

Connecticut Highway Safety Improvement Program (HSIP)

Implementation Plan for FFY 2024



Connecticut Department of Transportation

Bureau of Engineering and Construction - Division of Traffic Engineering - Safety Engineering

Disclaimer

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23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.”

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Connecticut HSIP Implementation Plan

Executive Summary

This Highway Safety Improvement Program (HSIP) Implementation Plan for Connecticut documents the HSIP obligations and actions the state will take for the 2024 Federal Fiscal Year (FFY). This plan is required because the Federal Highway Administration (FHWA) notified the State that Connecticut did not meet or make significant progress toward meeting the 2021 safety performance targets, based on the five (5) - year rolling averages for 2017-2021. This is the third year of not meeting the targets.

In September 2020, 2021, and 2022 the State of Connecticut submitted HSIP Implementation Plans. Those plans documented HSIP funding and project decisions made in an effort to meet or make significant progress toward meeting Connecticut's safety performance targets in subsequent years. Projects in the FFY 2023 Implementation Plan are in various stages of study and design. Some of the projects will progress to final design and construction phases in the upcoming FFY, and those will be included in the FFY 2024 HSIP Implementation Plan.

In addition to not meeting or making significant progress toward meeting the 2021 safety performance targets, FHWA determined that Connecticut has triggered special rules, which will result in the following additional requirements under this plan:

- At least \$1,502,890 toward high-risk rural roads
- Include strategies to address the increase in older driver and pedestrian fatalities and severe injuries in the next SHSP update.
- Not less than 15% of the amount apportioned under 23 U.S.C. 104(b)(3) for highway safety improvement projects to address the safety of vulnerable road users.

The requirement to prepare this HSIP Implementation Plan is viewed as an opportunity since the Connecticut Department of Transportation (CTDOT) has made a commitment to safety and has obligated all its annual HSIP apportionment over the past several years. Illustrating this commitment, CTDOT proposes to obligate \$71,768,142 of HSIP funding which is significantly more than the requirement of \$31,340,232. Also, CTDOT took this opportunity to again re-evaluate its HSIP investment decisions and identify gaps and deficiencies to ensure that the projects identified, prioritized, and programmed have the highest potential for reducing fatalities and serious injuries. Consideration is also being made to help Connecticut meet safety performance targets in subsequent years. In order to make these decisions for this HSIP Implementation Plan, CTDOT reviewed fatal and serious injury crash data on all public roads from 2020 to 2022 utilizing the [Connecticut Crash Data Repository \(CTCDR\)](#).

In addition to the safety performance targets, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), was signed into law on November 15, 2021 and includes three special rules: High-Risk Rural Roads (HRRR), Older Drivers and Pedestrians, and Vulnerable Road Users (VRU) Safety.

The HRRR Special Rule, found under 23 U.S.C 148(g)(1), states, "If the fatality rate on rural roads in a State increases over the most recent 2-year period for which data are available, that State shall be required to obligate in the next fiscal year for projects on high risk rural roads an amount equal to at least 200 percent of the amount of funds the State received for fiscal year 2009 for high risk roads under subsection (f) of this section, as in effect on the day before the date of enactment of the MAP-21."

The Older Drivers and Pedestrians Special Rule, found under 23 U.S.C 148(g)(2), states "If traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, that State shall be required to include, in the subsequent Strategic Highway Safety Plan of the State, strategies to address the

increases in those rates, taking into account the recommendations included in the publication of the Federal Highway Administration entitled ‘Highway Design Handbook for Older Drivers and Pedestrians’(FHWA-RD-01-103), and dated May 2001, or as subsequently revised and updated.”

The VRU Safety Special Rule, found under 23 U.S.C. 148(g)(3), states “If the total annual fatalities of vulnerable road users in a State represents not less than 15 percent of the total annual crash fatalities in the State, that State shall be required to obligate no less than 15 percent of the amounts apportioned to the State under section 104(b)(3) for the following fiscal year for highway safety improvement projects to address the safety of vulnerable road users.”

The framework for this implementation plan is based on the Decision Support Framework Actions from the FHWA Office of Safety’s HSIP Implementation Plan Guidance dated October 13, 2017 shown below:

Decision Support Framework Actions	
Review fatality and serious injury trends	<ul style="list-style-type: none"> • Compare Statewide trends vs region, district, county • Compare trends by SHSP emphasis area, urban/rural designation, functional class, roadway ownership.
Review HSIP Expenditures	<ul style="list-style-type: none"> • Compare the proportion of HSIP expenditure by SHSP emphasis areas, urban/rural designation, functional classification, roadway ownership to determine if the proportion of fatalities/serious injuries align with where the problems are occurring?
Review Historical Project Performance	<ul style="list-style-type: none"> • Which countermeasures were implemented? • Where were countermeasures implemented? • What crash types were these countermeasures addressing? • Were these countermeasures and crash types identified as a priority in the SHSP? • What was the outcome (i.e., countermeasures effectiveness)?
Identify Gaps or Deficiencies	<ul style="list-style-type: none"> • Review data and information to determine any gaps and/deficiencies. • Determine program modifications to ensure projects are identified, prioritized and programmed properly and have the best potential to reduce fatalities/serious injuries.
Identify Noteworthy Practices	<ul style="list-style-type: none"> • Review literature on noteworthy practices that address State-specific crash characteristics. • Identify noteworthy practices that have not yet been implemented and consider them in the HSIP.
Conduct Stakeholder Outreach	<ul style="list-style-type: none"> • Engage safety stakeholders in a discussion about program needs and potential solutions.
Develop HSIP Implementation Plan	<ul style="list-style-type: none"> • Use input from gap analysis, literature review, and safety stakeholders as a starting point for development of the HSIP Implementation Plan.

Background

A review of the Statewide Crash Data shows that the data continues to exhibit the same patterns that were revealed during the creation of Connecticut’s current Strategic Highway Safety Plan and as previously documented in the [FFY 2023 Connecticut HSIP IP](#).

Crash Analysis

In order to develop a plan for providing the types of projects that will mitigate the number of fatal and serious injury crashes throughout the State of Connecticut, it is important to understand where the majority of the crashes are occurring, what the greatest number of crash types are, and to uncover any other factors that lead to the highest number and severity of crashes.

The following sections describe different methods of disaggregating the crash data that were used to inform the types of projects that would best contribute toward reducing fatal and serious injury crashes within the State of Connecticut.

Overview

An overall look at the statewide fatal and serious injury crash data from 2020 to 2022 is shown in *Figure 1*. As the graph shows, there is an increase in fatal and serious injury crashes from 2020 to 2021 and a decrease from 2021 to 2022.

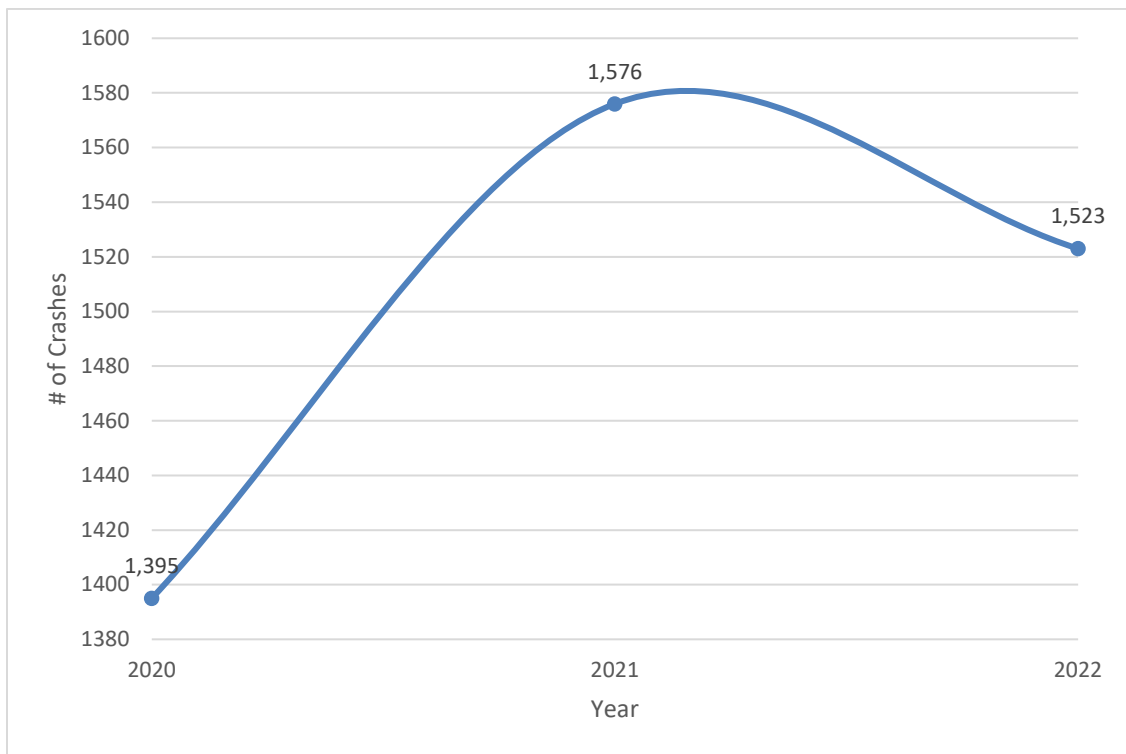


Figure 1: 2020-2022 Fatal and Serious Injury Data in the State of Connecticut

Overall, of the 2020-2022 fatal and serious injury crashes, 81% were suspected serious injuries and 19% were fatalities, as shown in *Figure 2*.

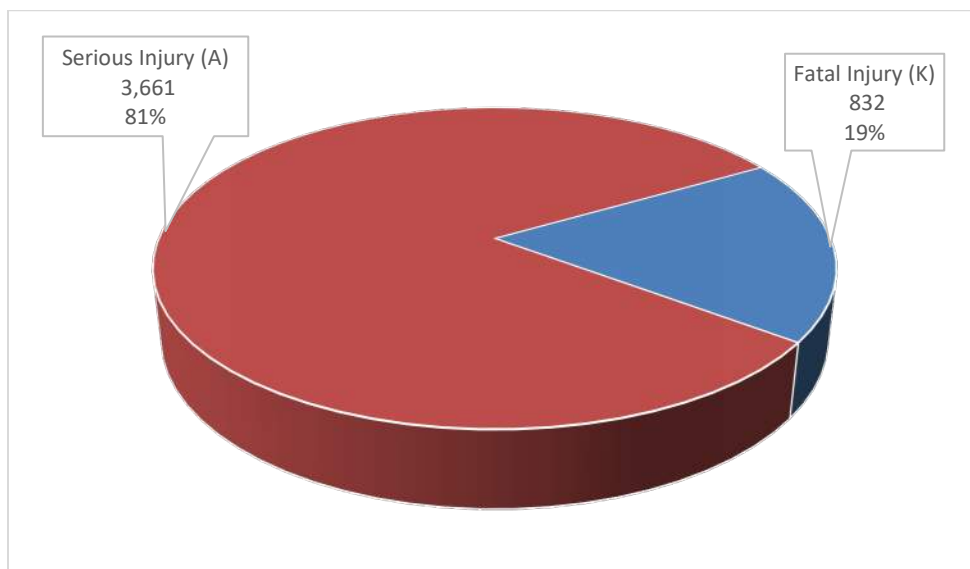


Figure 2: 2020-2022 Crash Distribution of Injuries

Roadway Ownership

A review of the Statewide Crash Data reveals the same crash type patterns (Roadway Departure, Angle, and Pedestrian) that were exhibited during the creation of Connecticut’s current Strategic Highway Safety Plan and as shown in the FFY 2023 Connecticut HSIP IP. In addition, the crashes are split almost evenly along roadway ownership, with 55% occurring on the State System and 43% occurring on the municipally owned roadway network, as shown in *Figure 3* below.

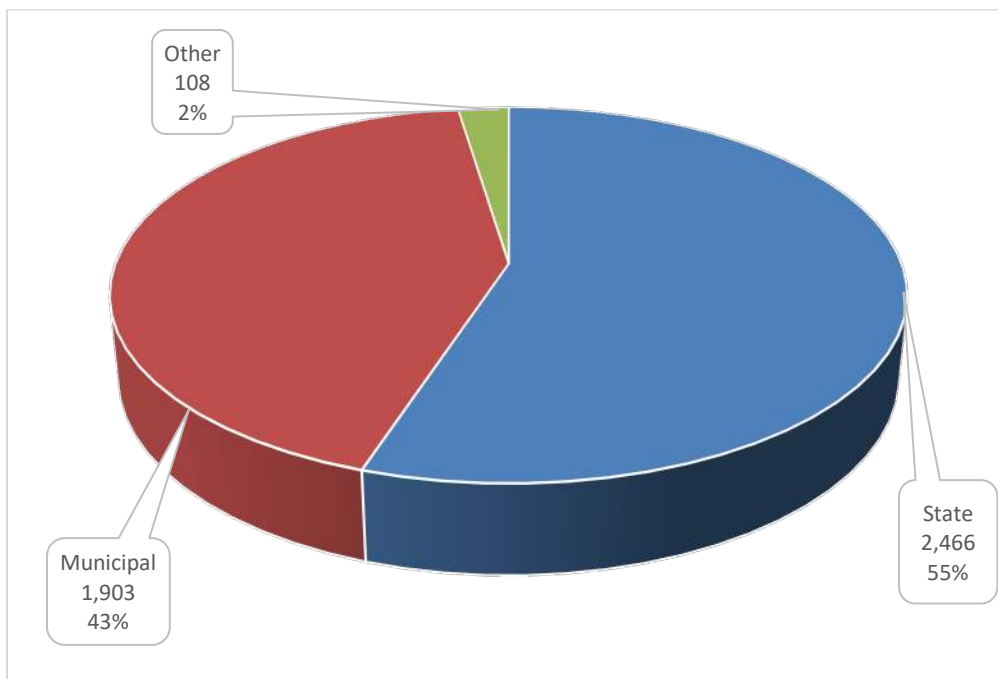


Figure 3: Distribution of Crashes by Road Ownership (2020-2022)

Crash Type

As stated in the previous section, the prevailing crash types within the State of Connecticut continue to be Roadway Departure, Angle, and Pedestrian. In order to determine this, 2020-2022 crash data was reviewed to identify trends in crash types. For analysis purposes, the “Roadway Safety Object” and “Other Stationary Object” crash fields were added together to establish the Roadway Departure Crash category. As shown in *Figure 4* below, the top three crash types include Roadway Departure, Angle, and Pedestrian. Roadway Departure accounts for 27% or 1,225 crashes, Angle accounts for 25% or 1,125 crashes, and Pedestrians account for 14% or 611 crashes.

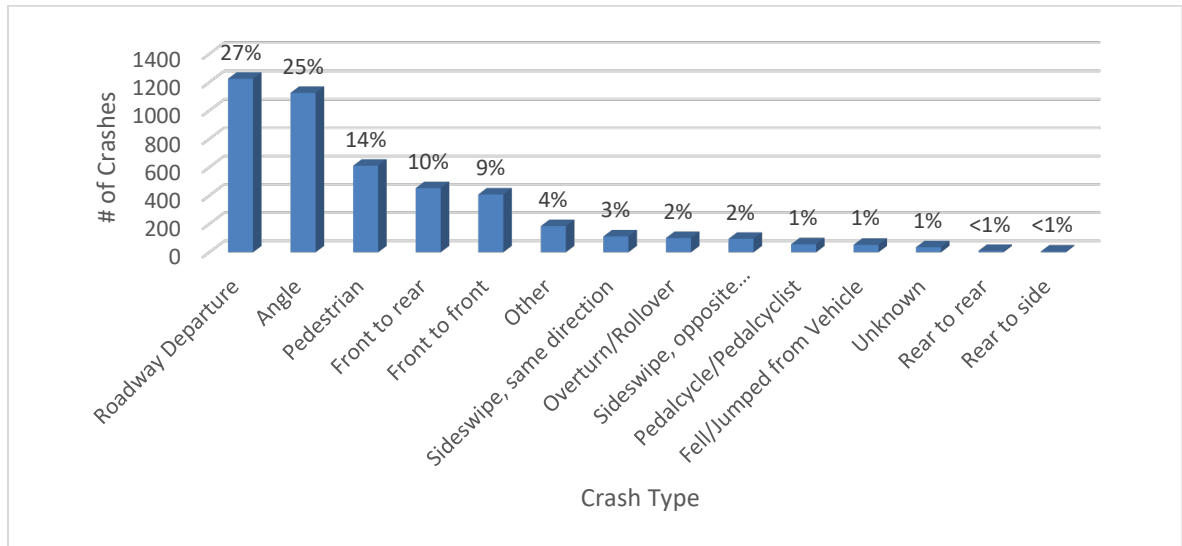


Figure 4: Distribution of fatal and serious injury crashes based on crash type from 2020-2022

Geographic Distribution

The crash data was also disaggregated geographically by sections of the state. Connecticut is separated into four construction and maintenance Districts within the CTDOT and into nine regional Councils of Government (COGs). State and federally funded transportation projects are allotted to the four districts in an effort to establish distribution of funding. A critical function of the COGs is to act as stakeholders who provide feedback to the CTDOT on behalf of their member municipalities. See *Figures 5* and *6* for crash data breakdowns by District and COGs, respectively.

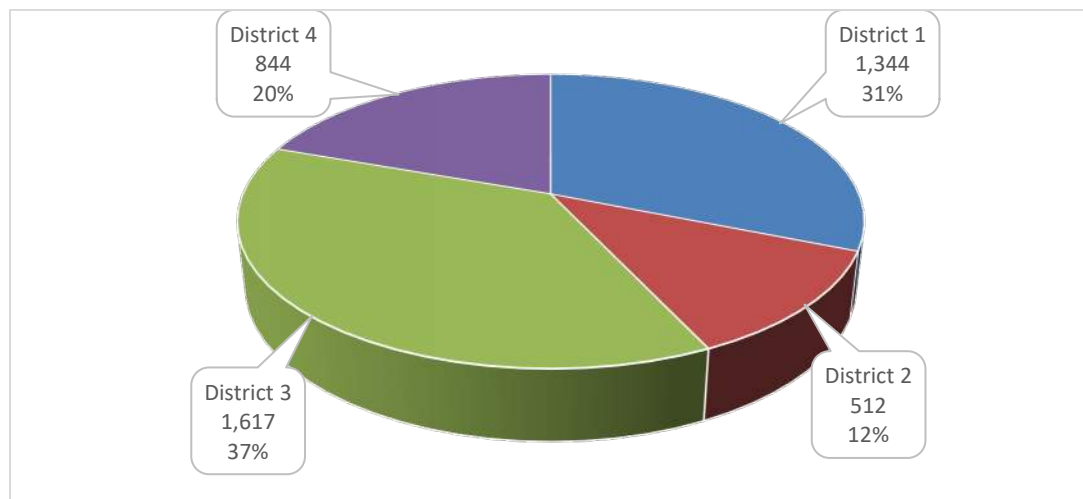


Figure 5: Total fatal and serious injury crashes categorized by District (2020-2022)

Of the COGs within Connecticut, the Capitol Region (CRCOG) accounts for the most fatal injury and serious injury crashes throughout the state with 27%, followed by the South Central Region (SCRCOG) with 22%, which are both primarily located within Districts 1 and 3, respectively. Two of Connecticut’s largest cities, Hartford and New Haven, are located in the CRCOG and SCRCOG regions, respectively. Western Connecticut (WestCOG) and Naugatuck Valley (NVCOG) each account for 13%, Metropolitan (MetroCOG) accounts for 10%, Southeastern Connecticut (SCCOG) accounts for 7%, Lower Connecticut River Valley (RiverCOG) and Northwest Hills (NHCOG) each account for 3%, and Northeastern Connecticut (NECCOG) accounts for 2%. See *Figure 6* below for classification of type of injury per COG.

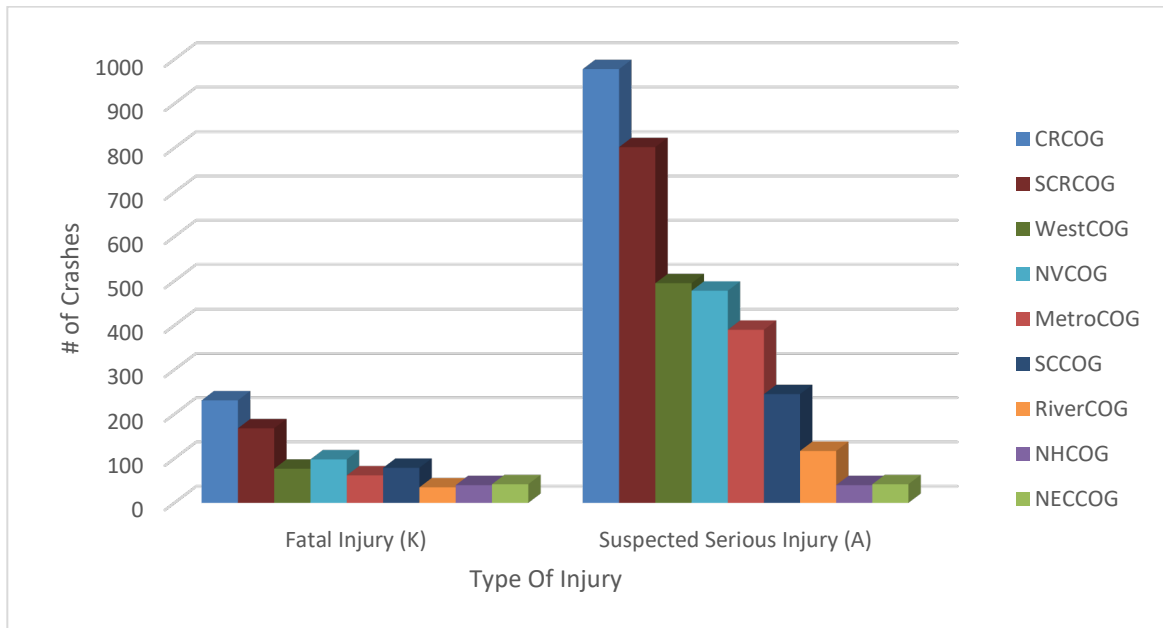


Figure 6: Classification of Crash Severity by COG from 2020-2022

Pedestrian Crashes and Lighting Conditions

The FHWA Safety Performance Target Assessment indicated that the “number of non-motorized fatalities and serious injuries” safety target was not met. In Connecticut, the pedestrian crashes account for the highest number of “non-motorized” crashes (as shown in *Figure 4* above). One method of analyzing the pedestrian crash data is to review the lighting conditions reported for this crash type. This helps to determine if projects are needed to improve lighting conditions for both motorists and pedestrians. *Figure 7* on the following page provides a distribution of pedestrian crashes based on lighting conditions.

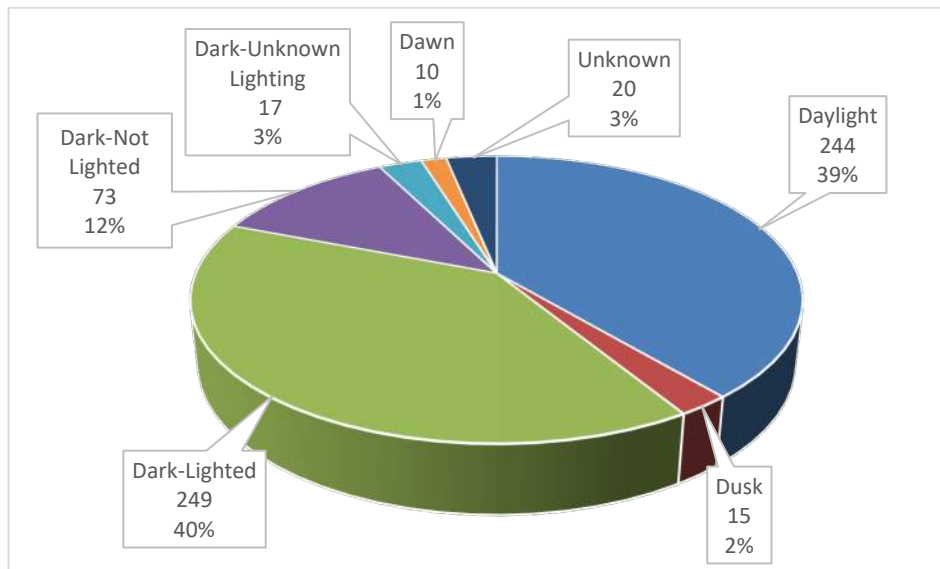


Figure 7: Distribution of fatal and serious injury pedestrian crashes based on lighting conditions statewide (2020-2022)

To further break down the pedestrian crashes and lighting conditions, roadway ownership was analyzed. Overall, 39% of pedestrian fatal and serious injury incidents occur during conditions reported as daylight, while 58% occur between dawn and dusk hours, including 12% reported as dark-not lighted. In total, 307 pedestrian crashes occurred on municipal roads and 249 occurred on state roads. Of the pedestrian crashes on municipal roads, 166 occurred between dusk and dawn and 138 occurred during the daylight hours. Of the pedestrian crashes on state roads, 180 occurred between dusk and dawn and 69 occurred during the daylight hours. See Figure 8 for pedestrian crash breakdown by lighting condition and roadway ownership.

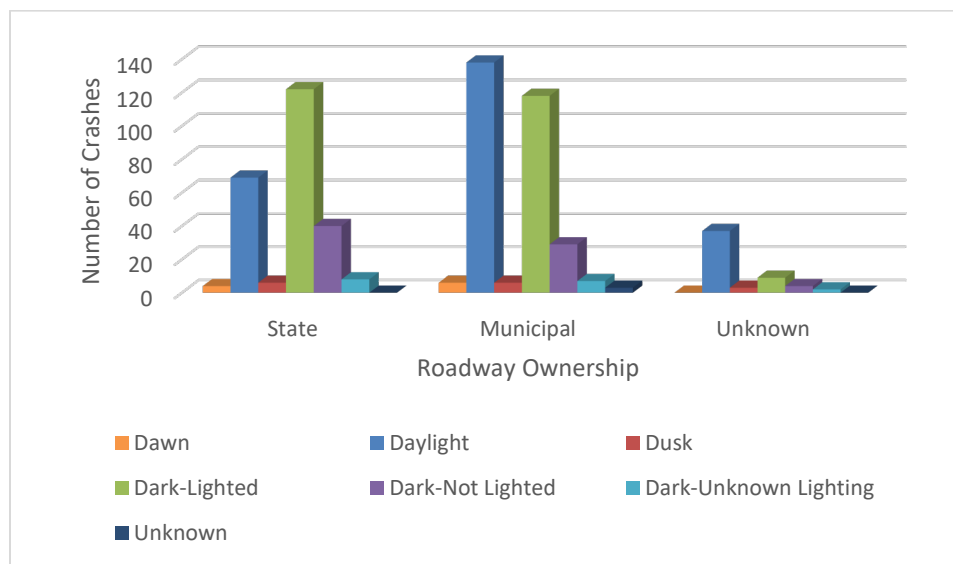


Figure 8: Pedestrian Crashes categorized by lighting conditions and roadway ownership from 2020-2022

Speeding

A review of speed related crashes was performed and shows that speeding was a contributing factor in 19% of all crashes throughout the state from 2020-2022. According to the crash data, 44% were reported as unknown speeding conditions and 37% were reported as not speeding. Based on how the crashes are coded in the crash data repository, it is unclear as to how many of the unknown crashes could actually be attributed to speeding and how many did not have speeding as a factor. *Figure 9* below depicts the breakdown of speeding related crashes.

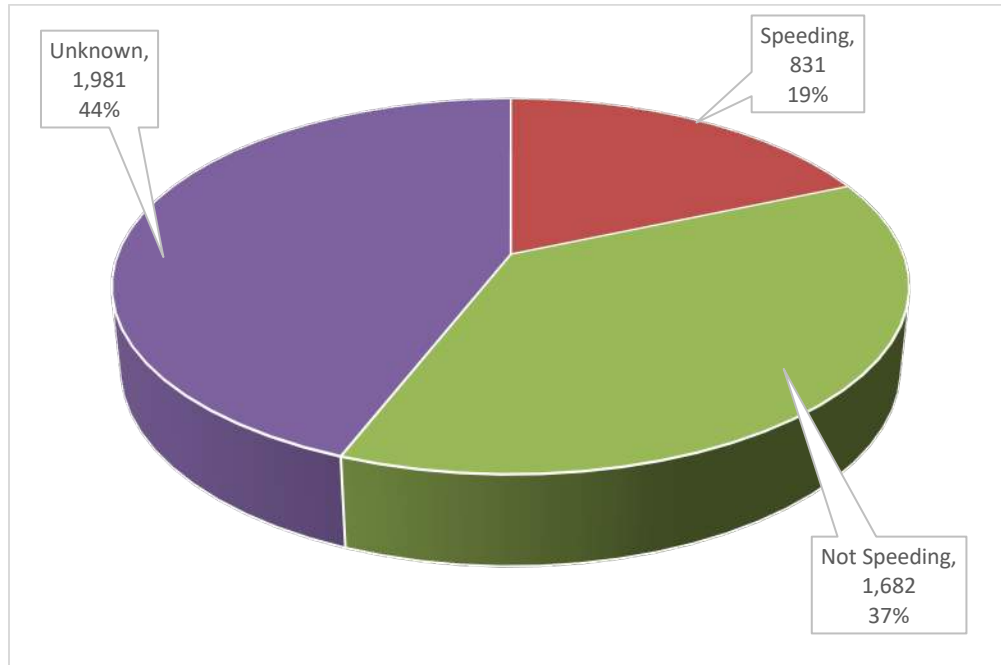


Figure 9: Serious and fatal injury crashes attributed to speeding (2020-2022)

Additional Information

Overall maps showing crashes by District and COG are provided in Appendices C and D, respectively. Crash Trees to show classification by crash type, COG, District, Municipal and State Road, and overall data are provided in Appendix B.

Available Funding

Under 23 U.S.C. 148(i)(1), Connecticut did not meet or make significant progress towards meeting safety performance targets and must obligate HSIP funds in the amount apportioned for the prior year. As a result, Connecticut must obligate at least \$31,340,232 in FFY 2024. Connecticut has also triggered HSIP special rules, which will result in needing to obligate at least \$1,502,890 toward high-risk rural roads and not less than 15% of the amount apportioned under 23 U.S.C. 104(b)(3) for highway safety improvement projects to address the safety of vulnerable road users.

Funding Allocation Goals

The HSIP Implementation Plan must describe how HSIP funds will be allocated during the plan period (23 U.S.C. 148(i)(2)(C)). In determining these obligation allocation goals, Connecticut considered obligating needs by crash type (e.g., pedestrian, roadway departure, angle), as well as other categories such as roadway ownership (e.g., state vs. local roads) and improvement type (e.g., spot vs. systemic).

HSIP Cost Analysis

Funding Allocations by Roadway Ownership

The three years of crash data (from 2020-2022) analyzed for fatal and severe injury crashes revealed that 55% of crashes occurred on state roads and 43% occurred on municipal roads. A review of the HSIP project funding expenditures between 2018 and 2022 (5 year rolling average timeline) revealed \$99,243,340 was allocated to state roads, \$43,375,571 was allocated to municipal roads, and \$18,548,014 was allocated to non-roadway projects. This correlates to 62% of total funding for state roads, 27% to municipal roads, and 11% on non-roadway projects. *Figure 10* provides a breakdown of HSIP expenditures based on roadway ownership.

The HSIP expenditures for municipal roadway projects show a seven percent (7%) increase from the FFY2023 rolling average, which reflects the CTDOT's commitment to reducing fatal and serious injuries on all roadways within the state. The data continues to suggest that this trend in expenditures should continue.

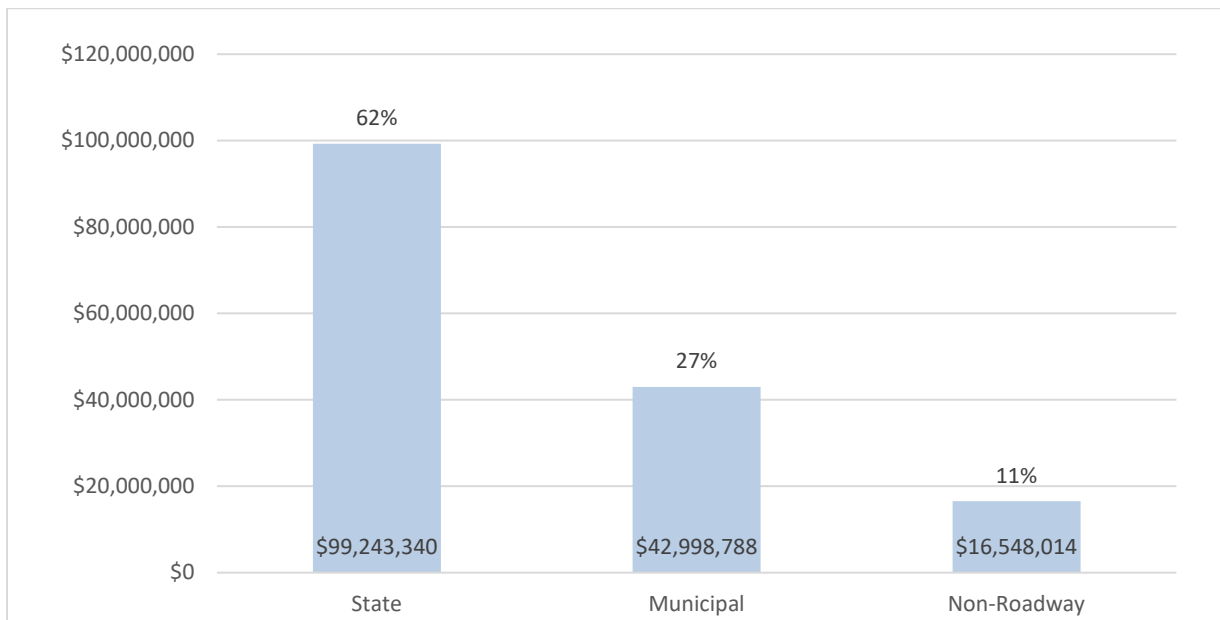


Figure 10: HSIP Expenditures Based on Roadway Ownership (2018-2022)

Funding Allocations by Emphasis Area and Crash Type

In addition to determining the percentage of fatal and severe injury crashes that occurred on each roadway type, the three years of analyzed crash data (2020-2022) were also broken down by crash type, with the highest percentages being roadway departures, angle crashes, and pedestrian crashes.

A review of the overall expenditures between 2020-2022 revealed that \$68,677,058 was spent on infrastructure projects, \$28,697,159 was spent on non-emphasis areas, \$24,420,851 was spent on pedestrian projects, \$2,734,533 was spent on driver behavior, and \$2,000,000 was spent on Traffic Incident Management.

Within the 2018-2022 HSIP project funding expenditures, the highest expenditures were allocated to projects targeting the following SHSP emphasis areas: infrastructure, with a total of \$95,142,724; non-emphasis areas, with a total of \$30,932,159; and pedestrians, with a total of \$29,980,726.

As seen in the expenditure reviews for both data sets, 2020-2022 and 2018-2022, the highest funded project categories encompass the types of projects that target the highest occurring

crash types listed above. This shows that the funds obligated through the HSIP program are aligned to address the three highest crash rate types; and, therefore, funding is being appropriately distributed within the HSIP program.

Figure 11 below summarizes spending based on emphasis area. For the SHSP emphasis areas of infrastructure, non-emphasis areas, and pedestrians, the following is a breakdown of the funding allocations between 2018-2022 by roadway type:

- The approximately \$95 million in infrastructure expenditures is further broken down into the following categories:
 - \$64 million or 68% on state roads
 - \$28.5 million or 30% on municipal roads
 - \$1.6 million or 2% to non-roadway projects
- The approximately \$31 million in non-emphasis area expenditures is further broken down into the following categories:
 - \$14 million or 46% on state roads
 - \$2.5 million or 8% on municipal roads
 - \$14.5 million or 46% to non-roadway projects.
- The approximately \$30 million in pedestrian expenditures is further broken down into the following categories:
 - \$19 million or 64% on state roads
 - \$11 million or 36% on municipal roads

Please note, Traffic Incident Management (TIM) is included in the chart below because in prior Strategic Highway Safety Plan (SHSP) documents it was recognized as an emphasis area. In the recently updated SHSP, the emphasis areas have been realigned based on crash data patterns to no longer include this category. The funding shown under the TIM emphasis area is associated with the five-year rolling average. In recent and future years, the percentage of funding contributions to this emphasis area will be reallocated to alternative emphasis areas.

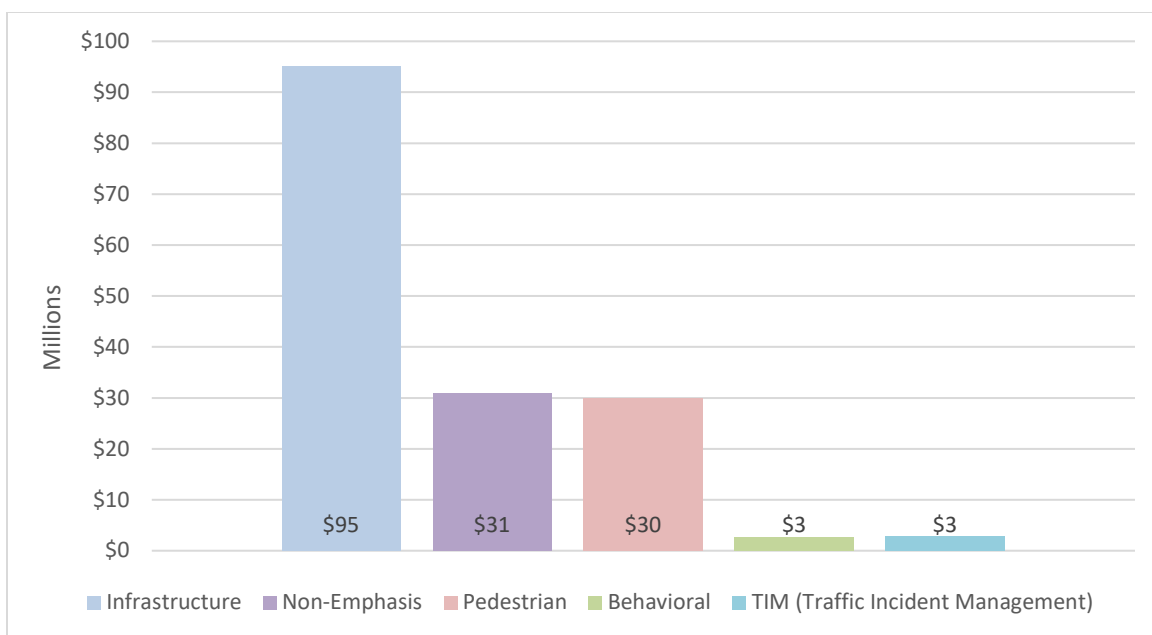


Figure 11: Expenditures Based on SHSP Emphasis Area (2018-2022)

Funding Allocations by Emphasis Area and Roadway Ownership

A breakdown of expenditures by emphasis area and roadway owner is provided in *Figure 12*. The data suggests that expenditure allocation within each emphasis area should be redistributed to increase allocations to municipal systems based on the initial breakdown of crash data that shows that overall, 55% of crashes occurred on state roads and 43% occurred on municipal roads.

Between 2020 and 2022, which was the three-year span reviewed for crash data analysis, 67% of funding within those years was allocated to state roadways, 17% was allocated to municipal roadways, and 16% was allocated to non-roadway projects.

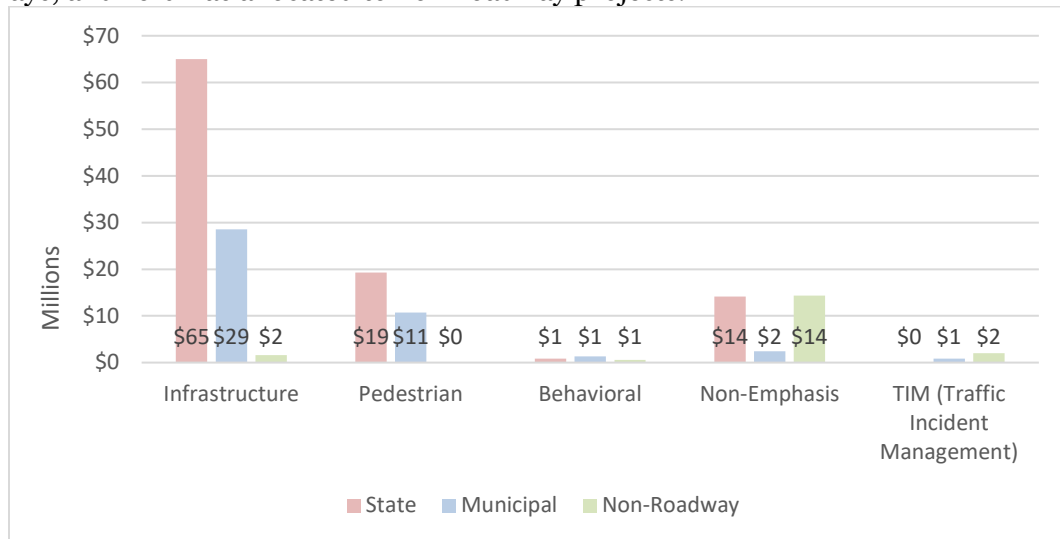


Figure 12: Emphasis Area by Roadway Owner (2018-2022)

Funding Allocations by Project Type

Between the years 2018-2022, the State of Connecticut obligated the most HSIP funds to systemic projects for roadways totaling \$72,412,317. A total of \$42,444,057 was obligated to spot treatment projects, \$31,852,716 was obligated to other projects, and \$14,457,835 was obligated to systematic projects. The projects that are neither systemic, systematic, nor spot improvements are classified as “other” and largely encompass project funding for driver behavior, research, screening, analysis, and management of safety projects (such as the HSIP IP). *Figure 13* below summarizes the expenditures by project type.

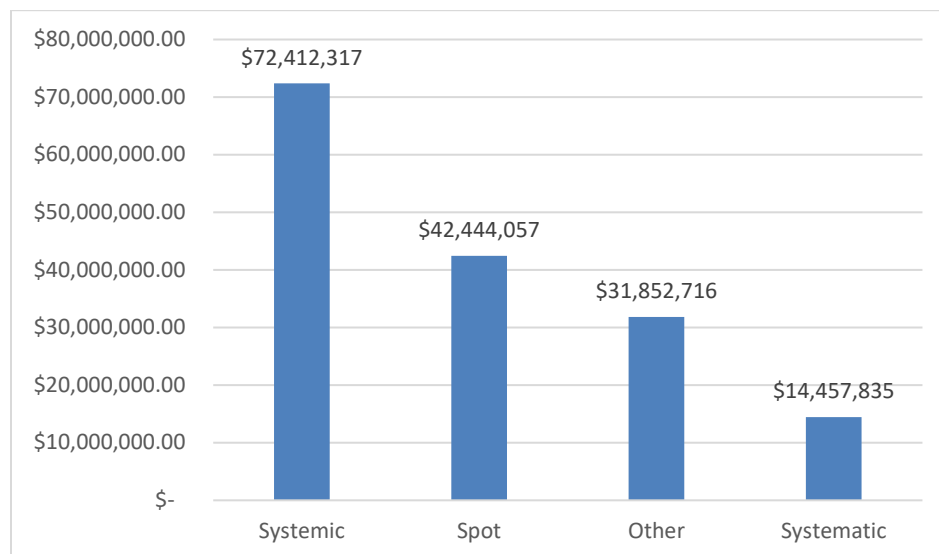


Figure 13: Expenditures by Project Type (2018-2022)

Existing Programs, Strategies, and Activities

The State's HSIP Implementation Plan must identify a combination of programs, strategies, and activities to be funded under the HSIP that will (1) contribute to a reduction in fatalities and serious injuries [23 U.S.C. 148(b) & 150(b)(1)] and (2) help the State achieve or make significant progress towards achieving their safety performance targets in subsequent years [23 U.S.C. 148(i)(2)(D)]. The HSIP programs, strategies, and activities must address roadway features that constitute a hazard to road users, as well as highway safety improvement projects that were identified based on crash experience, crash potential, or other data-supported means [23 U.S.C. 148(i)(2)(A)(B)].

The total estimated cost of new projects being proposed under the HSIP Implementation Plan is \$19,970,000. Of this total funding, 25% is being allocated to statewide projects (both municipal and state roadways), 28% is being allocated to state roadway projects, and 47% is being allocated to municipal roadway projects. This proposed breakdown aligns with the crash data analysis of the previous three years as outlined earlier in this report. *Figure 11* on page 13 provides a breakdown of expenditures by emphasis area for the overall expenditure review period. For the proposed project breakdown, 32% of obligated funding is being allocated to roadway departure improvements, 27% is being allocated toward pedestrian improvements, 2% is being allocated to intersection improvements, and 39% is being allocated towards non-emphasis area projects. (See Appendix A for more details.)

Program Review

The HSIP Implementation Plan for FFY 2024 proposes the projects listed below that will address the roadway safety concerns described in the previous sections of this Implementation Plan. These projects will improve roadways such that crashes and fatalities are reduced, pedestrian facilities are improved and made more user-friendly, and overall roadway user safety is enhanced.

FFY 2024 Projects

See Appendix A for all FFY 2024 Projects that are ongoing or are a continuation of FFY2023 projects.

Proposed Projects

Local Road Safety Program (LRSP)

Purpose:

CTDOT administered the Local Road Accident Reduction Program (LRARP) in previous years to provide federal funding for safety-related improvements on municipal roadways. The proposed LRSP will expand on the previous program to allow for inclusion to provide support for municipal project initiatives, on either state or municipally owned roadways. This funding will help to improve roadway conditions and increase driver and pedestrian safety.

Cost: \$500,000

Methodology and Implementation Plan:

The Local Road Safety Program will allow municipalities to apply for federal funding to improve intersections and roadways. Such improvements include signal enhancements, minor geometric improvements, roadside obstacles, sight line conditions, hazards to pedestrians, and pavement markings.

Benefits:

- Signal enhancements will help driver visibility and awareness.
- Geometric improvements will aid driver's ease to go through intersections and along sections and give a better understanding of the roadway conditions.
- Pedestrian improvements will reduce the number and severity of pedestrian crashes throughout the State.

Replacement of Speed Limit and Stop Signs on Municipal Roadways

Purpose:

From 2020-2021, 19% of all crashes were speeding related. In the State of Connecticut, the fatality rate on rural roads has increased over the past 2 years, which means that the High-Risk Rural Road (HRRR) Special Rule will be implemented into the HSIP IP for FFY2024. Because of this, the State will have a focus on improvements for all HRRRs and try to increase driver visibility and awareness. These updates will greatly improve roadway conditions and implement safer travel.

Cost: \$150,000

Methodology and Implementation Plan:

The CTDOT will request municipal feedback of locations to install new retroreflective speed limit and stop signs. These improvements include increasing retroreflectivity of the signs to make drivers more aware of the roadway signs and placing speed limit signs in accordance with [CTDOT Signing Guidelines](#) so that for each minute of travel, the drivers will see a posted speed limit signs.

Benefits:

- Increased driver visibility and awareness.
- Aid the municipalities in adhering to retroreflectivity requirements.



Guiderail Study on Municipal Roads

Purpose:

Between 2020-2022, roadway departure crashes accounted for 30% of all crashes on roadways.¹ To prevent such crashes appropriately, engineered guiderails can be placed to ensure safety in specific areas of the roadway.

Cost: \$300,000

Methodology and Implementation Plan:

The CTDOT will review existing guiderail locations on municipal roadways and assess the need for updates and improvements based on existing conditions. The result of this study will provide locations for improved guiderail infrastructure.

Benefits:

- The engineered guiderails will reduce severity of roadway departure crashes by giving vehicles the opportunity to recover safely and by reducing crash severity.
- Guiderails will aid road users who are veering off the roadway back onto the road instead of hitting an object that would result in a more serious injury.



¹ See "Connecticut Fatal and Serious Injury Crash Tree" in Appendix B

Wider Edge Lines/Recurring Pavement Markings Study

Purpose:

Roadway departures are within the top three highest percentile of fatal and serious injury crashes.² Of crashes on municipal roadway segments, 30% of fatal and serious injury crashes were attributed to roadway departure.³ Updating pavement markings and installing wider edge on municipal roads to increase retroreflectivity will help increase driver visibility and awareness. This will also contribute to the Older Drivers and Pedestrians Special Rule.

Cost: \$150,000

Methodology and Implementation Plan:

The CTDOT will work with municipalities to compile a statewide planning study to determine municipal roads in each town that will benefit from wider edge lines and updated pavement markings. The pavement markings will be retroreflective to increase driver visibility and awareness.

Benefits:

- Pavement markings provide guidance on a clear path for travel.⁴
- Wider edge lines increase drivers' perception of the edge of the travel lane and can provide a safety benefit to all facility types.⁵
- Pavement markings for horizontal curves are an FHWA Proven Safety Countermeasure and provide a 37% reduction in all crashes.⁶

Pedestrian Signing Project

Purpose:

Of the total pedestrian crashes from 2020-2022, approximately 81% or 514 crashes occurred on the roadway⁷. While it is not recorded if these crashes occurred within a crosswalk or not, given the number of crashes, pedestrian signage will be installed systematically on both sides of the roadway approaching pedestrian crossing on state routes to increase conspicuity of the crossing.

Cost: \$520,000

Methodology and Implementation Plan:

The CTDOT will systemically install both advanced pedestrian signage and back-to-back signage at the crosswalks on both sides of the roadway for pedestrian crossings on state routes.

Benefits:

- The signage will alert drivers of possible pedestrian activity and prevent pedestrian crashes.
- Advance yield or stop markings and signs can reduce pedestrian crashes up to 25%.⁸

² See Figure 2 "Distribution of Crash Type for Fatal and Serious Injury Crashes throughout the State" on page 6

³ See "Connecticut Fatal and Serious Injury Crash Tree" in Appendix E

⁴ See FHWA "The Benefits of Pavement Markings: A Renewed Perspective Based on Recent and Ongoing Research"; https://safety.fhwa.dot.gov/roadway_dept/night_visib/pavement_visib/no090488/

⁵ See FHWA "Wider Edge Lines"; <https://highways.dot.gov/safety/proven-safety-countermeasures/wider-edge-lines>

⁶ See FHWA "Enhanced Delineation for Horizontal Curves"; https://safety.fhwa.dot.gov/provencountermeasures/enhanced_delineation.cfm

⁷ See "Fatal and Serious Injury Pedestrian and Bicycle Crash Tree" in Appendix E

⁸ See FHWA "Crosswalk Visibility Enhancements"; <https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements>

Designed Illumination at Crosswalks Study

Purpose:

Of total pedestrian crashes on municipal roads between 2020-2022, 166 crashes occurred between dusk and dawn and 138 occurred during daylight hours. Of the pedestrian crashes on state roads, 180 crashes occurred between dusk and dawn and 69 occurred during daylight hours.⁹

Cost: \$400,000

Methodology and Implementation Plan:

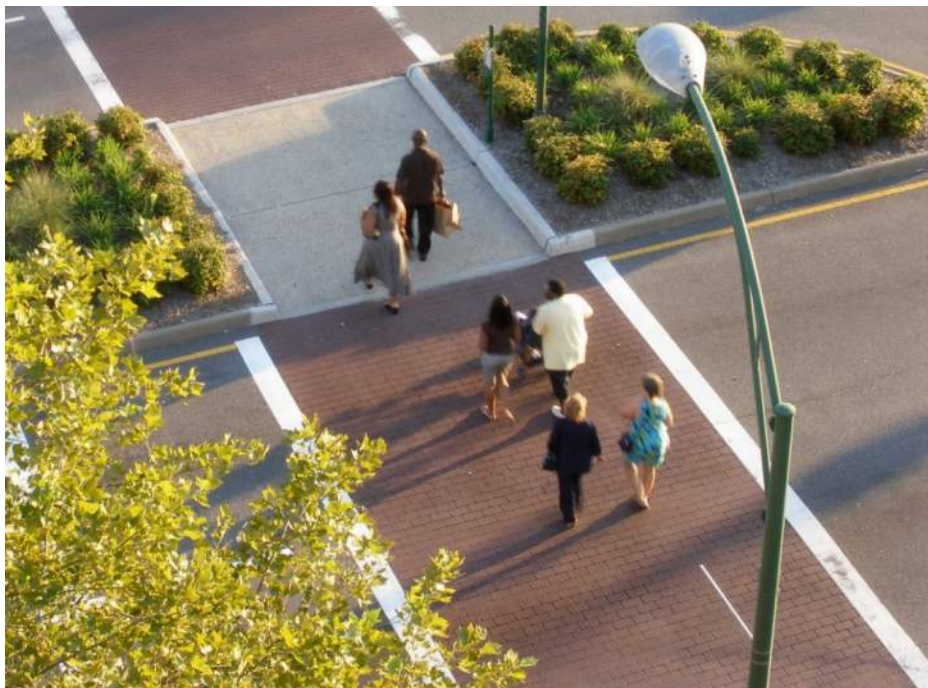
CTDOT will evaluate the existing crosswalks on both municipal and state roadways to see where illumination can be improved.

It is recommended that planning studies be initiated to review:

- a. All state-owned signalized intersections, roundabouts, and mid-block crosswalks to determine if appropriate illumination is provided or to document/estimate what illumination should be provided.
- b. All municipal owned signalized intersections, roundabouts, and mid-block crosswalks to determine if appropriate illumination is provided or to document/estimate what illumination should be provided.

Benefits:

- To identify appropriate candidate locations for improved illumination, to facilitate & expedite the future design and construction process.
- Better illumination with positive contrast will make it easier for a driver to visually identify a pedestrian.
- Illumination is an FHWA Proven Safety Countermeasure and can reduce pedestrian crashes up to 42%.¹⁰



⁹ See "Municipal Fatal and Serious Injury Fixed Object Segment Crash Tree" in Appendix E

¹⁰ See FHWA "Proven Safety Countermeasures: Crosswalk Visibility Enhancements"; <https://safety.fhwa.dot.gov/provencountermeasures/crosswalk-visibility.cfm>

Pedestrian Signal Improvements

Purpose:

From 2020-2022, 33% of all pedestrian crashes occurred at intersections statewide. Improvements to enhance pedestrian accessibility are driven by the Vulnerable Road User (VRU) Safety Special Rule, which allows for a focus on highway safety improvements for the next fiscal year to address the safety of vulnerable road users.

Cost: \$2,500,000

Methodology and Implementation Plan:

The CTDOT will evaluate intersections that have existing side street green pedestrian phases and will upgrade these phases, along with the equipment, to concurrent pedestrian phasing. This will better identify where and when pedestrians should cross the road. Where appropriate, Leading Pedestrian Intervals (LPI) will be included as part of the concurrent pedestrian phasing. LPI gives pedestrians the opportunity to enter the crosswalk at an intersection before vehicles are given a green indication. This allows pedestrians to travel into the crosswalk and be easily identifiable to traffic. Underground utility work will take place to install new pedestrian equipment.

Benefits:

- Leading Pedestrian Intervals (LPI) are a FHWA Proven Safety Countermeasure and can reduce pedestrian-vehicle crashes at intersections by 13%.¹¹
- There is increased visibility of crossing pedestrians.
- Concurrent pedestrian signal equipment provides improved clarity to pedestrians compared to side street green pedestrian signal equipment.



¹¹ See FHWA "Leading Pedestrian Interval";

<https://highways.dot.gov/safety/proven-safety-countermeasures/leading-pedestrian-interval>

Remove Nighttime Flash at Signalized Intersections Study

Purpose:

Some signalized intersections throughout the state utilize nighttime flash. This system is outdated because updated detection can be utilized to properly regulate vehicular flow. Removing the nighttime flash will decrease driver confusion and improve driver expectancy.

Cost: \$150,000

Methodology and Implementation Plan:

CTDOT will evaluate intersections that have existing nighttime flash and determine the necessary equipment to remove overnight flash.

Benefits:

- Pedestrian facilities will function at all hours of the day and night.
- Improve driver expectancy.
- Decrease driver confusion.

RRFB Installation on Municipal and State Roads

Purpose:

From 2020-2022, pedestrian crashes accounted for a total of 611 fatal or serious injury crashes statewide. 14% of the total fatal or serious injury crashes are pedestrian crashes. The statewide crash data revealed a trend with these types of crashes occurring in larger, more dense municipalities. This study will focus on the municipalities with the highest rates of pedestrian crashes and will result in a list of locations that would benefit from the installation of a RRFB.

Cost: \$2,000,000

Methodology and Implementation Plan:

CTDOT, with municipal input, will evaluate potential locations that would most benefit from the installation of a RRFB.

Benefits:

- RRFBs provide safe crossings for pedestrians at unsignalized locations.
- Increases driver awareness of pedestrians.
- RRFBs are a FHWA Proven Safety Countermeasure and can reduce crashes up to 47% and can increase motorist yielding rates up to 98%.¹²

¹² See FHWA "Rectangular Rapid Flashing Beacons (RRFB)"; <https://highways.dot.gov/safety/proven-safety-countermeasures/rectangular-rapid-flashing-beacons-rrfb>

Safe Routes to School Program (SRTS)

Purpose:

The Safe Routes to School Program (SRTS), established in 2005 and recently revised in 2021, works to make walking and bicycling to school a safer and more appealing transportation alternative for children. The SRTS Program utilizes the framework of the six E's: Education, Engineering, Evaluation, Enforcement, Encouragement, and Equity by having training sessions, data collection, and Pedestrian Safety Assessments (Walk Audits) to educate people about children's safety and what needs to be done to make the roads more suitable for all users.

Cost: \$500,000

Methodology and Implementation Plan:

The SRTS Program includes non-infrastructure components to serve school districts and communities with education, outreach, training, events, and technical assistance, such as Pedestrian Safety (Walk Audits) and data collection. The education component of the program is designed to include bicycle and pedestrian safety curriculum planning and implementation. In school facilitation of curriculum will be required as schools begin to participate in the SRTS Program. Outreach will include regional meetings with the Councils of Government as well as participation in fairs and outreach events across the State. It will also include major events twice a year that coincide with national efforts for Walk, Bike, and Roll to School days. Training, including how to get started with the program and what is going to be required, will be provided to school districts through communications and notifications of the program. Teams will conduct walk audits of the schools, prepare a report, and review it with the school community. Once this is done, the schools will decide whether they want to pursue a Safe Routes to School Master Plan, which will review the data and make determinations about recommendations and next steps.

Benefits:

- Safer roads and walkways for students to use.
- Awareness for students who commute by walking or bicycling.



Wrong Way Driving Education Campaign

Purpose:

The wrong way driving education campaign will inform drivers of technology and awareness skills to reduce the likelihood of wrong way crashes. In 2022, wrong way driving crashes tripled in Connecticut. Studies have shown that wrong way crashes are 100 times more likely to be fatal than other types of crashes¹³.

Cost: \$500,000

Methodology and Implementation Plan:

CTDOT will work to better educate drivers on roadway awareness and safety through a campaign initiative with the Highway Safety Office. Funding for this will aid in the overall education process and materials necessary to conduct public outreach.

Benefits:

- Increased driver awareness on CT roadways.
- Reduced wrong way crashes on limited access highways.



¹³ See CTDOT Press Releases "Governor Lamont Announces Launch of Wrong-Way Driving Public Awareness Campaign;" <https://portal.ct.gov/DOT/CTDOT-Press-Releases/2023/Governor-Lamont-Announces-Launch-of-Wrong-Way-Driving-Public-Awareness-Campaign>

Regional Transportation Safety Plan Updates

Purpose:

The Regional Transportation Safety Plans (RTSP) for Connecticut's nine COGs are comprehensive reports that outline actions within each region to assist the regions and their member municipalities in collaborating on funding projects to reduce the number of fatal and serious injury crashes on state and municipal roadways. Updates to these plans are necessary in order to target the best courses of action for reducing the number and severity of crashes.

Cost: \$2,300,000

Methodology and Implementation Plan:

CTDOT will support each of the nine COGs in updating their respective Regional Transportation Safety Plans in an effort to identify new projects to reduce the number of fatal and serious injury crashes within the regions.

Benefits:

- Lower driver and pedestrian fatality rates throughout the State.
- Implementation of the updated RTSPs will prevent future crashes and ensure safety.
- New RTSPs may be used by COGs when applying for Safe Streets and Roads for All (SS4A) funding for implementation grants.

Strategic Highway Safety Plan – Implementation and Evaluation Plans

Purpose:

The Strategic Highway Safety Plan (SHSP) is a major component and requirement of the HSIP. It is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads¹⁴. The SHSP identifies the safety needs and aids in the decision-making process for identification of countermeasures to reduce crashes and prevent injuries throughout the state. The implementation and evaluation plans will guide the framework to bring projects into fruition and aid CT in accomplishing safety goals instilled by the proposed projects.

Cost: \$2,200,000

Methodology and Implementation Plan:

CTDOT plans to prepare an Implementation Plan, Evaluation Plan, and Safety Summit for FFY2024. These plans and summit will help the State to schedule and implement data-driven identified highway safety improvement project. They will also help CT to evaluate the activities, characteristics, and outcomes of the HSIP to make judgements about it, improve its effectiveness, and inform decisions about future programming¹⁵.

Benefits:

- Review past projects to make informed decisions on proposed projects.
- Ensure the safety funding for the state is distributed most effectively for reducing fatal and serious injury crashes.

¹⁴ See FHWA "Strategic Highway Safety Plan (SHSP)," <https://highways.dot.gov/safety/hsip/shsp>

¹⁵ See FHWA "SHSP Evaluation Process Model," <https://highways.dot.gov/safety/hsip/shsp/shsp-evaluation-process-model>

Speed Enforcement on Rural Roads

Purpose:

From 2020-2022, speeding accounted for 19% of all crashes (1,135 total crashes) in Connecticut. Funding provided to law enforcement for education, purchasing of materials, and labor to conduct speeding check points is anticipated to reduce speeding related crashes. Throughout stakeholder outreach it became evident that all COGs were in favor of a program to provide speed surveillance equipment for law enforcement personnel in addition to training and labor funds to conduct the speed reviews.

