ArcGIS for Community Risk Reduction
Maps and Apps for a safe community
The Mission: To Identify Risk and Reduce their Occurrence and Impact

Challenges Faced by Public Safety Agencies

- **Community Risk Reduction (CRR)**
  - To identify new and emerging hazards
  - To track the changing demographics of our community
  - To identify underserved populations
  - To provide data and results to influence the budget process

- **Collaboration and Coordination**
  - Getting information to and from personnel in the field
  - Communicating to citizens & partner agencies

- **Community Risk Reduction coordinates prevention and mitigation**
  - ArcGIS can provide solutions to lesson the impact of hazards, and lessen the impact to daily activities

  *Questions of “Where” are is in every identified community risk...*
The Mission: To Identify and Reduce their Occurrence and Impact

Challenges Faced by Public Safety Agencies

...Questions of “Where” are is in every identified community risk...
ArcGIS for Community Risk Reduction
Leverages and integrates authoritative datasets on the problem and mitigation activities

Real-Time Resource Management
- Dashboard
- Workforce

Coordinate with Field Staff
- Mobile Applications

Risk Assessment
- Community Specific Data
- Living Atlas

Communicate with Stakeholders
- Public Information App

...to deliver a collection of focused maps and apps to help Public Safety agencies manage CRR more effectively...
Risk Assessment

The risk assessment process identifies the various risks to your community and/or service area

- Acquire Data that Identifies Risks
- Develop a Community Profile
- Identify Causal Factors & Populations at Greatest Risk
- Identify Target Hazards
Risk Assessment

Acquire Data that Identifies Risks

- Fire Department Incident Data
- PSAP Data
- Emergency Management Disaster Related Data
- Centers for Disease Control
Risk Assessment

Develop a Community Profile

- Age
- Gender
- Income
- Race and ethnicity
- Social and cultural information
- Education
- Parcel & housing type, age, and density
Risk Assessment

Causal Factors & Populations at Greatest Risk

- Social factors and cultural influences
- Economic factors
- Environmental elements
- Identify risk factors in specific populations:
  - Children (age 5 & under)
  - Older adults (age 65 & older)
  - People with disabilities
  - People living in poverty
  - Populations that speak little or no English
Leveraging GIS
Demographic Profile
Risk Assessment

Identify Target Hazards

- Assembly Occupancies
- Educational Facilities
- Health Care Facilities
- Public Safety Structures
- Transportation Infrastructure
- Communications Infrastructure
Risk Assessment by Address Point

- All Address Points
- Distance from Hydrant
- Square Footage
- Building Height
- Use Group
- Fire Hazard Classification
- Geodatabase & CAD Pairing
Leveraging GIS

Call Type

City of Bolton
Washington

Legend
Density of Wildland Fires
- 0.5-1.5% of Wildland Fires
- 1.5-2.5% of Wildland Fires
- 2.5-3.5% of Wildland Fires
- 3.5-4.5% of Wildland Fires
- 4.5-5.5% of Wildland Fires
- 5.5-6.5% of Wildland Fires

Fire Management Zones (FMZ)

Wildland-Type Fires: 2009 - 2013
Leveraging GIS
Community Risk Analysis

Engage Residents Without a Working Smoke Alarm
Leveraging GIS
Community Risk Analysis

- All Tax Parcels
- Less than $45,000 household income
- 1980 or previous construction date
- 1990 or previous sale date
- At Risk Property
- Rental
Leveraging GIS

Community Risk Analysis

Smoke Alarm Initiative Project
Weekly Report: 8/21/2017 to 8/27/2017

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Risk Assessment Address Visited Last Week: 0

Addresses Visited Last Week: 27

YTD Risk Assessment Validity
- 25% Working Smoke Alarm (No Install)
- 75% Smoke Alarm Installed
Why Esri?

**Location Platform Technology**
- Enables quality, real-time location data collection, visualization, and analysis
- One version of the truth, always up to date—regardless of where you access it
- Leverages data you already have and makes it accessible across organization
- Named User security model controls access and federates to existing agency security framework
- Deploy in the cloud or on-premise
- Streamlines Inter-agency collaboration—Esri is already the choice of tens of thousands of public safety agencies worldwide

**Configurable Apps**
- Deliver operational plan maps in a role-appropriate form
- Apps are intuitive—minimal training required
- Apps for all devices—Desktop, Web, Mobile
- As needs evolves, technology goes with you:
  - Re-configure your apps
  - Configure new apps as new requirements emerge
  - No need to go back out to RFP to build another data silo
Next Steps
ArcGIS for Community Risk Reduction

- Thoughts On What You’ve Seen?
- Understanding Your Vision and other Need Areas

ArcGIS for CRR
A Location Strategy

- Risk Assessment
  - Available Data
  - Web tools for analyzing incidents and community profile

- Coordination with the Field
  - Mobile Apps for viewing assignments and collecting data from the field
  - Mobile data entry accessible anywhere

- Stakeholder Communication
  - Public-facing website for public information and updates
ArcGIS for Community Risk Reduction

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References

1. Esri: http://www.esri.com
6. United States Census Bureau: www.census.gov