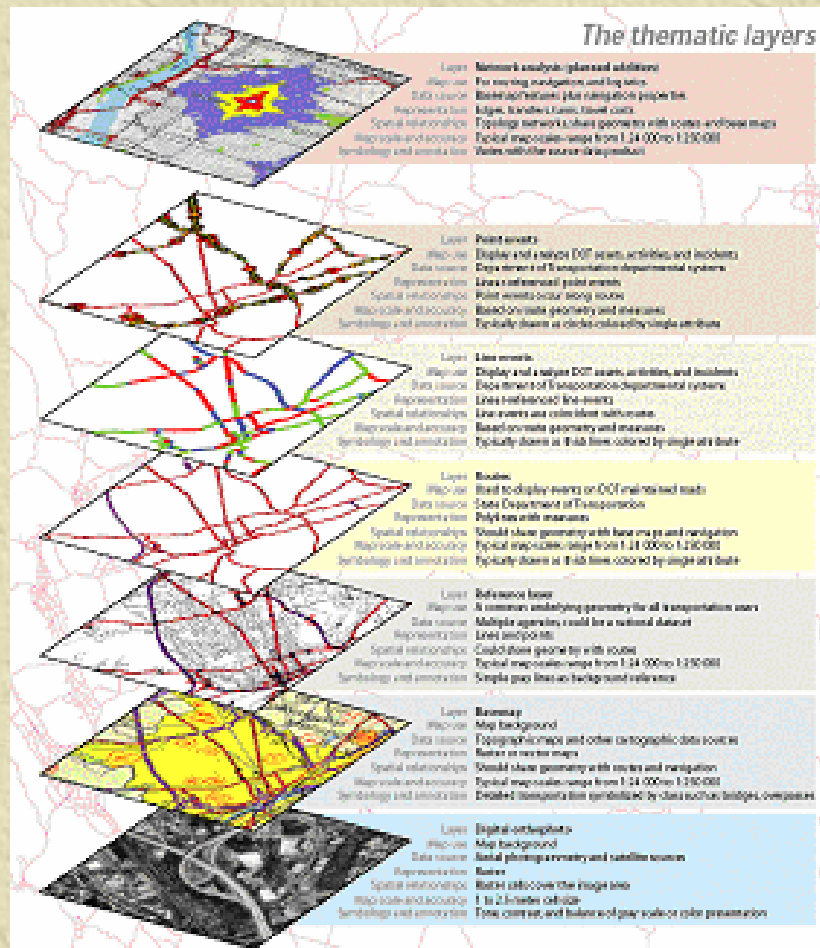


# Developing a Web Portal for Distributing Transportation Asset Management Information for New Jersey Department of Transportation



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# Presenters

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# Outline

- ✦ History of Straight Line Diagrams (I'll explain why...)
- ✦ Current development plan
- ✦ Lessons learnt so far
- ✦ Demonstration of key functions
- ✦ Questions



# Why the history of the SLD?

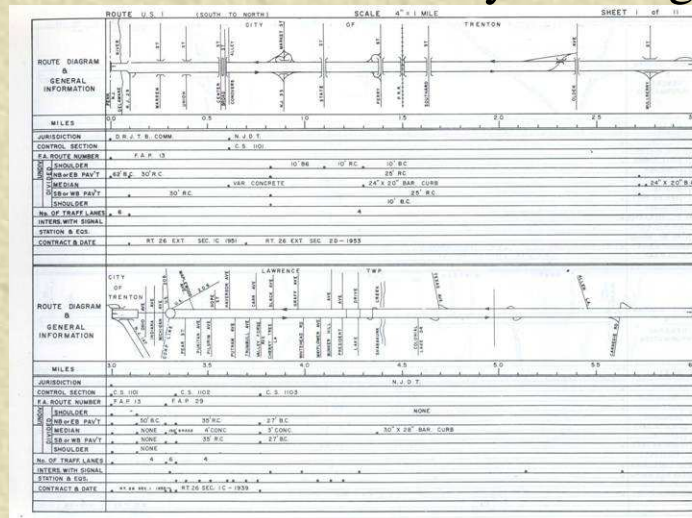
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- ✦ The Straight Line Diagrams were New Jersey's original method of displaying and distributing roadway inventory and asset information.
- ✦ The Web Portal for Distributing Transportation Asset Management Information is an extension of the Straight Line Diagrams and is taking it's data to a new level of availability.



