

VEHICLE CRASH ANALYSIS

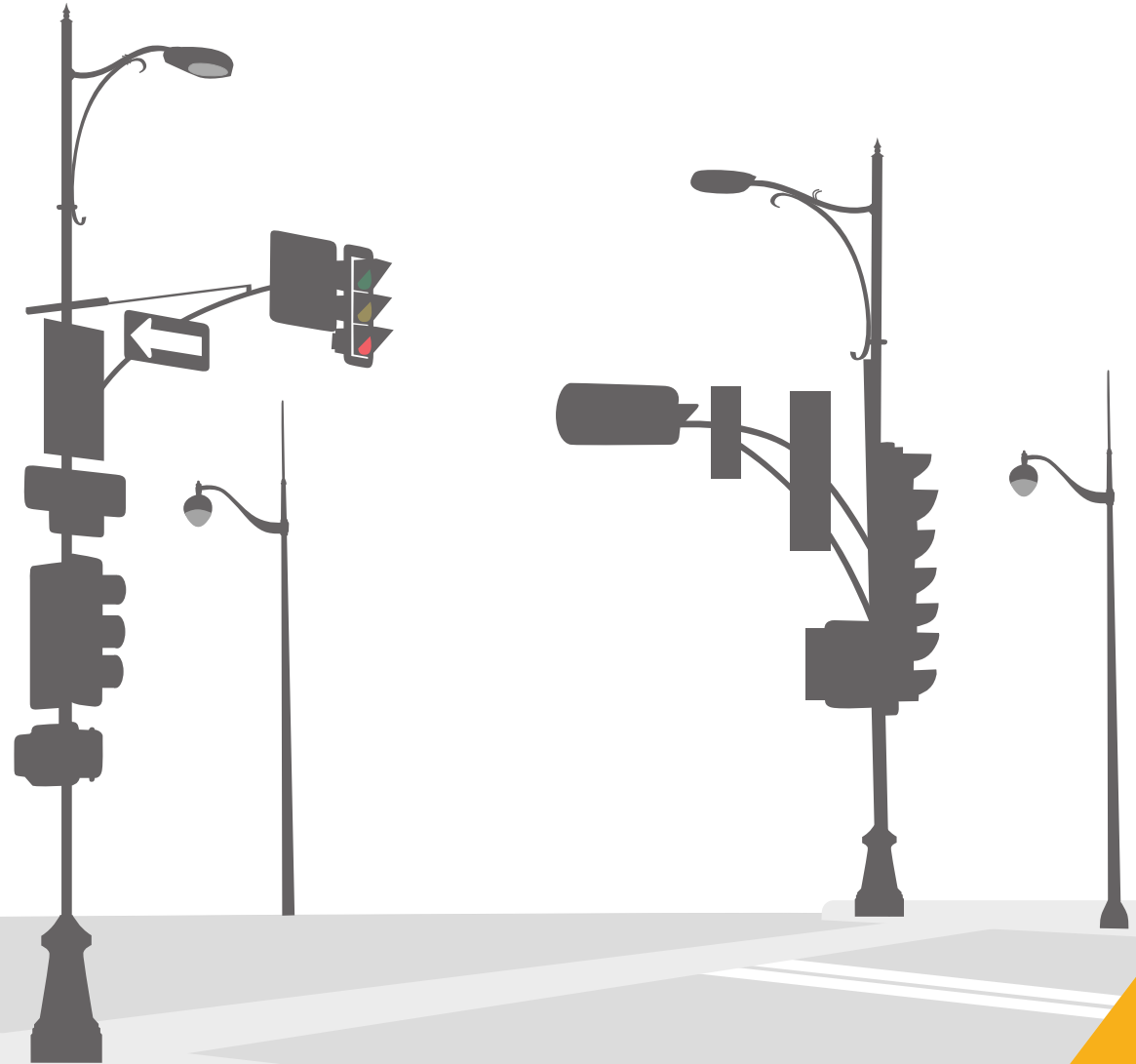
Stuart Campell
Assistant Planner
Transportation & Planning Services

NOVEMBER 2017

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OUTLINE

- Introduction of the Crash Analysis
- Step-by-Step Process
- Example Intersections
- Challenges and Next Steps



