UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE
SHOCK, TRAUMA AND ANESTHESIOLOGY
RESEARCH CENTER

Best Practices in GIS Mapping

Addressing the 4 E's of Traffic Safety

Enforcement, **Education**, EMS, Engineering

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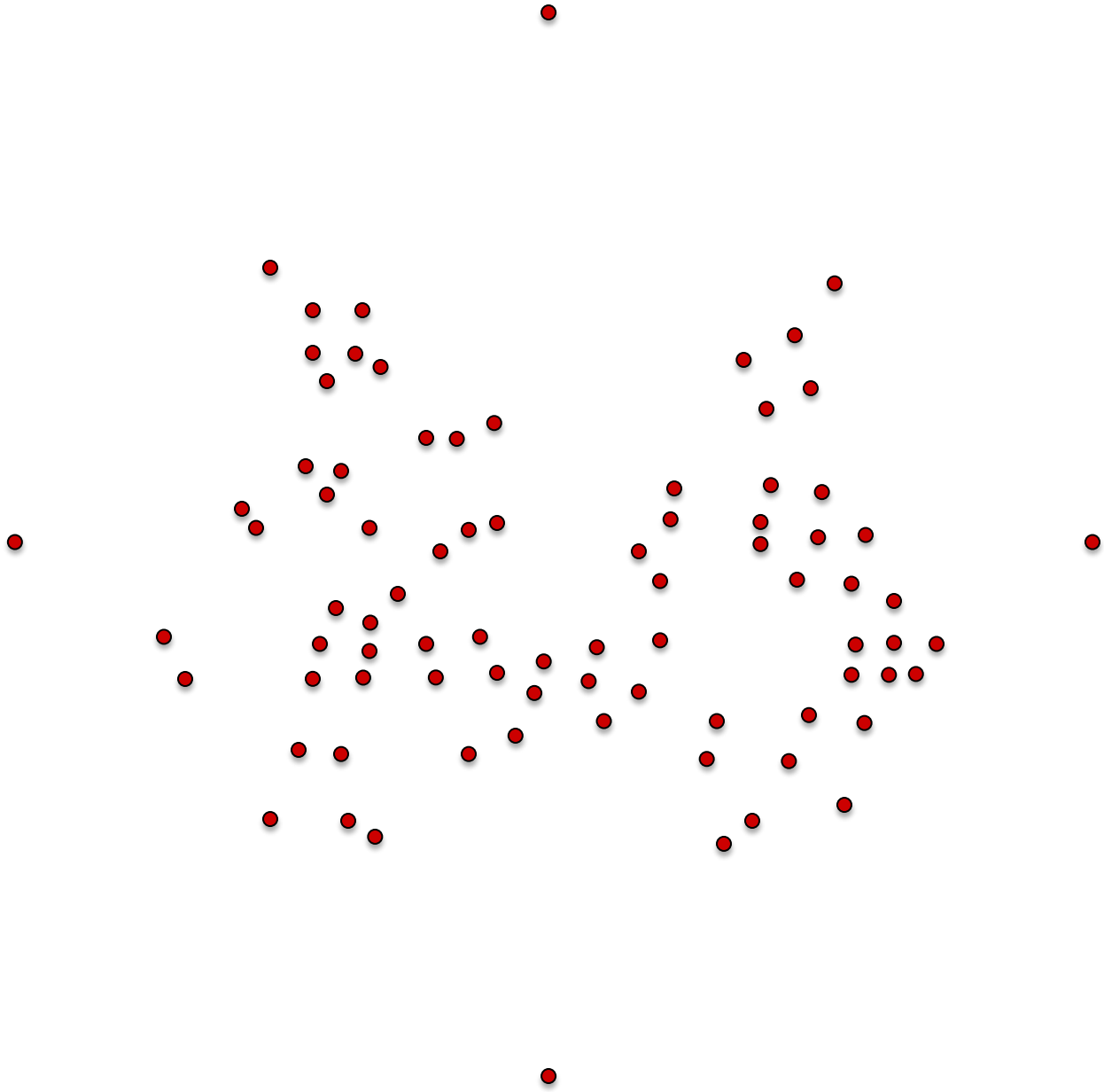
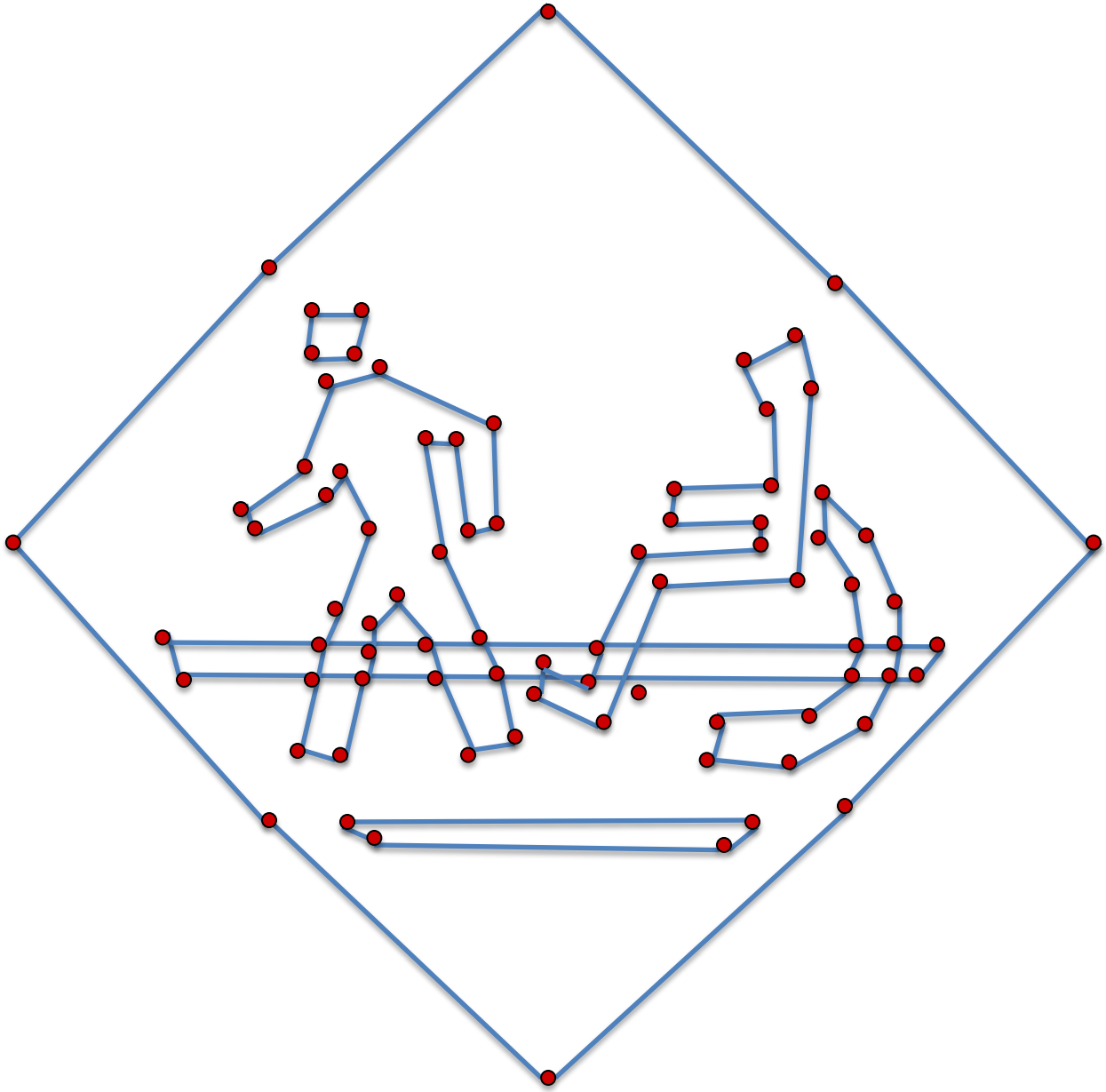
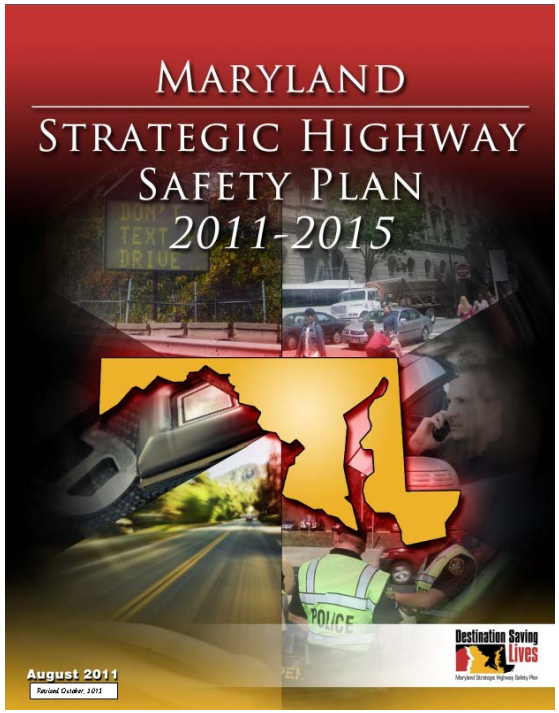




