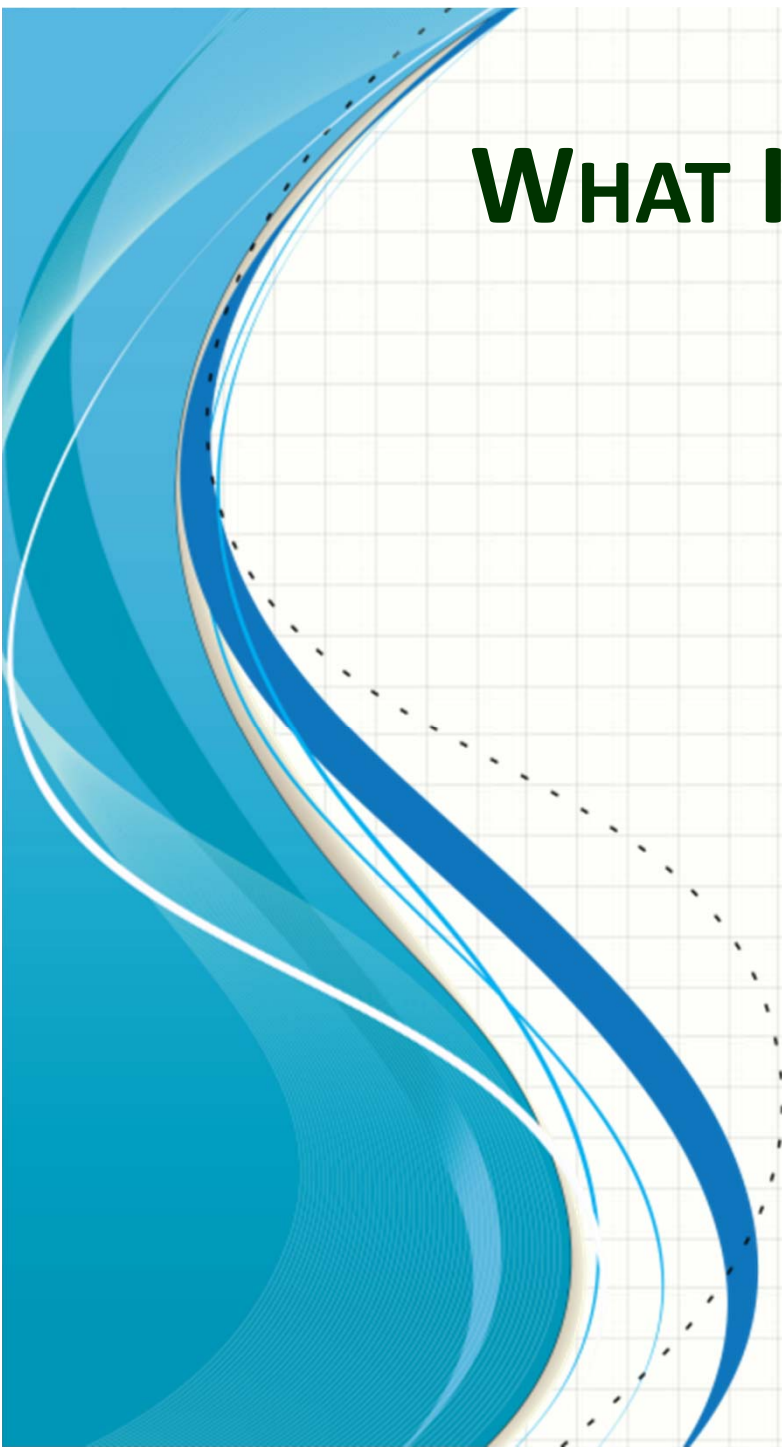




SAFE-T CRASH DATABASE INTERFACE – OVERVIEW

Matt Warren, P.E.
Edmond, Oklahoma
October 17, 2017



WHAT IS SAFE-T?

SAFE-T is a web interface for ODOT's collision database. It contains data on all reported traffic accidents on public roads in Oklahoma since 1998.

Location data is corrected and data fields are added based on the officers' narratives.

OU hosts the database and maintains SAFE-T.

WHO IS ELIGIBLE FOR ACCESS?

- Government employees with transportation responsibilities:
 - ODOT Engineers and Design Supervisors
 - Other agencies with an interest in traffic safety: OTA, HSO, FARS, OHP, DPS, LTAP, TTAP, RTAP, FHWA, etc.
 - Permanent employees of MPOs, cities, counties, tribes, law enforcement
 - Researchers.



New: Consultants offering transportation engineering services can access crash data, after:

