Understanding Dallas District Pedestrian Safety Issues

Preliminary Findings

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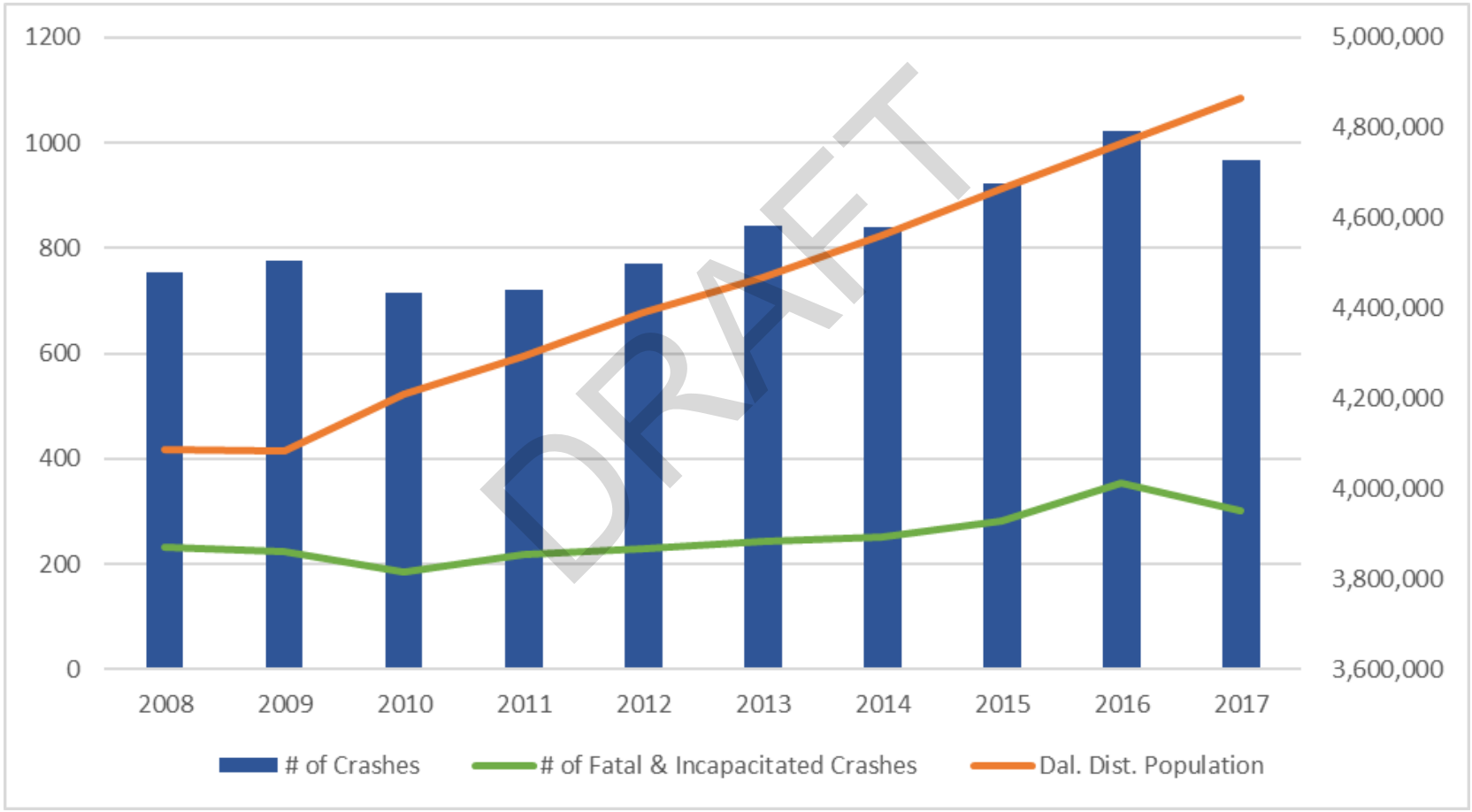
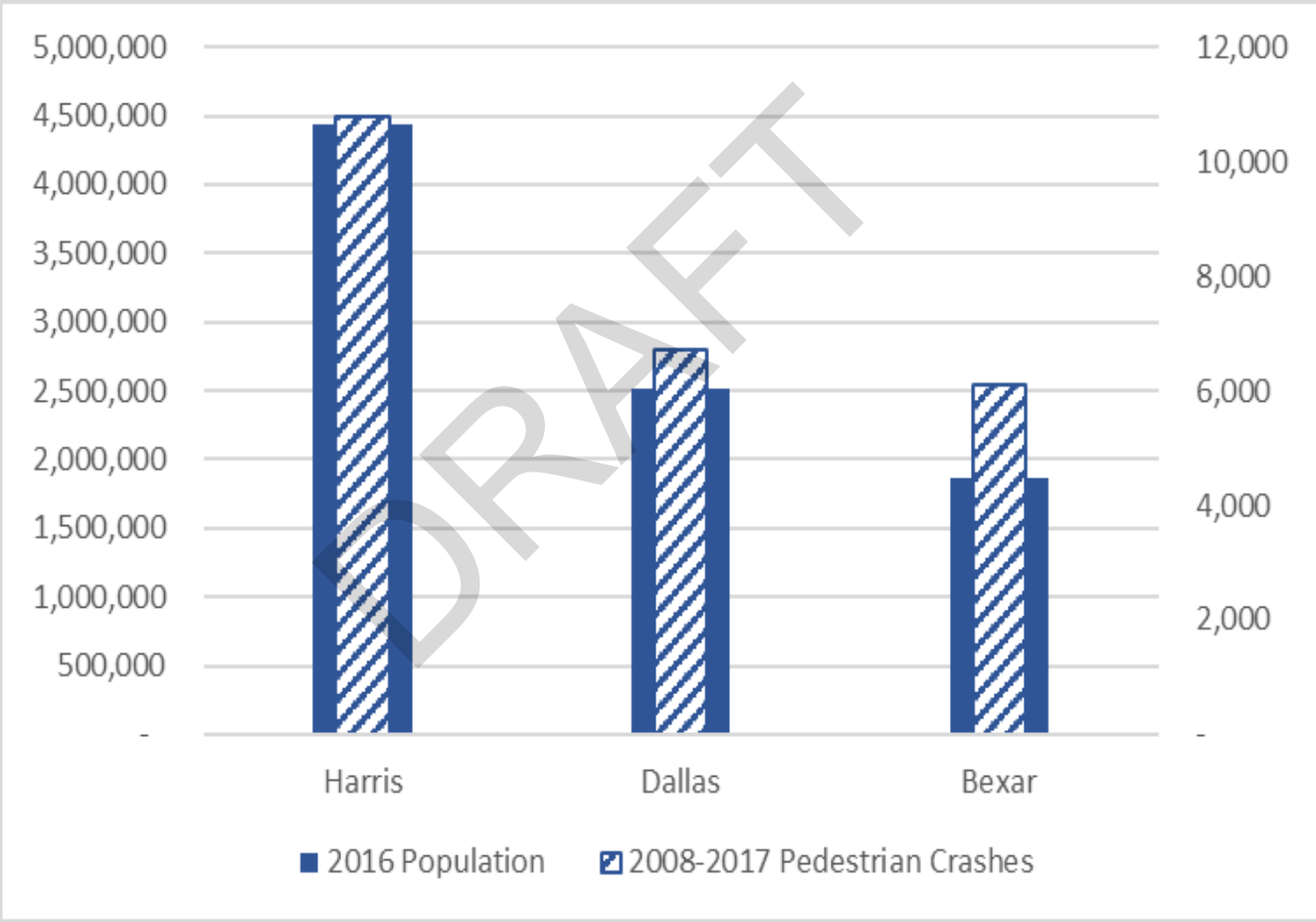
Texas A&M Transportation Institute

