Distributing Geographic Information to Emergency Services in a Rural Locality
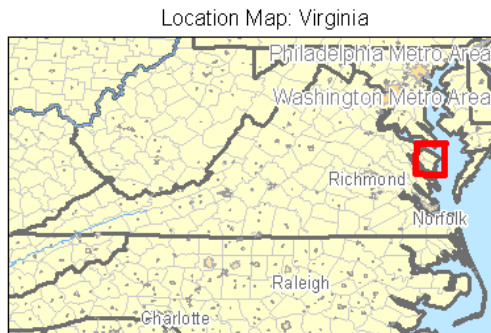
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Overview

- Background
- Goals & Objectives
  - Purpose
  - Factors Considered
- Proposed Methodology
- Anticipated Results
- Items Accomplished
- Project Timeline

Northumberland County, Virginia

Background

192 square miles

~556 miles of shoreline

Population: ~12,300
   Almost doubles seasonally

Data obtained from:
ESRI
Northumberland County

Background 1996-2004

Back Office

Measuring Wheel

MapInfo

Map Books

Data Transferred by hand carrying to dispatch office

Front Office (Dispatch)

Dispatch Mapping

Dispatch Mapping

Background Continued

- Current Map Books
  - Hard to read
  - Cumbersome to use
  - Outdated
    - Originally produced with MapInfo (1996)

Background 2004-2010

Back Office

Front Office (Dispatch)

Vehicle mounted GPS

ArcView 3.x

Atlas Books

Data Transferred by hand carrying to dispatch office

Dispatch Mapping

Dispatch Mapping

Purpose

- Why this project?
  - Request from emergency service personnel to update map books.
  - Dispatch freedom.
  - To understand what information emergency service personnel need.

Purpose Continued

- Why this project? (continued)
  - To understand what method is best to distribute geographic information to emergency crews
    - Hardcopy Map Books
    - Digital (ArcGIS Server, GPS, etc.)
  - To understand what factors will limit a successful implementation of the distribution of such geographic information.

Present Northumberland GIS

Back Office

GPS Unit

ArcEditor 9.3

Atlas Books

ArcEditor 9.3 &
Dispatch Mapping
for Data Verification

ArcGIS Server
Enterprise
Standard

Front Office (Dispatch)

Dispatch Mapping Computers

Wireless
Connection

Dispatch
Mapping
Server

Overall Objective

- Hardcopy Map Books
- Proprietary software/silent dispatch
- ArcGIS Server
  - Web maps- access through internet
  - ArcGIS Explorer/Reader
- GPS devices w/ County information
- Other options

Overall Objective

- Identify the appropriate means of distributing geographic information to emergency service personnel while considering the limiting factors of a rural locality such as Northumberland County
    - either hardcopy map books or digital

Factors

- Stakeholder Information
- Current and/or Needed Infrastructure
- Cost Information

Stakeholder Information

- Who will be using this information?
- Are electronic devices currently being utilized within the agencies?
- What type of training is required?
- What information is needed in order to conduct emergency response?

Current and/or Needed Infrastructure

- Are hardware or software capabilities currently available to distribute geographic information?
  - What software would need to be purchased?
  - What hardware would need to be purchased?
- What is the internet/cellular coverage availability for Northumberland?

Costs

- Costs will need to be determined for:
  - Hardware
  - Software
  - Recurring costs
- In order to obtain funding to move forward with specific projects, the cost will need to be known.

Approach/Methodology

- Processes
  - I- Initiating
  - II- Planning
  - III- Executing
  - IV- Controlling
  - V- Closeout

Approach/Methodology

- Process I- Project Initiation:
  - Develop statement of objectives.
  - Identify key stakeholders.
  - Develop project charter.
  - Define deliverables.

Approach/Methodology

- Process II – Planning:
  - Develop work breakdown structure (wbs).
    - Timetable
  - Develop list of associated project risks.

Approach/Methodology

- Process III – Executing:
  - Examine the following:
    - Current needs and limitations/restrictions
      - With Stakeholders
      - With Infrastructure
      - With Cost
    - Types of geographic information distribution opportunities, system requirements & feasibility compared to needs and limitations/restrictions.
    - Requirements for final deliverable.

Approach/Methodology

- Process IV – Controlling:
  - Keeping the project on track
    - Change requests for the project
    - Revising the work breakdown structure

Approach/Methodology

- Process V – Closeout:
  - Delivering final product

Completed to Date

- Processes
  - I- Initiating
    - ✔ • Develop statement of objectives.
    - ✔ • Identify key stakeholders.
    - ✔ • Develop project charter.
    - ✔ • Define deliverables.

  - II- Planning
  - III- Executing
  - IV- Controlling
  - V- Closeout

Anticipated Results

- Providing geographic information in hardcopy map books will be priority to all agencies
- Mixed acceptances of geographical information provided digitally:
  - Mixed reviews among agencies
  - Mixed reviews among members in each agency
  - Pilot Project for one agency to determine feasibility of introducing such technology to others
- Potential of sharing digital geographic information with adjoining counties

Project Timeline

Task	Timeline
Initiating (Scope of Project etc.)	January - March 2011
Planning	February - March 2011
596A: Presentation of Proposed Project	March 2011
Executing	March – April 2011
Controlling (throughout the project)	March- May 2011
Closeout / Final Written Paper	May - June 2011
Final Project Presentation	May - June 2011

Presentation Location

- GIS Users Group (local regional group consisting of four counties and several towns)
- Date to be determined

Thank you/Questions

- Thanks
  - Todd Bacastow- Advisor

- Questions?