



FM 1431 in Lago Vista, TX Safety Analysis

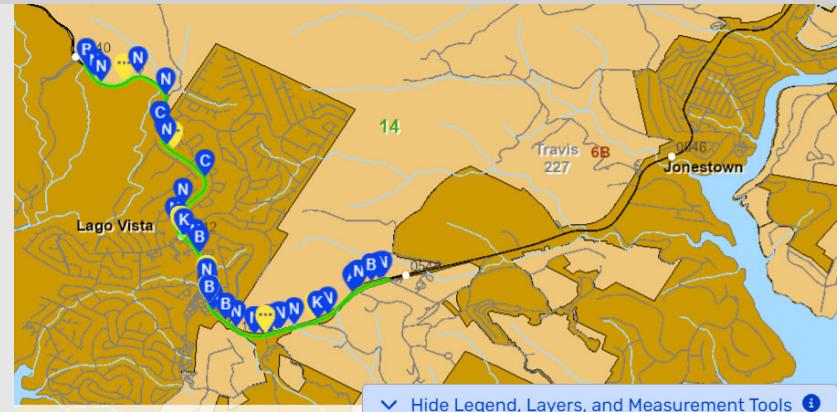
AUS DISTRICT

Sep 27, 2023

1

Info

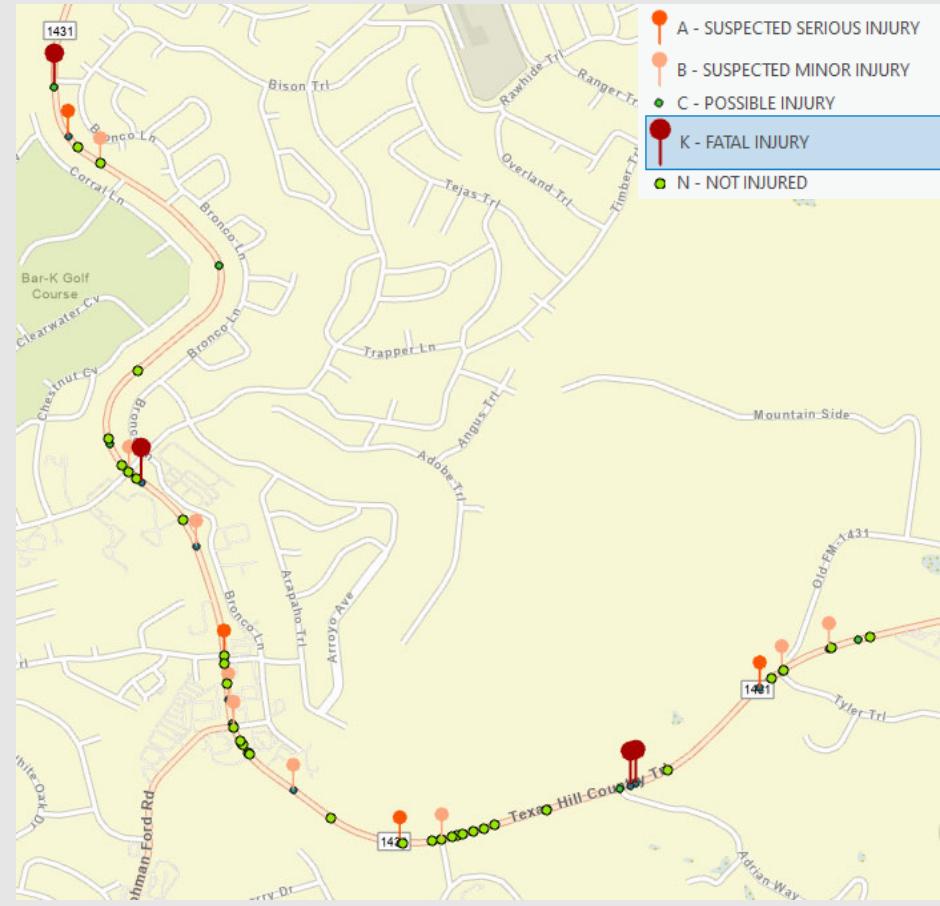
- Roadway - FM1431
- Limit - within the city limit of City of Lago Vista
- A total of around 4.5 miles of FM1431 within the city limit was studied
- Max. Speed limit - 55 mph, speed limits were established in 2003 by city ordinance
- Corridor with vertical profile and horizontal curve
- Crash data from 2018- current was used