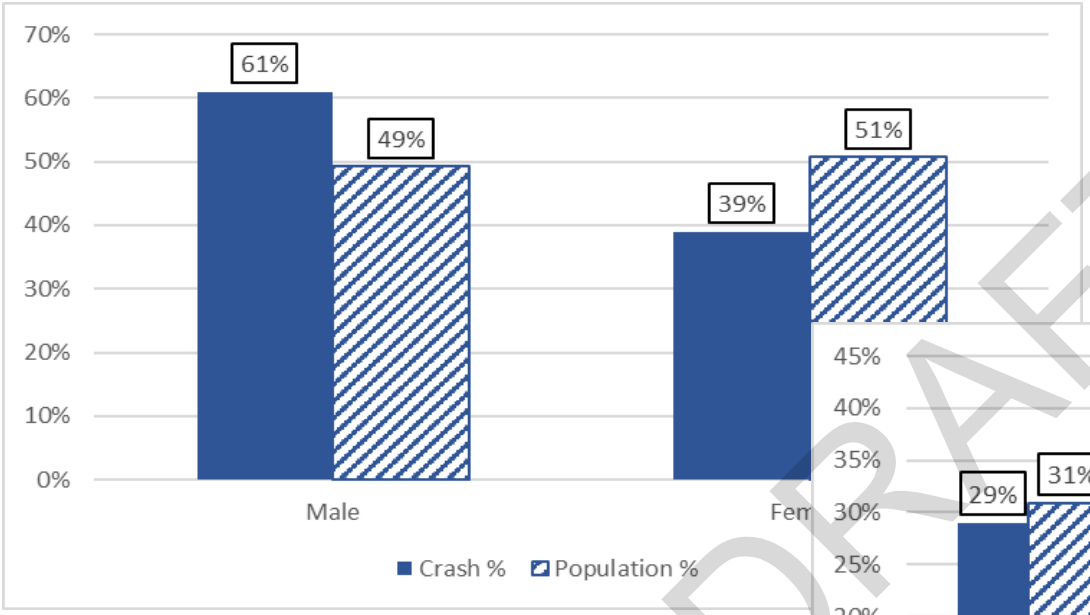
Dallas District Pedestrian Crashes 2008-2017