Cost: \$1,800,000

Methodology and Implementation Plan:

CTDOT will establish a budget specifically to support the education and enforcement of posted speed limits. Police officers will be educated on specific speed-detecting devices, provided with equipment, if needed, and will be paid overtime for their efforts.

Benefits:

- To provide law enforcement officers with equipment to conduct speed enforcement and education on how to appropriately utilize the equipment.
- Increased enforcement will reduce speeding overall, reducing the amount of speed related crashes.

Summary

The HSIP Implementation Plan describes how HSIP funds will be allocated during the plan period. Connecticut makes this determination by obligating needs by the SHSP emphasis areas (e.g., infrastructure), as well as other categories such as roadway ownership (e.g., state vs. municipal roads) and improvement type (e.g., spot vs. systemic).

It has been determined within this report that the HSIP funding should be reallocated to better align with the existing crash data trends. The top three crash types include roadway departure, intersection, and pedestrian crashes. The proposed funding allocations are separated into these categories to identify projects that will help reduce crash rates and improve overall safety.

The project list found in Appendix A exhibits the proposed projects that CTDOT will obligate for FFY2024. The projects will aid in reducing fatal and severe injury crashes and provide a safe roadway network statewide.

APPENDIX A:

Project List

The project list below outlines proposed and ongoing projects from the HSIP IP FFY2022 and FFY2023. The FFY2022 and FFY2023 projects are progressing in planning, design, and implementation as a result of FFY2022 and FFY2023 funding and associated obligations are included in the FFY 2024 plan.

PROJECT	PHASE	MUNICIPALITY/ DISTRICT	DESCRIPTION	TOTAL COST	FEDERAL SHARE	Program	Improvement Type	SHSP Emphasis Area	Roadway Ownership	systemic/spot
Intersection Projects										
New HSIP IP Phases to be Obligated in FFY2024										
TBD	PL	VARIOUS	Replacement of Speed Limit and Stop Signs on Municipal Roadways Study	150,000	135,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	Systemic
TBD	PL	VARIOUS	Wider Edge Lines/Recurring Pavement Markings Study	150,000	135,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	Systemic
TBD	PE	VARIOUS	Remove Nighttime Flash at Signalized Intersections	150,000	135,000	intersection	Intersection Traffic Control	Infrastructure	State	Systemic
Subtotal for new intersection				450,000	405,000					
Project Phases to be Obligated in FFY2024 (From Previous HSIP IP FFY2022/FFY2023)										
0063-0720	CN	HARTFORD	Intersection Improvements at Sigourney Street	1,608,000	1,608,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	spot
0092-0681	PE	NEW HAVEN	Intersect. Imprvmt at SR745 & Kimberly Ave	675,000	607,500	intersection	Intersection Traffic Control	Infrastructure	State	spot
0092-0681	RW	NEW HAVEN	Intersect. Imprvmt at SR745 & Kimberly Ave	250,000	225,000	intersection	Intersection Traffic Control	Infrastructure	State	spot
0102-0362	CN	NORWALK	Over-Height Vehicle Detection System at North Main/South Main Street	384,430	384,430	intersection	Intersection Traffic Control	Infrastructure	Municipal	spot
0135-0342	CN	STAMFORD	Int. Imprvs. @ Gay St. & Greyrock St.	3,400,000	3,060,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	spot
0151-0337	CN	WATERBURY	Realign Int. @ East Farm & North Walnut Streets	725,000	652,500	intersection	Intersection Traffic Control	Infrastructure	Municipal	spot
0151-0338	CN	WATERBURY	Traffic Signal Revision @ Int. w/ Brass Mill Dr.	1,055,448	1,055,448	intersection	Intersection Traffic Control	Infrastructure	Municipal	spot
0156-0183	CN	WEST HAVEN	HFCL Traffic Signal Improvements at Fairfax Street (PD)	632,000	632,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	spot
0171-0462	CN	DISTRICT 1	Traffic Signal Safety Improvements (Project #1)	583,000	100,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0171-0463	RW	DISTRICT 1	Traffic Signal Safety Improvements (Project #2)	10,000	10,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0171-0463	PE	DISTRICT 1	Traffic Signal Safety Improvements (Project #2)	831,000	831,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0171-0463	CN	DISTRICT 1	Traffic Signal Safety Improvements (Project #2)	600,300	100,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0171-0470	CN	DISTRICT 1	Install Signs & Update Markings at Unsignalized Locations	2,550,000	582,511	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0171-0474	PE	DISTRICT 1	Clearance Interval Retiming for Local Traffic Signals (FD)	300,000	300,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0171-0474	CN	DISTRICT 1	Clearance Interval Retiming for Local Traffic Signals	450,000	450,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0171-0488	PE	DISTRICT 1	Signing & Pvmnt Mkg Imps at Municipally Owned Unsignalized Intersections (PD)	90,000	90,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0172-0510	PE	DISTRICT 2	Clearance Interval Retiming for Local Traffic Signals (FD)	30,000	30,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0172-0510	CN	DISTRICT 2	Clearance Interval Retiming for Local Traffic Signals	50,000	50,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0172-0521	PE	DISTRICT 2	Signing & Pvmnt Mkg Imps at Municipally Owned Unsignalized Intersections (PD)	30,000	30,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0172-0521	CN	DISTRICT 2	Signing & Pvmnt Mkg Imps at Municipally Owned Unsignalized Intersections	710,000	710,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0173-0517	CN	DISTRICT 3	Install Signs & Update Markings at Unsignalized Locations	4,350,000	1,000,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0173-0522	PE	DISTRICT 3	Clearance Interval Retiming for Local Traffic Signals (FD)	500,000	500,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0173-0522	CN	DISTRICT 3	Clearance Interval Retiming for Local Traffic Signals	850,000	850,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0174-0435	CN	DISTRICT 4	Traffic Signal Safety Improvements (Proj #1)	4,475,000	4,475,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0174-0436	CN	DISTRICT 4	Traffic Signal Safety Improvements (Proj #2)	3,166,000	3,166,000	intersection	Intersection Traffic Control	Infrastructure	State	systemic
0174-0453	PE	DISTRICT 4	Clearance Interval Retiming for Local Traffic Signals (FD)	150,000	150,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0174-0453	CN	DISTRICT 4	Clearance Interval Retiming for Local Traffic Signals	150,000	150,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0174-0461	PE	DISTRICT 4	Signing & Pvmnt Mkg Imps at Municipally Owned Unsignalized Intersections (PD)	60,000	60,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
0174-0461	PE	DISTRICT 4	Signing & Pvmnt Mkg Imps at Municipally Owned Unsignalized Intersections (PD)	100,000	100,000	intersection	Intersection Traffic Control	Infrastructure	Municipal	systemic
Subtotal for existing intersection				28,765,178	21,959,389					
Total for ALL intersection				29,215,178	22,364,389					
Pedestrian Projects										
New HSIP IP Phases to be Obligated in FFY2024										
TBD	PE	VARIOUS	Pedestrian Signing Project	520,000	520,000	pedestrian	non-motorized road users	pedestrian	State	systematic
TBD	PL	VARIOUS	Designed Illumination at Crosswalks Study	400,000	360,000	pedestrian	non-motorized road users	pedestrian	State	systemic
TBD	PE	VARIOUS	RRFB Installation on Municipal and State Roads	2,000,000	1,800,000	pedestrian	non-motorized road users	pedestrian	State	systematic
TBD	PE	VARIOUS	Pedestrian Signal Improvements	2,500,000	2,250,000	pedestrian	non-motorized road users	pedestrian	State	systematic
Subtotal for new pedestrian				5,420,000	4,930,000					
Project Phases to be Obligated in FFY2024 (From Previous HSIP IP FFY2022/FFY2023)										
0171-0468	PE	DISTRICT 1	Midblock Crosswalk Upgrades (RRFBs) (FD)	292,000	262,800	pedestrian	non-motorized road users	pedestrian	State	systemic
0171-0468	RW	DISTRICT 1	Midblock Crosswalk Upgrades (RRFBs)	60,000	54,000	pedestrian	non-motorized road users	pedestrian	State	systemic
0171-0468	CN	DISTRICT 1	Midblock Crosswalk Upgrades (RRFBs)	1,669,000	1,502,100	pedestrian	non-motorized road users	pedestrian	State	systemic
0172-0505	PE	DISTRICT 2	Midblock Crosswalk Upgrades (RRFBs) (FD)	67,000	60,300	pedestrian	non-motorized road users	pedestrian	State	systemic
0172-0505	RW	DISTRICT 2	Midblock Crosswalk Upgrades (RRFBs)	15,000	13,500	pedestrian	non-motorized road users	pedestrian	State	systemic
0172-0505	CN	DISTRICT 2	Midblock Crosswalk Upgrades (RRFBs)	420,000	378,000	pedestrian	non-motorized road users	pedestrian	State	systemic
0173-0516	RW	DISTRICT 3	Midblock Crosswalk Upgrades (RRFBs)	35,000	31,500	pedestrian	non-motorized road users	pedestrian	State	systemic
0173-0516	PE	DISTRICT 3	Midblock Crosswalk Upgrades (RRFBs) (FD)	183,000	164,700	pedestrian	non-motorized road users	pedestrian	State	systemic
0173-0516	CN	DISTRICT 3	Midblock Crosswalk Upgrades (RRFBs)	1,049,000	944,100	pedestrian	non-motorized road users	pedestrian	State	systemic
0174-0447	CN	DISTRICT 4	Midblock Crosswalk Upgrades (RRFBs)	1,192,000	1,072,800	pedestrian	non-motorized road users	pedestrian	State	systemic
Subtotal existing for pedestrian				4,982,000	4,483,800					
Total for ALL pedestrian				10,402,000	9,413,800					

Roadway Departure Projects										
New HSIP IP Phases to be Obligated in FFY2024										
TBD	PL	VARIOUS	Guiderail Study on Municipal Roads	300,000	270,000	roadway departure	guiderail	Infrastructure	Municipal	systemic
TBD	PE/CN	DISTRICT 1	High Friction Surface Treatment at Various Locations	6,000,000	5,400,000	roadway departure	guiderail	Infrastructure	Municipal	systemic
Subtotal for new roadway departure				6,300,000	5,670,000					
Project Phases to be Obligated in FFY2024 (From Previous HSIP IP FFY2022/FFY2023)										
0171-0472	CN	DISTRICT 1	Install Curve Warning Signs at Various Locations	575,000	575,000	roadway departure	Intersection Traffic Control	Infrastructure	Municipal	systemic
0171-0489	CN	DISTRICT 1	Install High Fric. Surface Treatment at Various Locations (PD)	3,869,102	3,869,102	roadway departure	skid resistant surface	Infrastructure	State	systemic
0172-0508	CN	DISTRICT 2	Install Curve Warning Signs at Various Locations	365,000	365,000	roadway departure	Intersection Traffic Control	Infrastructure	Municipal	systemic
0173-0520	CN	DISTRICT 3	Install Curve Warning Signs at Various Locations	630,000	630,000	roadway departure	Intersection Traffic Control	Infrastructure	Municipal	systemic
0174-0451	PE	DISTRICT 4	Install Curve Warning Signs at Various Locations (FD)	87,500	87,500	roadway departure	Intersection Traffic Control	Infrastructure	Municipal	systemic
0174-0451	CN	DISTRICT 4	Install Curve Warning Signs at Various Locations	305,000	305,000	roadway departure	Intersection Traffic Control	Infrastructure	Municipal	systemic
Subtotal for existing roadway departure				5,831,602	5,831,602					
Total for ALL roadway departure				12,131,602	11,501,602					
Other HSIP projects										
New HSIP IP Phases to be Obligated in FFY2024										
TBD	PL	VARIOUS	Wrong Way Driving Education Campaign	500,000	500,000	other		Non-Emphasis	State	other
TBD	PL	VARIOUS	Regional Transportation Safety Plan Updates	2,300,000	2,300,000	other		Non-Emphasis	Statewide	other
TBD	PL	VARIOUS	Strategic Highway Safety Plan – Implementation and Evaluation Plans	2,200,000	2,200,000	other		Non-Emphasis	Statewide	other
TBD	PL	VARIOUS	Local Road Safety Program	500,000	500,000	other		Non-Emphasis	Municipal	other
TBD	PL	VARIOUS	Safe Routes to School Program (SRTS)	500,000	500,000	other		Non-Emphasis	Municipal	other
TBD	PL	VARIOUS	Speed Enforcement on Rural Roads	1,800,000	1,620,000	other		Behavioral	Municipal	other
Subtotal for new other HSIP projects				7,800,000	7,620,000					
Project Phases to be Obligated in FFY2024 (From Previous HSIP IP FFY2022/FFY2023)										
0093-0241	PL	NEWINGTON	CT Safety Research Center (7/1/21-6/30/26)	2,033,118	2,033,118	other		Non-Emphasis	statewide	other
0093-0242	PL	NEWINGTON	Highway Safety Office Tasks Consistent with SHSP (7/1/21-6/30/26)	989,655	989,655	other		Non-Emphasis	statewide	other
0170-3565	PL	STATEWIDE	CT Safety Analysis Methods (thru 9/30/25)	518,776	518,776	other		Non-Emphasis	statewide	other
0170-3628	HO	STATEWIDE	CHAMP Safety Service Patrol (5/23/22 - 5/22/25)	5,083,580	4,575,222	other		Non-Emphasis	Statewide	other
0170-3631	PL	STATEWIDE	Safety Circuit Rider Program (10/1/22-9/30/27)	504,000	504,000	other		Non-Emphasis	Statewide	other
0170-3695	PL	STATEWIDE	Statewide Illumination Study (Term thru 5/31/26)	643,123	643,123	other		Infrastructure	Statewide	systemic
0170-3696	PL	STATEWIDE	Statewide No Turn on Red Study (Term thru 5/31/26)	300,000	300,000	other		Infrastructure	Statewide	systemic
0170-3697	PL	STATEWIDE	Local Road Pavement Markings Study (Term thru 5/31/26)	350,000	350,000	other		Infrastructure	Statewide	systemic
0170-3700	TR	STATEWIDE	Speed Education & Enforcement - HRRR (Term thru 5/31/26)	1,197,110	1,197,110	other		Infrastructure	Statewide	systemic
subtotal for other HSIP projects				11,619,362	11,111,004					
Total for ALL roadway departure				19,419,362	18,731,004					

totals (\$) = 51,198,142 43,385,795

FY2024 Obligated totals (matches Financial list)	51,198,142	43,385,795
FY2024 Proposed Project totals	19,970,000	18,625,000
Grand total	71,168,142	62,010,795

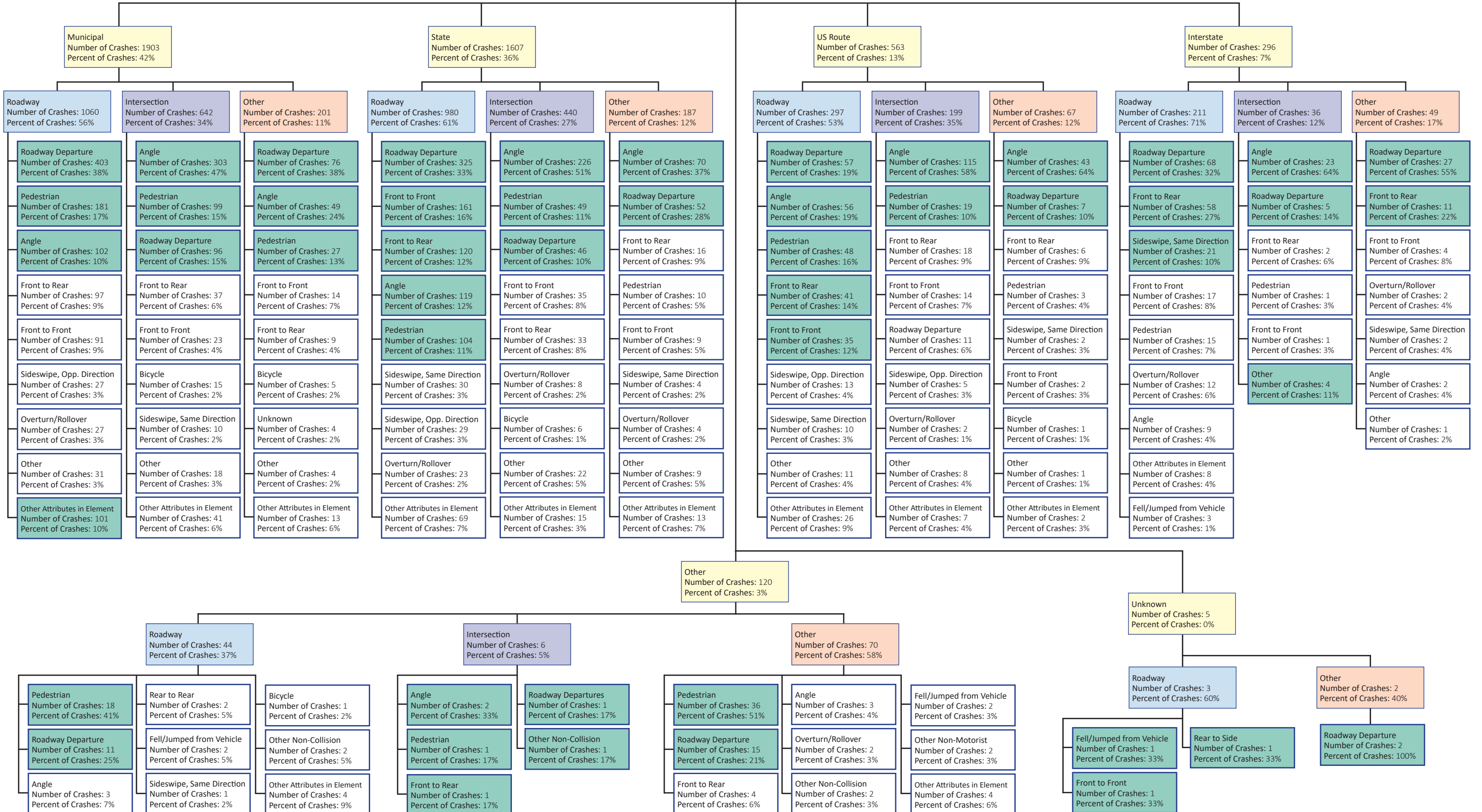
APPENDIX B:

Crash Trees

Connecticut Fatal and Serious Injury Crash Tree

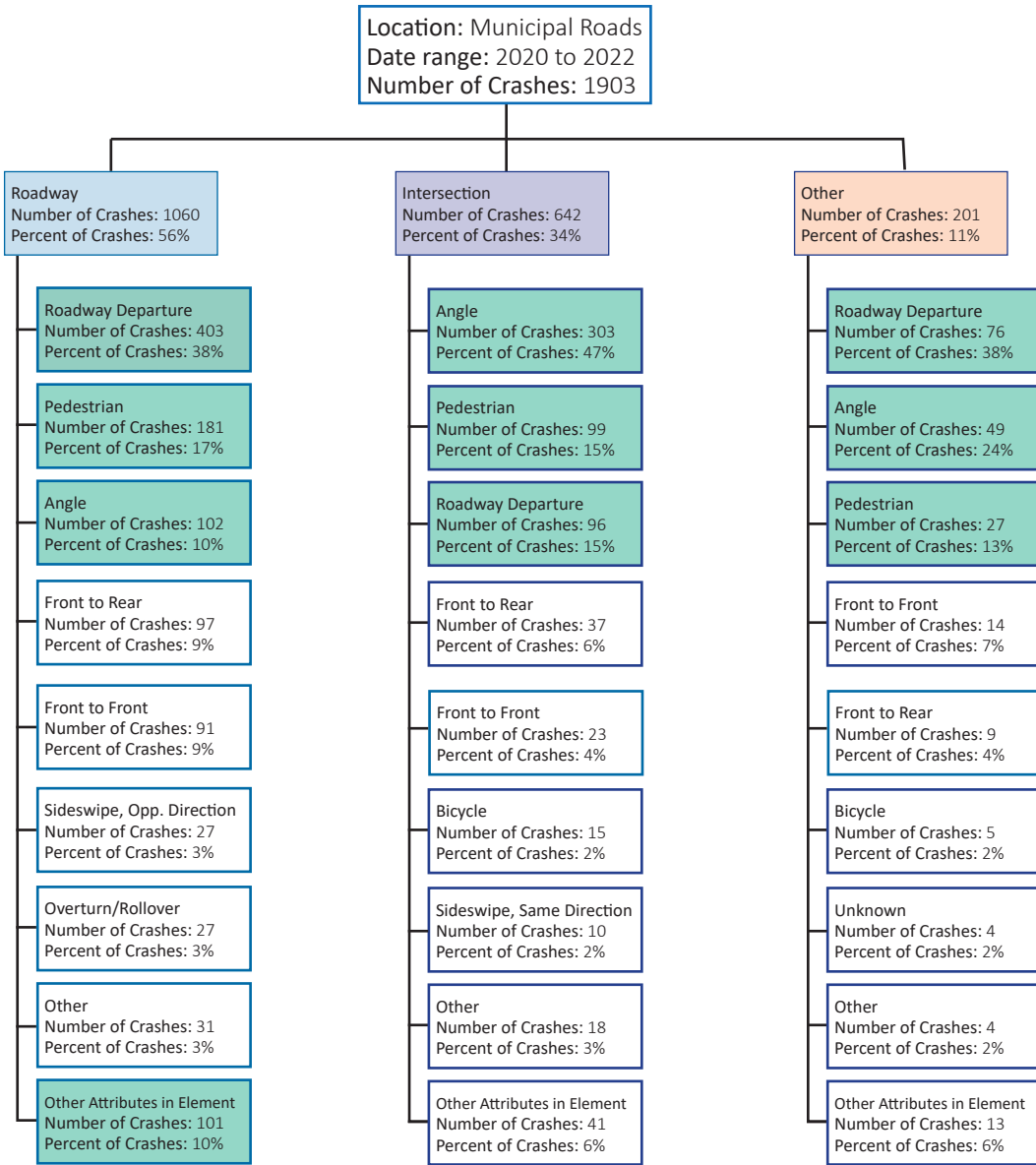
State and Municipal Roads

Location: Connecticut
 Date range: 2020 to 2022
 Number of Crashes: 4494



 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree Municipal Roads

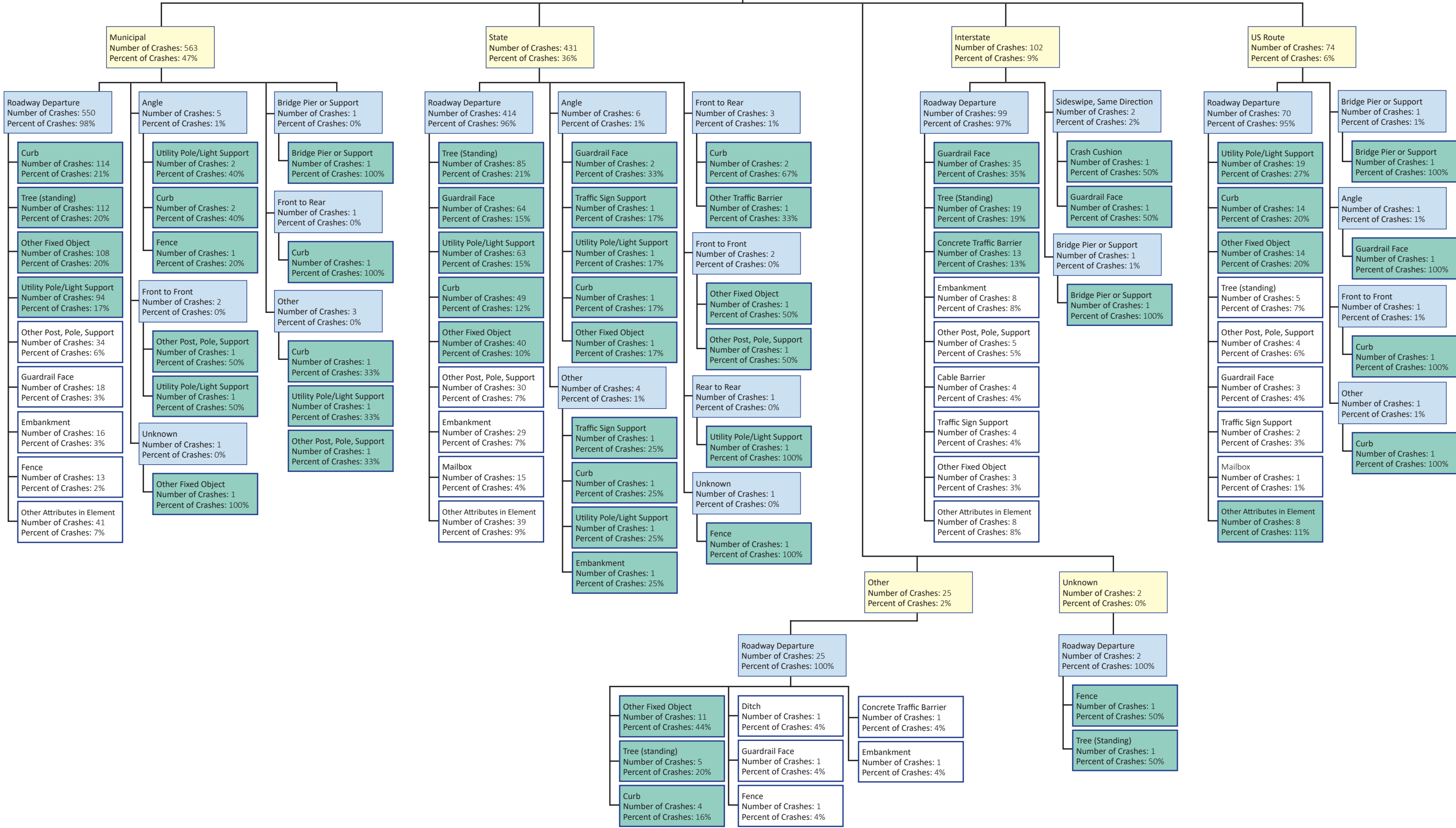


= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree

State and Municipal Roads - Fixed Object Crashes

Location: Connecticut
Date range: 2020 to 2022
Number of Crashes: 1197

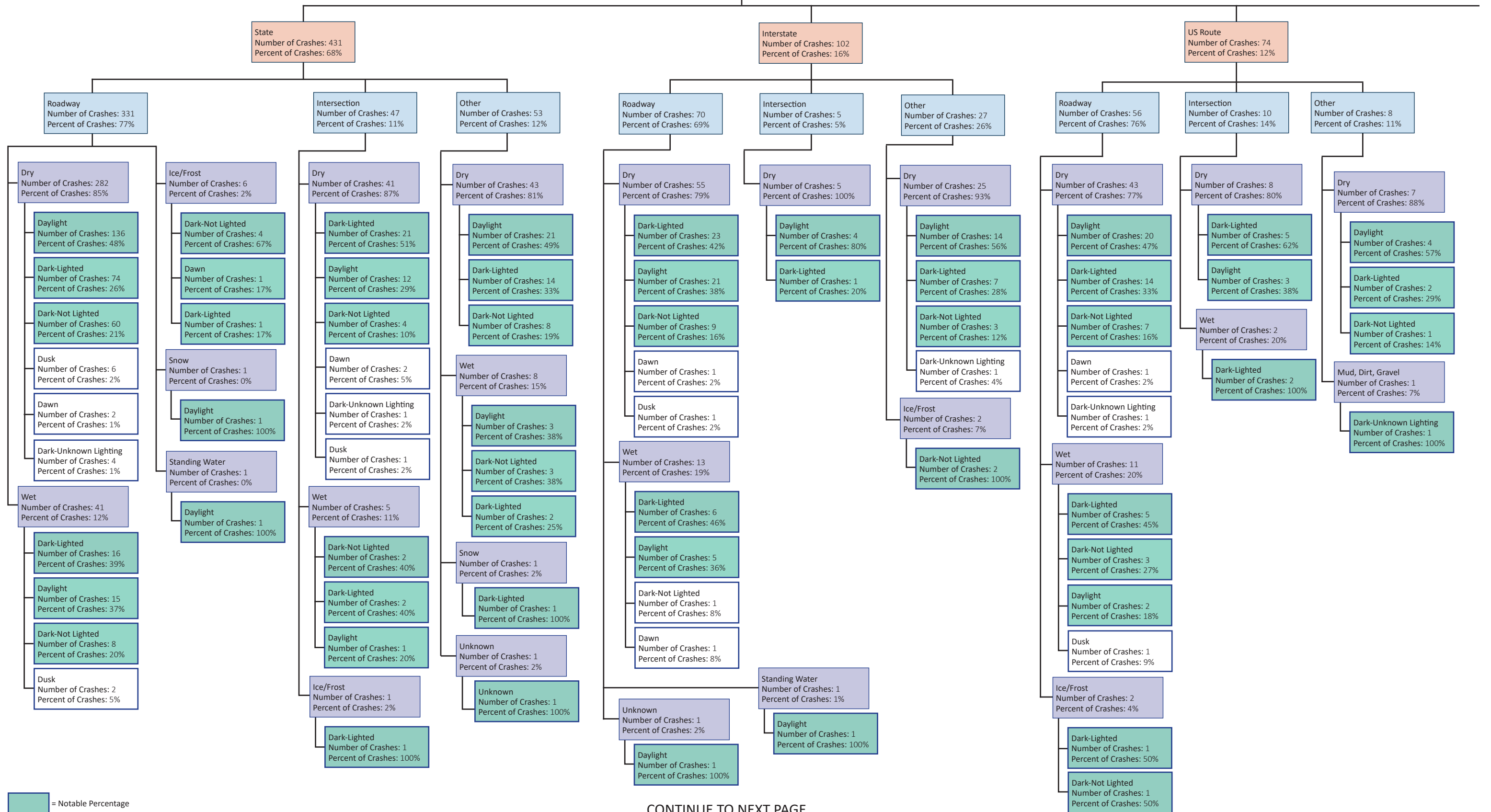


 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree

State Roads - Fixed Object Crashes

Location: State Roads
Date range: 2020 to 2022
Number of Crashes: 634



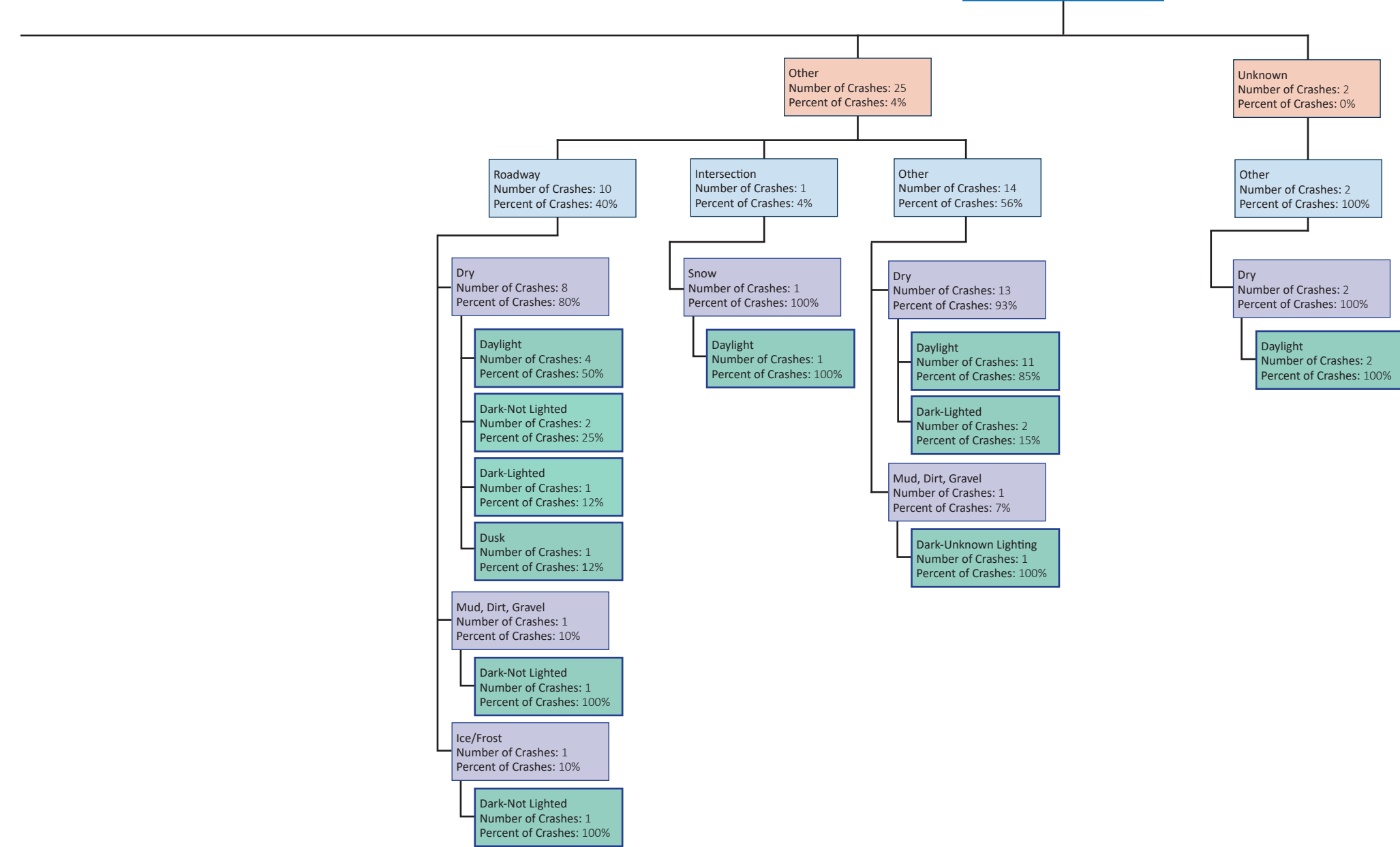
 = Notable Percentage

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Connecticut Fatal and Serious Injury Crash Tree

State Roads - Fixed Object Crashes

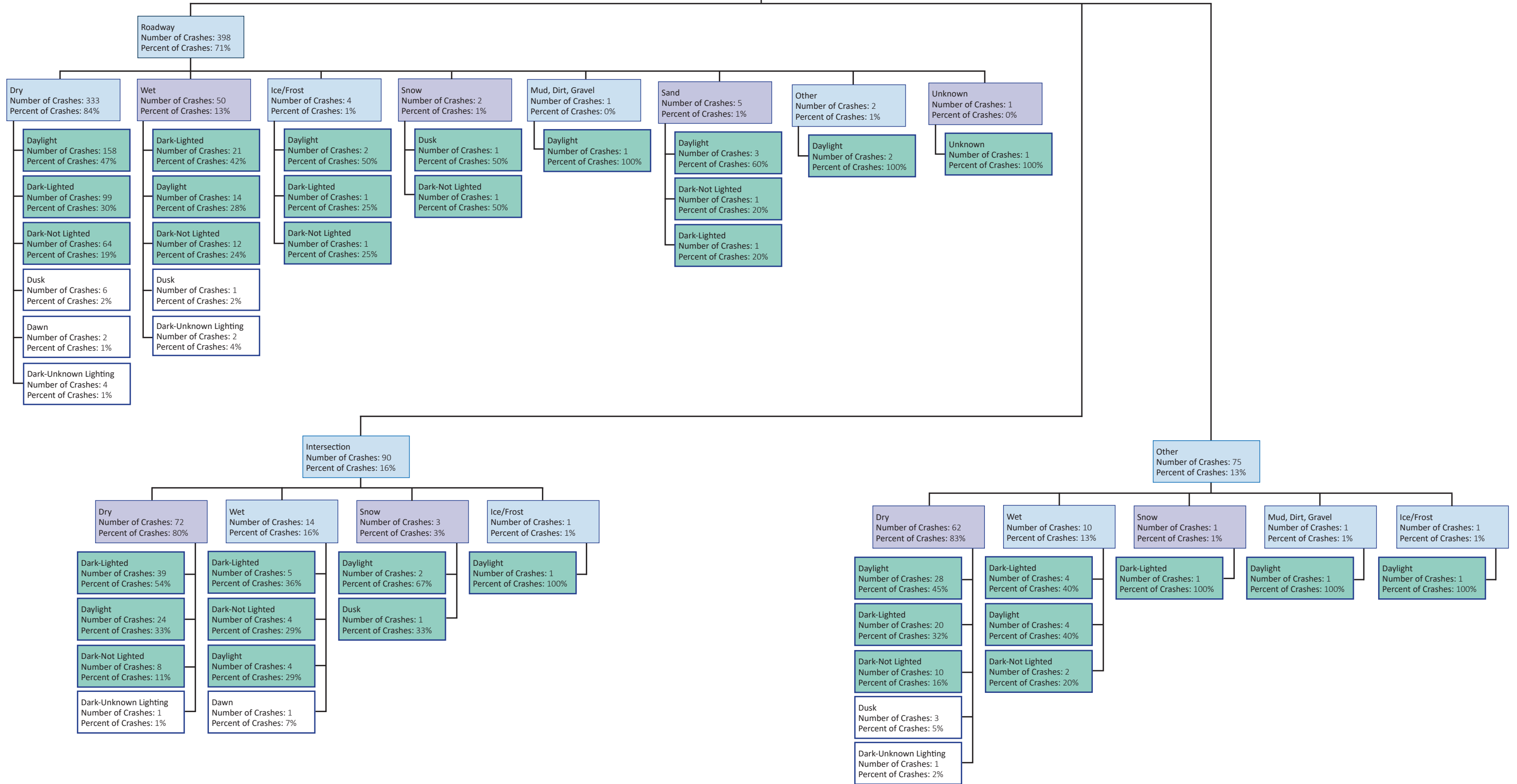
Location: State Roads
Date range: 2020 to 2022
Number of Crashes: 634



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree Municipal Roads - Fixed Object Crashes

Location: Municipal Roads
Date range: 2020 to 2022
Number of Crashes: 563

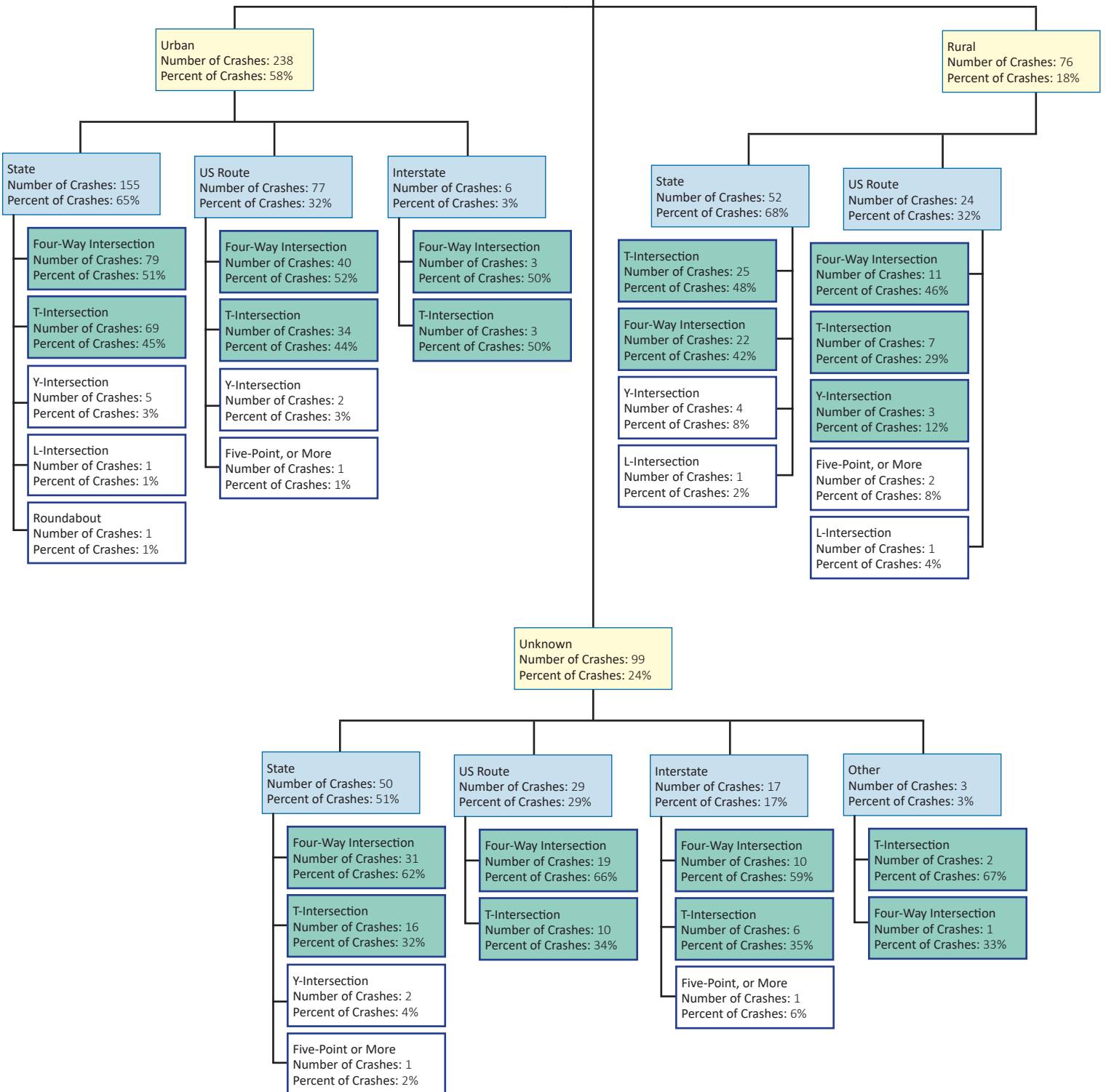


= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree

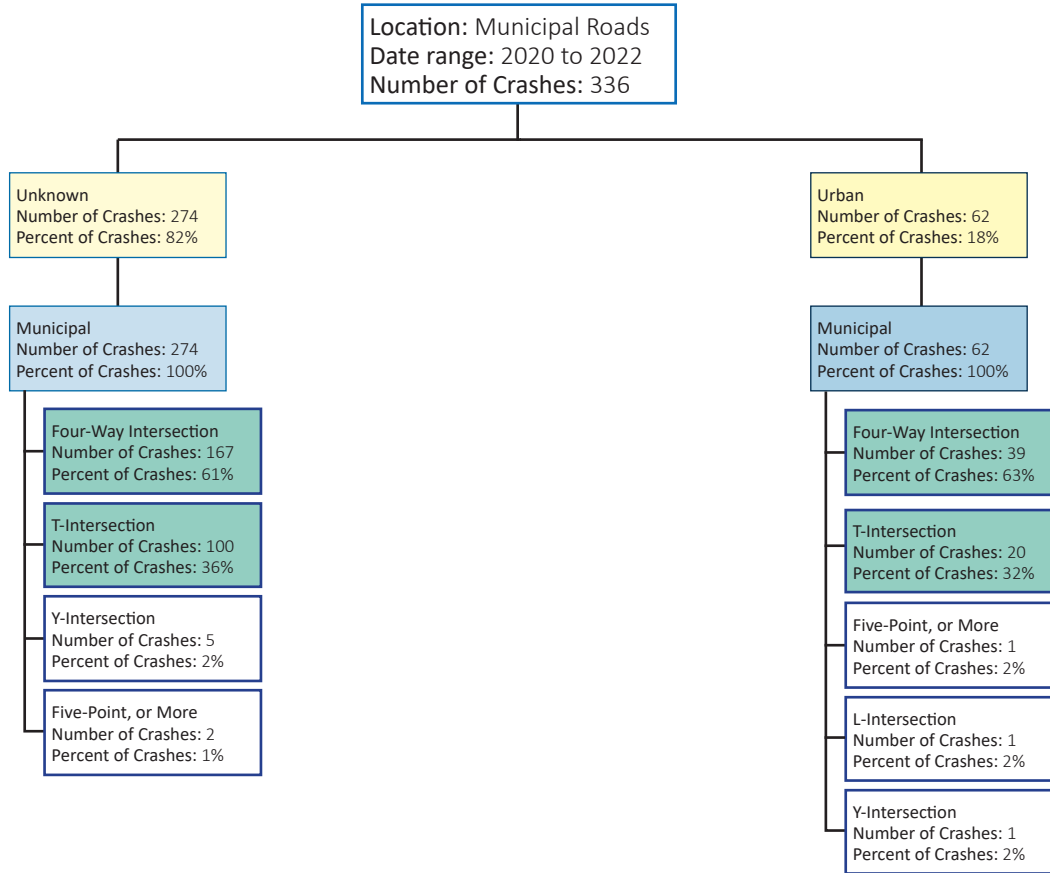
State Signalized Intersections - Angle Crashes

Location: State Roads
 Date range: 2020 to 2022
 Number of Crashes: 413



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree Municipal Signalized Intersections - Angle Crashes (Top 10 Municipalities)

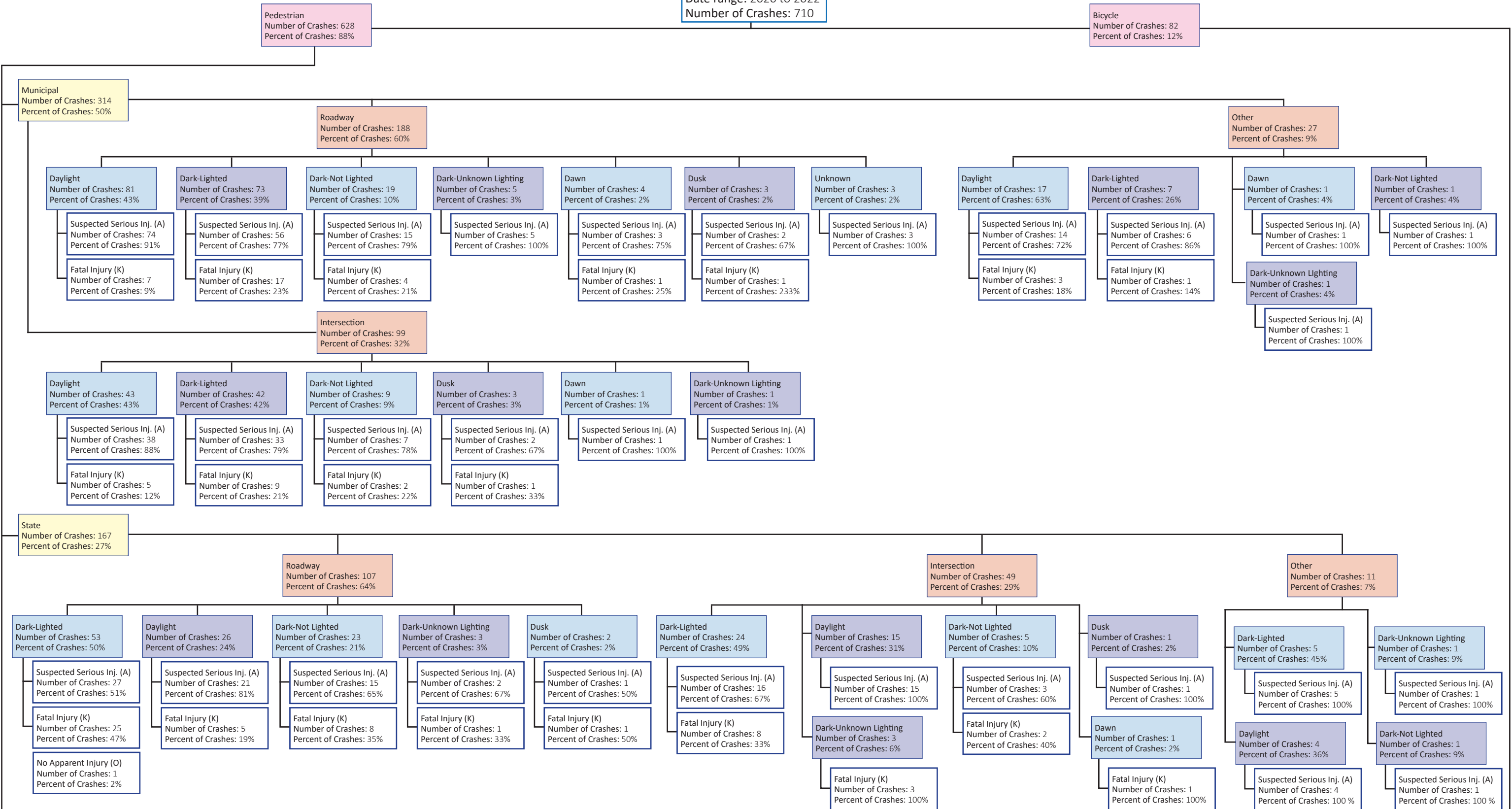


= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree

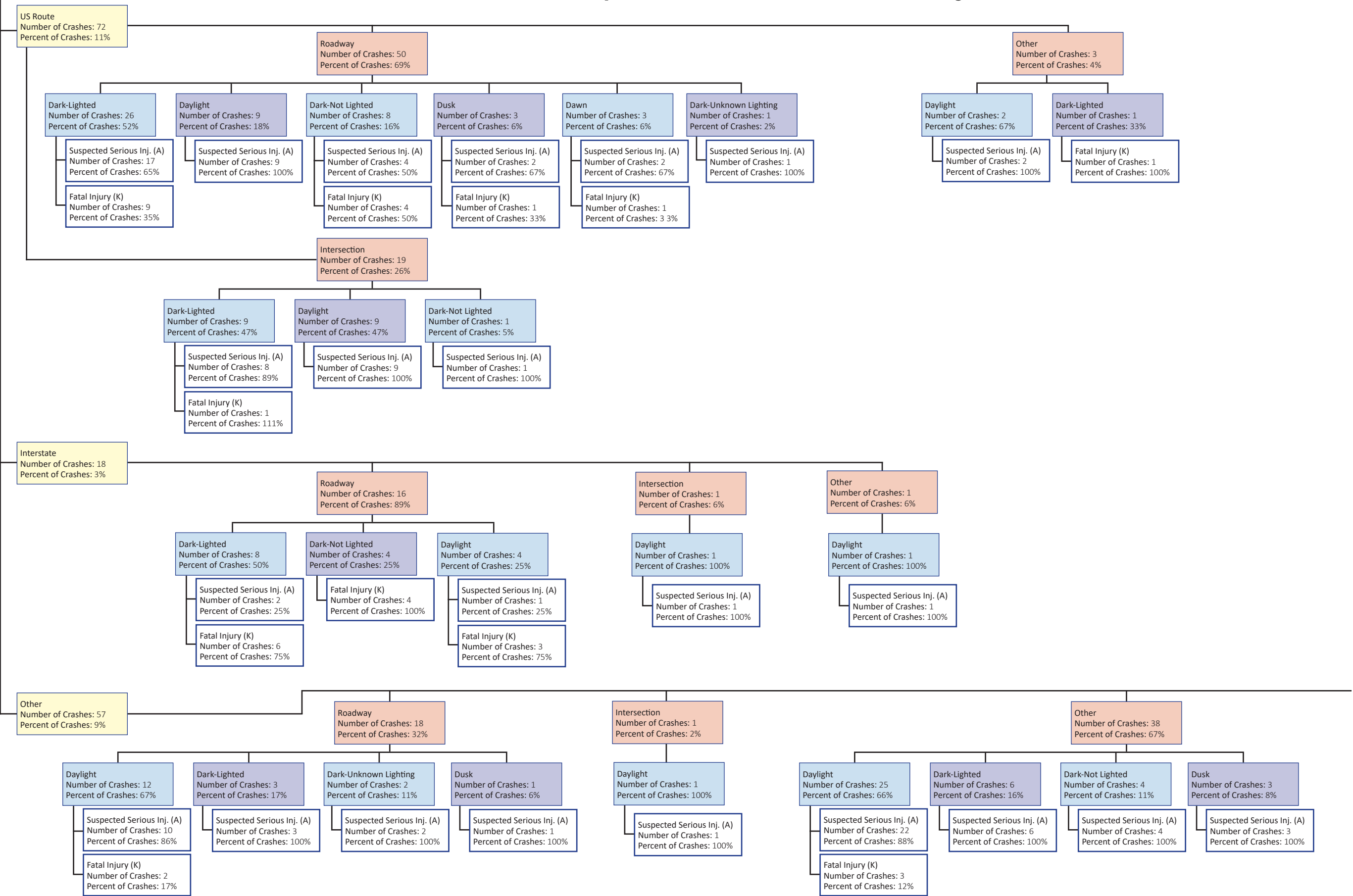
State and Municipal Roads - Pedestrian and Bicycle Crashes

Location: Connecticut
Date range: 2020 to 2022
Number of Crashes: 710



Connecticut Fatal and Serious Injury Crash Tree

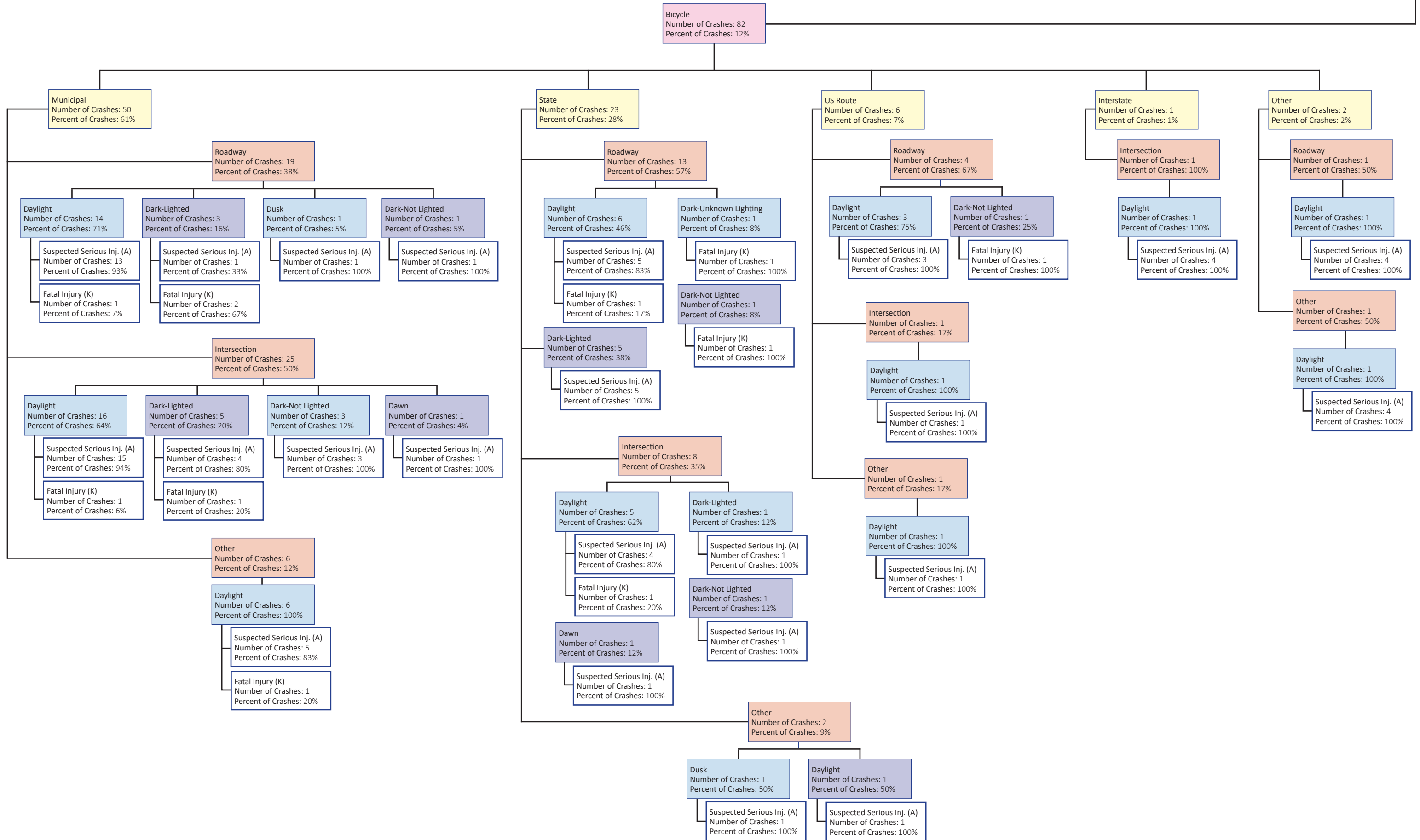
State and Municipal Roads - Pedestrian and Bicycle Crashes (cont'd)



CONTINUE TO NEXT PAGE

Connecticut Fatal and Serious Injury Crash Tree

State and Municipal Roads - Pedestrian and Bicycle Crashes (cont'd)



Connecticut Fatal and Serious Injury Crash Tree Summary by District

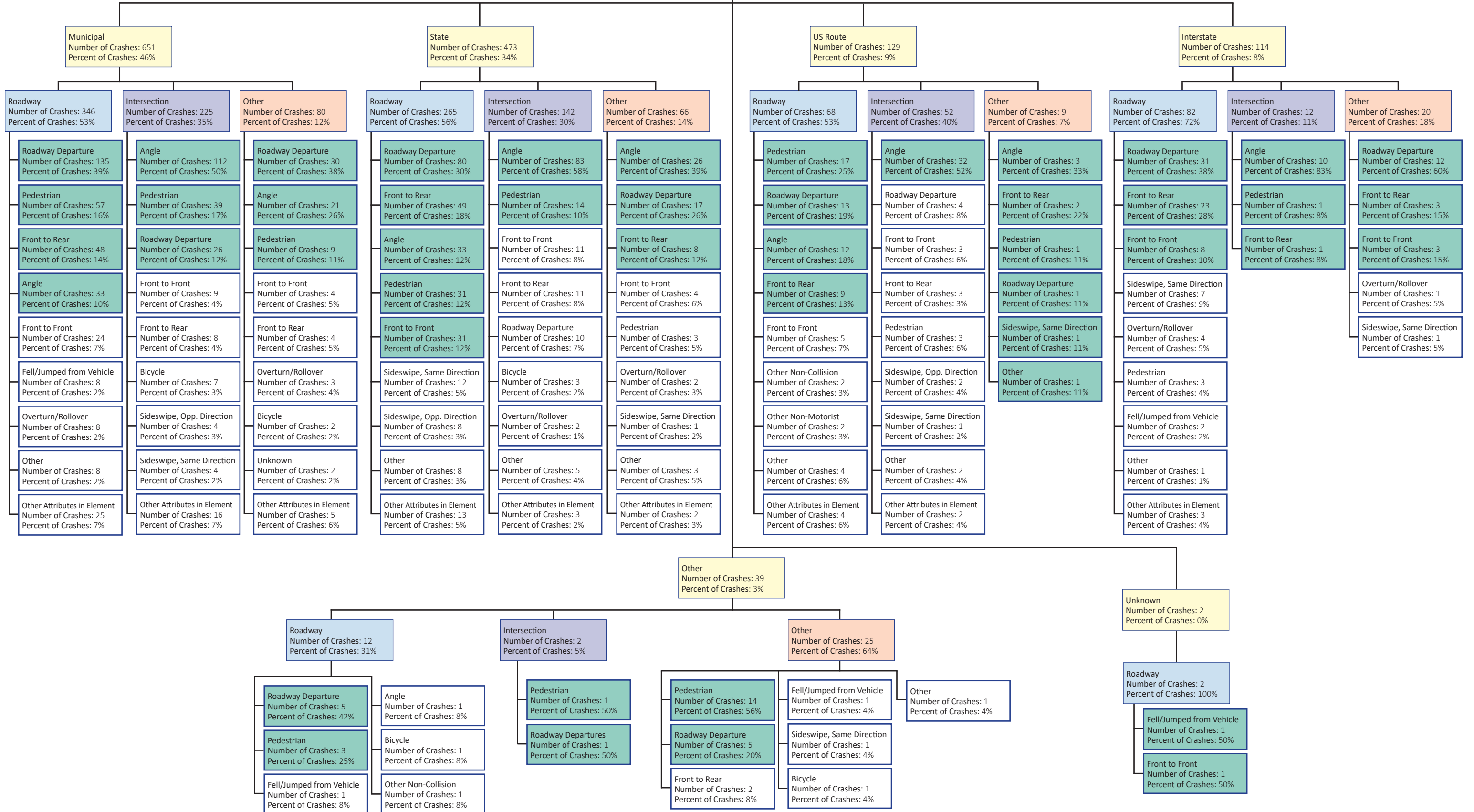
Location: Connecticut
Date range: 2020 to 2022
Number of Crashes: 4494