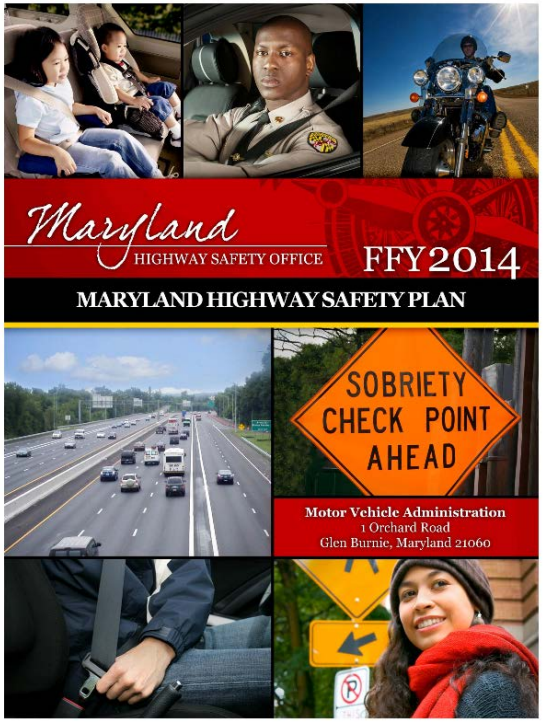


Implementation of the 2011-2015 SHSP takes a new approach by focusing on not only the issues that cause the greatest number of traffic safety problems, but also on **geographic areas where traffic crashes are most prevalent**.

