Time Based Run Cards:
Better Fire/EMS Response in Prince George's County
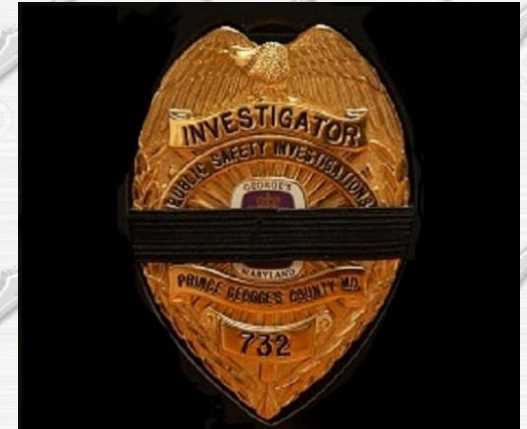
The Department

- Largest combination department in North America
- 46 Stations
- 76 Engines, Trucks & Squads
- 59 EMS
- Special Services
- 2,142 career & volunteer responders
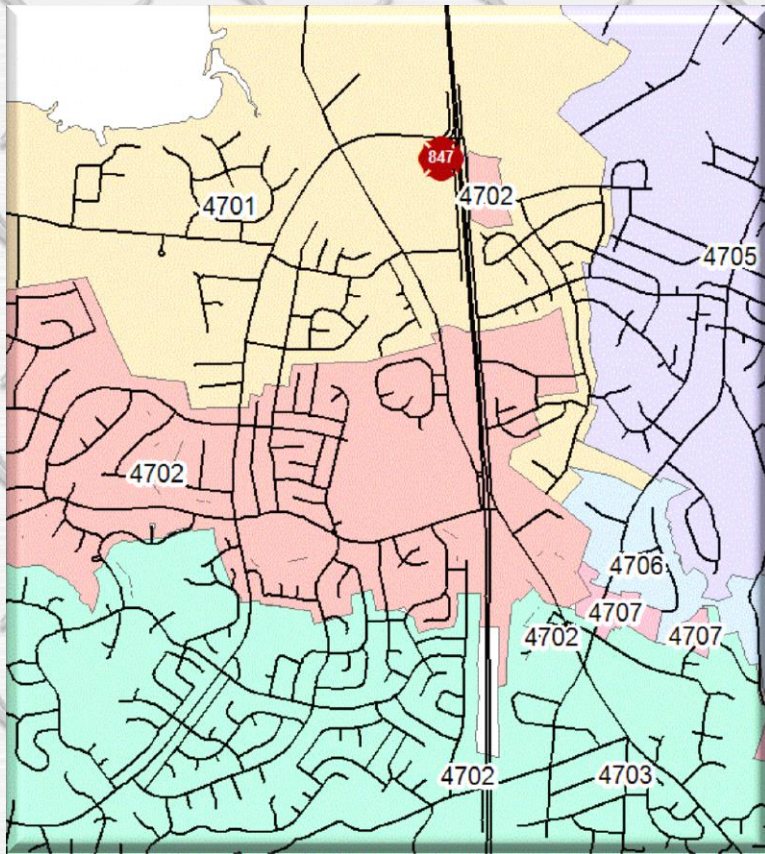- 140,000 calls for service

Charlie the Intern

- 29+ years IT & Public Safety Background

  Dispatcher, Programmer/Analyst, MIS Coordinator, Background Investigator

- UMD BS Geography/GIS + Studio Art

- MSGIC Member

Terms

- Box Area: Response area based on 3 closest stations
- Run Card: What to send and the station order
- Engine: Water & Hose
- Truck: Ladders
- Squad: Collapses & Extrications
- BLS: Basic Life Support
- ALS: Advanced Life Support

Goals

- Box areas based on time
- Sensible measurement points
- Limited Access Highway merge points

