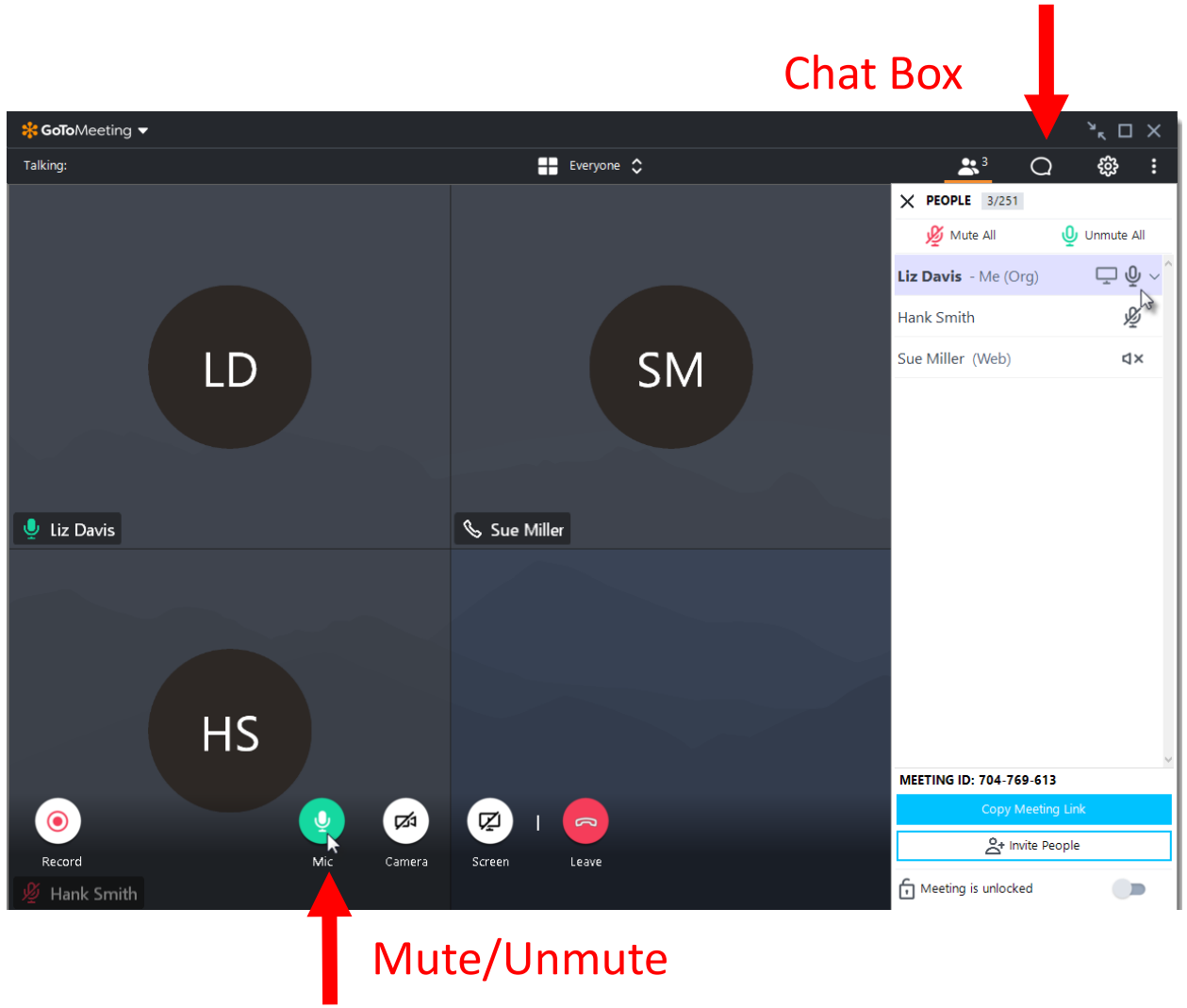
Safety & Health Committee Meeting

August 12, 2020

The Meeting will begin shortly.

While you wait, please MUTE your microphone and **type your First/Last Name into the Chat Box**.



Meeting Agenda

[Note: Meeting agenda is subject to change during the meeting.]

1. Welcome	**09:30 AM**
2. Data Review	**09:35 AM**
A. Safety of Children and Elderly Jane Byrnes	
B. Research on Bicycle and Pedestrian Crashes in Wichita Amanda Aguila-Gonzalez, Intern staff WAMPO	**09:40 AM**
C. Safety Data Review for WAMPO Area Amanda Aguila-Gonzalez, Intern staff WAMPO	**09:55 AM**
D. Safety and Crash Data for WAMPO Area Lisa Hecker, KDOT	**10:00 AM**
3. Open Discussion (Chairman pick)	**10:15 AM**
4. Adjournment	**10:30 AM**

Next Meeting Wednesday November 4, 2020, 9:30 AM

SAFETY & HEALTH COMMITTEE

The primary activities of this committee will be updating regional technical report on Safety and Health. This committee will review and update the regional data. This committee will update technical report through discussions on:

- Safety of all modes of transportation
- Updating Safety & Health Data Reports
- Environment Air Quality, ozone
- Strategies for Reducing Crashes in our Region
- Develop Educational Awareness Tools
- Explore new initiatives such as Vision-Zero Goals

Safety & Crash Data for WAMPO

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Program Consultant
Kansas Department of Transportation
Bureau of Transportation Safety
lisa.hecker@ks.gov

Kansas Department of Transportation

DRIVE TO ZERO

- In Kansas, five out of every six motor vehicle crashes are the result of driver error. That's about 83 percent.
- The other 17 percent are caused by something the driver cannot control, such as the weather or an animal running into the road.
- Driver error is the cause of 95 percent of all fatal crashes.

Sedgwick County

Motor Vehicle Crash Summary (2015-2019)

CRASHES

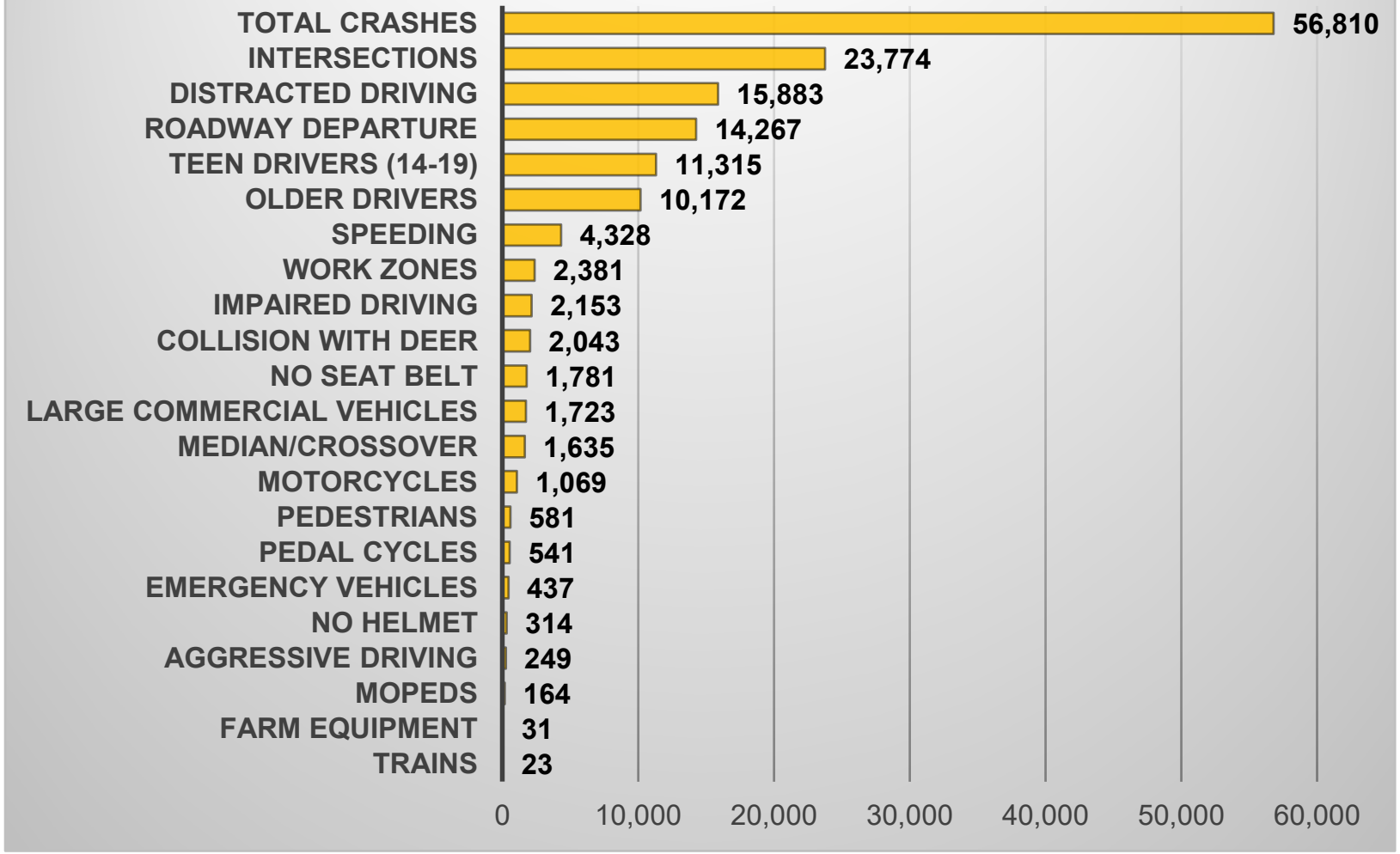
Total 56,810
Fatal 271
Serious injury 679
Minor injury 7,017
Possible injury 8,504
PDO* 40,339

PEOPLE

Fatalities 291
Serious injuries 788
Minor injuries 9,409
Possible injuries 12,692

* Property damage only

Cumulative Total Crashes by Category (2015-2019)

