GIS for Joint-Use Field Data Collection

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Introductions

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  - Currently manages GIS, engineering, and project management
  - Previously managed network development; engineering, and budgeting, forecasting and financial analysis

Rob Kolosvary
- UAM GIS Manager
  - Currently manages the development of GIS systems used to track utility assets
  - 14 years GIS experience in telecommunications and forestry
Overview of Presentation

- Introductions
- Portland General Electric
- Utility Asset Management
- Joint Use in Oregon
- Challenge
- GIS Solution
- Summary
- Questions
Portland General Electric

- 114 years old
- First long distance transmission of electricity 1889, 14 miles from Willamette Falls to Portland
- 740,000 customers
- $2 billion revenue
- 3100 square miles
- 1.5 million people in service territory
- Own 240,000 poles
- Lease space on 60,000 poles owned by telephone
Utility Asset Management

- Department of Portland General Electric
- Manages PGE’s and other pole owners’ plant
- Recovers $3.5 million in rent annually for PGE
- Each year UAM manages:
  - audit of 100,000 poles for unauthorized attachments
  - NESC inspection 40,000 poles for communication caused violations
  - inspection of 10,000 poles for new attachments
  - analysis of 1000 poles for new attachments
- ESRI Authorized Business Partner
Joint Use in Oregon

Oregon Revised Statutes require that prior to attaching to a pole, licensees must have:

- a contract to attach to poles
  - $300 per pole sanction for no contract
- a permit to be on specific pole
  - $250 per pole sanction for no permit
- and all attachments must be made in compliance with NESC
  - $200 per pole for code violation
Challenge

Data collection in the field is difficult because:

- qualifications of contracted inspectors
- accuracy of results from contractors
- format of results limits ability to manipulate gathered data
GIS Solution

Application

- PoleView based on ESRI ArcPAD
- Runs on Windows or Windows CE device
PoleView

- Forms driven with pull down menus
  - makes it easier for less experienced data collectors to perform accurate inspections
- Easily integrated with existing GIS
- Data extracted, modified, and uploaded
- GPS can be integrated into inspections
- Customized for each end user
Data All the Way

- Extract data from database
- Upload to Windows CE device
- Gather field data on Windows CE device
- QC data
- Update database
- Display in Pole Manager
Electric Co-op

Scope:
- Safety Survey 36,500 poles
- NESC Inspection 5,000 poles

Method:
- GIS to CE Device
- Field data collection
- QC Data
- Upload to GIS
Large Telephone Company

Scope:
- audit for unauthorized attachments
- inspect for code violations
- collect GPS

Method:
- paper copies of records in field
- results in MS Access format
- MS Access converted to shape files
- QC using PoleView
Portland General Electric

Scope:
- audit 75,000 poles for unauthorized attachments

Method
- extract pole and attachment data from enterprise database
- field inspection results in MS Access
- MS Access converted to shape files
- QC using PoleView
ASP.NET Application
Summary

Challenges

- qualifications of contracted inspectors
- accuracy of results from contractors
- format of results limits ability to manipulate gathered data

Solution

- utilize handheld collection application
- integrate results into GIS
Questions?
Contact Information

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