Summary of Crash History



- A total of **114** crashes were recorded.
- Crash severity - **4** crashes were fatal. Others, A – 7, B – 14, C – 14, N – 75)
- All 4 fatal crashes are non-intersection – 3 roadway departure crashes with fixed object and 1 roadway departure crossing the center stripe and resulting head-on collision.
- 2 fatal crashes involved **MOTORCYCLES**.
- No **PEDESTRIAN** crashes were reported
- Manner of collision- ROR crashes – 27% (31/114) and rear-end crashes – 19%(22/114), Head-on collision – 6%(7/114)



Crash Summary – 114 Crashes

Crash Severity	Count	%
K - FATAL INJURY	4	3.51%
A - SUSPECTED SERIOUS INJURY	7	6.14%
B - SUSPECTED MINOR INJURY	14	12.28%
C - POSSIBLE INJURY	14	12.28%
N - NOT INJURED	75	65.79%
Total	114	100.00%

Crash Year	Count
2018	17
2019	17
2020	14
2021	26
2022	24
2023	16
Total	114

Intersection Related	Count
DRIVEWAY ACCESS	5
INTERSECTION RELATED	15
INTERSECTION	42
NON INTERSECTION	52
Total	114

Light Condition	Count of Light Condition
1 - DAYLIGHT	88
2 - DARK, NOT LIGHTED	16
3 - DARK, LIGHTED	8
5 - DAWN	1
6 - DUSK	1
Total	114

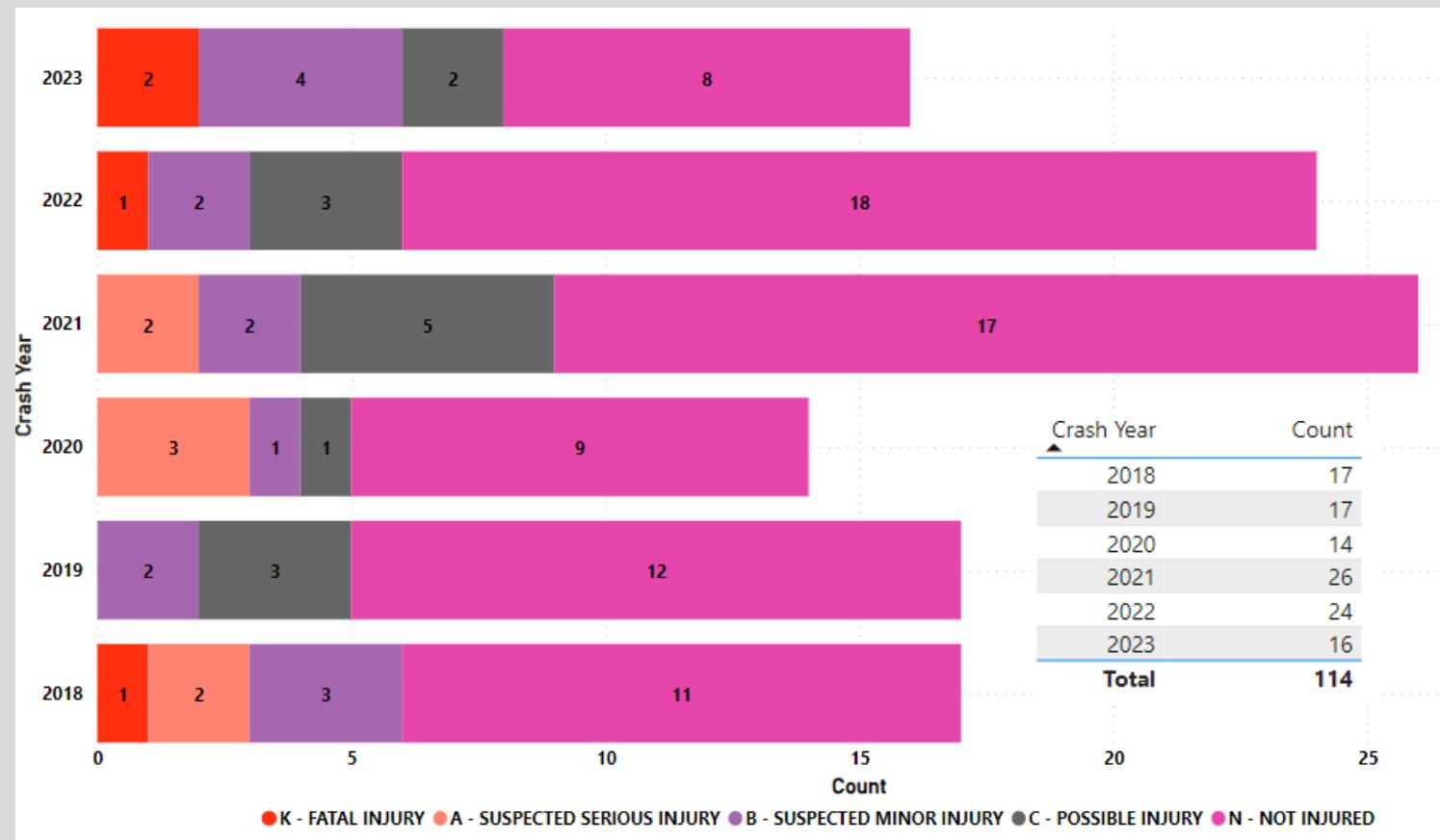
- Most of the crashes were in DAYLIGHT.
- Almost 50/50 intersection and non-intersection crashes.
- No PEDESTRIAN crashes were reported

