## CHAPTER 6．8：UNINCORPORATED McLENNAN COUNTY

## NTRODUCTION

McLennan County is located on the Edwards Plateau in Central Texas．As of the 2020 census，its population was 260,579 ．Its county seat and largest city is Waco．This chapter provides information on the unincorporated McLen－ nan County＇s collision statistics from 2014 to 2023．A total of 512 collisions occurred on the roads of unincorporated McLennan County，including 18 fatalities and 102 serious injuries．TxDOT roadways within unincorporated county lim－ its had a total of 2,009 collisions during the same period，with 102 fatalities and 359 serious injuries．For both county roads and TxDOT rights－of－way，the predominant type of injury collision is possible injury，accounting for 45 percent of collisions on county roads and 48 percent of collisions on TxDOT rights－of－way．

| COLLISIONS 2014 TO 2023 | UNICORPORATED COUNTY |  | TxDOT |  |
| :---: | :---: | :---: | :---: | :---: |
| Total Collisions | 512 | 100 \％ | 2009 | 100 \％ |
| Fatal Injury | 18 | 3.52 \％ | 102 | 5.08 \％ |
| Serious Injury | 102 | 19.92 \％ | 359 | 17.87 \％ |
| Minor Injury | 161 | 31.45 \％ | 689 | 34.30 \％ |
| Possible Injury | 231 | 45.12 \％ | 859 | 42.76 \％ |
| Total Persons Involved | 648 | 100 \％ | 3066 | 100 \％ |
| Fatal Injury | 19 | 2.93 \％ | 120 | 3.91 \％ |
| Serious Injury | 117 | 18．06\％ | 486 | 15．85\％ |
| Minor Injury | 198 | 30.56 \％ | 967 | 31.54 \％ |
| Possible Injury | 314 | 48.46 \％ | 1493 | 48.70 \％ |



COLLISIONS BY MODE－UNINCORPORATED MCLENNAN COUNTY
Note ：Each box represents one fatal or severe injury collision

|  | $8$ |
| :---: | :---: |
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|  | 1－ |

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| 0 |  | 0 | $R$ | $\square$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $0 \%$ | $3 \%$ | $8 \%$ | $0 \%$ | $13 \%$ |  |
| $100 \%$ | $17 \%$ | $43 \%$ | $60 \%$ | $19 \%$ |  |
| $0 \%$ | $32 \%$ | $24 \%$ | $20 \%$ | $44 \%$ |  |
| $0 \%$ | $48 \%$ | $24 \%$ | $20 \%$ | $25 \%$ |  |
| $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ |  |

Fatal Injury
Serious Injury Minor Injury
Possible Injury
，

COLLISIONS BY MODE－TxDOT


## UNINCORPORATED McLENNAN COUNTY VS. McLENNAN COUNTY COLLISIONS - RELATIVE SHARES

On county roads, there were a total of 512 collisions, resulting in 648 persons injured. In comparison, TxDOT reported a total of 2,009 collisions resulting in 3,066 persons injured.

This section also identifies several major collision trends on McLennan County streets, including nighttime collisions, hit object collisions, unsafe speed violations and collisions due to driving under the influence. On TxDOT roadways, the prominent trends were nighttime collisions, hit object collisions, unsafe speed violations and overturned collisions. A detailed summary analyzing these collision trends is provided in the collision profile section of this chapter.