Each Emphasis Area Team will focus on **areas where their issue is most concentrated**. In addition, the teams will work together to focus on high-priority corridors to combat the **combination of issues present in these locations**.

The Pedestrian Emphasis Area Team identified the following 4 strategies:

1. Develop model processes to **identify and prioritize high incident locations** and system-wide pedestrian safety issues
2. Develop and evaluate model approaches to engineering built environments that accommodate safe pedestrian travel
3. Develop and evaluate model approaches to improving pedestrian and motorist **awareness and behavior**, including **education and enforcement** efforts; and
4. Create partnerships among state, regional, and local stakeholders to develop action plans that address high-priority locations and system wide issues using comprehensive approaches to pedestrian safety.



Maryland's High Risk Driving Program: Motorcycle Safety Program (23 CFR1200.25), Younger and Older Driver Safety, Bicycle and Pedestrian Safety

- The bicycle and pedestrian safety program promotes safe pedestrian and bicycle practices, educates drivers to share the road safely with other road users, and encourages safe facilities for pedestrians and bicyclists through a combination of education and engineering strategies. Similarly, older driver programs are developed and implemented locally through local grants.

Pedestrians

MAARS Pedestrian On-Foot Data

	2007	2008	2009	2010	2011	5-Year Average	5-year % Change
Fatal Crashes	108	106	110	97	101	104	-6.5
Injury Crashes	2,436	2,385	2,251	2,256	2,100	2,286	-13.8
Property Damage Only	384	331	354	371	340	[illegible]	-11.4
Total Crashes	2,928	2,822	2,715	2,724	2,541	2,746	-13.2
Total of All Fatalities	110	115	111	101	103	108	-6.4
Total Number Injured	2,526	2,469	2,347	2,336	2,171	2,370	-14.0

*Source: Maryland Automated Accident Reporting System

Baltimore City - Pedestrian On Foot Involved

Crash Summary

	2007	2008	2009	2010	2011	5 Year AVG.	%
Fatal Crashes	17	11	16	9	8	12	1.4
Injury Crashes	772	704	668	682	642	694	78.9
roperty Damage Crash	184	159	153	201	171	174	19.7
Total Crashes	973	874	837	892	821	879	100.0
Total of All Fatalities	17	11	16	10	9	13	
Total Number Injured	842	765	737	747	704	759	

*** Averages for all pages are 5 year averages. % is percent of 5 yr total.**

Baltimore City accounts for 30% of statewide pedestrian injury crashes

Baltimore City - Pedestrian On Foot Involved

Month

Month	2008	2009	2010	2011	2012	AVG.	%
January	62	59	58	55	73	61	
February	59	50	65	59	82	63	
March	75	64	75	62	97	75	50%
April	79	67	72	83	65	73	
May	83	96	71	86	97	87	
June	62	77	86	87	76	78	
July	73	66	73	63	72	69	
August	66	70	90	48	73	69	
September	84	65	88	60	86	77	50%
October	94	80	89	65	81	82	
November	65	86	67	74	79	74	
December	72	57	58	80	65	66	
Unknown	0	0	0	0	0	0	0.0
Total Crashes	874	837	892	822	946	874	100.0