Hour of Day	Count of Hour of Day
00:00 - 00:59	2
03:00 - 03:59	1
05:00 - 05:59	1
06:00 - 06:59	4
07:00 - 07:59	9
08:00 - 08:59	4
09:00 - 09:59	6
10:00 - 10:59	3
11:00 - 11:59	11
12:00 - 12:59	8
13:00 - 13:59	6
14:00 - 14:59	8
15:00 - 15:59	11
16:00 - 16:59	8
17:00 - 17:59	6
18:00 - 18:59	7
19:00 - 19:59	9
20:00 - 20:59	4
21:00 - 21:59	2
22:00 - 22:59	2
23:00 - 23:59	2
Total	114

Crash Distribution by Year



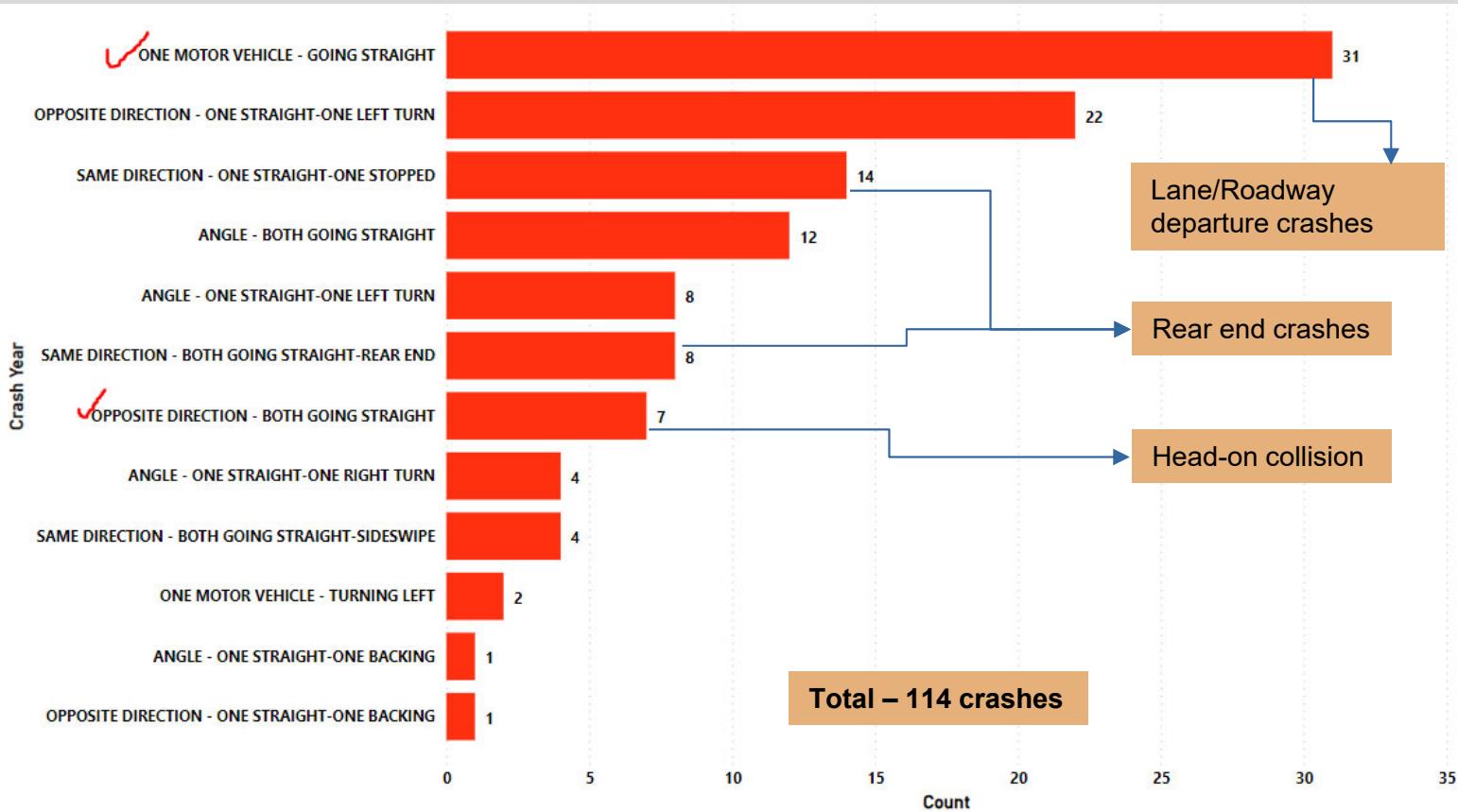