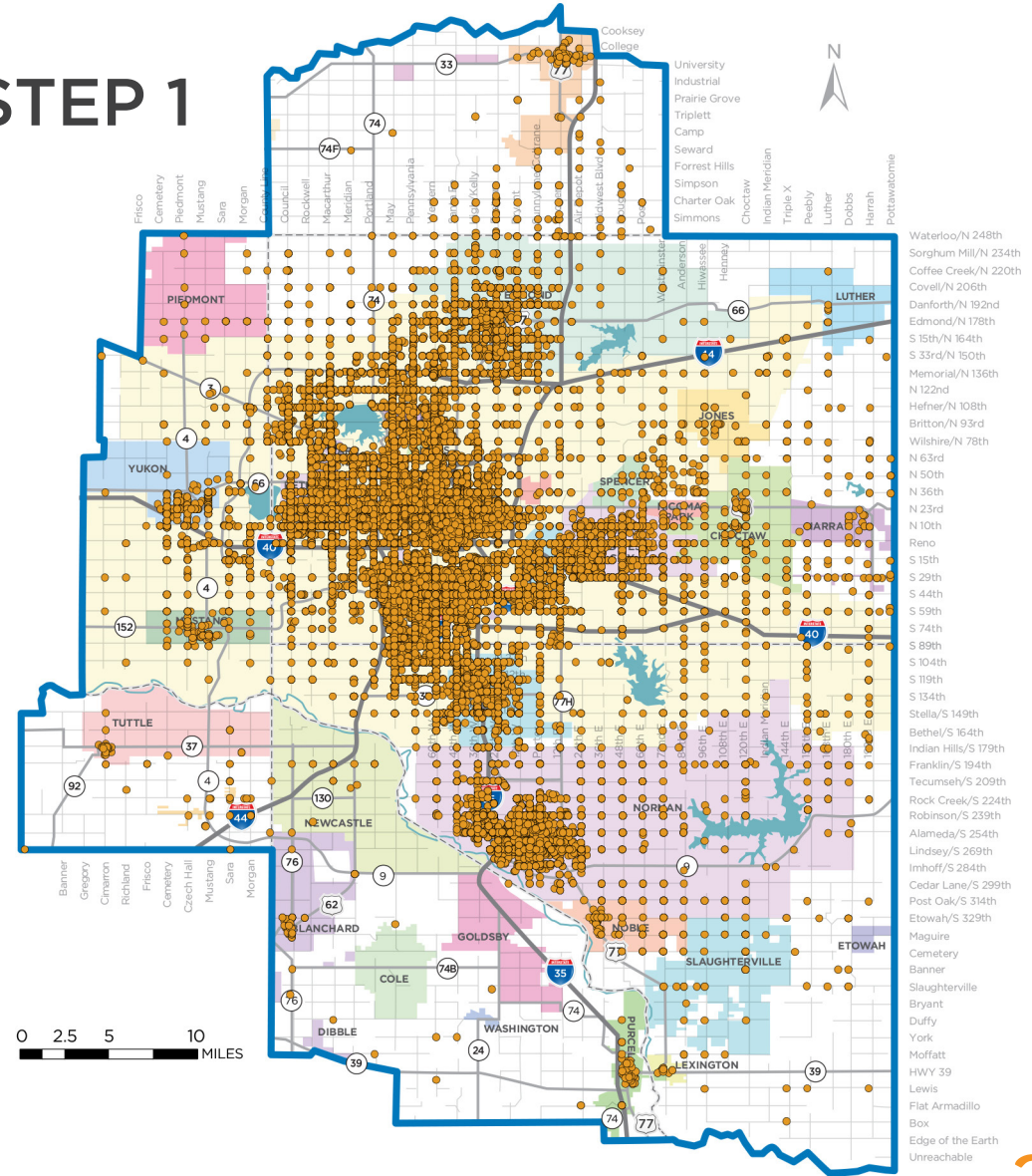
PROCESS OF ANALYSIS

2007-2015 DATA FROM SAFE-T,
OKLAHOMA'S CRASH ANALYSIS
DATABASE.