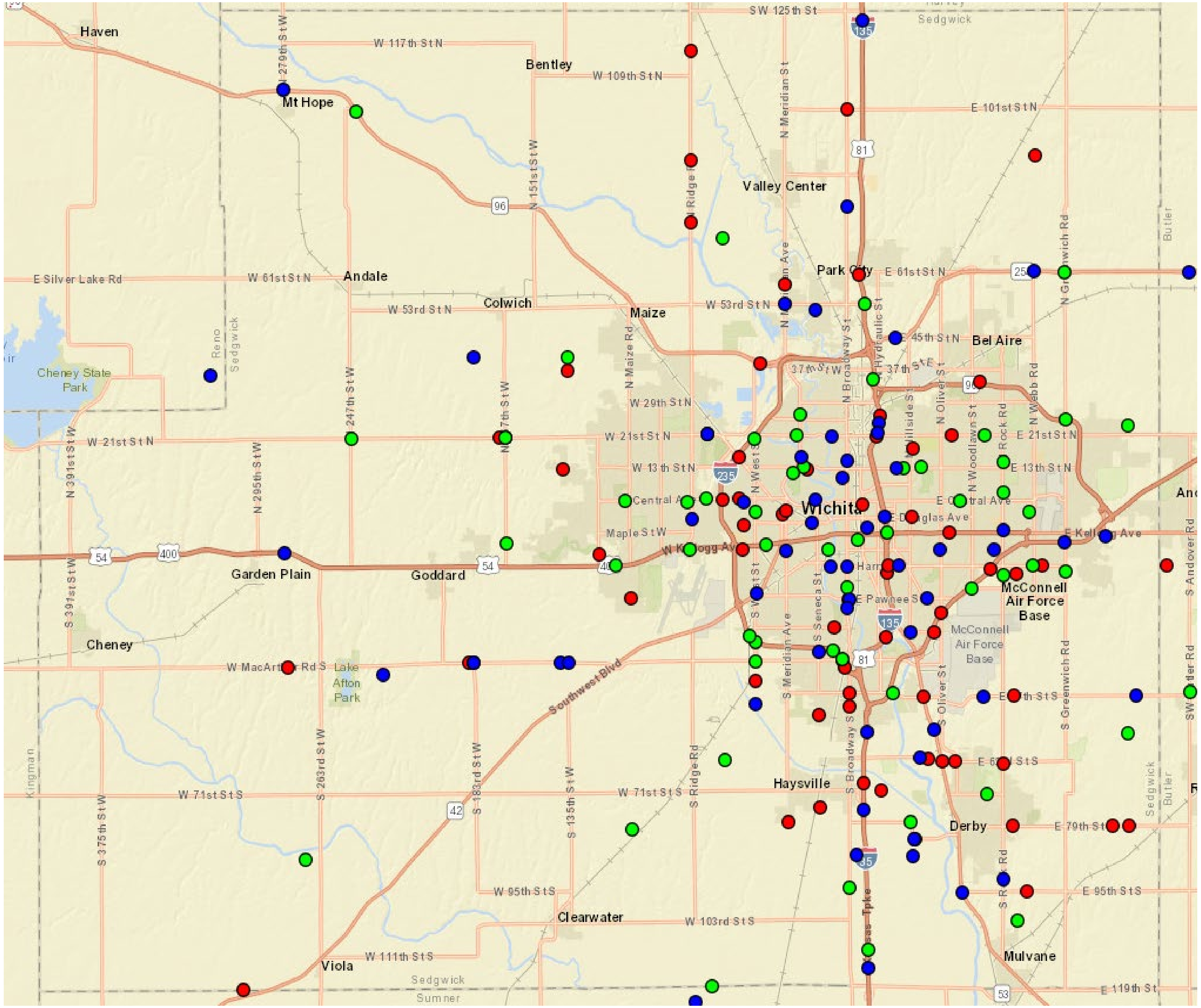


Sedgwick County Fatal Crashes

2016 BLUE

2017 GREEN

2018 RED



Motor Vehicle Crash Summary
US-54 in Sedgwick County

	CRASHES				PEOPLE	
Year	**Total**	**Fatal**	**Injury**	**PDO***	**Deaths**	**Injuries**
2015	922	2	253	667	2	359
2016	775	1	231	543	1	326
2017	774	2	202	570	2	350
2018	730	1	195	534	1	282
2019	751	3	211	537	3	314
Total	3,952	9	1,092	2,851	9	1,631

*PDO – property damage only

City of Wichita

Motor Vehicle Crash Summary (2015-2019)

CRASHES

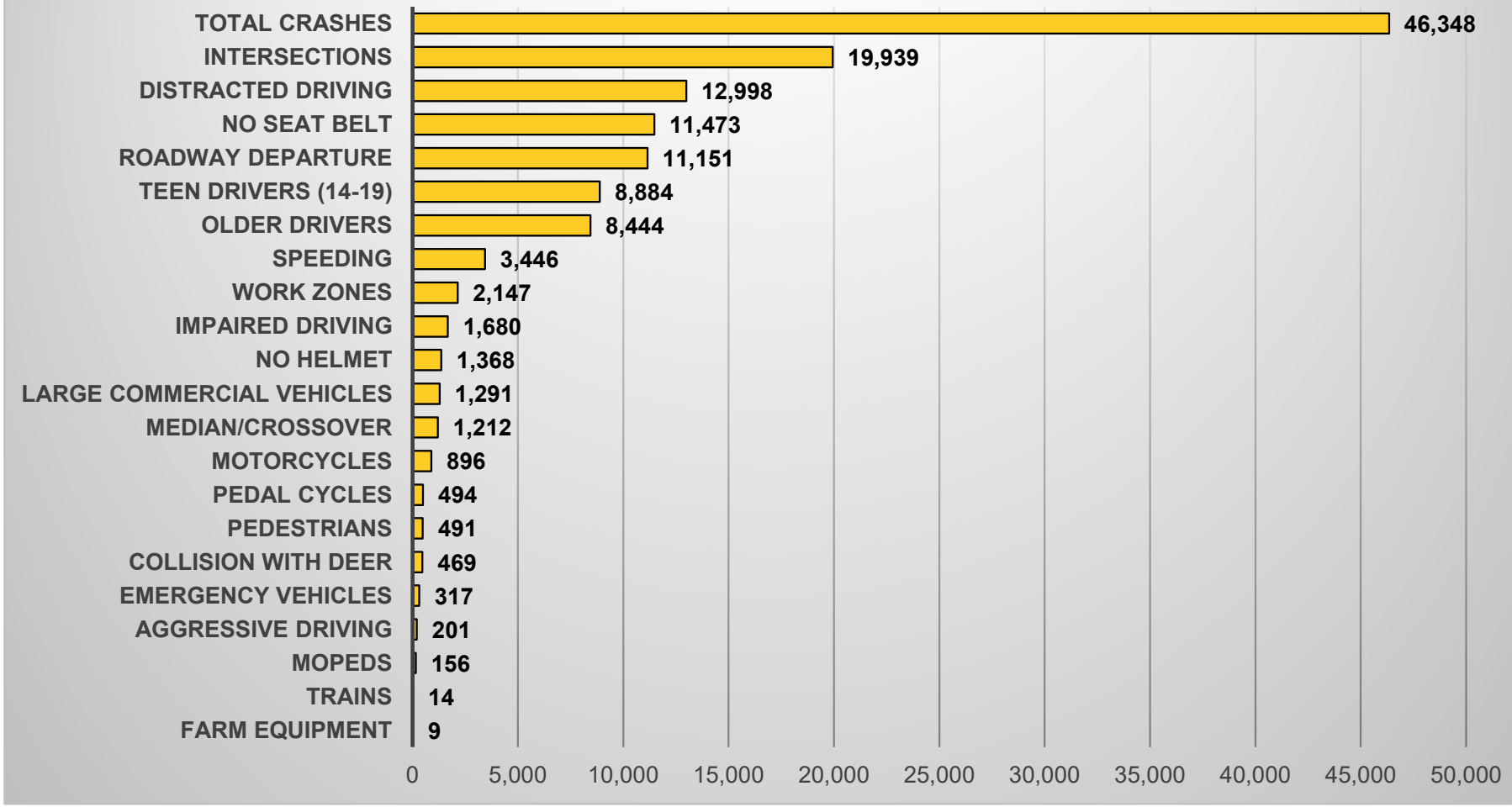
Total 46,348
Fatal 175
Serious injury 512
Minor injury 5,896
Possible injury 7,187
PDO* 32,578

PEOPLE

Fatalities 181
Serious injuries 591
Minor injuries 7,873
Possible injuries 10,601

* Property damage only

Cumulative Total Crashes by Category (2015-2019)



City of Andover

Motor Vehicle Crash Summary (2015-2019)

CRASHES

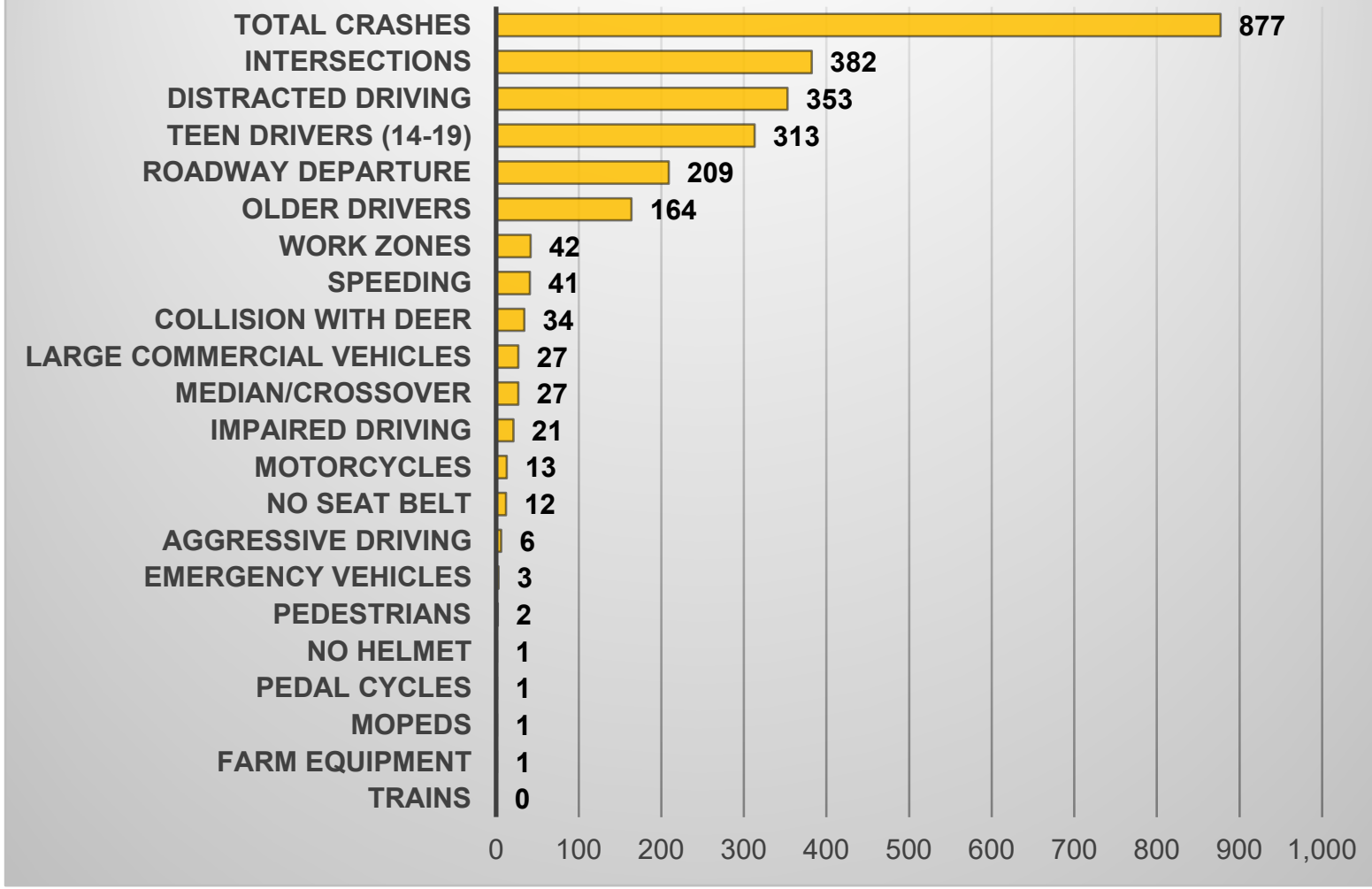
- Total 877
- Fatal 1
- Serious injury 4
- Minor injury 62
- Possible injury 85
- PDO* 725

PEOPLE

- Fatalities 1
- Serious injuries 4
- Minor injuries 77
- Possible injuries 127

* Property damage only

Cumulative Total Crashes by Category (2015-2019)