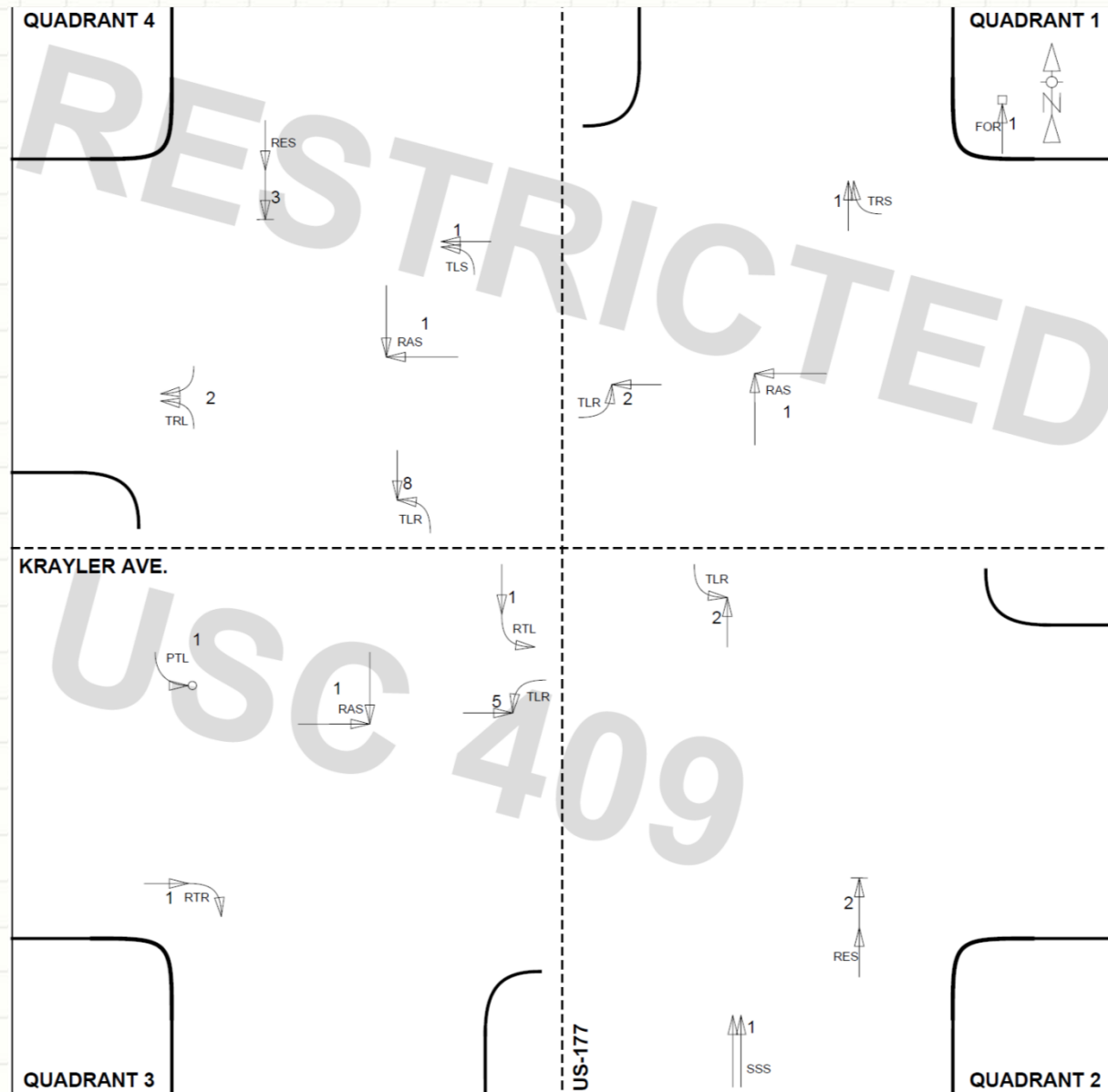
- ☐ Signing an agreement against misuse.
- ☐ Taking a training course.