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree District 1

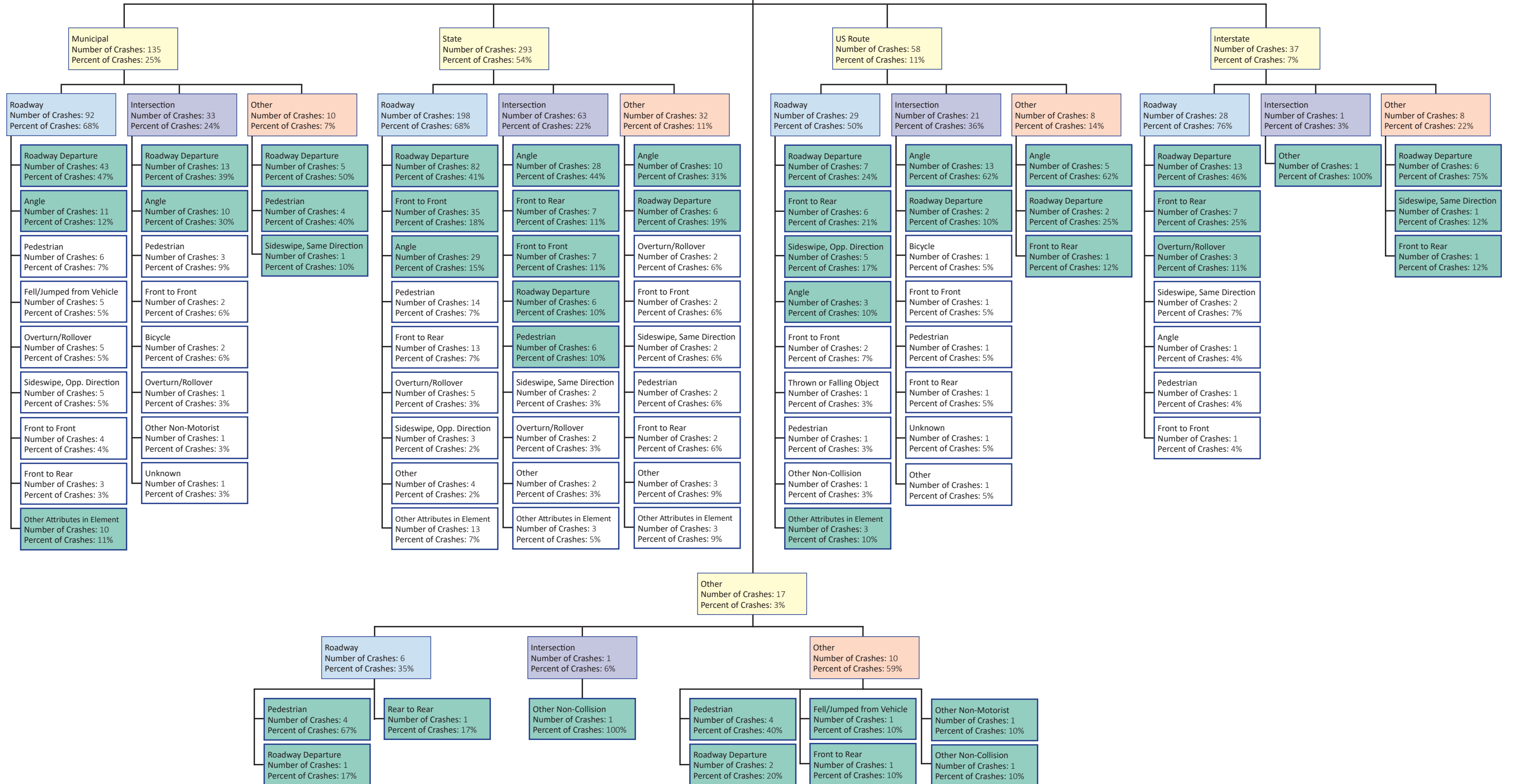
Location: District 1
Date range: 2020 to 2022
Number of Crashes: 1408



 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree District 2

Location: District 2
Date range: 2020 to 2022
Number of Crashes: 540

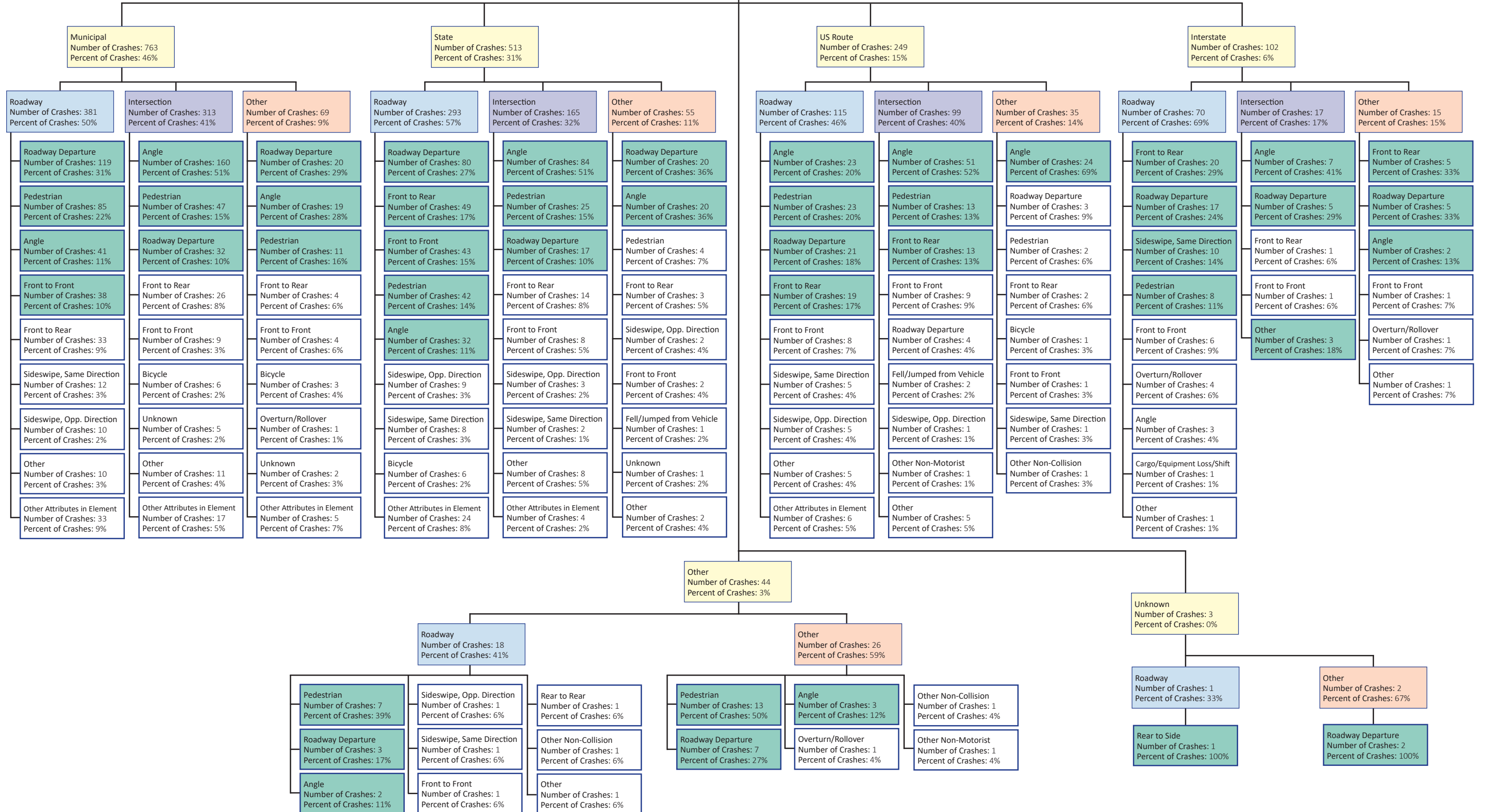


= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree

District 3

Location: District 3
Date range: 2020 to 2022
Number of Crashes: 1674

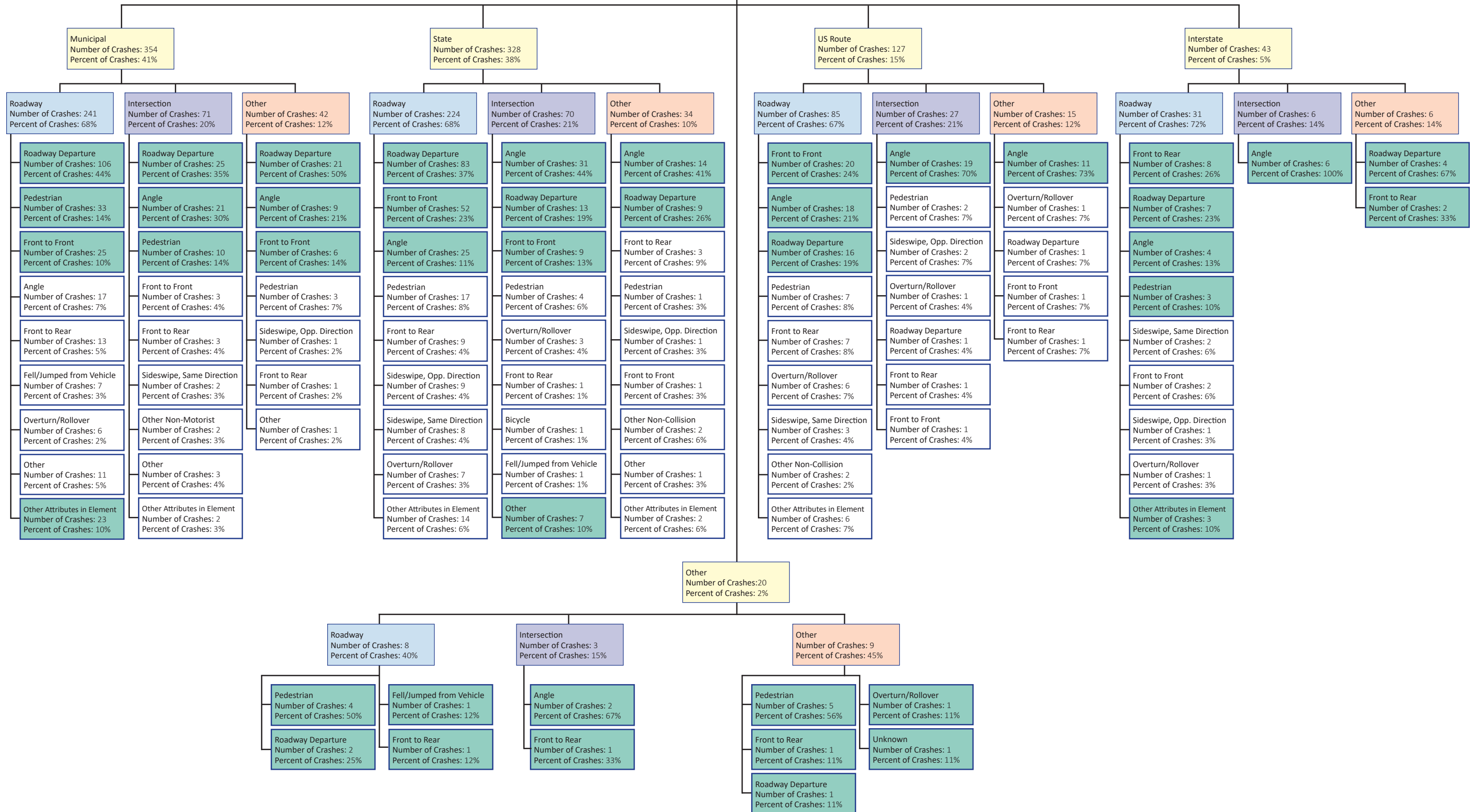


 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree

District 4

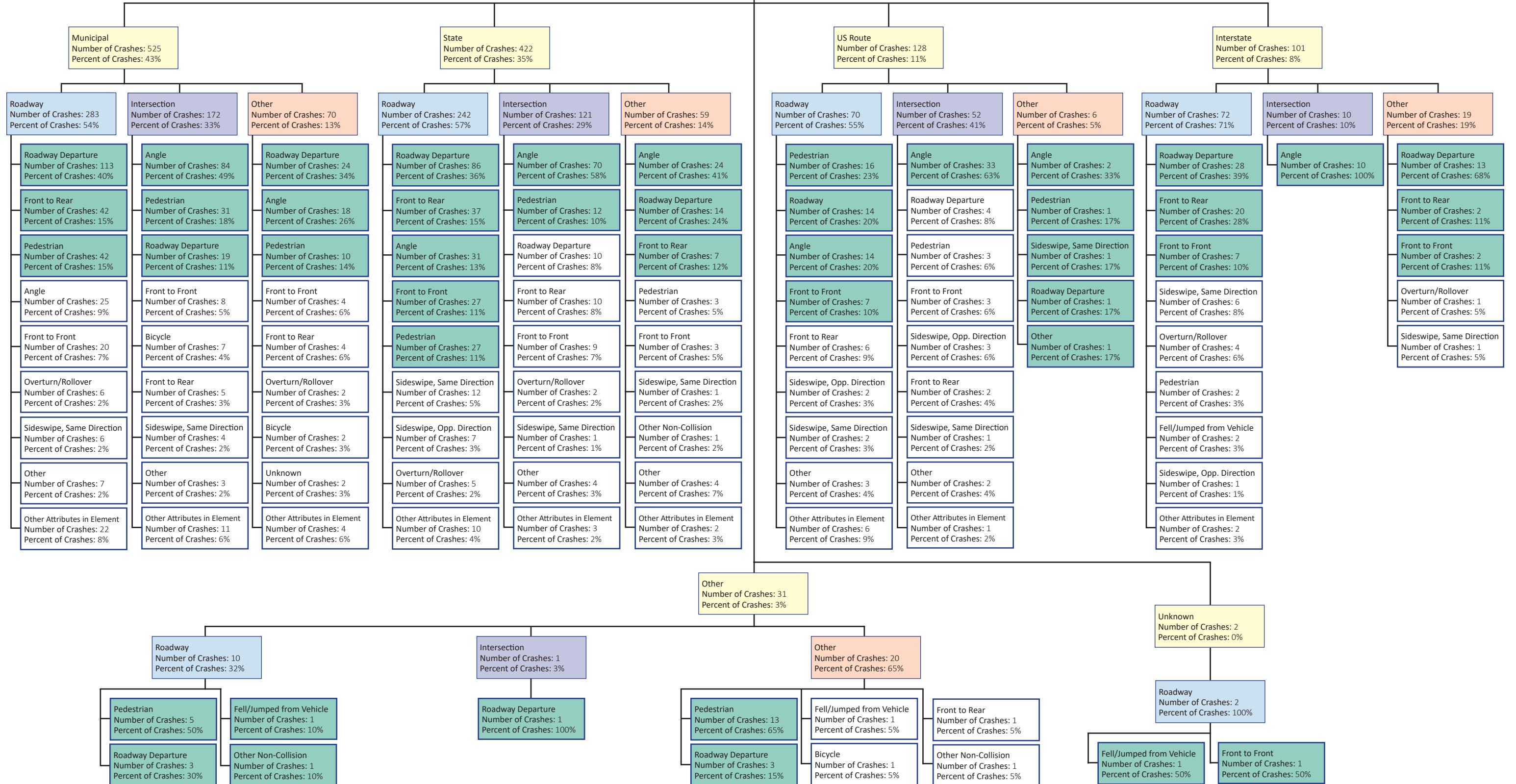
Location: District 4
 Date range: 2020 to 2022
 Number of Crashes: 872



 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree CRCOG

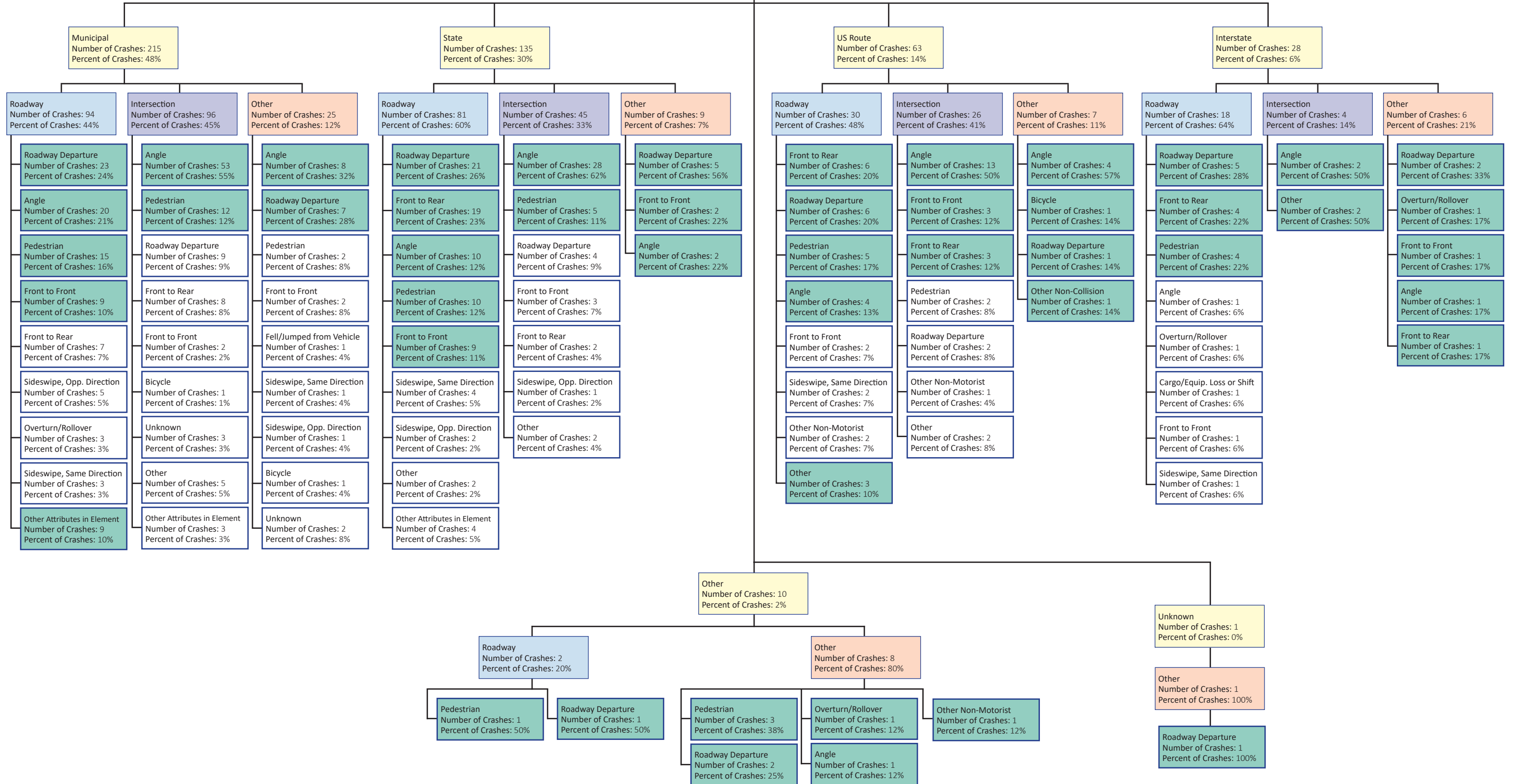
Location: CRCOG
Date range: 2020 to 2022
Number of Crashes: 1209



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree MetroCOG

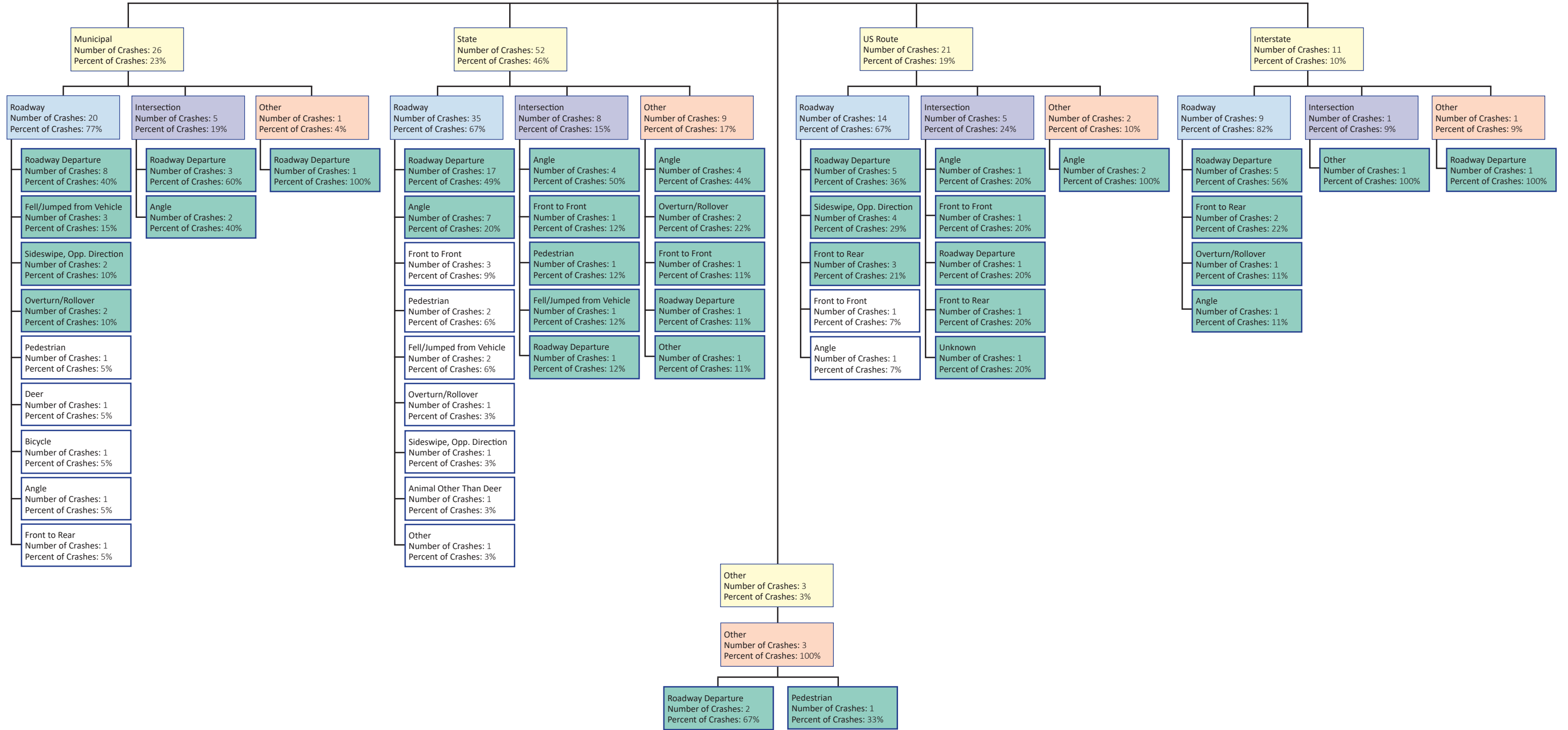
Location: MetroCOG
Date range: 2020 to 2022
Number of Crashes: 452



 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree NECCOG

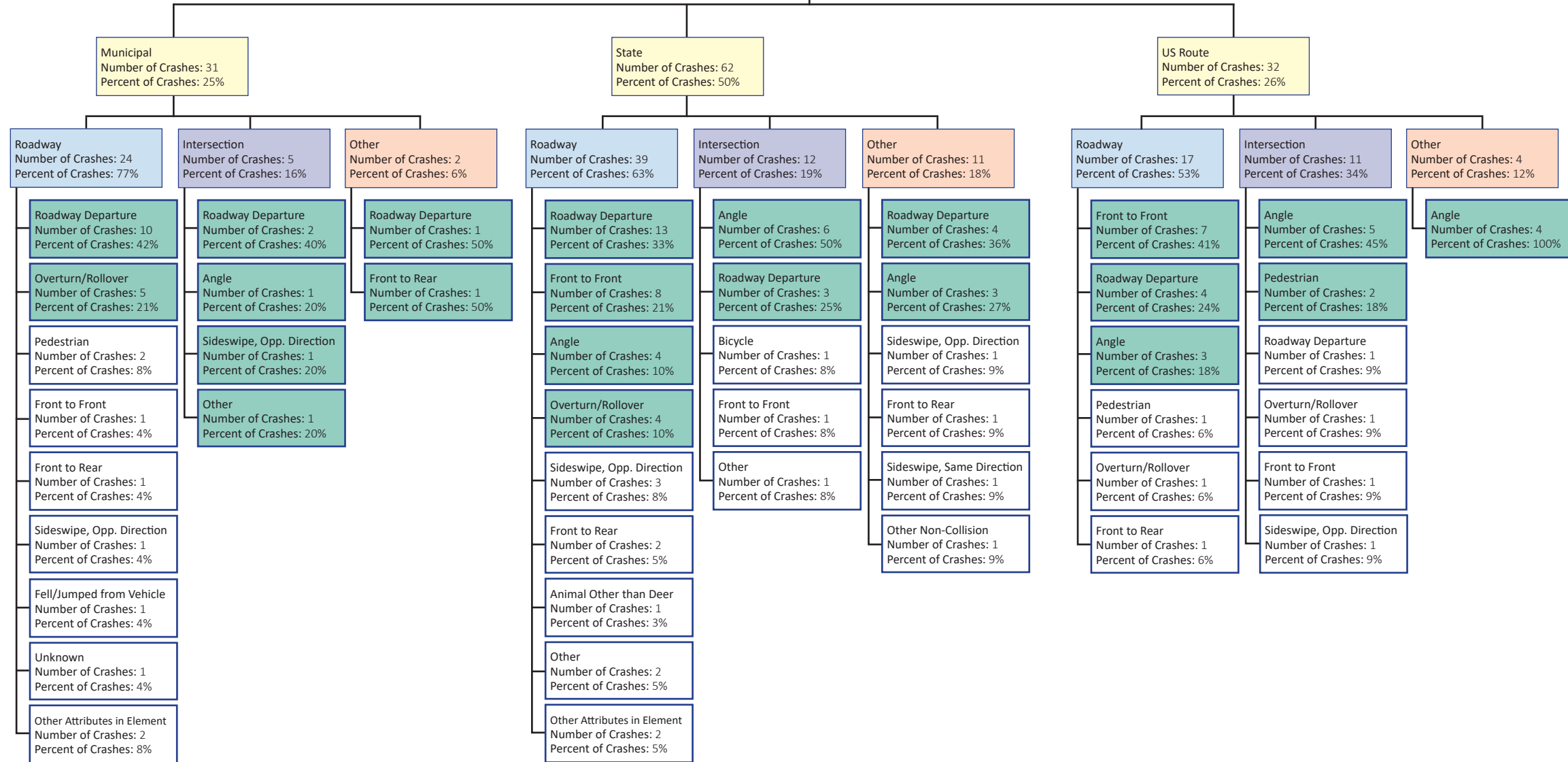
Location: NECCOG
Date range: 2020 to 2022
Number of Crashes: 113



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree NHCOG

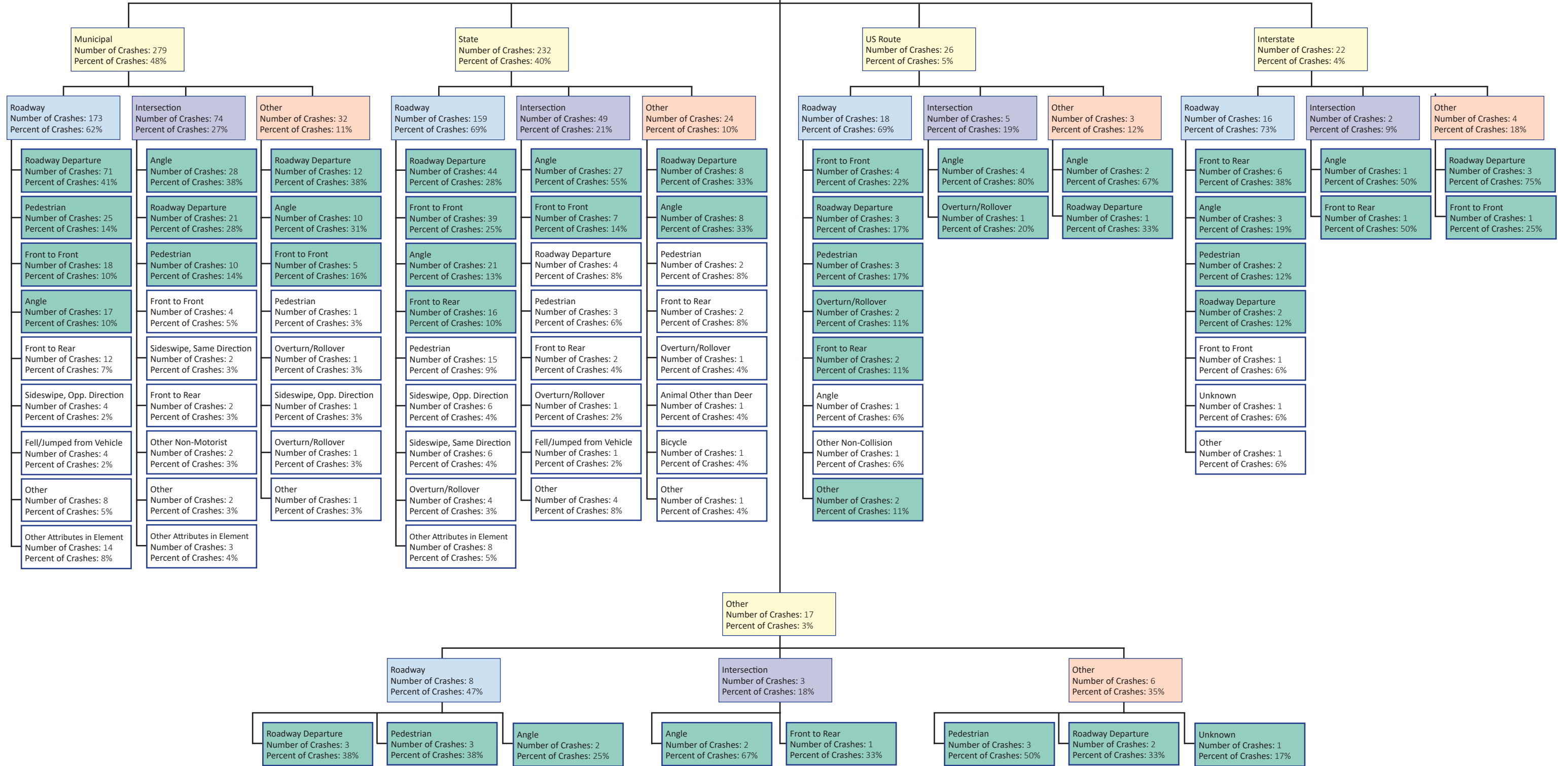
Location: NHCOG
Date range: 2020 to 2022
Number of Crashes: 125



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree NVCOG

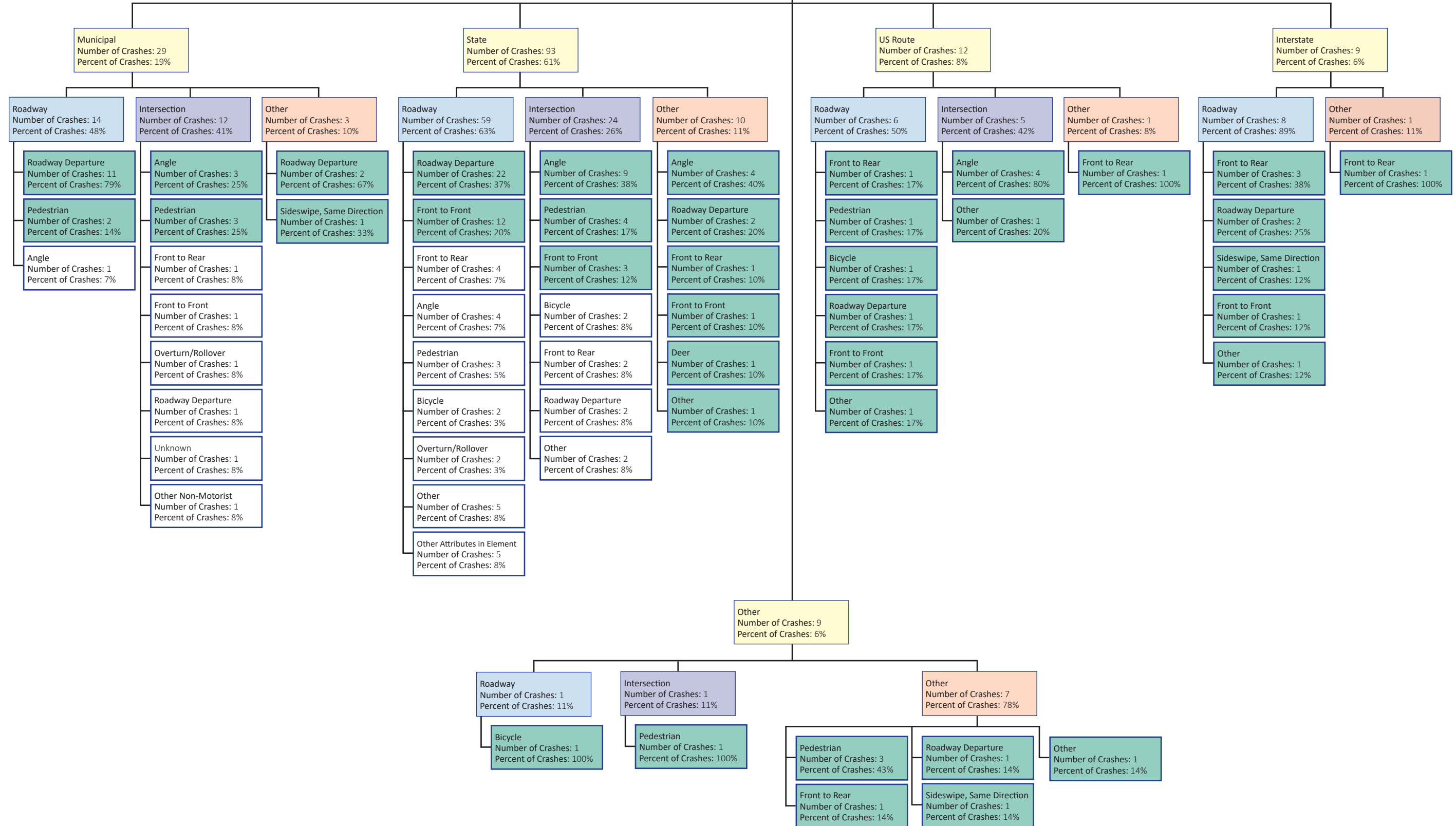
Location: NVCOG
Date range: 2020 to 2022
Number of Crashes: 576



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree RiverCOG

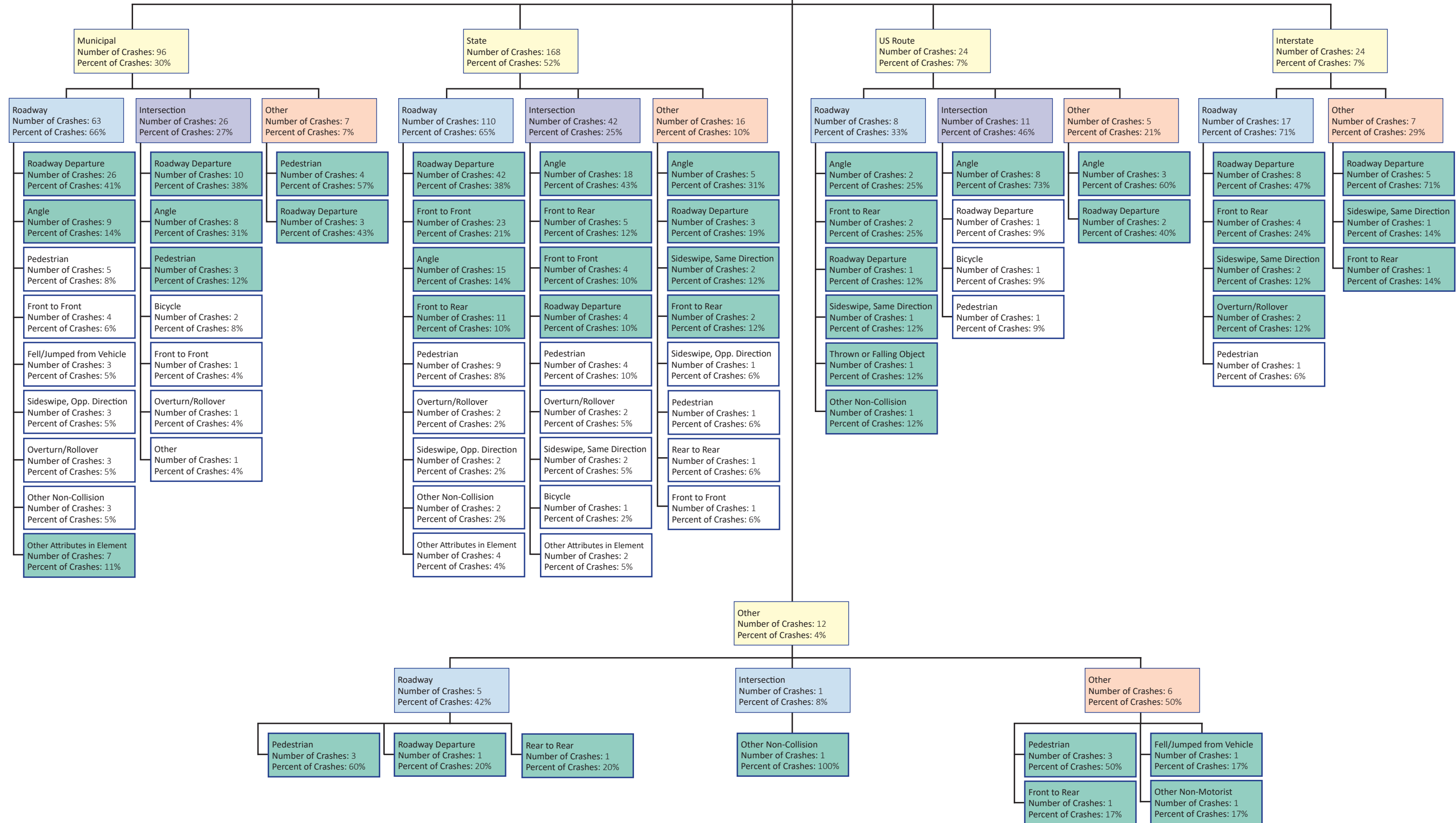
Location: RiverCOG
Date range: 2020 to 2022
Number of Crashes: 152



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree SECCOG

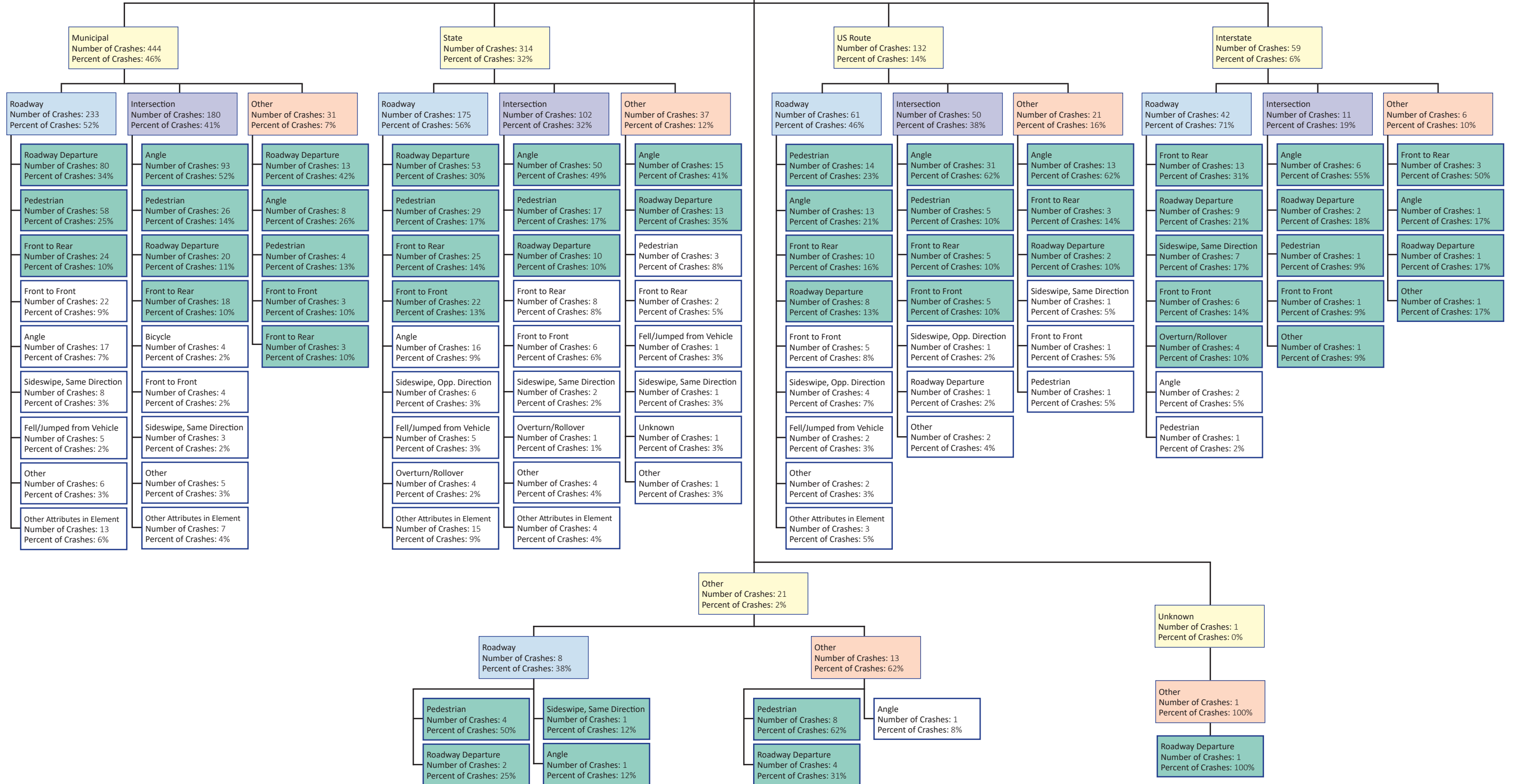
Location: SECCOG
Date range: 2020 to 2022
Number of Crashes: 324



= Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree SCRCOG

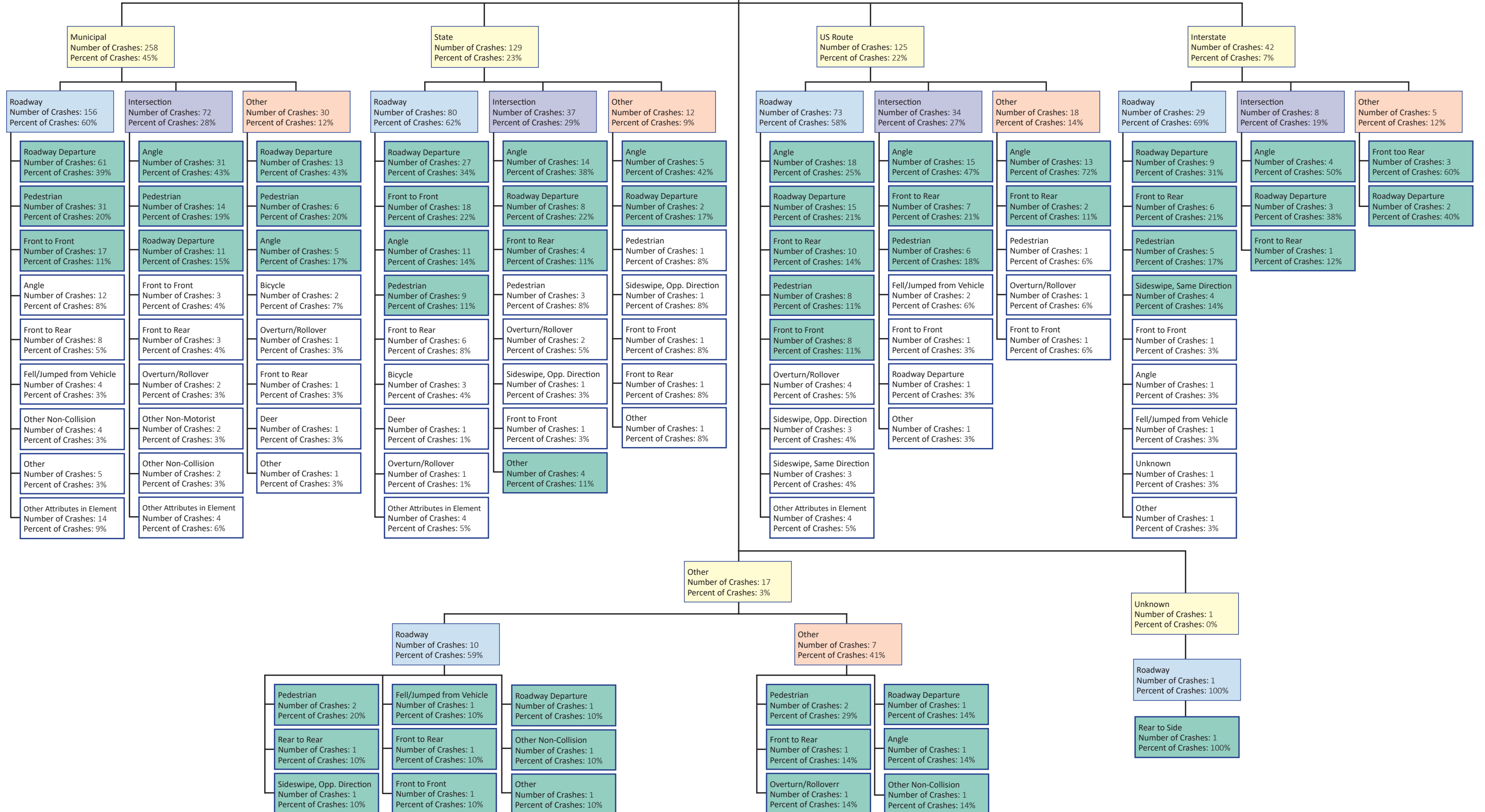
Location: SCRCOG
Date range: 2020 to 2022
Number of Crashes: 971



 = Notable Percentage

Connecticut Fatal and Serious Injury Crash Tree WestCOG

Location: WestCOG
Date range: 2020 to 2022
Number of Crashes: 572



 = Notable Percentage

Fatal and Serious Injury Crash Rates by Municipality

Rank	Municipality	Serious	Fatal	Total Crashes	Crash Percent
1	New Haven	258	53	311	6.920%
2	Bridgeport	231	30	261	5.808%
3	Hartford	203	48	251	5.585%
4	Waterbury	169	30	199	4.428%
5	Stamford	120	12	132	2.937%
6	Meriden	100	19	119	2.648%
7	New Britain	90	14	104	2.314%
8	Bristol	80	12	92	2.047%
9	Milford	79	13	92	2.047%
10	Danbury	78	12	90	2.003%
11	Norwalk	69	11	80	1.780%
12	Hamden	65	13	78	1.736%
13	West Haven	68	10	78	1.736%
14	East Hartford	54	19	73	1.624%
15	Manchester	58	11	69	1.535%
16	Norwich	56	8	64	1.424%
17	Stratford	57	7	64	1.424%
18	Southington	41	18	59	1.313%
19	Wallingford	47	12	59	1.313%
20	Middletown	48	10	58	1.291%
21	Fairfield	48	8	56	1.246%
22	North Haven	42	10	52	1.157%
23	Torrington	38	13	51	1.135%
24	Trumbull	34	15	49	1.090%
25	Farmington	44	4	48	1.068%
26	Newtown	39	6	45	1.001%
27	Shelton	36	9	45	1.001%
28	Berlin	37	6	43	0.957%
29	Enfield	34	8	42	0.935%
30	Groton	34	8	42	0.935%
31	Bloomfield	38	3	41	0.912%
32	Vernon	33	8	41	0.912%
33	New Milford	34	7	41	0.912%
34	Windham	33	8	41	0.912%
35	Newington	36	4	40	0.890%
36	Cheshire	31	9	40	0.890%
37	Orange	35	4	39	0.868%
38	West Hartford	36	3	39	0.868%
39	Stonington	26	9	35	0.779%
40	Greenwich	25	9	34	0.757%
41	Windsor	26	7	33	0.734%
42	Branford	27	4	31	0.690%
43	Westport	28	2	30	0.668%
44	East Haven	26	4	30	0.668%
45	New London	26	3	29	0.645%
46	South Windsor	24	4	28	0.623%
47	Watertown	23	4	27	0.601%
48	Plainville	21	5	26	0.579%
49	Glastonbury	20	6	26	0.579%
50	North Branford	18	7	25	0.556%
51	East Windsor	19	6	25	0.556%
52	Wethersfield	15	9	24	0.534%
53	Woodbridge	17	7	24	0.534%
54	Suffield	21	2	23	0.512%
55	Coventry	18	4	22	0.490%

Fatal and Serious Injury Crash Rates by Municipality

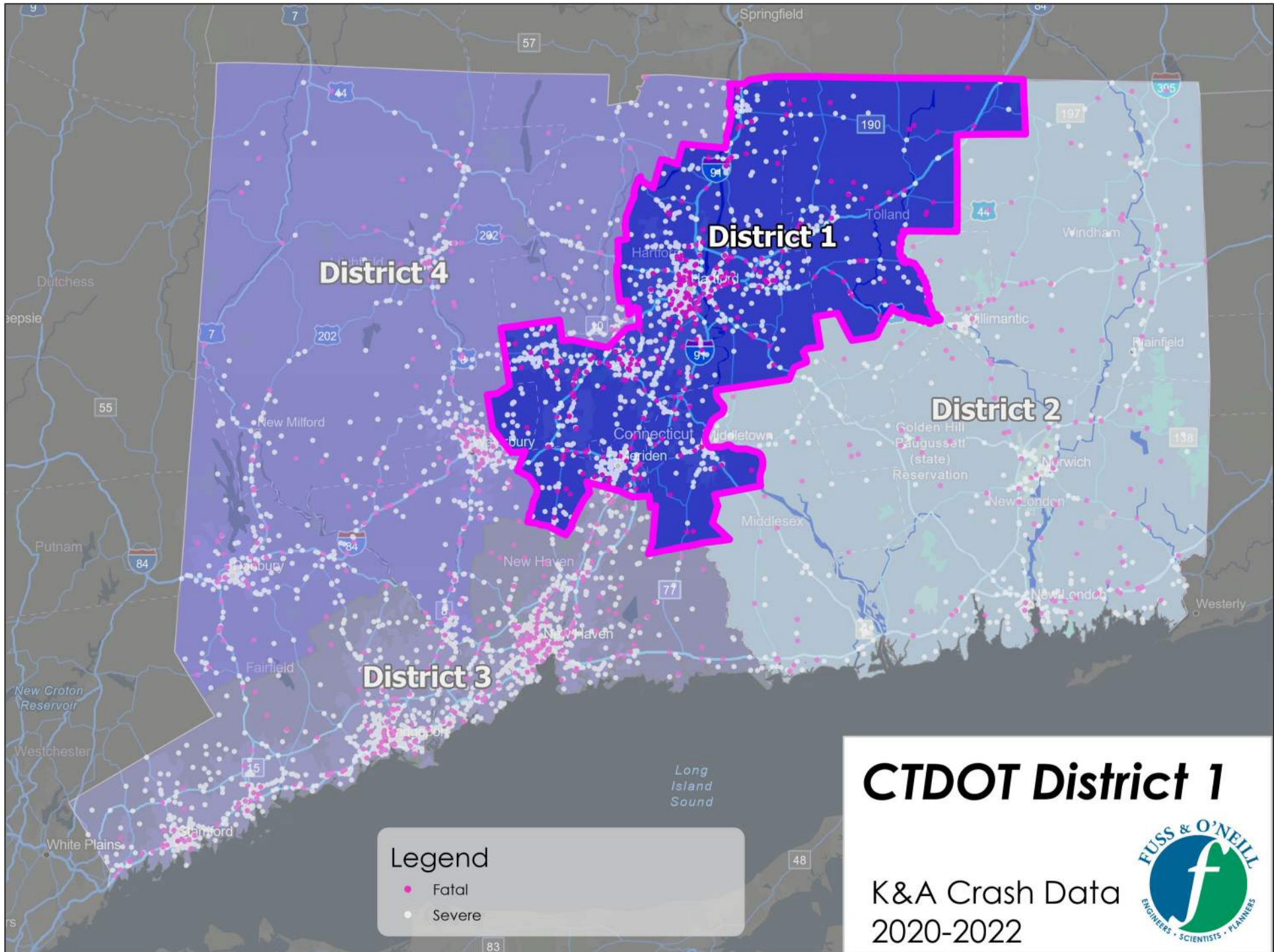
Rank	Municipality	Serious	Fatal	Total Crashes	Crash Percent
56	Naugatuck	19	3	22	0.490%
57	Ridgefield	17	5	22	0.490%
58	Waterford	21	1	22	0.490%
59	Plainfield	19	3	22	0.490%
60	Brookfield	18	2	20	0.445%
61	Derby	18	2	20	0.445%
62	Winchester	15	5	20	0.445%
63	Monroe	18	1	19	0.423%
64	Wolcott	17	1	18	0.401%
65	Southbury	12	6	18	0.401%
66	Seymour	13	5	18	0.401%
67	Rocky Hill	14	3	17	0.378%
68	Bethel	15	2	17	0.378%
69	Darien	16	1	17	0.378%
70	Ansonia	15	1	16	0.356%
71	Guilford	10	6	16	0.356%
72	Montville	13	3	16	0.356%
73	Killingly	9	7	16	0.356%
74	New Canaan	15	0	15	0.334%
75	Middlebury	9	6	15	0.334%
76	Colchester	7	7	14	0.312%
77	East Lyme	11	3	14	0.312%
78	Tolland	7	7	14	0.312%
79	Canton	13	1	14	0.312%
80	Simsbury	9	3	12	0.267%
81	Clinton	8	4	12	0.267%
82	East Hampton	11	1	12	0.267%
83	Madison	10	2	12	0.267%
84	Cromwell	7	5	12	0.267%
85	Avon	8	3	11	0.245%
86	Mansfield	5	6	11	0.245%
87	Putnam	8	3	11	0.245%
88	Old Saybrook	11	0	11	0.245%
89	Wilton	9	2	11	0.245%
90	Plymouth	10	0	10	0.223%
91	Brooklyn	6	4	10	0.223%
92	Thomaston	7	3	10	0.223%
93	Thompson	6	4	10	0.223%
94	Woodbury	8	2	10	0.223%
95	Granby	8	1	9	0.200%
96	Litchfield	6	3	9	0.200%
97	Franklin	1	7	8	0.178%
98	Windsor Locks	7	1	8	0.178%
99	Somers	5	2	7	0.156%
100	Griswold	2	5	7	0.156%
101	Marlborough	7	0	7	0.156%
102	North Stonington	3	4	7	0.156%
103	Columbia	5	2	7	0.156%
104	Hebron	6	1	7	0.156%
105	Pomfret	3	4	7	0.156%
106	Westbrook	4	3	7	0.156%
107	Willington	4	3	7	0.156%
108	Woodstock	5	2	7	0.156%
109	Portland	5	1	6	0.134%
110	Weston	3	3	6	0.134%

Fatal and Serious Injury Crash Rates by Municipality

Rank	Municipality	Serious	Fatal	Total Crashes	Crash Percent
111	Haddam	2	4	6	0.134%
112	Harwinton	3	3	6	0.134%
113	Old Lyme	4	2	6	0.134%
114	Redding	4	2	6	0.134%
115	Ellington	5	1	6	0.134%
116	Ledyard	2	4	6	0.134%
117	Prospect	4	2	6	0.134%
118	Stafford	3	3	6	0.134%
119	Lebanon	1	4	5	0.111%
120	Canterbury	2	3	5	0.111%
121	Roxbury	3	2	5	0.111%
122	Beacon Falls	2	3	5	0.111%
123	Bethany	0	5	5	0.111%
124	Chester	5	0	5	0.111%
125	Lisbon	3	2	5	0.111%
126	Preston	3	2	5	0.111%
127	Andover	3	2	5	0.111%
128	Union	2	3	5	0.111%
129	East Haddam	4	1	5	0.111%
130	Hampton	3	2	5	0.111%
131	Chaplin	1	4	5	0.111%
132	Oxford	4	0	4	0.089%
133	Burlington	2	2	4	0.089%
134	Barkhamsted	3	1	4	0.089%
135	New Hartford	1	3	4	0.089%
136	Easton	2	1	3	0.067%
137	Ashford	1	2	3	0.067%
138	Voluntown	3	0	3	0.067%
139	Sharon	1	2	3	0.067%
140	Bolton	1	2	3	0.067%
141	Durham	1	2	3	0.067%
142	Goshen	1	2	3	0.067%
143	Killingworth	2	1	3	0.067%
144	Washington	3	0	3	0.067%
145	North Canaan	2	1	3	0.067%
146	Middlefield	2	1	3	0.067%
147	Salisbury	2	1	3	0.067%
148	East Granby	2	0	2	0.045%
149	Bridgewater	1	1	2	0.045%
150	Deep River	2	0	2	0.045%
151	Morris	1	1	2	0.045%
152	New Fairfield	2	0	2	0.045%
153	Salem	1	1	2	0.045%
154	Sherman	2	0	2	0.045%
155	Sterling	2	0	2	0.045%
156	Bozrah	2	0	2	0.045%
157	Canaan	2	0	2	0.045%
158	Bethlehem	1	0	1	0.022%
159	Eastford	1	0	1	0.022%
160	Scotland	0	1	1	0.022%
161	Cornwall	1	0	1	0.022%
162	Essex	1	0	1	0.022%
163	Norfolk	1	0	1	0.022%
164	Sprague	0	0	0	0.000%
	Total	3663	831	4494	100.000%

APPENDIX C:

Crash Data by District



CTDOT District 1

K&A Crash Data
2020-2022



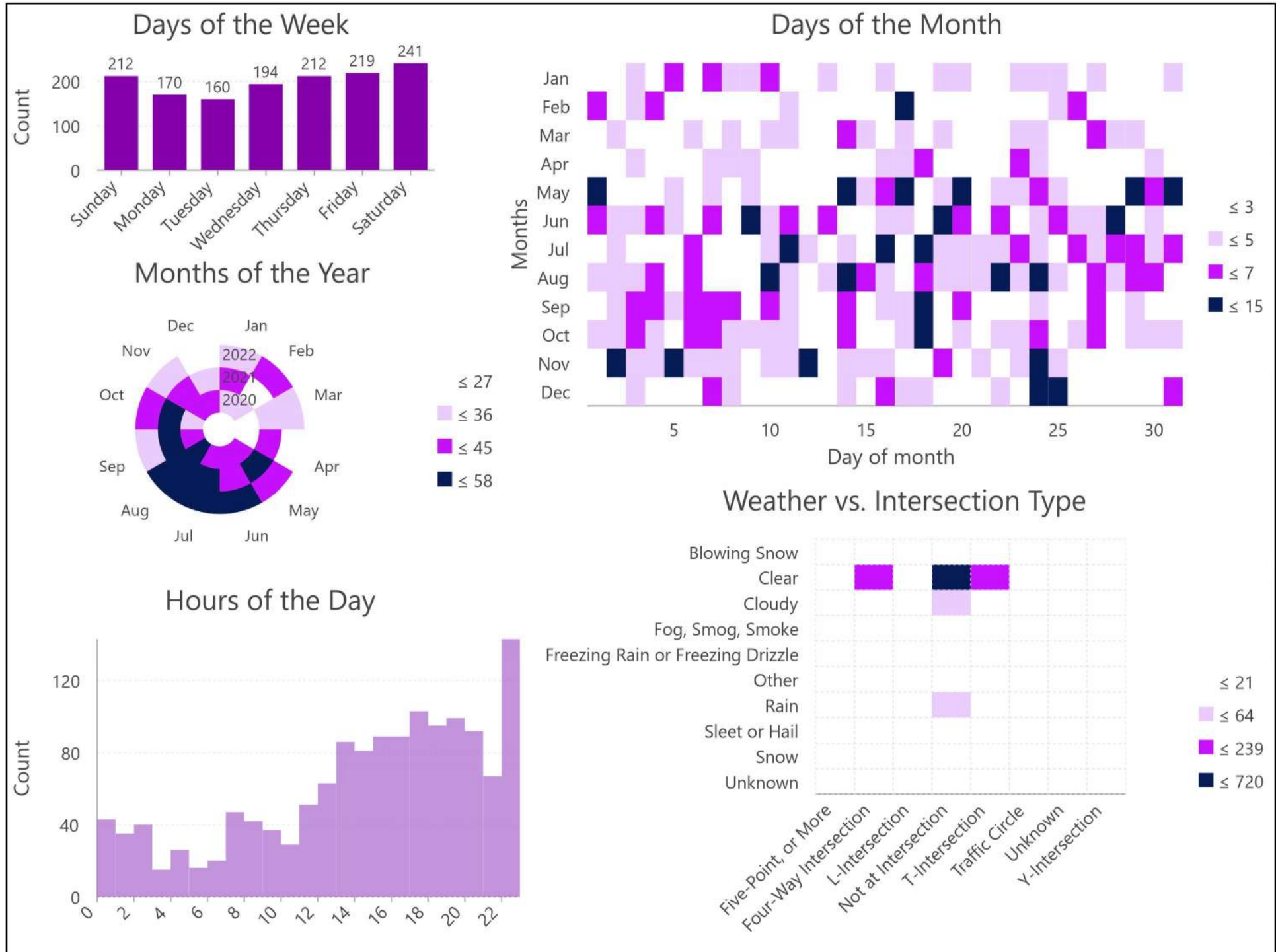
Legend

- Fatal
- Severe

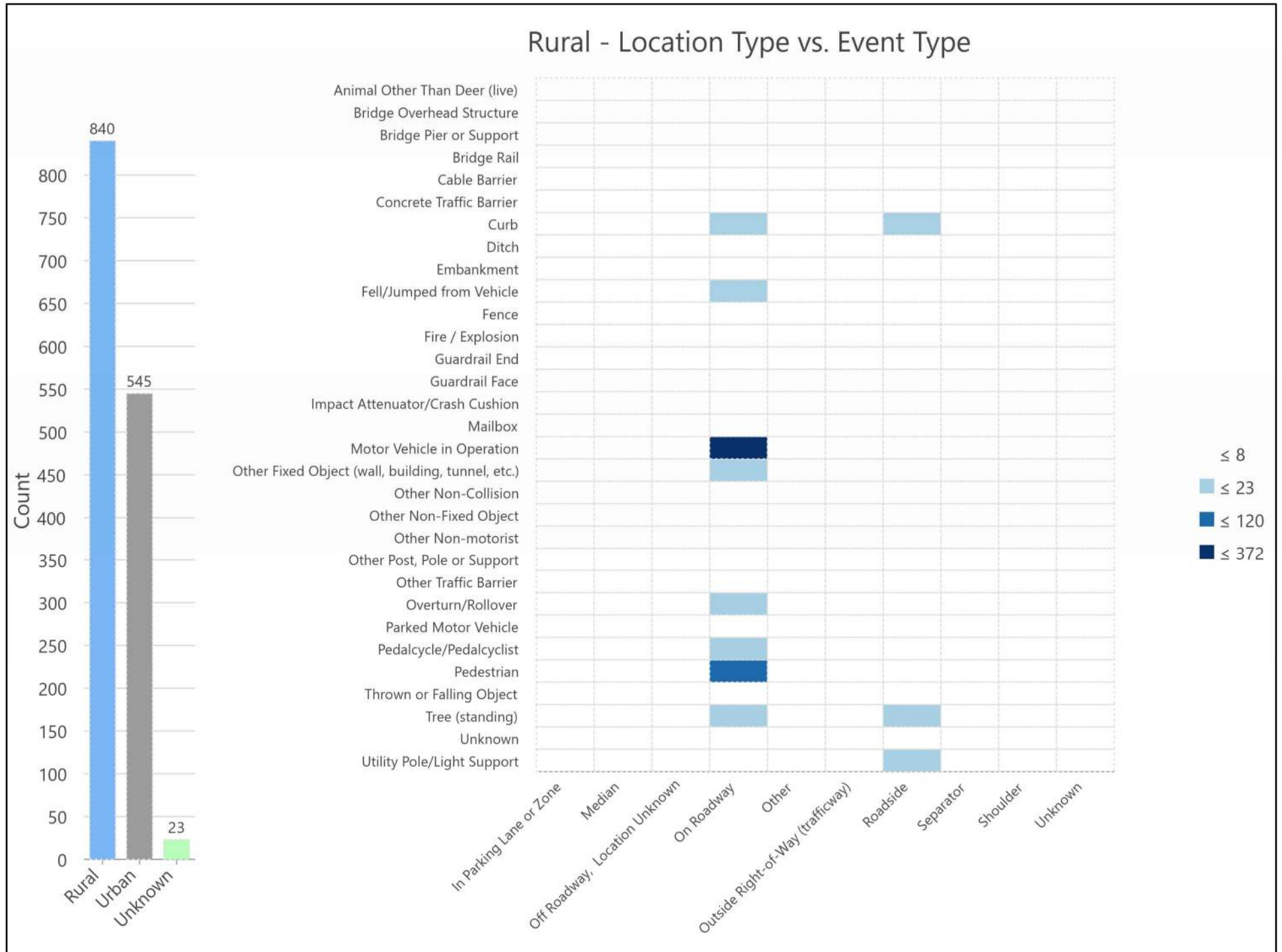
Data Notes:

Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

CTDOT District 1 Time & Conditions K&A Crash Data 2020-2022

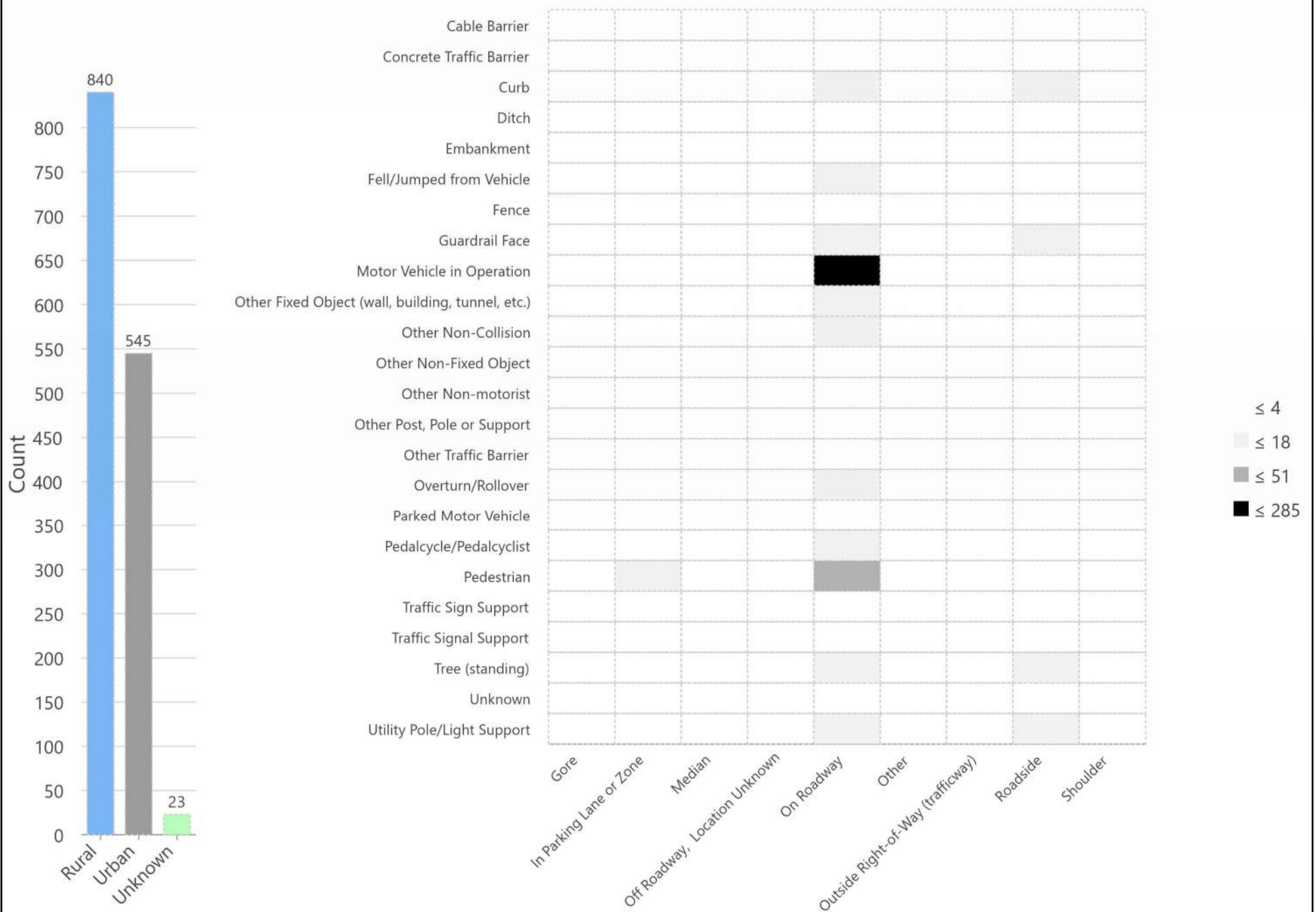


CTDOT District 1 Rural vs. Urban K&A Crash Data 2020-2022



CTDOT District 1 Rural vs. Urban K&A Crash Data 2020-2022

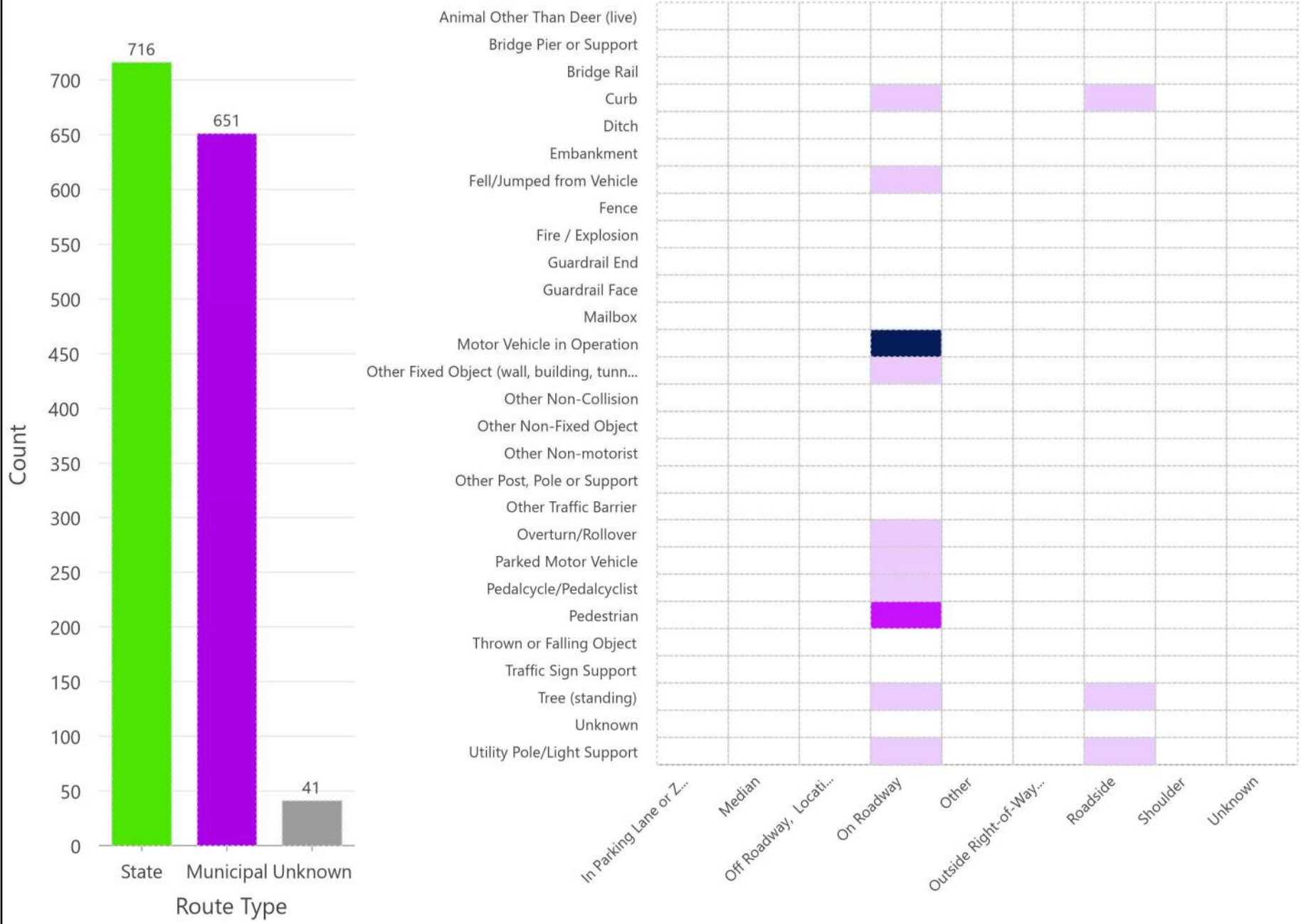
Urban - Location Type vs. Event Type



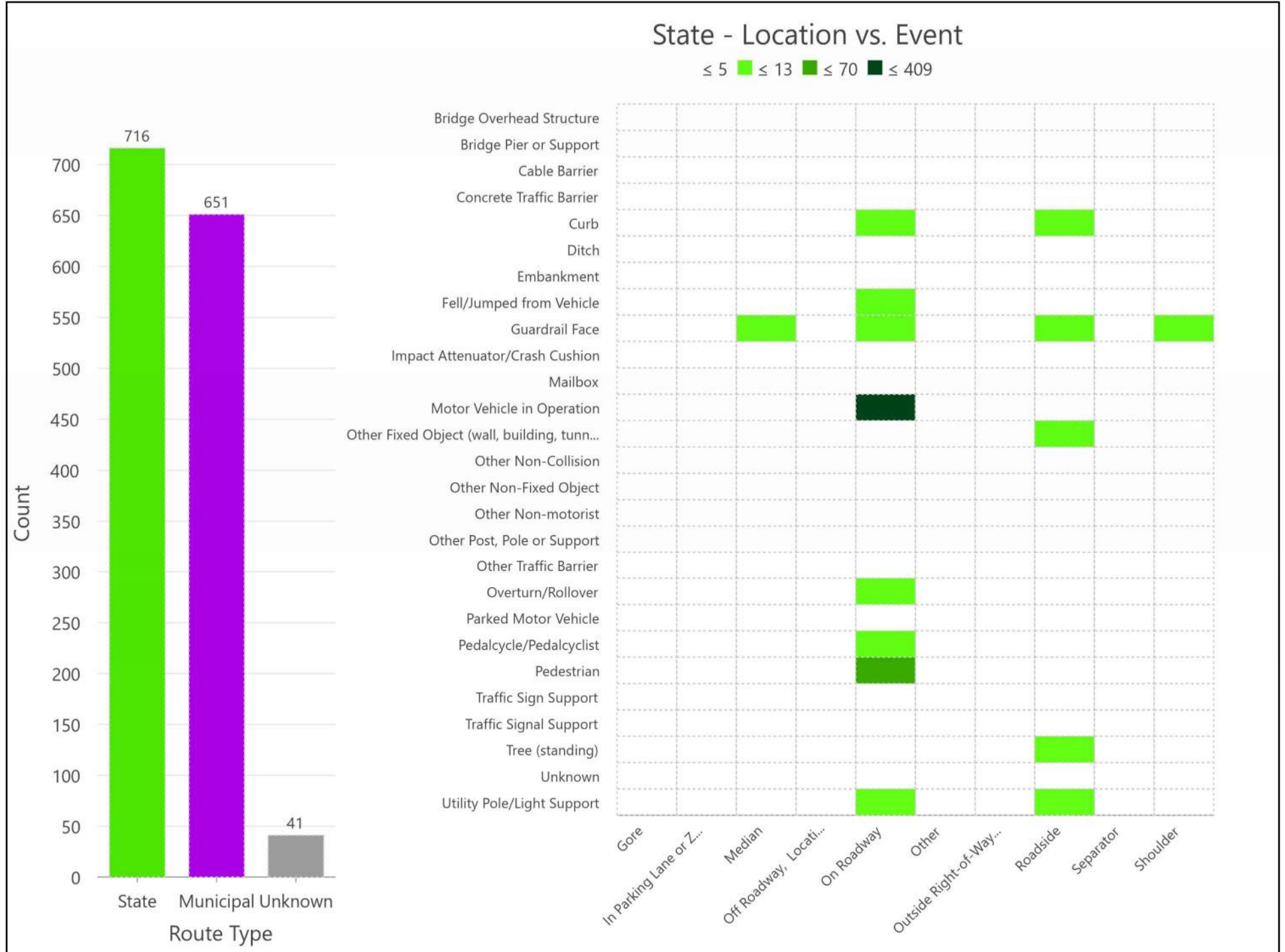
CTDOT District 1 State vs. Municipal Road

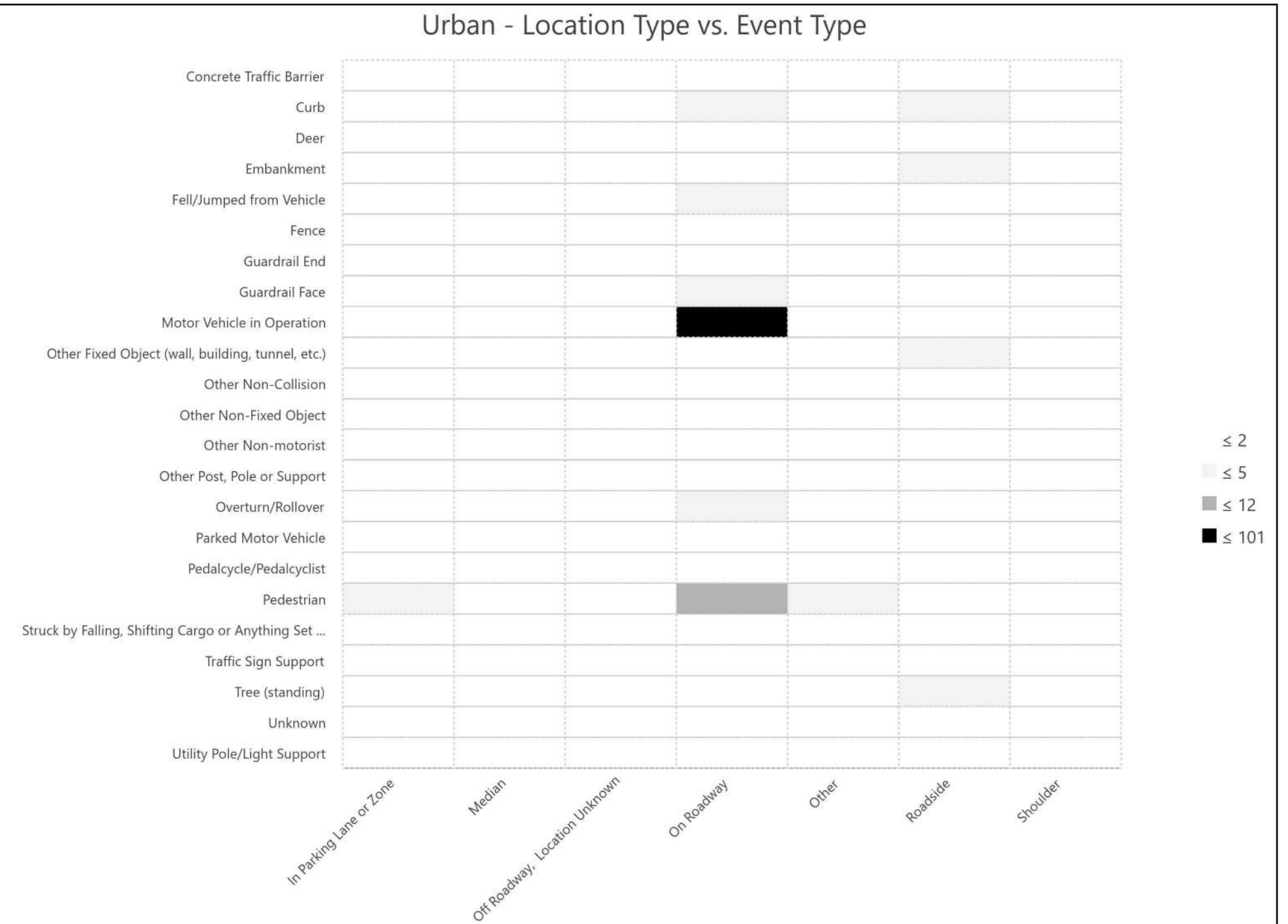
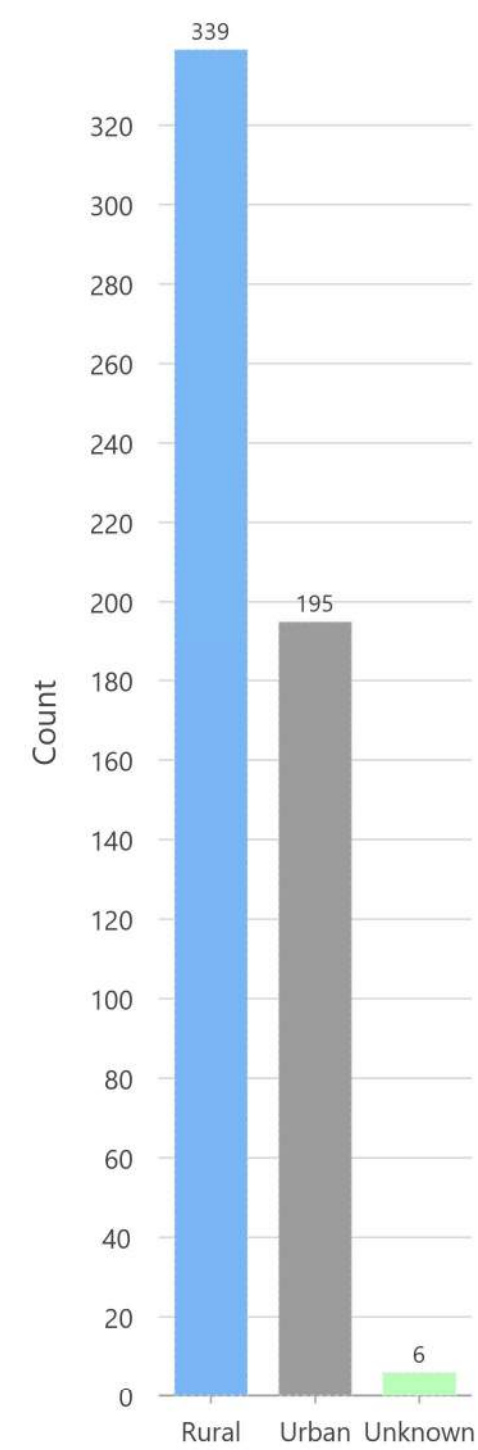
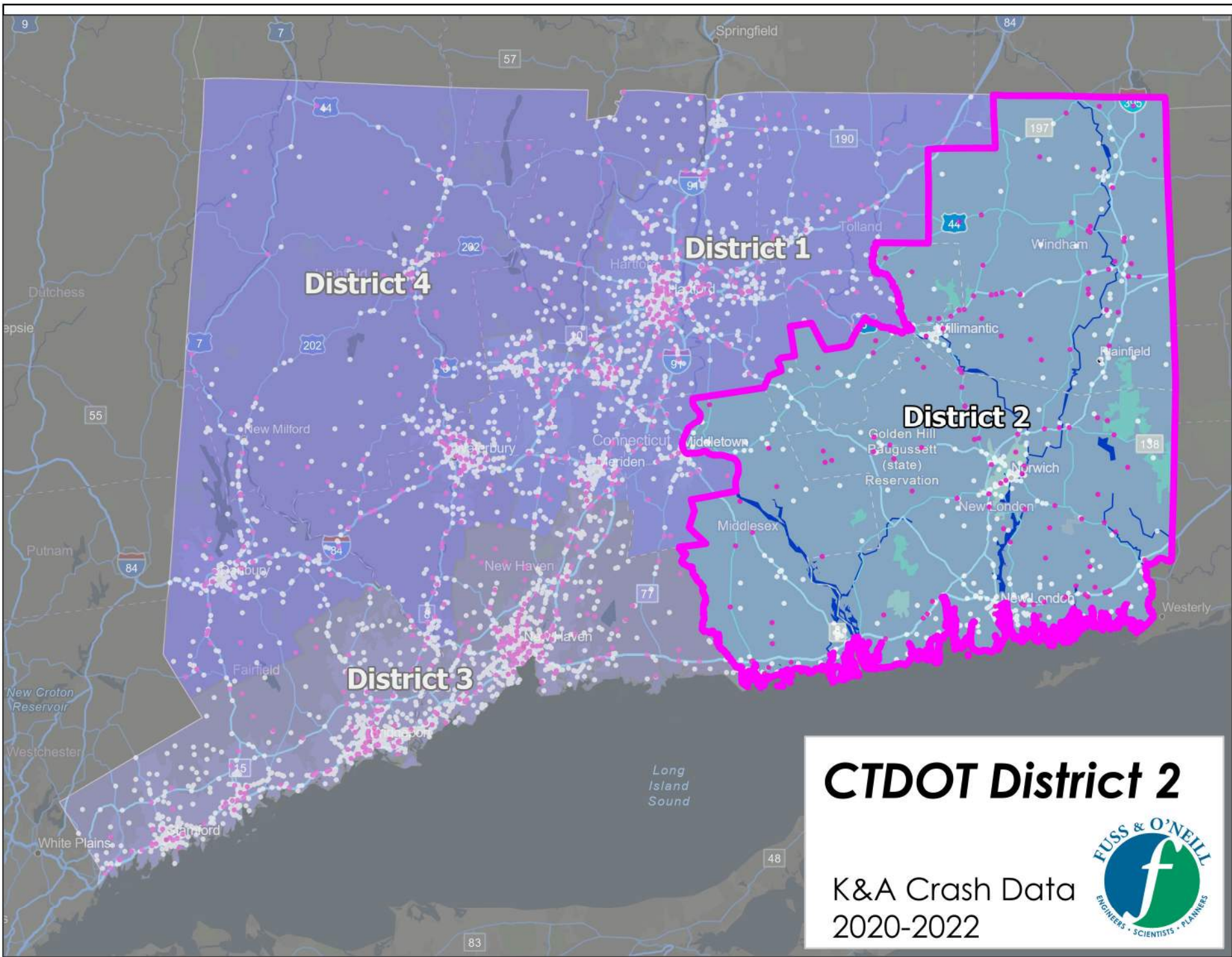
Municipal - Location vs. Event

■ ≤ 7
 ■ ≤ 32
 ■ ≤ 99
 ■ ≤ 258

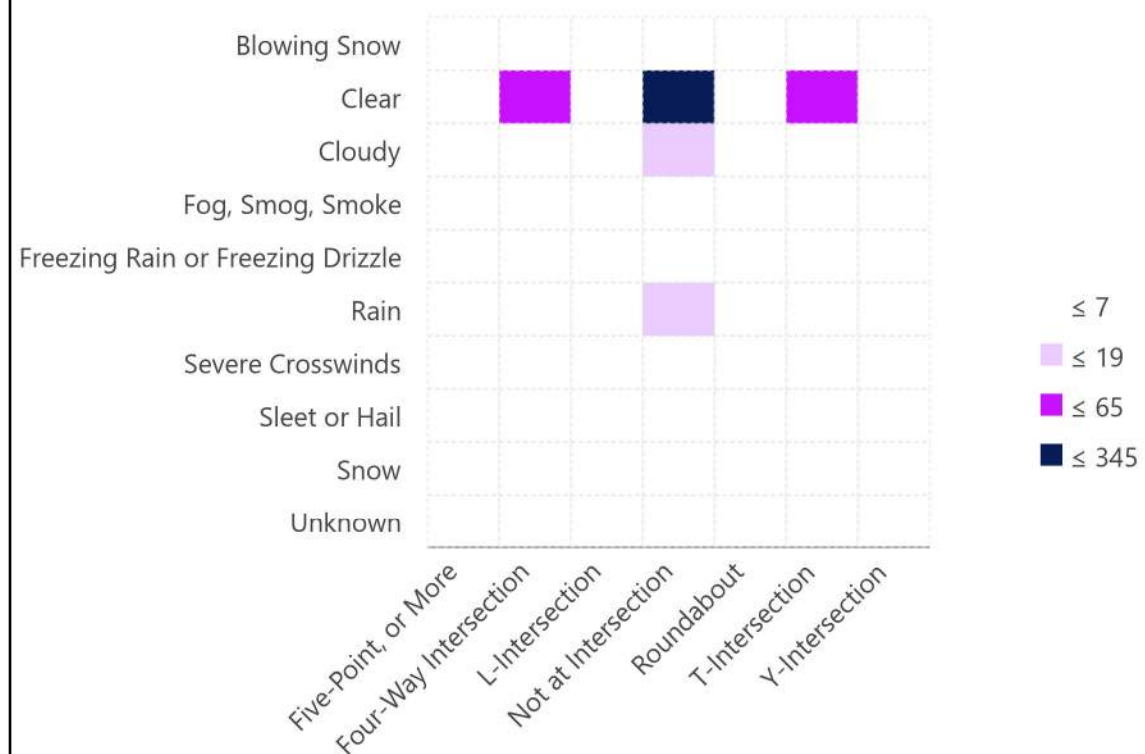


CTDOT District 1 State vs. Municipal Road

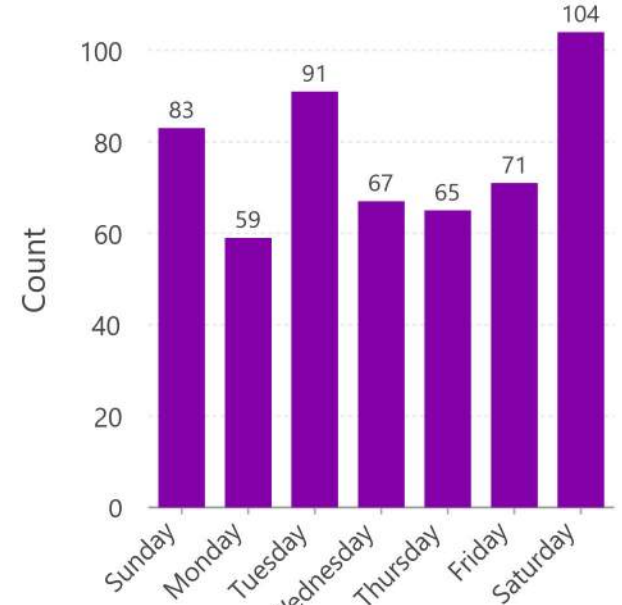




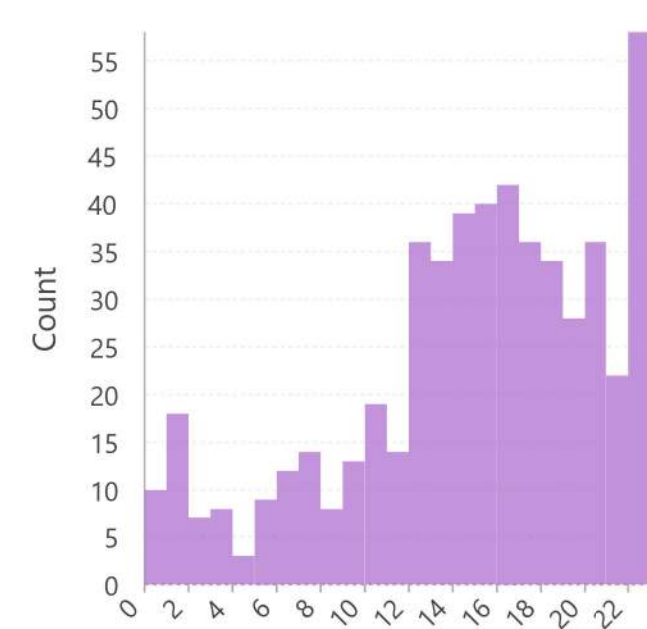
Weather vs. Intersection Type



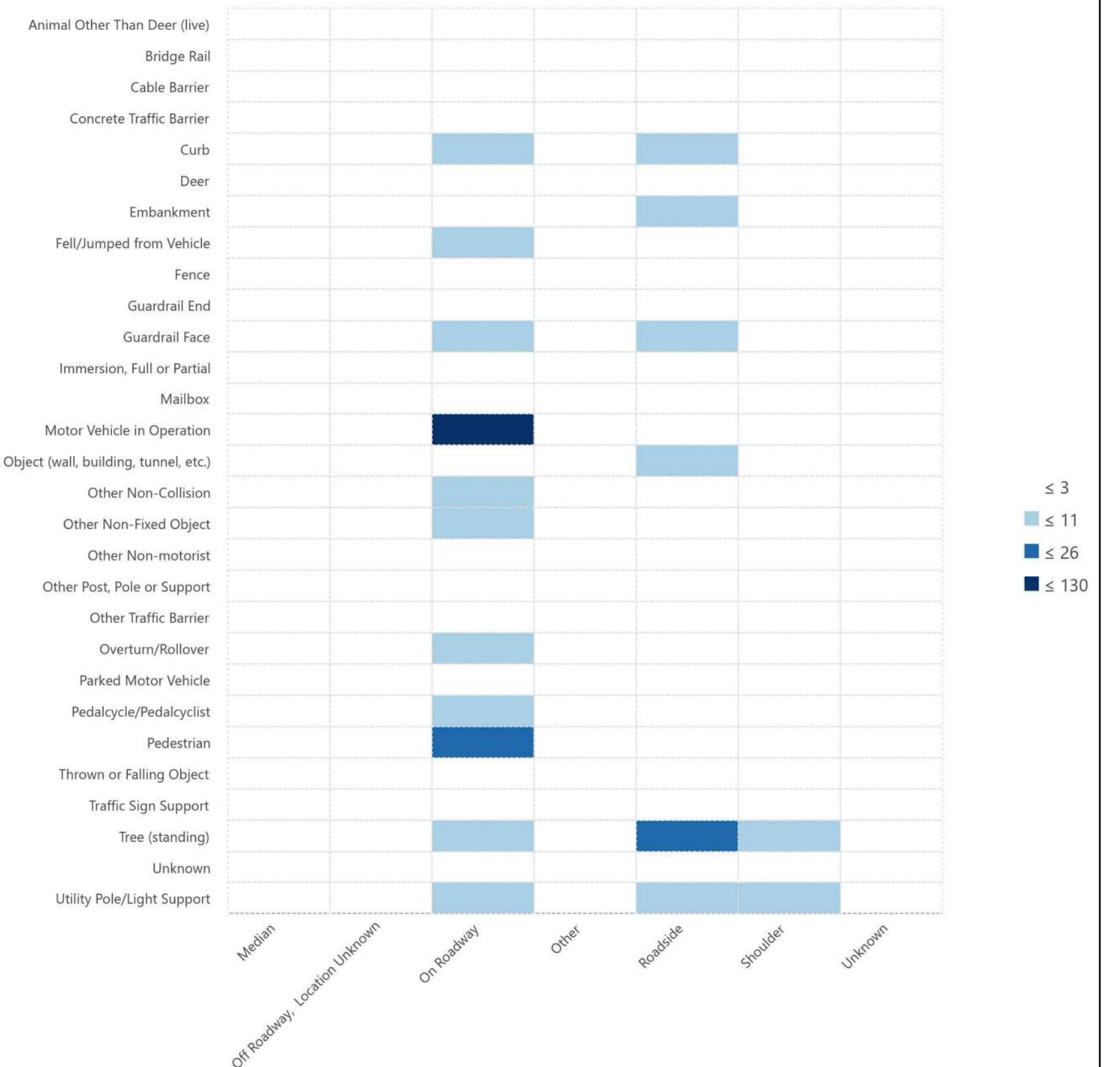
Days of the Week



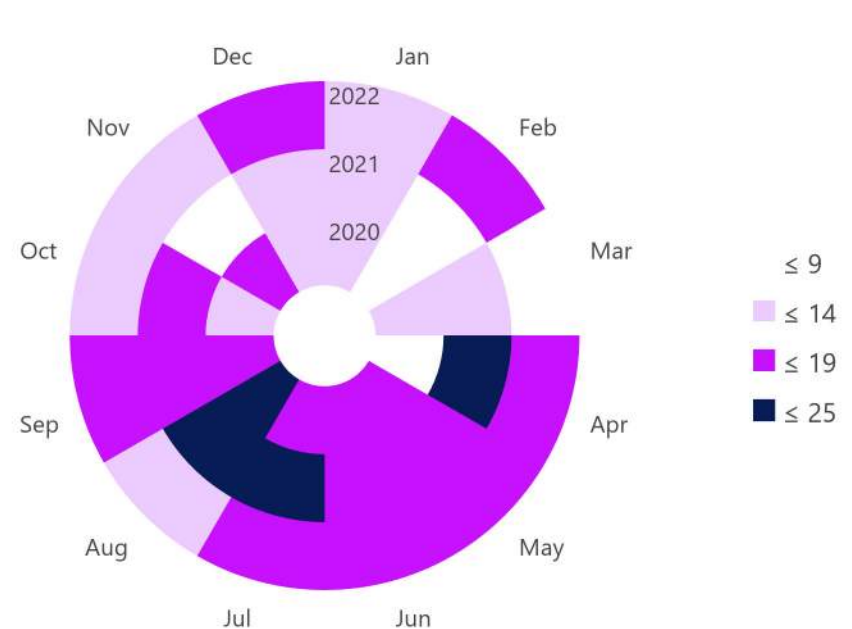
Hours of the Day



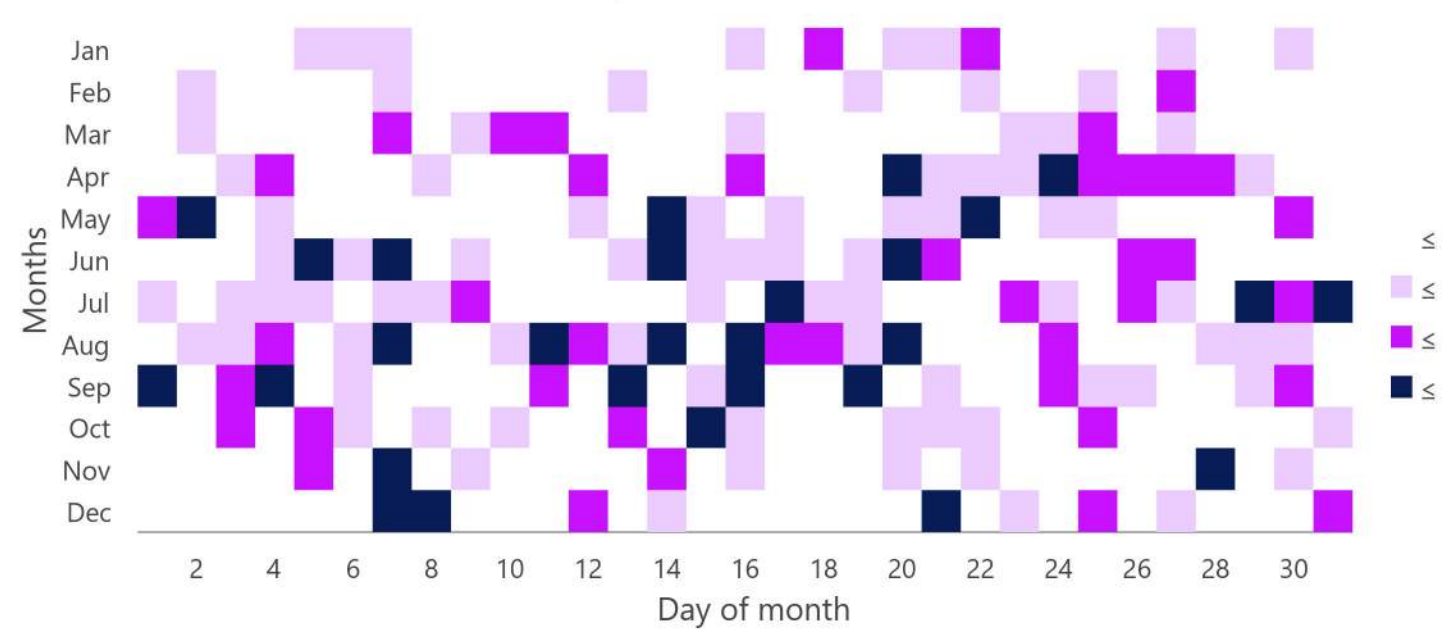
Rural - Location Type vs. Event Type

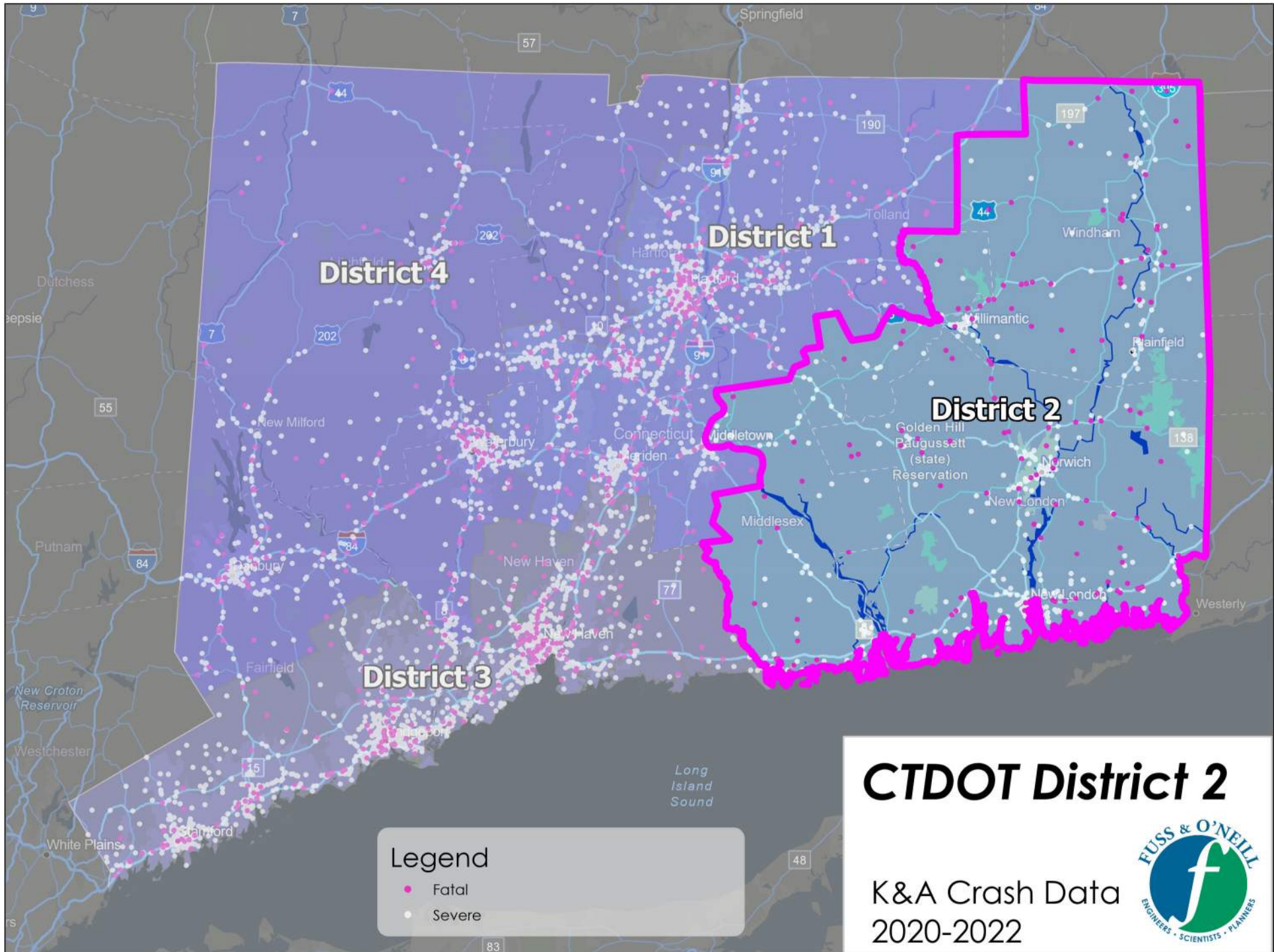


Months of the Year



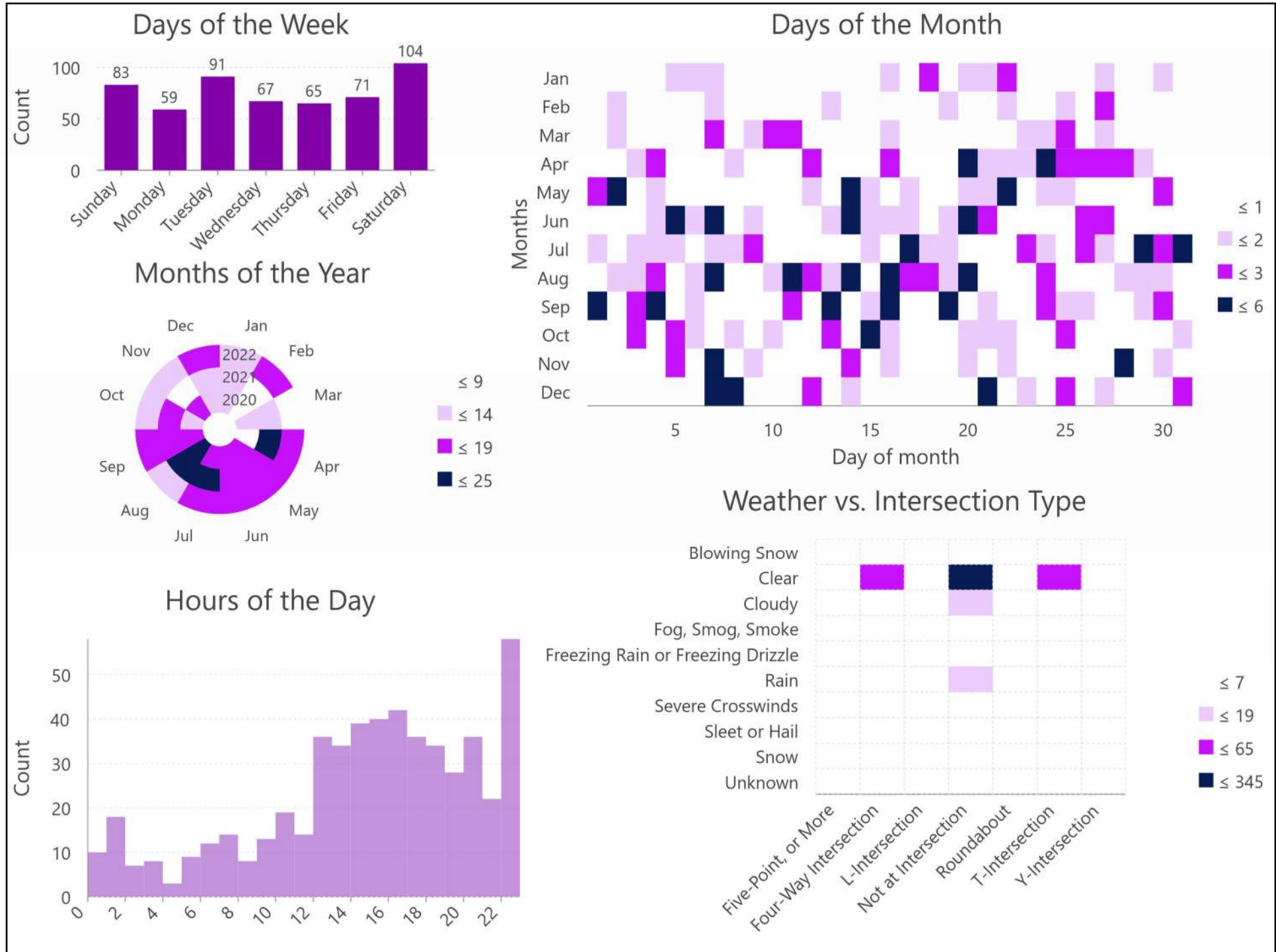
Days of the Month





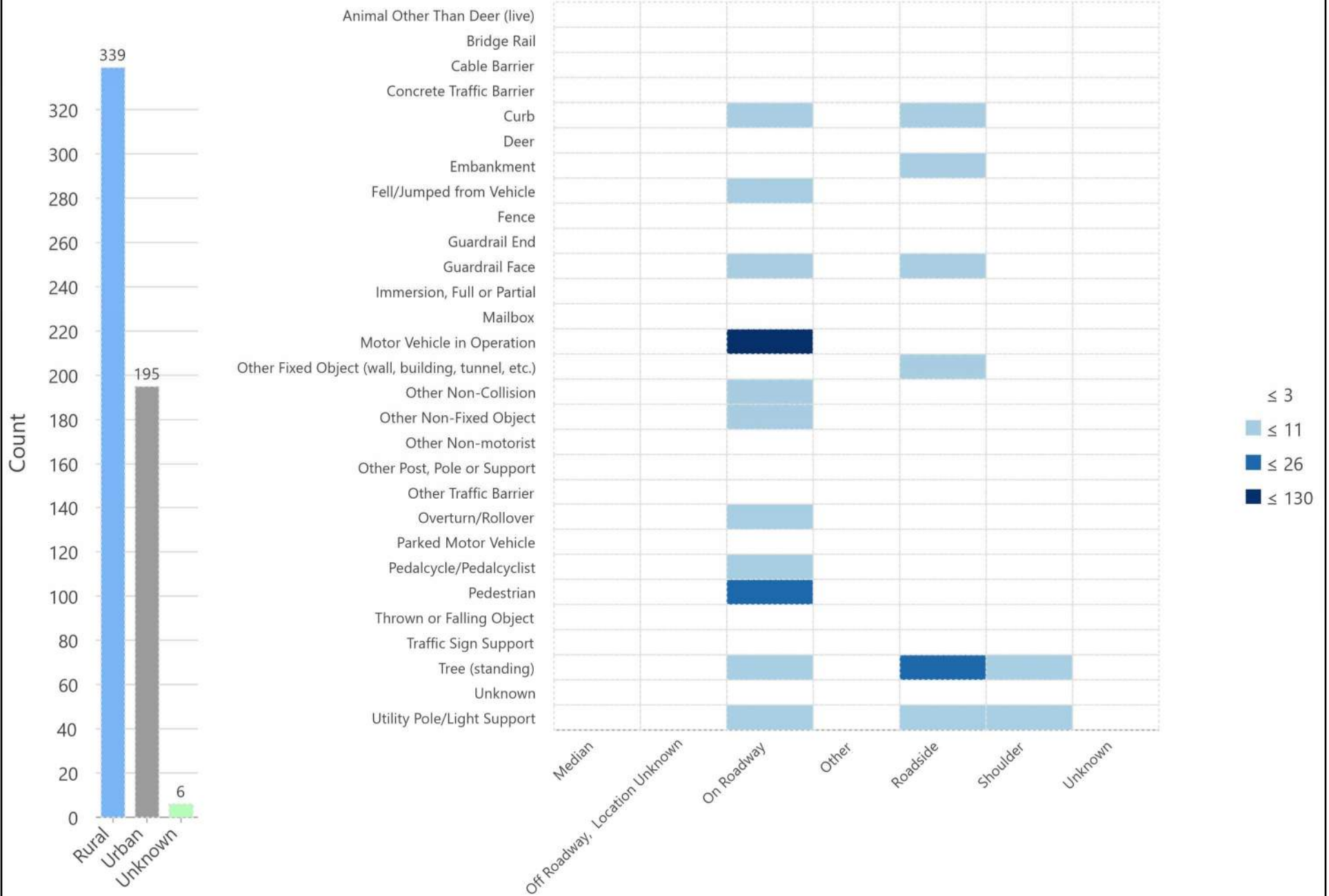
Data Notes:
Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

CTDOT District 2 Time & Conditions K&A Crash Data 2020-2022



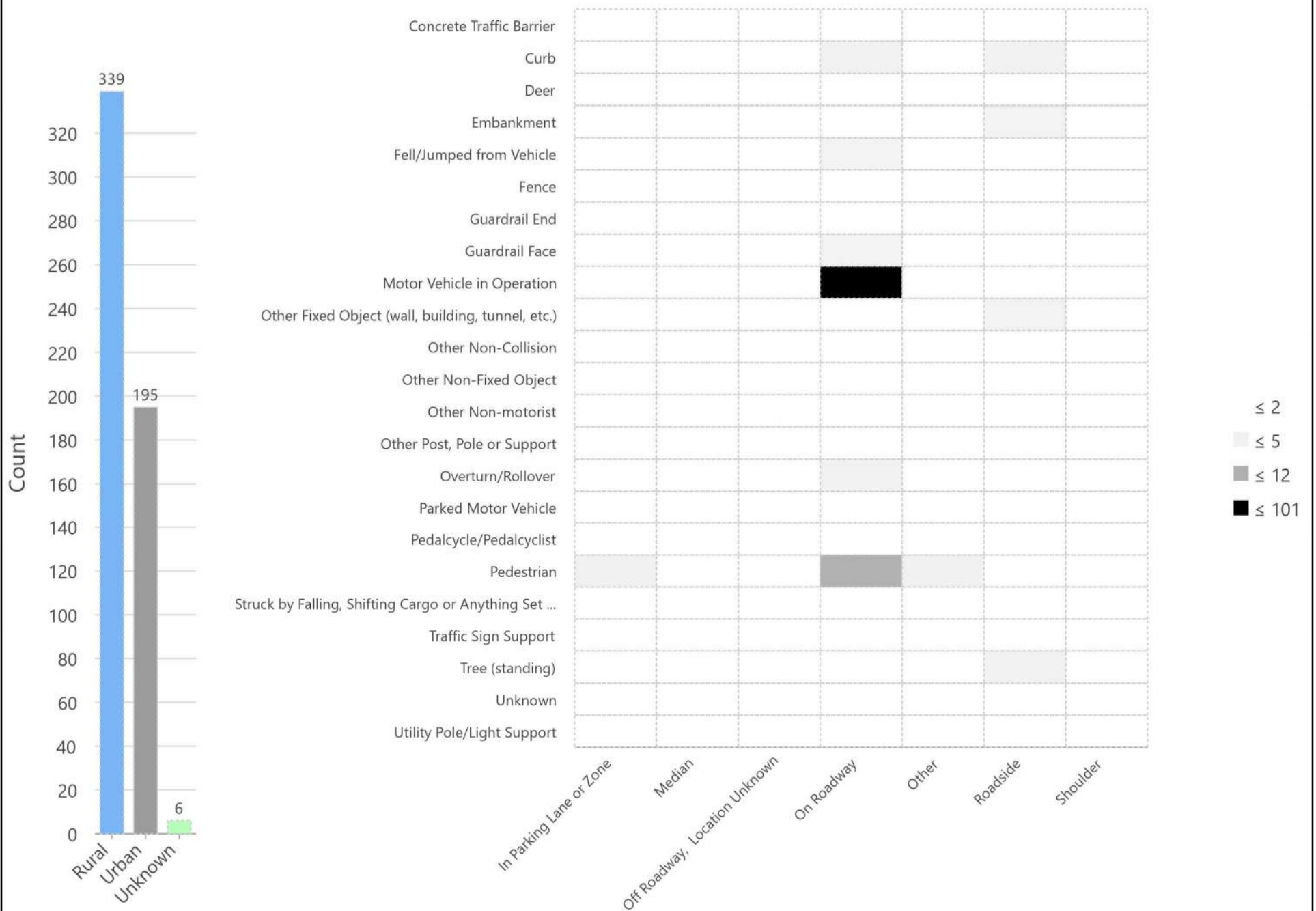
CTDOT District 2 Rural vs. Urban K&A Crash Data 2020-2022

