




How Do Asset Management and GIS Work Together?

The Schneider Corporation
Seiler Instrument
Azteca Systems, Inc.

Indiana LTAP
Indiana Local Technical Assistance Program 2003 Road School 


Agenda

- Introductions
- Risk
- Data Collection
- Break
- GIS
- Work Management software demonstration

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Introductions

Andrew Harrison
The Schneider Corporation

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The Schneider Corporation



Founded in 1962, The Schneider Corporation is an Indiana based multi-discipline GIS, surveying, engineering, and architectural consulting firm comprised of a staff of over 225 in four offices around the state.

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Risk



The Three Little Pigs

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Risk - The Wolf

- 50% of implemented projects fail to meet user expectations and/or maximize return on investment.
- Risk is more than the immediate financial impact of the project. *You must look long term.*



Straw House

- System built on proprietary data structure
- System unable to support open standards
- Insufficient accuracy to empower applications
- System not expandable
- Internal staff unable to access and maintain delivered data



Stick House

- Hidden cost, building too quickly
- Users refuse to use new system because of complexity, inaccuracy, response time, etc.
- Users refuse to use new system because of inability to meet expectations



Brick House

- Risk must be analyzed and mitigated for all items that will impact a user's ability to query the GIS and make planning, engineering and operational decisions



The Asset Management Approach

Steve Moore
The Schneider Corporation

The Recipe:

- Inventory Assets
- Long Term Capital Improvement Plan (CIP)
- 3-Year Asset Management Improvement Plan
- Formal Departmental Policies
- Fiscal Responsibilities
- Performance Analysis

Planning



Asset Management

- Implementation of an Asset Management system may take multiple years...



- Can you see the BIG picture?
- Do the pieces fit?

Data Collection

Jason Hooten
Seiler Instrument



Ways GPS can be used for GIS applications...

- Mapping
 - Recording something, somewhere
 - What do I have?
- Navigation
 - Finding something, somewhere
 - Where is it?
- Updating
 - Verifying something, somewhere
 - Is the information I have correct?



Applications for GPS/GIS Data Capture...

- Asset/inventory management
- Environmental monitoring
- Disaster Management
- Reconnaissance work



Asset Inventory Management

- Electric
- Gas
- Water
- Waste water
- Telephone
- Transportation



Need to know...

- What they own...
- Where it is...
- What it is worth...
- What condition it is in...
- Why?



Information Can Be Used For...

- Planning / budgeting
 - Maintenance management
 - Construction
- Facility inventory
 - Knowing what is where
 - Knowing value of assets
 - Using them to their full potential to save costs
- Producing maps
 - So they can find their assets

Navigation

- GPS can also be used to find something, for example:
 - Where is the sub-station that services the houses with the electricity outage?
- Finding an existing asset for:
 - Maintenance and repair
 - GIS update and information verification

Environmental Monitoring

- Forestry
- Wildlife and Fisheries
- Environmental agencies
- Local and national government agencies



Need to know...

- Condition of features in the environment
- Location of features in the environment
- Environmentally sensitive areas

Why?



Information Can Be Used For...

- Planning and decision making
 - Maximizing return on natural resource
 - Determining best location for development
 - Controlling use of resource
- Analysis
 - Establishing cause of degradation and pollution
 - Knowing where the areas are and why
- Producing maps
 - Mapping trails, roads & firebreaks
 - Mapping species distribution

Disaster Management

- Trimble GPS/GIS data capture systems have been used for mapping after a number of disasters
 - Hurricane Andrew
 - San Francisco Earthquake
 - US Forest Service
 - Wildland Fires
 - Locating hot spots
 - Mapping outbreaks
 - 1994 Mississippi Flood
 - Space Shuttle disaster



External Sensor Recording

- GPS can be linked to other electronic metering devices
 - Laser range-finders for distances, offsets and heights
 - Depth finders for bathymetry mapping
- Examples of applications
 - Water Quality Analysis
 - Magnetic Field Strength
 - Gas/Atmosphere Analysis
 - Biological Density Analysis
 - Corrosion Meters



Advantages Of GPS/GIS Data Capture Systems

- Ability to define data to be captured prior to field work
 - Data dictionaries
- Ability to quickly and accurately capture information
 - Location and attribute information
 - Submeter position accuracy
 - Error checking on attribute entry
- Compatibility with GIS and CAD systems

Asset Management, What Data Should You Collect??

EVERYTHING!!

GIS

Lauren Tracy
The Schneider Corporation

What is GIS?

Data (information) that can be placed at a geographic location.

What is GIS?

- How will GIS help my community?
- How do I get started with GIS?
- What is the cost of getting GIS?
- When will the GIS project end?

What is Asset Management

Process of maintaining and upgrading your Assets.

- Inventory
- Attribute information

Then move into:

- Work Management
- Cost Management

Why Asset Management?

- Mandates
- Public Interest
- Budget cuts
- Greater costs

Mandates

- GASB34
 - Infrastructure inventories must be included in the annual financial statements.
 - Infrastructure assets must be valued.
 - Once valued, assets must either depreciate or be proven to be maintained.

Things to consider...

before anything, consider the OBJECTIVE.

Things to consider...

- What assets to be included?
- What attributes on those assets are important?
- What data do you currently have and how accurate is it?
- What data is available to you??
- What resources do you have to dedicate to this process?

GIS and Asset Management

- Showing your inventory geographically
 - Ability to manage your assets
 - Able to budget for maintenance or rehabilitation

Paradigm

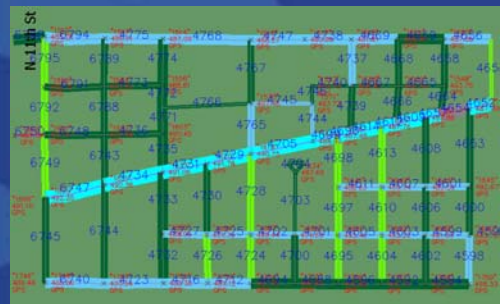
GIS is the best place to manage your Assets because it utilizes existing software, training and knowledge.

Separate packages that display your Assets in GIS don't work effectively and duplicate your efforts.

Leverage your GIS

- Aerial photos
- Water layers
- County/Township/Section layers
- Parcels layers

Using your GIS



Work Management Software demonstration

Becky Tamashasky
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