- 2 fatal crashes reported in 2023 with 16 crashes along the corridor
- Crashes increased after 2020
- No fatal crashes reported from 2019-2021



Manner of Collision



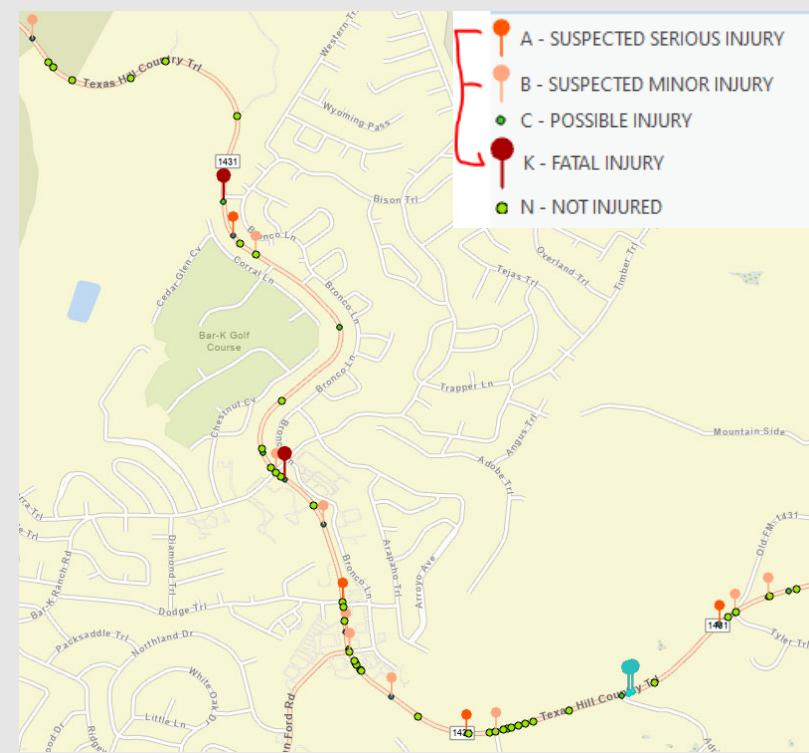
- Roadway Departure crash is the dominant one – 31(27%) crashes
- Rear end crashes – 22 (19%)
- Head-on collision – 7 (6%)
- With more roadway departure and rear end crashes, SPEEDING and DISTRACTED DRIVING may be behavioral issues on the corridor