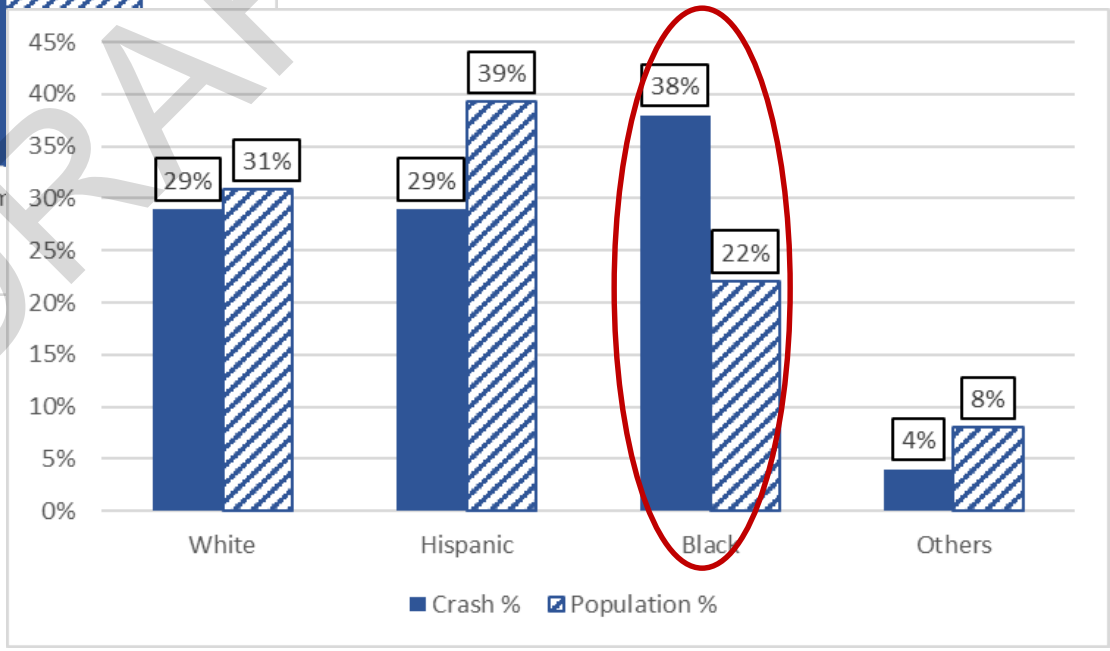


Population and Pedestrian Crashes by County



Dallas County Ped. Crashes





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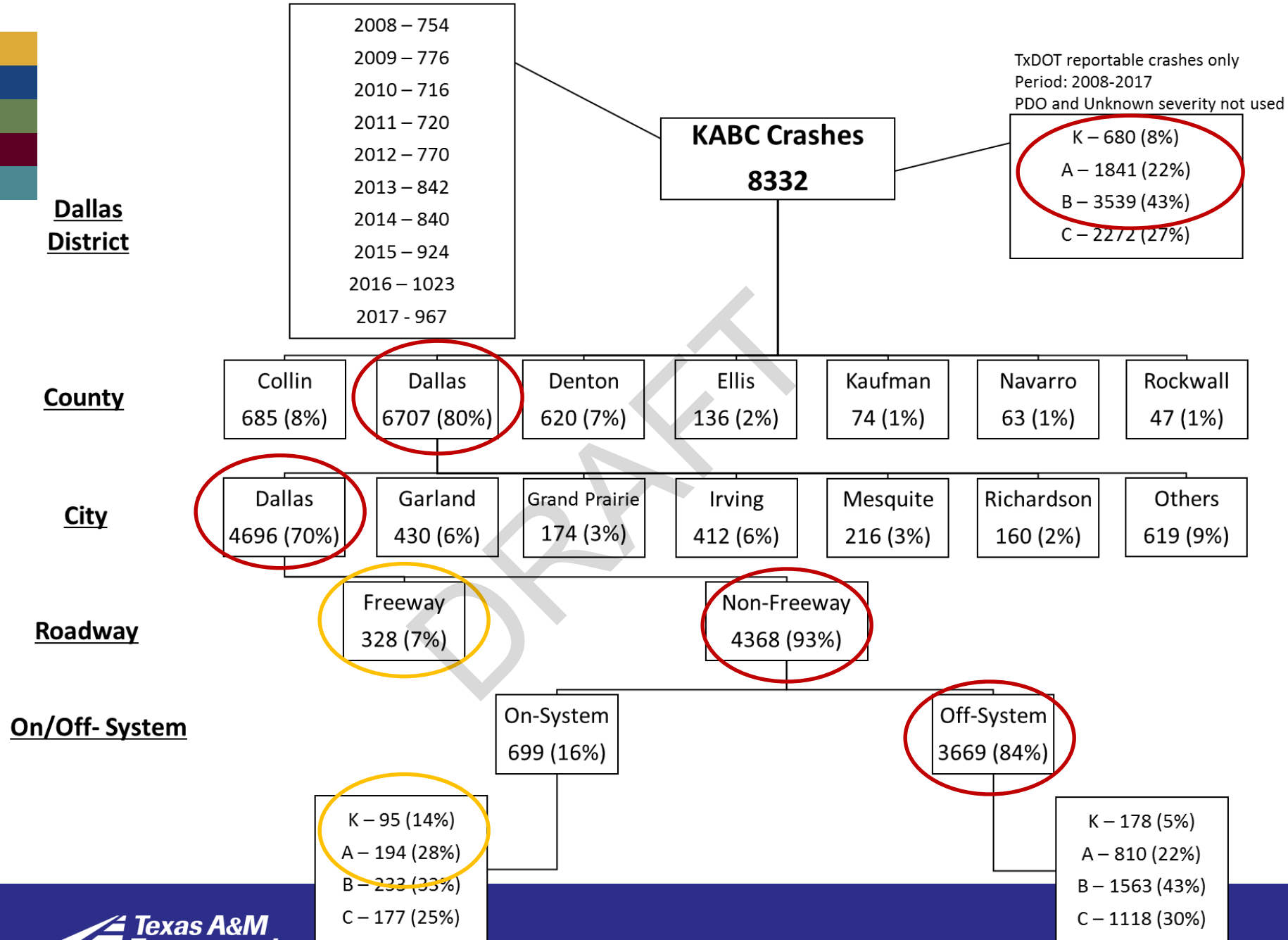
Dallas District
2008 – 754
2009 – 776
2010 – 716
2011 – 720
2012 – 770
2013 – 842
2014 – 840
2015 – 924
2016 – 1023
2017 - 967
KABC Crashes
8332
TxDOT reportable crashes only
Period: 2008-2017
PDO and Unknown severity not used
K – 680 (8%)
A – 1841 (22%)
B – 3539 (43%)
C – 2272 (27%)
County
Collin 685 (8%)
Dallas 6707 (80%)
Denton 620 (7%)
Ellis 136 (2%)
Kaufman 74 (1%)
Navarro 63 (1%)
Rockwall 47 (1%)
City
Dallas 4696 (70%)
Garland 430 (6%)
Grand Prairie 174 (3%)
Irving 412 (6%)
Mesquite 216 (3%)
Richardson 160 (2%)
Others 619 (9%)
Roadway
Freeway 328 (7%)
Non-Freeway 4368 (93%)
On/Off- System
On-System 699 (16%)
Off-System 3669 (84%)
K – 95 (14%)
A – 194 (28%)
B – 233 (33%)
C – 177 (25%)
K – 178 (5%)
A – 810 (22%)
B – 1563 (43%)
C – 1118 (30%)