City of Mulvane

Motor Vehicle Crash Summary (2015-2019)

CRASHES

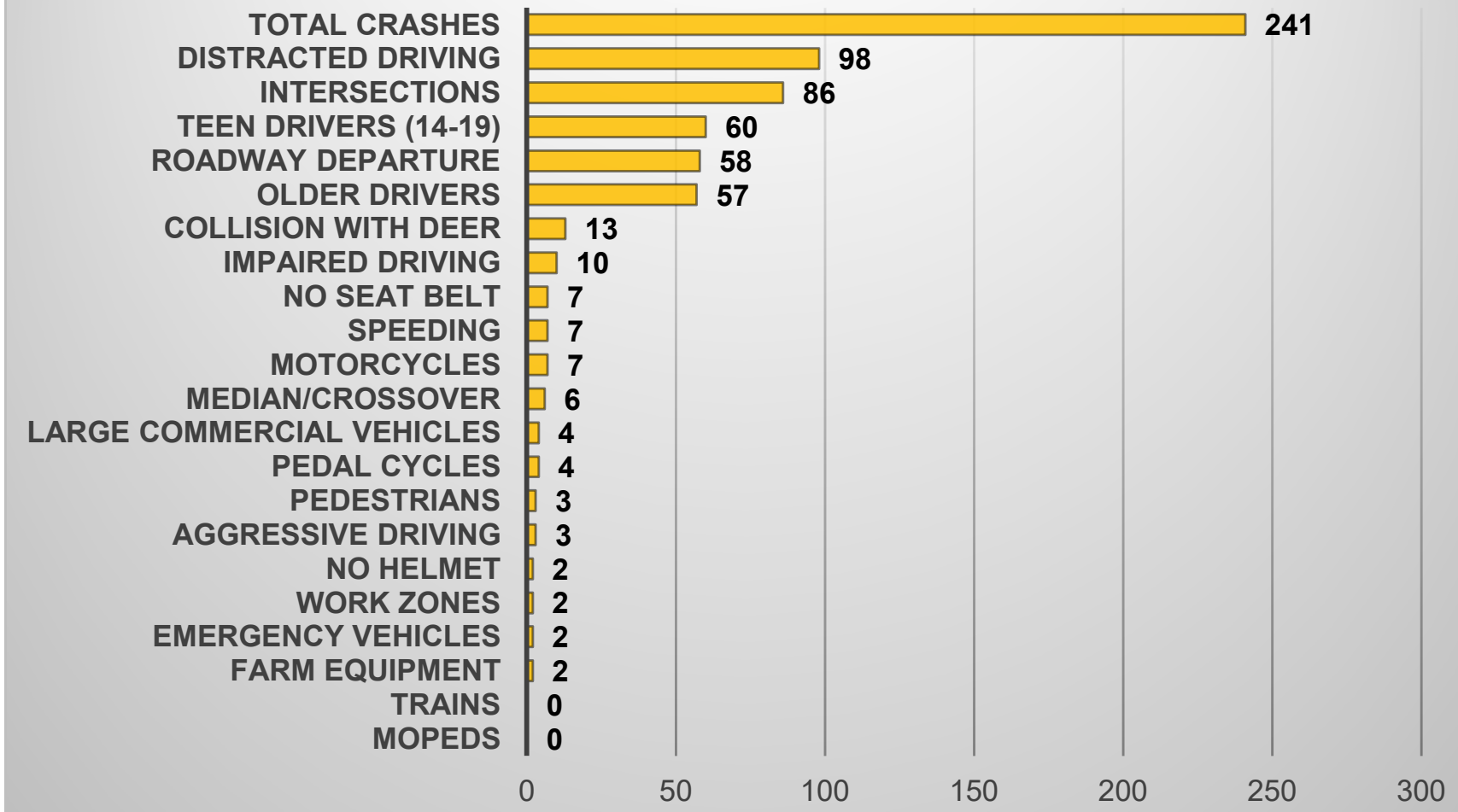
- Total 241
- Fatal 2
- Serious injury 1
- Minor injury 31
- Possible injury 30
- PDO* 177

PEOPLE

- Fatalities 2
- Serious injuries 1
- Minor injuries 34
- Possible injuries 51

* Property damage only

Cumulative Total Crashes by Category (2015-2019)



County Comparison

County	Population	Fatal Crashes		Crashes		Seat Belt Use	
		2017	2018	2017	2018	2018	2019
Sedgwick	516,042	56	65	11,226	11,606	89%	89%
Johnson	602,401	30	21	11,421	11,479	96%	94%
Wyandotte	165,429	28	20	1,381	4,837	92%	93%
Shawnee	176,875	15	16	4,486	4,522	87%	95%
Douglas	122,259	10	6	2,954	3,055	95%	95%
Leavenworth	81,758	8	12	1,400	1,353	90%	90%

Population numbers are from census.gov and estimates from July 1, 2019.

Trends in Pedestrian and Cyclist Motor Vehicle Crashes in Wichita, Kansas

Amanda I. Aguila Gonzalez, MPH

University of Kansas School of Medicine - Wichita

July 27th, 2020

What We Know

Communities and cities have started to diversify transportation resources

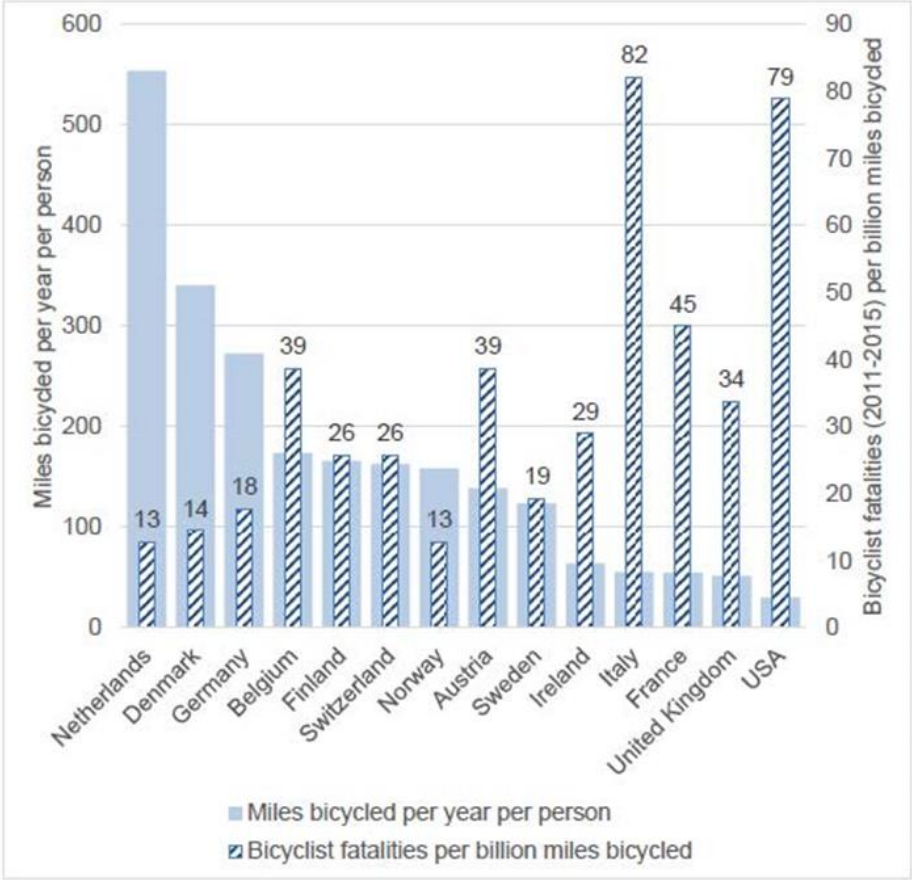
Walking and cycling are:

- Sustainable
- Healthy
- Environmentally – friendly
- Inexpensive
- Convenient

U.S. Compared to Other Countries

- The United States has a higher traffic fatality rate per capita than most countries (Buehler & Pucher, 2017)

Cyclist Fatalities between 2011 and 2015 (National Transportation Safety Board, 2019)



Project Methods

DATA ENTRY

STATISTICAL ANALYSIS

GIS MAPPING

Crashes Reported

- A total of **1,818 pedestrian/cyclist motor vehicle crashes were reported** between 2008 and 2018

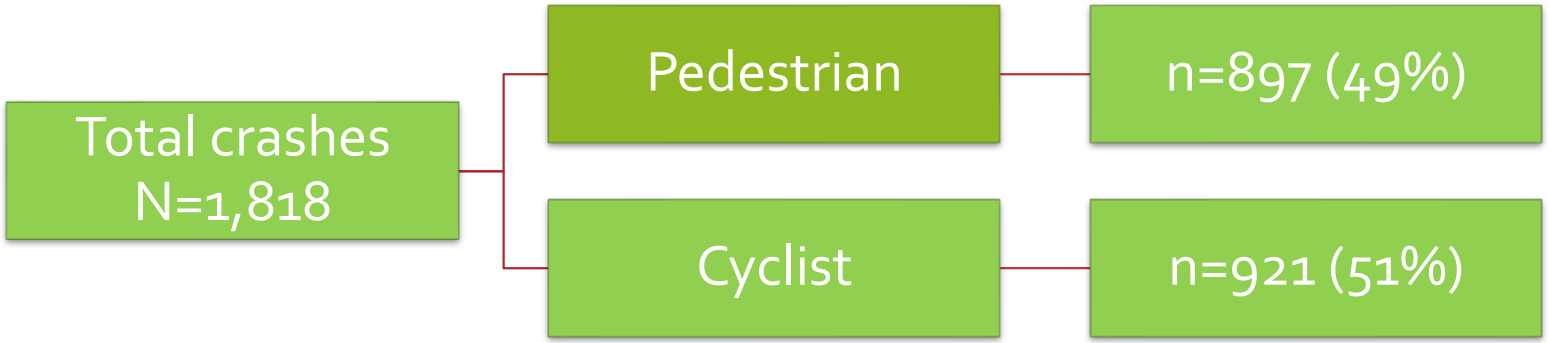
Crashes Reported

- On **average 165 (*SD* = 24.6)** pedestrian/cyclist crashes were reported each year