69,861
Total Intersection Crashes

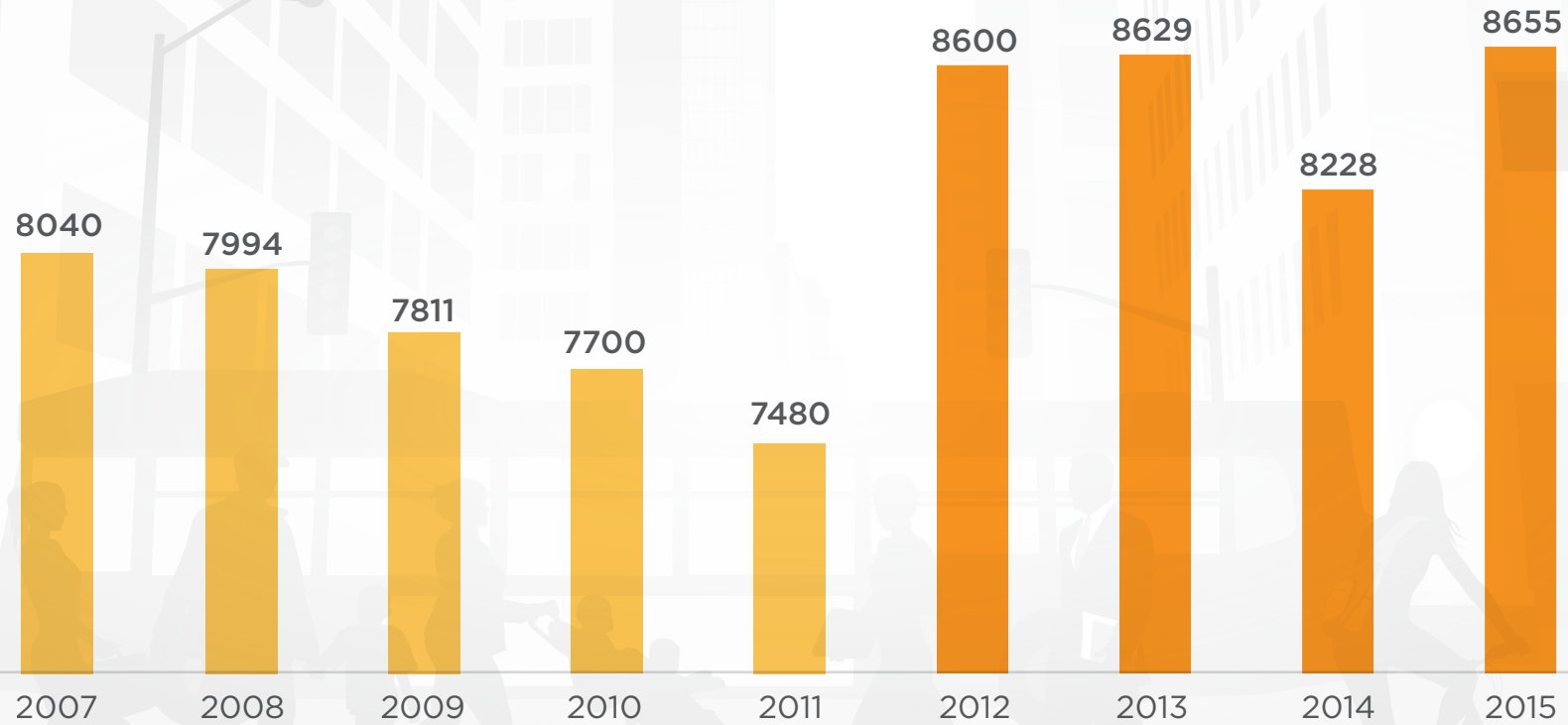


STEP 1

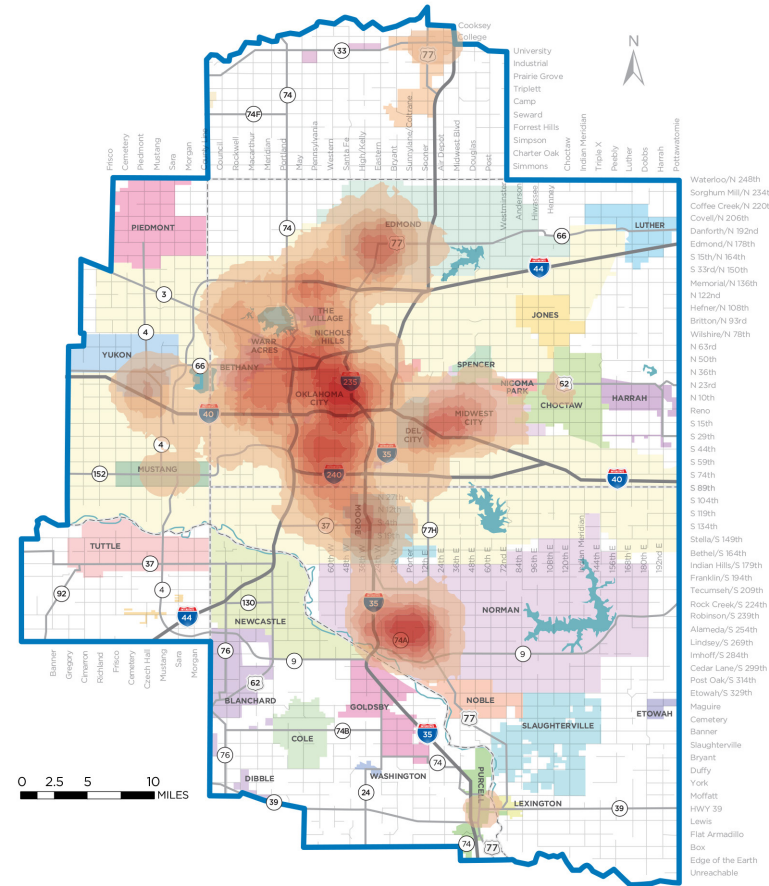
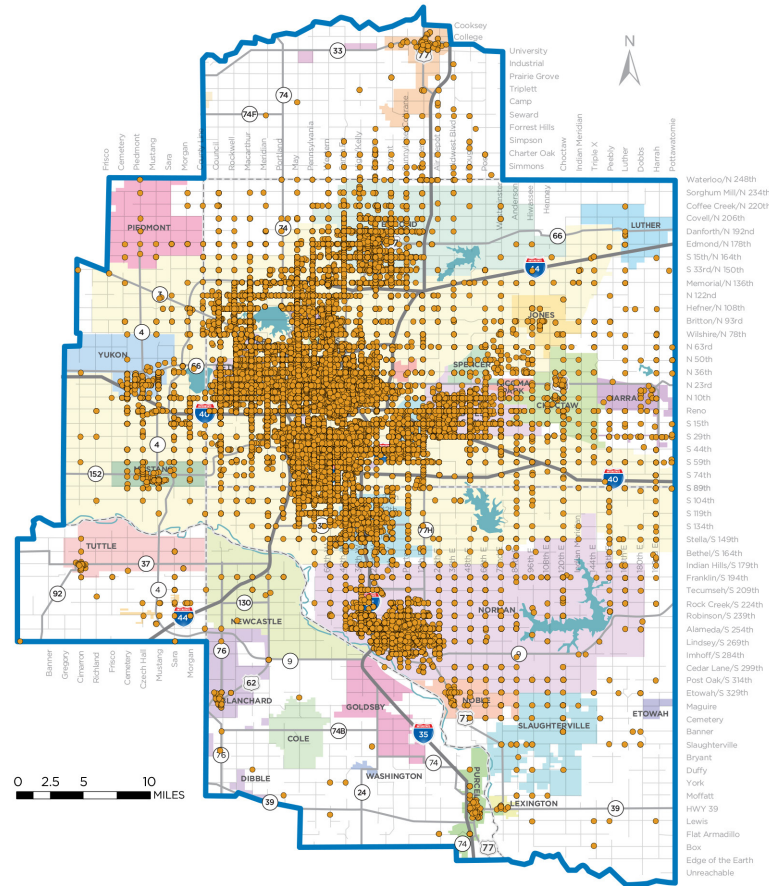