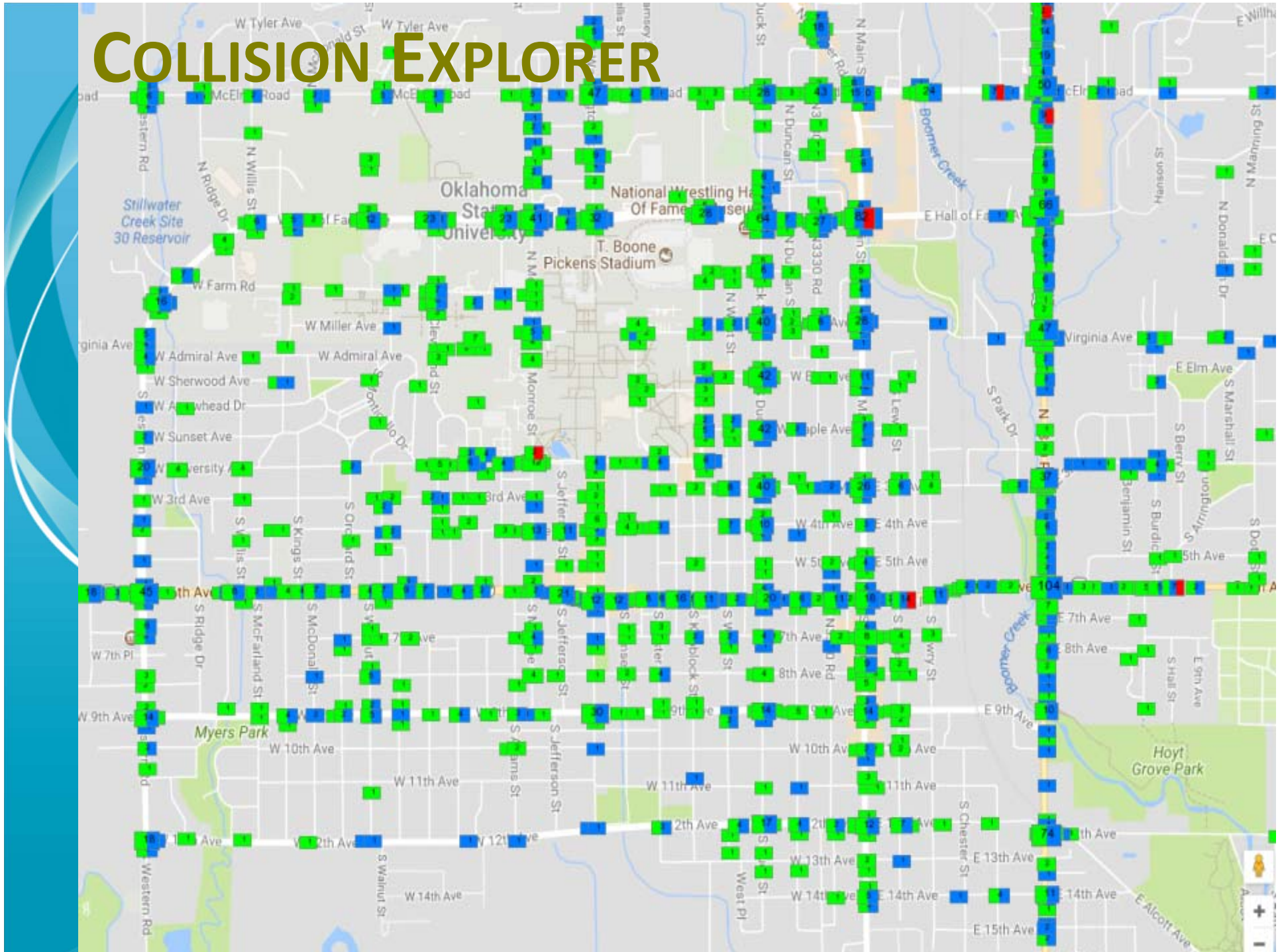
LONGSTANDING SAFE-T CAPABILITIES

- Retrieve crash data by highway corridor, intersection, city, county, troop, MPO, ODOT division, or custom defined area.
- Provide breakdowns of injury severity, collision type, vehicle type, day of week, time of day, weather, wet/icy pavement, lighting, driver faults, etc.
- Calculate collision rates (highways only).
- List all collisions individually.
- Export individual collision data to Excel.
- Run Sliding Window searches (highways only).
- Create a ranked listing of intersections by number of crashes or severe crashes (concentration listing).
- Plot collision diagrams for intersections.
- Map collisions in Google Maps.

EXAMPLE COLLISION DIAGRAM



COLLISION EXPLORER





RECENT IMPROVEMENTS

- Map-based query tool
- KML export
- Heat maps in Collision Explorer
- Query by tribe
- Critical Rate analysis
- Queries can now be saved for later use or reference, and shared with affiliated users.
- Expected Collisions (HSM) Analysis (Advanced users).
- Dramatically revamped training class.

GOOGLE MAPS QUERY TOOL

ROADWAY / REGION SELECT

Query Over:

☐ Entire State

☐ Division

☐ Troop

☐ Metro

☐ County

☐ City

☐ Control Section

☐ Hwy/Hwy Jct

☐ City Street

☐ County Road

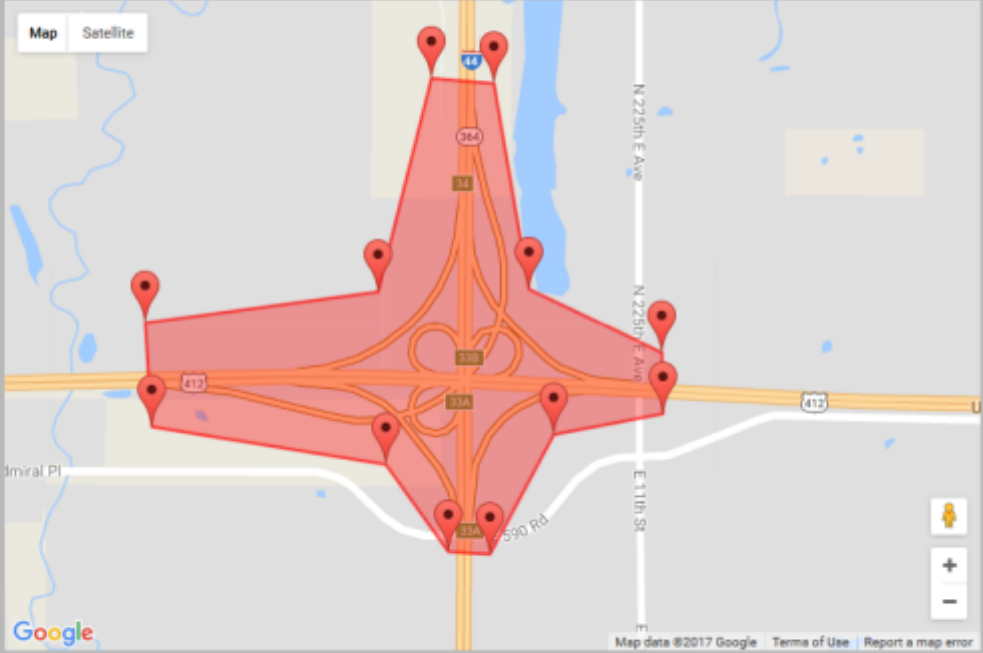
☒ Draw Area on Map

Click on the map to draw an area.