2012 Jan – Jun Baltimore City Pedestrian Crashes

Benchmark Report 2012 Jan – Jun N = 490

−

Unmapable (Excluded from Crash Analysis) N = 9

+

Ped. Type "00", "88", "99" N = 40

Included in Crash Analysis

N= 521

Included in Driver Analysis

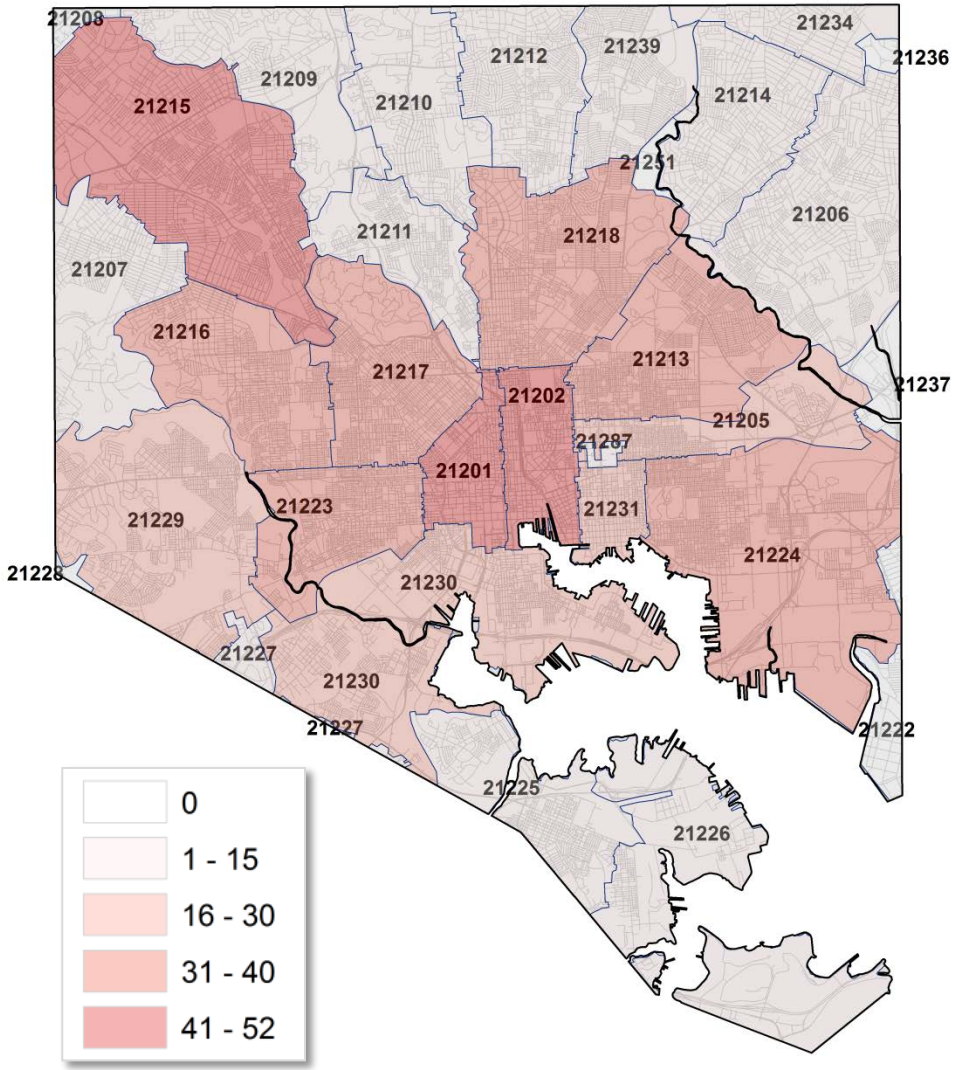
N= 521