Rural - Location Type vs. Event Type

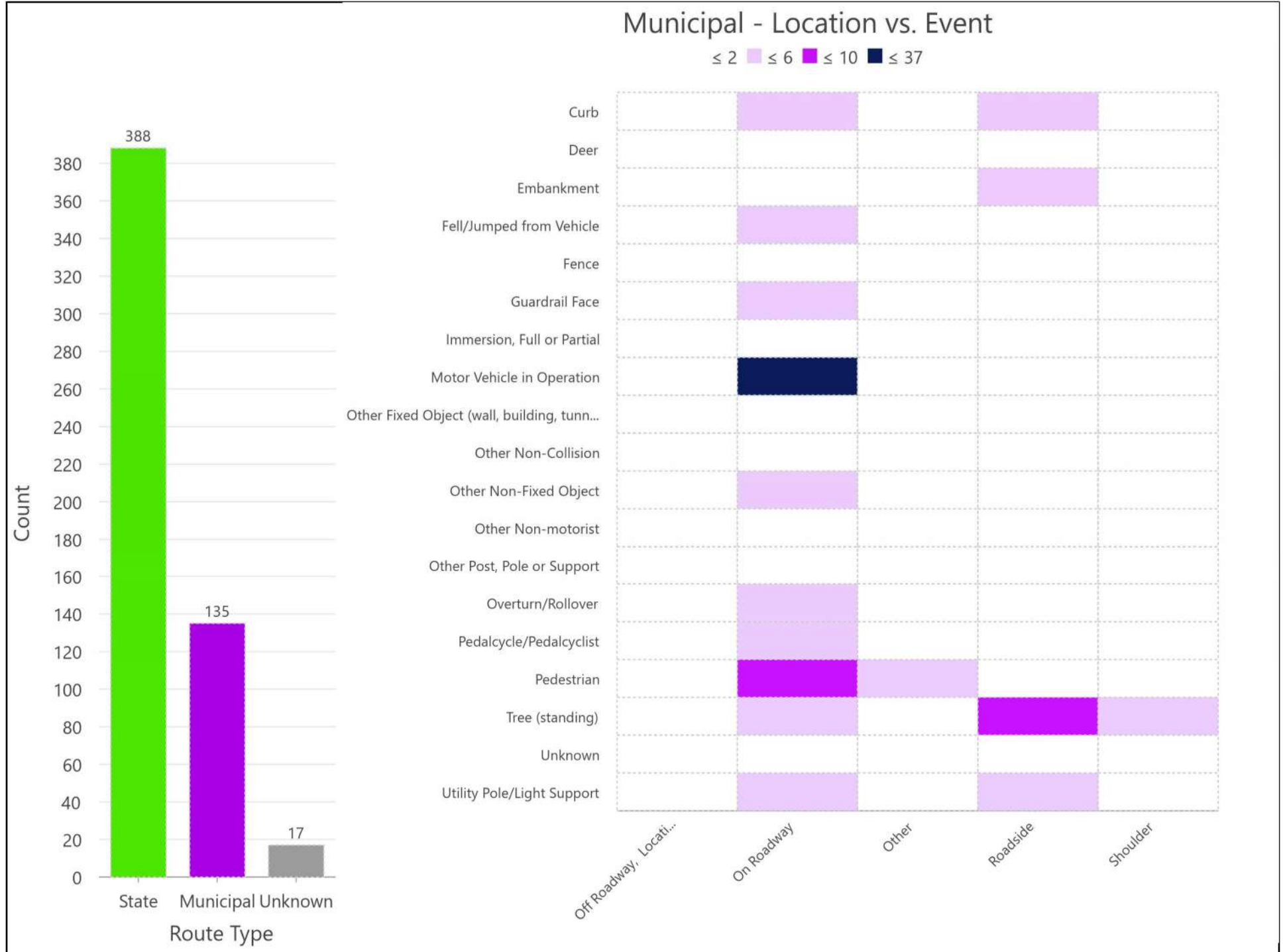


CTDOT District 2 Rural vs. Urban K&A Crash Data 2020-2022

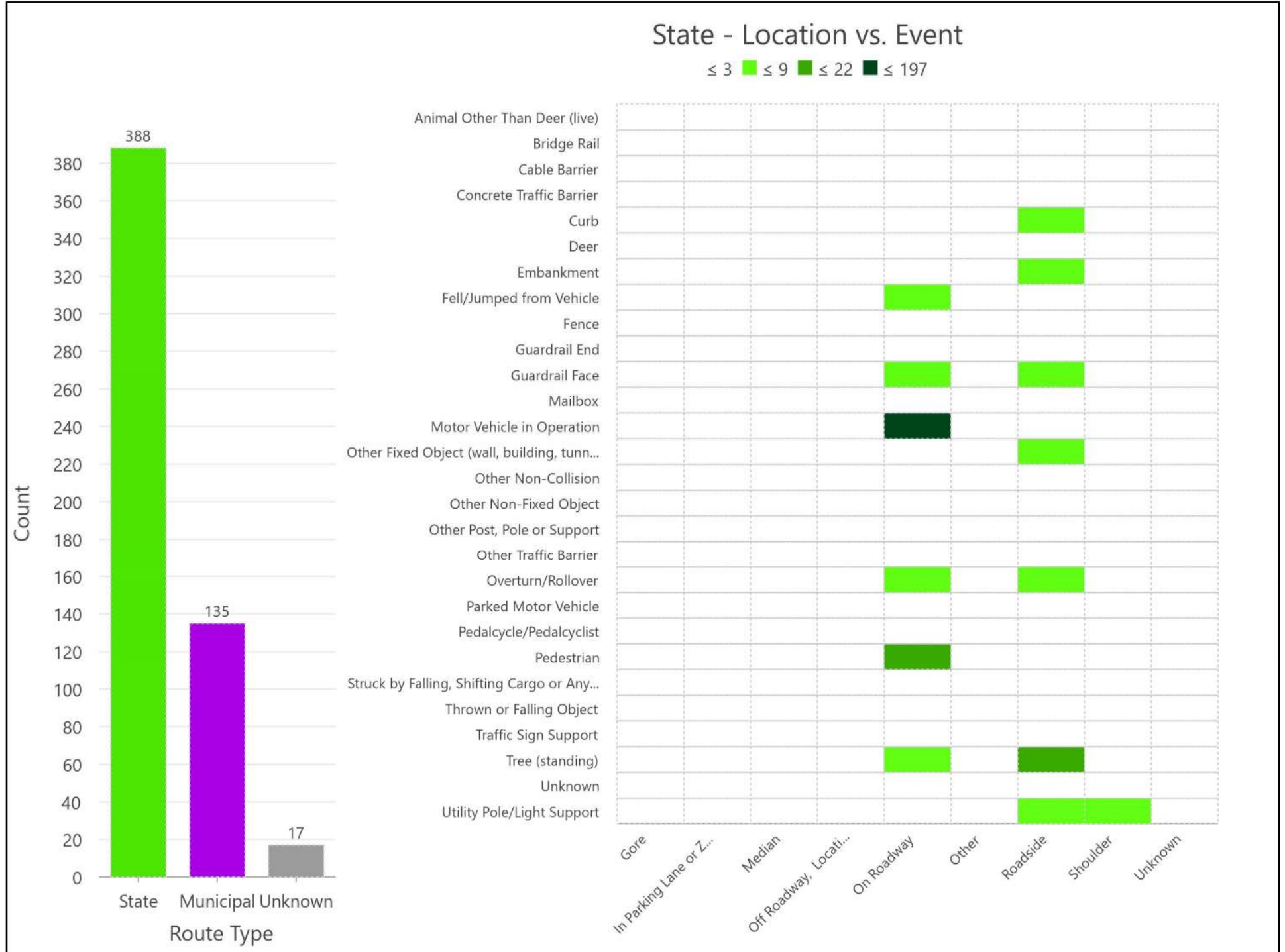
Urban - Location Type vs. Event Type

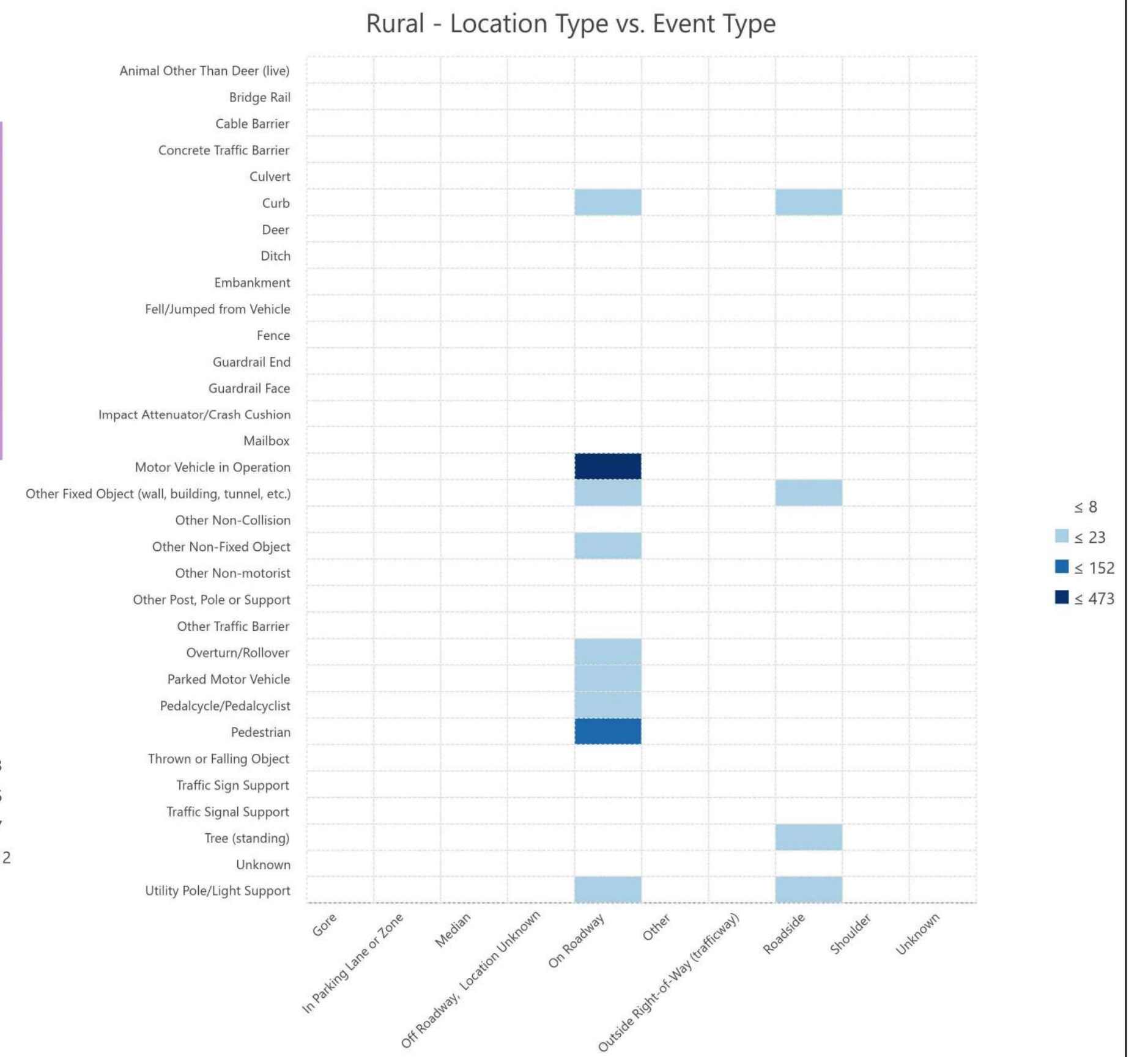
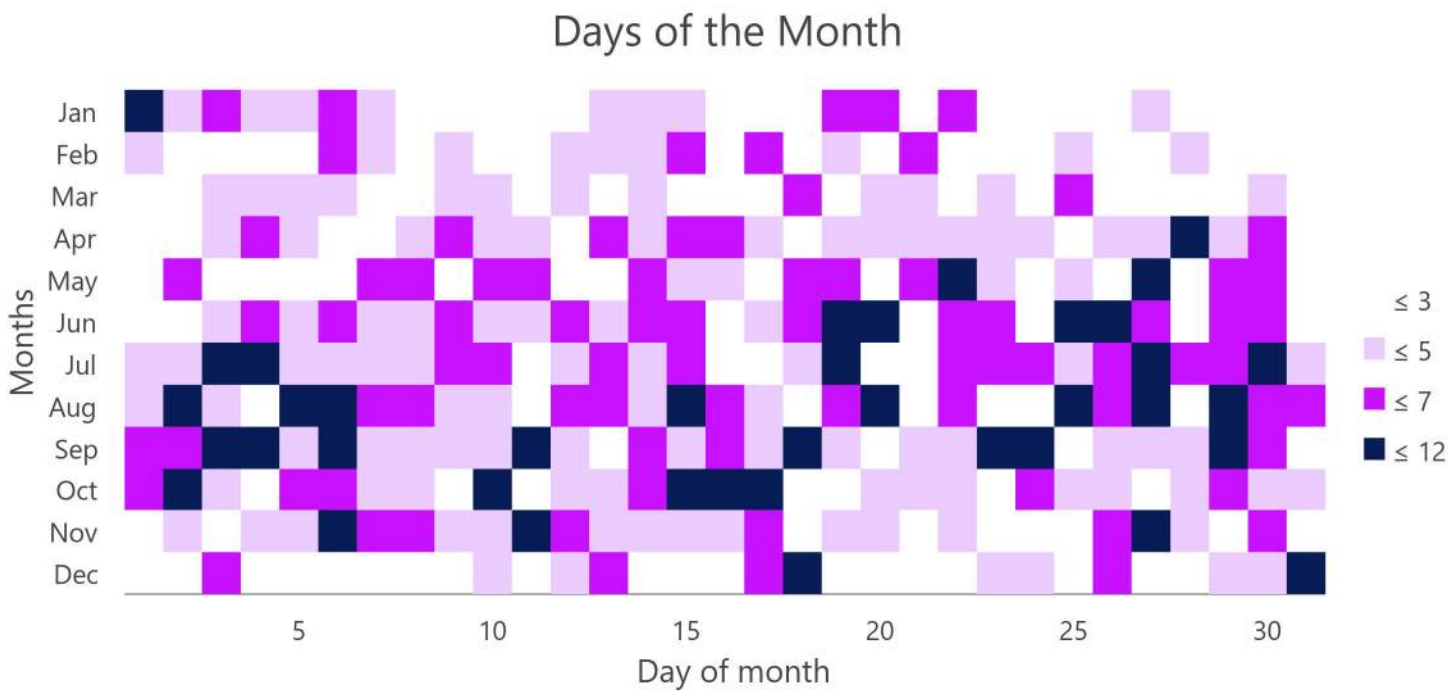
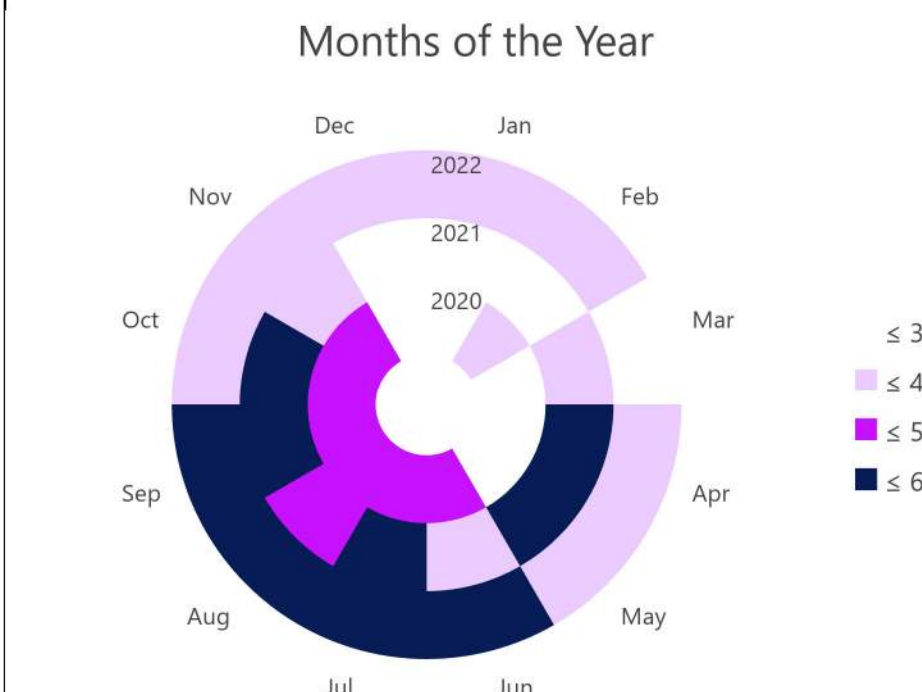
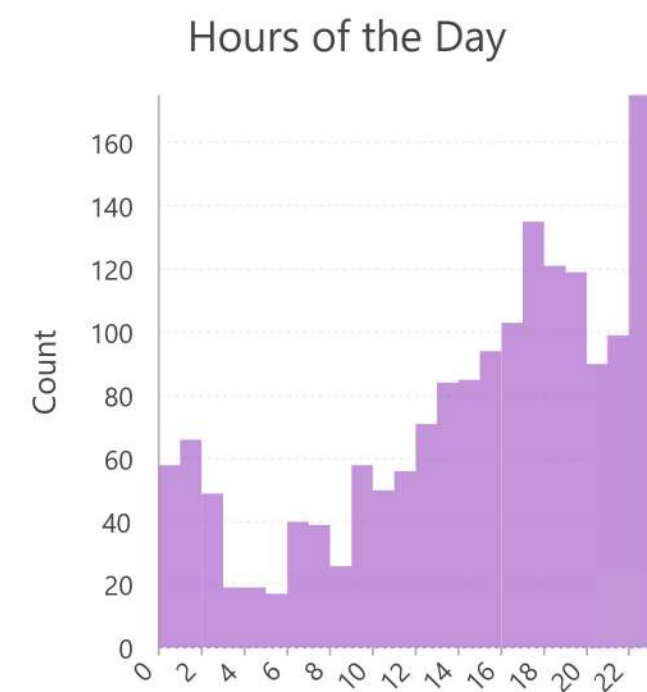
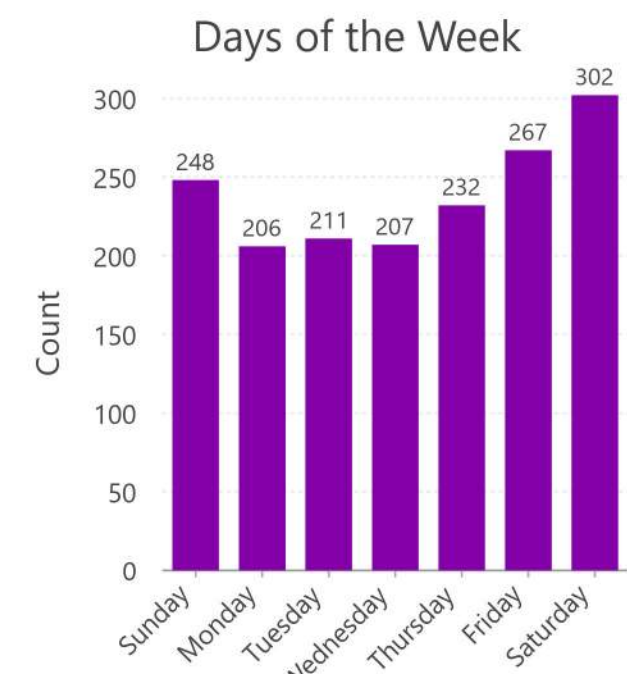
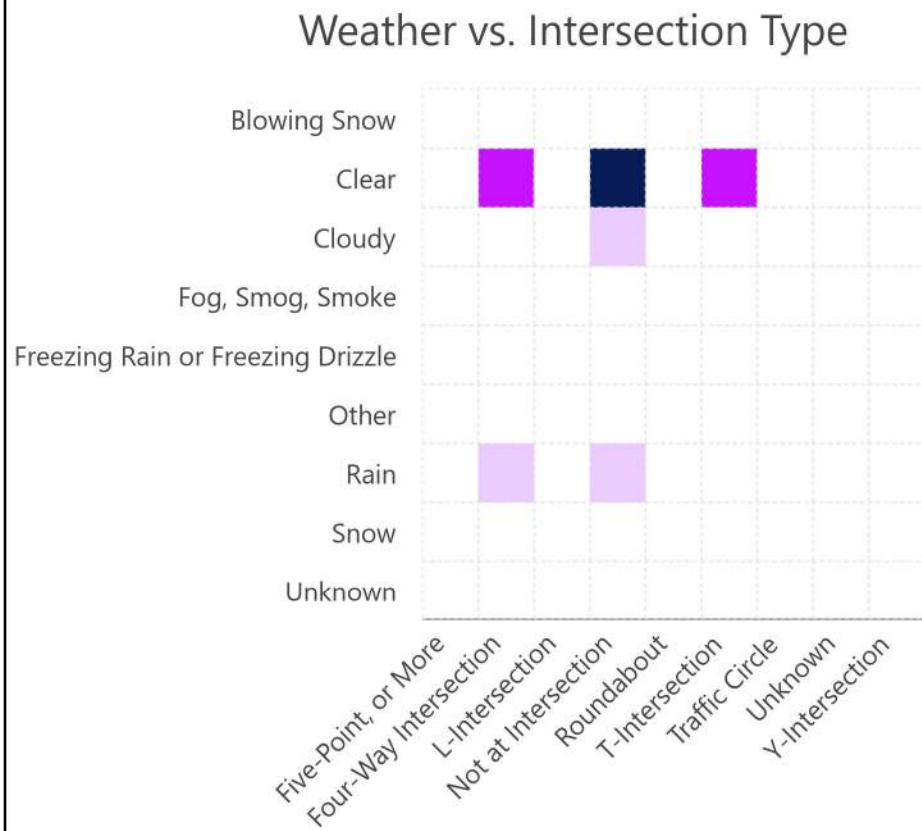
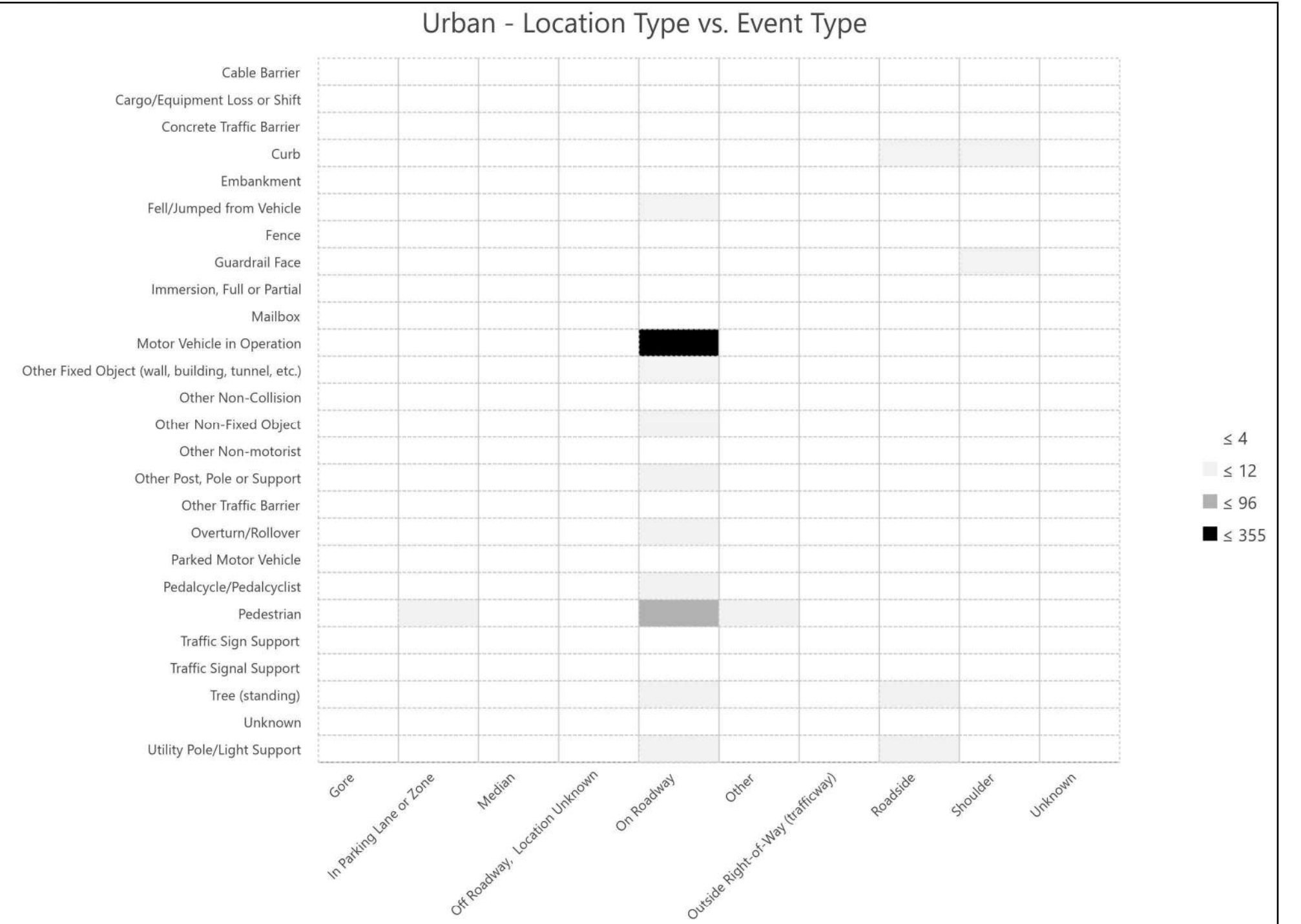
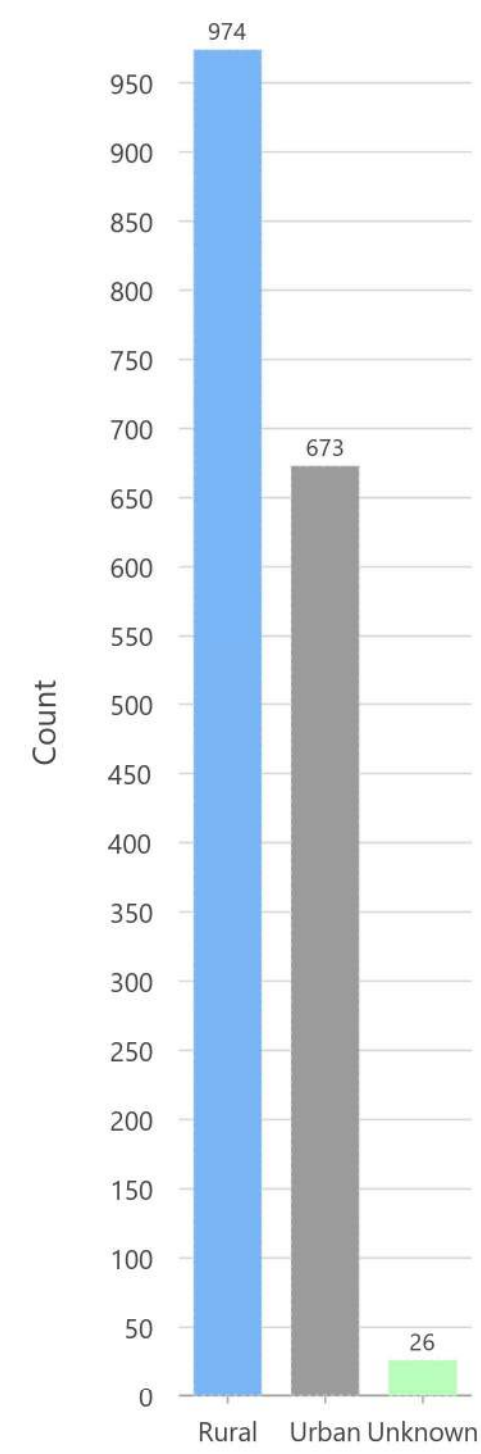
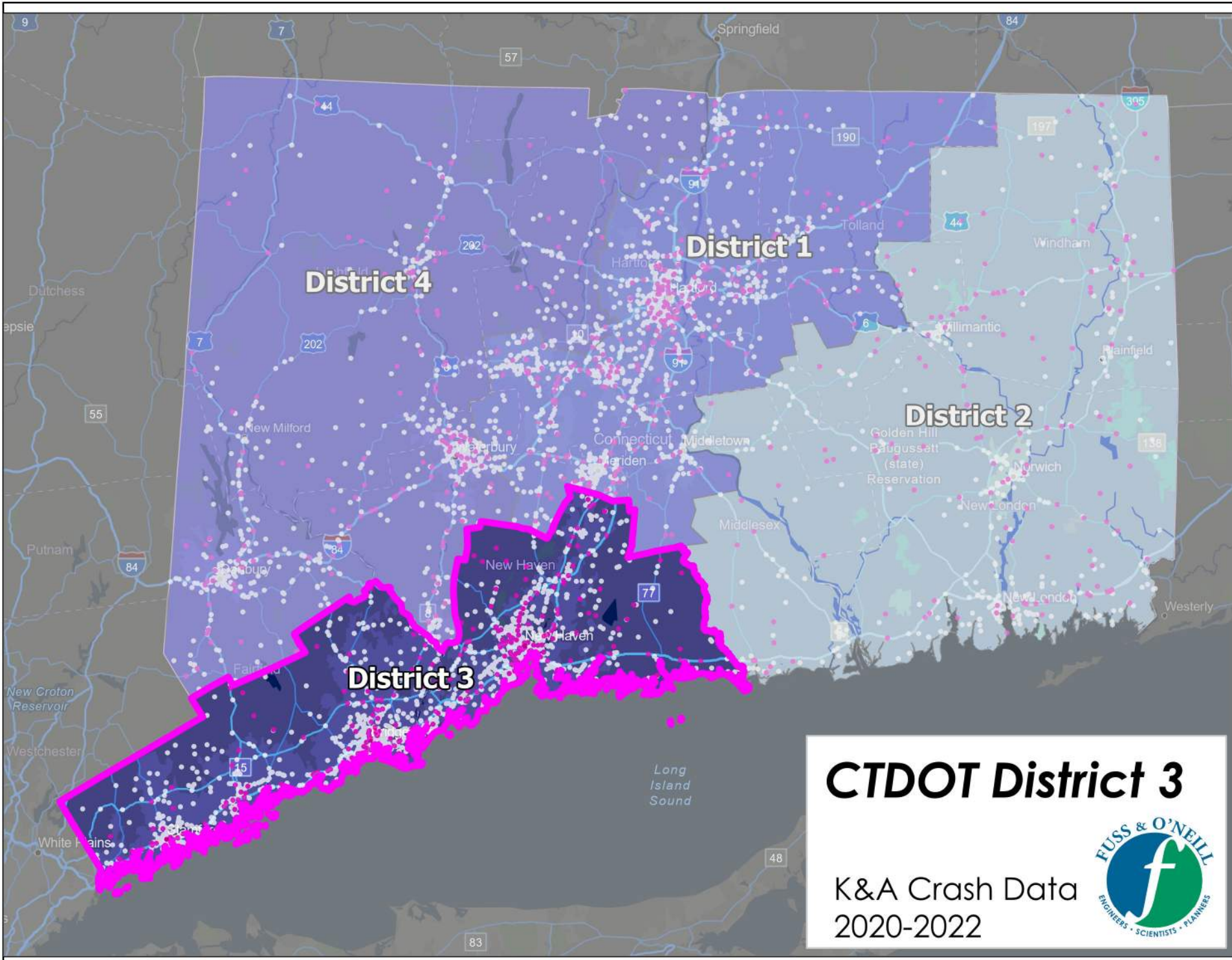


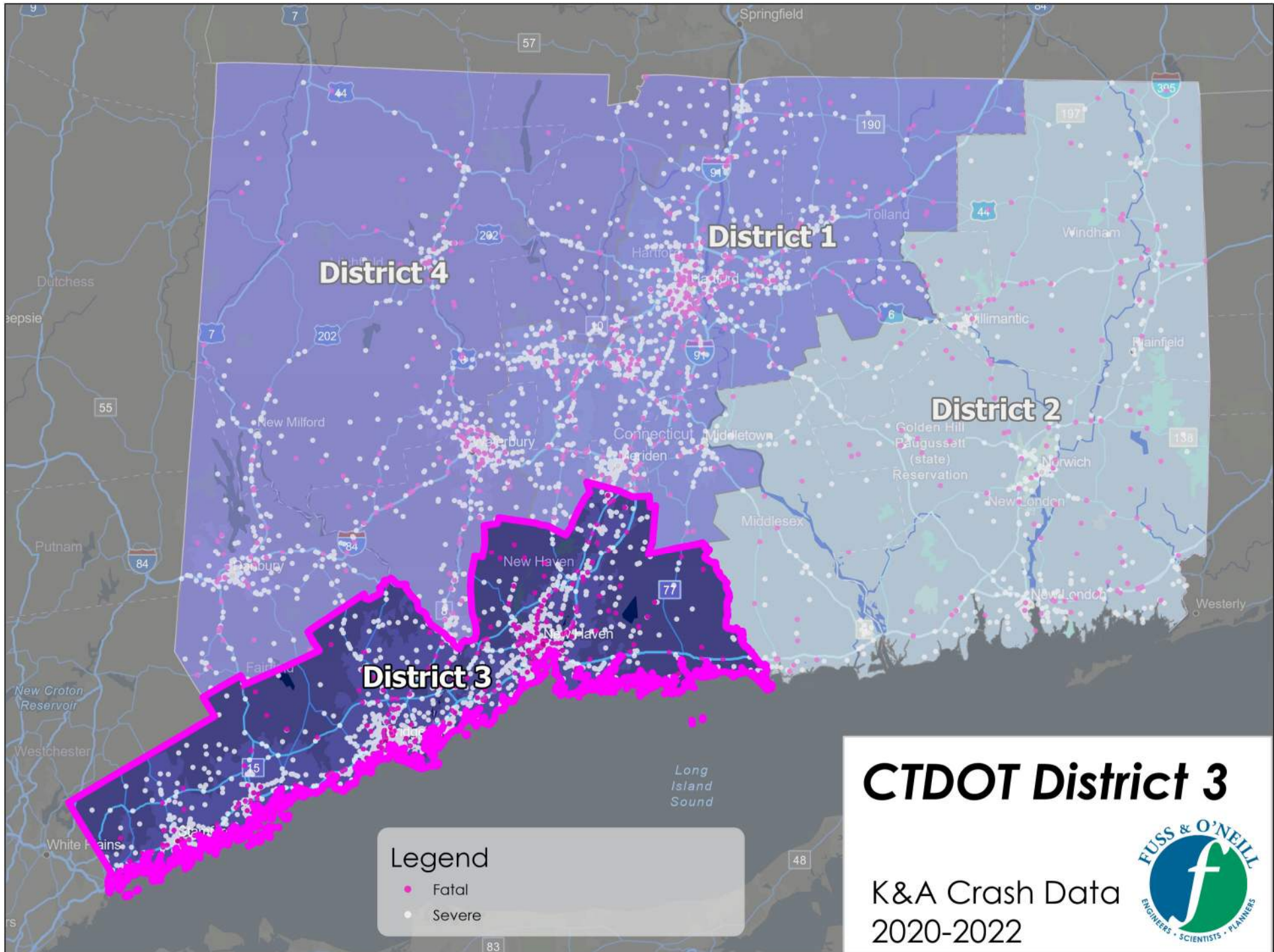
CTDOT District 2 State vs. Municipal Road



CTDOT District 2 State vs. Municipal Road







CTDOT District 3

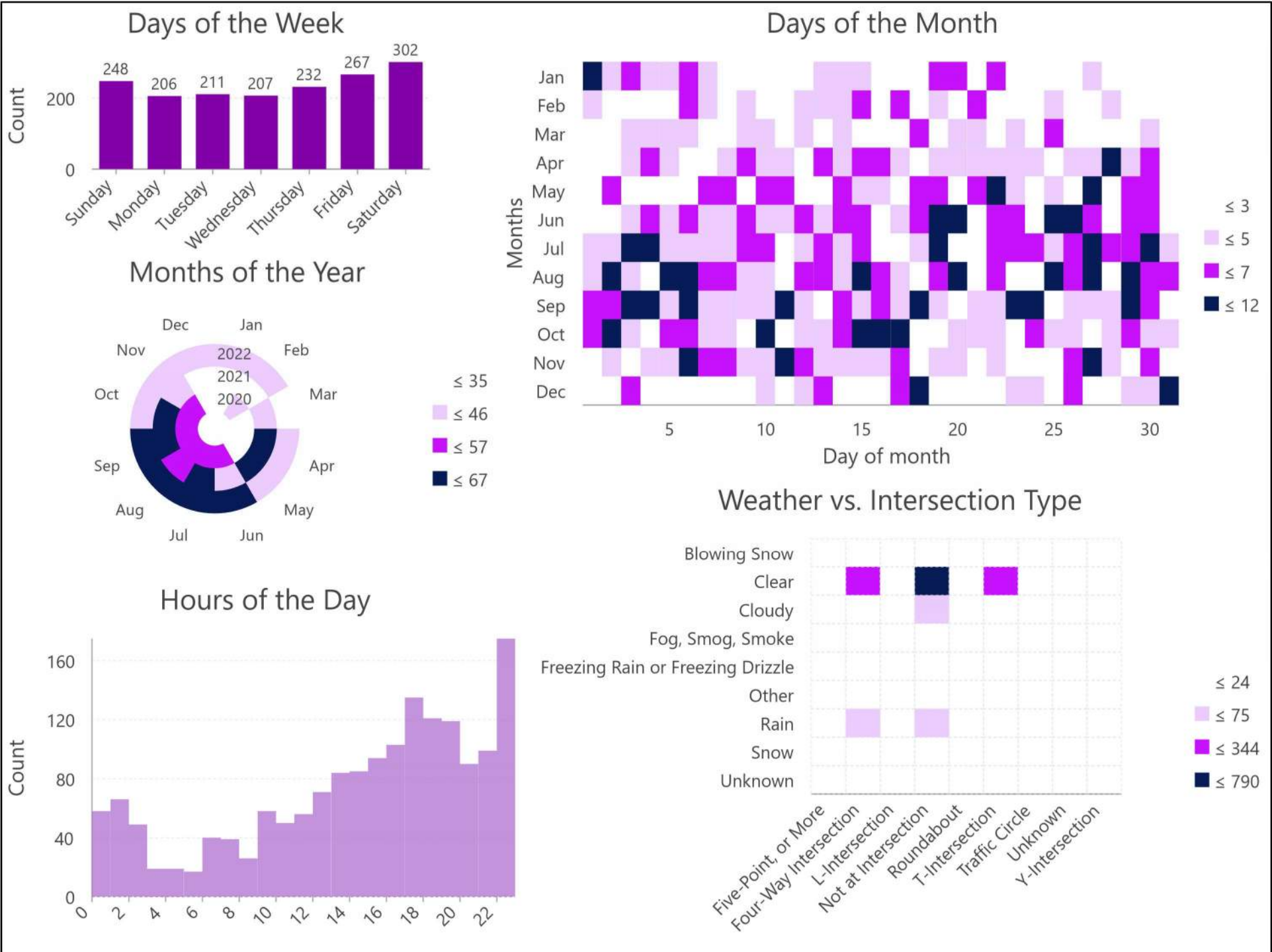
K&A Crash Data
2020-2022



- Legend**
- Fatal
 - Severe

Data Notes:
Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

CTDOT District 3 Time & Conditions K&A Crash Data 2020-2022

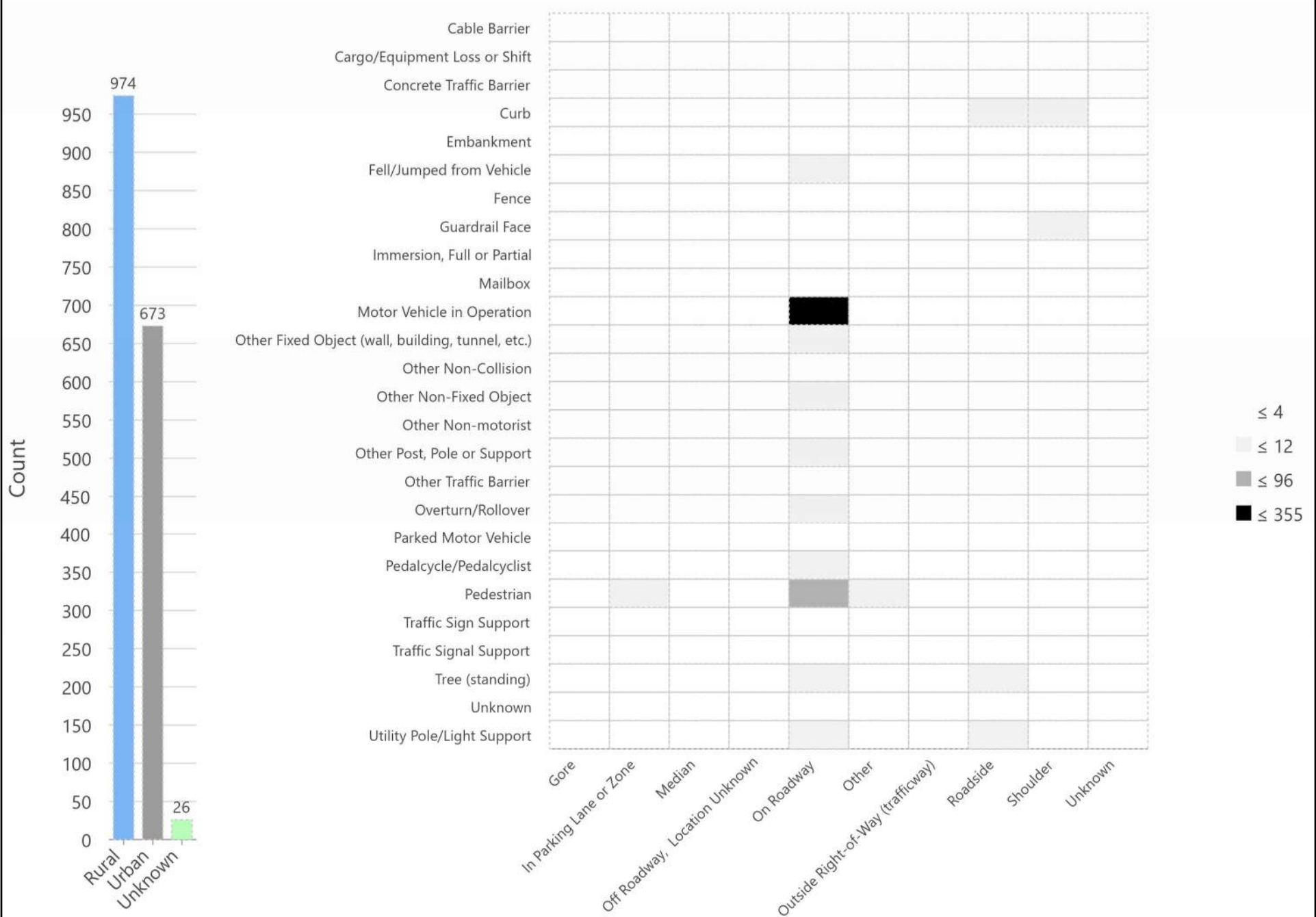


CTDOT District 3 Rural vs. Urban K&A Crash Data 2020-2022



CTDOT District 3 Rural vs. Urban K&A Crash Data 2020-2022

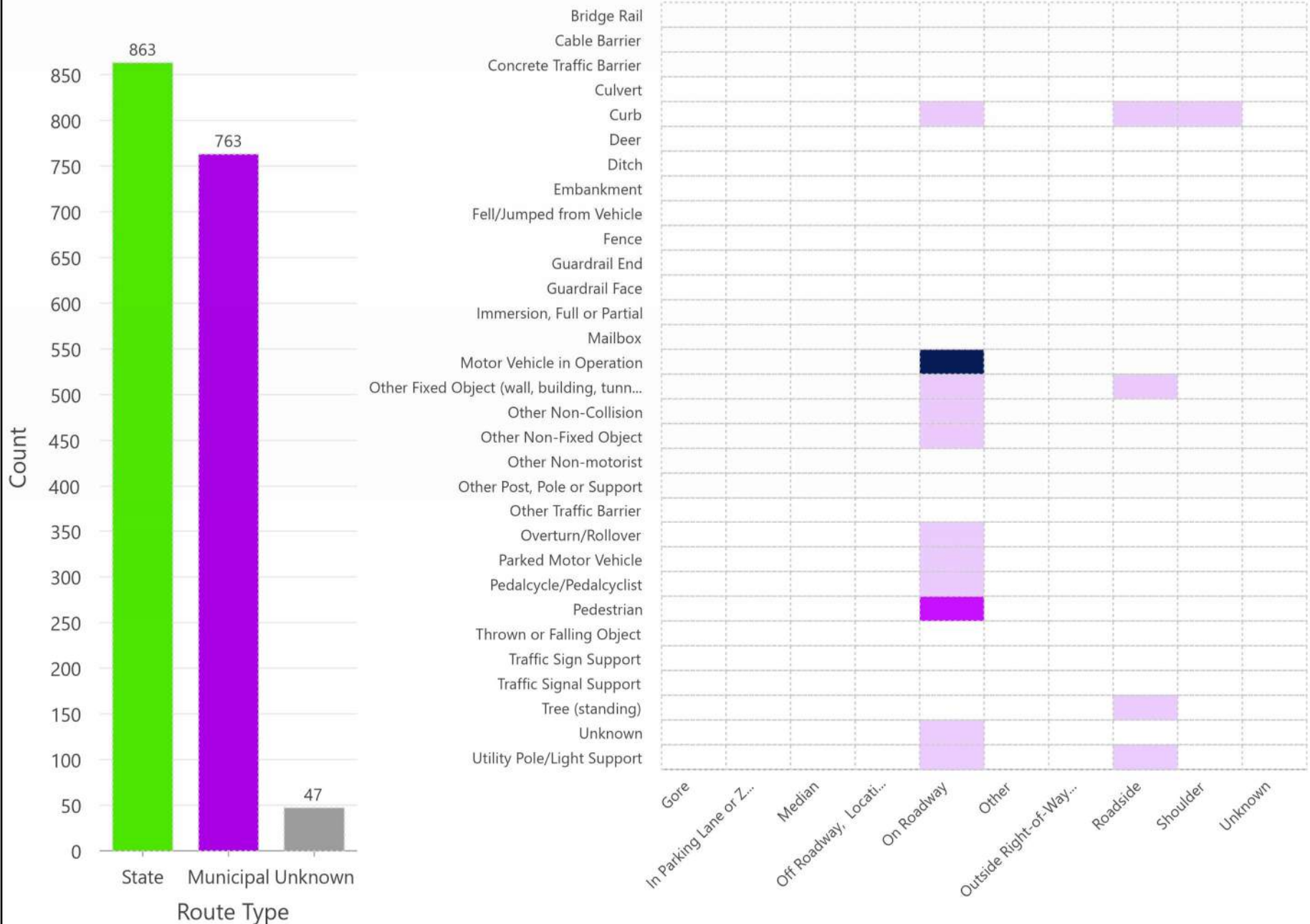
Urban - Location Type vs. Event Type



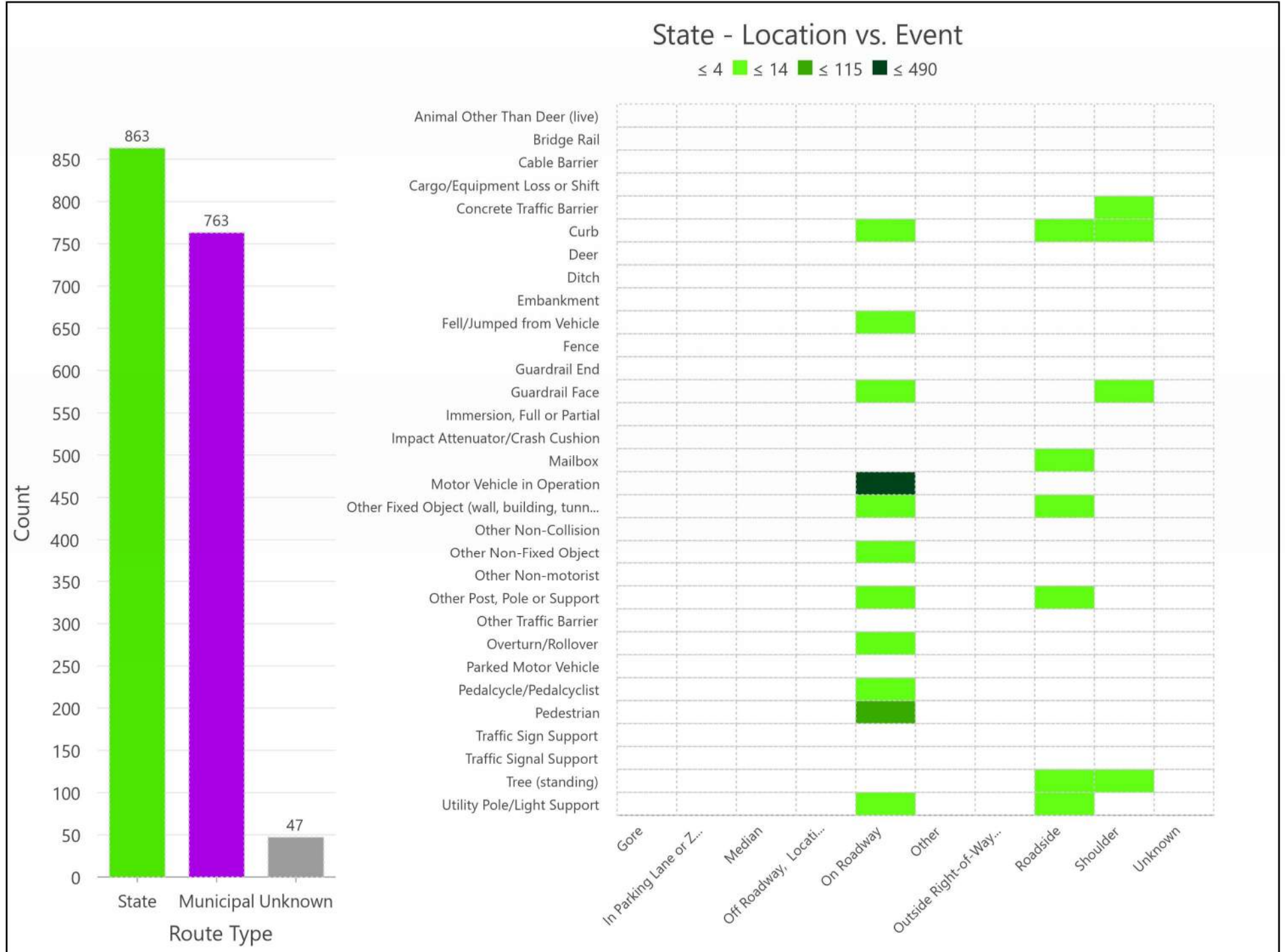
CTDOT District 3 State vs. Municipal Road

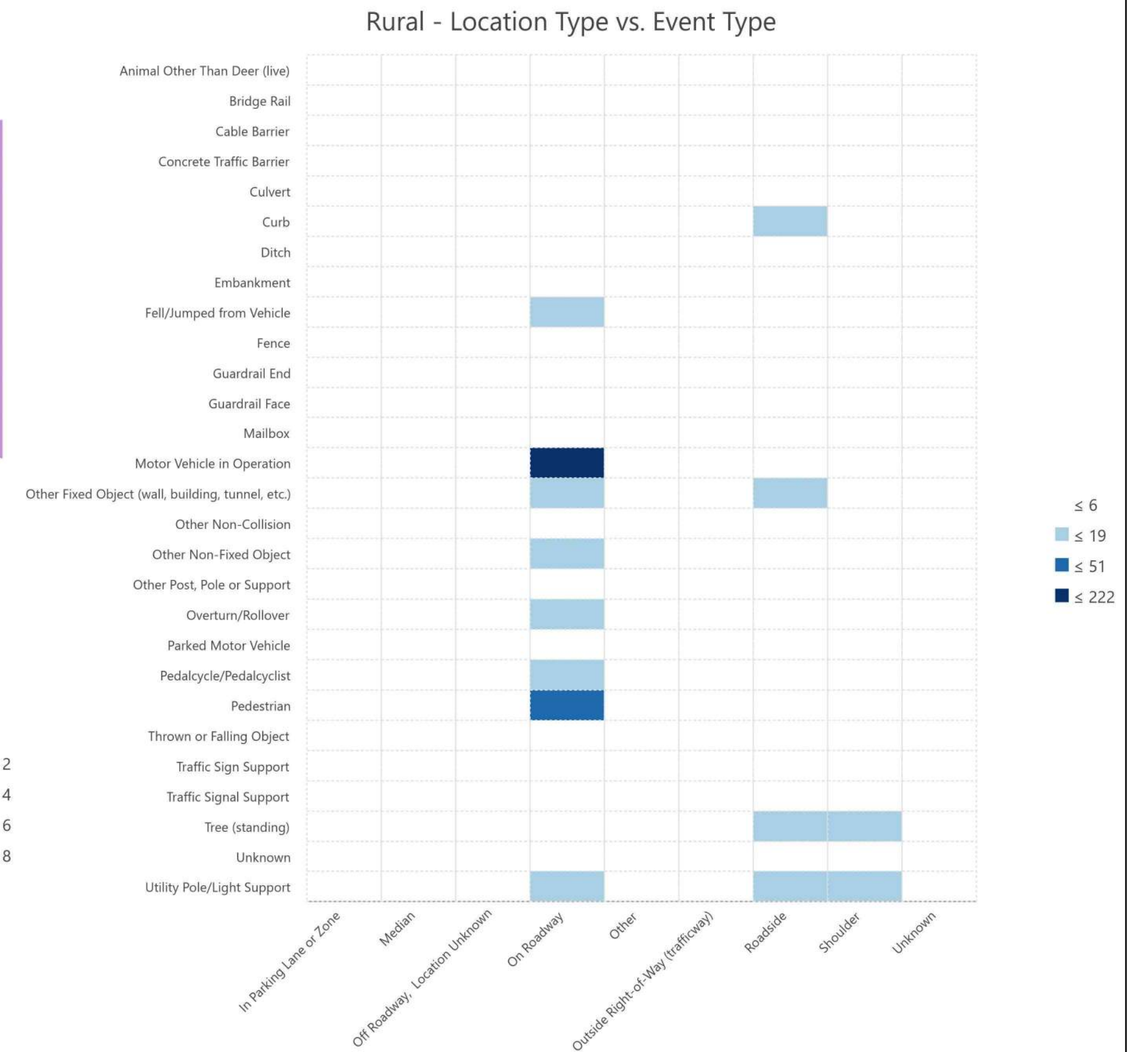
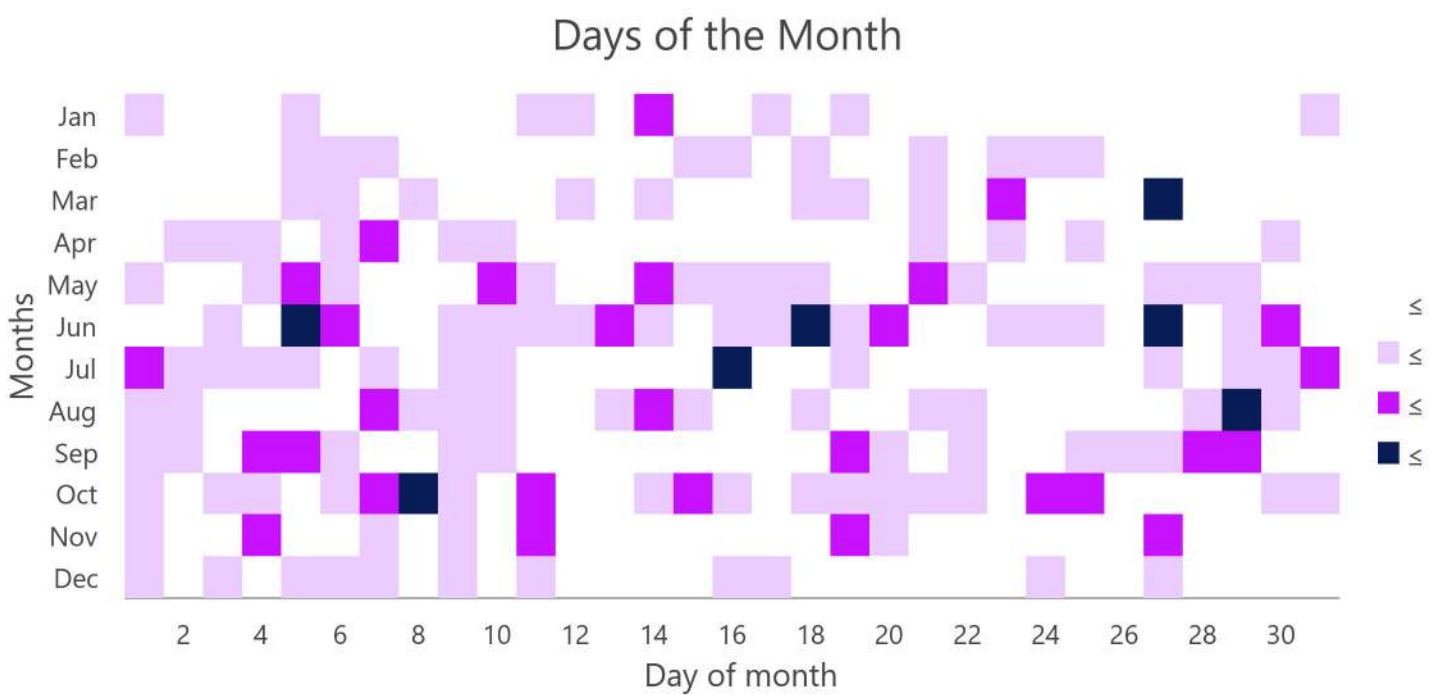
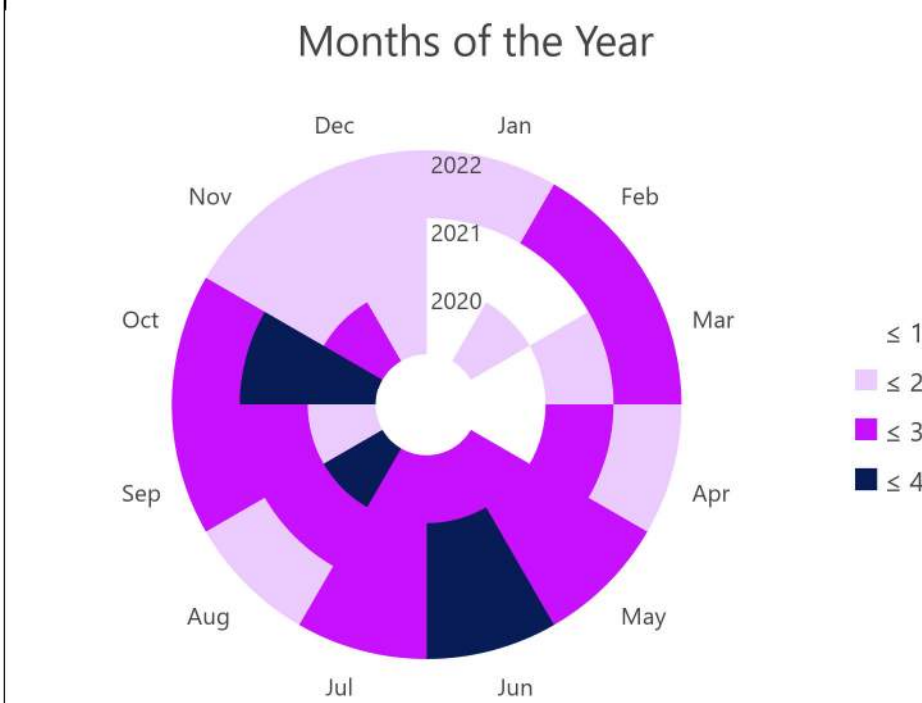
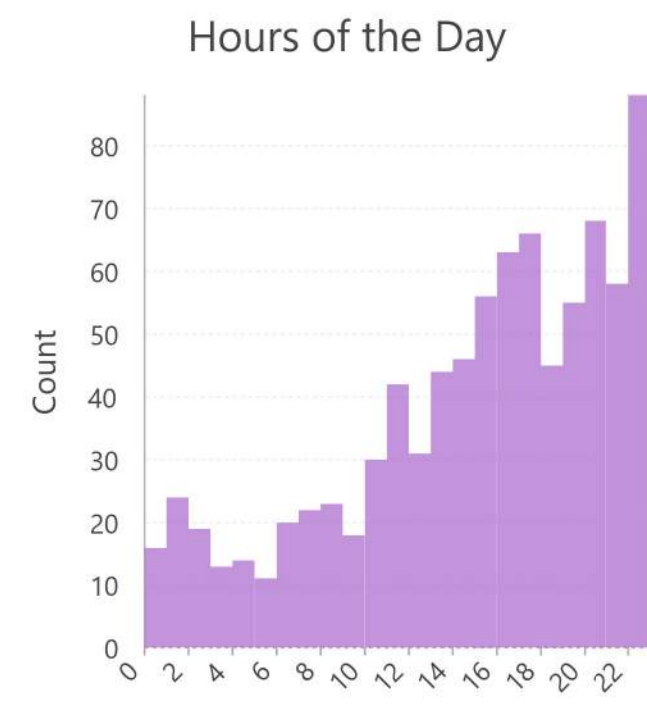
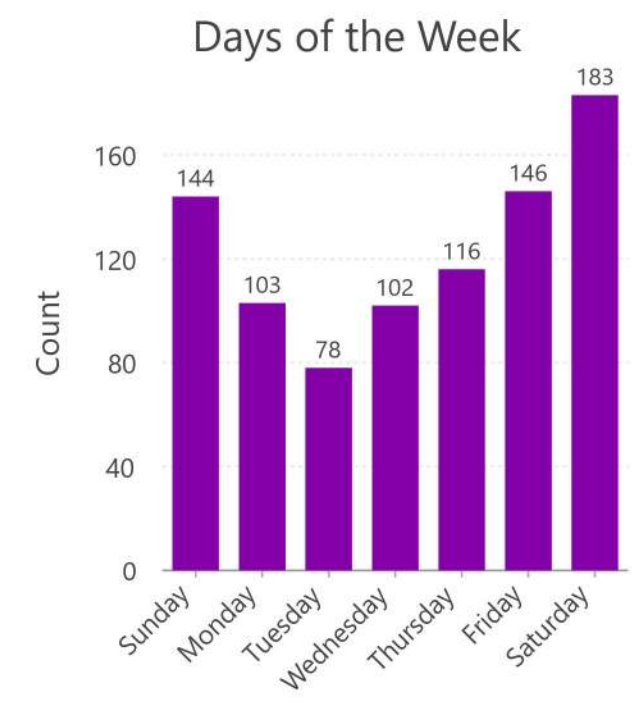
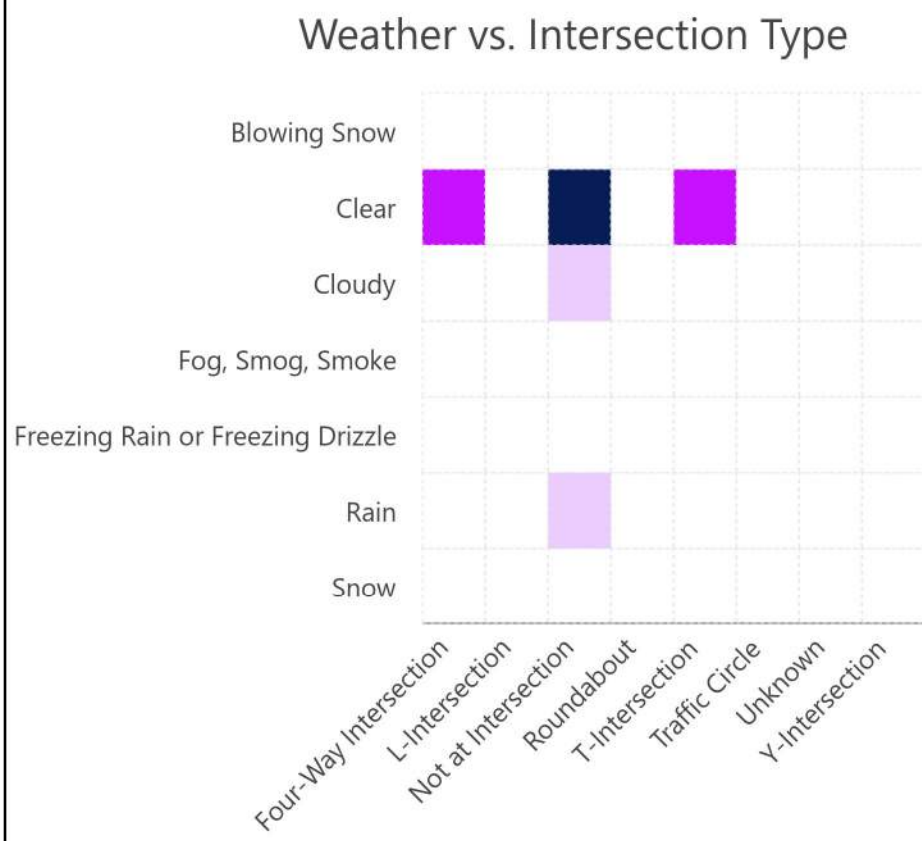
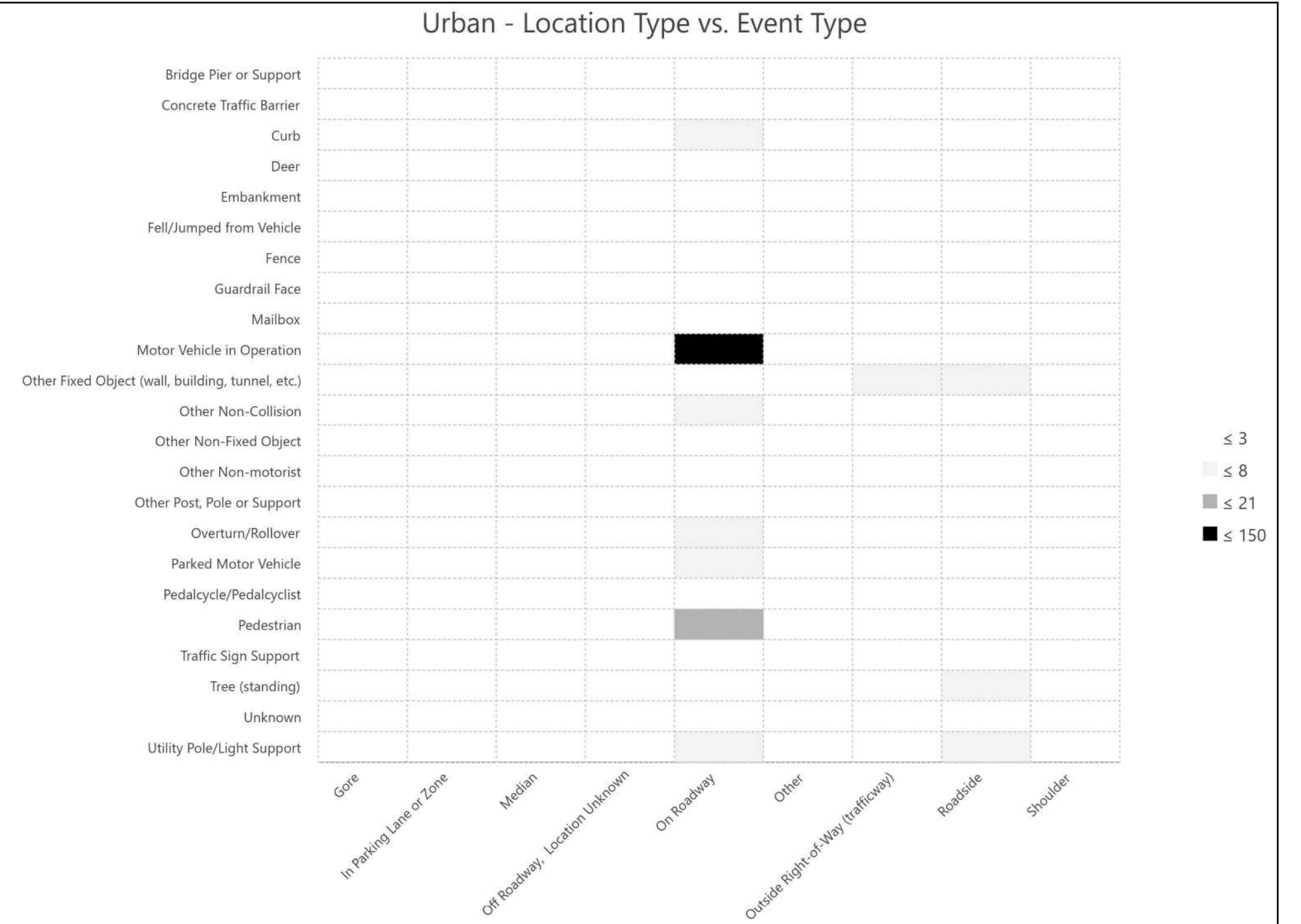
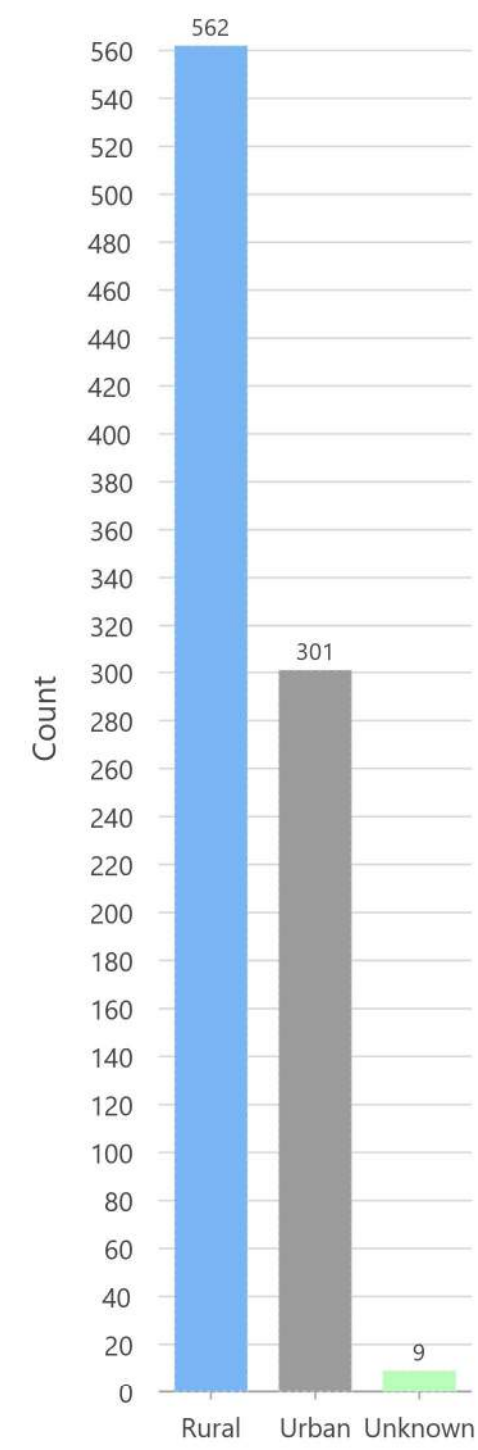
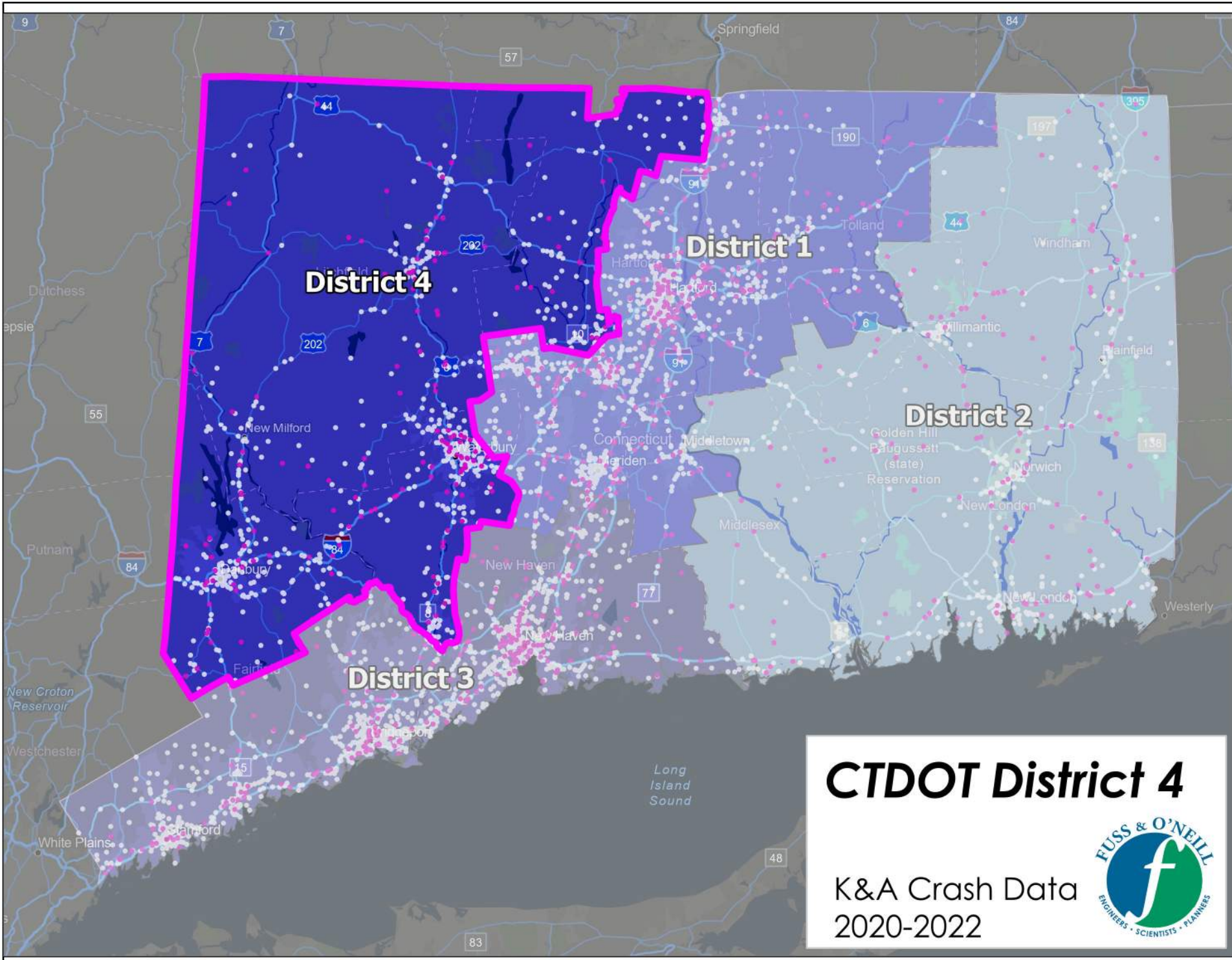
Municipal - Location vs. Event