Map

Satellite

Area Selection Map

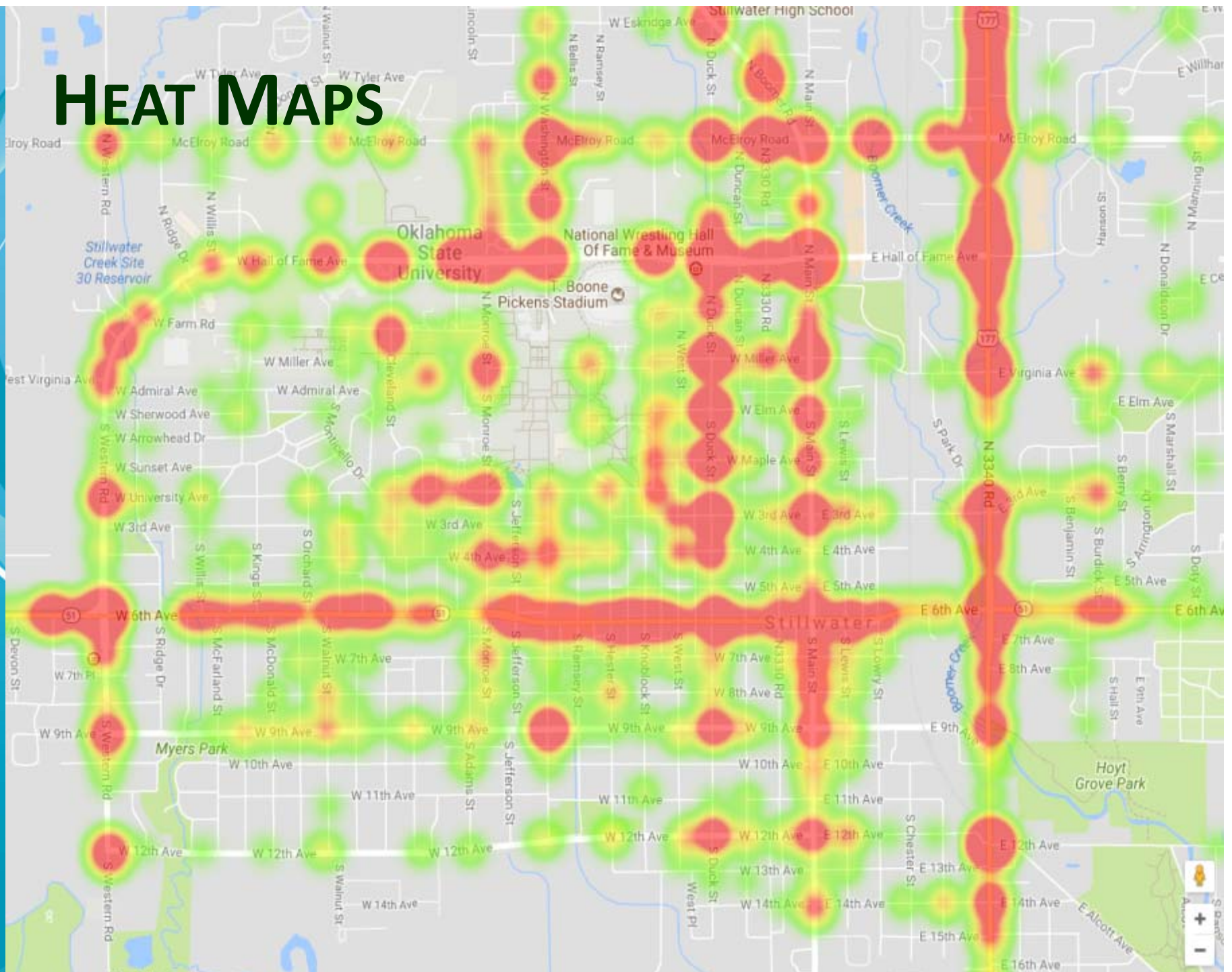


- Drag markers to edit the area.
- Only mapped collisions are returned within the area.