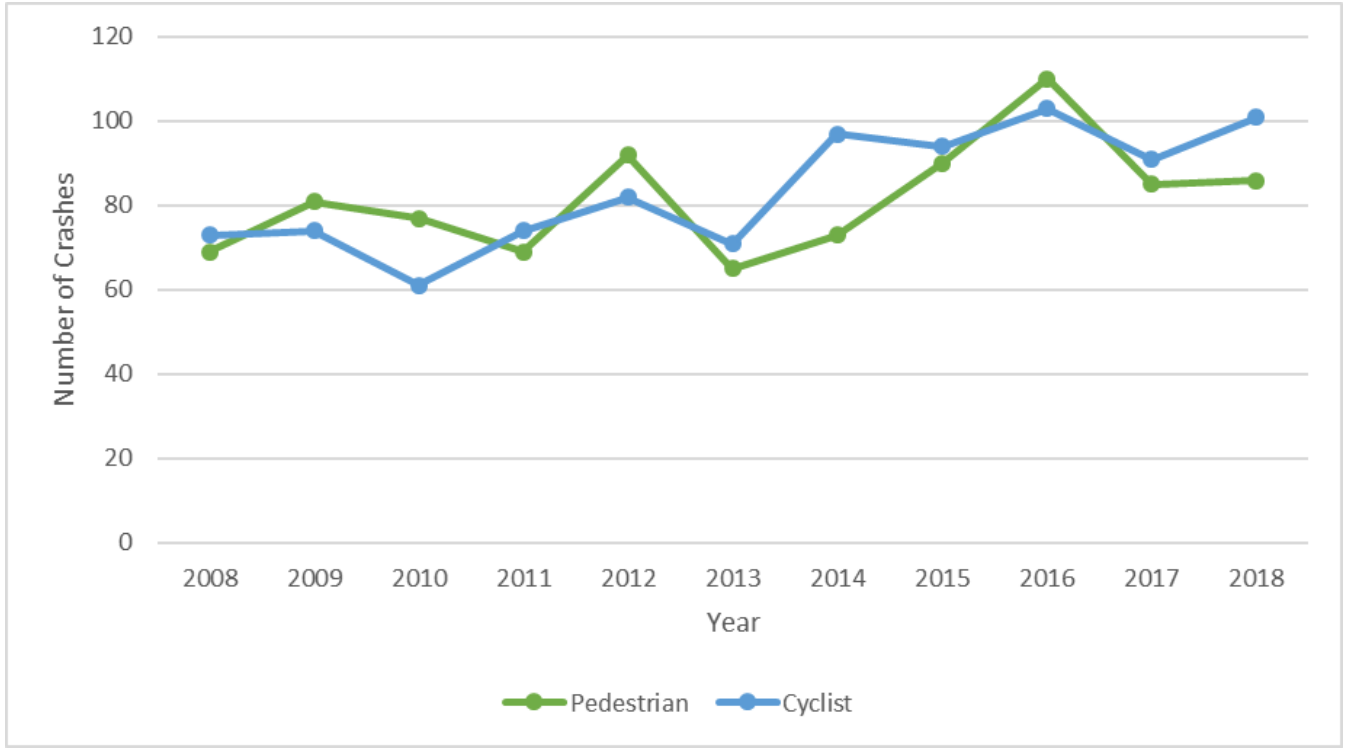
Total Pedestrian and Cyclist Crashes Reported from 2008 through 2018

Year	Number of Crashes Reported
2008	142
2009	155
2010	138
2011	143
2012	174
2013	136
2014	170
2015	184
2016	213
2017	176
2018	187
Total	1,818

Pedestrian and Cyclist Crashes

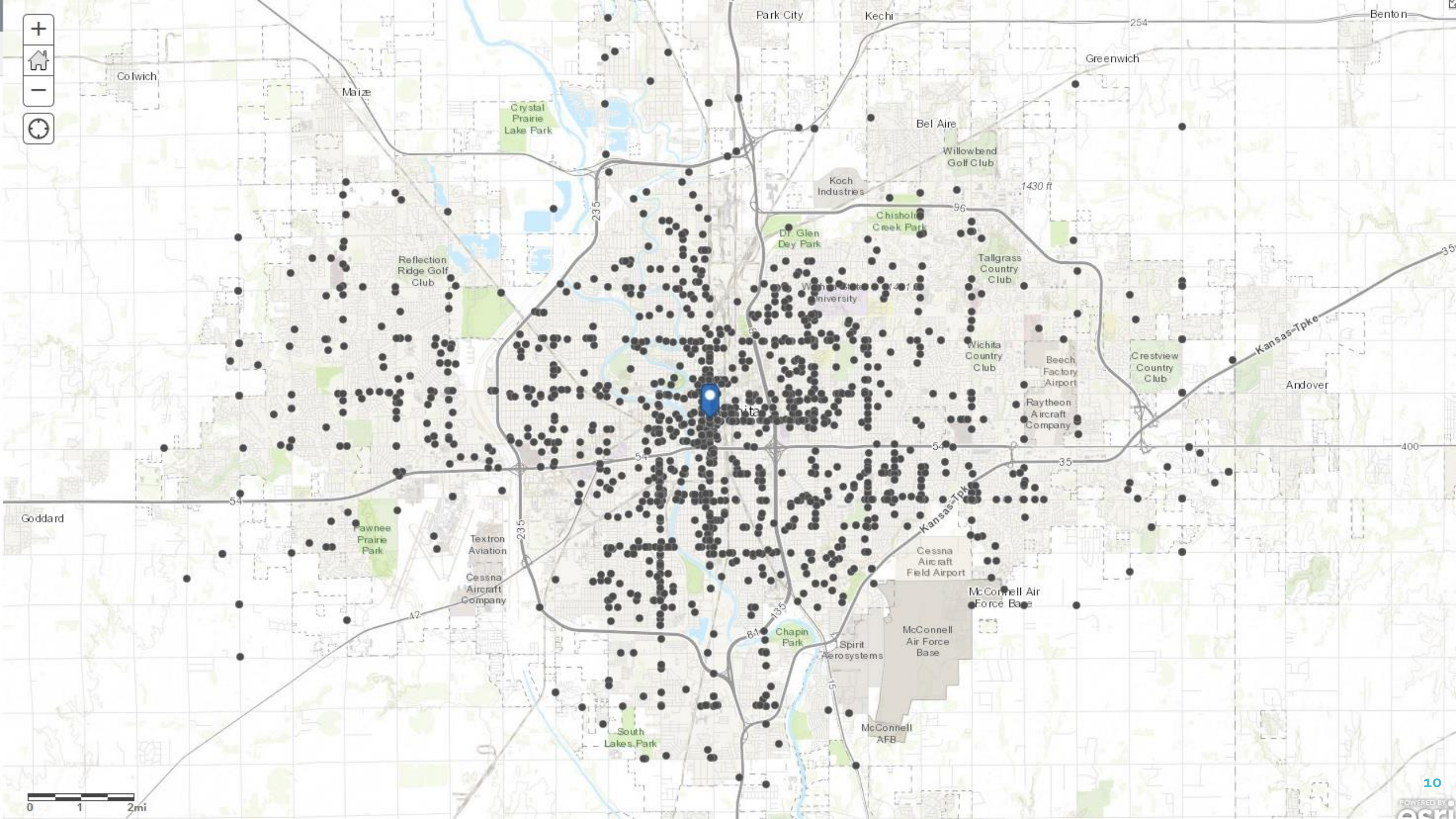


Pedestrian and Cyclist Crashes: Trends over Time



Pedestrian and Cyclist Crashes: 2008 – 2018 Trends

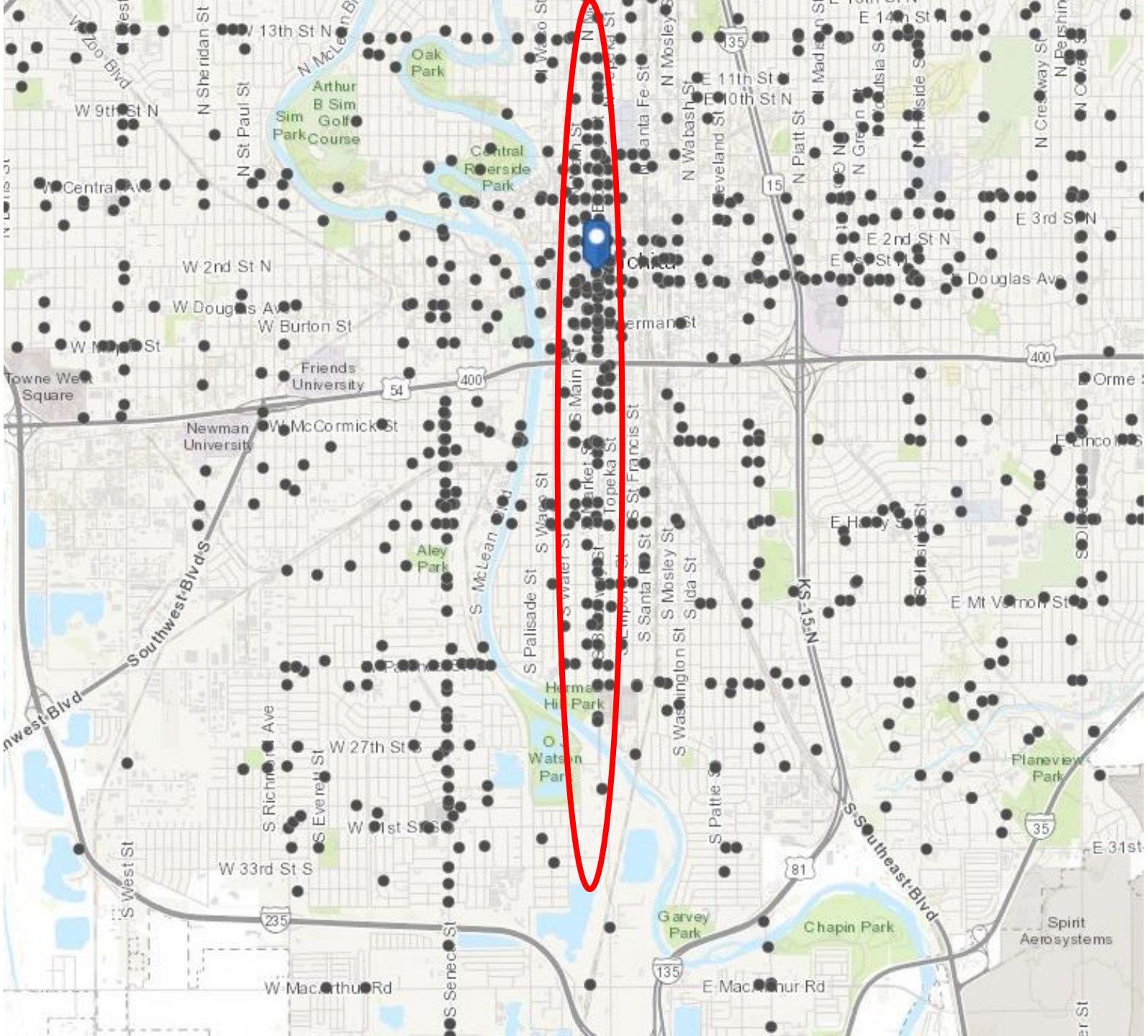
- In Wichita, Kansas 1,818 pedestrian and cyclist crashes with a motor vehicle were reported from 2008 through 2018
- A large portion of these crashes occurred in the downtown area