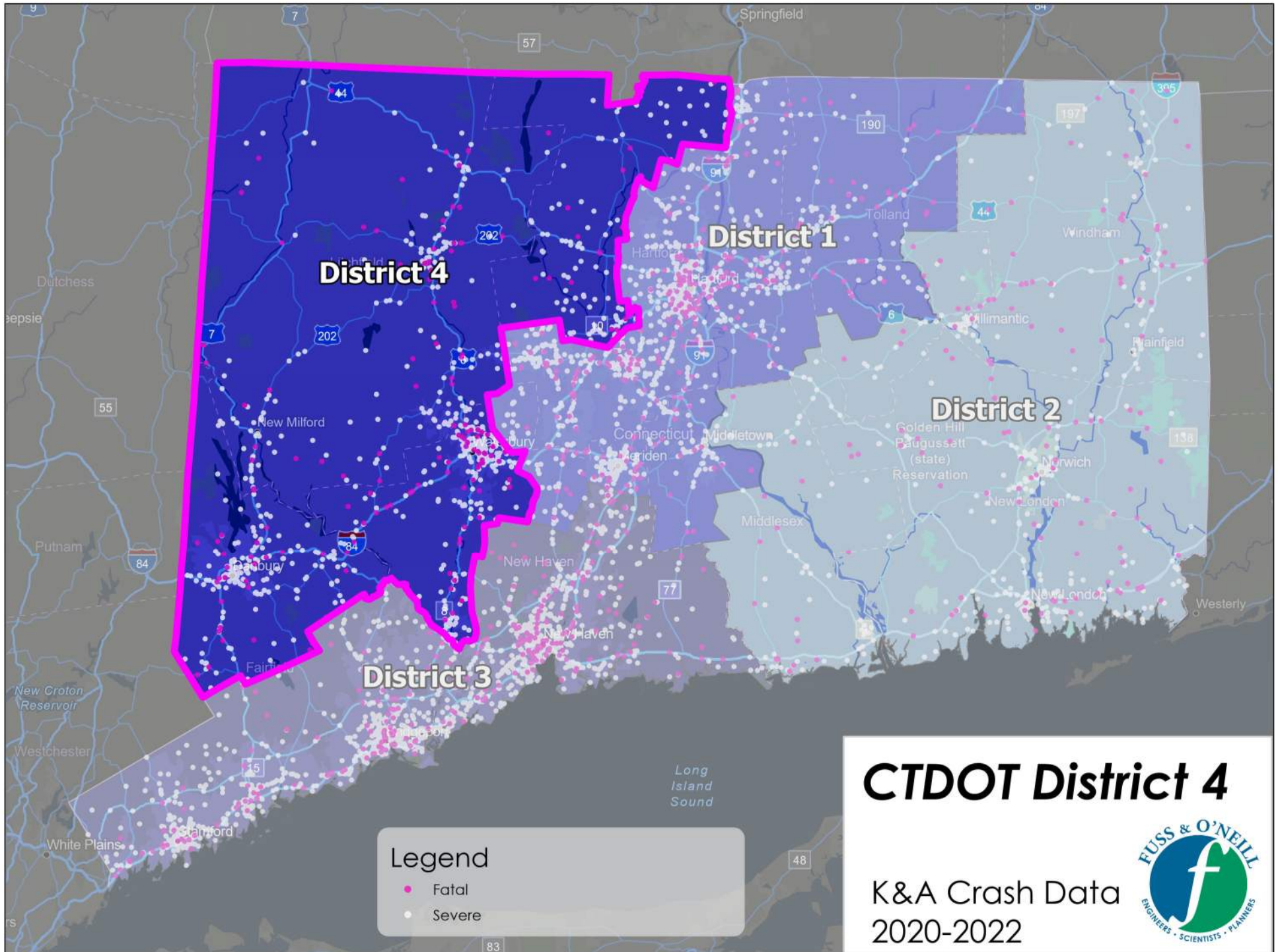
≤ 6 ≤ 19 ≤ 129 ≤ 353



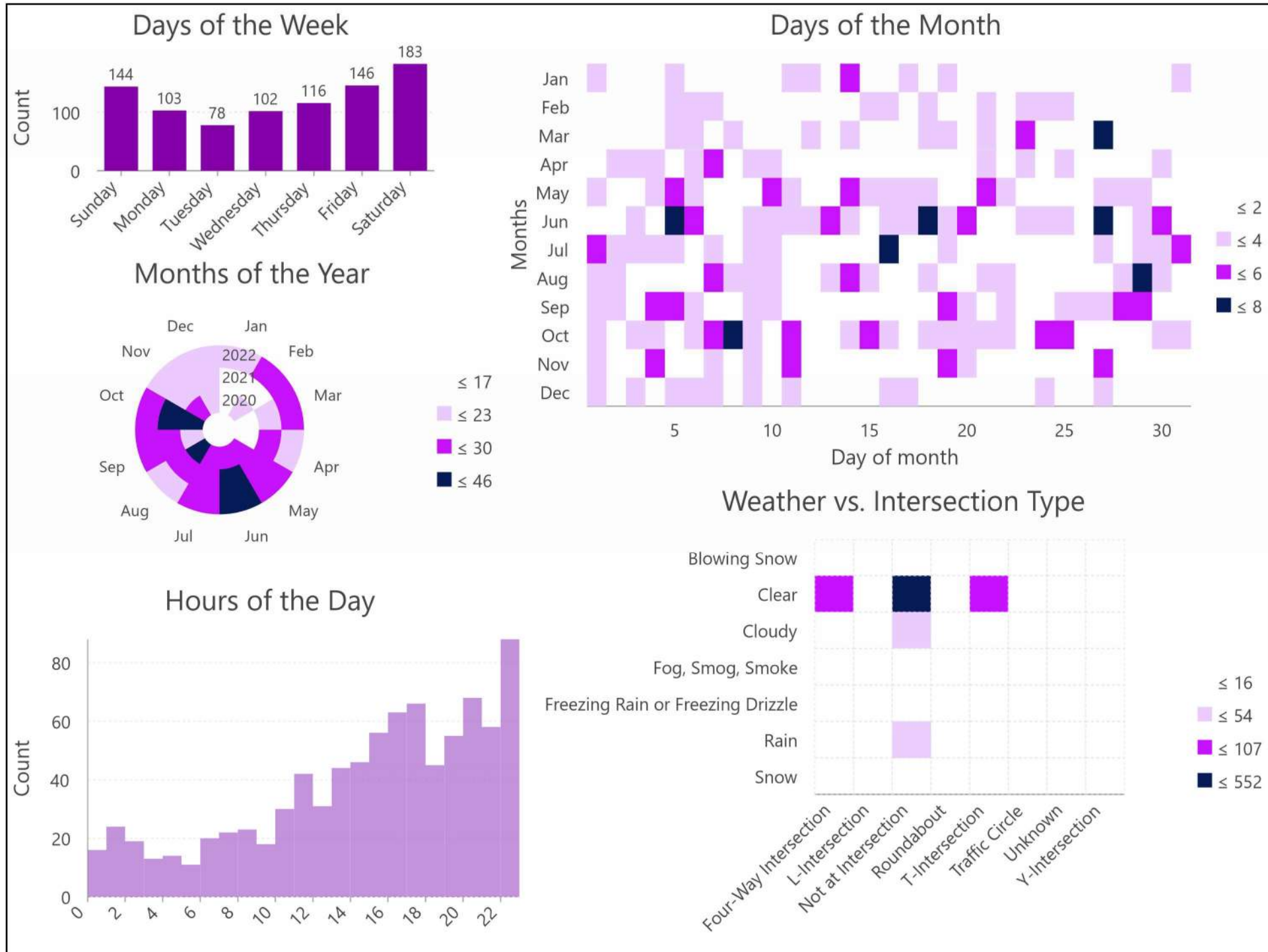
CTDOT District 3 State vs. Municipal Road







CTDOT District 4 Time & Conditions K&A Crash Data 2020-2022

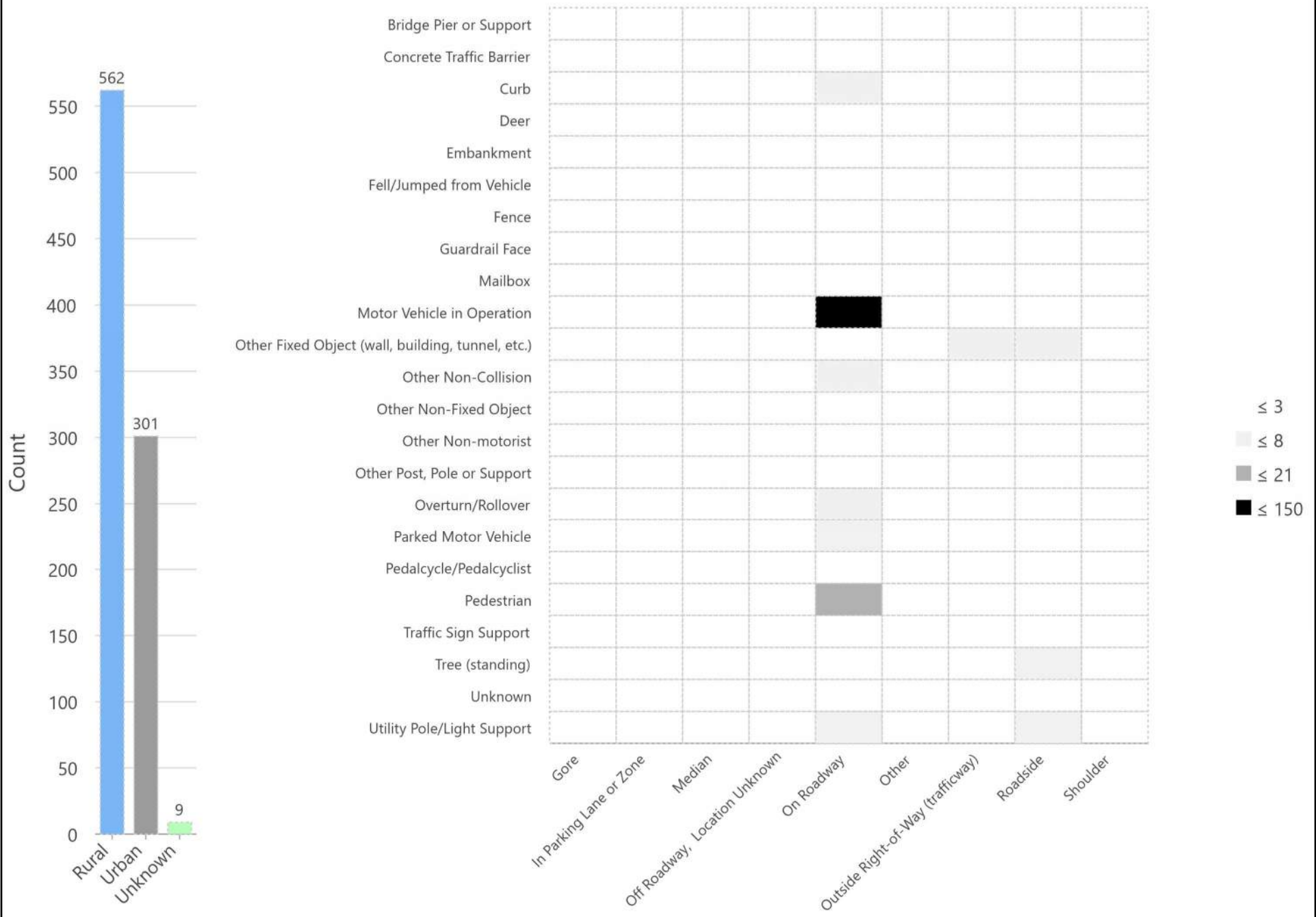


CTDOT District 4 Rural vs. Urban K&A Crash Data 2020-2022

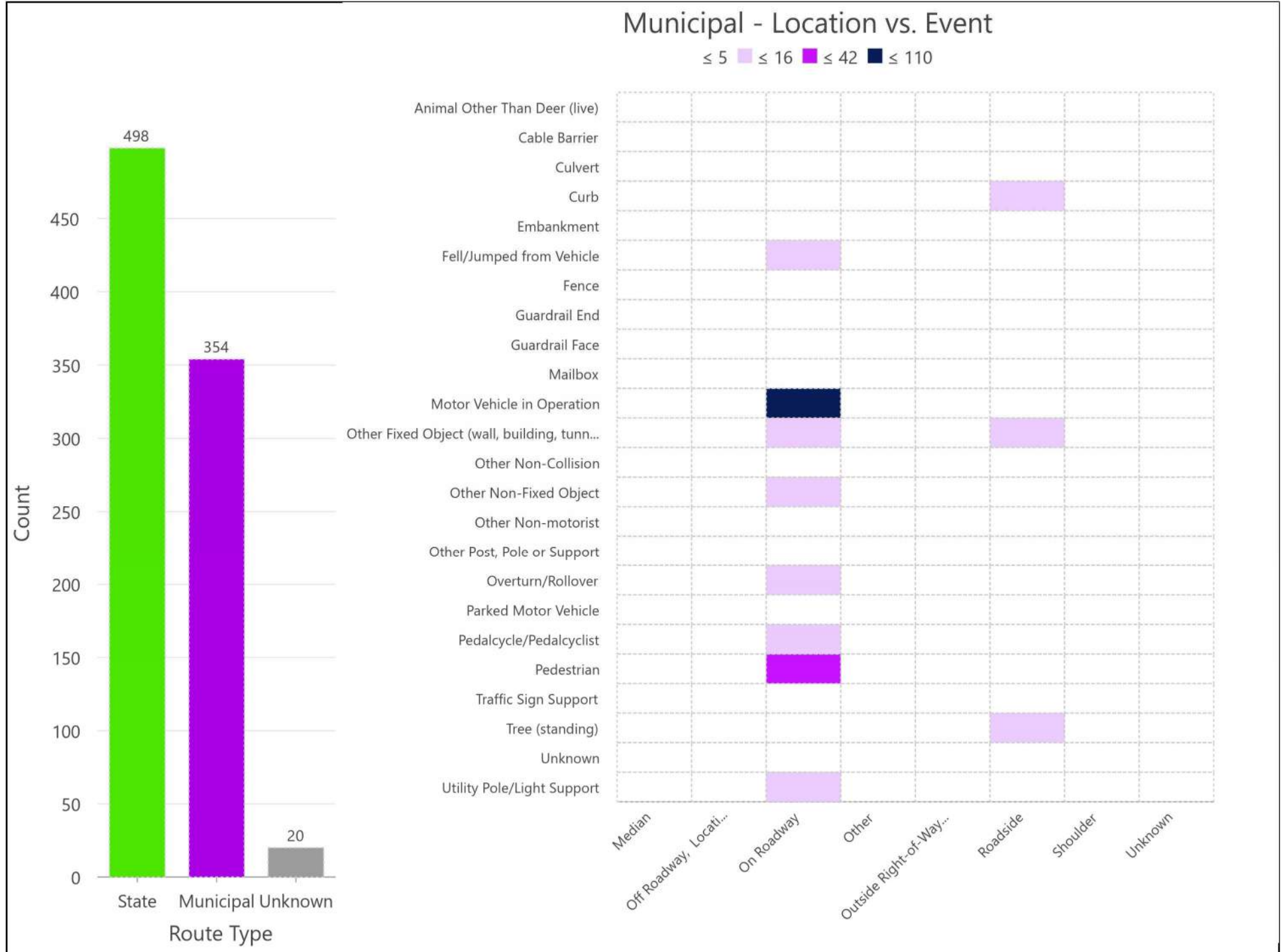


CTDOT District 4 Rural vs. Urban K&A Crash Data 2020-2022

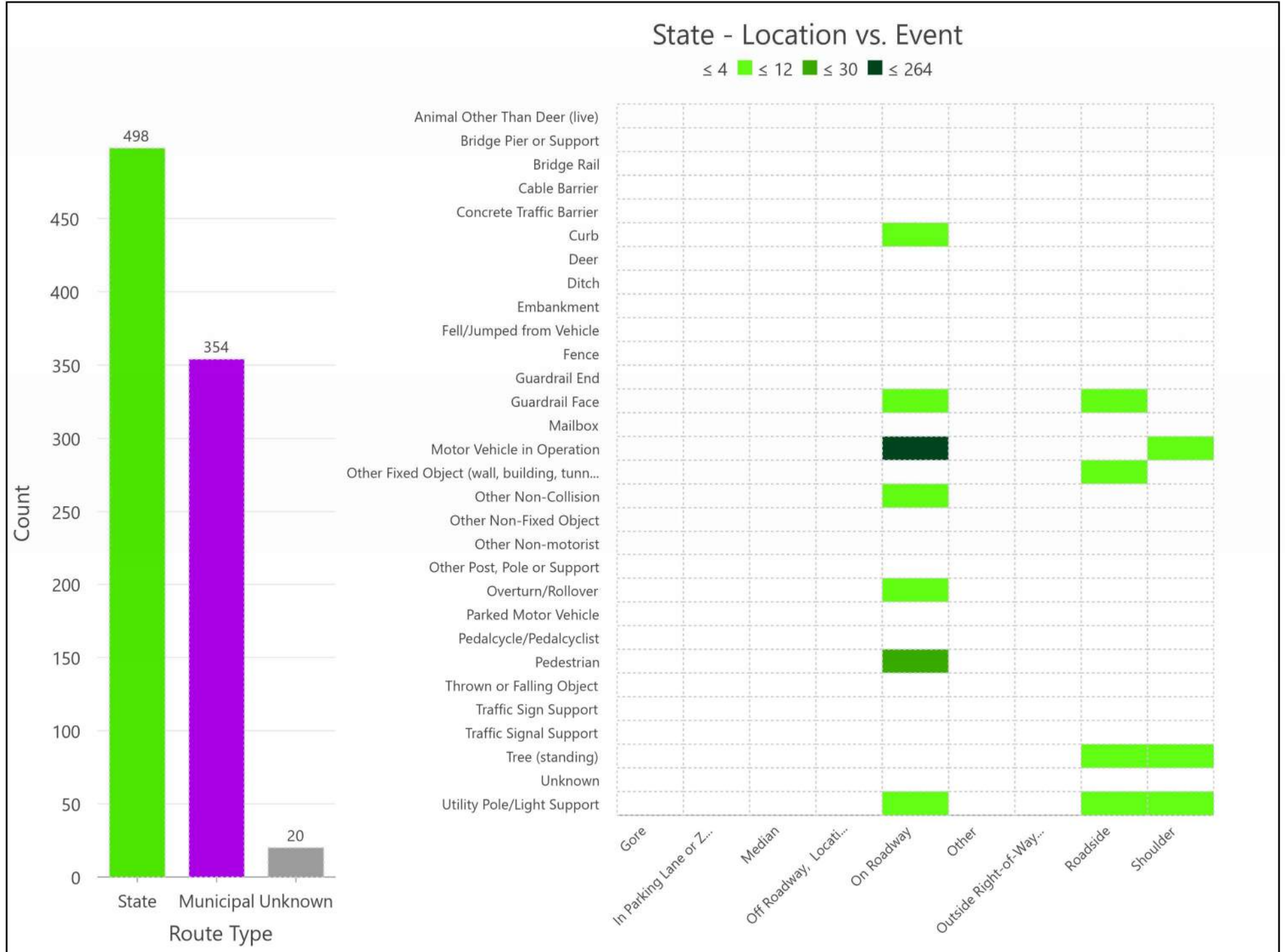
Urban - Location Type vs. Event Type



CTDOT District 4 State vs. Municipal Road

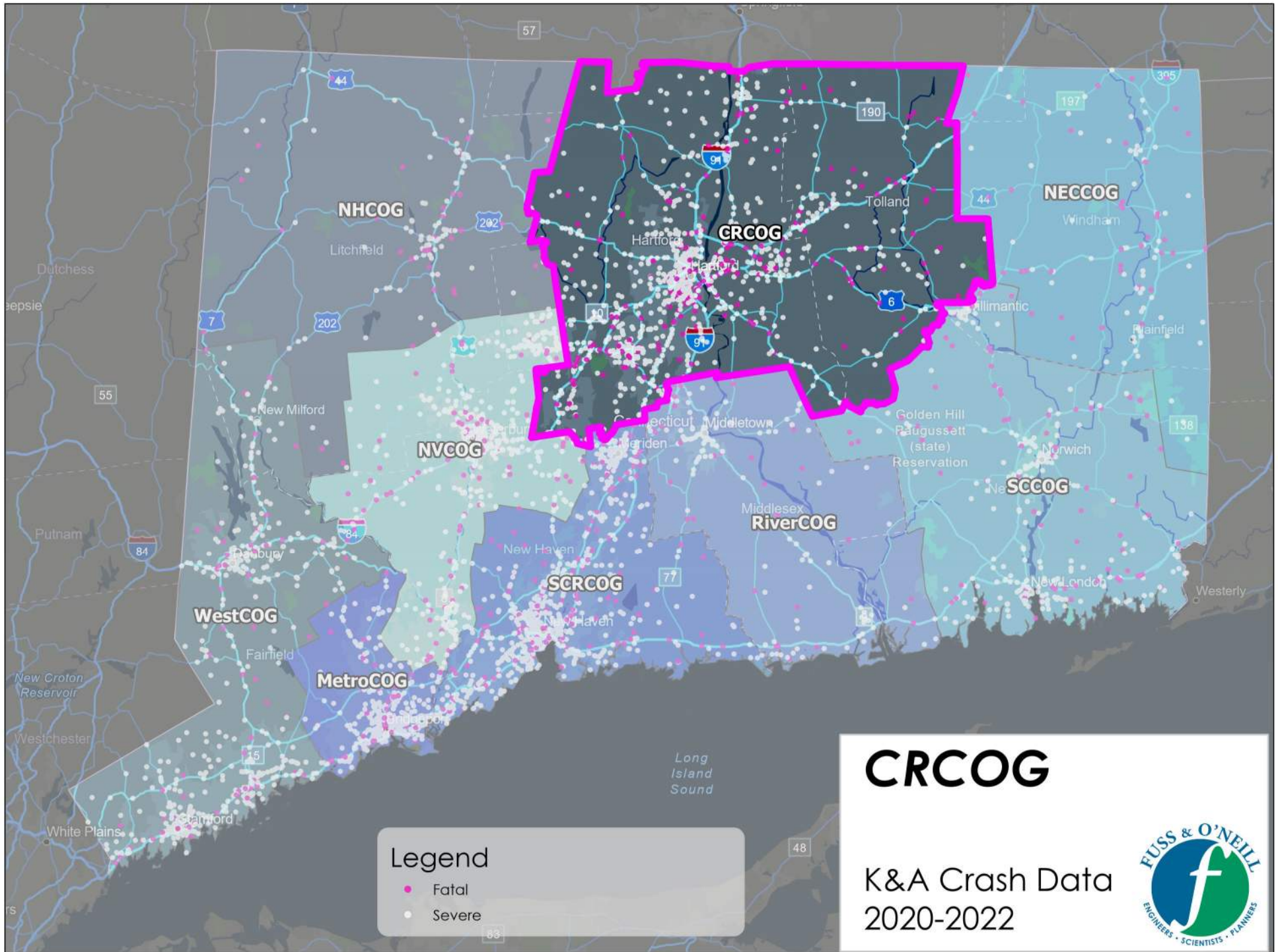


CTDOT District 4 State vs. Municipal Road



APPENDIX D:

Crash Data by COG



Legend

- Fatal
- Severe

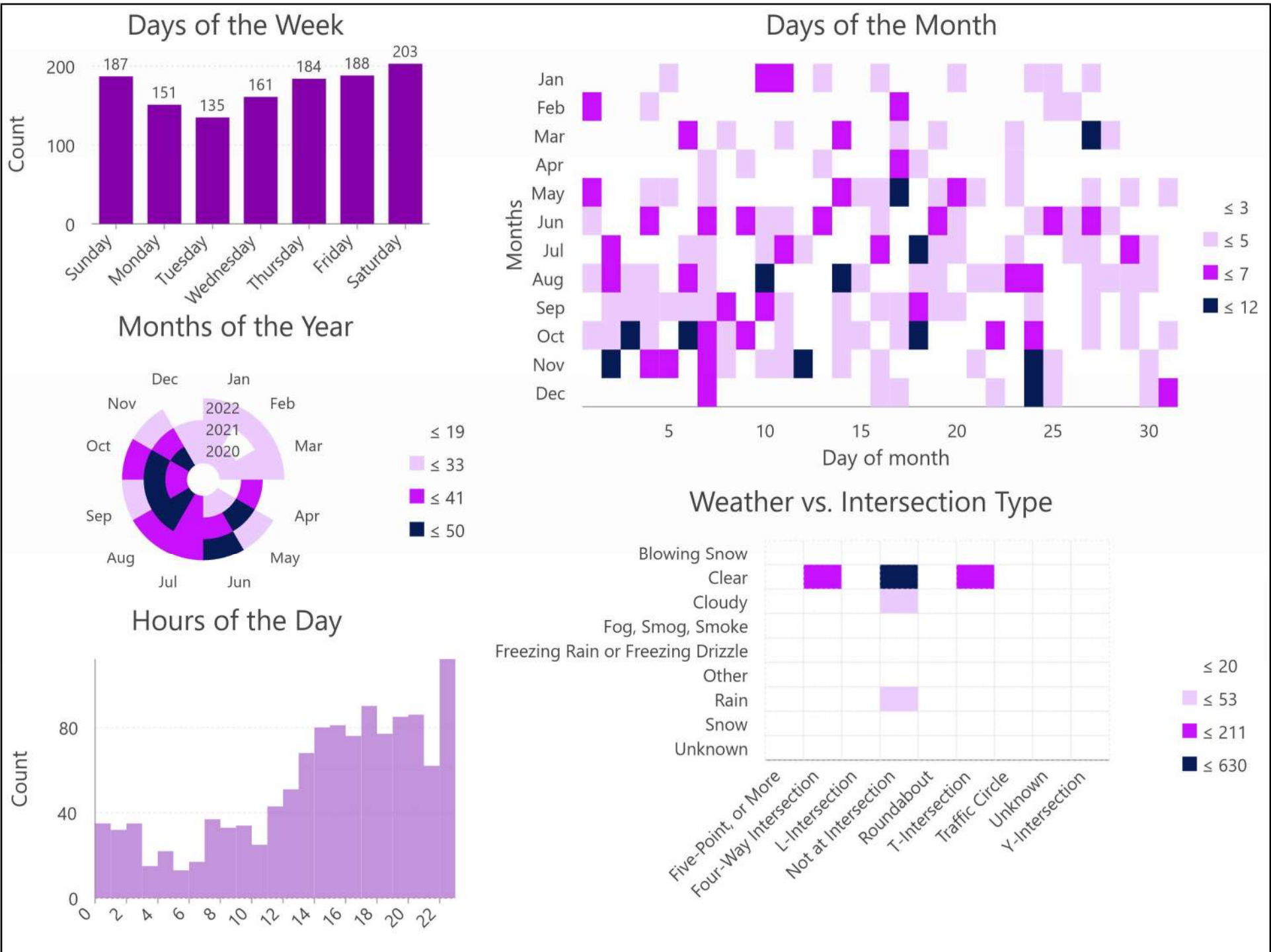
CRCOG

K&A Crash Data 2020-2022

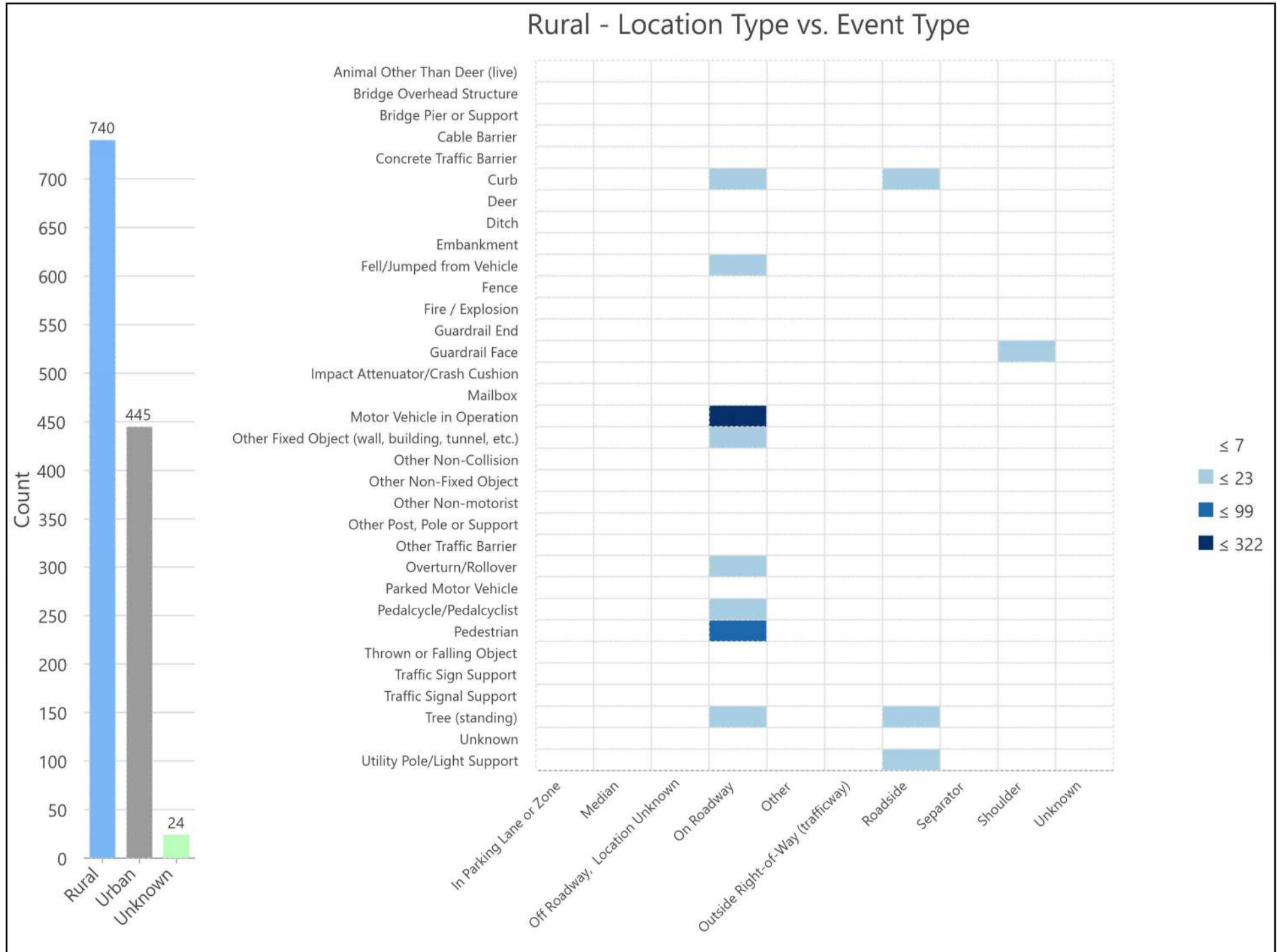


Data Notes:
 Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

CRCOG Time & Conditions K&A Crash Data 2020-2022

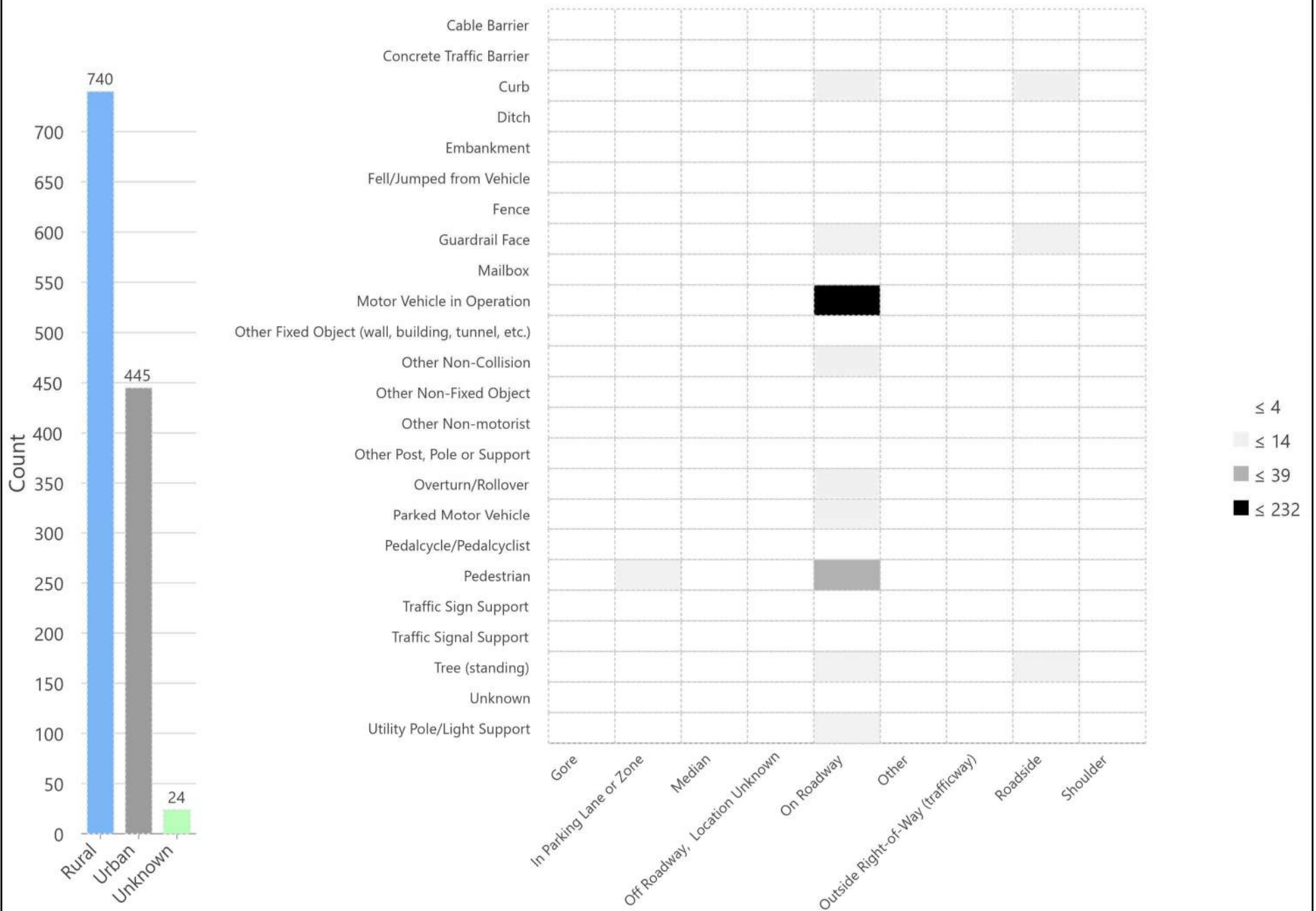


CRCOG Rural vs. Urban K&A Crash Data 2020-2022



CRCOG Rural vs. Urban K&A Crash Data 2020-2022

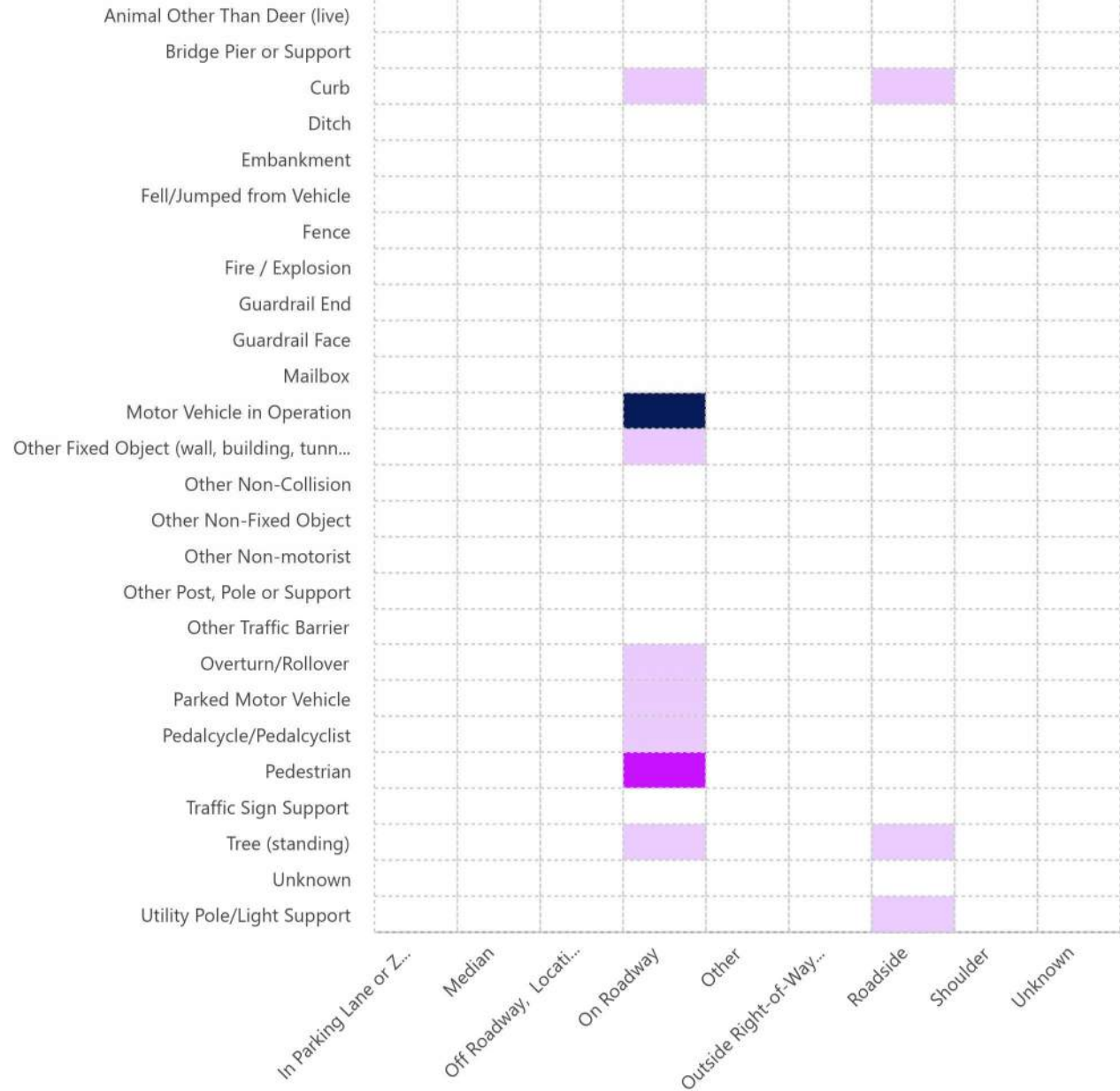
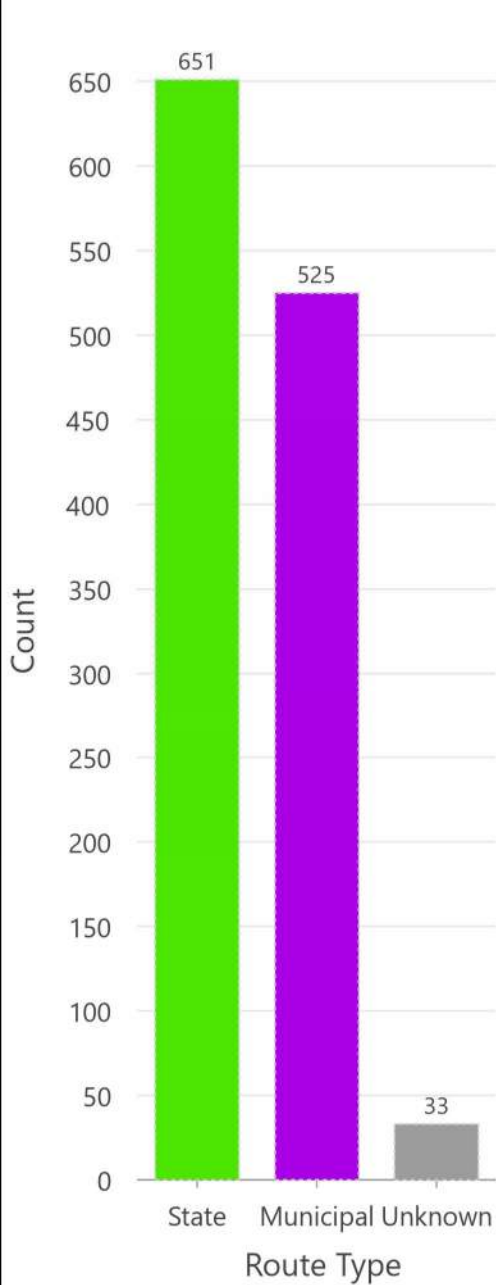
Urban - Location Type vs. Event Type



CRCOG State vs. Municipal Road K&A Crash Data 2020-2022

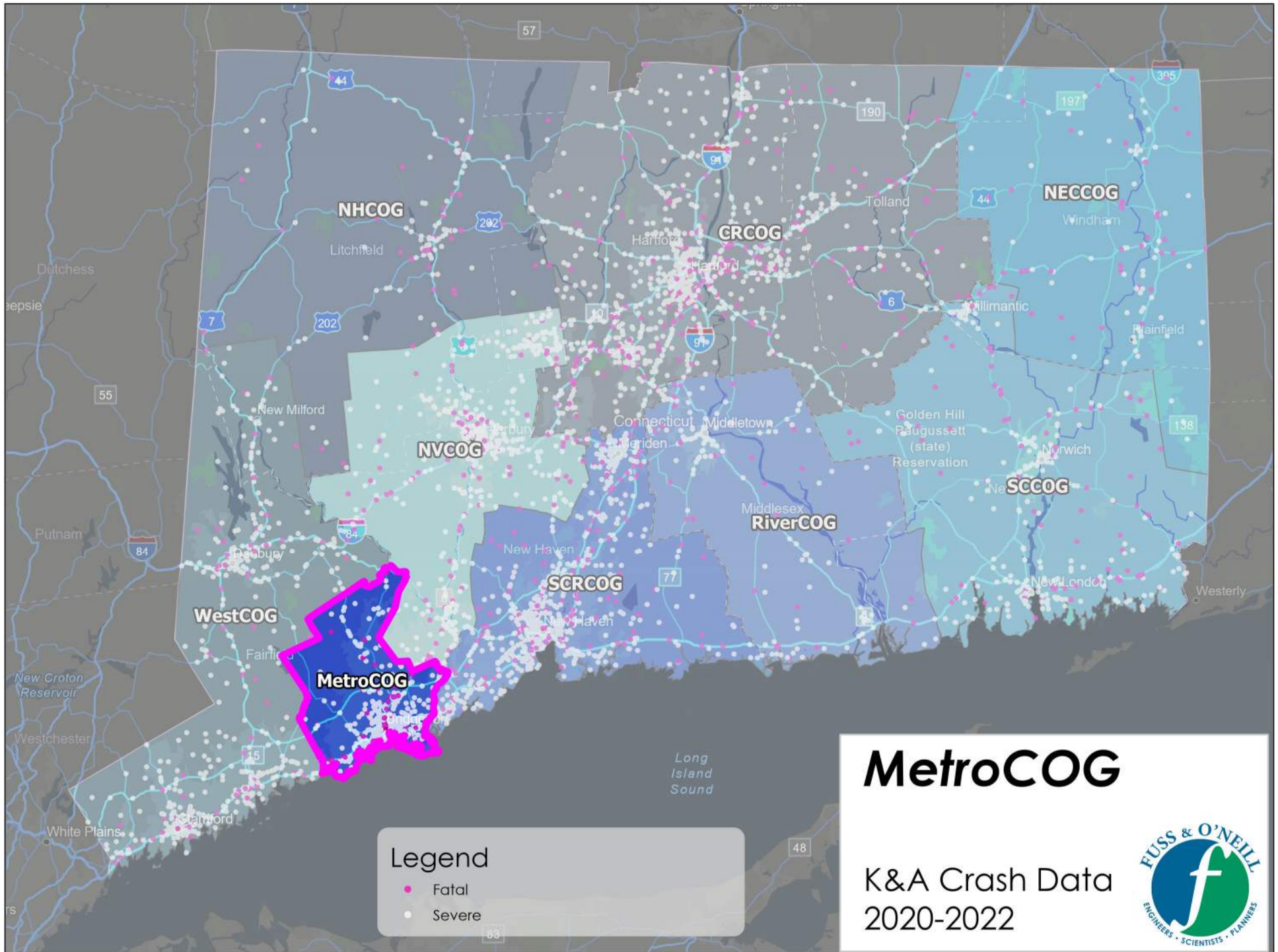
Municipal - Location vs. Event

■ ≤ 7
 ■ ≤ 21
 ■ ≤ 77
 ■ ≤ 205



CRCOG State vs. Municipal Road K&A Crash Data 2020-2022





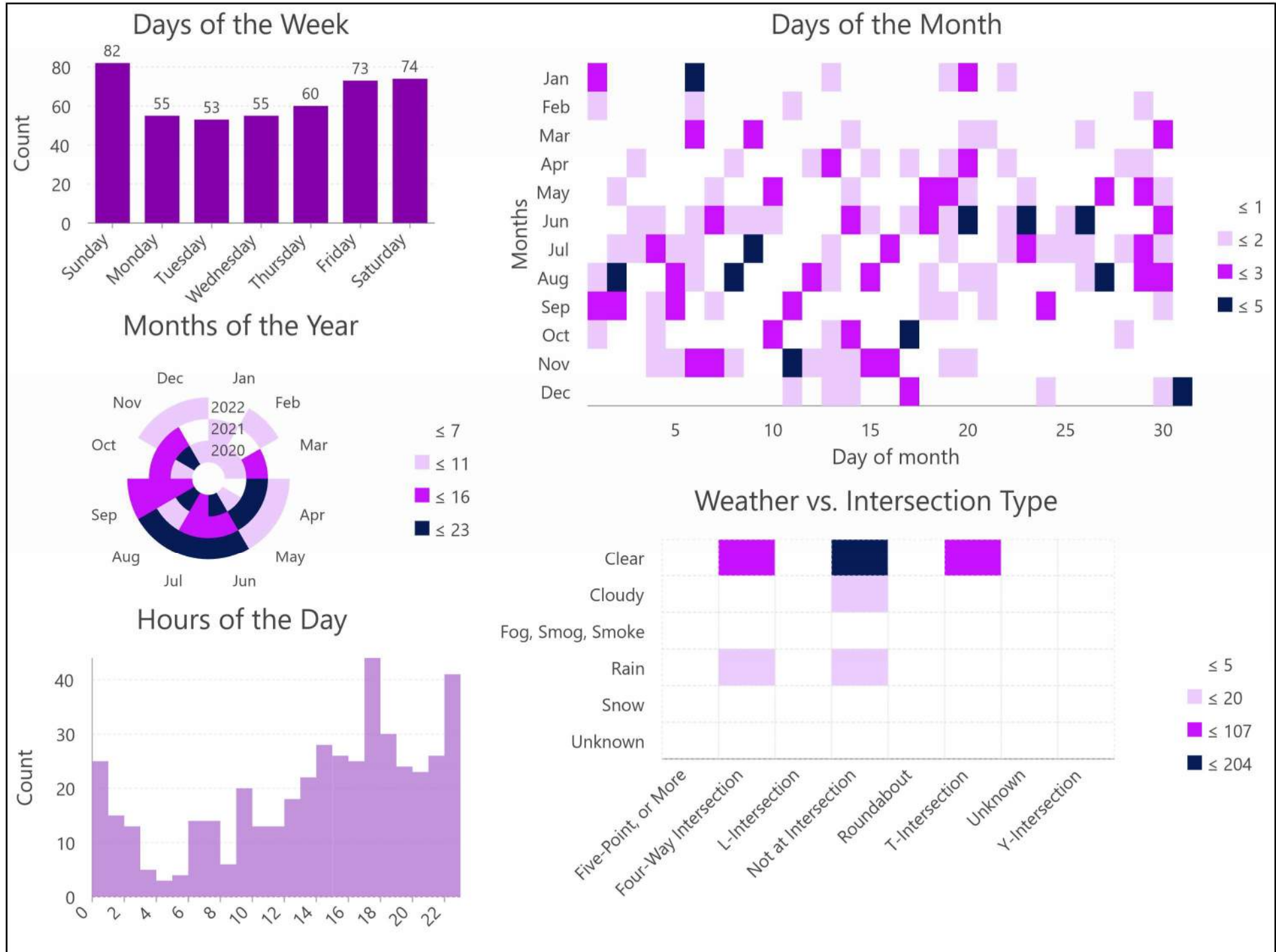
Legend

- Fatal
- Severe

MetroCOG

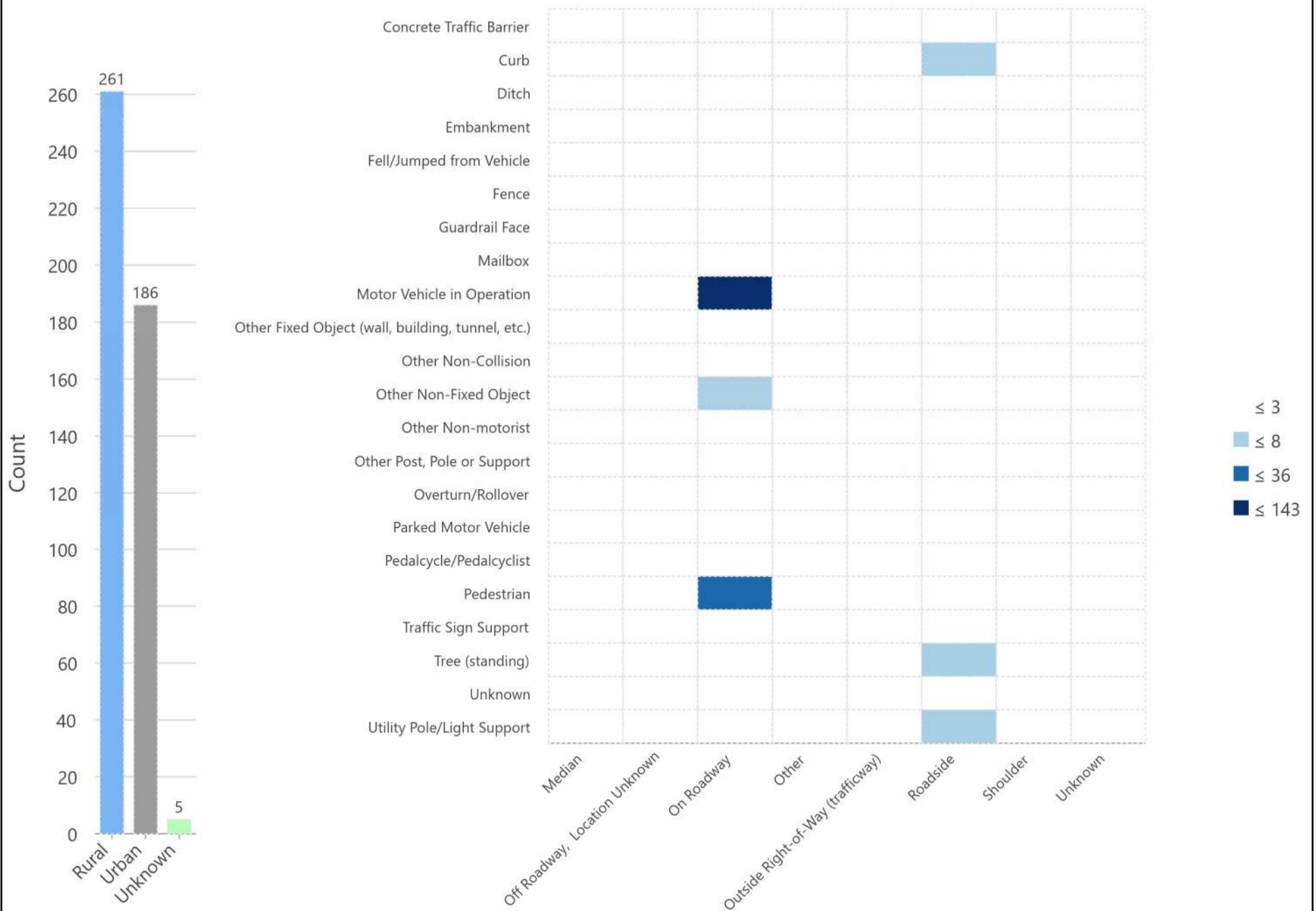
K&A Crash Data
2020-2022

MetroCOG Time & Conditions K&A Crash Data 2020-2022



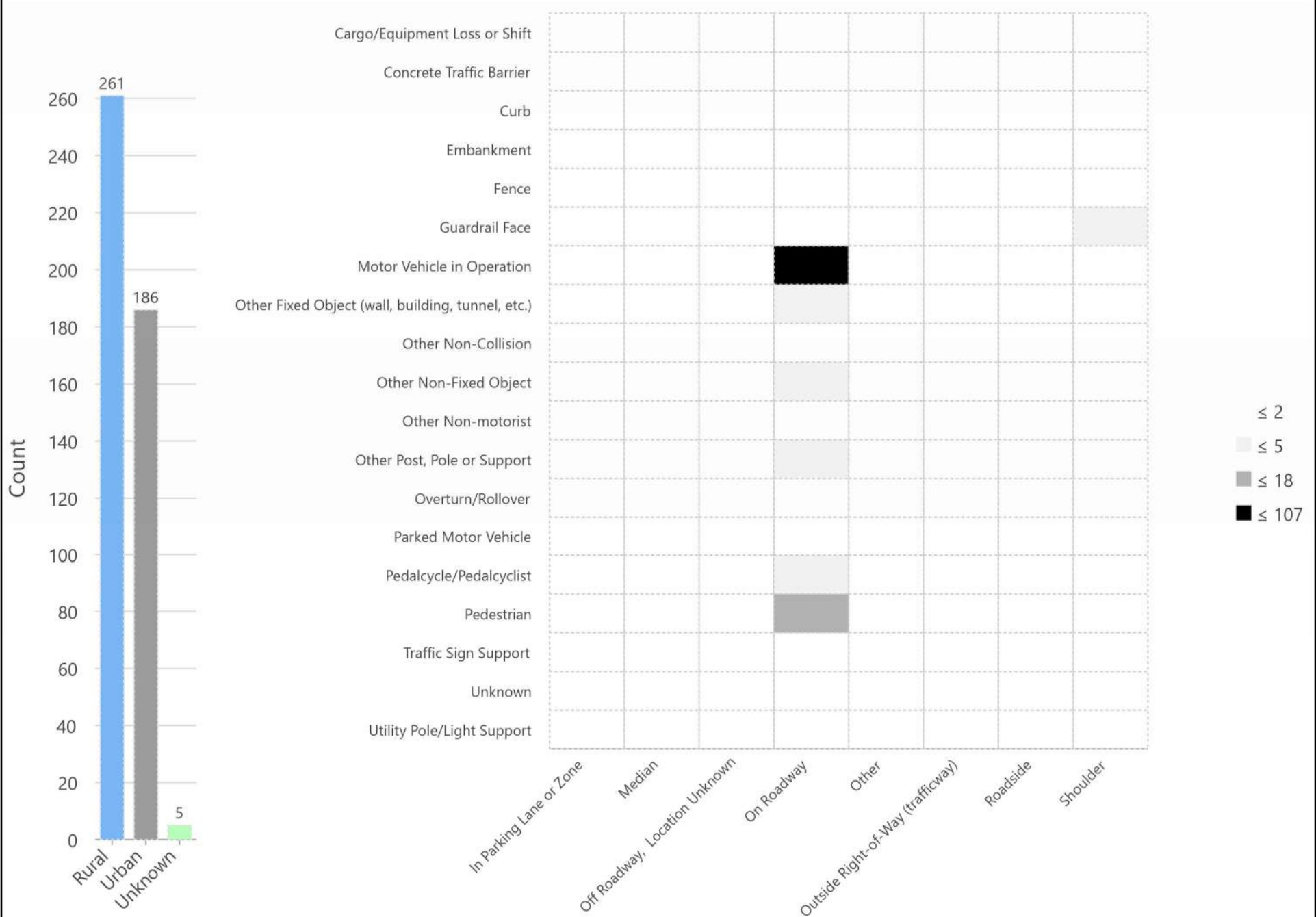
MetroCOG Rural vs. Urban K&A Crash Data 2020-2022