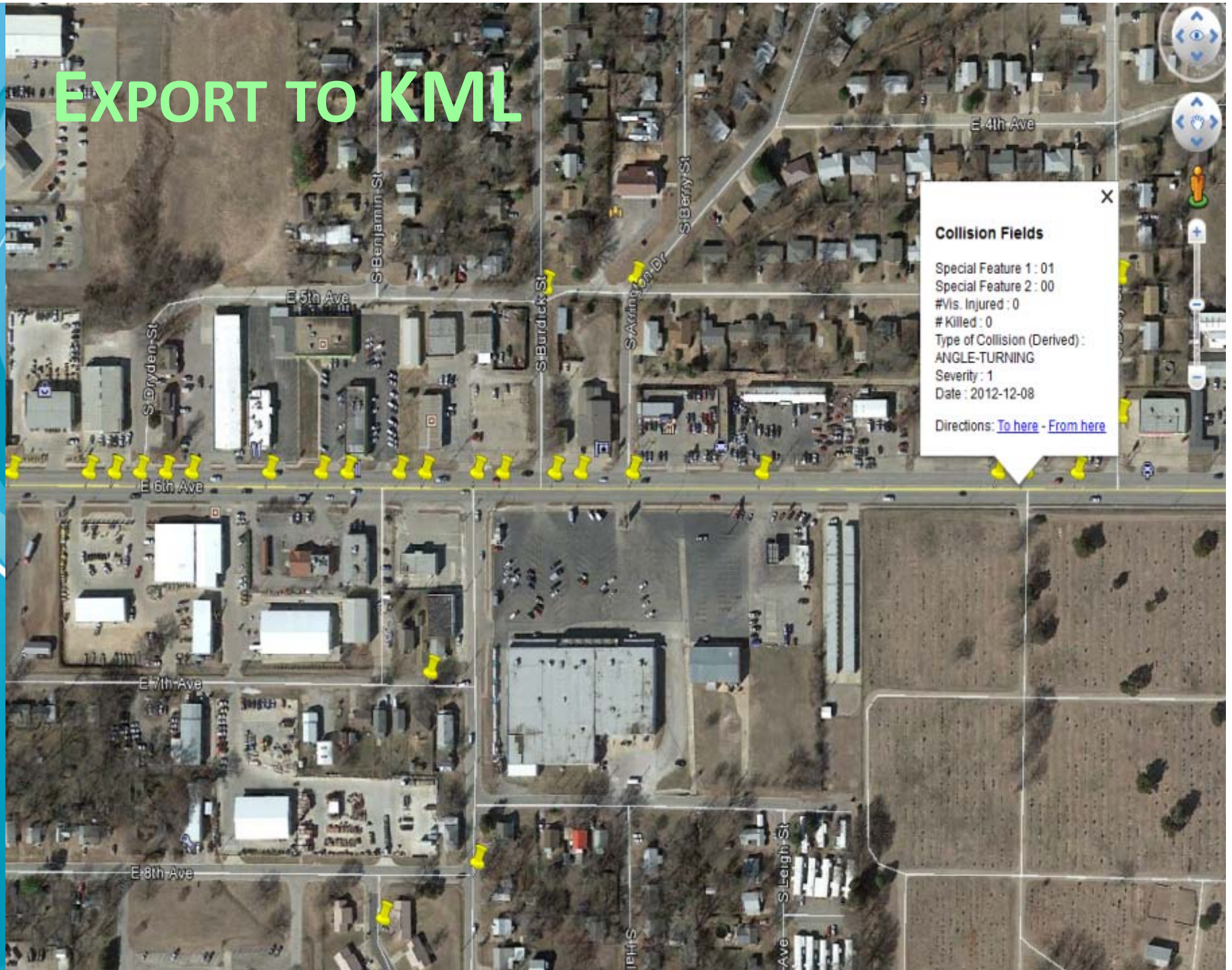
Clear Map Selections

☐ Query over Multiple Roadways or Regions

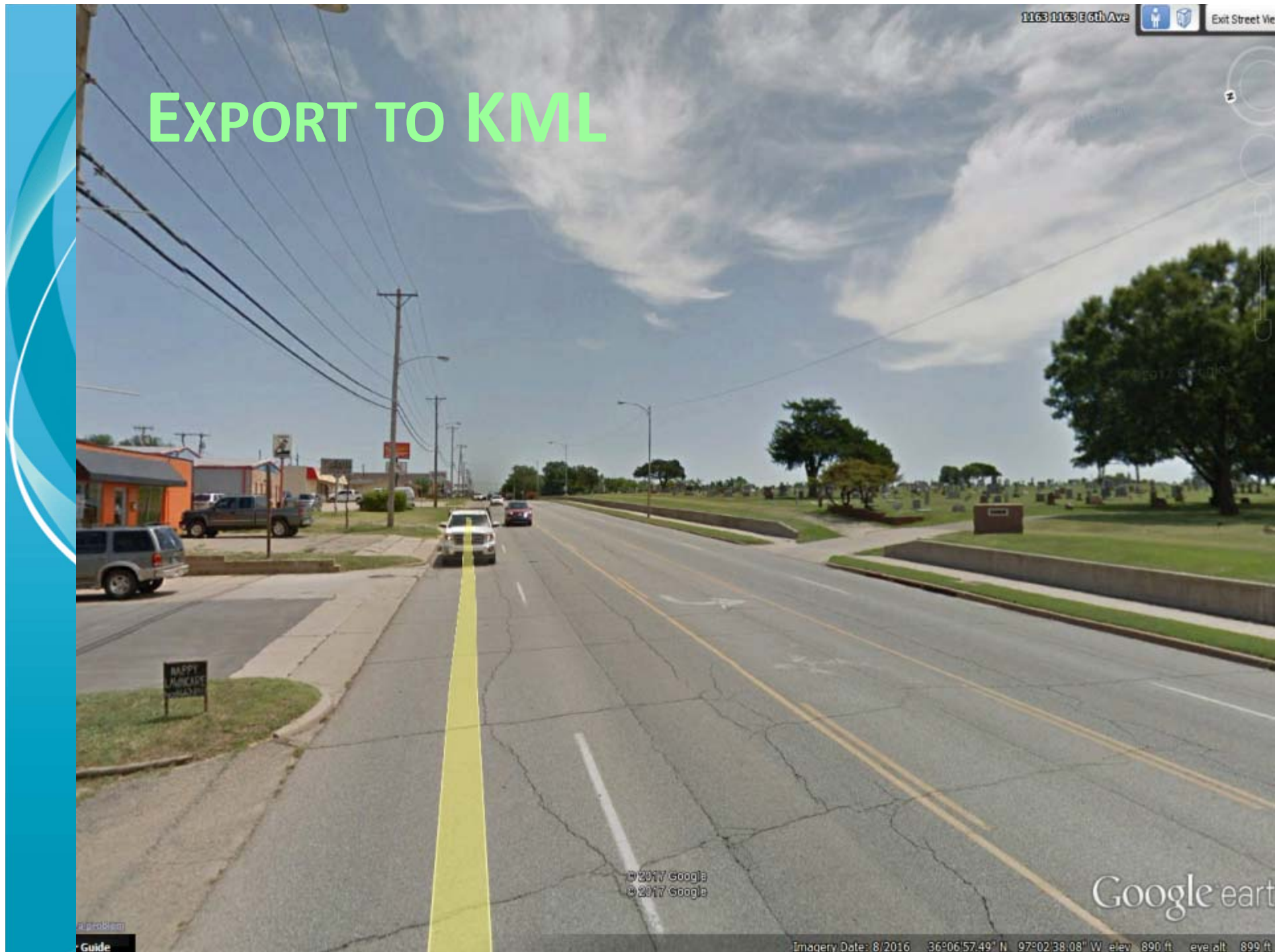
HEAT MAPS



EXPORT TO KML



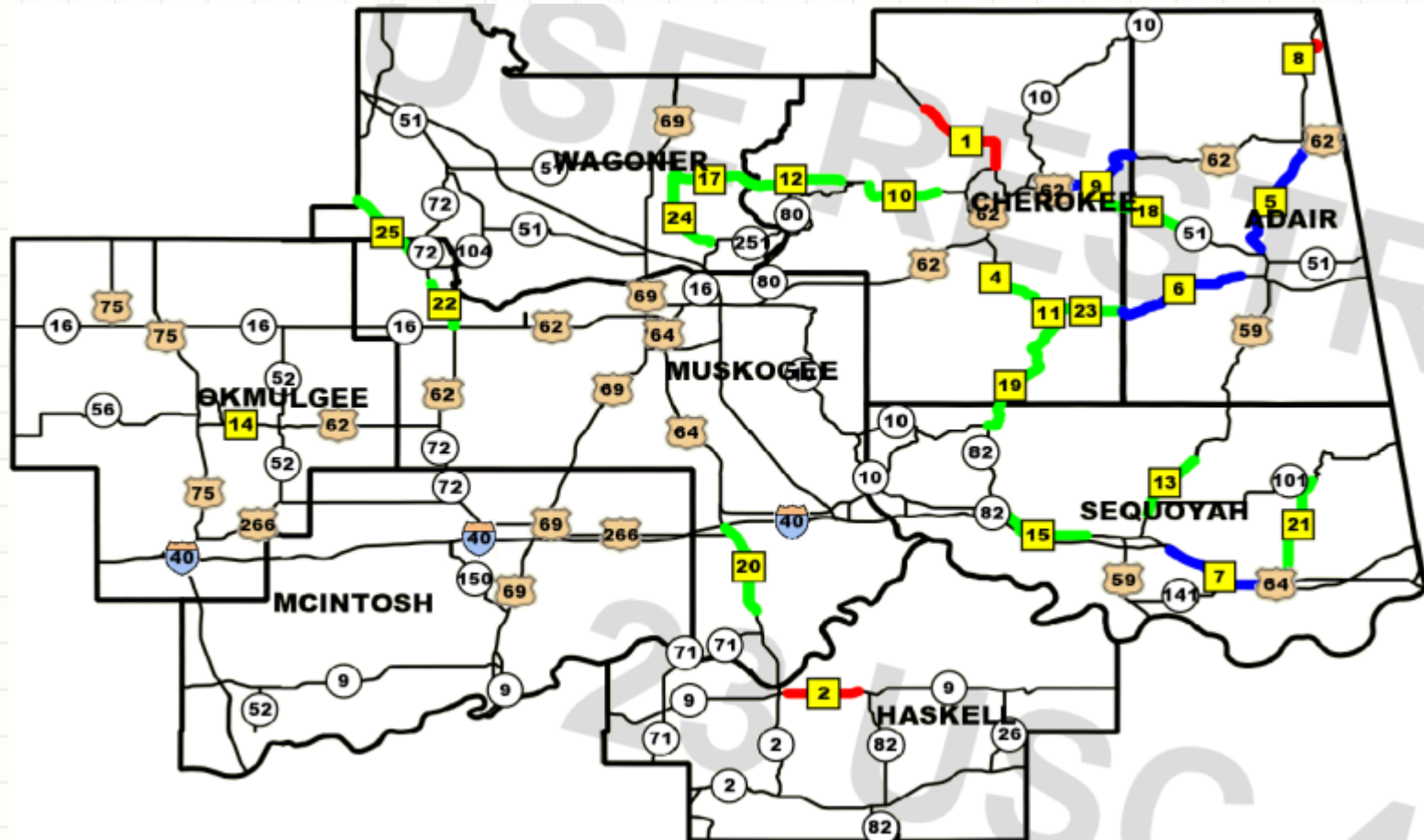
EXPORT TO KML



(ADVANCED) USING THE PREDICTIVE METHOD TO IDENTIFY CANDIDATE LOCATIONS FOR CLRS

COLLISION WINDOW DATA : 01-01-2012 Thru 12-31-2016 (1827 days)																									
Rank #	Window Start								Window Stop								# Queried Crashes						Win Len	ADT	Exp Dens.
	County	CS	Rdwy	Mile Point	Int #	Int Hwy	MM	Location	County	CS	Rdwy	Mile Point	Int #	Int Hwy	MM	Location	Fat	Inc Inj	N-Inc Inj	Poss Inj	PDO	Total			
1	11-Cherokee	24	SH-82	02.89				SH-51 SPUR *	11-Cherokee	24	SH-82	11.55				SHILOH ROAD *	4	9	29	13	61	116	8.66	5650	00.13
2	31-Haskell	08	SH-9	00.68				BEG 55 MPH *	31-Haskell	08	SH-9	05.69				10 AVE. W. *	2	2	8	11	18	41	5.01	5837	00.11
3	01-Adair	06	US-59	09.33				7 ST. *	01-Adair	06	US-59	09.90				BEG 60 MPH *	1				5	6	0.57	6500	00.11
4	11-Cherokee	20	SH-82	16.03				STONE CHAPEL RD(22) *	11-Cherokee	20	SH-82	17.84				FLOURNOY/EW8 2(26) *			4	6	14	24	1.81	9081	00.10