CRASH STATS

CRASHES IN ALL INTERSECTIONS PER YEAR



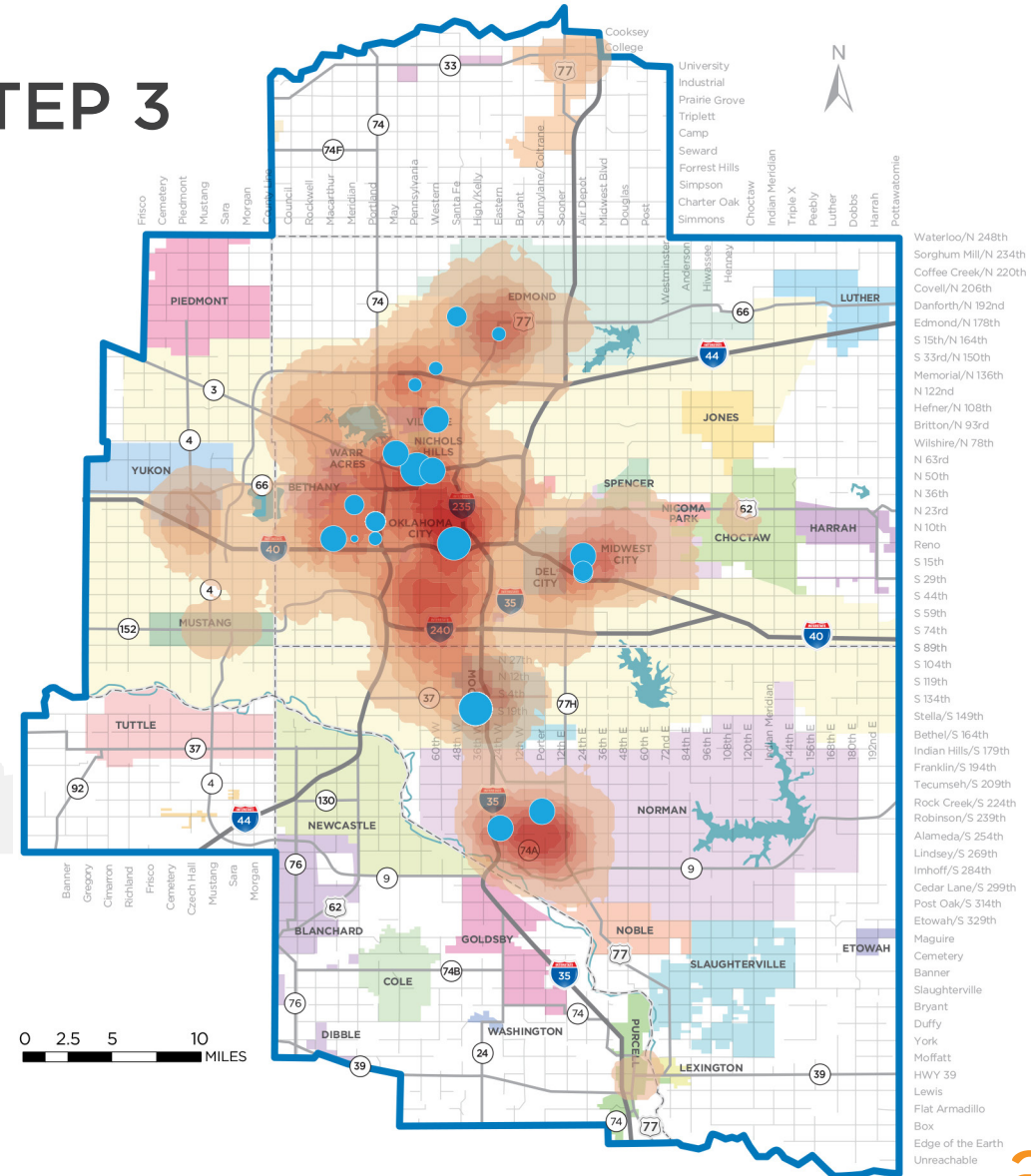
PROCESS OF ANALYSIS | STEP 2



Constructed heat map using all car crashes to visualize hot spots.