The pie charts below compare the severity of collisions on roadways with different speed limits. The charts indicate that roads with a 45 mph speed limit accounted for the highest proportion of severe injury collisions and 65 mph speed limit accounted for the highest proportion of fatal injuries.

| UNINCORPORATED COUNTY | $:$ TxDOT |  |
| ---: | :--- | :--- |
| 512 | $\vdots 2009$ |  |
| TOTAL COLLISIONS | $\vdots$ | TOTAL COLLISIONS |
| 648 | $\vdots 3066$ |  |
| TOTAL PERSONS INJURED | $\vdots$ | TOTAL PERSONS INJUR |


| PERSONS INVOLVED |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | UNINCOPORATED COUNTY |  |  |  | TxDOT |  |  |  |
| MODE |  |  |  |  |  |  |  |  |
|  | - | - |  | - | - | - |  | - |
| Bicycle | 0 \% | 0 \% | 0 \% | 0 \% | 0 \% | 0 \% | 0 \% | 0 \% |
| Car | 2 \% | 15 \% | 28 \% | 47 \% | 3 \% | 14 \% | 29 \% | 46 \% |
| Motorcycle | 0 \% | 2 \% | 2 \% | 1 \% | 0 \% | 1 \% | 1\% | 0 \% |
| Pedestrian | 0 \% | 1 \% | 0 \% | 0 \% | 0 \% | 0 \% | 0 \% | 0 \% |
| Truck | $0 \%$ | 0 \% | $1 \%$ | 0 \% | $0 \%$ | $1 \%$ | $2 \%$ | $2 \%$ |
| AGE |  |  |  |  |  |  |  |  |
| Below 15 | 0 \% | 1 \% | 2 \% | 6 \% | 0 \% | 1 \% | $2 \%$ | 6 \% |
| 15-65 | $2 \%$ | 16 \% | 27 \% | $39 \%$ | 3 \% | $13 \%$ | 27 \% | 39 \% |
| Above 65 | $0 \%$ | 1 \% | 2 \% | 4 \% | 1\% | 2 \% | $2 \%$ | $4 \%$ |
| GENDER |  |  |  |  |  |  |  |  |
| Male | $2 \%$ | 12 \% | 18 \% | 25 \% | 3 \% | 10 \% | 17 \% | 24 \% |
| Female | 0 \% | 6 \% | 13 \% | 23 \% | 1\% | $6 \%$ | 14 \% | 24 \% |



## BICYCLE \＆PEDESTRIAN COLLISION BY SEVERITY

The map displays the location of injury collisions involving bicyclists and pedestrians in unincorporated McLennan County．In total，there were 43 collisions resulting in injuries to both bicyclists and pedestrians，with 13


## SEVERITY INDEX

The Collision Severity Index methodology is used to identify the locations within a jurisdiction that are experiencing the most severe crashes. This approach assigns weighted point values based on the injury outcomes of individual collisions - 3 points for each fatal or severe injury, 2 points for minor injuries, and 1 point for possible injuries. By summing these scores for all crashes along defined roadway segments between intersections, locations with a history of the most severe crashes receive the highest overall severity index.

This data-driven analysis allows the project team to prioritize infrastructure improvements and safety countermeasures in high-risk areas. Visualizing the severity index through a color-coded collision heat map further highlights the geographic concentrations of injury crashes, guiding decision-makers to target the most vulnerable locations for mitigation Locations with the highest severity scores are selected for inclusion in the High Risk Network, shown on this map.

## EGEND

Severity Index

| Low | High |
| :--- | :--- |
|  | Other Roads |
|  | Schools |
|  | Parks |
| $\square$ | Unincorporated McLennan |
|  | County Boundary |

## ROADWAYS \& INTERSECTIONS

his section lists high risk roadway segments and intersections within the un incorporated McLennan County. The accompanying graph depicts the name and limits of each roadway along with the number of collisions categorized by severity at that location. A severity index methodology was utilized to identify these high risk spots. This methodology assigns 3 points for each fatal or sever njury collision, 2 points for each minor injury collision, and 1 point for each possible injury collision

## ROADWAYS

UN
$A$
UN
U
B
UN
C
UN
D
UN
E


## INTERSECTIONS



■FATAL INJURY $\_$SERIOUS INJURY $=$MINORINJURY $⿰$ POSSIBLE INJURY

## LEGEND

( U High Injury Network - Intersections
(wv) Roadways - City
Tx Roadways - TxDOT
High Injury Network - City \& TxDOT ther Roads