5	01-Adair	04	US-59	00.57				BEG 55 MPH *	01-Adair	04	US-59	10.99				EW 72(46) *	3	5	19	9	29	65	10.4 2	4586	00.08
6	01-Adair	19	SH-100	00.00				NS 461	01-Adair	19	SH-100	10.29				BEG 45 MPH *	1	13	14	9	34	71	10.2 9	3400	00.08
7	68-Sequoyah	10	US-64	02.45				BEG 65 MPH *	68-Sequoyah	10	US-64	11.02				BEG 45 MPH *	1	8	14	10	34	67	8.57	3620	00.08
8	01-Adair	06	US-59	06.71				S. BALLARD CR. *	01-Adair	06	US-59	08.53				MAIN ST. *		2	2	1	4	9	1.82	5400	00.08
9	11-Cherokee	32	US-62	03.00				BEG 65 MPH *	11-Cherokee	06	US-62	04.98				NS 461 *	1	5	32	11	39	88	9.76	3108	00.08
10	11-Cherokee	12	SH-51	08.54				EW 75/6 ST.(40) *	11-Cherokee	12	SH-51	14.24				LIMBSEY LN. *		2	9	9	21	41	5.70	5400	00.07
11	11-Cherokee	20	SH-82	06.66				BEG 55 MPH *	11-Cherokee	20	SH-82	15.05				531 RD. *		7	24	13	24	68	8.39	4698	00.07
12	73-Wagoner	16	SH-51	07.84				BEG 55 MPH *	11-Cherokee	12	SH-51	06.37				BEG 60 MPH *	1	2	12	3	26	44	7.11	3302	00.07
13	68-Sequoyah	04	US-59	02.26				EW 105(32) *	68-Sequoyah	04	US-59	08.29				SITE 22 RES. *	1	7	3	12	41	64	6.03	2921	00.07
14	56-Okmulgee	27	US-62	03.00				PRAIRIE BELL(31)	56-Okmulgee	27	US-62	03.99				DUMP RD. #400(33) *		1	2	2	3	8	0.99	6300	00.06