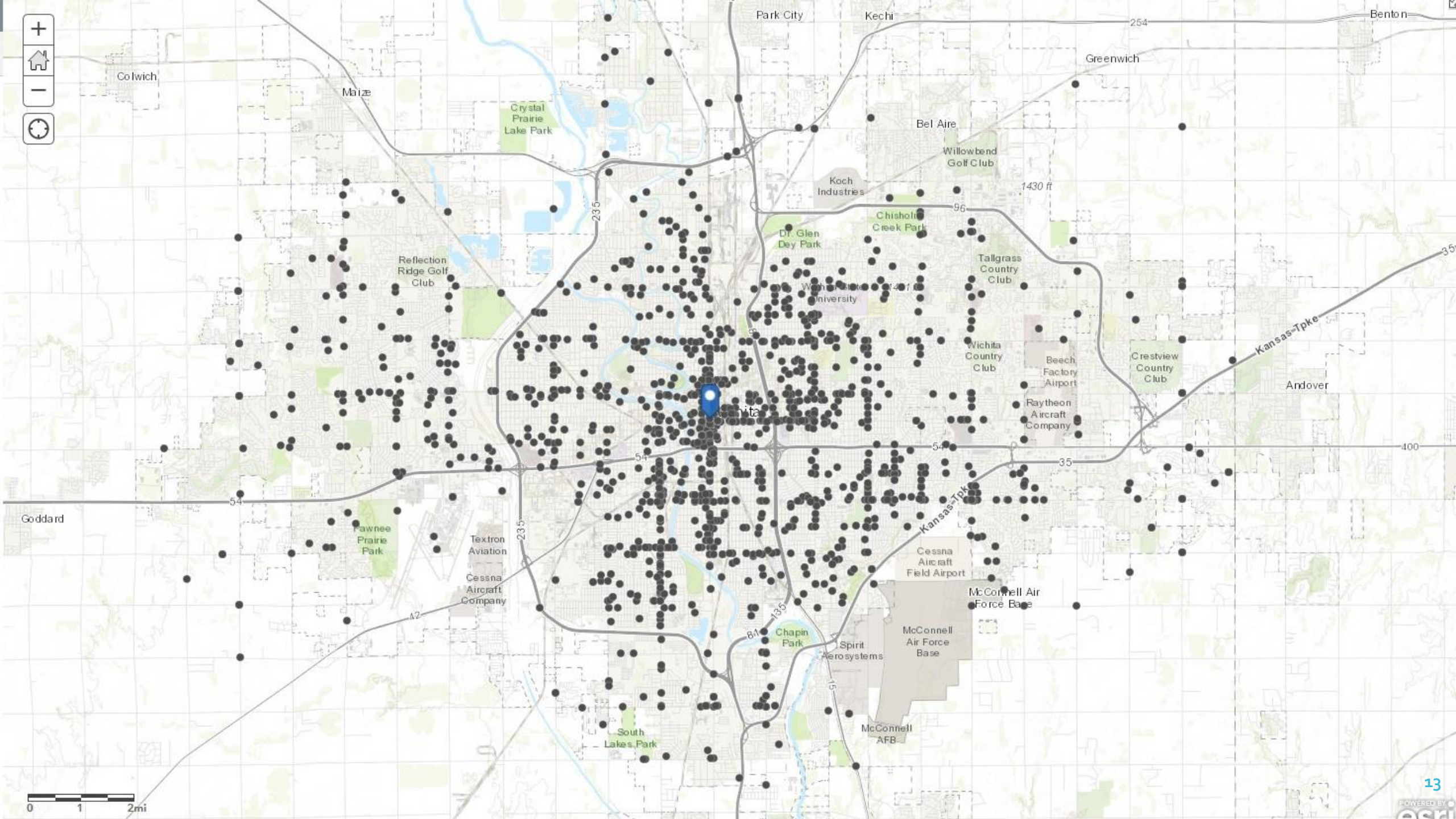

Park City
Kechi
Benton
254
Greenwich
Colwich
Maize
Crystal Prairie Lake Park
Bel Aire
Willowbend Golf Club
Koch Industries
1430 ft
96
Chisholm Creek Park
Df. Glen Dey Park
Tallgrass Country Club
Reflection Ridge Golf Club
235
Wichita State University
Wichita Country Club
Beech Factory Airport
Crestview Country Club
Kansas Tpke
Andover
Raytheon Aircraft Company
54
400
35
Goddard
Pawnee Prairie Park
Textron Aviation
Cessna Aircraft Company
Cessna Aircraft Field Airport
McConnell Air Force Base
42
135
Chapin Park
Spirit Aerosystems
McConnell Air Force Base
15
South Lakes Park
McConnell AFB
0
1
2mi

Pedestrian and Cyclist Crashes: 2008 – 2018 Trends

- Of the reported crashes, 37% (n = 676) occurred within seven specific roadways:
  - Broadway Street (10.8%, n = 197)
  - Douglas Street (5.8%, n = 105)
  - Central Avenue (5.7%, n = 103)
  - Seneca Street (4.5%, n = 82)
  - Harry Street (3.6%, n = 66)
  - 21st Street (3.5%, n = 63)
  - 13th Street (3.3%, n = 60)

Broadway Street

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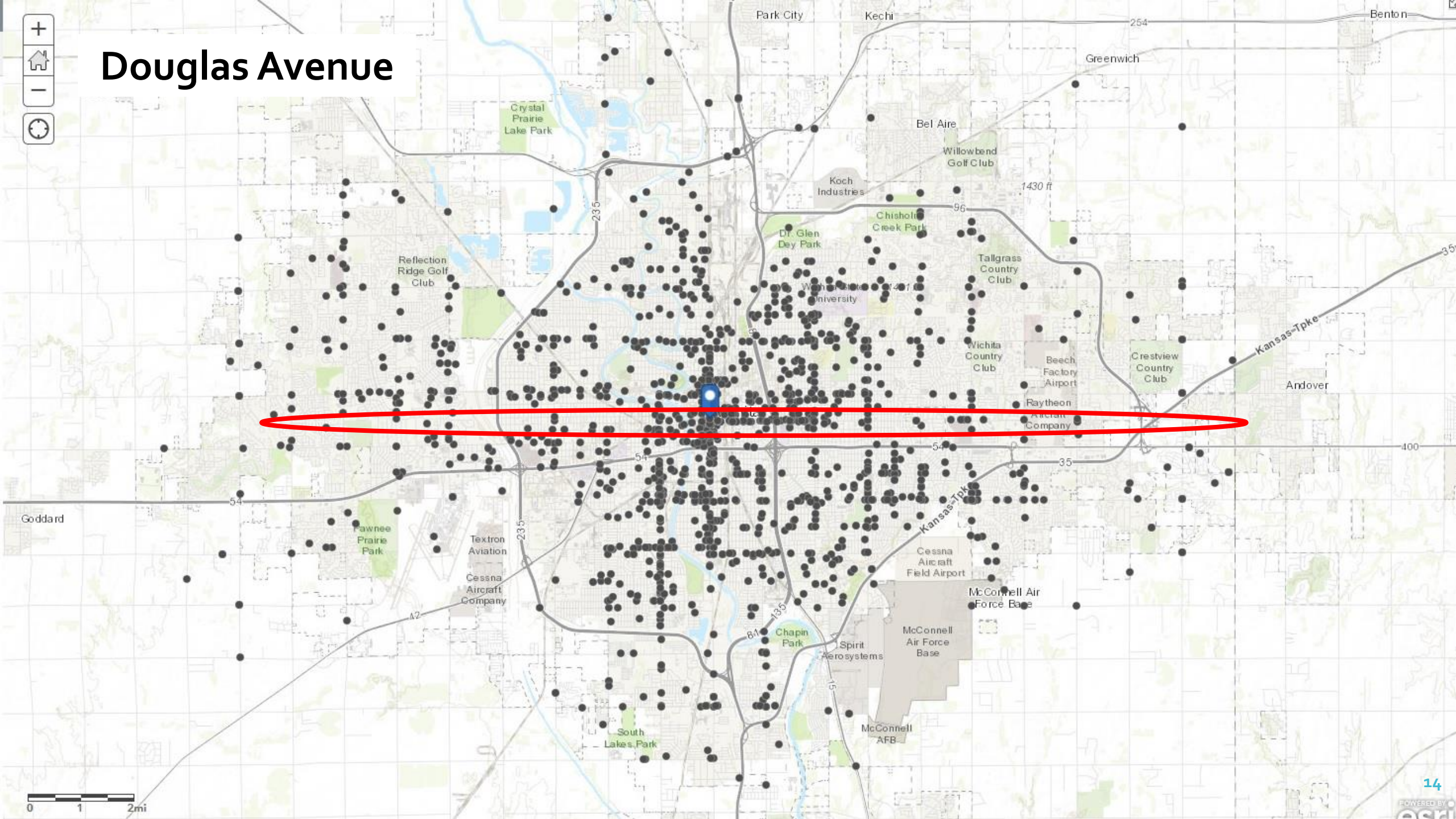
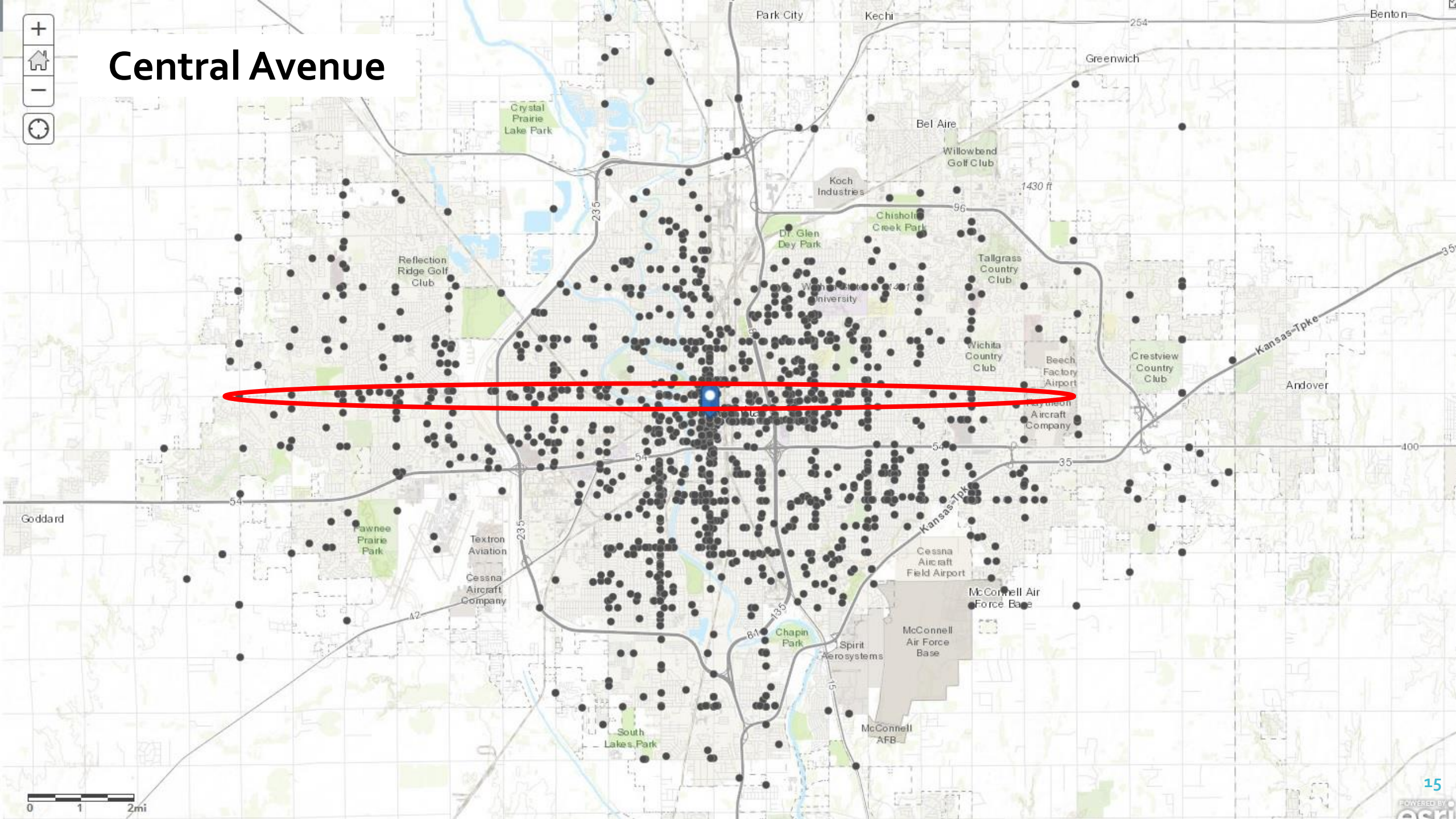
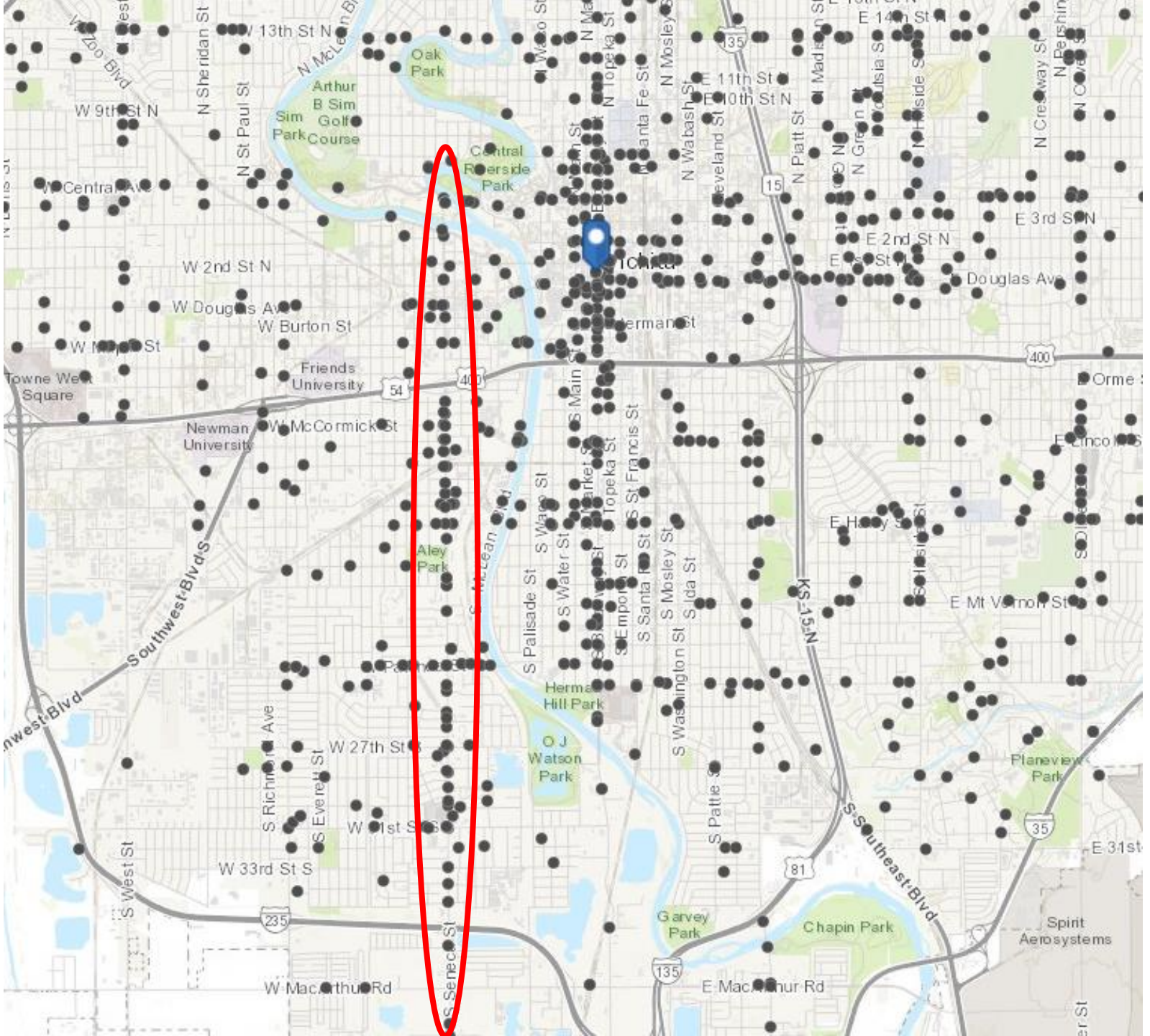
Douglas Avenue