- Schools
- Parks
$\square$ Unincorporated Mclennan County Boundary

PROFLLE 1 - NIGHTTIME

222 COLLISIONS



PROFILE 2 - HIT OBJECT


36
$36 \quad 236$

: SEVERITY :



PROFILE 3 －UNSAFE SPEED


164 COLLISIONS

| SEVERITY |  |
| :---: | :---: |
| A $2 \%$ |  |
| $\text { a } 33 \%$ | $42 \text { \% }$ |
| location |  |
| 간 18 \％ |  |
| Lighting |  |
| ） $60 \%$ | \％ $2 \%$ |
| － $1 \%$ | 삿 $37 \%$ |

## PROFILE 4 －DRIVING UNDER INFLUENCE



36 236

| SEVERITY A $12 \%$ |  | 21 \％ |
| :---: | :---: | :---: |
| $35 \text { \% }$ | 感 | 32 \％ |
| location |  |  |
| Hip $10 \%$ |  | 90 \％ |
| Lighting |  |  |
| ． 32 \％ | $\cdots$ | 5 \％ |
| 処 $3 \%$ | 20 | 60 \％ |




## PROFILE 1 －NIGHTTIME



728 COLLISIONS


PROFILE 2 －HIT OBJECT
运蓡


36
36

| －SEVERITY |  |
| :---: | :---: |
| － 5 \％ |  |
| O $35 \text { \% }$ | 盛 $42 \%$ |
| LOCATION 8 \％ |  |
| －LIGHTING |  |
| － 54 \％ | $\cdots 4 \%$ |
| 且 6 \％ | 人2n $36 \%$ |



与 $6 \%$ 终 $36 \%$ ：


1034 COLLISIONS


| CONTRIBUTING FACTOR | $37 \%$ | 18 \％ | 12 \％ | 10 \％ |
| :---: | :---: | :---: | :---: | :---: |
|  | UNSAFE SPEED | OTHER IMPROPER DRIVING | $\begin{gathered} \text { OTHER } \\ \text { UNORESEN } \\ \text { REASSONS } \end{gathered}$ | $\begin{gathered} \text { DRIVG } \\ \text { INELERERE } \\ \text { INELENC } \end{gathered}$ |
| HARMFUL EVENT |  |  |  | $\mathbf{2 7} \%$ |

PROFILE 3 - UNSAFE SPEED


753 COLLISIONS

| SEVERITY |  |
| :---: | :---: |
| A $4 \%$ | 煖 $15 \%$ |
| a $33 \text { \% }$ | 盛 $48 \%$ |
| location |  |
| 20\% | \| $10\|\mid c$ |
| Lighting |  |
| ) 68 \% | $=2 \%$ |
| - $7 \%$ | 슨 22 \% |

## PROFILE 4 - OVERTURNED



36

## severity



| BY MODE | 80 \% |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | car |  |  |  |
|  | 100 \% |  |  |  |
| - COLLISION | ніт овест |  |  |  |
| : CONTRIBUTING FACTORS | 38 \% | 20 \% | 13 \% | 6 \% |
|  | UNSAFE SPEED | Other Improper driving | $\begin{gathered} \text { DRIVING } \\ \text { UNDER } \end{gathered}$ | Unknown |
| 0 | $25 \%$ | 50\% |  | 75\% |

## EDESTRIAN CONNECTIVITY MPROVEMENTS FOR UNINCORPORATED NEIGHBORHOODS

Many of the unincorporated neighborhoods in McLennan County lack adequate pedestrian infrastructure，creating challenges for residents who rely on walking or using mobility aids to get around．There is a need to improve pedestrian connectivity in these areas through the con－ struction of new sidewalks，crosswalks，and other safety features．This project would aim to enhance walkability and accessibility，providing residents with safer routes to access local amenities，public transportation，and community resources．The project scope should involve surveying existing conditions，identifying high－priority corridors and intersections，and implementing a com－ prehensive plan to fill gaps in the pedestrian network． This investment in pedestrian infrastructure would greatly improve quality of life and promote more sustainable， equitable transportation options for unincorporated McLennan County．