Contributing Factors on KAB crashes

- For Non -Intersection crashes, most of the crashes were associated to **unsafe speed**.

Contributing Factor	Count of Contributing Factors
INTERSECTION	
DISREGARD STOP SIGN OR LIGHT	10
DRIVER INATTENTION; FAILED TO STOP AT PROPER PLACE	1
DRIVER INATTENTION;FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	1
DRIVER INATTENTION;FAILED TO YIELD RIGHT OF WAY - TURNING LEFT;OTHER (EXPLAIN IN NARRATIVE)	2
FAILED TO YIELD RIGHT OF WAY - STOP SIGN	1
FAILED TO YIELD RIGHT OF WAY - STOP SIGN;FAULTY EVASIVE ACTION	1
FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	1
FAILED TO YIELD RIGHT OF WAY - TURNING LEFT;TURNED WHEN UNSAFE	2
NON INTERSECTION	15
ANIMAL ON ROAD - WILD	1
DISTRACTION IN VEHICLE;DRIVER INATTENTION; <u>UNSAFE SPEED</u>	1
DRIVER INATTENTION	1
DRIVER INATTENTION; FAILED TO <u>CONTROL SPEED</u>	2
DRIVER INATTENTION; FAILED TO <u>CONTROL SPEED</u> ; SPEEDING - (OVERLIMIT)	1
DRIVER INATTENTION; FATIGUED OR ASLEEP	1
DRIVER INATTENTION;UNSAFE SPEED	1
DROVE WITHOUT HEADLIGHTS; WRONG SIDE - NOT PASSING	1
FAILED TO CONTROL SPEED	2
FAULTY EVASIVE ACTION;UNSAFE SPEED	1
LOAD NOT SECURED	1
OTHER (EXPLAIN IN NARRATIVE)	1
<u>SPEEDING - (OVERLIMIT)</u>	1
Total	25