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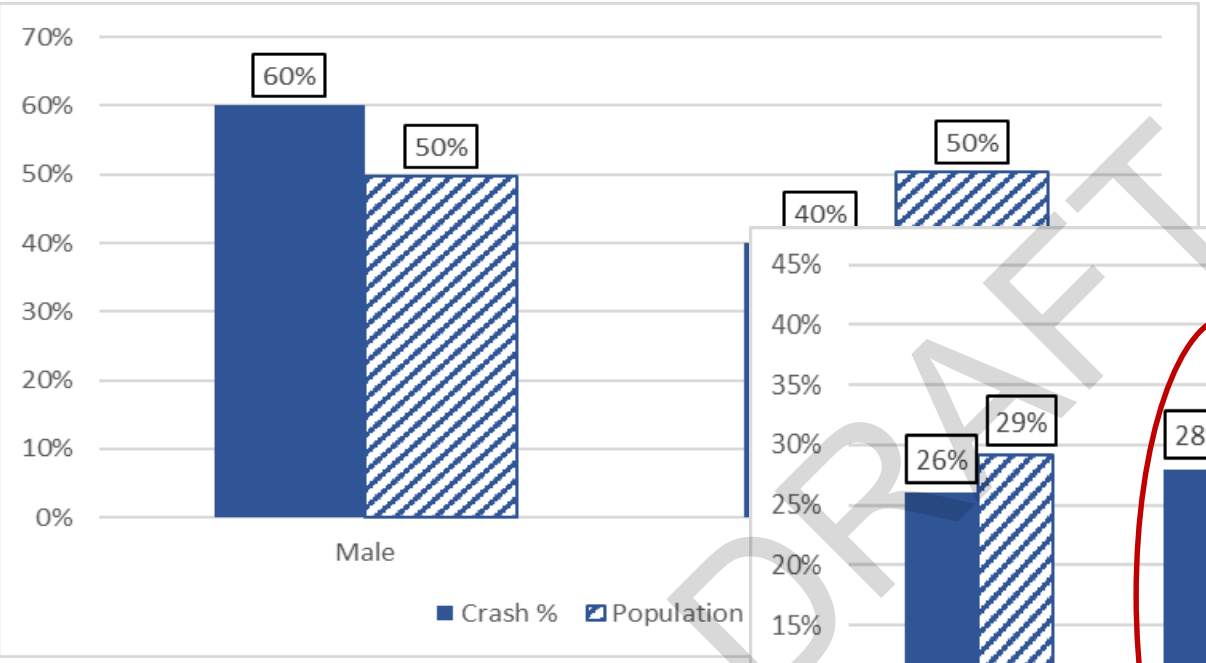
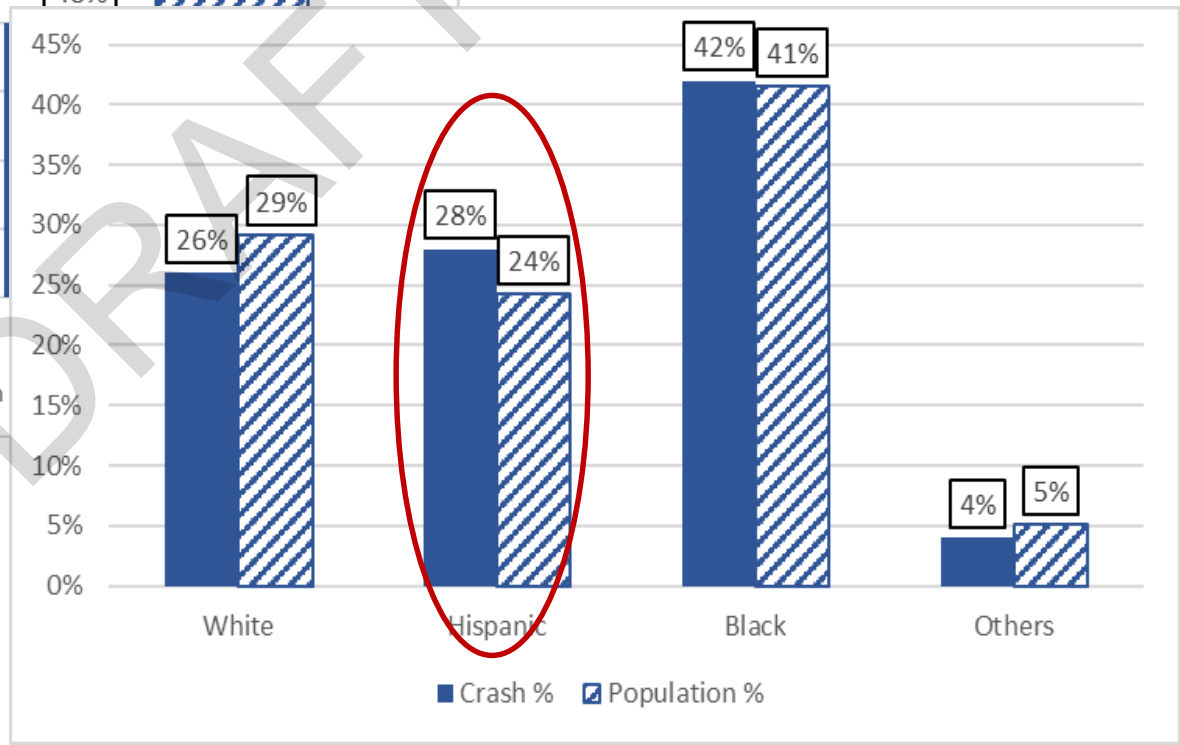
City of Dallas Ped. Crashes