## PROJECT 1: COUNTYWIDE SIGN INVENTORY

McLennan County is proposing a Countywide Sign Inventory and Pavement Delineation project to improve roadway safety and navigation for drivers. The proposed initiative would commence with a thorough assessment of all existing traffic signs throughout the county to identify any that are damaged, faded, obstructed, or non-compliant with current regulations regarding reflectivity. Such signs would be replaced as necessary to ensure clear visibility during both day and night. Additionally, the project would encompass surveying all road markings, including lane lines, turn arrows, crosswalks, and other pavement delineations across the county.

## INJURY COLLISION STATISTICS



## TRENDS

| hit object | UNSAFE SPEED | INTERSECTION | BROADSIDE |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| 58\% | 36\% | 27\% | 18\% |
| 1460 COLLISIONS | 917 COLLISIONS | 693 COLLISIONS | 450 COLLISIONS |

## 

## PROJECT 2: COUNTYWIDE STREET LIGHT INVENTORY

McLennan County is proposing a Countywide Street Light Inventory and Replacement initiative designed to improve nighttime visibility and safety for motorists, cyclists, and pedestrians. This project involves conducting a comprehensive in ventory of all current streetlights across the unincorporated county to identify missing streetlights, update outdated inventories, generate reports for non-functioning fixtures, and identify types of lights. Subsequently, outdated, damaged, or inadequately illuminating lights will be replaced with new LED streetlights. It is expected that the enhanced lighting will reduce injury crashes and enhance safety for both residents and visitors navigating county roads during the nighttime hours.

NIGHTTIME INJURY COLLISION STATISTICS


TRENDS
HIT OBJECT
UNSAFE SPEED

| INTERSECTION |
| :---: |
| 686 COLLISIONS |

305 COLLISIONS


Ritchie Road, a two-lane major collector with a center two way left turn lane, provide direct access to Park Hill Elementary School. The speed limit is set at 30 mph along the corridor.


ESTIMATED COST OF IMPROVEMENT
3: RITCHIE RD- PEDESTRIAN CONNECTIVITY IMPROVEMENTS

| 3: RITCHIE RD- PEDESTRIAN CONNECTIVITY IMPROVEMENTS |  |  |  |
| :---: | :---: | :---: | :---: |
|  | IMPROVEMENTS | LOCATIONS | ESTIMATED COST |
|  | Install Sidewalk |  | \$611,600 |
| A | Install Crosswalk | From Warren Rd to Park Place Dr | \$2,300 |
| 0 | Install Rectangular Rapid Flashing Beacon (RRFB) |  | \$23,000 |
|  |  | CONTINGENCY COST | \$127,400 |
|  |  | ENGINEERING COST | \$267,600 |
|  |  | TOTAL COST | \$1,031,900 |



An intersection of Aviation Parkway \＆and US－84 is a signalized intersection．The speed limit for approaching this intersection is 70 mph on US－84 and 30 mph on Aviation Parkway．

## INJURY COLLISION STATISTICS

|  |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |


－TRENDS

| REAR END | BROADSIDE | NIGHTTIME | UNSAFE SPEED |
| :---: | :---: | :---: | :---: |

## EXISTING CONDITIONS



## ESTIMATED COST OF IMPROVEMENT




An interchange of $\mathrm{IH}-35$ service roads and Ross Road is stop controlled on Ross Road. The speed limit for approaching this intersection is 45 mph on $\mathrm{IH}-35$ service roads and 60 mph on Ross Road.