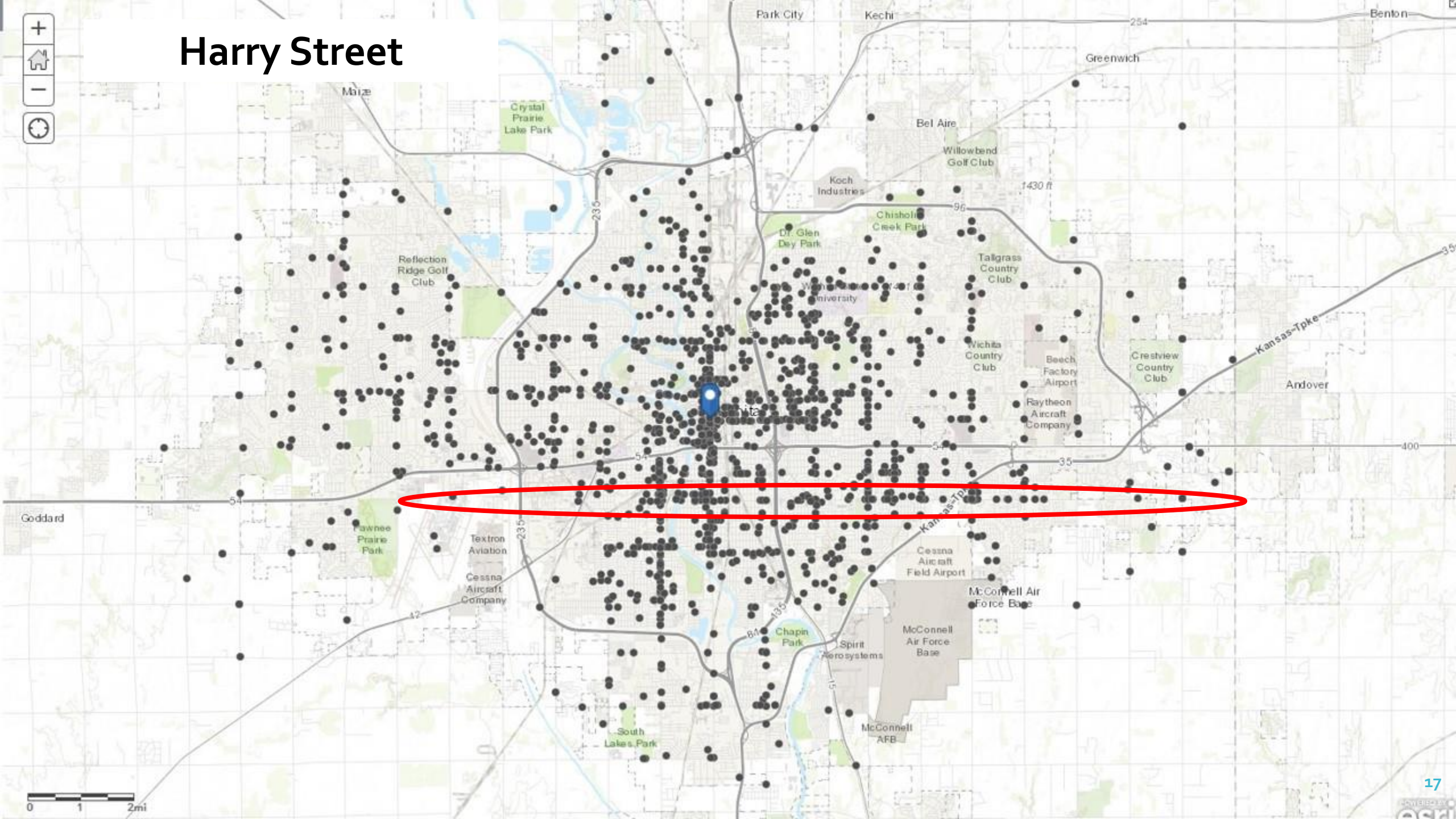
Central Avenue



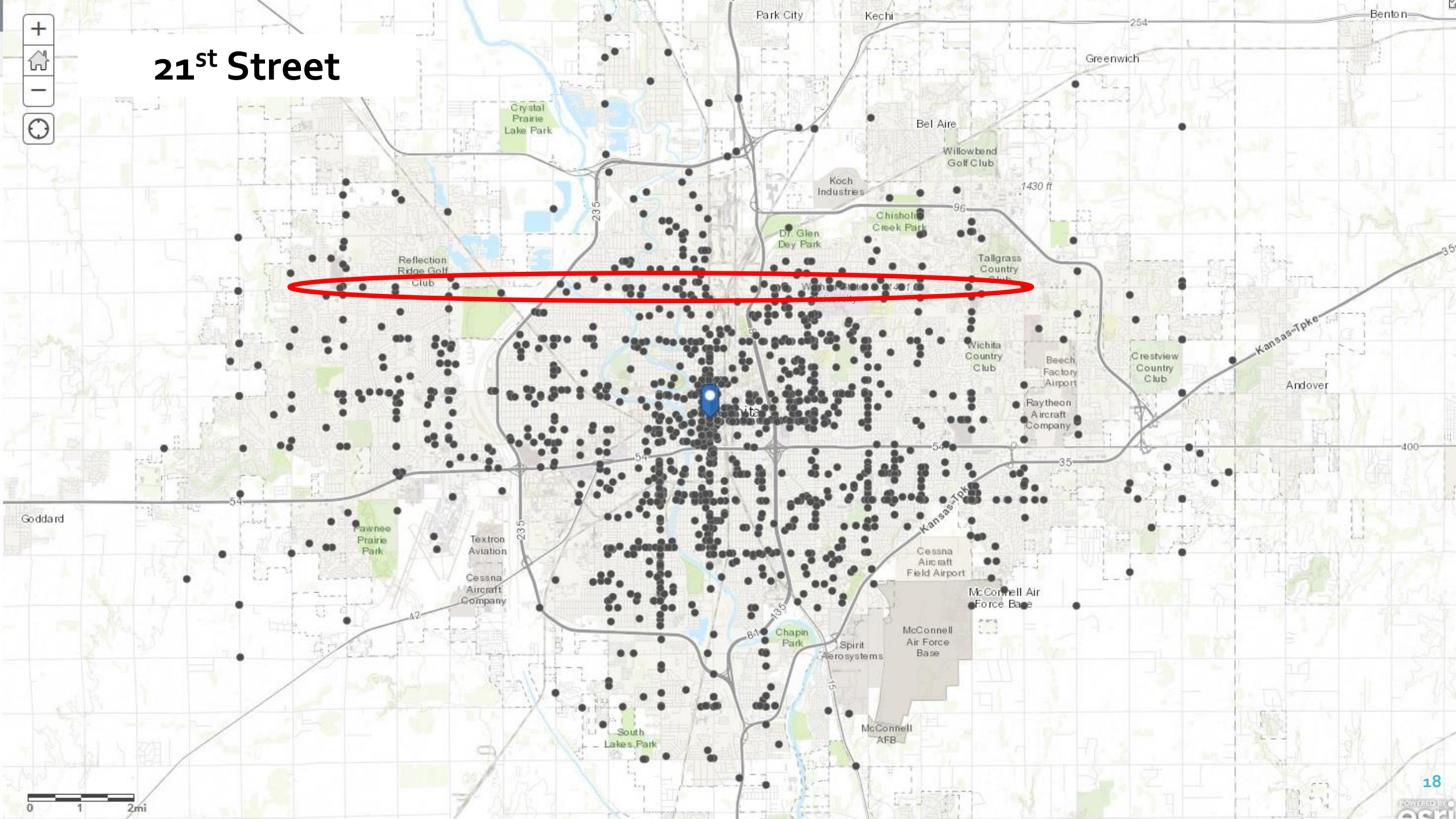
Seneca Street



Harry Street



21st Street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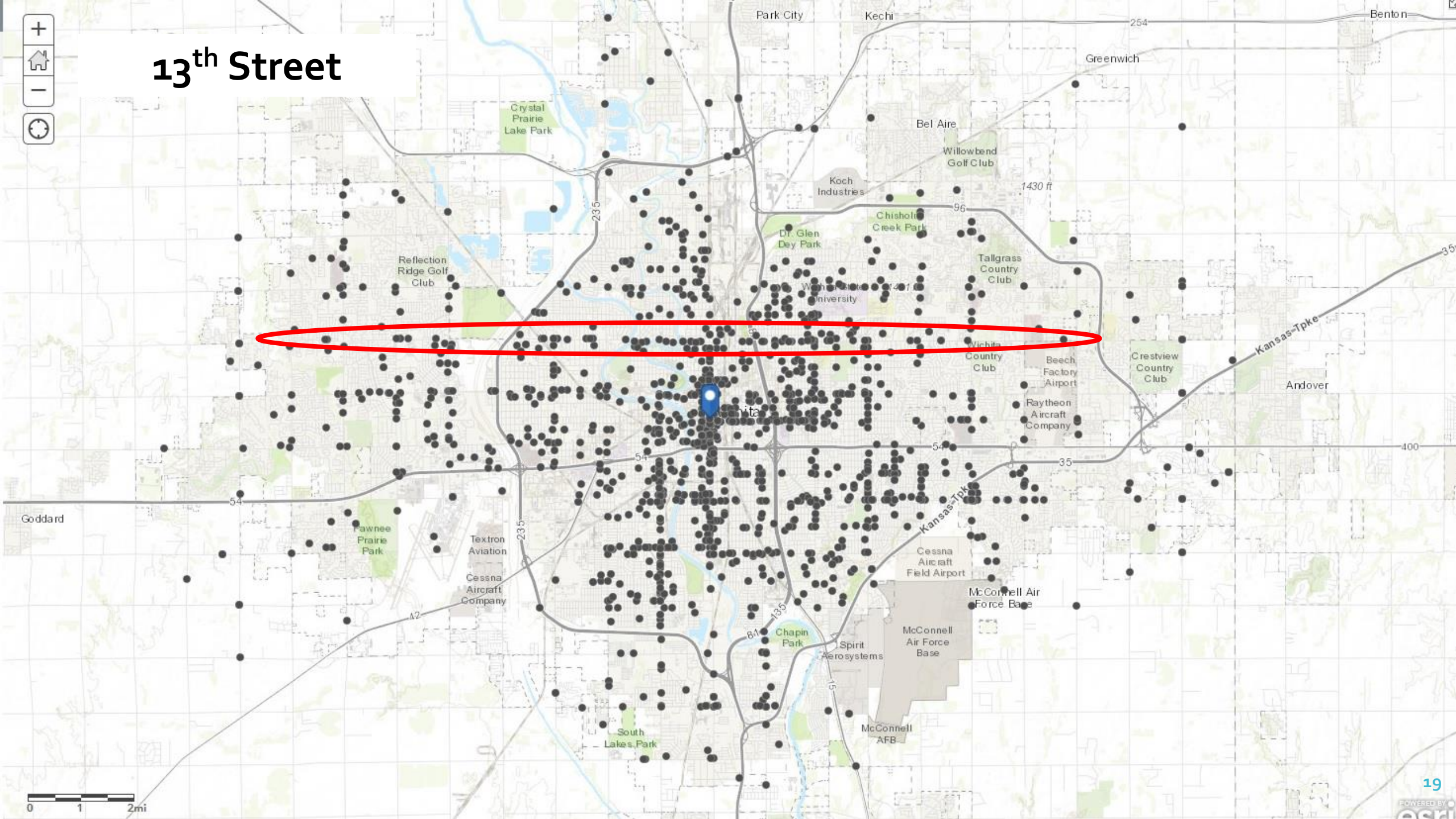
13th Street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McConnell Air Force Base
Chapin Park
Spirit Aerosystems
McConnell AFB
South Lakes Park
0
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Crash Locations: Designated or Not

Pedestrian Crashes

- **40.7%** (n = 354) occurred in a **pedestrian-designated area**
- **26.7%** (n = 232) occurred **outside a pedestrian-designated area**
- **32.6%** (n = 283) of crashes occurred in an area where **no pedestrian-designated space** was available

Cyclist Crashes

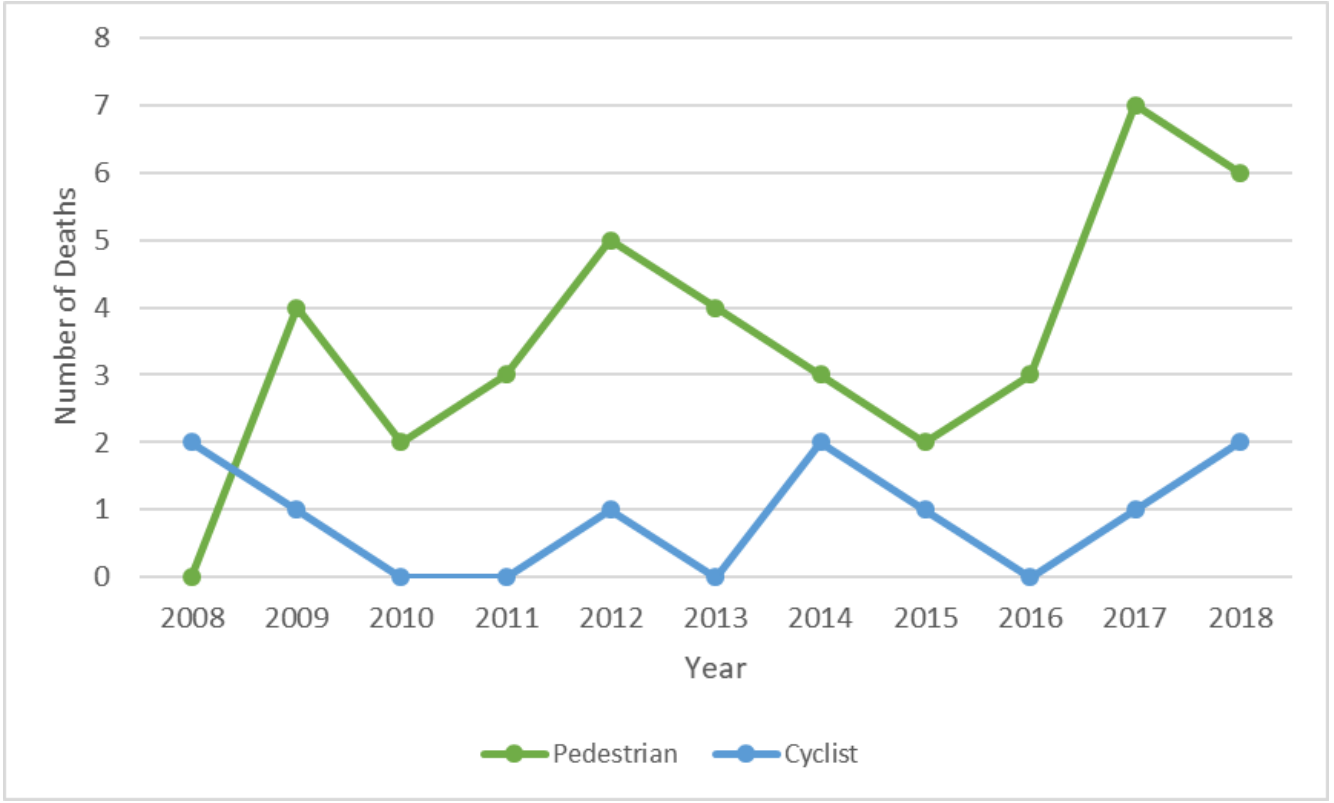
