County Government GIS Activities Possibly Impacted by HB1106

Typical County GIS work:
    High level:
- Edit points/lines/polygons – add, delete, modify
- Edit attributes – add, delete, modify
- Geocode locations
- Collect data in the field via GPS or Collector
- Make maps
- Perform analysis

    More detailed:
- Parcel mapping/maintenance
  - Using GIS software, add/delete/modify the parcels using coordinate information provided on plans and deeds
  - Attribute maintenance:
    - UPI/PIN assignment
    - Acreage, dimensions
    - Links to Assessment information for owner, land use, etc
- Road centerline mapping/maintenance
  - Using GIS software, add/delete/modify road centerlines using information provided on plans, from municipalities, on aerial imagery
  - For E911/NG911 dispatching, transportation planning
  - Address ranges – actual or theoretical
  - Street names and aliases, 1:M
  - Routable network attributes
  - Valuable for geocoding
- Address points mapping/maintenance
  - Location addresses
  - Link to postal addresses
  - Can be located on parcel centroid, building footprint, building entrance, driveway
  - For E911/NG911 dispatching
  - Link to commonplace names, 1:M
  - Valuable for geocoding
- Collect fire hydrant locations using ArcGIS Collector
- Display Medication drop box locations
- GPS locations of storm water elements – culverts, pipes, etc
- Edit response zone polygons – geometry and attributes
- Analysis to determine at risk buildings in the floodplain – overlay building footprints with floodplain layer
- Geocoding client locations and comparing to office locations to better schedule Probation Officers' time and travel.
- Attributing parcels that have been designated as easements, protected open space, etc
- Mapping mosquito locations for West Nile Virus spraying
- Mapping during Emergency Operations
  - Road closures
  - Power outages
  - Location of 911 calls and trend analysis
  - Damage assessment
  - Municipal declarations of emergency
  - Open shelters and warming centers
  - Critical infrastructure status
- Radiological Emergency Response Planning

- Planning of evacuation routes and associated traffic/access control points
- Location of sirens, and analysis of their effective range
- Route Alert mapping and analysis
- Emergency worker decontamination site planning
- Public reception center planning

- Strategic National Stockpile Points of Distribution
  - Local logistic node locations
  - Points of Distribution site planning
  - Traffic control planning
- Hazardous Materials Response Planning
  - Superfund Amendment and Reconciliation Act (SARA) site locations
  - Plume modeling
  - Chemical spill downstream tracing analysis
- First Responder support
  - Territory maps
  - Drive time studies
  - Territory population and property values analysis
  - Hydrant mapping
  - Critical facility planning
- Locations of KI distribution
- Display polling place locations
- Parks and recreation mapping:
  - Trail maps – mile marker locations, bench locations, restroom locations, cross streets, trail entrances, parking locations
  - Pavilion locations
  - Campgrounds
  - Habitat delineations
  - Fun runs – course mapping, parking locations, etc
  - Display designated hunting areas
- Displaying Impaired streams by pollutant type
- Walk to School analysis – student location, school location, sidewalk locations
- Opioid epidemic analysis and mapping – demographics data, population data, naloxone use

Typical GIS Datasets:

Parcels – coordinates taken from subdivision plans, which are from engineers	Road centerlines	Address points
Subdivisions and Proposed subdivisions	Easements – utility, agriculture, open space	Cell tower locations – coordinates from the FAA
Radio tower locations	Emergency response zones – ambulance, fire, police	PSAP boundaries
Municipal boundaries	County boundaries	Streams/Ponds/Lakes – derived from photogrammetric methods from aerial imagery
Dams	Dam inundation zones	Stream gages – from USGS
Storm water infrastructure	Floodplains – from FEMA	Building footprints – from LiDAR
Impervious surfaces – from LiDAR	Schools/Higher education	Contours – from LiDAR
DEMs – from LiDAR	Census Data - Blocks/blockgroups/tracts/population - From Census Bureau	Protected open space
Parks – municipal, county, state	Trails	Congressional districts
Polling places	Voting precincts	Zip codes
Zoning	Land use	Land cover