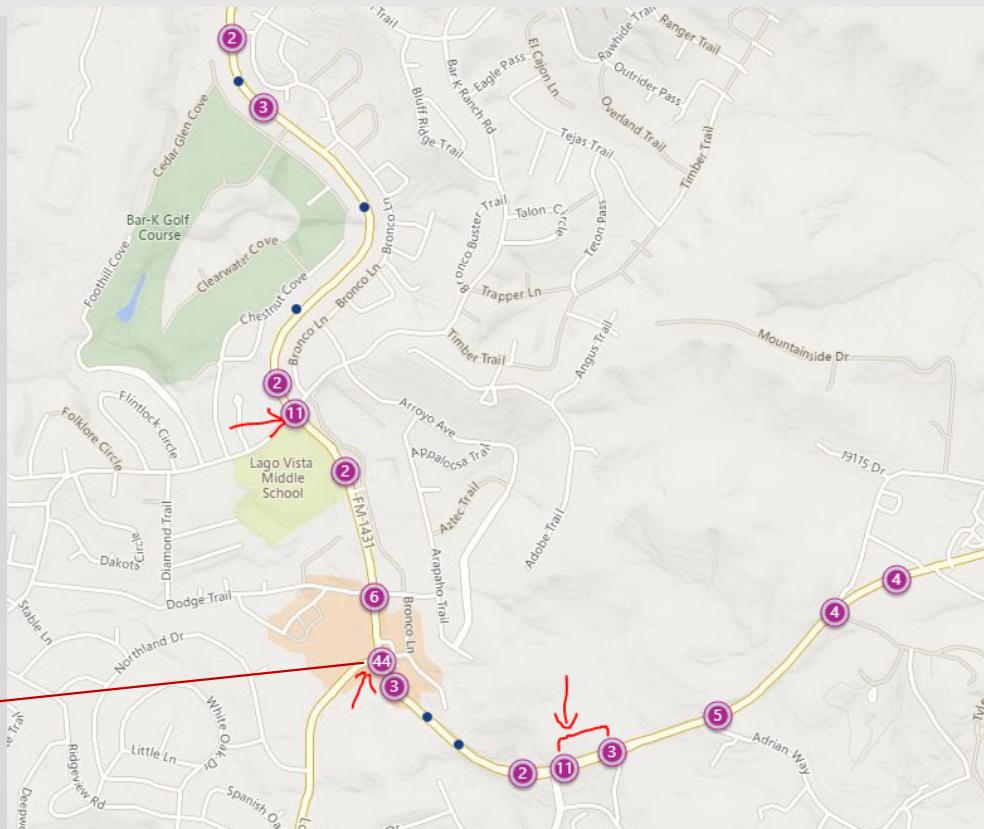
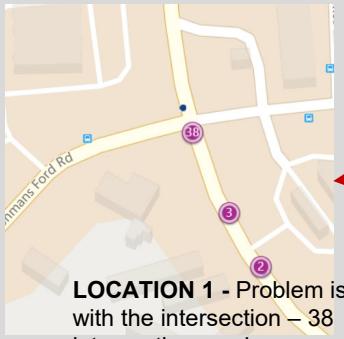


Heat Map – All 114 crashes



Locations with more frequent crashes

- Location 1 – almost all intersection crashes. No fatal crash (85 96 95 12 3 998 : .





Location 1 with too many crashes

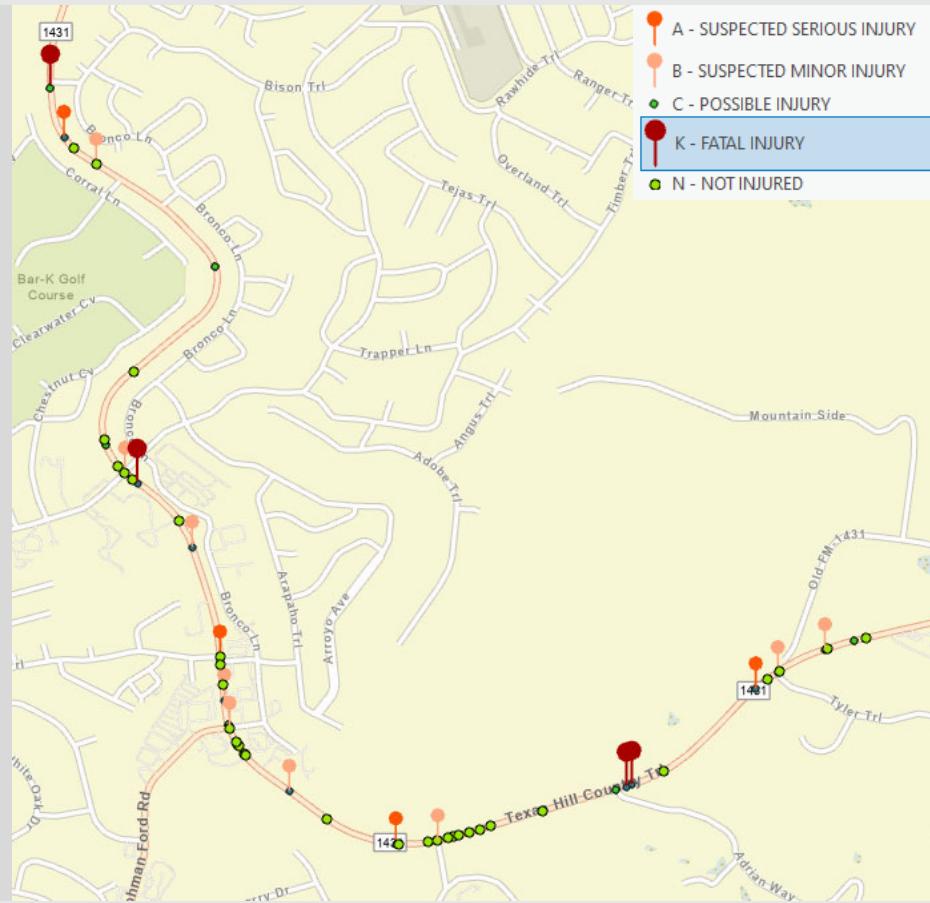
- Location 1
 - RM1431 and Lohman Ford Rd- [Map](#)
 - No Fatal Crashes, but 38 intersection only crashes
 - Most of the crashes were due left turning vehicles and rear end collision
 - Recommendation –make left turning phase protected only