- **56.7%** (n = 506) occurred in a **cyclist-designated area**
- **16.3%** (n = 145) occurred **outside a cyclist-designated area**
- **27.0%** (n = 241) of crashes occurred in an area where **no cyclist-designated space** was available

Injuries

- **93.4% (n=1,696)** of reported crashes resulted in an **injury**
- Among the crashes with reported injuries, **78.8% (n=1,336)** included information on whether pedestrian or cyclist requested medical assistance

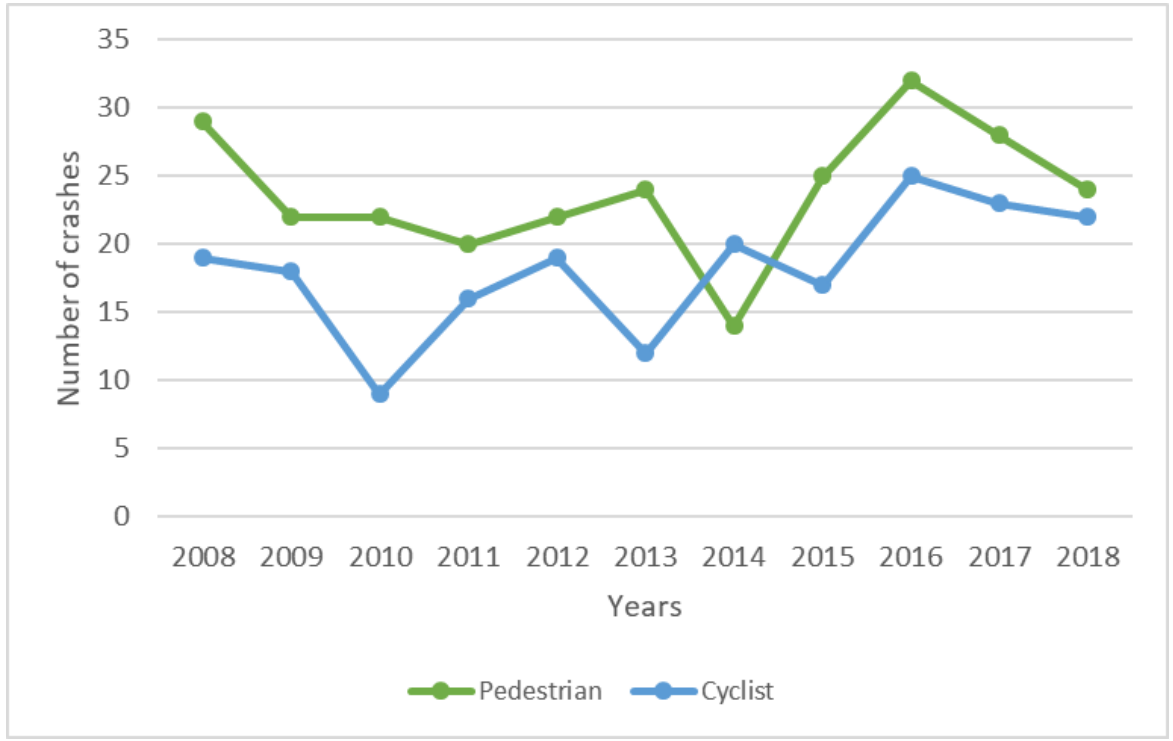
Fatalities

Number of Pedestrian and Cyclist Deaths from 2008 through 2018



2.7% (n=49) of all crashes resulted in the **death** of a pedestrian or cyclist

Hit and Run


Hit and Run Crashes: Trends Over Time
35
30
25
20
15
10
5
0
Number of crashes
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Years
Pedestrian
Cyclist