15	68-Sequoyah	06	US-64	06.87				BEG 55 MPH *	68-Sequoyah	06	US-64	14.17				BEG 45 MPH *	1	1	6	4	21	33	7.30	3512	00.06
16	11-Cherokee	24	SH-82	16.28				EW 64/MAGGARD(62) *	11-Cherokee	24	SH-82	17.55				NS 443(17)		1	1		3	5	1.27	4300	00.06
17	73-Wagoner	16	SH-51	02.62				ARTHUR ST./JODOM *	73-Wagoner	16	SH-51	07.84				BEG 55 MPH *	1	3	11	4	19	38	5.22	5500	00.06
18	11-Cherokee	16	SH-51	00.00	05	US-62		US-62	01-Adair	14	SH-51	06.30				467 RD. *		4	17	5	30	56	9.30	2971	00.05
19	68-Sequoyah	16	SH-82	08.35				BEG 55 MPH *	11-Cherokee	20	SH-82	06.66				BEG 55 MPH *	2	10	20	10	37	79	9.66	1694	00.05
20	51-Muskogee	26	SH-2	07.30				MAPLE ST.	51-Muskogee	26	SH-2	15.60				BEG 55 MPH *	4	2	6	8	14	34	8.30	4051	00.05
21	68-Sequoyah	18	SH-64B	02.04				CLIFF/WATER TOWER *	68-Sequoyah	18	SH-64B	11.39	07	SH-101		SH-101		4	2	5	26	37	9.35	3047	00.05
22	51-Muskogee	08	US-64	04.81				CYPRESS RD.(74) *	51-Muskogee	08	US-64	09.26	10	US-62		US-62 *		4	6	1	11	22	4.45	3657	00.05
23	11-Cherokee	25	SH-100	00.00	08	SH-82		SH-82	11-Cherokee	25	SH-100	05.51				NS 461(53) *	1	2	2	7	10	22	5.51	3000	00.05
24	73-Wagoner	23	SH-16	03.65				BEG 40 MPH *	73-Wagoner	23	SH-16	11.14				15 ST. *	2	2	9	4	12	29	7.49	2698	00.05