Exploring 4 fatal crash locations



- Of 4 fatalities – 3 roadway departure crashes with fixed object and 1 roadway departure crossing center striping and resulting a head-on collision
- 2 fatal crashes involving MOTORCYCLE
- All 4 fatal crashes are non intersection





FM1431 - Lago Vista - Safety Analysis

Crash Year (2018-Present)

	K - FATAL INJURY	A - SUSPECTED SERIOUS INJURY	B - SUSPECTED MINOR INJURY	C - POSSIBLE INJURY	N - NOT INJURED	Total
2018	1	2	3		11	17
2019			2	3	12	17
2020		3	1	1	9	14
2021	2	2	5		17	26
2022	1		2	3	18	24
2023	2		4	2	8	16
Total	4	7	14	14	75	114

**TOTAL - 114 crashes,
Roadway departure crashes - 27% rear-end crashes - 19%, head-on collision - 6%..
No PEDESTRIAN crashes
Almost 50/50 intersection and non-intersection crashes
44% of KAB crashes are ROR - Non-intersection
24% of KAB crashes are intersection related
Speeding is the main issue**

Fatal Crash Locations **Recommendations**

MAJOR RECOMMENDATIONS

Install portable speed feedback signs at fatal crash locations
Relocate some confusing signs
Add curve advisory, intersection ahead signs at few locations
Make left turn phase PO @ Lohman Rd ints.
Add flashing beacon @ Destination way ints.

1. FM1431@Lohmans Ford RD
38 crashes - left turning and rear end collision
Recommendation - improve sight distance, make left turning phase protected only

2. FM1431corridor - [Destination Way to Adrian Way]
4 left turn crashes at FM1431 @Destination Way
Crash causes - Speeding, distracted, sleeping, wrong lane change

3. Relocate speed limit sign

**4. Speed limit sign at curve.
May be replace curve sign with advisory speed**

**5. Motorcycle Fatal crash in 2022
Traveling eastbound
Failed to turn left at Bisop Trail**

**6. Motorcycle Fatal crash in 2023
Traveling westbound
Went straight to guardrail
Add curve advance warning sign**

**Two signs portray the same info
Relocate one sign or combine
Install flashing beacon at FM1431 @Destination Way
(It may address all crash causes - speeding, distracted..)**

**Location with 2 fatal crashes in 2018 & 2023
Both ROR crashes & moving westbound**

**Sources: Esri, HERE, Garmin
Esri Korea, Esri (Thailand), NGA, Hong Kong**

Legend:

- A - SUSPECTED SERIOUS INJURY
- B - SUSPECTED MINOR INJURY
- C - POSSIBLE INJURY
- K - FATAL INJURY
- N - NOT INJURED



SHORT TERM RECOMMENDATIONS

- Install portable speed feedback signs
- Speed study
- Look for opportunities for additional signage
- Make left turn phase PO @ Lohman Ford Rd intersection
- Add flashing beacon @ Destination way intersection and update signage if needed