Included in Pedestrian Analysis

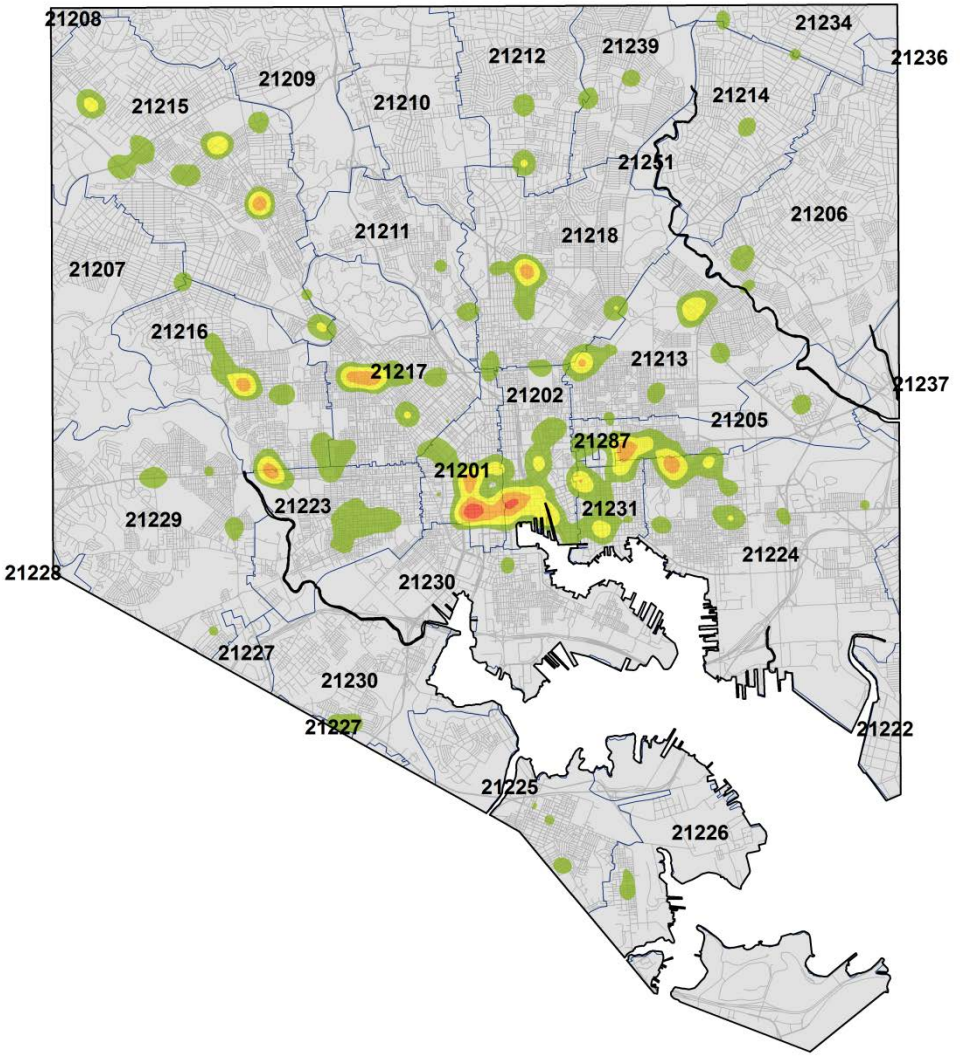
N= 536

2012 Jan – Jun Baltimore City Pedestrian Crashes

Crashes per Zip Code



Density (1/4 mile radius)



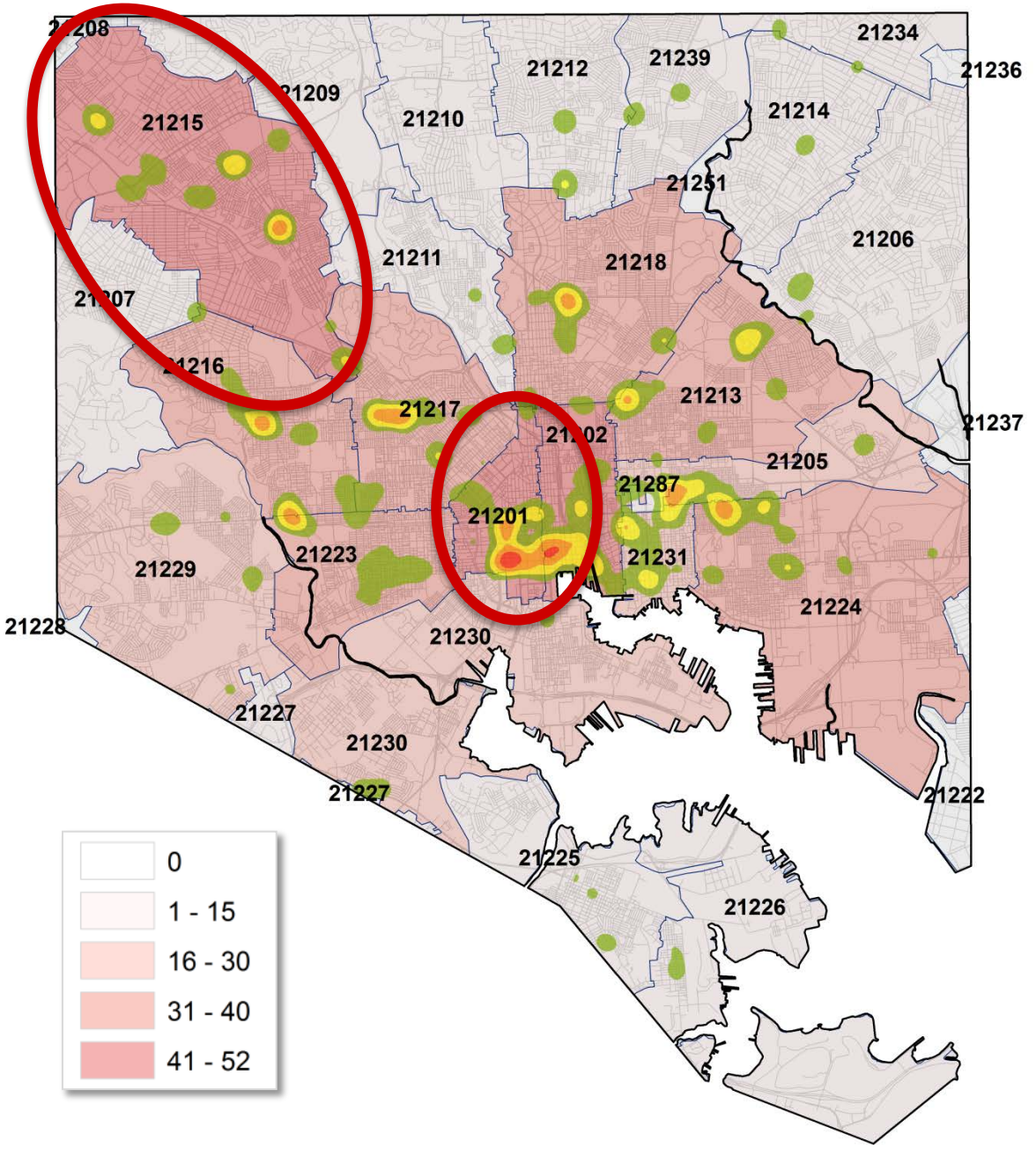
2012 Jan – Jun Baltimore City Pedestrian Crashes

Crash Location

21201

v.