McLennan County is planning to implement a series of intersection safety improvements at several key locations throughout the unincorporated areas. These upgrades aim to enhance traffic flow and reduce the risk of collisions, focusing on high-volume intersections that had previously experienced safety concerns. The improvements include sign and pavement delineation upgrades, installation of object markers, clearing sight distance obstructions, installation or upgrades to intersection lighting, and stop control upgrades

## INJURY COLLISION STATISTICS



- TRENDS

| HIT OBJECT | AUTOMOBILE ROW | NIGHTTIME | BROADSIDE |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| 50\% | 50\% | 50\% | 50\% |
| 1 COLLISION | 1 COLLISION | 1 COLLISION | 1 COLLISION |

ESTIMATED COST OF IMPROVEMENT
6: COUNTYWIDE- INTERSECTION SAFETY IMPROVEMENTS

|  | IMPROVEMENTS | LOCATIONS |  | ESTIMATED COST |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Rogers Hill Spur and Fort Graham Rd |  | \$87,800 |
|  |  | Hlavenka Rd \& E County Line East |  | \$61,300 |
|  | Sign and Pavement Delineation Upgrades | Beheler Rd \& N Katy Rd |  | \$49,300 |
|  | Install Object Markers | E Hilltop Dr \& N Katy Rd |  | \$61,400 |
|  | Clear Sight Distance | E Rainer Ln \& Fort Graham Rd |  | \$50,300 |
|  | Install or Upgrade Intersection Lighting | Meixner Rd \& Shepperd Rd |  | \$64,300 |
|  | Stop Control Upgrades or Additions | A J Muska Rd \& E Weinberger Rd |  | \$61,600 |
|  |  | Chudej Spur \& Old Railroad Rd |  | \$75,900 |
|  |  | Harrison Rd \& Trading Post Rd |  | \$668,200 |
|  |  |  | CONTINGENCY COST | \$236,100 |
|  |  |  | ENGINEERING COST | \$495,700 |
|  |  |  | total cost | \$1,911,900 |



Mazanec Road，a two－lane county road，runs through a rural and agricultural area from Solitude Lane to Mesquite Tree Road．The speed limit is set at 45 mph along the entire corridor．

INJURY COLLISION STATISTICS


## TRENDS

| HIT OBJECT | UNSAFE SPEED |
| :---: | :---: |
| 9 |  |
| 9 COLLISIONS | 7 |

NIGHTTIME INTERSECTION

EXISTING CONDITIONS


## estimated cost of improvement

7：MAZANEC RD－CORRIDOR SAFETY IMPROVEMENTS

| 7：MAZANEC RD－CORRIDOR SAFETY IMPROVEMENTS |  |  |  |
| :---: | :---: | :---: | :---: |
|  | IMPROVEMENTS | LOCATIONS | EStimated cost |
| N | Install Paved Shoulder and Safety Edge | From Solitude Ln to Mesquite Tree Rd | \＄2，208，000 |
| （3） | Install Striping |  | \＄407，100 |
|  | Install Guard Rail |  | \＄50，600 |
|  | Clear Recovery Zone |  | \＄20，200 |
|  |  | CONTINGENCY COST | \＄537，200 |
|  |  | ENGINEERING COST | \＄1，128，100 |
|  |  | TOTAL COST | \＄4，351，200 |



The intersection of FM 2113 （Spring Valley Road）and FM 2837 （Old Lorena Road）is a signalized intersection．The speed limit for approaching this intersection is 60 mph on all approaches．

## INJURY COLLISION STATISTICS



| BROADSIDE | Nighttime | UNSAFE SPEED | REAR END |
| :---: | :---: | :---: | :---: |
| $\underbrace{1 /}$ | $\xrightarrow[0]{\substack{1 \\ i o n i l}}$ | $\cdots$ | $\mathbb{O}_{0}^{1}$ |
| 67\% <br> 8 COLLISIONS | 42\％ <br> 5 COLLISIONS | $33 \%$ <br> 4 COLLISIONS | $\begin{gathered} 33 \% \\ 4 \text { COLLISIONS } \end{gathered}$ |