# History of Straight Line Diagrams

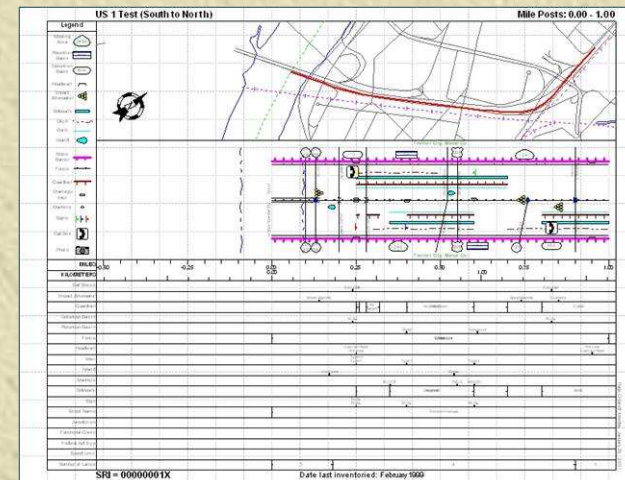
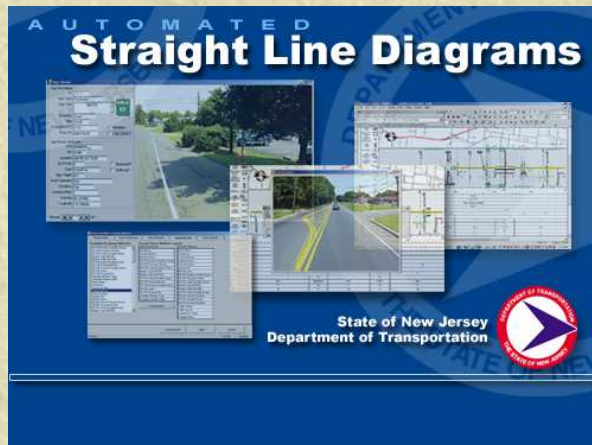
- ✦ The SLD was produced in 1968 to display inventory data
- ✦ It was a collection of stick diagrams that show locations of events referenced to the mile point along the route.
- ✦ Some of the items displayed:
  - ✦ Intersecting streets and grade separated interchanges
  - ✦ Streams, railroad crossing, etc...
  - ✦ Manual process drawn on linen or mylar using ink and Leroy





# History of Straight Line Diagrams

- ✦ In 1995 NJDOT and Michael Baker Jr, Inc, as consultant, embarked on an effort to automate the production of the SLD
- ✦ All of the roadway asset information was put in a MS SQL database and software was developed to produce SLD pages from data stored in the database.



# History of Straight Line Diagrams

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- ✦ As the popularity of the Automated SLD grew, other management systems inquired about having their data displayed in the new SLD.
- ✦ The public, MPO's, local governments and the engineering community routinely request data from the SLD.
- ✦ With all of the asset information that exists in the SLD, a method to make it available outside of NJDOT needed to be developed.



# Current Development Plan

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- ✦ This brings us to why we are here today...
- ✦ To share the progress we have made in making Transportation Asset Data available to the public through the web!
- ✦ Project Goal
  - ✦ To provide the transportation asset data to the public and other government agencies in a streamlined and effective manner
- ✦ It was decided to use ESRI ArcIMS software and customize it to fit our needs through a Module-Based Development and Deployment Plan
  - ✦ Each module adds additional functionality and customization to the software
  - ✦ We want to deliver measurable and incremental successes



# Current Development Plan

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## ✦ Module-based development and deployment plan

- ✦ Internet Mapping and GIS Query Module
- ✦ Enhanced Attribute and GIS Query Module
- ✦ Online Data Editing Module
- ✦ Online Video Log Viewing and Exporting Module
- ✦ Dynamic Generation of SLD Pages Module
- ✦ Enhanced GIS and Mapping Module
- ✦ Integrate and Interact with Other Applications

## ✦ Project Status

- ✦ Enhanced Attribute and GIS Query Module

# Demonstration of key functions

- ✦ How to add another transportation asset type to the application
- ✦ How to search for information in the application
  - ✦ Point and click to identify any entity (Identify a traffic camera)
  - ✦ GIS searches
    - Search for transportation assets along a route (Search for signs within 20 feet along I-295 in Burlington County)
    - Search for information by clicking anywhere on the map and set a radius (Search for crash records within 500 feet over an interchange)
    - Search for transportation assets within a geographic area (Search for all headwalls in Warren County)
- ✦ Search Results
  - ✦ View and save the query results in Excel
  - ✦ Printing maps (Create a Large Truck Access Routes Map)
    - Print maps at various sizes
    - Export maps to PDF files
- ✦ Looking ahead
  - ✦ Export still field inventory images to movie files



# Key lessons learnt so far

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- ✦ Application deployment is a challenging process
  - ✦ Hosting constrains: Direct data interface is a requirement
  - ✦ Decided to deploy on State of New Jersey Office of Information Technology server farm
  - ✦ OIT is also new to hosting Windows Web GIS applications
  - ✦ Additional efforts needed to be the first guinea pig
  - ✦ Personnel and technology changes at OIT and their impacts on deployment schedule
  
- ✦ Minimize the disruptions of technology changes
  - ✦ Key technologies can change such as GIS server engines
  - ✦ Impact of deployment environment such as .NET
  - ✦ Module and phase based development approach
  - ✦ Focus on interface instead of product based development

# Questions

✦ Questions/Comments

✦ For more information

✦ [www.state.nj.us/transportation](http://www.state.nj.us/transportation)

✦ [www.mbakercorp.com](http://www.mbakercorp.com)