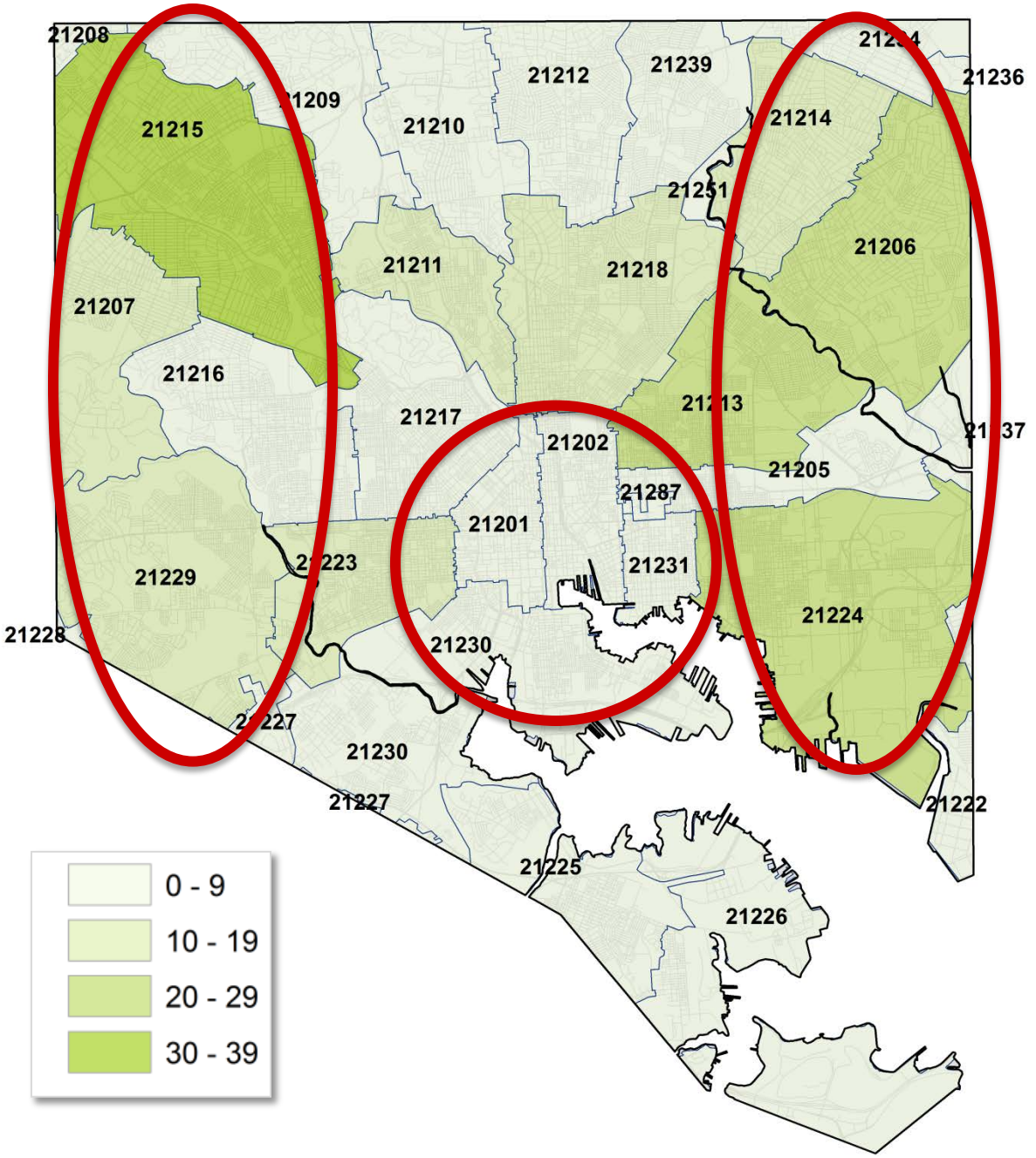
21215



2012 Jan – Jun Baltimore City Pedestrian Crashes

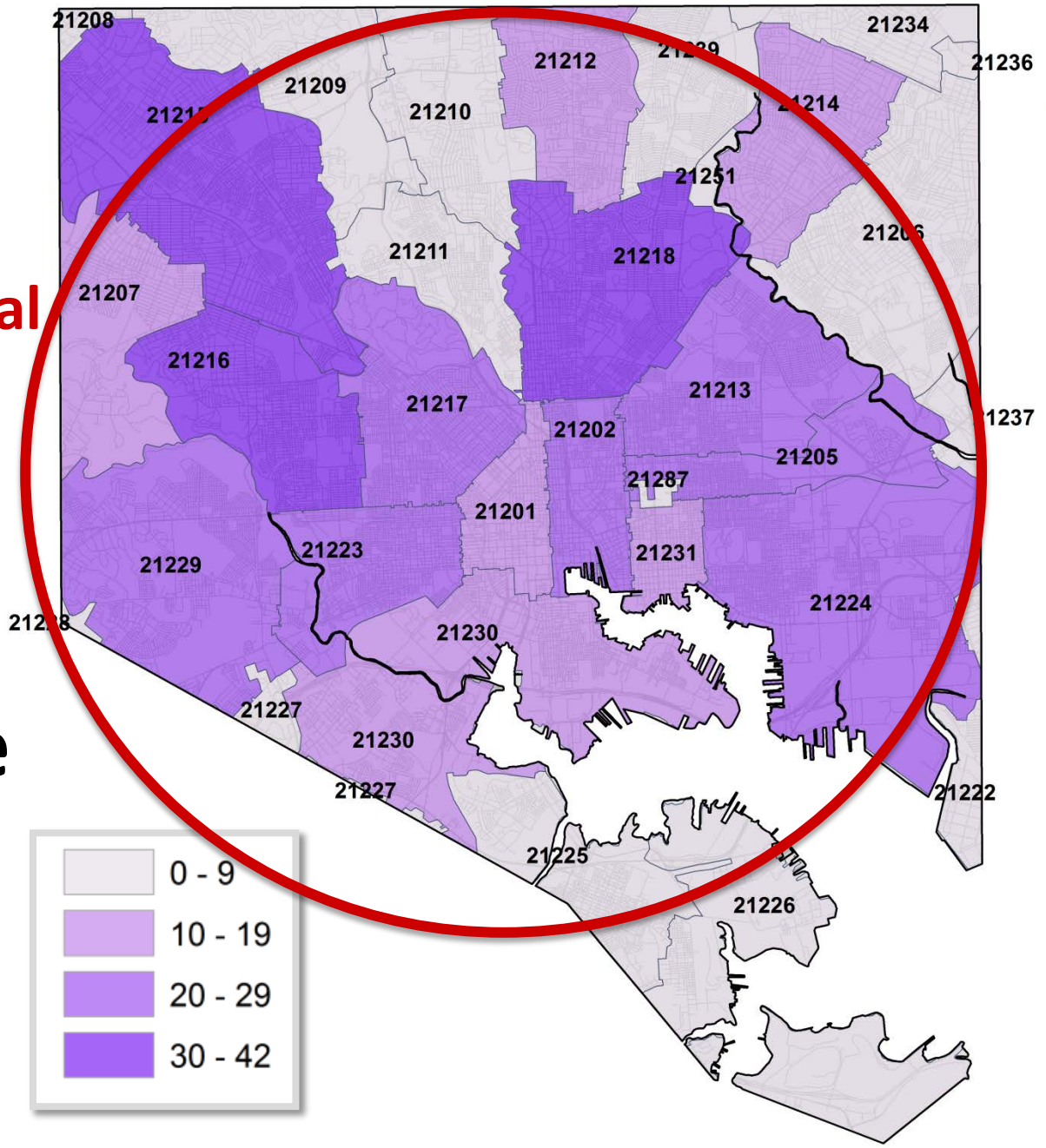
Driver's Residential Zip Code

Downtown v. East/West



2012 Jan – Jun Baltimore City Pedestrian Crashes

Pedestrian's Residential Zip Code