PROCESS OF ANALYSIS | STEP 3

IDENTIFIED 20 HIGH CRASH INTERSECTIONS



PROCESS OF ANALYSIS | STEP 3

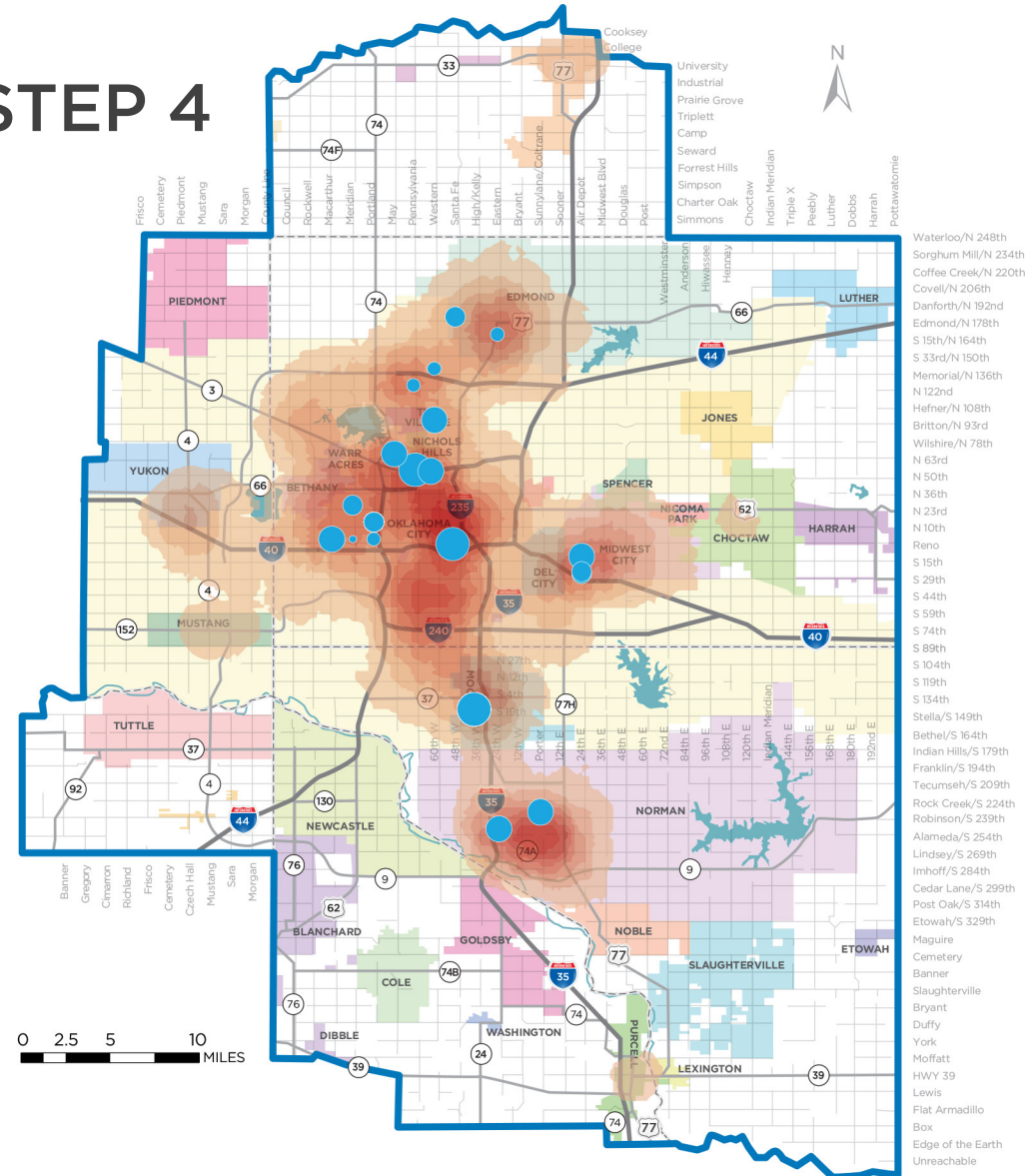
IDENTIFIED 20 HIGH CRASH INTERSECTIONS

INTERSECTION	TOTAL CRASHES	PROPERTY DAMAGE ONLY	POSSIBLE INJURY	NON INCAPACITATING INJURY	INCAPACITATING INJURY	FATALITY
Pennsylvania Ave & NW Expwy (OKC)	195	128	51	16	0	0
MacArthur Ave & Reno Ave (OKC)	171	117	31	19	4	0
Classen Blvd & NW Expwy (OKC)	159	121	26	10	2	0
Air Depot Blvd & S 15th St (Midwest City)	155	119	30	8	6	0
Porter Ave & Robinson St (Norman)	154	108	35	6	5	0
May Ave & 63rd St (OKC)	149	102	35	1	0	0
W 24th Ave & Main St (Norman)	146	112	20	10	4	0
Western Ave & 93rd St (OKC)	142	84	35	20	3	0
Air Depot Blvd & S 29th St (Midwest City)	137	101	28	5	3	0
Santa Fe & Edmond St (Edmond)	135	95	26	14	0	0
Meridian Ave & 23rd St (OKC)	120	77	29	13	0	0
Pennsylvania Ave & 122nd Ave (OKC)	113	82	22	6	3	0
Portland Ave & 10th St (OKC)	110	72	24	11	3	0
Air Depot Blvd & Boeing Dr. (Midwest City)	109	71	25	11	2	0
Meridian Ave & Reno Ave (OKC)	106	84	15	7	3	2
Western Ave & Memorial Rd (OKC)	102	71	22	7	2	0
Portland Ave & Reno Ave (OKC)	99	67	20	10	2	0
Fritts Blvd & 19th St (Moore)	96	53	23	18	2	0
Robinson Ave & S 5th St (OKC)	94	77	11	4	1	0
Boulevard & S 15th St (Edmond)	93	56	19	15	3	0

PROCESS OF ANALYSIS | STEP 4

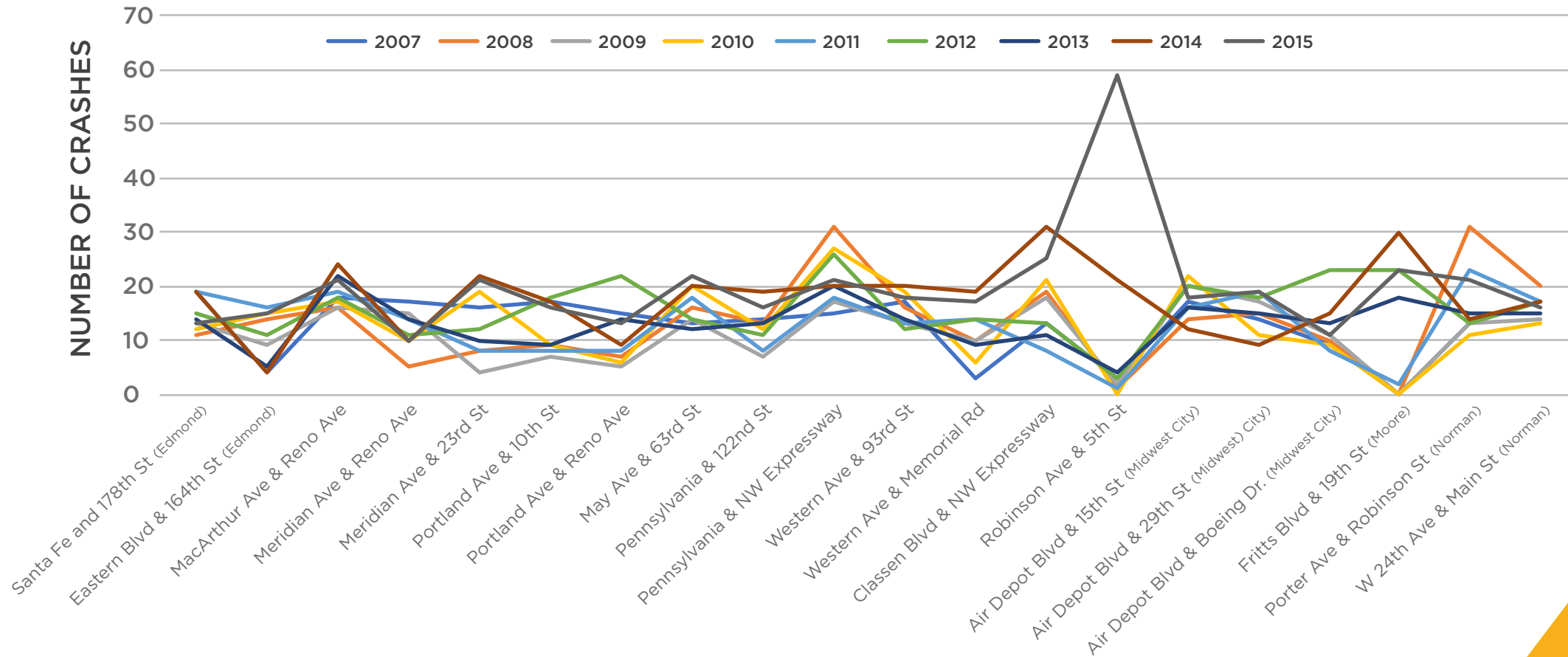
ANALYZED CRASH FEATURES

- Collision Type
- Cause
- Light Condition
- Weather Condition
- Severity
- Number of Lanes
- Medians/Split Roadways
- Speed
- Number of Driveways
- Construction Projects