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Fatal Freeway Pedestrian Crashes

Pedestrian Action	Intended	Unintended*	Not stated	Grand Total
Crossing	38	4		42
Lying Down	2	2	1	5
Other	2	3		5
Standing	7	25		32
Unknown	1		2	3
Walking on main lanes	13			13
Walking on shoulders	4			4
Grand Total	**67**	**34**	**3**	**129**
Percent of Total	**52%**	**26%**	**2%**	

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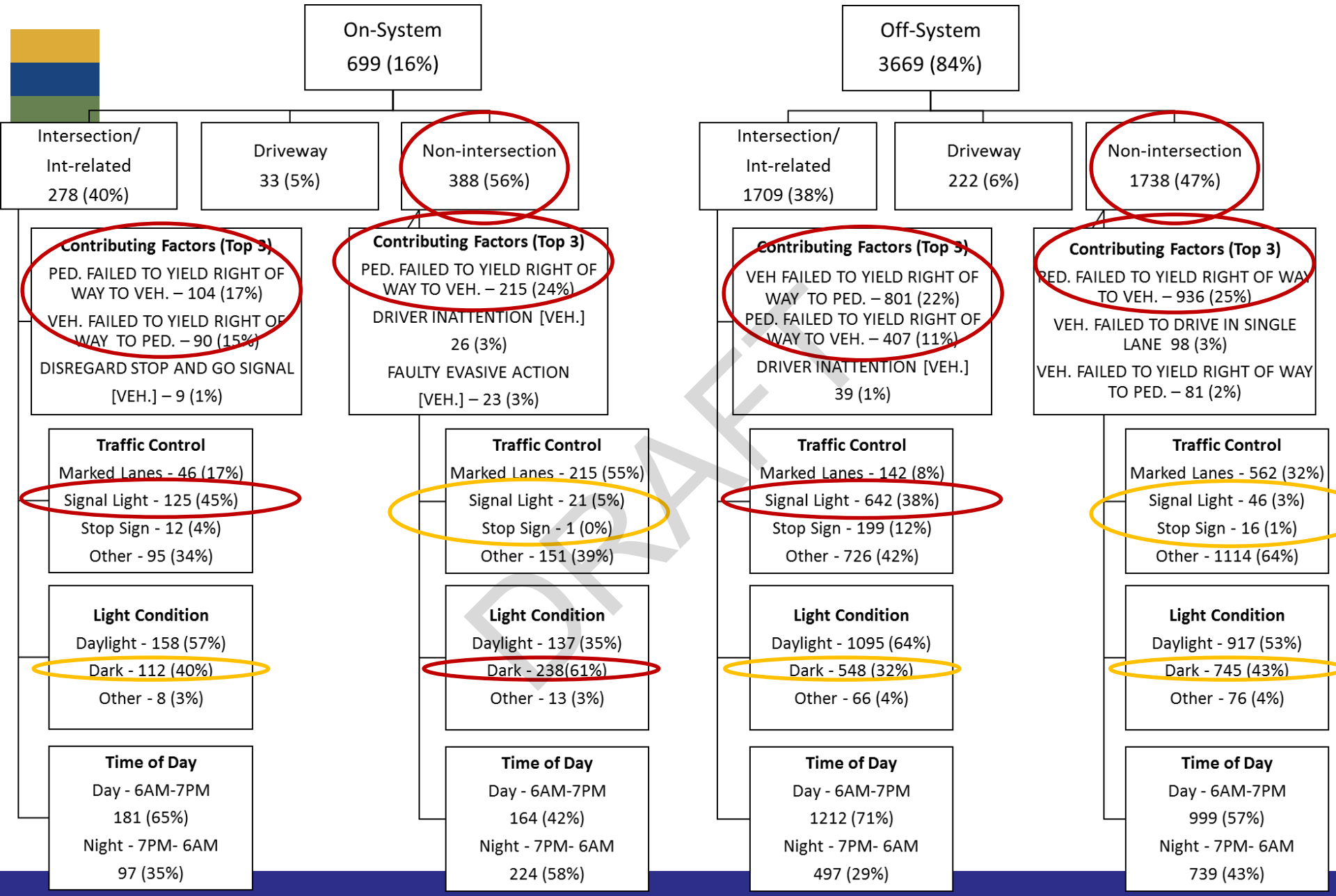
* Pedestrians that are hit once they are out of their vehicles.
Note, 25 crash reports (19%) unavailable.


