Usage of GIS Data (Overview/Crash Perspective)

Division of Traffic Engineering & Operations

MCDOT

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Outline

- Introduction
- Process
- Outcome
- Usage of the data
- Various programs
- What we can do better
- Questions/Answers

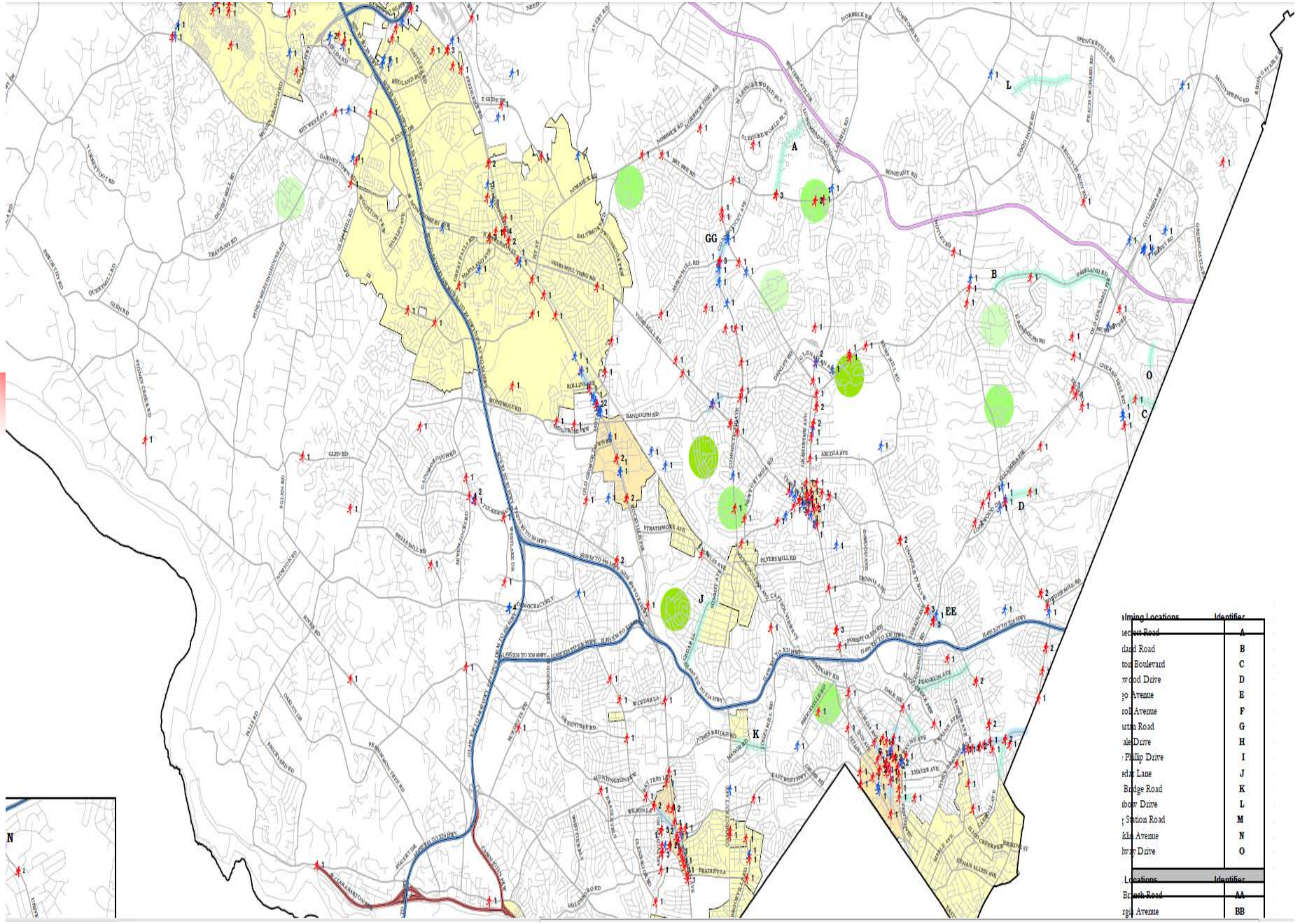
Introduction

- SHA & MCPD traffic crash data owner
- TE&O analyze
- GIS: Great Tool for Visualization / Analysis

Process

- Upload into GIS (address match)
  - Intersection
  - Particular address (i.e. parking lot)

Heat Map / Density (based on crash frequency)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A
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Example

- How to Geocode Parking Lot Crash Data
  - Please see the handouts

HIA's on GIS Map

FAIRMONT AVE
WISCONSIN AVE
METRORAIL TRACK A1 RAIL
WOODMONT AVE
MOORLAND LA
COMMERCE LA
QLD GEORGETOWN RD
3
1
4
1
1
1
1
5
1
3
0
80
160
320 Feet

Outcome

- High Incident Area's (HIA's) (250' / all leg)

- ** (Monitoring)**
- School Zones (1/4 mile Radius)
- Traffic Calming Locations (250' /all leg)