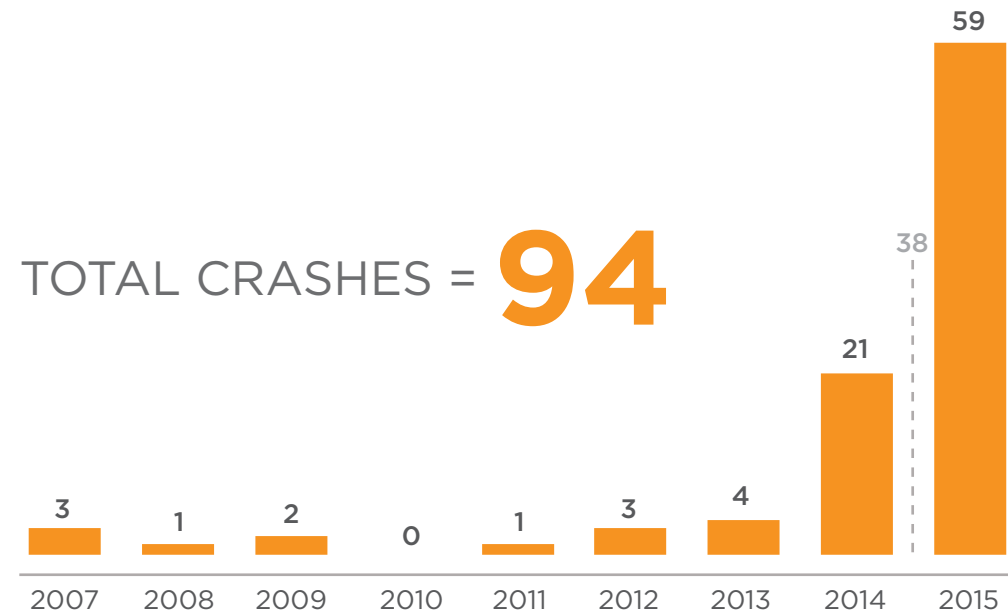
CRASH STATS

HIGH CRASH INTERSECTIONS - 2007 - 2015

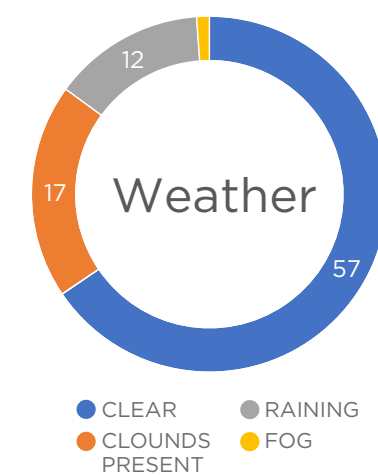
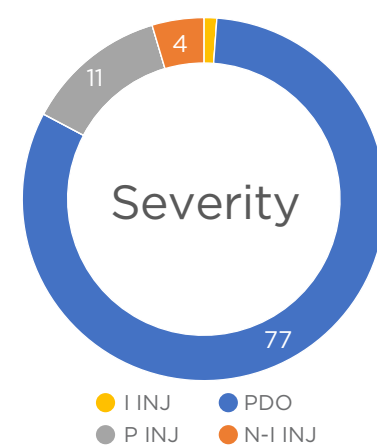
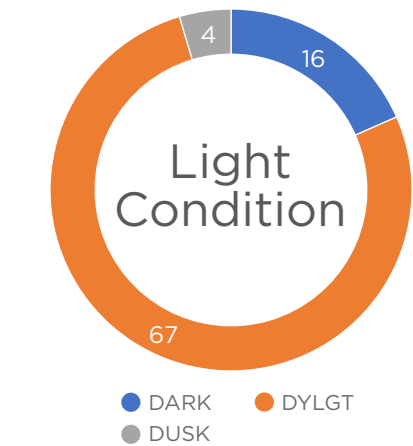
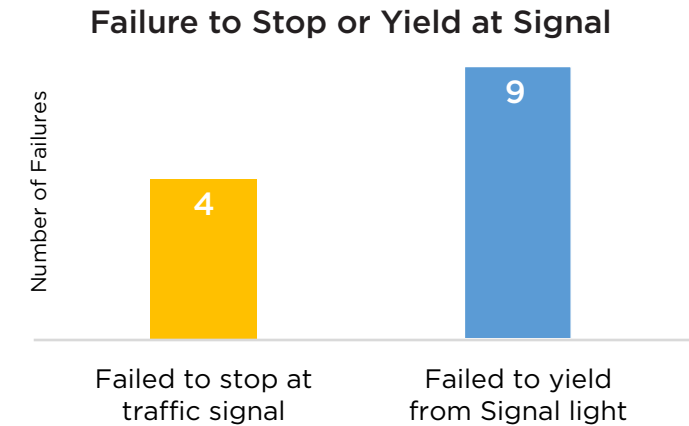
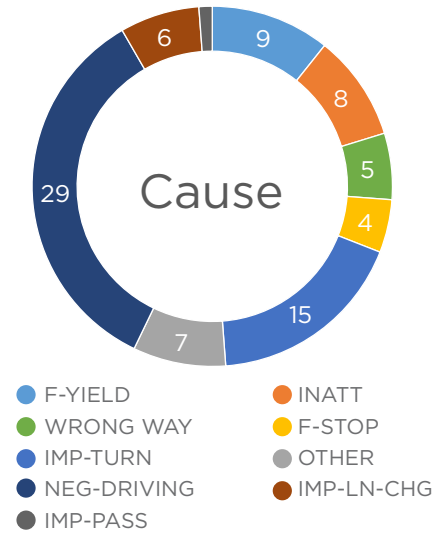
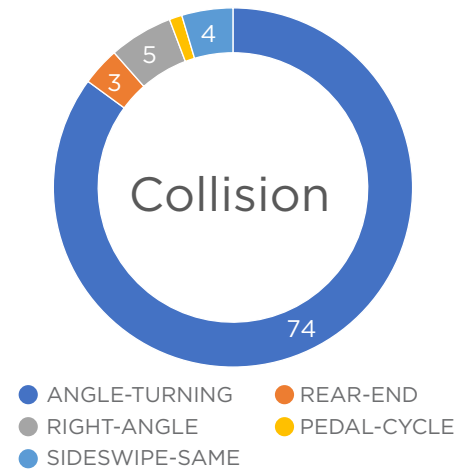


ROBINSON AVE & SOUTH 5TH STREET (OKC)

CRASHES PER YEAR



ROBINSON AVE & SOUTH 5TH STREET (OKC)



604 S Robinson Ave
Oklahoma City, Oklahoma

Google, Inc.

Street View - Jul 2011



JULY 2011

ROBINSON AVE & SOUTH 5TH STREET (OKC)

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604 S Robinson Ave
Oklahoma City, Oklahoma

Google, Inc.

Street View - Aug 2014



August 2014

ROBINSON AVE & SOUTH 5TH STREET (OKC)

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604 S Robinson Ave
Oklahoma City, Oklahoma



Google, Inc.

Street View - Jul 2015



JULY 2015

ROBINSON AVE & SOUTH 5TH STREET (OKC)

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604 S Robinson Ave
Oklahoma City, Oklahoma

Google, Inc.

Street View - Apr 2016



APRIL 2016

ROBINSON AVE & SOUTH 5TH STREET (OKC)

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604 S Robinson Ave
Oklahoma City, Oklahoma

Google, Inc.