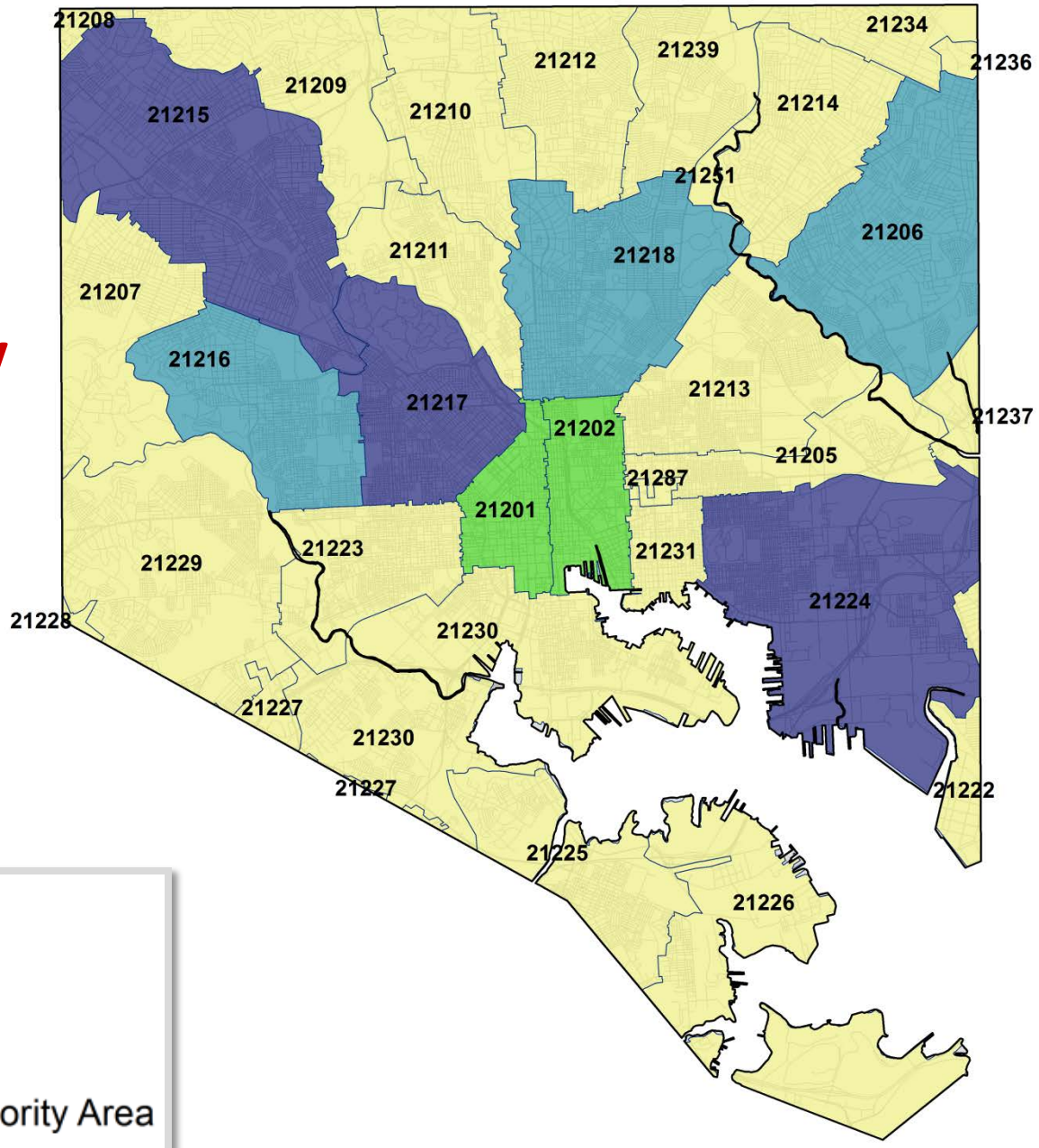
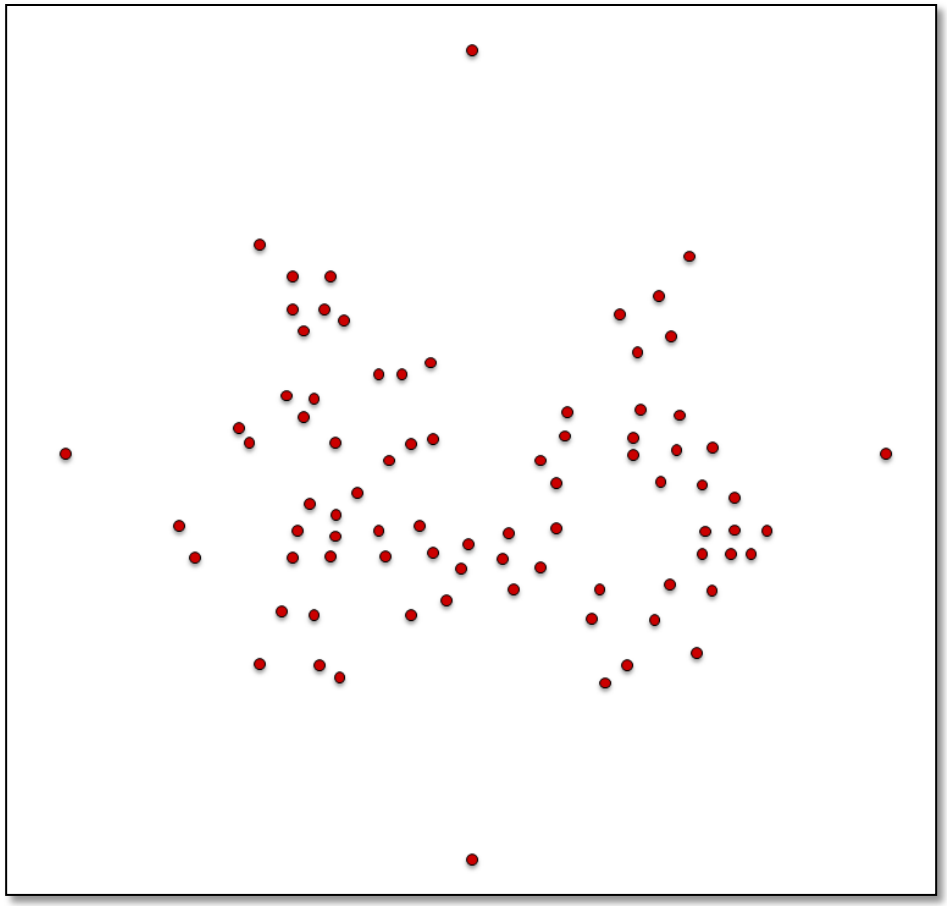
The Big Picture

2012 Jan – Jun Baltimore City Pedestrian Crashes

Top 5 Zip Codes		
Crash Location	Driver Residence	Pedestrian Residence
21215	21215	21216
21202	21224	21218
21201	21206	21215
21224	21218	21217
21217	21213	21229 / 21213

2012 Jan – Jun Baltimore City Pedestrian Crashes

Education & Enforcement Priority Locations



- Not a High Priority Area
- Enforcement Priority Area
- Education Priority Area
- Education & Enforcement Priority Area