Ambulance/Police/Fire stations	Nuclear power point locations	Evacuation routes
Shelters	Nursing homes	Nuclear siren locations
SARA/Superfund sites	Critical infrastructure	Municipal buildings
Municipal EOC's	Soils – from USGS	Break lines
Airports	Bus stations	Bus routes
Railroads	Train stations	Traffic signals
Wastewater – facilities, service areas, discharge area	Fire hydrants	Pipelines
Remotely sensed imagery – ortho's, obliques, LIDAR		

Other information that may be of use

County departments that use GIS software/tools and could be impacted:
Assessment
IT
Planning
Emergency Services: 911; EOC
Health
Water Resources
Soil Conservation
Community Development
Open Space

County departments that consume GIS data/products and could be impacted:
Commissioners
Recorder of Deeds
Coroner
DA
Detectives
Drugs and Alcohol
Adult probation

Use of GIS Mapping for the purpose of annual SARA Site Plans

Each year, by law, all SARA site plans must be updated. This includes reviewing every map in the plan for the purpose of updating the following:

> SARA Planning Facilities
> SARA Non- Planning Facilities
> All Gas Company well pads, Compressor Stations, Valve Sites, Tap Sites, Interconnects, Meter Sites, Fresh Water Impoundments, Water Intakes, Pump Stations, and Orphaned Wells
> Special Needs Population for Sheltering in Place and Evacuation Plans
> Reception Centers in the event of an emergency incident
> Evacuation Routes and Traffic Control Points to the Reception Centers
> Access Control Points to the SARA Planning Facility
> Schools / Colleges @ risk in the vulnerability zone of each SARA Planning Facility
> Day Care Centers @ Risk in the vulnerability zone of each SARA Planning Facility
> Hospitals / Nursing Homes @ Risk in the vulnerability zone of each SARA Planning Facility
> Fire Departments of jurisdiction for each SARA Planning Facility
> Police Departments of jurisdiction for each SARA Planning Facility
> Municipal Buildings in the jurisdiction of each SARA Planning Facility
> Waterways
> Railroads
> Wind Towers

There are 62 plans to be updated annually. For each of these 62 plans, there are a minimum of 24 maps and a maximum of 65 maps. Each one needs to be reviewed and changes made for any of the above listed categories.

Maps also included are Aerial maps of each category with exception of the Special Needs Population.

When a new SARA Site is listed, this must be added to the GIS data prior to completing all the documentation and required mapping.

GIS mapping is used for every incident within the county. It is used in the Emergency Operations Center to map and track the incident in place or in Chief Emergency Preparedness Planner's office if the incident is of a smaller scale and does not require activation of the Emergency Operations Center.

The mapping is used to verify Special Needs Population and other SARA sites that contribute to the risk of the incident.

The GIS tool is used daily.

General Impacts of Legislation on Commonwealth GIS Operations

1. Negatively impact the feasibility of providing geospatial data and services to the public.

2. Negatively impact regional economic activity by regulating highly technical labor, data processing methods and tools, and data exchange to a limited number of exclusively licensesd professionals.

3. May potentially create a series of unnecessary and unwarranted legal entabglements (at the state and federal level – in the courts). The licensure and regulation of GIS activity has done so in other jurisdictions.

4. Exclusive nature of licensure is unnecessary when rigorously administered and well respected GIS certification programs are available to professionals, of all disciplines, who man benefit from the skill of GIS in their respective careers.

5. The evolution of technology and the increasingly "mechanized" nature of surveying and GIS makes stricture regulation both unnecessary and unwarranted (especially looking to the future).

6. The reduction of GIS data and services available to professionals of many disciplines, and to the public in general, may actually diminish the ability to ensure the public's safety. E.g. would a police officer on the beat still be able to record a GPS point for analysis in a crime wave map)an invaluable tool for crime prevention)?