





Transportation Planning: Using GIS to Determine the Presence of Known Cultural Resources

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Agenda

- Resource Types
- Purpose and Need
- Project History and Milestones
- Platform Hardware/software
- Demonstration of the Cultural Resources GIS Application
- Benefits and Future Directions
- Question/Answer





Resource Types

• Historic Buildings – 110,000 statewide





Resource Types

• Historic Districts – 2,500 statewide





Resource Types

Archaeological Sites – 19,000 statewide







Purpose and Need

- PennDOT must consider project impacts on historic resources
 - What historic resources are already known?
 - What surveys have already been done?
 - How to interpret what is found?





Purpose and Need

- Pennsylvania Historical and Museum Commission
 - State repository for sites inventory
 - Is consulted on issues of eligibility and effect
 - Provides guidance
 - Research
 - Education





Challenges

- Only one existing copy files have been lost
- Only one place to do research—Harrisburg
- Hours of access are limited
- Physical files are in active use and frequently moving from desk to desk
- Maps and files are deteriorating





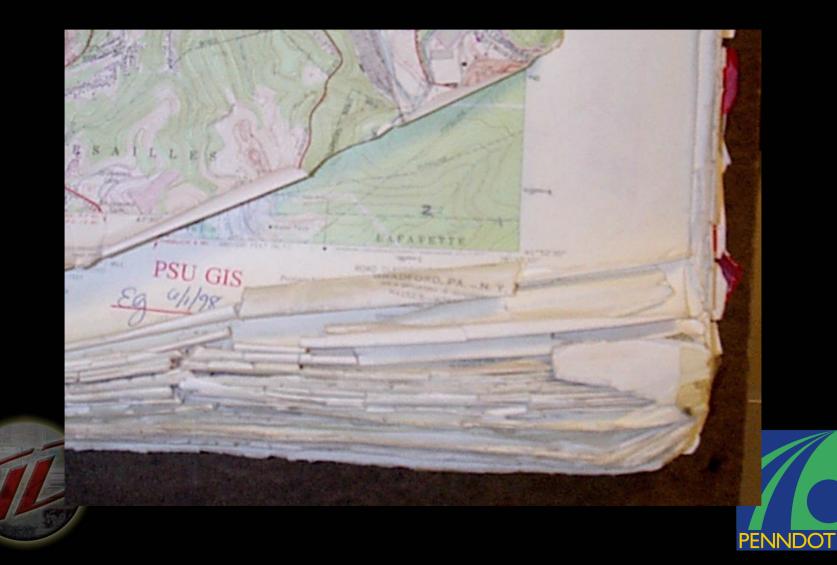
USGS Base mapping







Detail



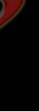
Inventory Form – circa 1950

	Murray Garden Spec 15 (1831) 64 187 School 1/4" - Point Monther 3045
	Punt Site Harry Record Administration of Personality Site No. 1 Pr. 2.
	County Bradford
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	Dimensions and description _Possibly one sore
	Attitude toward experation _Mg. Local topography River flat.
-	Relation to nearby sites Sites above and below it(mixed).
1	Proximity to stress, spring or less gusquehanna and Chemung Rivers.
	Tepotation Garden. Type of soil Biver loam.
-	Cultivation uarden.
-	Report published by syoning Hist. & Geo. Soc., and L.W. Hurray in AA(1991). Delidings on or sear siteHurray Residence.
	XXXXXX material collected; 28 Andaste pots,4 cells,1 discoidal,marine shell
	shell beads, copper(2) bracelet, triangular points, with of mica. Other material reported as collected from sites
	(07,01)



Newer Form

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	wat page		Thomas B. Case	-











Other Challenges

- Multiple and non-standardized map bases
- 55-year accumulation of site inventory
- No standardization for data collection
- Primitive (mainframe) search capabilities





Project History and Milestones

1993 Feasibility Study

1996 Database design & Dictionary

1997 Strategic Plan

1997 Pilot Project

2001 Intranet launch

2005 Internet launch





Project Partners

- PENNDOT
- Pennsylvania Historical and Museum Commission (PHMC)
- US Army Corps of Engineers
- Penn State University
- GeoDecisions





Partners – Internet Project

- PENNDOT
- Pennsylvania Historical and Museum Commission (PHMC)
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Data Structure

- Four Tables
 - Archaeological Inventory (PASS)
 - Historic Structures Inventory (PHRS)
 - Archaeological Surveys (ER Database)
 - Historic Structures Survey (virtual)
- Associated mapped layers on USGS base
- Environmental features as overlays





Platform Technical Aspects

- GeoMedia WebMap
- GeoMedia Professional
- Oracle 9i
- Programming
 - VB
 - ASP





Client Side Software

- Internet Explorer 5
- Active X Control
- Windows Image Viewer





Functionality

- What's in my project area?
- Where is this historic resource?
- What other resources are like this one? (Ask ReGIS)





Demonstration http://gisdemo/ce





Security

- Sensitive data
 - Archaeological site locations
 - Landowner information





Security

Solution

- Password protected
- Restricted user requirements
- Registration of restricted users
- Tracking of use to machine address
- SSL, Authentix, and object level security





Benefits

- Data is now worldwide, instead of one place
- Multiple maps have been integrated onto one map base
- Database dictionary promotes consistent data entry
- GIS unearths data gaps and errors from 50 years of entry.

Benefits

- PennDOT savings of consultant trips on projects
- PennDOT Cultural Resources Experts can scope projects early on
- Powerful research capabilities with Ask ReGIS





"Accidental" Benefits

- Public (which includes all Planning Organizations) can now access all aboveground data
- System users can report data errors
- Schools could use CRGIS as a teaching tool on Pennsylvania history/prehistory





Future Directions – Phase II

- Version 2.0 changes underway. Expect completion by March 2006
 - System was built piecemeal code is being unified
 - Tables will get consistent look and feel
 - Improving image software
 - Integrate system with Videolog and MPMS
 - Special user level for permitees

Future Directions - Phase III

- Projected revisions for 2006-07
 - Electronic forms and data entry
 - Customized access for individual groups, e.g. counties, Federally recognized tribes, MPO's
 - Fenced boundaries
 - Automated queries and reports
 - Addition of archaeology sensitivity layer for planning, e.g. transportation planning by MPO's, RPO's



Cultural Resources Geographic Information System

A cooperative venture of the Pennsylvania Historical & Museum Commission and the Pennsylvania Department of Transportation

Pennsylvania Historical & Museum Commission

in partnership with PennDOT Bureau of Planning & Research and Bureau of Design announces the launch of the

CRGIS Reservoir



This web based GIS allows you to view information about historic resources listed in the PHMC files based on spatial searches of the maps - OR - You can Ask ReGIS to find categories of resources and build thematic maps based on attributes stored in the database.

Qualified archaeological professionals: Register now for access to archaeological data. (Just read the intro pages and follow the links!)

http://crgis.state.pa.us