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NEXTGEN 911 AND GIS
Agenda

- Introductions
- Background
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- Goals of NG 9-1-1
- Role of GIS in NG 9-1-1
- Support Relationships
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  - Baseline
  - Strategy
    - Objectives
    - Timeline
Introductions

- Ed Reuter: Indiana 911 Board Executive Director
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Background

- Different types of 911 Technology
Indiana: 9-1-1 Perspective

- March 1, 1968 - First 911 call in Indiana to Huntington County.
- 1998 - First Phase I wireless 911 call.
- 2001 - Lake County 2nd county in nation to receive wireless 911 calls.
- 2019
  - 122 PSAPs
    - 91 County PSAPs
    - 25 Secondary PSAPs
    - 6 ISP Regional Dispatch Centers

- CAD Software
  - Caliber
  - Motorola
  - New World (Tyler)
  - Spillman
  - Other
Text to 911

- The Board pays $740,000 annually for Text to 911 Services for 92 counties.
- Indiana leads the nation in the use of this system.
- 215,784 text sessions 2018
  - 13,070- text sessions to 911
  - 202,714- text sessions from 911
Text to 911
Training?

Introduced in January of 2015 and effective July 1, 2015, the objective of IC 22-14-2-6 was to provide fire fighting and emergency services with cost effective, volunteer training opportunities.

The Statewide Board approved the recommended minimum training guidelines for telecommunicators in December of 2017.

- The Statewide 911 Board has earmarked $1.5M in funds to provide certified basic training for telecommunicators in Indiana.

Since January 2018

- Certified Courses
- Recertification Courses
- Continuing Education Courses
- Supervisory Courses
- CTO Courses
- CMCP Course
MEVO/Disaster Recovery Services

- The MEVO system provides a backup 911 call delivery.
- The Board pays approximately $224,000 each year for MEVO services.
What is Next Generation 911?

- A system comprised of hardware, software, data and operational policies and procedures briefly described to:
  - Provide standardized interfaces from call and message services
  - Process all types of emergency calls including non-voice (multi-media) messages
  - Acquire and integrate additional data useful to call routing and handling
  - Deliver the calls/messages and data to the appropriate PSAPs and other appropriate emergency entities
  - Support data and communications needs for coordinated incident response and management
  - Provide a secure environment for emergency communications

ESI Net: Emergency Services IP Network

- broadband technology capable of carrying voice and large amounts of data using Internet Protocols and standards.
- Hierarchical (network of networks) in a tiered design approach to support local, regional, state and national emergency management authorities.
Building Block of NG9-1-1

- Since 2005 Indiana- single redundant ESInet statewide network

- Serving 122 PSAPs.

- By 2020 will have two redundant ESInet statewide networks for NG911.

- Annual cost for the statewide deployments is $17.5 million.
ESInet
Governance of NG 9-1-1

National 911 Program (US DOT)
- Provides Federal leadership and coordination in support of optimal 911 services

NENA
- Provides technical expertise in the creation of NG 9-1-1 architecture and standards

Indiana 911 Board
- Oversees operation of statewide 911 network

AT&T
- Operates 2 redundant ESI Networks for NG9-1-1 calls

Indiana GIO
- Pushes out Indiana NG9-1-1 GIS Standard as State Standard

Local GIS Data Providers
- Local GIS Departments or Contractors create needed GIS Data at State Standard

INdigital
- Integrates the Local NG9-1-1 GIS Data with the local PSAP ESI Net
Goals of NG 9-1-1

Indiana Goals

- Build out of NG9-1-1Core
  - AT&T core locations at Indianapolis, Crown Point and Louisville, KY-complete
  - INdigital network-complete (Ft. Wayne and Indianapolis)
- Text-to-911 implemented
- Adequate funding for PSAPs
- NG9-1-1 System interconnectivity and interoperability with FirstNet
- Telecommunicators provided with adequate tools and training
Goals of NG 9-1-1

E9-1-1
- MSAG
- Selective Router
- SRDB

NG9-1-1
- GIS/LVF
- ESRP
- GIS/ECRF
Role of GIS IN NG9-1-1

- **GIS: Geographic Information Systems**
  - What is it?: A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. (Esri)
  - What does it do?:
    - Store, reference, combine, and analyze multiple layers
    - Allows you query based on geographic location
    - Allows for visualization of data
Role of GIS IN NG9-1-1 (Cont.)

- **GIS: Geographic Information Systems**
  - **Why?: Map Display**
    - Confirms/validating emergency callers location
    - Vehicle Routing
    - Display callers location
GIS: Geographic Information Systems

Why Maps?

- High Stress environment of the PSAP
  - Information Overload
  - Multi-tasking
- Decreased Productivity
  - Impaired Decision Making

Good Maps lead to:

- Improved decision making
- Increased ability to understand complex data and spatial relationships
Role of GIS IN NG9-1-1 (Cont.)
How is GIS Used?

- Instead of tabular MSAG data, GIS is used for Location Validation.
How is GIS Used?

- Instead of Selective Routing Database which is the table that contains telephone number to ESN relationship the GIS
GIS Data Standards

- NENA developed a NG9-1-1 GIS Data Model
- Indiana developing/developed an Indiana NG9-1-1 Data model.
What is the Indiana GIS Data Standards

- **Required Data Layers**
  - Road Centerlines
  - Site/Structure Address Points
  - Emergency Service Boundaries
  - PSAP Boundary
  - Provisioning/Jurisdictional Boundary
  - Street Name Alias Table

- **Strongly Recommended**
  - County Boundary
  - Incorporated Municipal Boundary
  - Landmark Name Alias Table
  - Mile Marker Location
  - Neighborhood Community Boundary
  - Unincorporated Community Boundary

- **Recommended**
  - Cell Site Location
  - Hydrology Line
  - Hydrology Polygon
  - Railroad Centerlines
Support Relationships

- Indiana 911 Board
- INdigital
- FirstNet
- AT&T
- Corporate GIS providers
- Local Government GIS
- PSAP’s
Road Forward

- Baseline
- State GIO Data harvest