USING THE PREDICTIVE METHOD TO IDENTIFY CANDIDATE LOCATIONS FOR CLRS





LIMITATIONS OF SAFE-T

- Cannot directly retrieve police reports.
- Rate analysis, sliding windows, and HSM analysis are only available on highways.
- Some collisions do not have geolocation data and map tools will not find or display them.
- Recent collisions may not be in the database.
- Certain queries can be challenging to construct.
- Use of crash data is restricted by 23 USC 409.



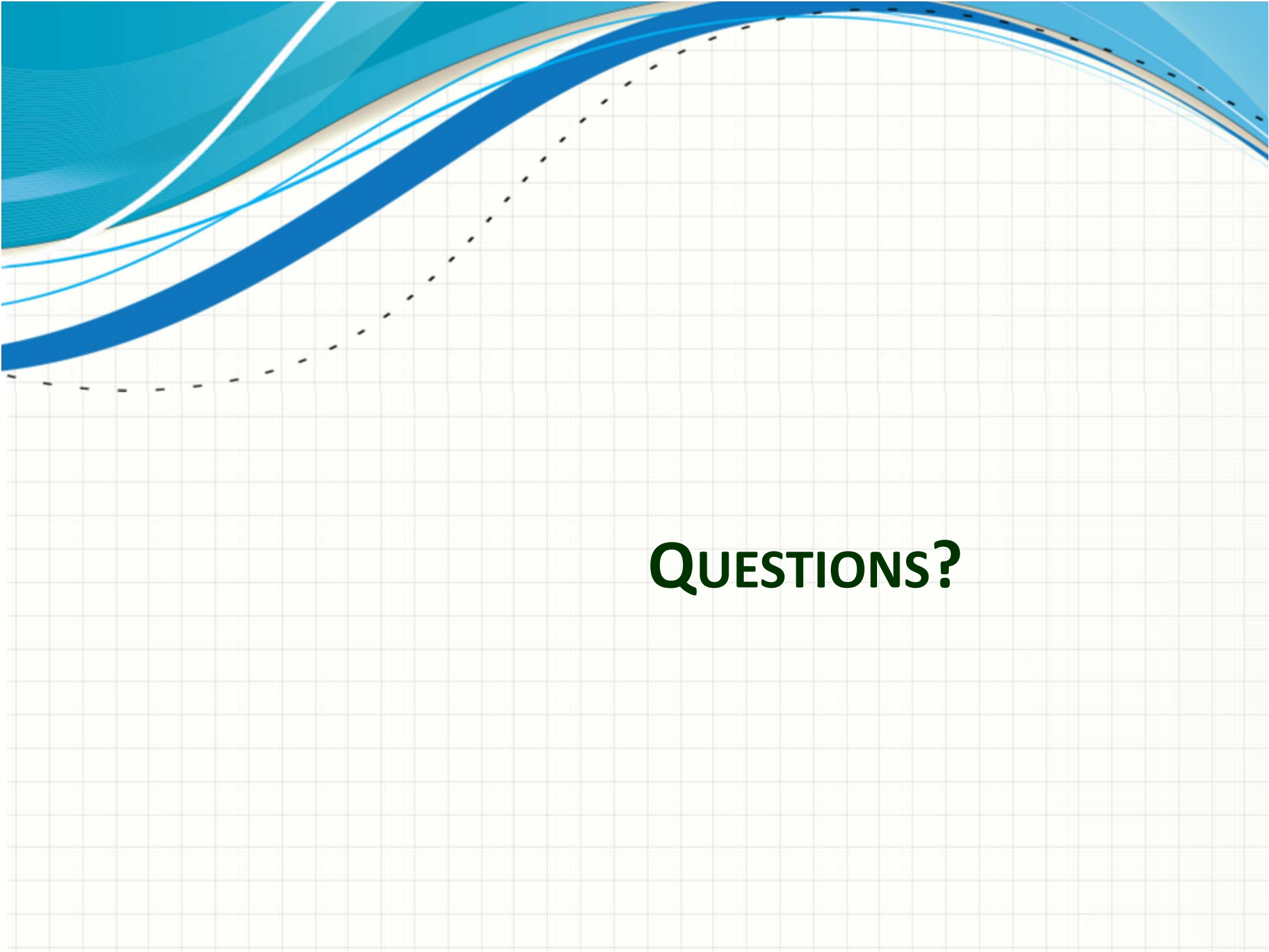
PLANNED IMPROVEMENTS

- Conversion of the entire database to GIS.
- Training in advanced crash data analysis (contingent on demand).
- Reports that evaluate patterns of crash types.
- Advanced analytical capabilities for county and city collectors.



FOR ACCESS AND TRAINING CONTACT:

- Matt Warren
mwarren@odot.org
405-521-3946
- Jessica Avery
jdavery@odot.org
405-521-4160



QUESTIONS?