Strategy

- Initial thoughts – Service Area, Intersections
- Final - Closest Facility to address points
  - 270 stations
  - 250,000 Address Points
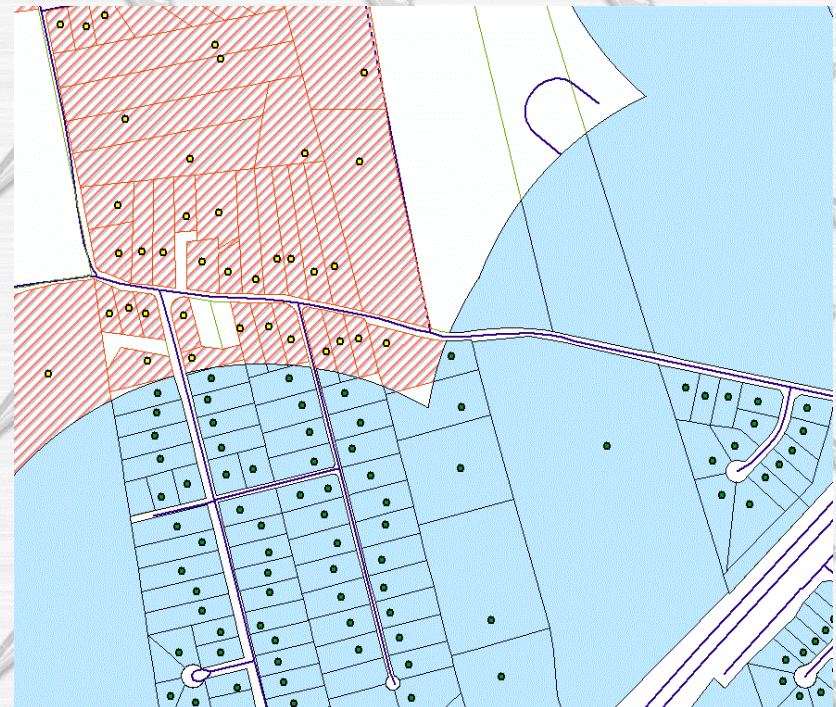- 1.25M routes for Box Areas; 67.5M routes for run cards

General Process

- Create Merge points for Limited Access Highways
- Snap address points to centerline
- NA/CF: Stations, address points, gates
- Update incidents with stations
- Adjust for future stations
- Assign box numbers

urbApproach	Status	Attr_Length	Attr_Time	Cutoff_Length	Cutoff_Time	IncidentID	FIRSTDUE	SECONDDU	THIRDDUE	FOURTHDU	CALC_BOX *	FBOX *	HYDR
Either side of vehicle	OK	0	0	<Null>	<Null>	88838	833	838	806	830	833-838-806	3305	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88839	806	846	833	837	806-846-833	0601	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88840	833	838	806	830	833-838-806	3305	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88841	833	838	806	830	833-838-806	3305	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88842	833	838	808	830	833-838-808	3304	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88843	833	838	806	830	833-838-806	3305	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88844	833	806	838	830	833-806-838	3311	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88845	806	846	833	837	806-846-833	0601	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88846	833	806	838	830	833-806-838	3311	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88847	806	846	833	837	806-846-833	0601	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88848	806	846	818	833	806-846-818	0603	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88849	806	846	833	837	806-846-833	0601	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88850	833	806	838	830	833-806-838	3311	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88851	806	846	818	833	806-846-818	0603	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88852	806	846	833	837	806-846-833	0601	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88853	806	846	833	837	806-846-833	0601	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88854	843	816	820	846	843-816-820	4301	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88855	833	838	808	830	833-838-808	3304	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88856	833	838	806	830	833-838-806	3305	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88857	833	838	806	830	833-838-806	3305	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88858	833	806	838	830	833-806-838	3311	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88859	843	816	820	846	843-816-820	4301	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88860	843	816	839	820	843-816-839	4302	Y
Either side of vehicle	OK	0	0	<Null>	<Null>	88861	833	806	838	830	833-806-838	3311	Y

General Process (cont.)

- Join & Spatial Join to get box number on parcels

- 1,500' hydrant zone

- Edits: non-addressed areas, anomalies, non-hydrant areas

- Dissolve, Split, Aggregate, Merge and remove holes

- Calculate Central Feature of address points

- Closest Facility for 270 stations

Challenges

- Data

- Software

- Hardware

Lessons Learned

- Validate and collect data

- Add fields

- Edit - Test - Edit

- Math conversions

- Imagery & knowledge of the area

- Multi-Node Network

Contacts

Mark E. Brady, PIO:

301-883-7154

mebrady@co.pg.md.us

Charlie Wrenn:

301-883-5786

cmwrenn@co.pg.md.us