Citations

- **91.6%** (n = 1,666) included citation information
  - Of these, **28.9%** (n=481) indicated having **issued a citation** to one or more of the involved parties
- Who was cited?
  - **Pedestrian/cyclist** only cited (22.1%, n = 106)
  - **Driver** only cited (74.5%, n = 357)
  - **Both** parties cited (3.3%, n = 16)

Citation Reason

- **26.7%** (n =119) of citations were issued for **failure to yield**, whether that was failing to yield to traffic, a stop sign, or a private drive
- **22.7%** (n = 101) of citations were issued for **not having proof of insurance** or expired tag
- **18.0%** (n = 80) were issues for **inattentive driving**
- **12.8%** (n = 57) were issued for **failure to obey traffic regulations**

Crash Conditions – Time of Day/Lighting

Pedestrian Crashes

- **57.4%** (n = 509) occurred in the **daylight**, and **33.1%** (n = 294) occurred at **dark with streetlights**

Cyclist Crashes

- **76.0%** (n = 691) of cyclist crashes occurred in the **daylight**, and **18.0%** (n = 164) occurred at **dark with streetlights**

Crash Conditions - Weather

Pedestrian Crashes

- In **92.0%** (n = 819) of motor vehicle crashes involving a pedestrian, **no adverse weather conditions** were reported

Cyclist Crashes

- **94.1%** (n = 852) occurred when there were **no adverse weather conditions**

Crash Conditions – Surface Type

Pedestrian Crashes

- **52.7%** (n = 470) occurred in **blacktop** surfaces
- **46.1%** (n = 411) of crashes occurred in **concrete** surfaces

Cyclist Crashes

- **52.5%** (n = 474) occurred on a **blacktop** surfaces
- **46.7%** (n = 421) occurred on a **concrete** surface

Crash Conditions – Surface Conditions

Pedestrian Crashes

- **89.2%** (n = 791) of crashes occurred on a **dry** surface

Cyclist Crashes

- **92.2%** (n = 832) of crashes occurred on a **dry** surface

Crash Conditions - Location

Pedestrian Crashes

- **46.0%** (n = 419) occurred in **non-intersections**
- **34.4%** (n = 307) occurred in **intersection-related** locations
- **11.0%** (n = 99) occurred in an **intersection**

Cyclist Crashes

- **42.4%** (n = 387) occurred in **intersection-related areas**
- **23.2%** (n = 212) occurred in **intersections**
- **20.2%** (n = 184) occurred in **non-intersections**
- **12.1%** (n = 110) occurred in **parking lots or driveways**

Crash Conditions – Vehicle Type

Pedestrian Crashes

- **56.0%** (n = 488) of crashes involved an **automobile**

Cyclist Crashes

- **51.9%** (n = 469) of crashes involved an **automobile**

Crash Conditions – Vehicle Maneuver Before Crash

Pedestrian Crashes

- In **62.0%** (n = 534) of crashes, the vehicle was **driving straight following the road**
- In **29.9%** (n = 258) of crashes, the vehicle was **making a turn** before the crash

Cyclist Crashes

- In **52.0%** (n = 462) of crashes, the vehicle was **driving straight, following the road**
- In **26.7%** (n = 237) of crashes, the vehicle was making a **right turn**
- **In 10.9%** (n = 97) of crashes, the vehicle was making a **left turn**

Crash Conditions – Vehicle Damage

Pedestrian Crashes

- Of the pedestrian crashes reported, **81.9%** indicated **minimal damage** (36.7%; n = 249) to **no damage** (45.2%; n = 307)

Cyclist Crashes

- Of the cyclist crashes reported, **87.9%** (n = 650) indicated **minimal damage** (60.0%; n = 450) to **no damage** (27.9%; n = 209)

Pedestrian or Cyclist Actions – Crash Locations

Pedestrian Crashes

- **36.5%** (n = 317) in a **crosswalk or bikeway before impact**
- **22.6%** (n = 22.6) in an **area without a crosswalk or bikeway**
- **19.0%** (n = 165) were not in **available crosswalk or bikeway** (not in an intersection)

Cyclist Crashes

- **50.4%** (n = 450) in a **crosswalk or bikeway before the impact**
- **14.0%** (n = 125) in an **intersection without a crosswalk or bikeway**
- **13.0%** (n = 116) in an **area without a crosswalk or bikeway**

Pedestrian or Cyclist Actions – Action Before Crash

Pedestrian Crashes

- In **61.4%** (n = 536) of cases, **the pedestrian was entering or crossing the road** before the crash
- In **23.3%** (n = 203) of cases, the pedestrian was **playing or standing** before the crash

Cyclist Crashes

- In **56.3%** (n = 506) of the cases, cyclists were **riding on road**
- In **42.1%** (n = 378) of cases, cyclist were **entering or crossing road** before the crash

Pedestrian or Cyclist Actions – Obedience to Traffic Signal

Pedestrian Crashes

- In **58.8%** (n = 472) of the reported crashes, there was **no pedestrian signal** to obey

Cyclist Crashes

- In **52.5%** (n = 427) of cyclist crash reports, there was **no cyclist traffic signal** to obey

Driver License Status and Restrictions

Pedestrian Crashes

- In **86.8%** (n = 560) of motor vehicle crashes involving a pedestrian, the driver's license was valid
- Of those, **60.2%** (n = 373) reported no license restrictions

Cyclist Crashes

- In **91.5%** (n = 665) of motor vehicle crashes involving a cyclist, the driver's license was valid
- Of those, **59.3%** (n = 424), reported no license restrictions

Impairment

Pedestrian Crashes

- **80.0%** (n = 805) of crashes involving a pedestrian, there was no evidence of the pedestrian's impairment
- **92.7%** of pedestrian crashes (n = 841), there was no evidence of driver impairment

Cyclist Crashes

- **91.4%** (n = 850) of crashes involving a cyclist, there was no evidence of the cyclist's impairment
- **97.8%** of cyclist crashes (n = 869), there was no evidence of driver impairment

Crash Fault

Pedestrian Crashes

- In 46.3% of cases (n = 211), the pedestrian was at fault
- In 43.0% of cases (n = 196), the driver was at fault
- In <5% (n = 20) of cases, both were at fault

Cyclist Crashes

- In 46.9% of cases (n = 239), the driver was at fault
- In 42.4% of cases (n = 216), the cyclist was at fault
- In <5% of cases (n = 20), both were at fault

Crash Reason

Pedestrian Crashes

- Failure to yield (32.1%, n = 135)
- Inattentiveness (24.0%, n = 101)
- Running red light (13.6%, n = 57)

Cyclist Crashes

- Failure to yield (38.1%, n = 175)
- Inattentiveness (29.6%, n = 136)
- Failure to obey traffic regulations (15.9%, n = 73)

Next Steps

- Multi-level approach
- Conflicting turning signals
- Infrastructure and environmental related projects
- Motor vehicle safety features
- At-risk groups
- Psychological implications
- Policy Changes

Summary

- This study suggests that, on average, **165 pedestrian and cyclist crashes occur each year** in the city of Wichita, Kansas
- This study also suggests that pedestrian and cyclist **crash incidents have continually increased** from 2008 through 2018
- Motor-vehicle crashes involving a pedestrian or cyclist **occurred often in pedestrian/cyclist-designated spaces**

REFERENCES

References

- Buehler, R., & Pucher, J. (2017). Trends in Walking and Cycling Safety: Recent Evidence from High-Income Countries, with a Focus on the United States and Germany. *American Journal of Public Health, 107*(2): 281 – 287.
- Bureau of Transportation Statistics. (2017). Chapter 2: Passenger Travel. United States Department of Transportation. Retrieved from https://www.bts.gov/archive/publications/passenger_travel_2016/chapter2
- Hu, W., & Cicchino, J. B. (2018). An examination of the increases in pedestrian motor vehicle crash fatalities during 2009 – 2016. *Journal of Safety Research, 67*: 37 – 44.
- Kansas Department of Revenue. (2020). Kansas Driving Handbook: Noncommercial Driver's Manual (Revised Feb. 2019). American Association of Motor Vehicle Administrators. Retrieved from https://www.ksrevenue.org/pdf/dlhb.pdf#search=driving%20laws
- National Transportation Safety Board. (2019). Bicyclist Safety on US Roadways: Crash Risks and Countermeasures. Public Meeting. Retrieved from https://www.ntsb.gov/news/events/Documents/2019-DCA18SS002-abstract.pdf?fbclid=IwAR20Ow-ZzTYmWs_K89qhbBNIiuv8QKLM2rF6AAP10u9aB_ncRtIByJVD1s0
- Pedestrian and Bicycle Information Center. (2019). Safety. Retrieved from http://www.pedbikeinfo.org/factsfigures/facts_safety.cfm
- Pirzadeh, A., Mostafavi, F., Ghofranipour, F., & Feizi, A. (2015). Applying Transtheoretical Model to Promote Physical Activities Among Women. *Iran Journal of Psychiatric Behavioral Science, 9*(4): e1580. Doi: 10.17795/ijpbs-1580.
- Retting, R., & Schwartz, S. (2020). Pedestrian Traffic Fatalities by State: 2019 Preliminary Data. Spotlight on Highway Safety. Washington, DC: Governors Highway Safety Association. Retrieved from https://www.ghsa.org/sites/default/files/2020-02/GHSA-Pedestrian-Spotlight-FINAL-rev2.pdf
- Retting, R., & Schwartz, S. (2019). Pedestrian Traffic Fatalities by State: 2018 Preliminary Data. Spotlight on Highway Safety. Washington, DC: Governors Highway Safety Association. Retrieved from https://www.ghsa.org/resources/Pedestrians19
- Steinman, L., Doescher, M., Levinger, D., Perry, C., Carter, L., Eyler, A., Aytur, S., Cradock, A., Evenson, K. R., Heinrich, K., Kerr, J., Litt, J., Severcan, Y., & Voorhees, C. (2010). Master Plans for Pedestrian and Bicycle Transportation: Communiy Characteristics. *Journal of Physical Activity and Health, 7*(Suppl 1), S60-S66.
- U.S. Department of Transportation. (2018). Traffic Safety Facts. 2017 Fatal Motor Vehicle Crashes: Overview. National Highway Traffic Safety Administration. Retrieved from https://www.automotivesafetycouncil.org/wp-content/uploads/2018/10/2017-crash-fatality-statistics.pdf
- U.S. Department of Transportation. (2017). Traffic Safety Facts. National Center for Statistics and Analysis. Retrieved from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812375
- Warburton, D.E.R., & Bredin, S.S.D. (2017). Health benefits of physical activity: a systemic review of current systematic reviews. *Current Opinion Cardiology, 32*: 541 – 556. doi: 10.1097/HCO. 0000000000000437

Thank you!

QUESTIONS ?

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