Rural - Location Type vs. Event Type



MetroCOG Rural vs. Urban K&A Crash Data 2020-2022

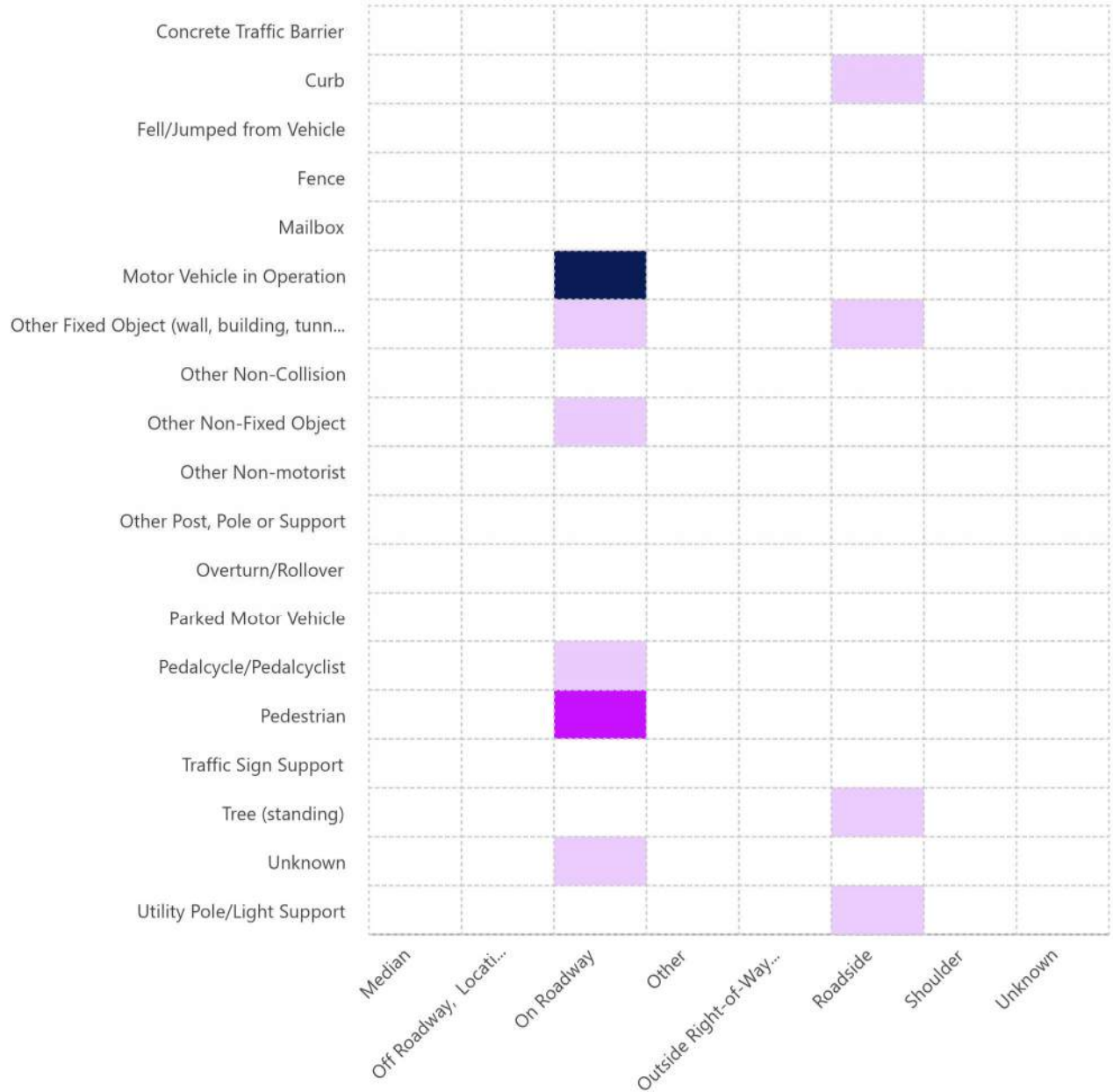
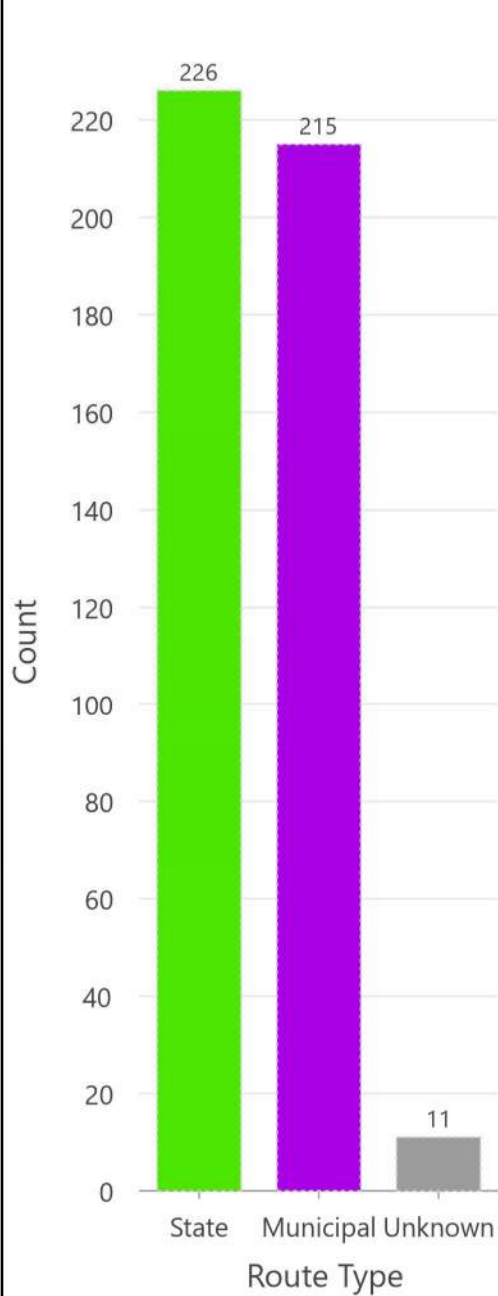
Urban - Location Type vs. Event Type



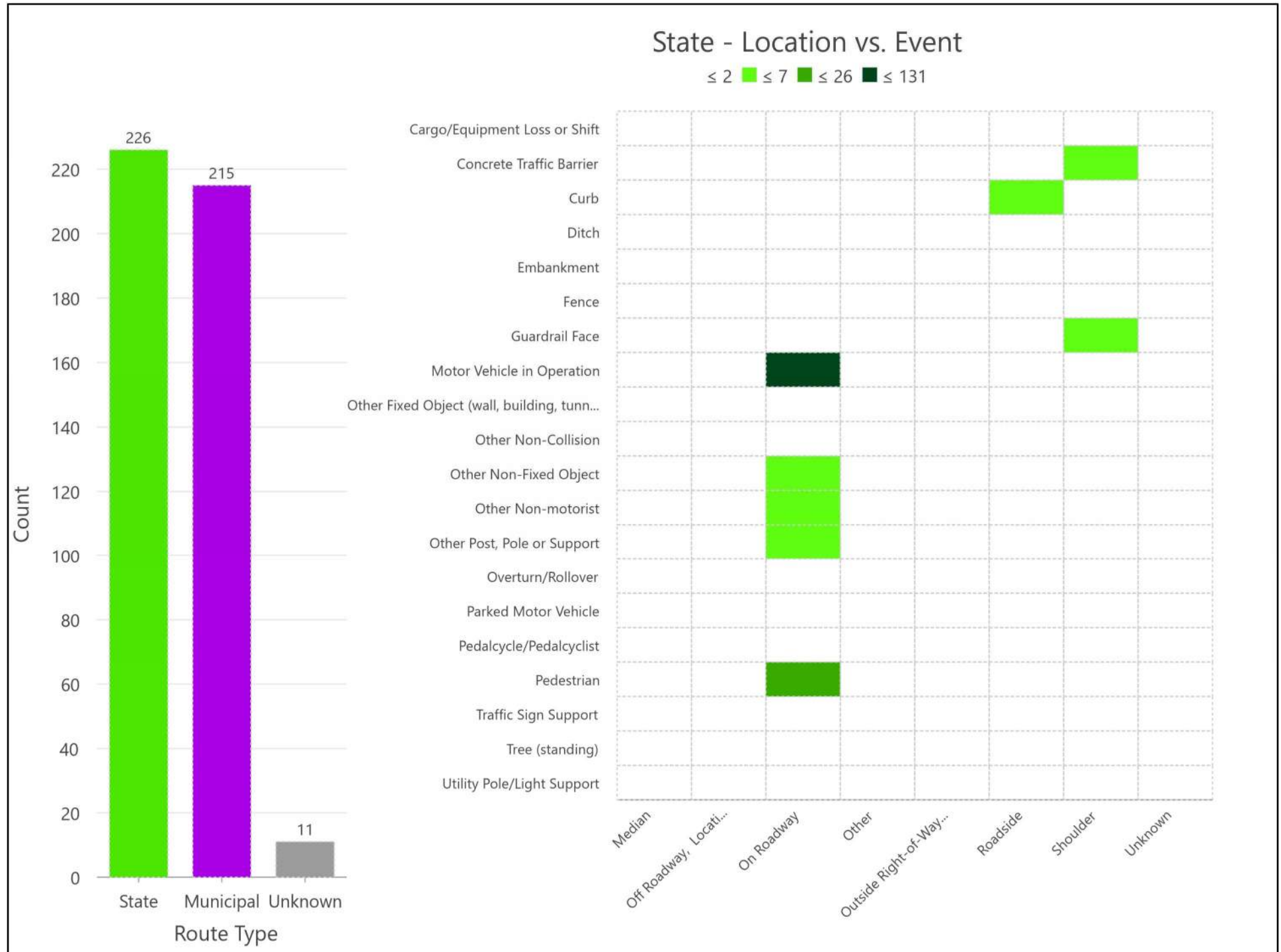
MetroCOG State vs. Municipal Road K&A Crash Data 2020-2022

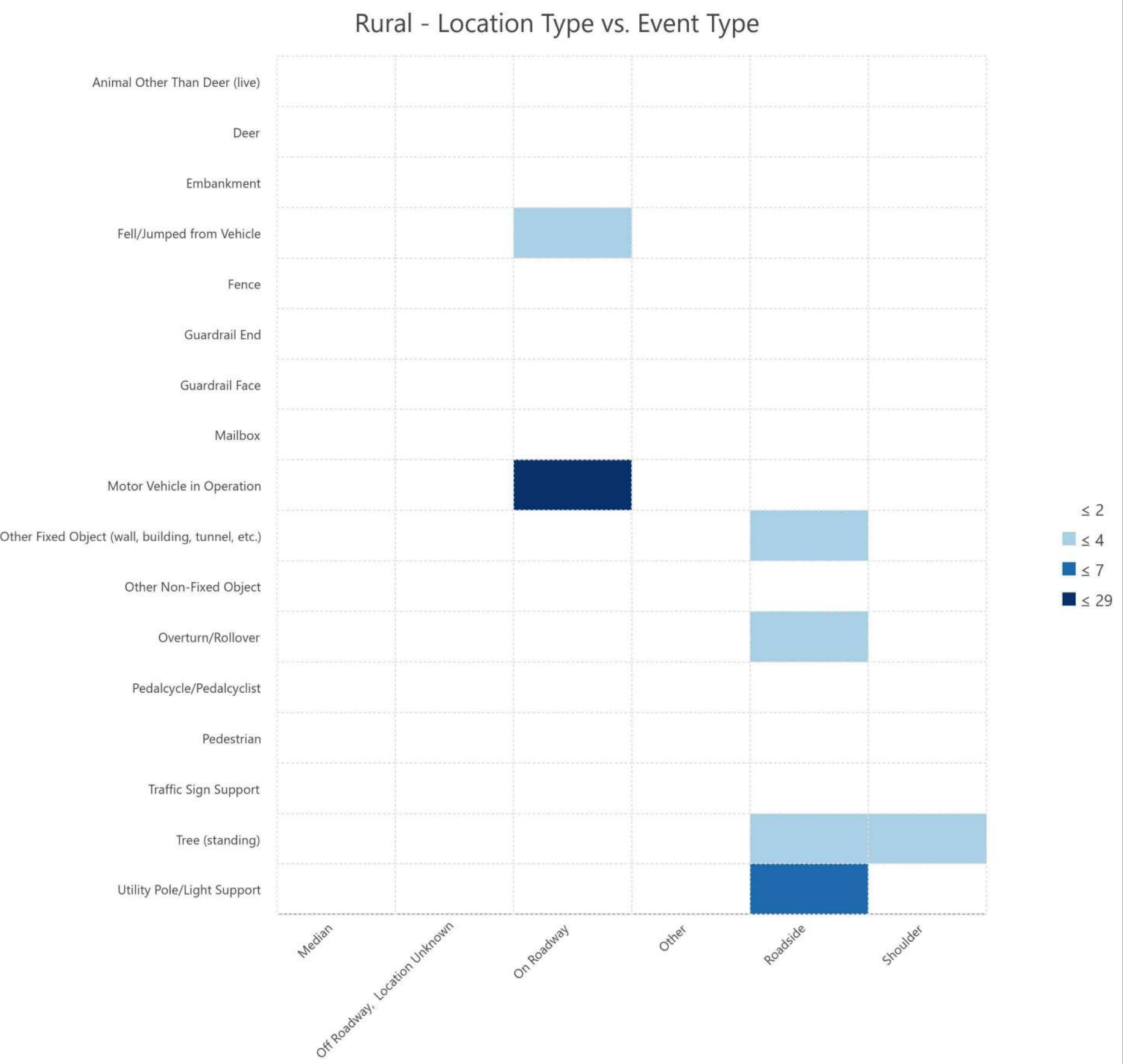
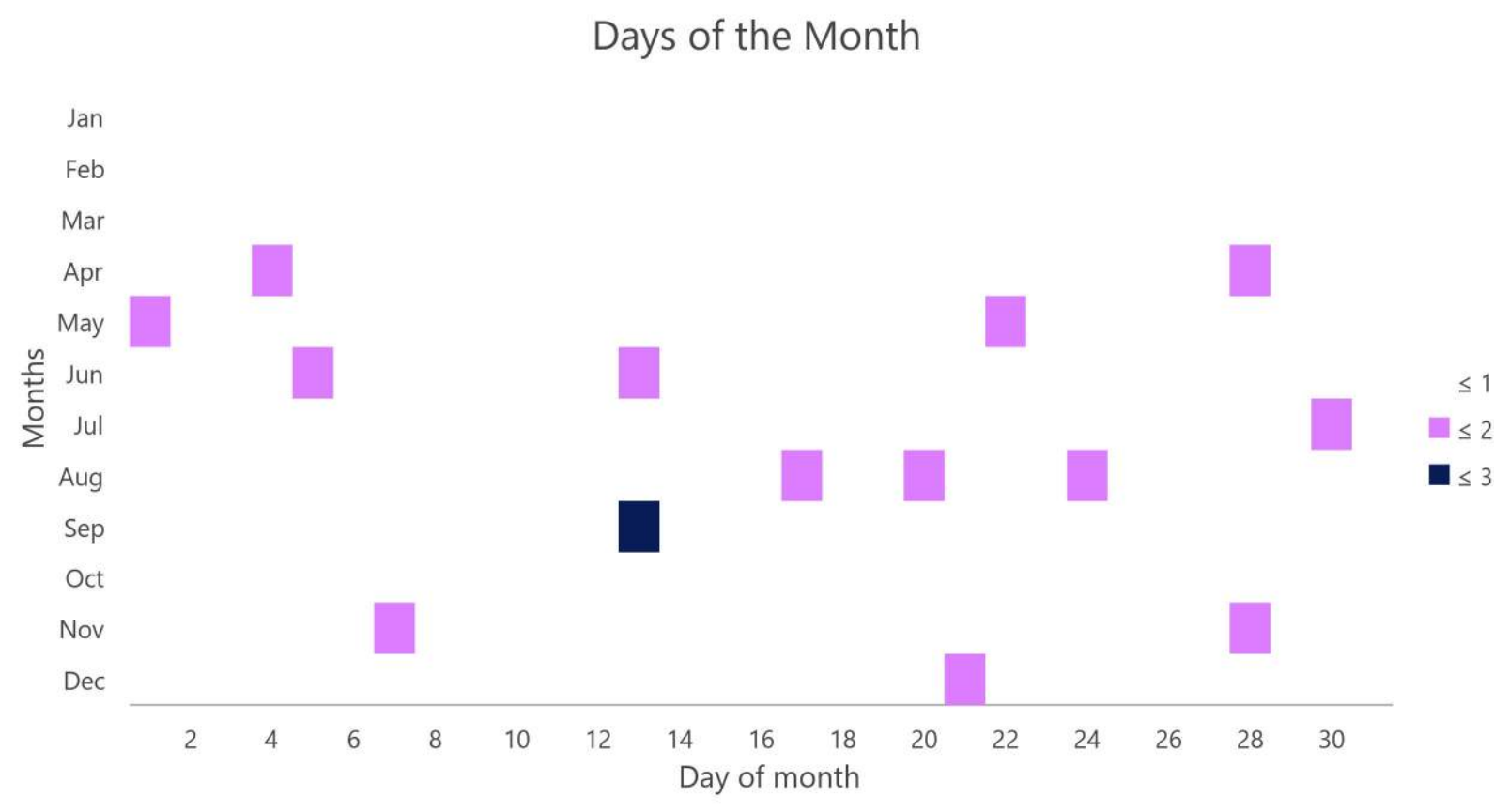
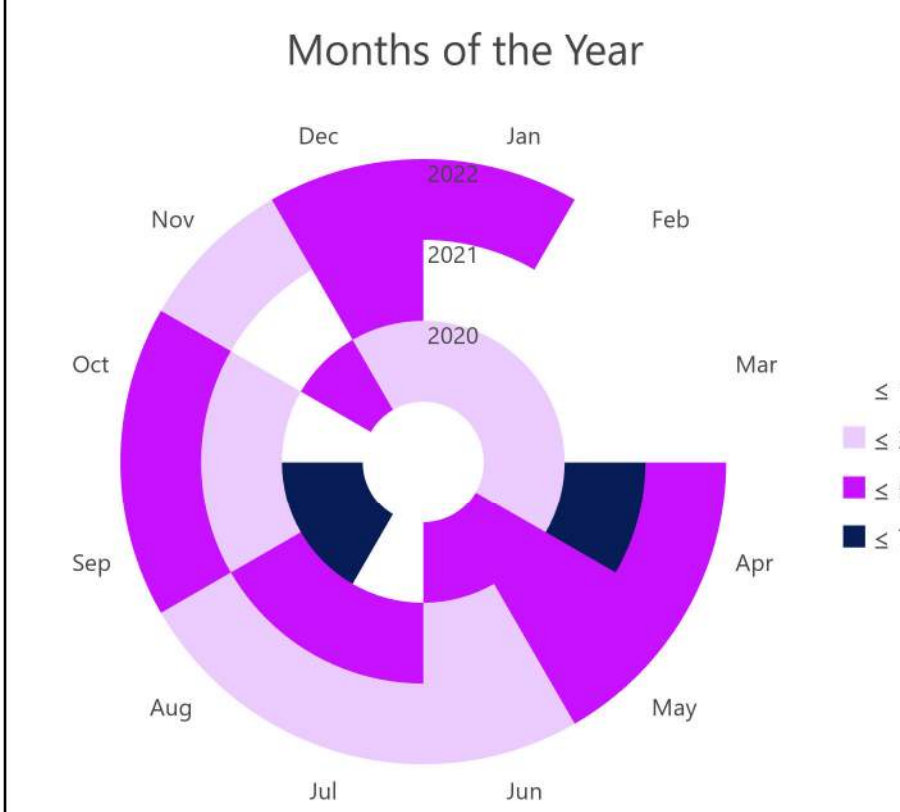
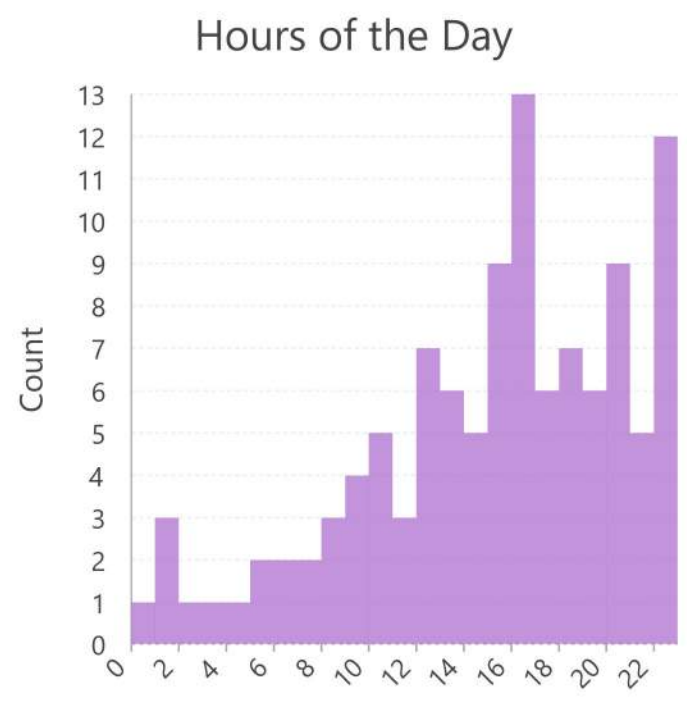
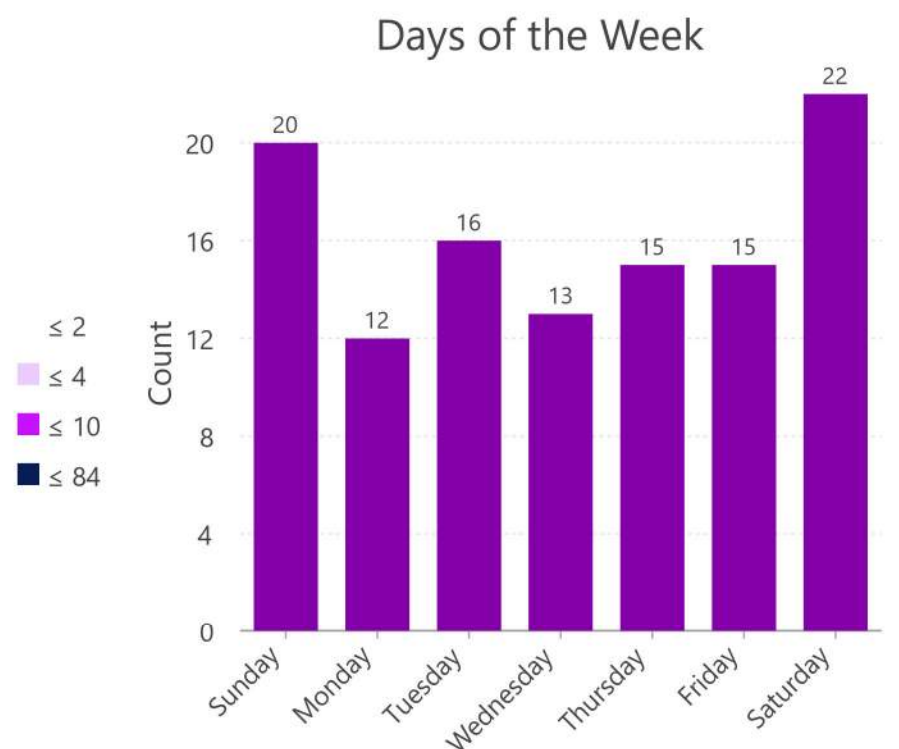
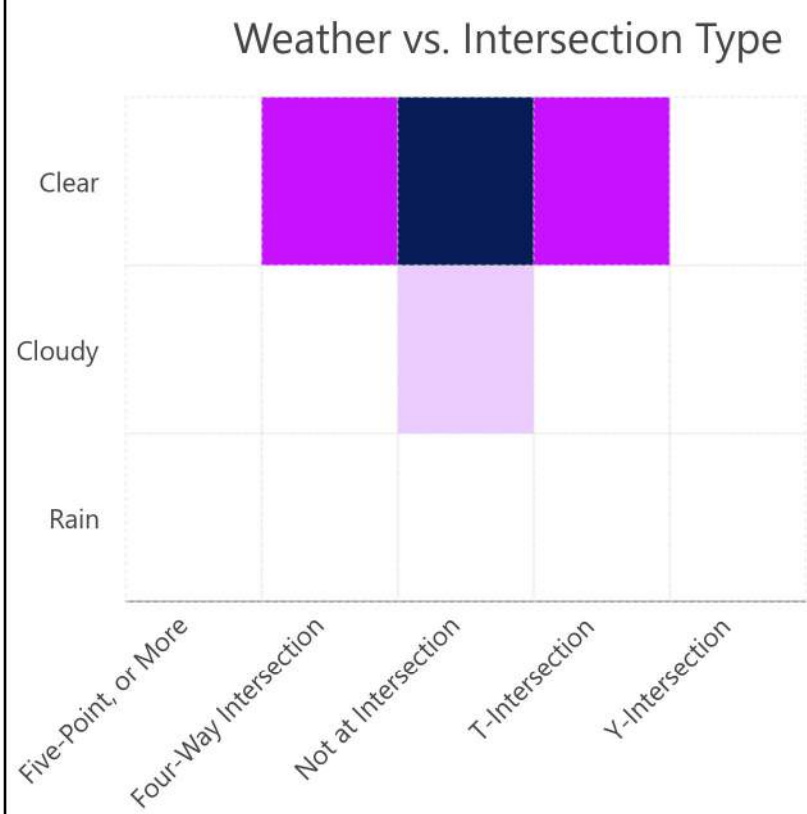
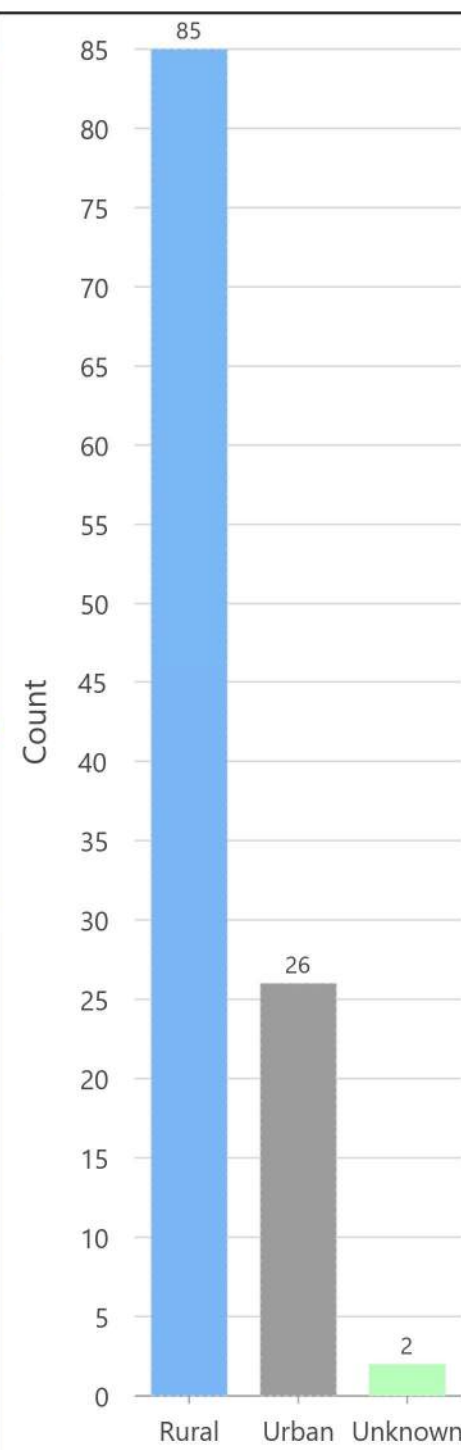
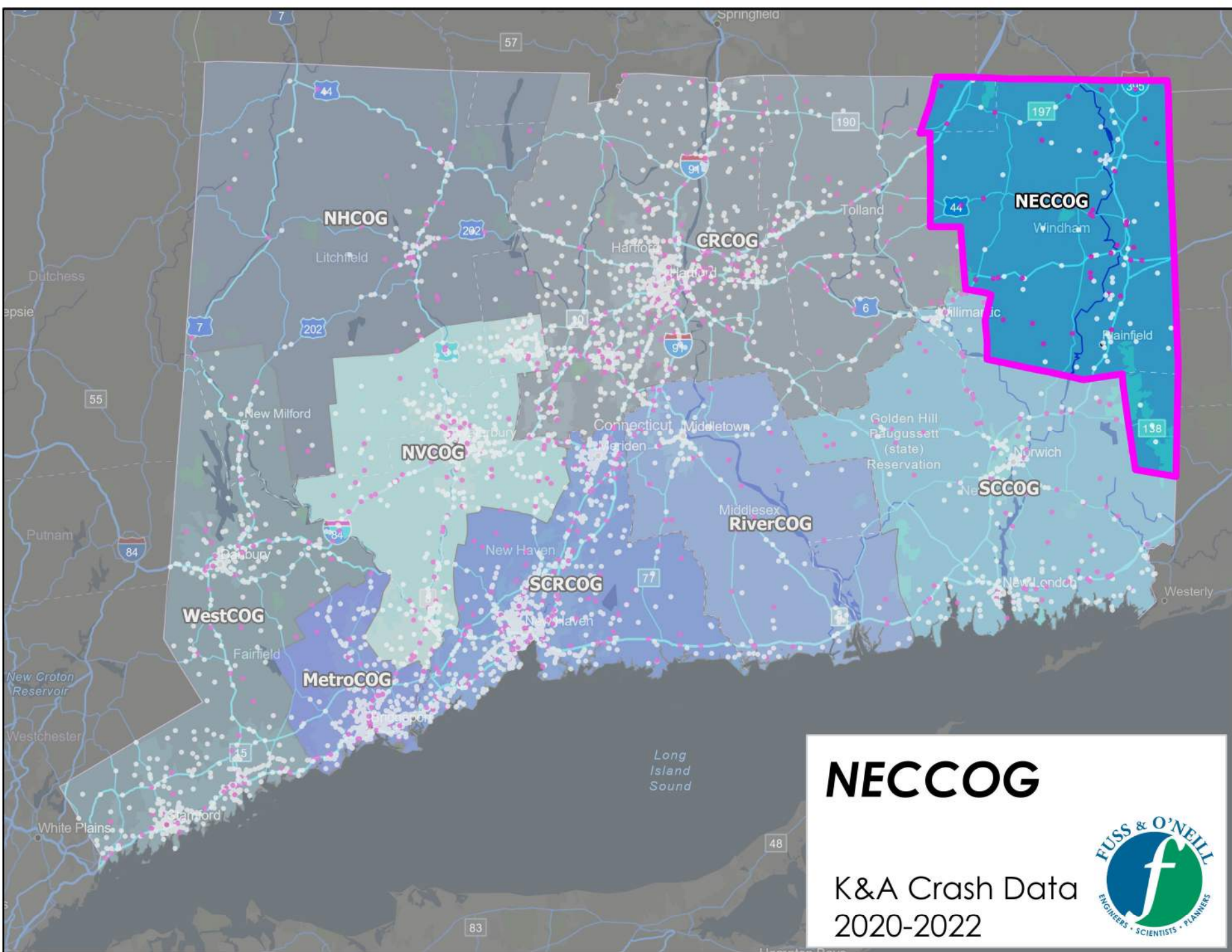
Municipal - Location vs. Event

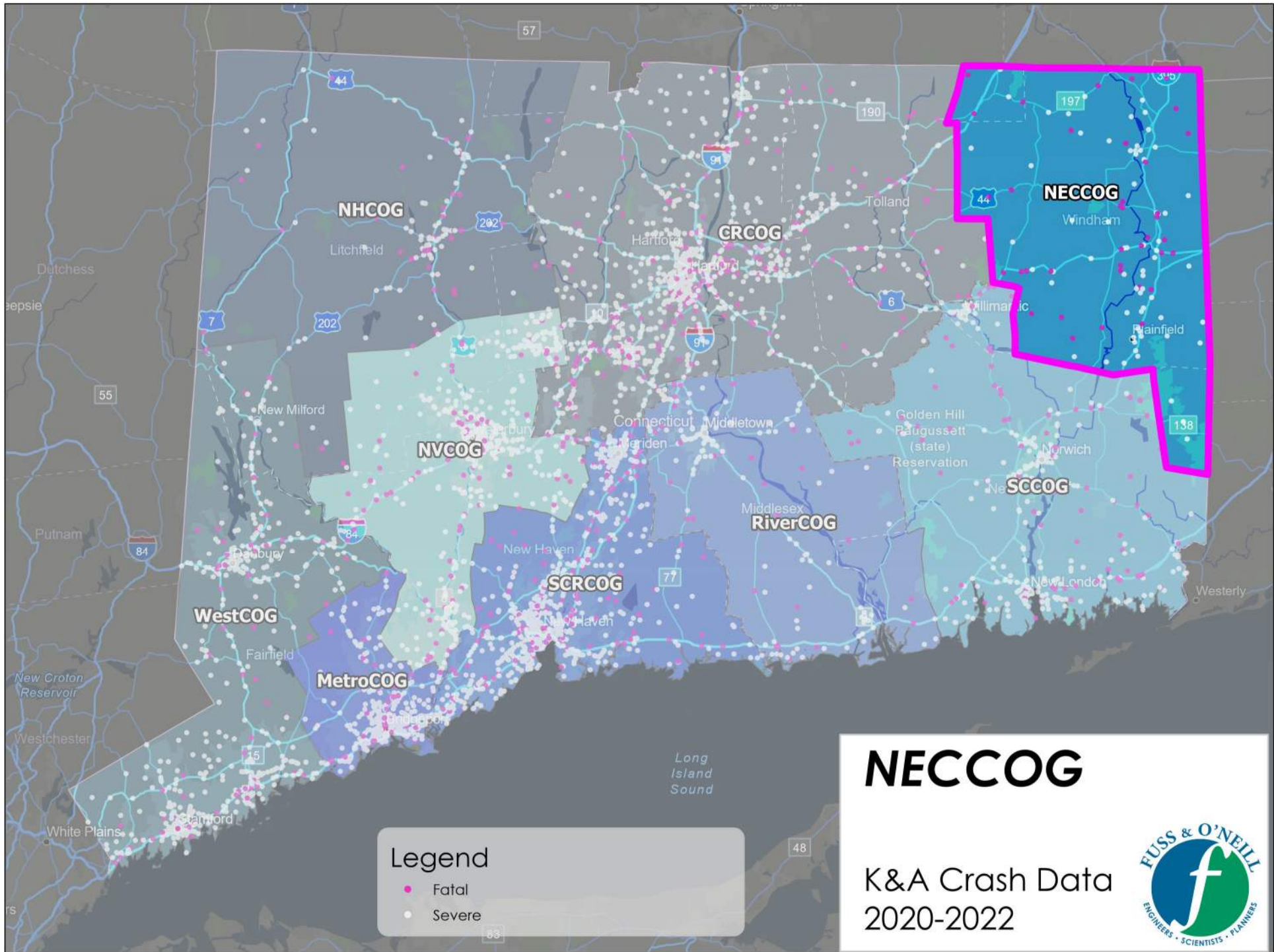
■ ≤ 2
 ■ ≤ 7
 ■ ≤ 27
 ■ ≤ 122



MetroCOG State vs. Municipal Road K&A Crash Data 2020-2022







NECCOG

K&A Crash Data
2020-2022



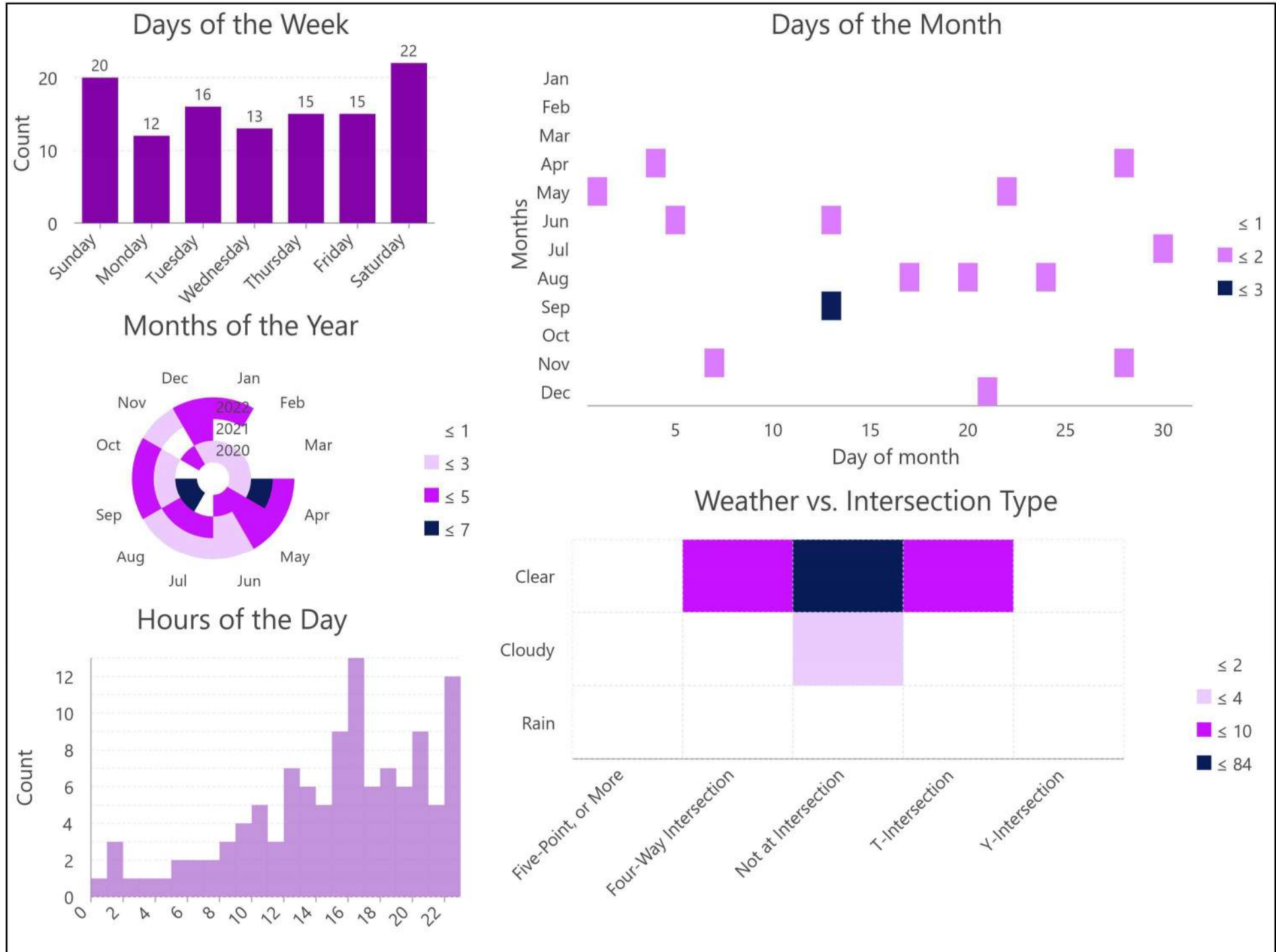
Legend

- Fatal
- Severe

Data Notes:

Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

NECCOG Time & Conditions K&A Crash Data 2020-2022



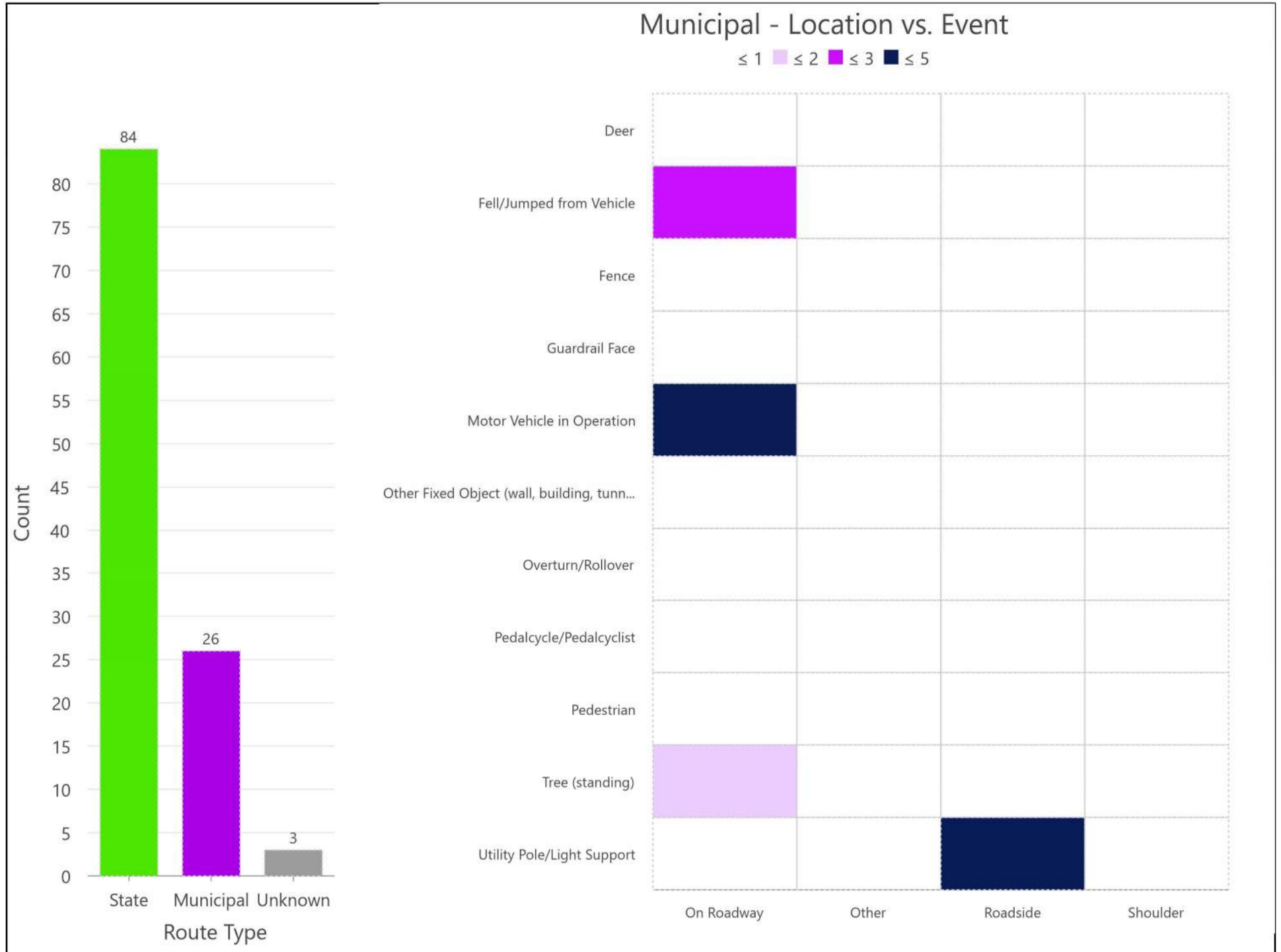
NECCOG Rural vs. Urban K&A Crash Data 2020-2022



NECCOG Rural vs. Urban K&A Crash Data 2020-2022

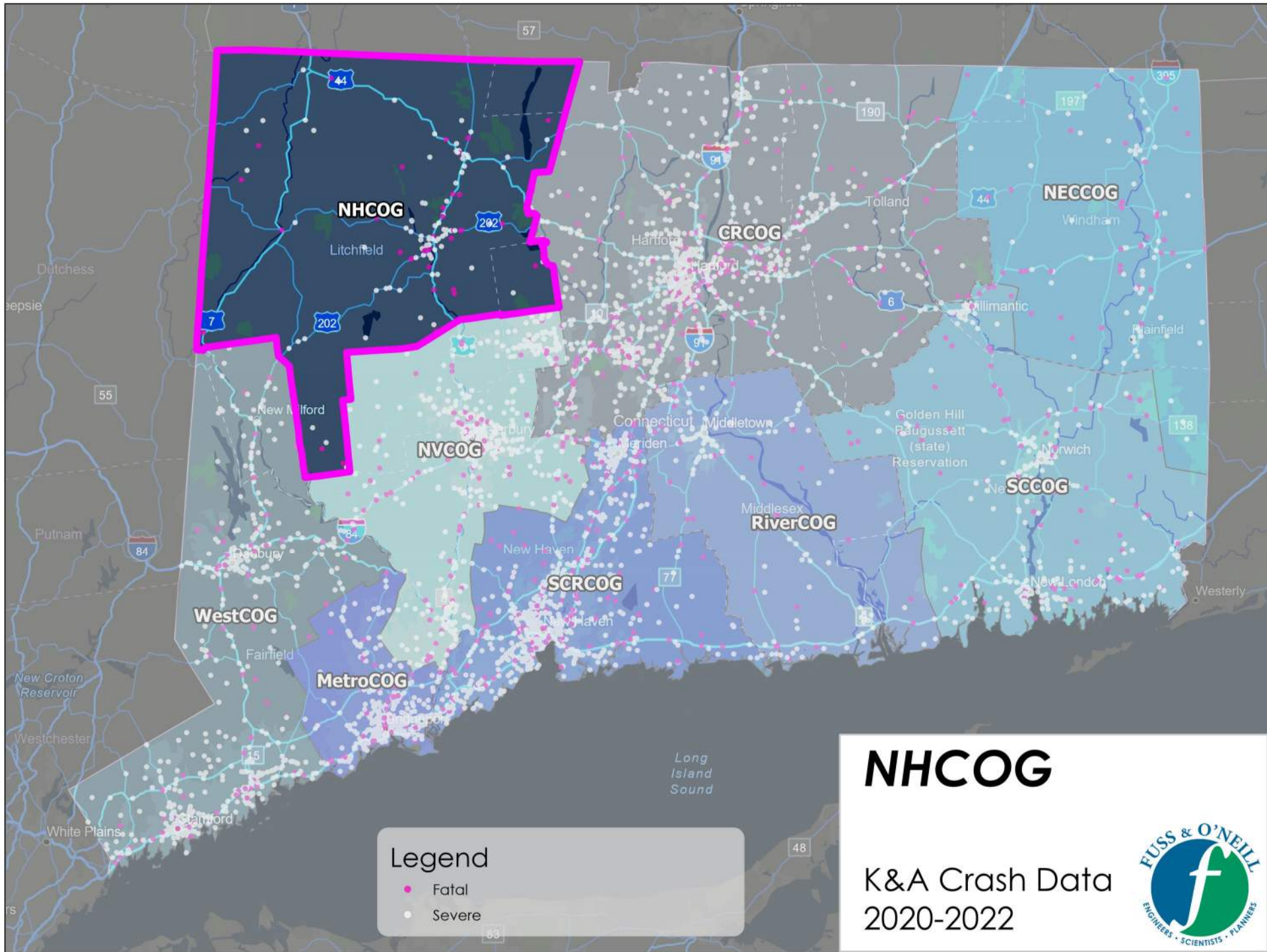


NECCOG State vs. Municipal Road K&A Crash Data 2020-2022



NECCOG State vs. Municipal Road K&A Crash Data 2020-2022





Legend

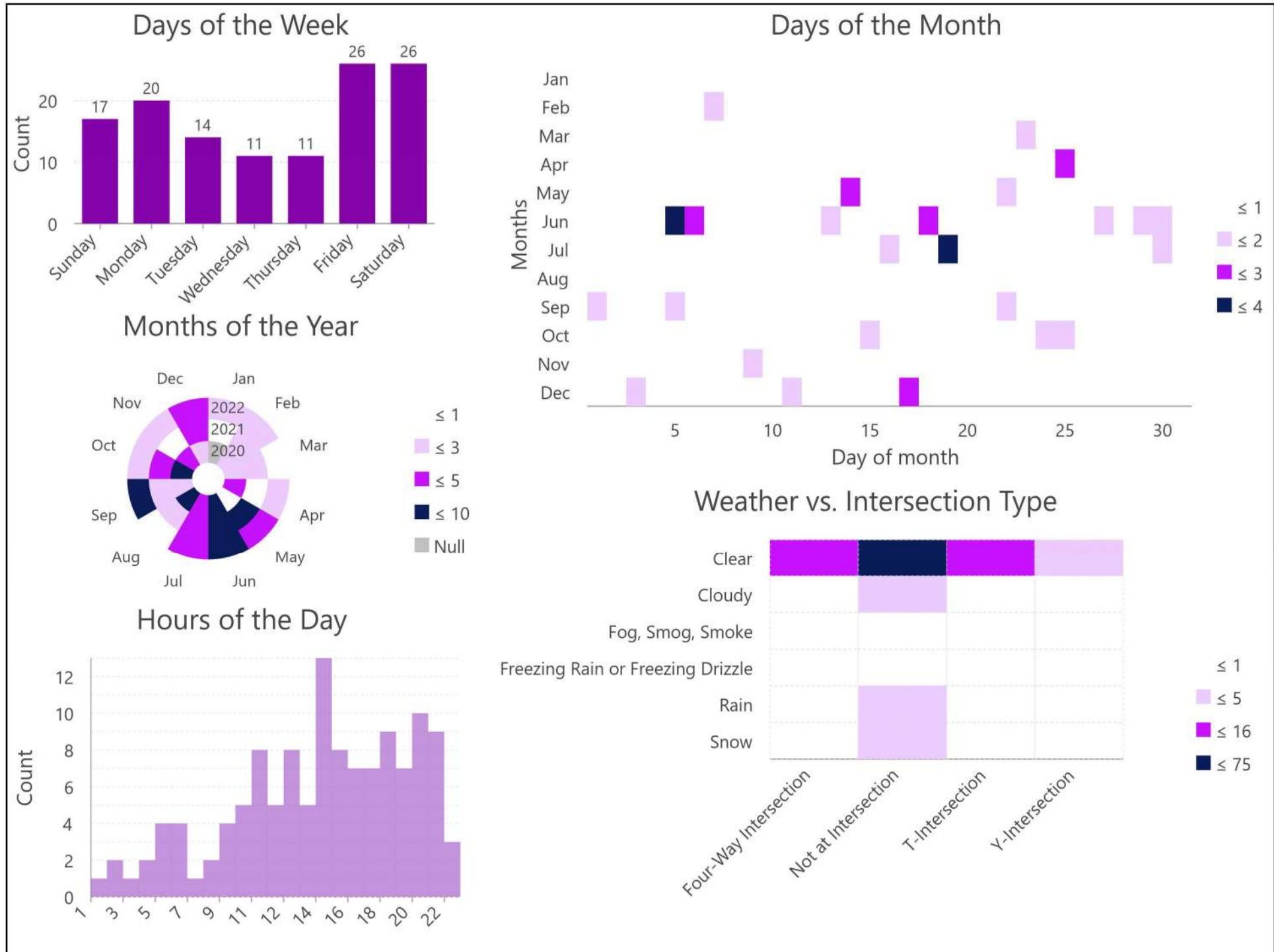
- Fatal
- Severe

NHCOC

K&A Crash Data 2020-2022

Data Notes:
Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

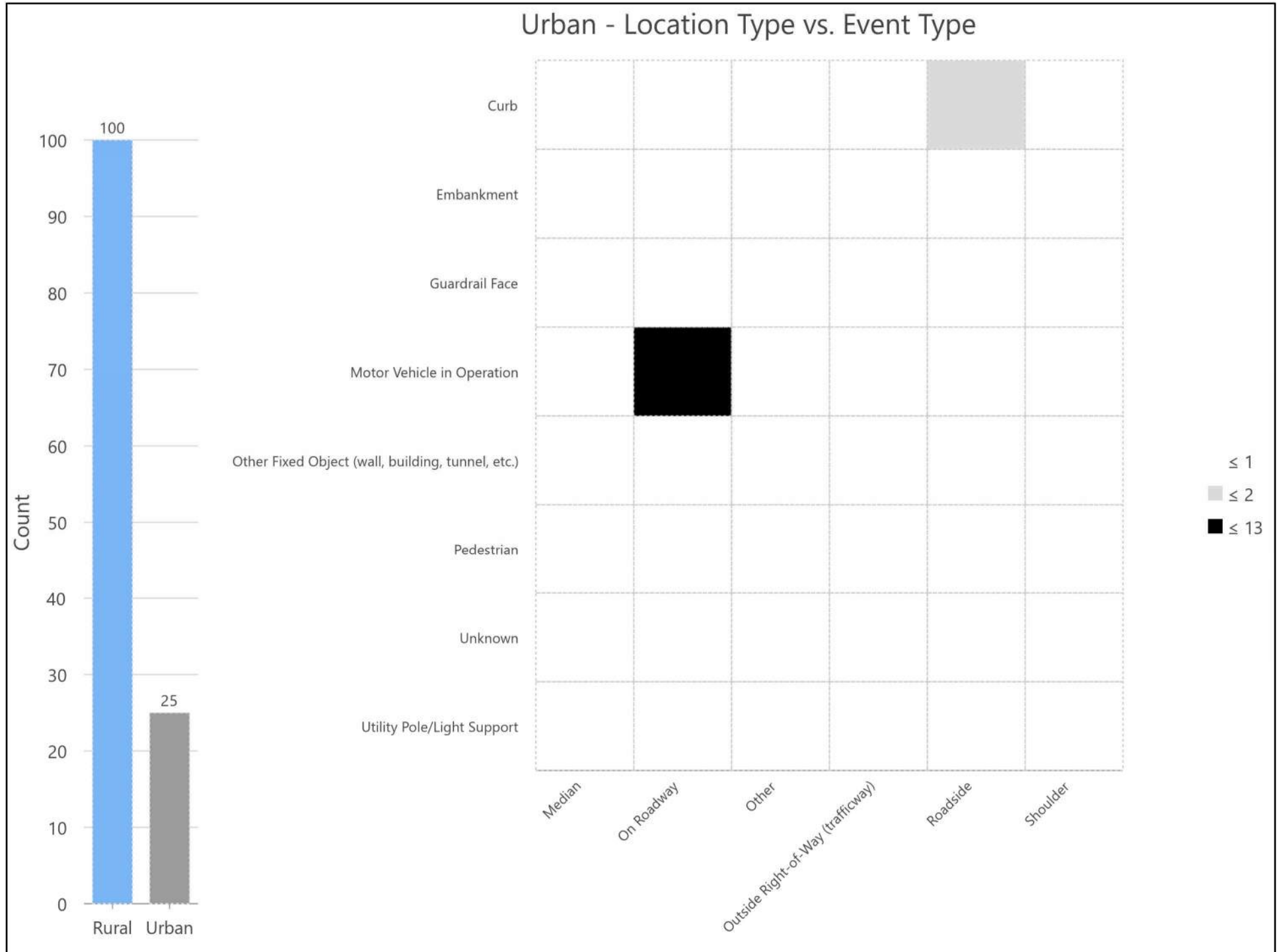
NHCOG Time & Conditions K&A Crash Data 2020-2022



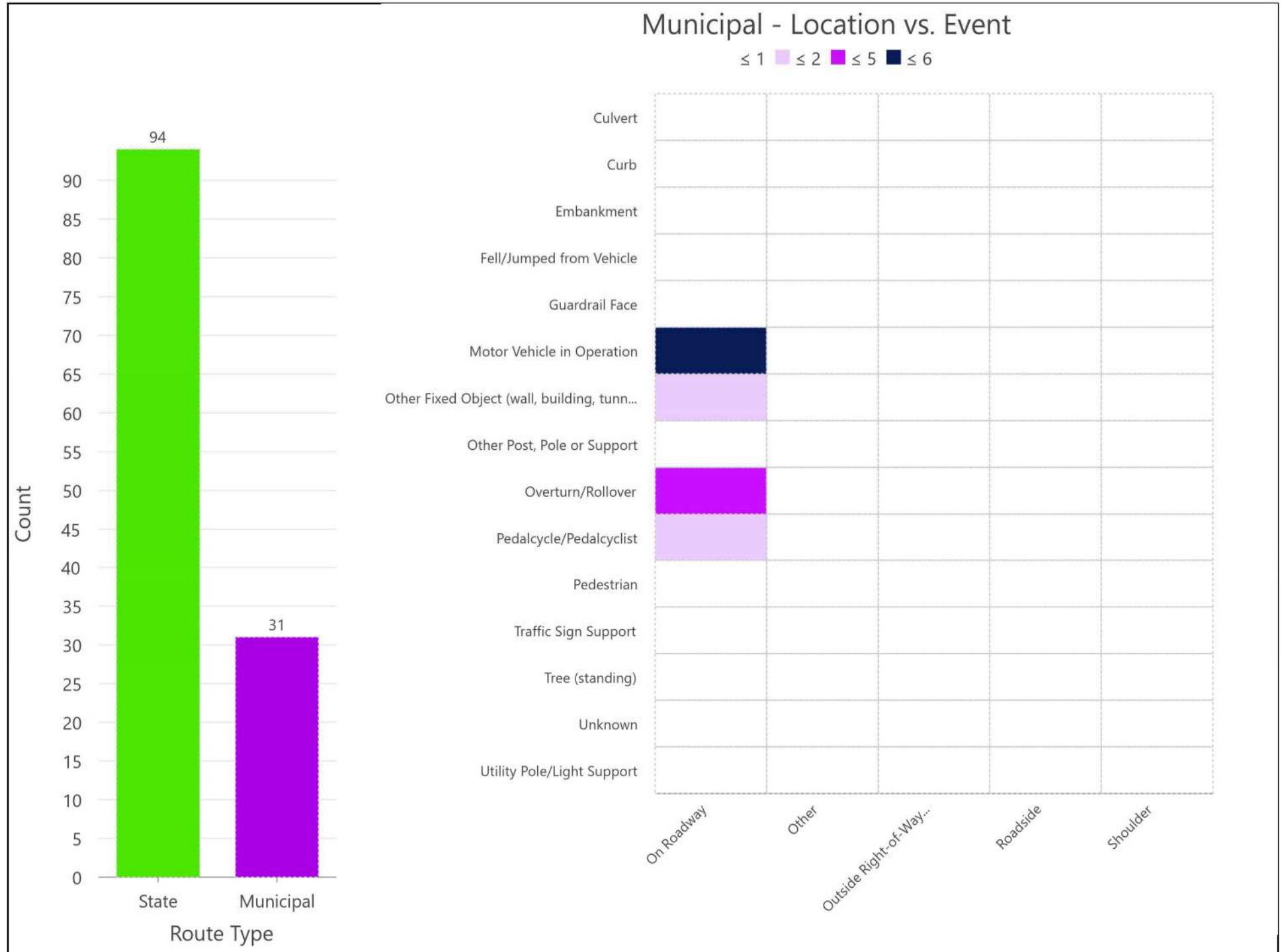
NHCOG Rural vs. Urban K&A Crash Data 2020-2022



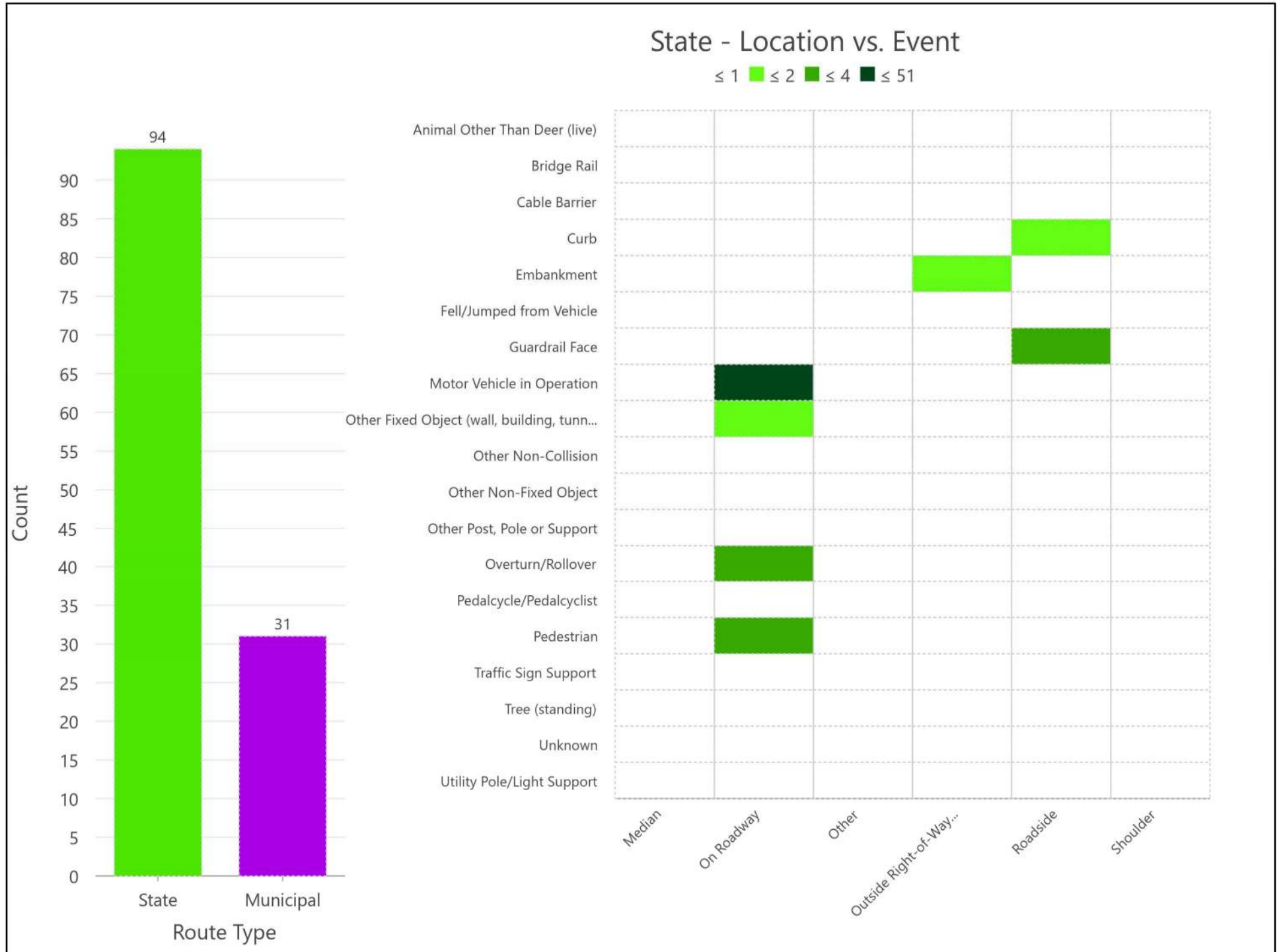
NHCOG Rural vs. Urban K&A Crash Data 2020-2022