On-System
699 (16%)
Off-System
3669 (84%)
Intersection/ Int-related
278 (40%)
Driveway
33 (5%)
Non-intersection
388 (56%)
Intersection/ Int-related
1709 (38%)
Driveway
222 (6%)
Non-intersection
1738 (47%)
Contributing Factors (Top 3)
PED. FAILED TO YIELD RIGHT OF WAY TO VEH. – 104 (17%)
VEH. FAILED TO YIELD RIGHT OF WAY TO PED. – 90 (15%)
DISREGARD STOP AND GO SIGNAL [VEH.] – 9 (1%)
Contributing Factors (Top 3)
PED. FAILED TO YIELD RIGHT OF WAY TO VEH. – 215 (24%)
DRIVER INATTENTION [VEH.] 26 (3%)
FAULTY EVASIVE ACTION [VEH.] – 23 (3%)
Contributing Factors (Top 3)
VEH FAILED TO YIELD RIGHT OF WAY TO PED. – 801 (22%)
PED. FAILED TO YIELD RIGHT OF WAY TO VEH. – 407 (11%)
DRIVER INATTENTION [VEH.] 39 (1%)
Contributing Factors (Top 3)
PED. FAILED TO YIELD RIGHT OF WAY TO VEH. – 936 (25%)
VEH. FAILED TO DRIVE IN SINGLE LANE 98 (3%)
VEH. FAILED TO YIELD RIGHT OF WAY TO PED. – 81 (2%)
Traffic Control
Marked Lanes - 46 (17%)
Signal Light - 125 (45%)
Stop Sign - 12 (4%)
Other - 95 (34%)
Traffic Control
Marked Lanes - 215 (55%)
Signal Light - 21 (5%)
Stop Sign - 1 (0%)
Other - 151 (39%)
Traffic Control
Marked Lanes - 142 (8%)
Signal Light - 642 (38%)
Stop Sign - 199 (12%)
Other - 726 (42%)
Traffic Control
Marked Lanes - 562 (32%)
Signal Light - 46 (3%)
Stop Sign - 16 (1%)
Other - 1114 (64%)
Light Condition
Daylight - 158 (57%)
Dark - 112 (40%)
Other - 8 (3%)
Light Condition
Daylight - 137 (35%)
Dark - 238(61%)
Other - 13 (3%)
Light Condition
Daylight - 1095 (64%)
Dark - 548 (32%)
Other - 66 (4%)
Light Condition
Daylight - 917 (53%)
Dark - 745 (43%)
Other - 76 (4%)
Time of Day
Day - 6AM-7PM
181 (65%)
Night - 7PM- 6AM
97 (35%)
Time of Day
Day - 6AM-7PM
164 (42%)
Night - 7PM- 6AM
224 (58%)
Time of Day
Day - 6AM-7PM
1212 (71%)
Night - 7PM- 6AM
497 (29%)
Time of Day
Day - 6AM-7PM
999 (57%)
Night - 7PM- 6AM
739 (43%)

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Systemic Approach

- Crash History – GIS Spatial Analysis
- Pedestrian Exposure – using land use, bus/LRT stops, and schools as possible surrogates
- Develop model/weighting of factors to prioritize locations with most risk