Montgomery County DOT

Rank	Locations	Master Plan Classification	Crashes	Distance (ft)	Ped Crash Density	Density Multiplier (x1000)
1	Colesville Rd (University Blvd)	Major Highway	23	500	0.0460	46.0
2	Reedie (Veirs Mill - Georgia)	Business	19	540	0.0352	35.2
3	Connecticut Ave (Georgia to 530' eastward)	Arterial	18	530	0.0340	34.0
4	Randolph Rd (Selfridge - Colie)	Major Highway	21	800	0.0263	26.3
5	Old Georgetown Rd (Fairmont - Edgmoor)	Major Highway	21	850	0.0247	24.7
6	Colesville Rd (Fenton St - Noyes)	Major Highway	22	960	0.0229	22.9
7	Georgia (Urbana - Sheraton)	Major Highway	20	920	0.0217	21.7
8	Fenton (Colesville - Wayne)	Arterial	22	1200	0.0183	18.3
9	Nicholson La/Nicholson Ct/Nebel St	Arterial	9	500	0.0180	18.0
10	Connecticut (Aspen Hill to N of Independence)	Major Highway	17	950	0.0179	17.9
11	New Hampshire (250' N of Lockwood to 750' S)	Major Highway	17	1000	0.0170	17.0
12	Randolph Rd (Grandview - Glenmont Cir)	Major Highway	20	1200	0.0167	16.7
13	Veirs Mill (College View - University)	Major Highway	18	1100	0.0164	16.4
14	Frederdick Road (Middlebrook - Gunners Branch)	Major Highway	17	1050	0.0162	16.2
15	Veirs Mill (Twinbrook - Atlantic)	Major Highway	18	1200	0.0150	15.0
16	Odendhal Ave (Frederick - Russell)	Unknown	17	1180	0.0144	14.4
17	Rockville Pike (Nicholson - N of Marinelli)	Major Highway	14	1050	0.0133	13.3
18	Arlington Rd (Montgomery Lane - Bethesda Ave)	Arterial	12	900	0.0133	13.3
19	Firstfield (Quince Orchard - Clopper)	Unknown	16	1400	0.0114	11.4

Continue

- HIA's
  - Pedestrian Roadway Safety Audit (PRSA)
  - Target with 3 E's (Education / Enforcement / Engineering)

Education

Engineering

Enforcement

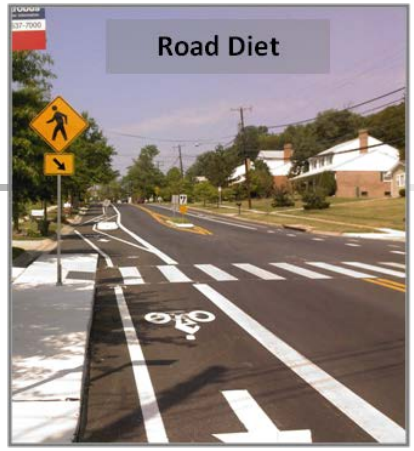
School Zones (Monitoring)

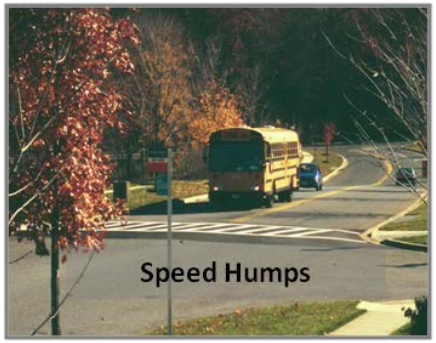
- Different Type of Grants
- Scope – Conduct proactive assessments of traffic and pedestrian activities around schools focused on providing safe walking routes for children to school

Galway Drive School / Before & After

Traffic Calming: Typical Treatments

- Roundabouts
- Pedestrian Refuge Islands
- Curb Extensions
- Chicanes / Chokers
- Enhance signing and marking
- Speed Humps
- Edgelines





Traffic Calming Locations

Reduce Speed

Waring Station Road- Middlebrook Rd to Wisteria Dr

(1.2-mile section)

Homecrest Rd II

- Before

Homecrest Rd II

After

Project Name	Completion Date	Speeds (MPH)			Collisions 3 Years Before Treatment	Time period Since Treatment	Collisions Since Treatment
		Posted	Avg. Before	Avg. After			
Arcola Ave	Aug-08	30	42	32	3	2 yrs. 10 mos.	3
Fairland Rd	July-09	40	53	42	2	1 yr. 11 mos.	0
Calverton Blvd	July-09	30	41	35	1	1 yr. 11 mos.	1
Lockwood Dr	July-09	30	40	30	0	1 yr. 11 mos.	1

> or = 5 mph reduction

Partnership

- MCDOT & MDSHA partnership in pedestrian road safety audits

- MDSHA, PG County and MC DOT's joint venture: to standardize an approach to addressing high pedestrian crash corridors/locations statewide (In development stage)

Challenges

- Reliability of the Crash Data

What we can do better

- Add Long and Lat data (x,y coordinates)
  - Eliminate Boundary Issues
  - Plots Accurate in the GIS map
- Linear Referencing
- Dynamic Segmentation
- Better Training / Close interactions with Different Agencies

Questions/Answers

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