Street View - Oct 2016

OCTOBER 2016

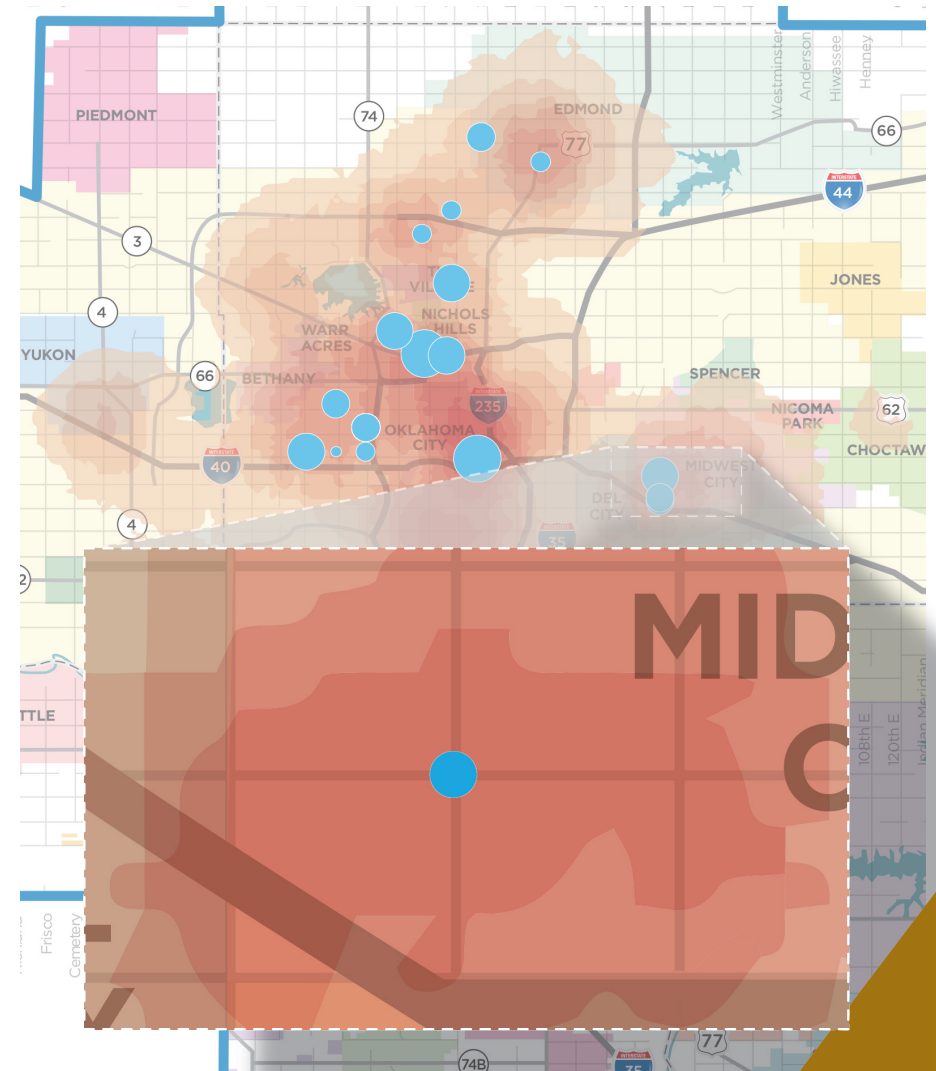
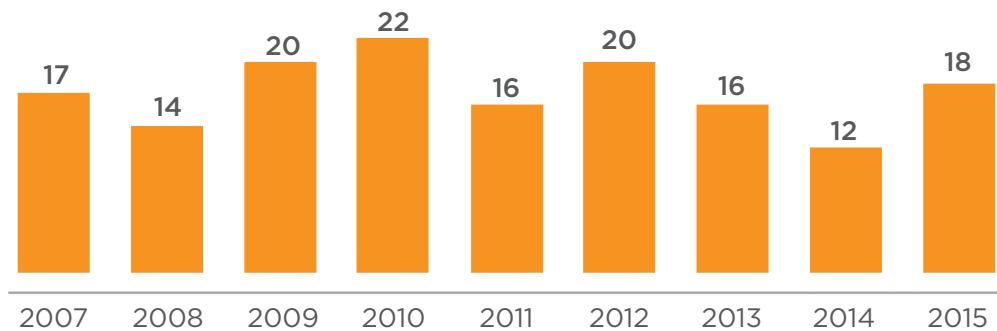
ROBINSON AVE & SOUTH 5TH STREET (OKC)

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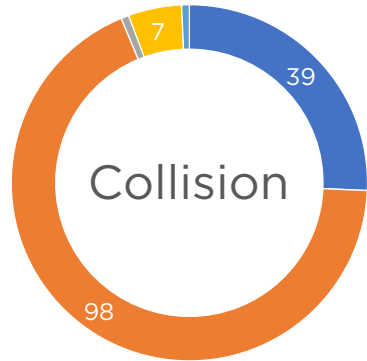
AIR DEPOT & SOUTH 15TH STREET (MIDWEST CITY)

CRASHES PER YEAR

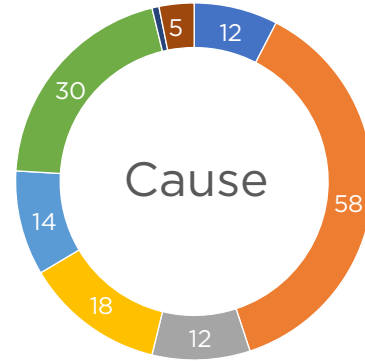
TOTAL CRASHES = 155



AIR DEPOT & SOUTH 15TH STREET (MIDWEST CITY)

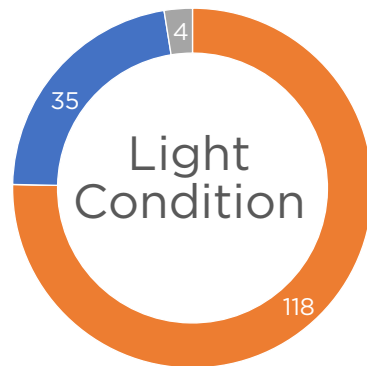
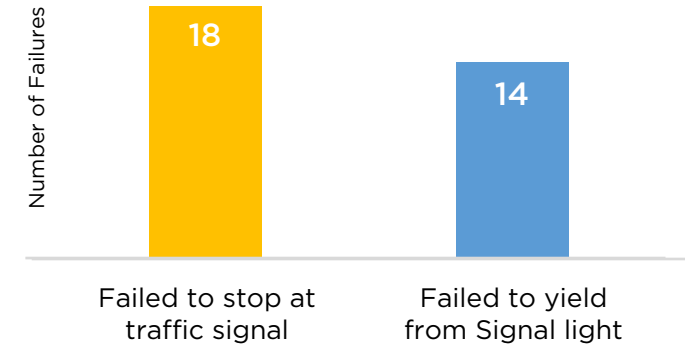