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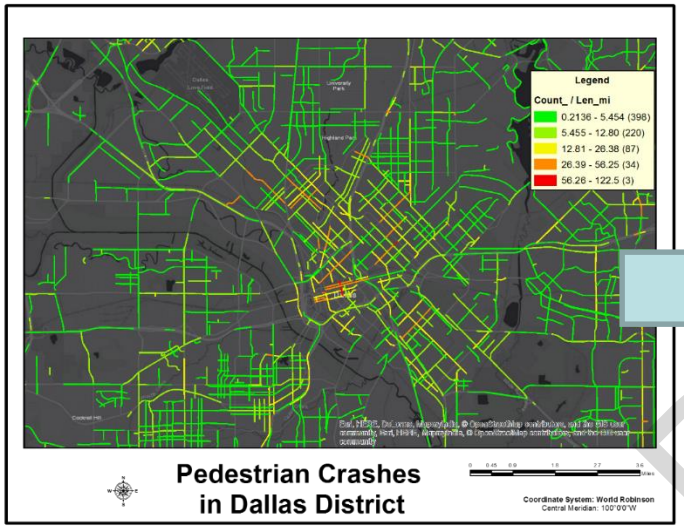
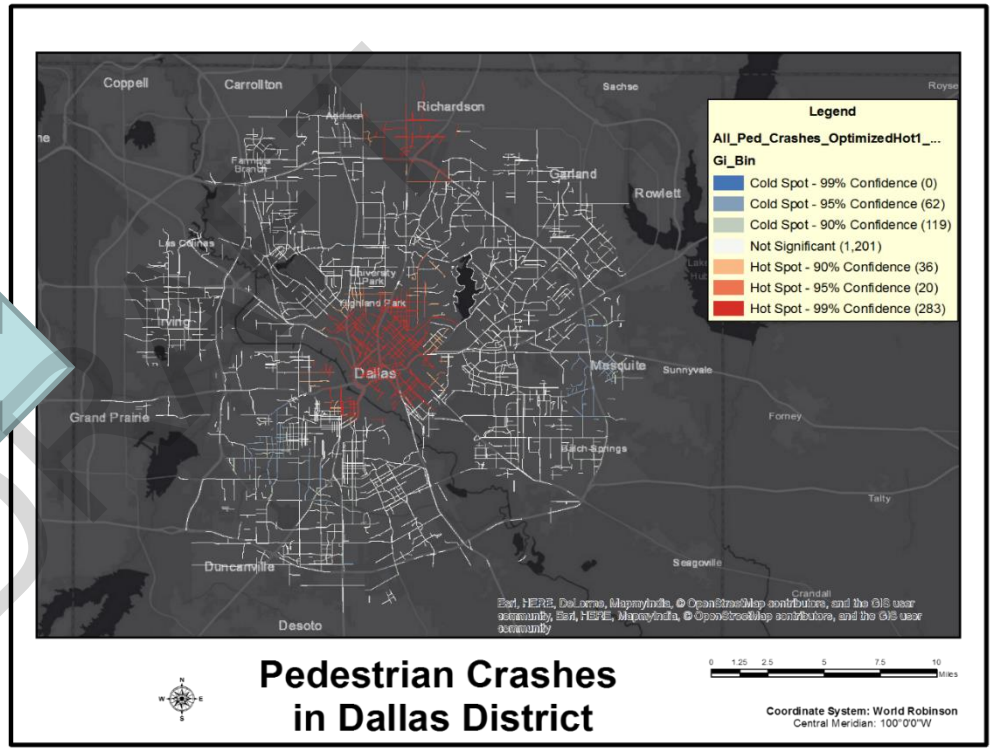
Crashes per mile:





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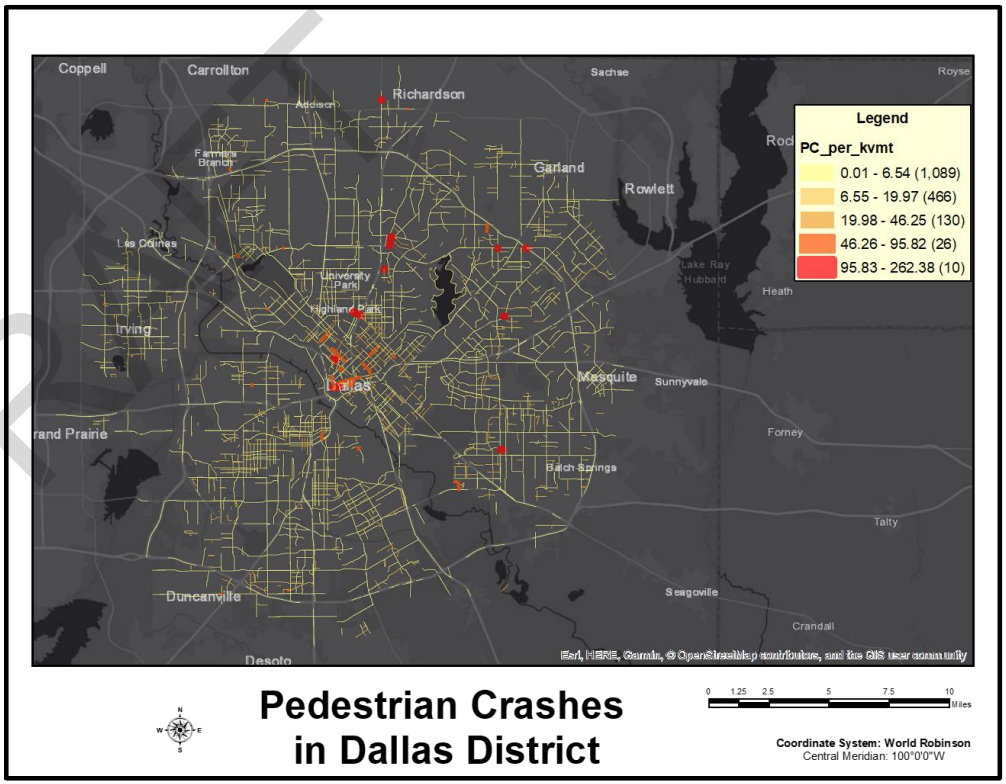
Crash Clusters per 1000 VMT