## EXISTING CONDITIONS



ESTIMATED COST OF IMPROVEMENT
8：FM 2113 （SPRING VALLEY RD）\＆FM 2837 （OLD LORENA RD）－INTERSECTION SAFETY IMPROVEMENTS



Rock Creek Road，a two－lane county road，runs through a mix of rural and residential areas between Rock Creek Loop and the Waco city limit．The speed limit is set at 40 mph along the corridor．

## INJURY COLLISION STATISTICS




## －TRENDS

| hit object | NIGHTtime | DUI | UNSAFE SPEED |
| :---: | :---: | :---: | :---: |
| I | $\underset{o c}{\substack{1}}$ |  | N |
| 71\% <br> 12 Collisions | $\begin{gathered} 59 \% \\ 10 \text { COLLISIONS } \end{gathered}$ | 53\% <br> 9 COLLISIONS | $\begin{gathered} \text { 24\% } \\ 4 \text { COLLISIONS } \end{gathered}$ |



ESTIMATED COST OF IMPROVEMENT
9：ROCK CREEK RD－CORRIDOR SAFETY IMPROVEMENT

|  | IMPROVEMENTS | LOCATIONS | ESTIMATED COST |
| :---: | :---: | :---: | :---: |
|  | Install Striping |  | \＄400，200 |
|  | Install Guard Rail |  | \＄23，000 |
|  | Install Paved Shoulder and Safety Edge |  | \＄402，700 |
|  | Object Marker | Rock Creek Rd to Waco City Limit | \＄6，900 |
|  | Minor Street Sign and Striping Improvements |  | \＄10，400 |
|  | Install Intersection Lighting |  | \＄284，700 |
|  |  | CONTINGENCY COST | \＄225，600 |
|  |  | ENGINEERING COST | \＄473，800 |
|  |  | TOTAL COST | \＄1，827，300 |



Speegleville Road, a two-lane major collector between State Highway 6 and McLaughlin Road and local Street between McLaughlin Road and Classic Drive, runs through a mix of rural and agricultural areas from State Highway 6 to Classic Drive. The speed limit is set at 50 mph along the corridor


- TRENDS

| Hit ObJect | NIGHTtime | DUI | UNSAFE SPEED |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| 100\% <br> 4 COLLISIONS | $\begin{gathered} 50 \% \\ 2 \text { COLLISIONS } \end{gathered}$ | 50\% <br> 2 COLLISIONS | $\begin{gathered} 25 \% \\ 1 \text { COLLISION } \end{gathered}$ |

EXISTING CONDITIONS


ESTIMATED COST OF IMPROVEMENT



Chapel Road，a two－lane county road，runs through a mix of rural and agricultural areas from FM－2837（Old Lorena Road）to FM－2113（Spring Valley Road）．The speed limit is set at 60 mph along the entire corridor．


EXISTING CONDITIONS


ESTIMATED COST OF IMPROVEMENT

| 11：CHAPEL RD－CORRIDOR SAFETY IMPROVEMENTS |  |  |  |
| :---: | :---: | :---: | :---: |
|  | IMPROVEMENTS | LOCATIONS | ESTIMATED COST |
| （\％） | Install Striping |  | \＄303，600 |
| ＊ | Install Safety Edge |  | \＄708，400 |
| $\bigcirc$ | Sign Upgrades | From FM－2837（Old Lorena Rd）to FM－2113 （Spring Valley Rd） | \＄4，200 |
|  | Widen Road |  | \＄2，125，200 |
|  | Advance Warning Flashing Beacon |  | \＄23，000 |
| $A \Delta$ | Clear Sight Triangles | Neal－Trice Ln and Chapel Rd | \＄4，600 |
| $\checkmark$ | Sign Upgrades and Curve Delineation |  | \＄2，300 |
|  |  | CONTINGENCY COST | \＄634，300 |
|  |  | ENGINEERING COST | \＄1，332，000 |
|  |  | TOTAL COST | \＄5，137，600 |