- ANGLE-TURNING
- REAR-END
- PEDESTRIAN
- SIDESWIPE-SAME
- OTH-BAKING

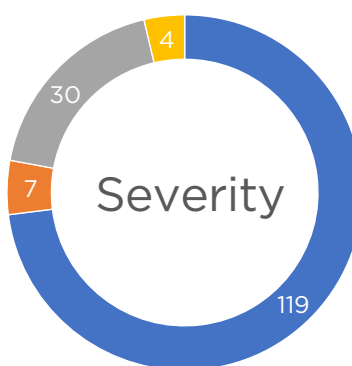


- IMP-TURN
- INATT
- OTHER
- F-STOP
- F-YIELD
- FOL-CLOSE
- UNSAF-SPD
- IMP-LN-CHG

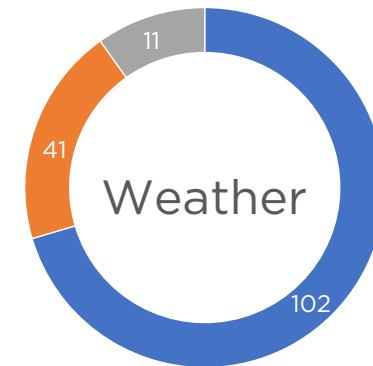
Failure to Stop or Yield at Signal



- DARK
- DYLGT
- DAWN



- I INJ
- PDO
- P INJ
- N-I INJ



- CLEAR
- CLOUDS PRESENT
- RAINING

TOTAL NUMBER OF LANES | 25
TOTAL NUMBER OF DRIVEWAYS | 23
AVERAGE DAILY TRAFFIC (ADT) | 21,376

AIR DEPOT & SOUTH 15TH STREET (MIDWEST CITY)

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24,618 (2015)

19,965 (2015)

22,401 (2014)

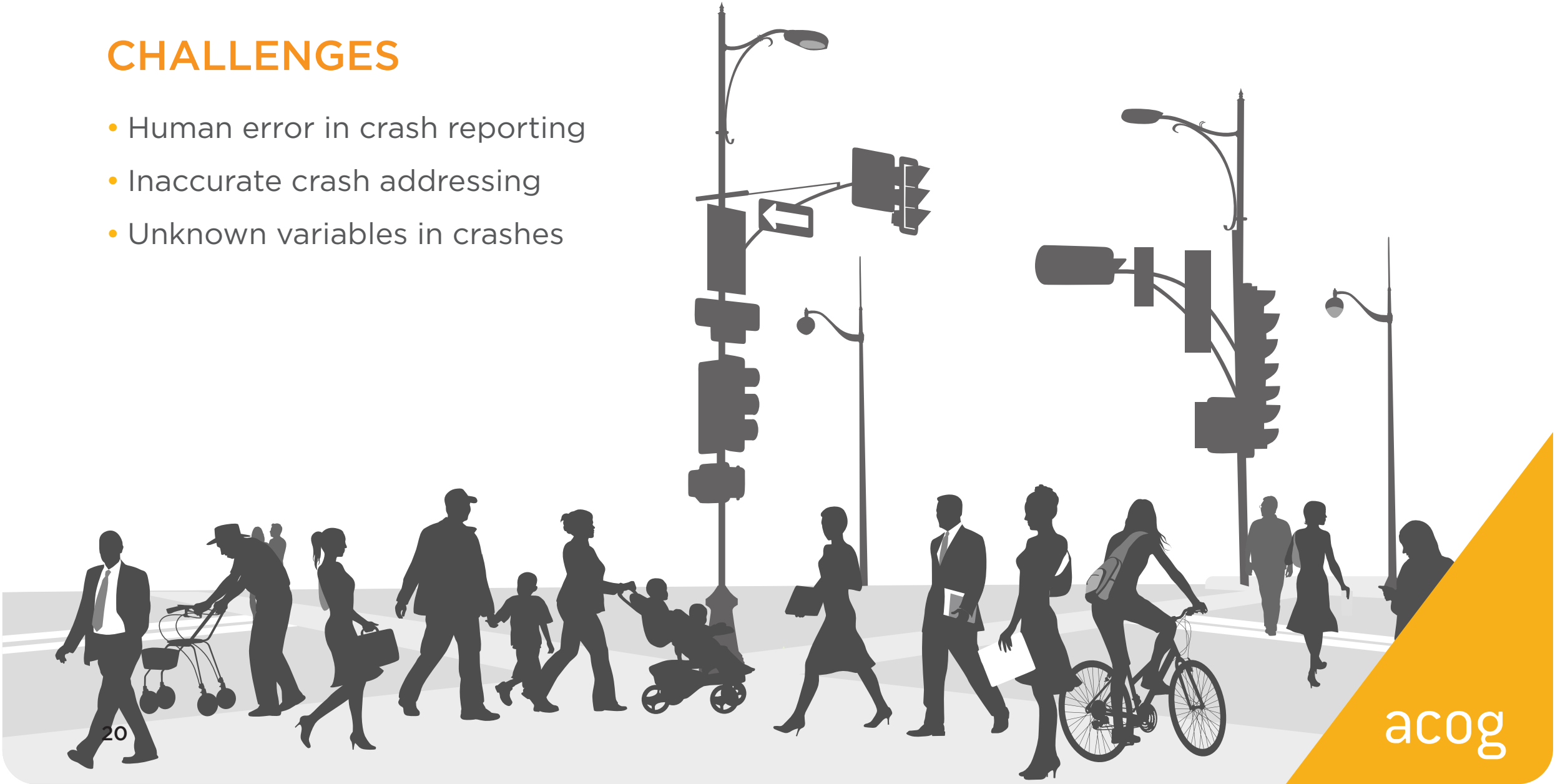
18,965 (2017)

TOTAL NUMBER OF LANES | 25
 TOTAL NUMBER OF DRIVEWAYS | 23
 AVERAGE DAILY TRAFFIC (ADT) | 21,376

AIR DEPOT & SOUTH 15TH STREET (MIDWEST CITY)

CHALLENGES

- Human error in crash reporting
- Inaccurate crash addressing
- Unknown variables in crashes



FUTURE CONSIDERATIONS AND NEXT STEPS

- Work with ACOG members to identify high crash areas
- Monitor high crash areas over time
- Analyze other elements – Schools, Transit Areas, and Speed



QUESTIONS?

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