- 36 Locations > 45 ped crashes per 1000 vmt
- These locations have significantly higher crash rates than 98% of all segments



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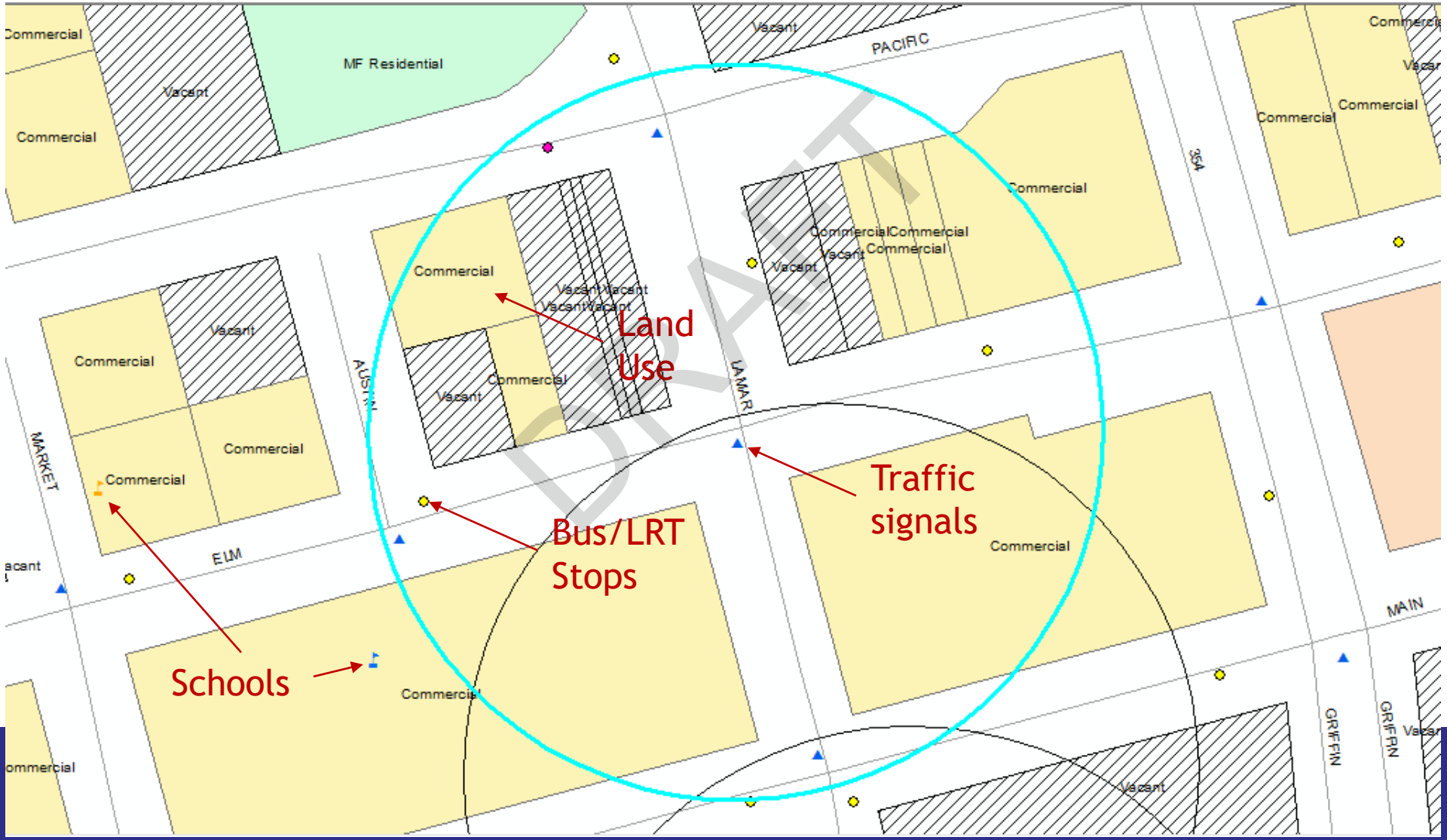
Est. Pedestrian Activity (Exposure)



Next Steps

- Continue systemic approach
- Develop countermeasures for top 10/20 City of Dallas locations
- Use FHWA's Pedestrian and Bicycle Crash Analysis Tool 2.0

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Questions?

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