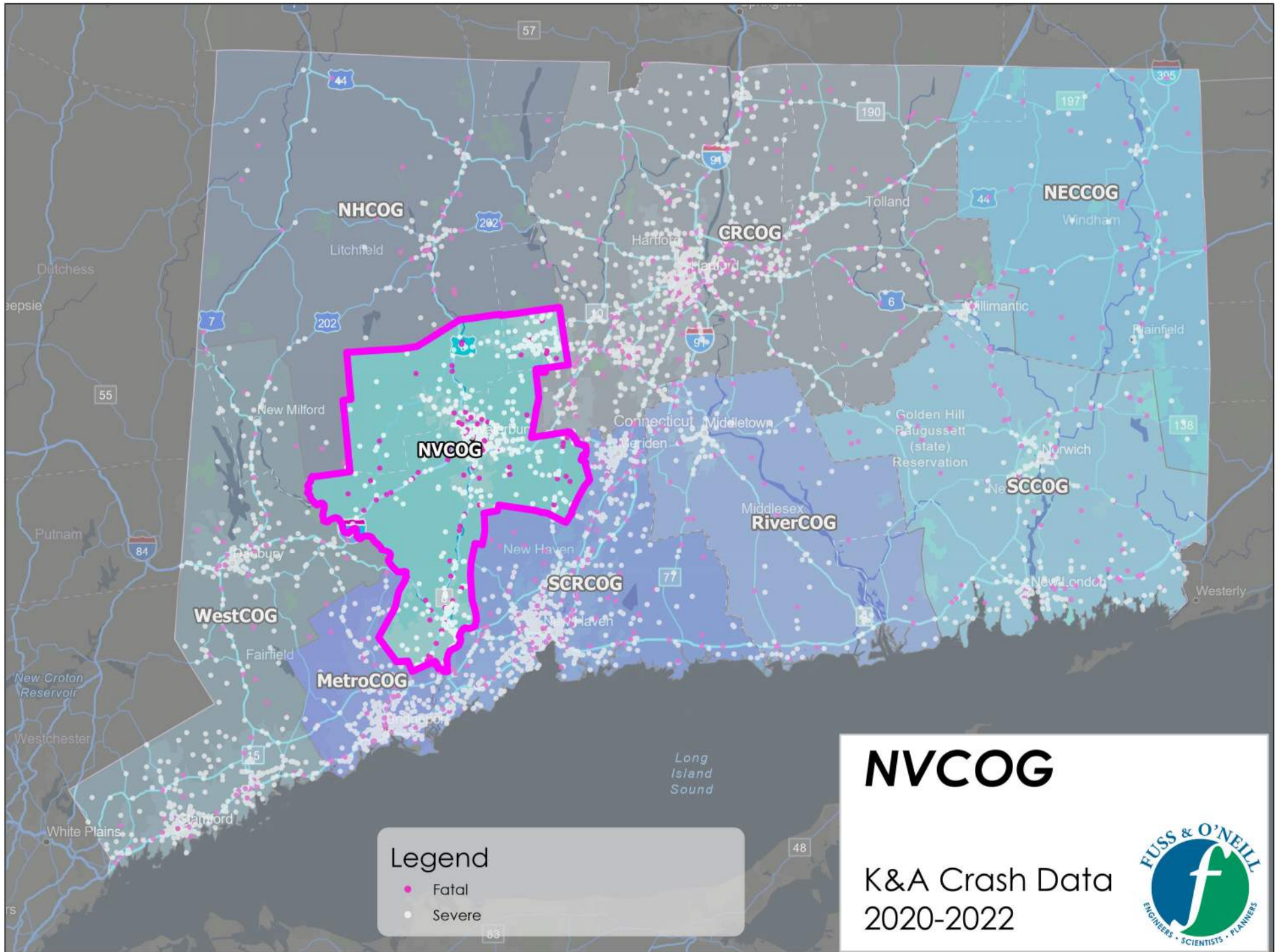


NHCOG State vs. Municipal Road K&A Crash Data 2020-2022



NHCOG State vs. Municipal Road K&A Crash Data 2020-2022





Legend

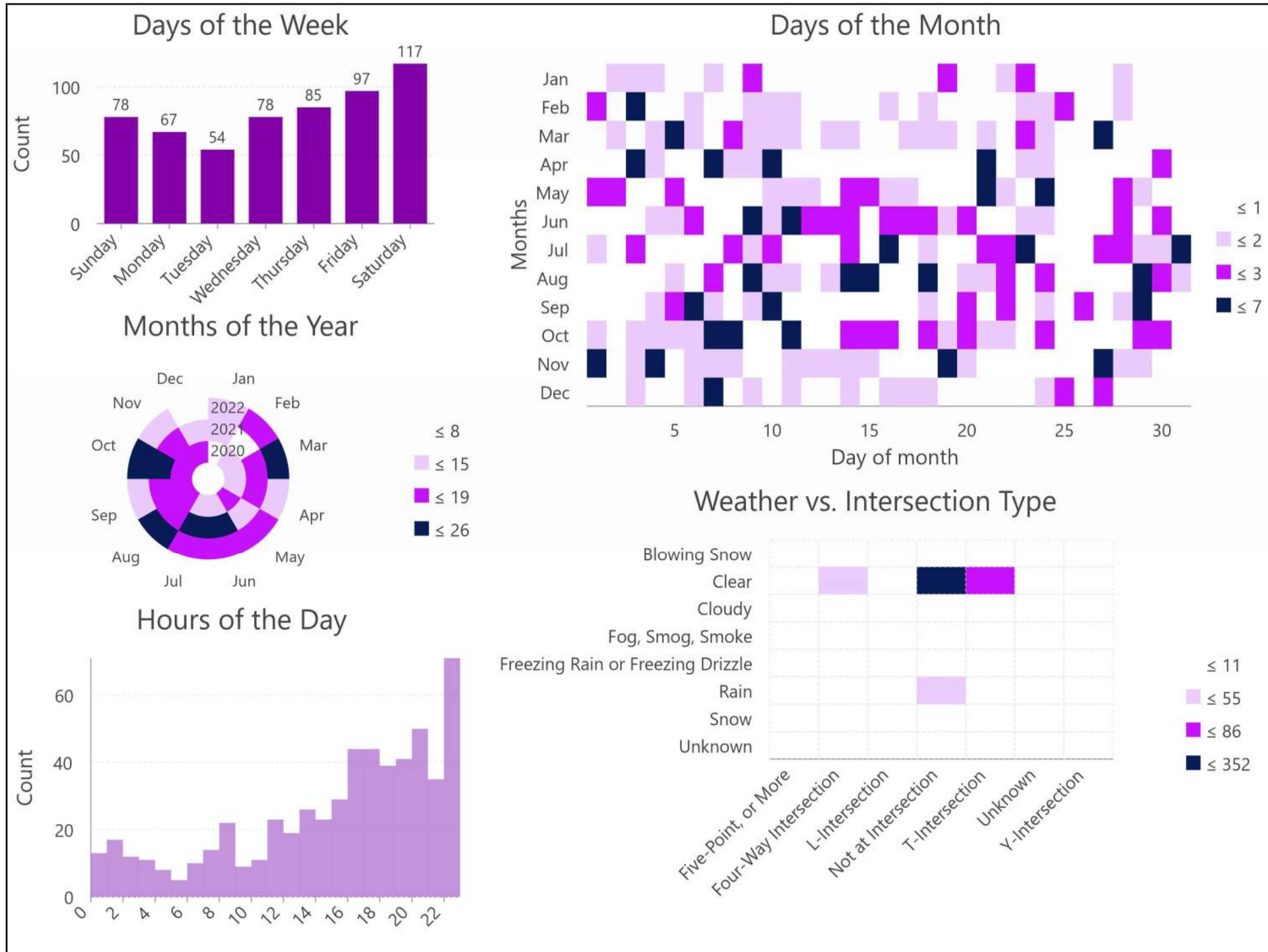
- Fatal
- Severe

NVCOG

K&A Crash Data 2020-2022

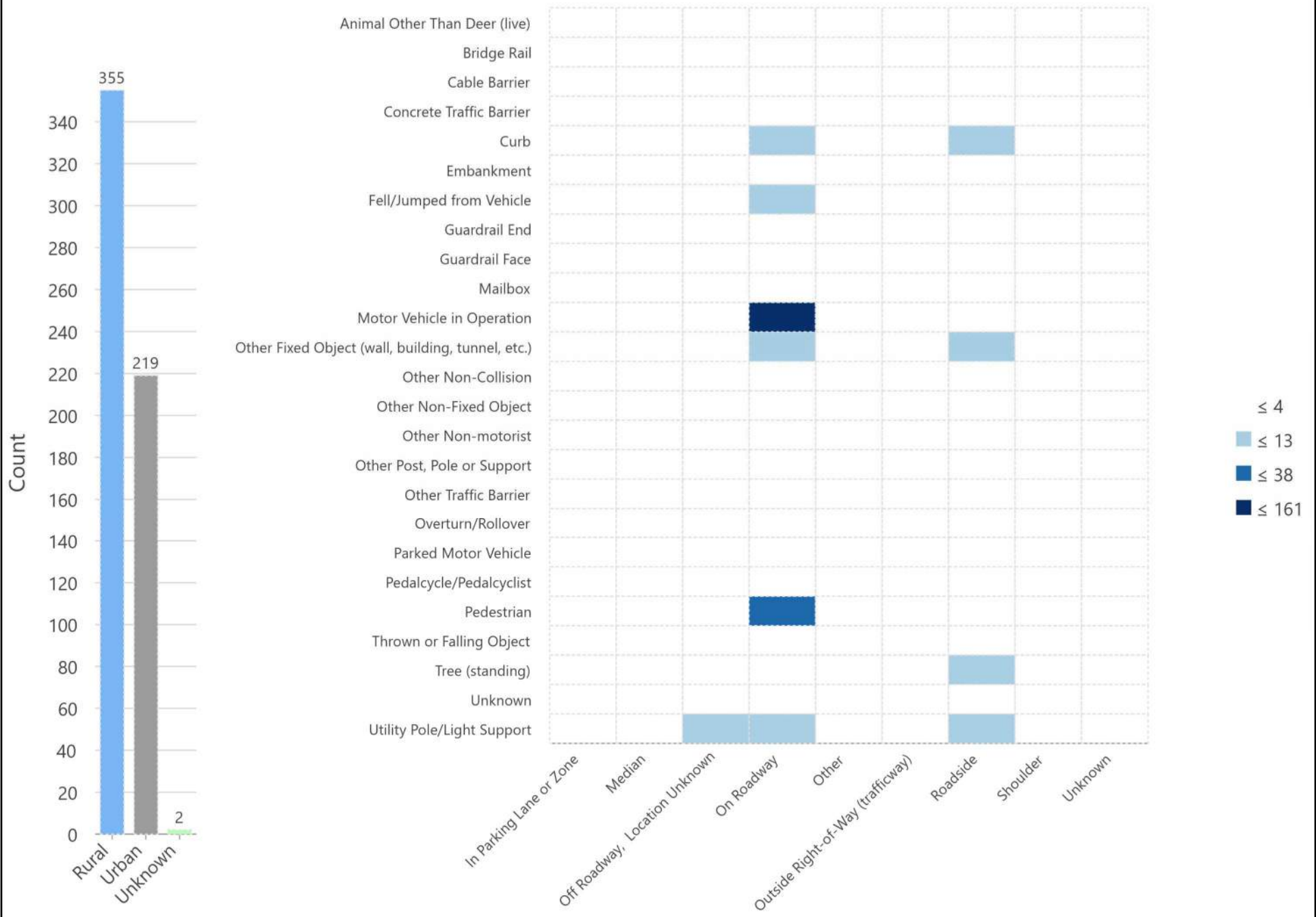
Data Notes:
Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

NVCOG Time & Conditions K&A Crash Data 2020-2022



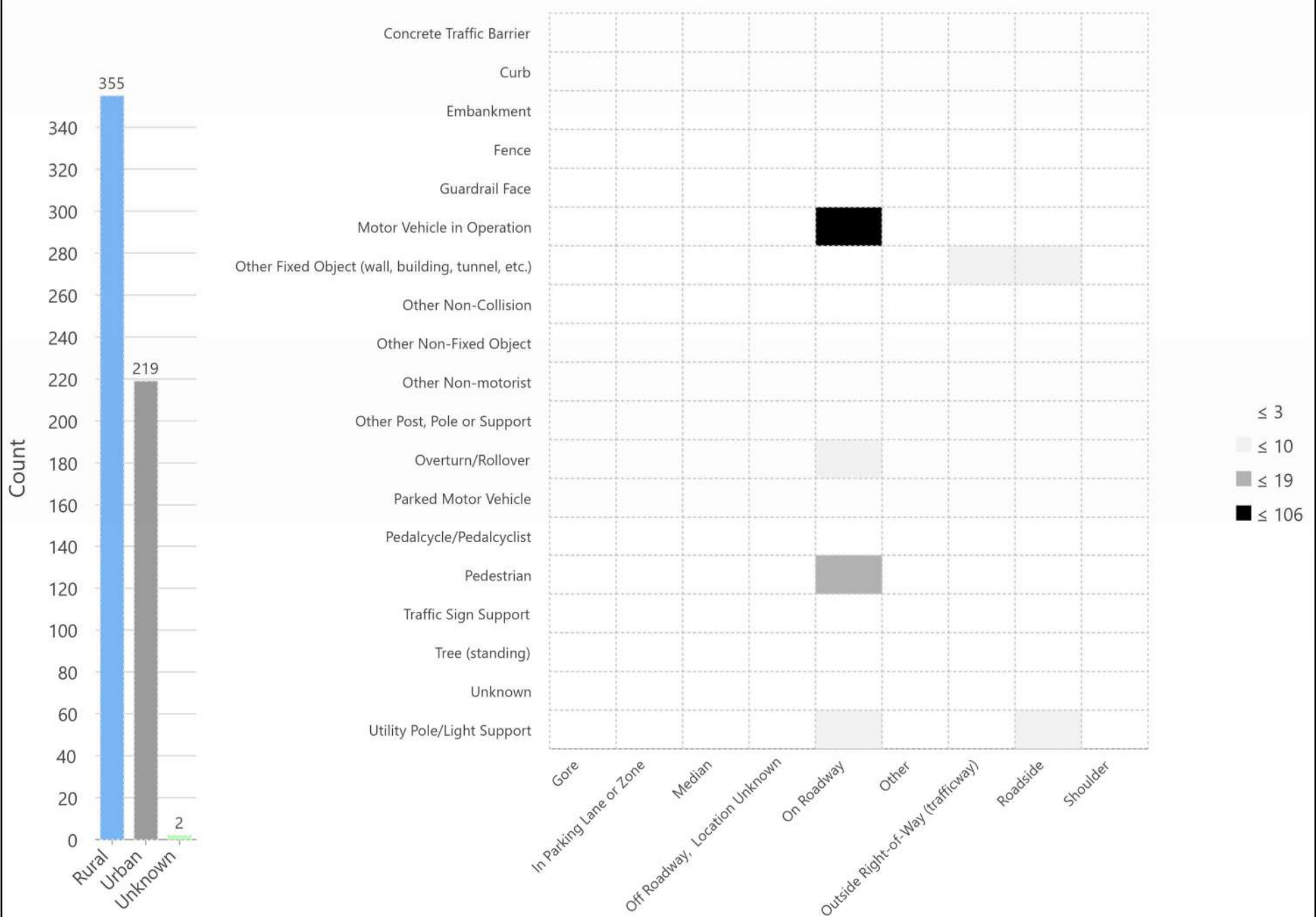
NVCOG Rural vs. Urban K&A Crash Data 2020-2022

Rural - Location Type vs. Event Type



NVCOG Rural vs. Urban K&A Crash Data 2020-2022

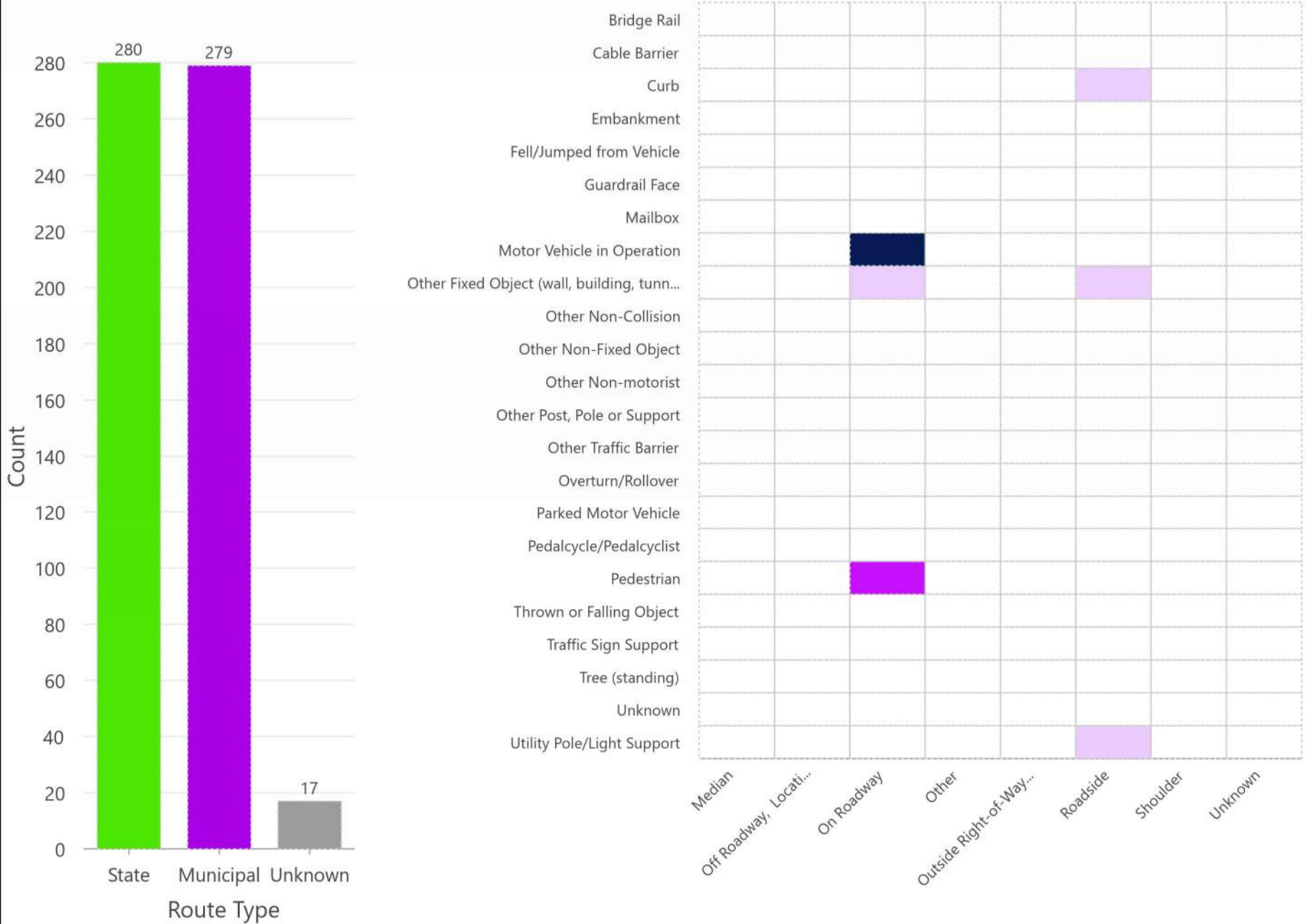
Urban - Location Type vs. Event Type



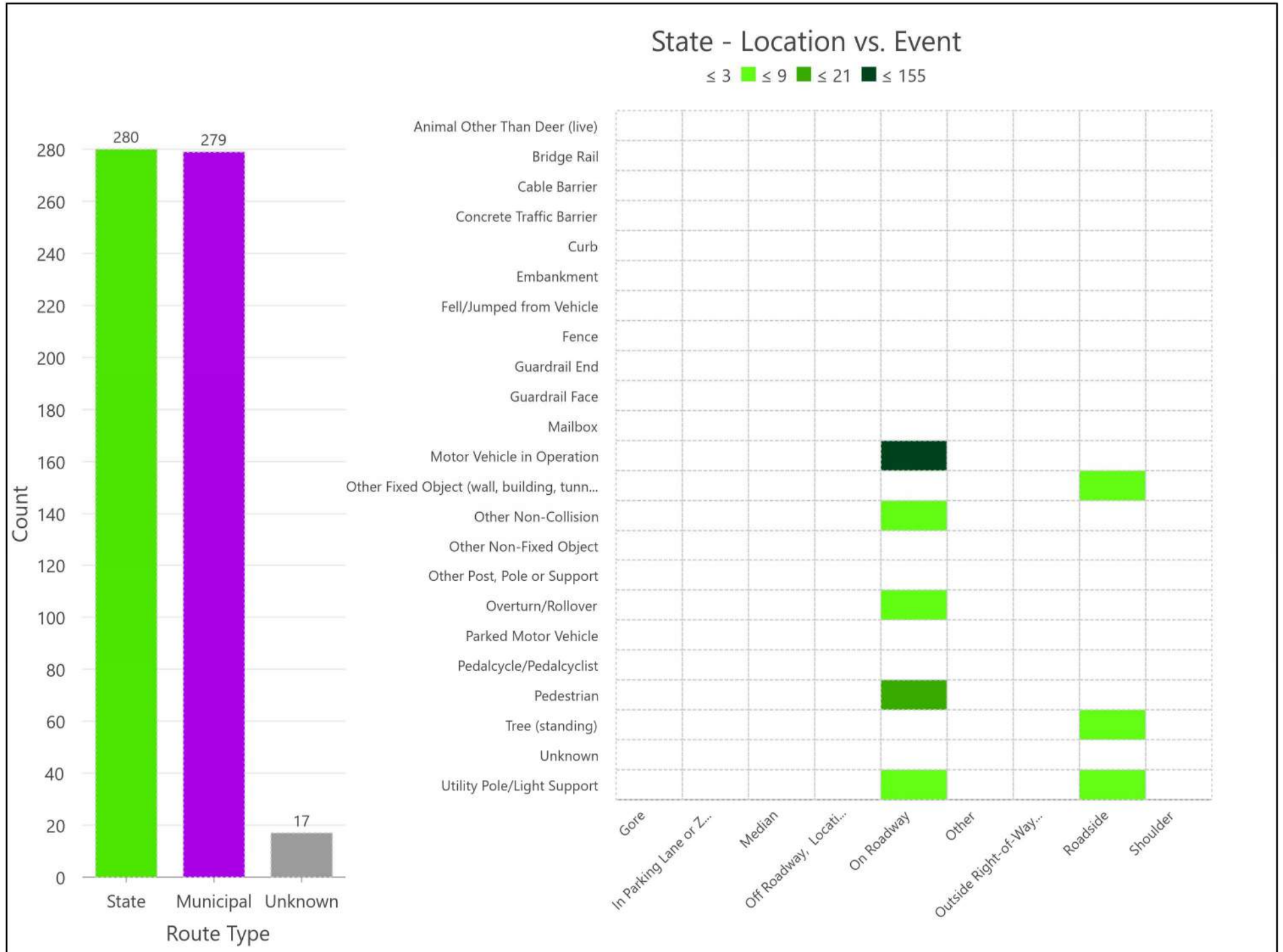
NVCOG State vs. Municipal Road K&A Crash Data 2020-2022

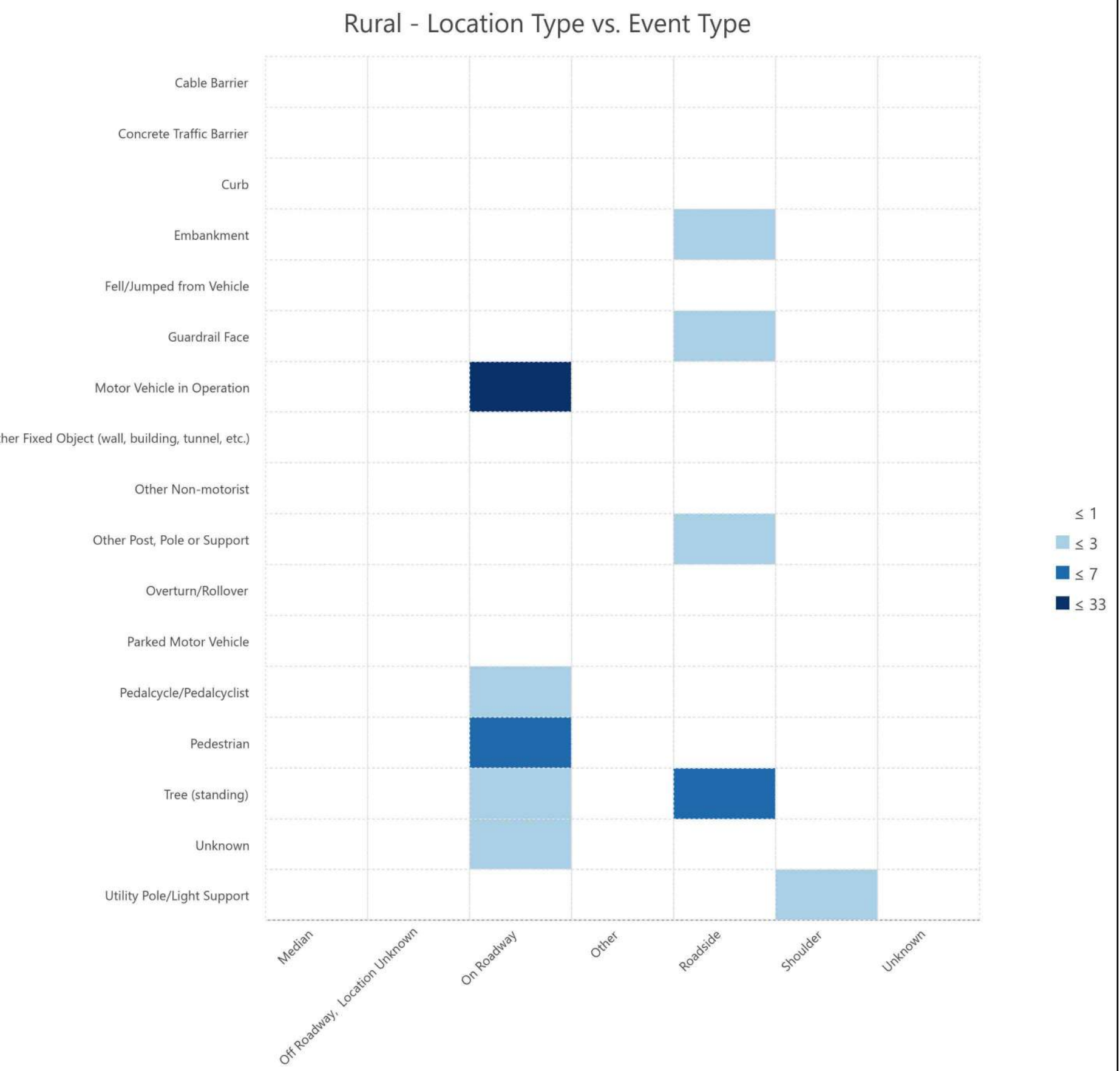
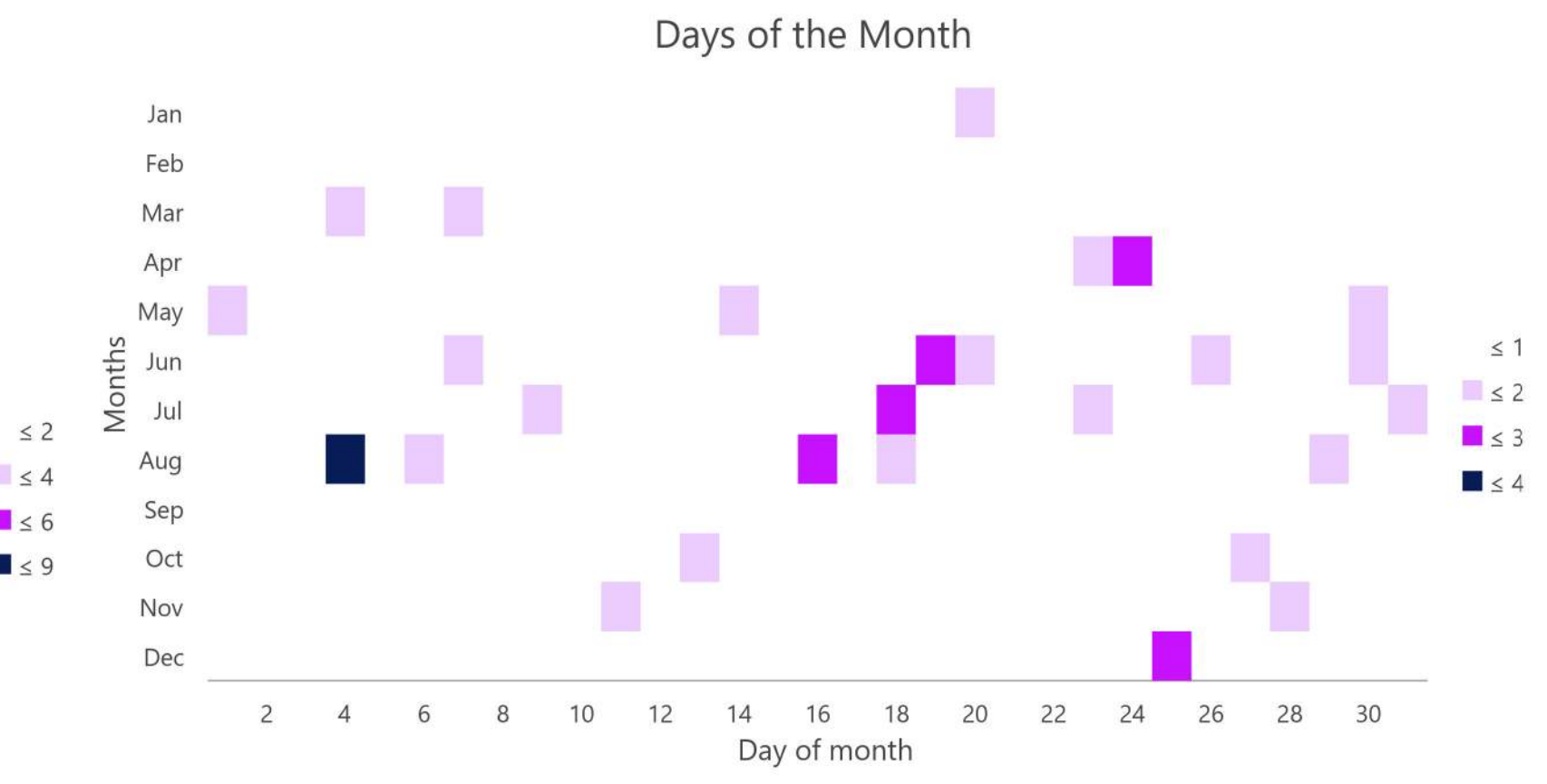
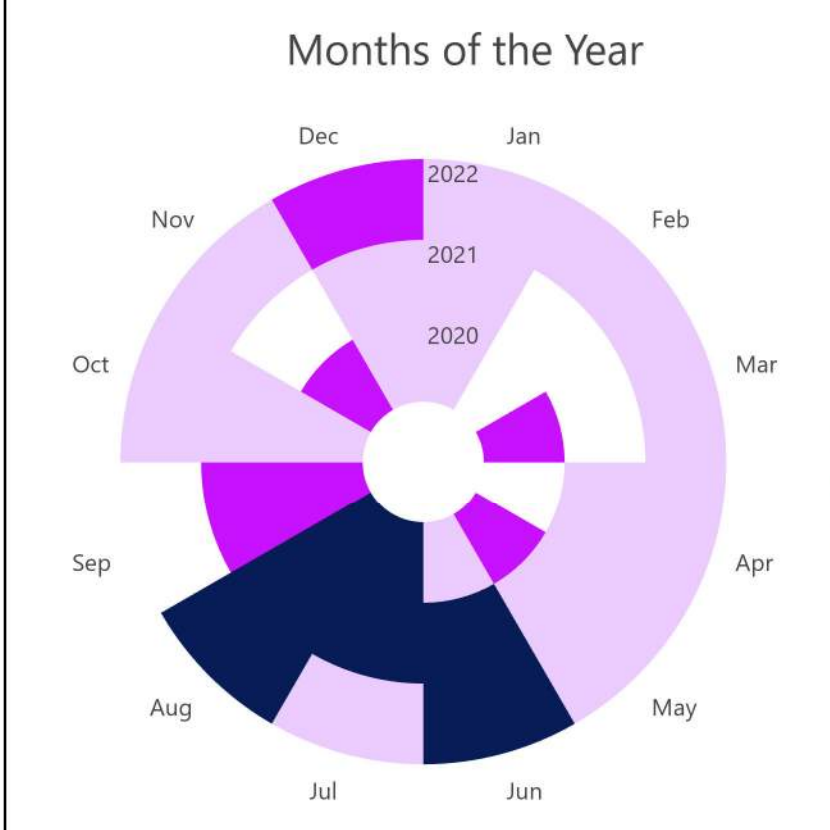
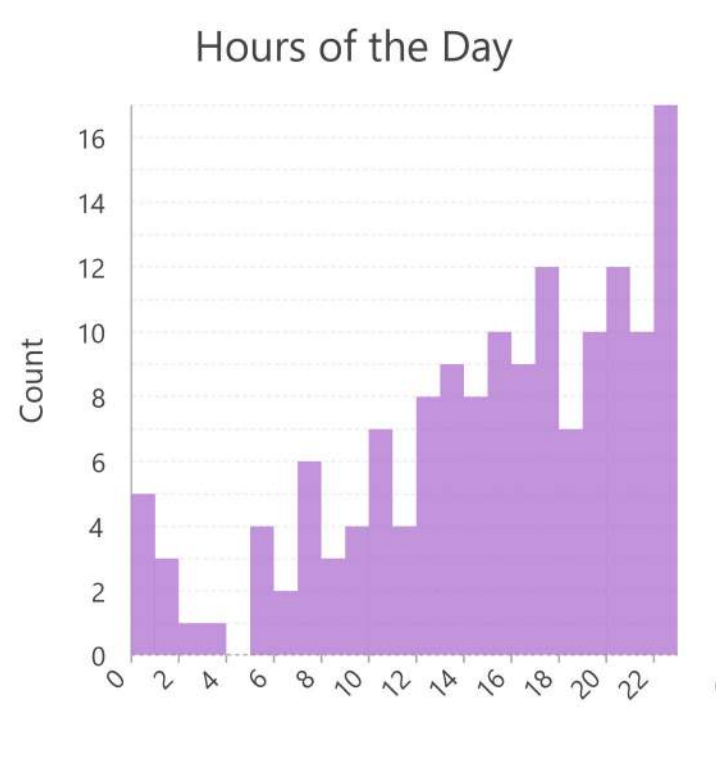
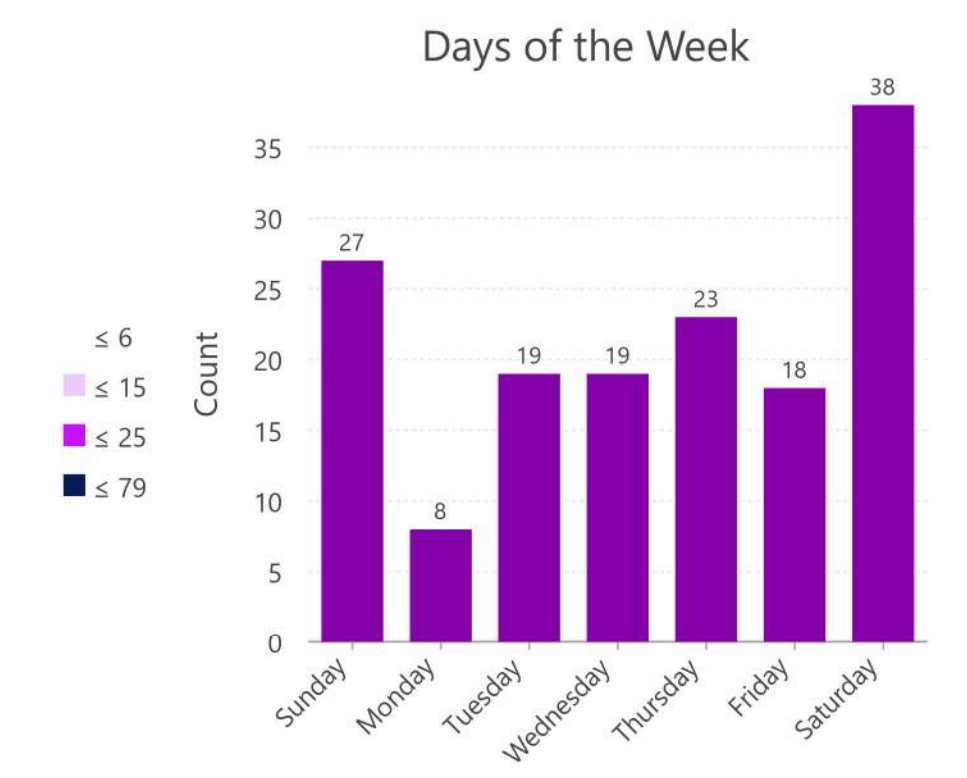
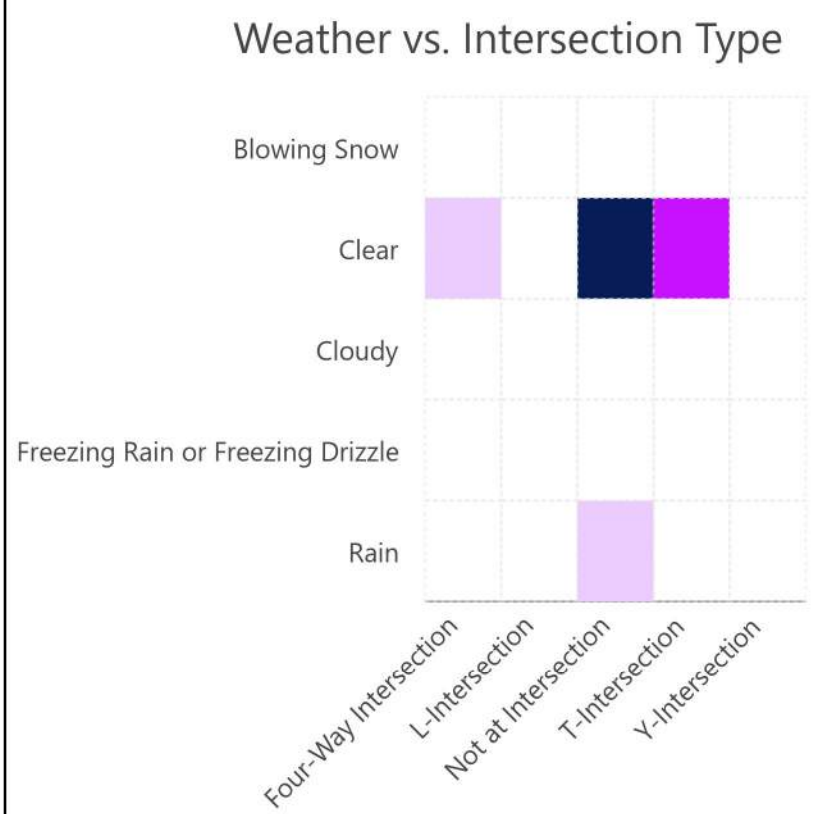
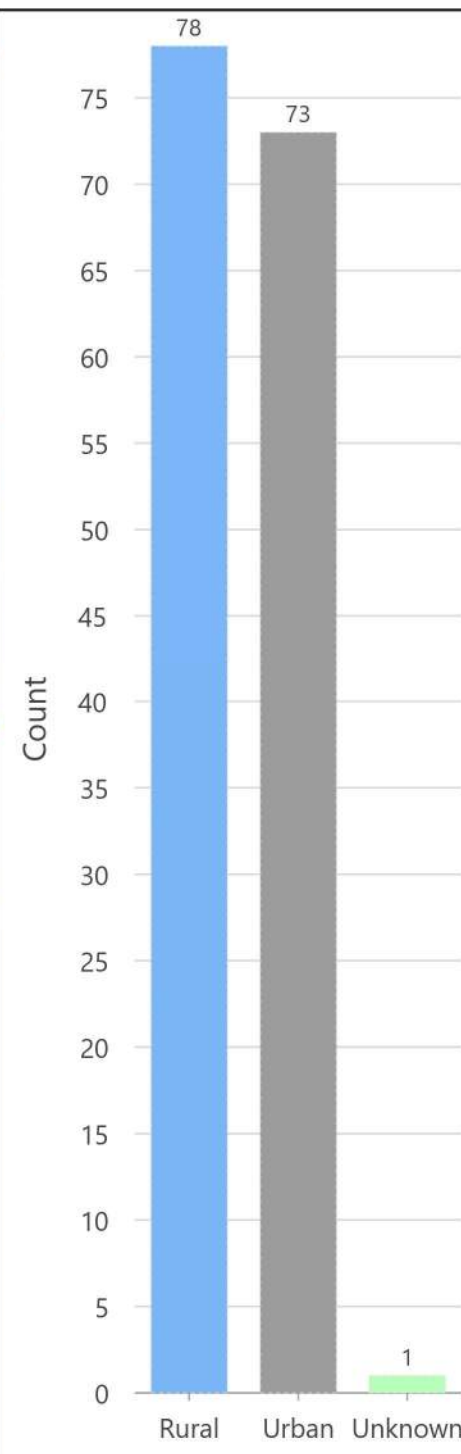
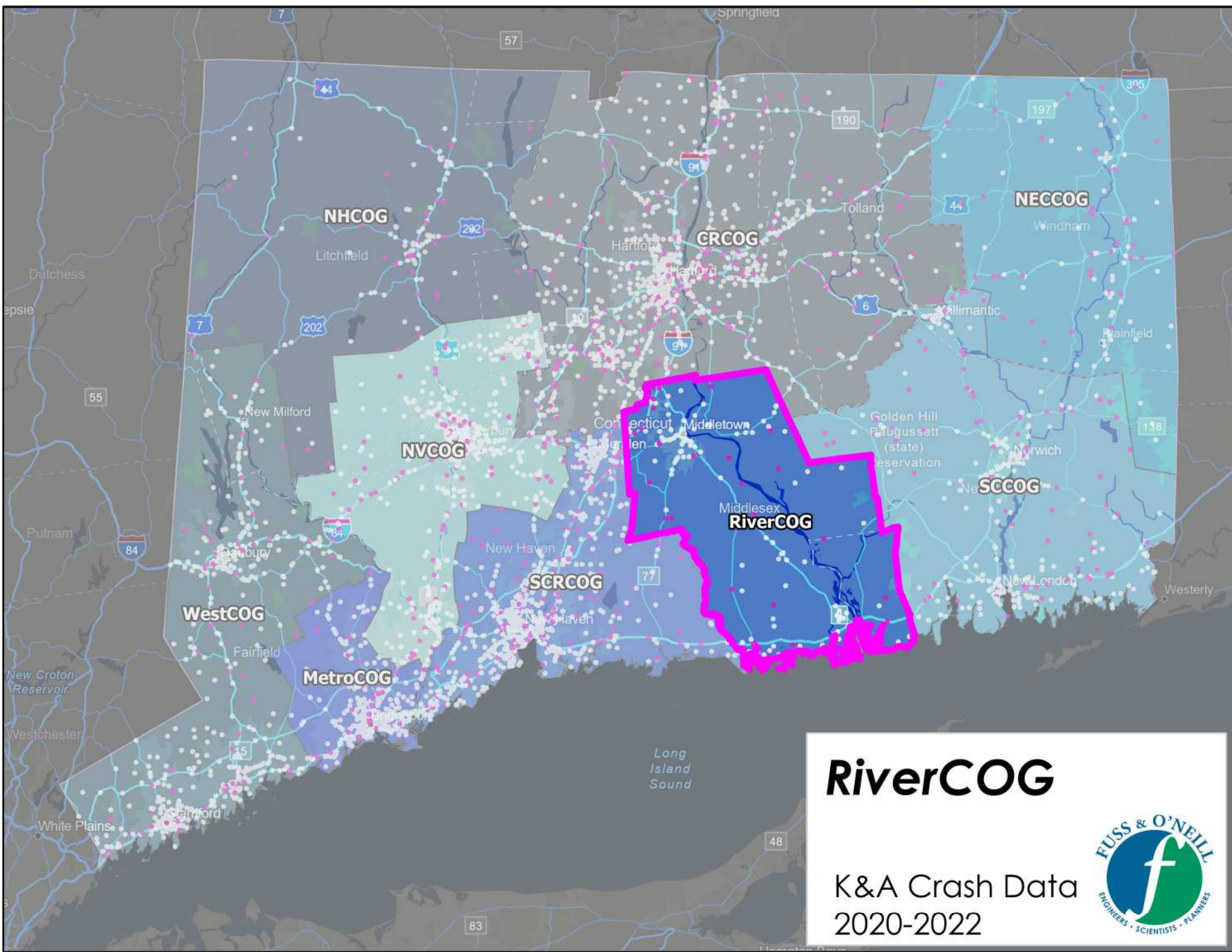
Municipal - Location vs. Event

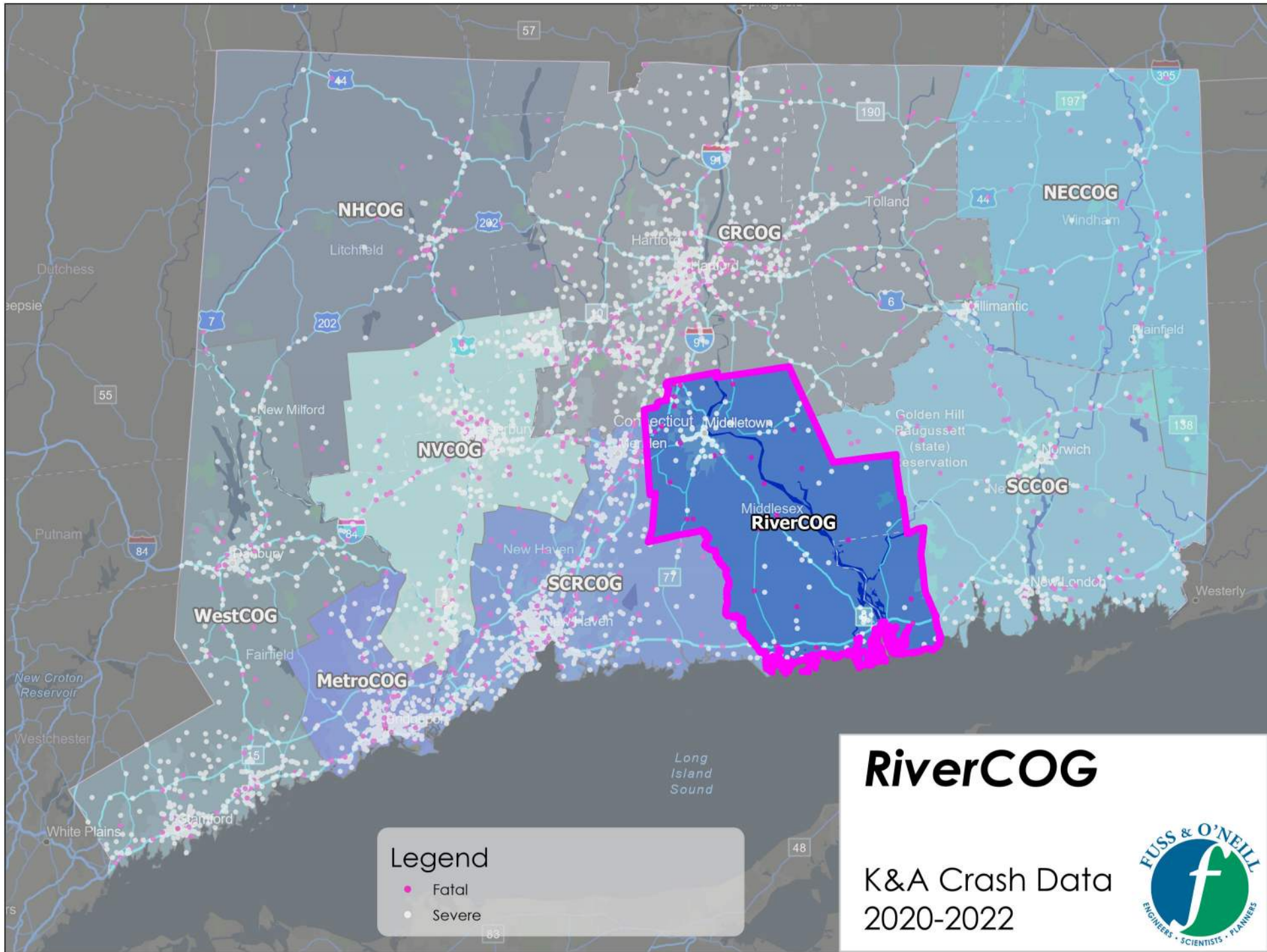
■ ≤ 6
 ■ ≤ 13
 ■ ≤ 35
 ■ ≤ 109



NVCOG State vs. Municipal Road K&A Crash Data 2020-2022







Legend

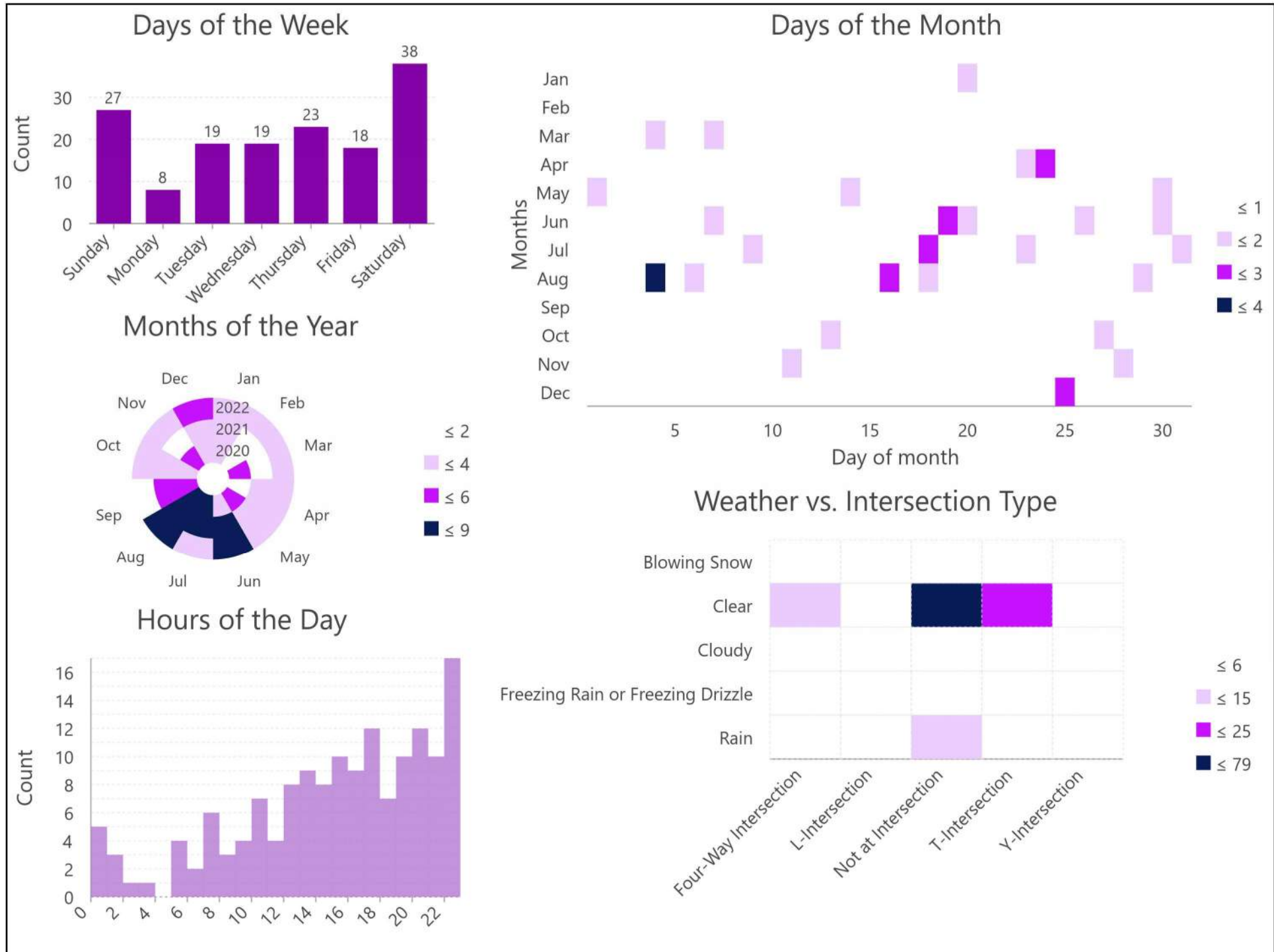
- Fatal
- Severe

RiverCOG

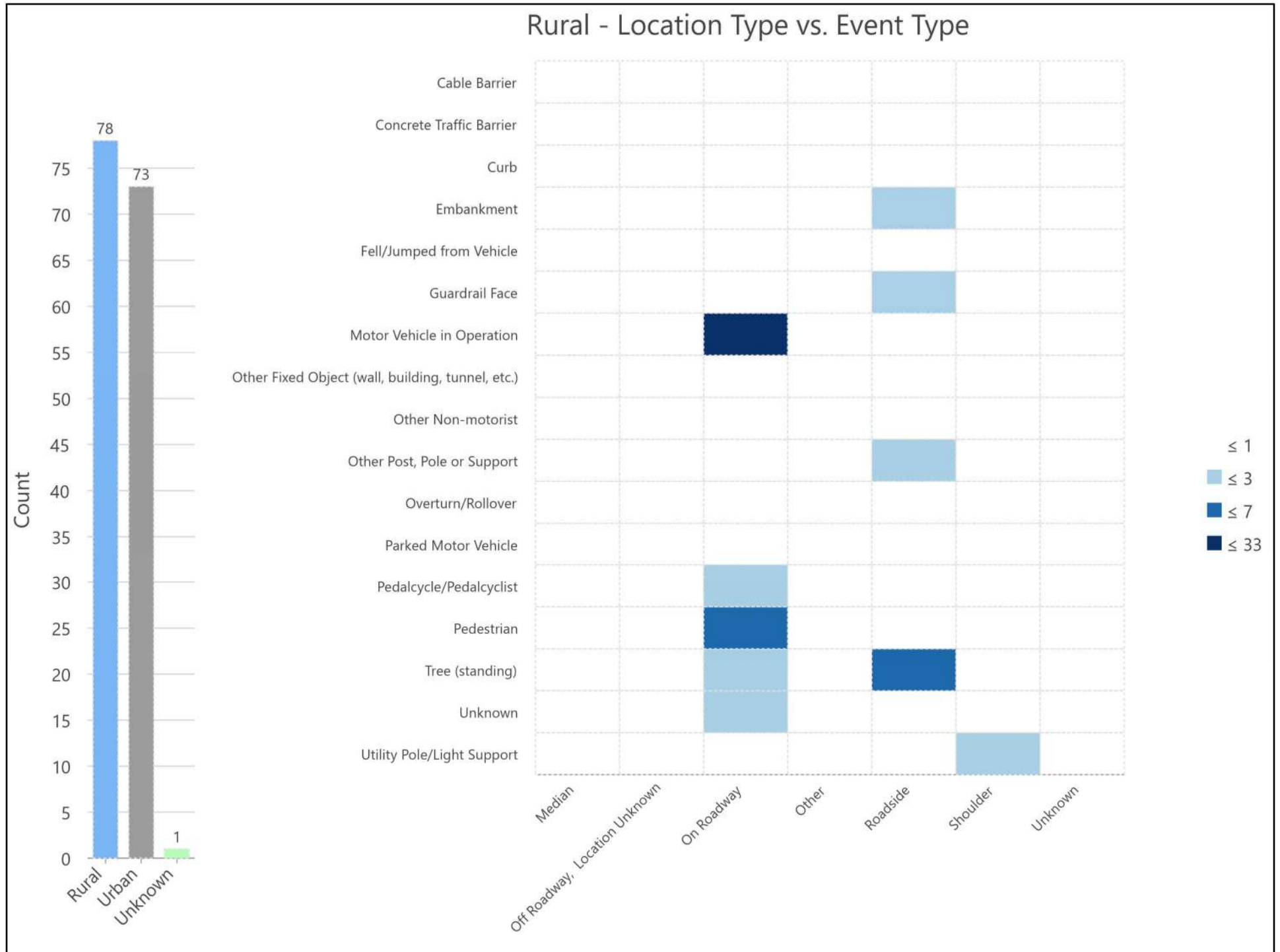
K&A Crash Data
2020-2022

Data Notes:
Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

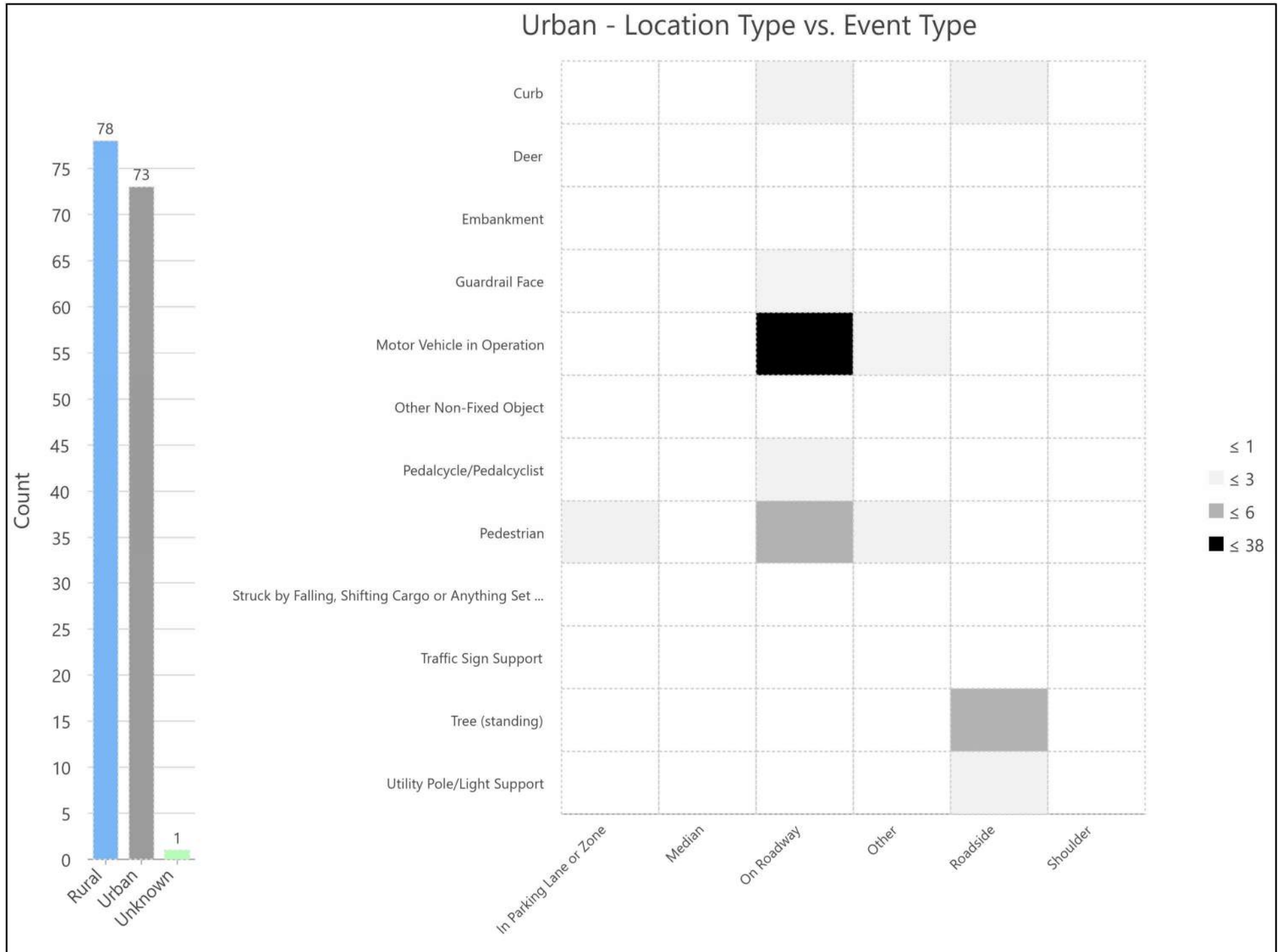
RiverCOG Time & Conditions K&A Crash Data 2020-2022



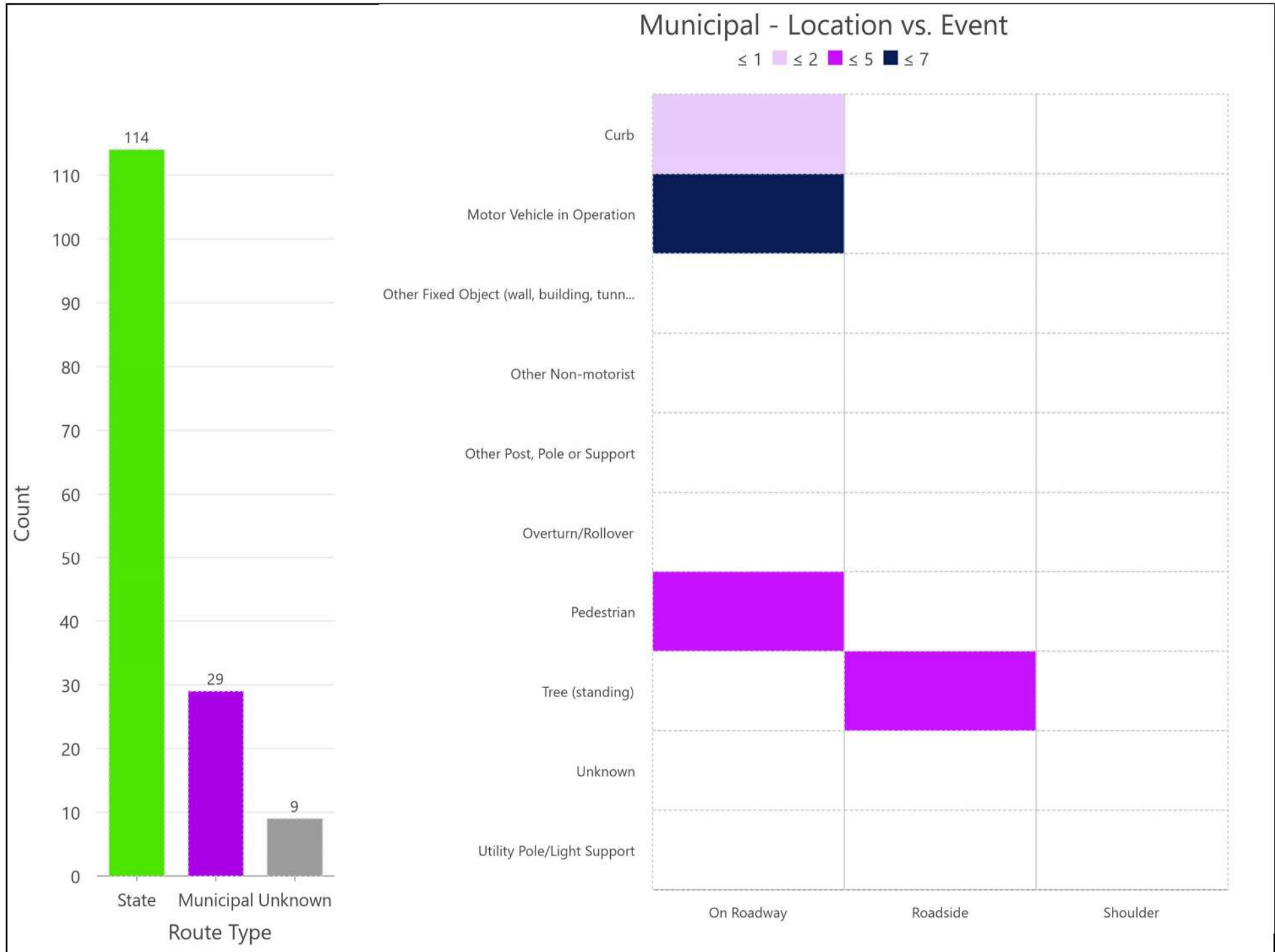
RiverCOG Rural vs. Urban K&A Crash Data 2020-2022



RiverCOG Rural vs. Urban K&A Crash Data 2020-2022

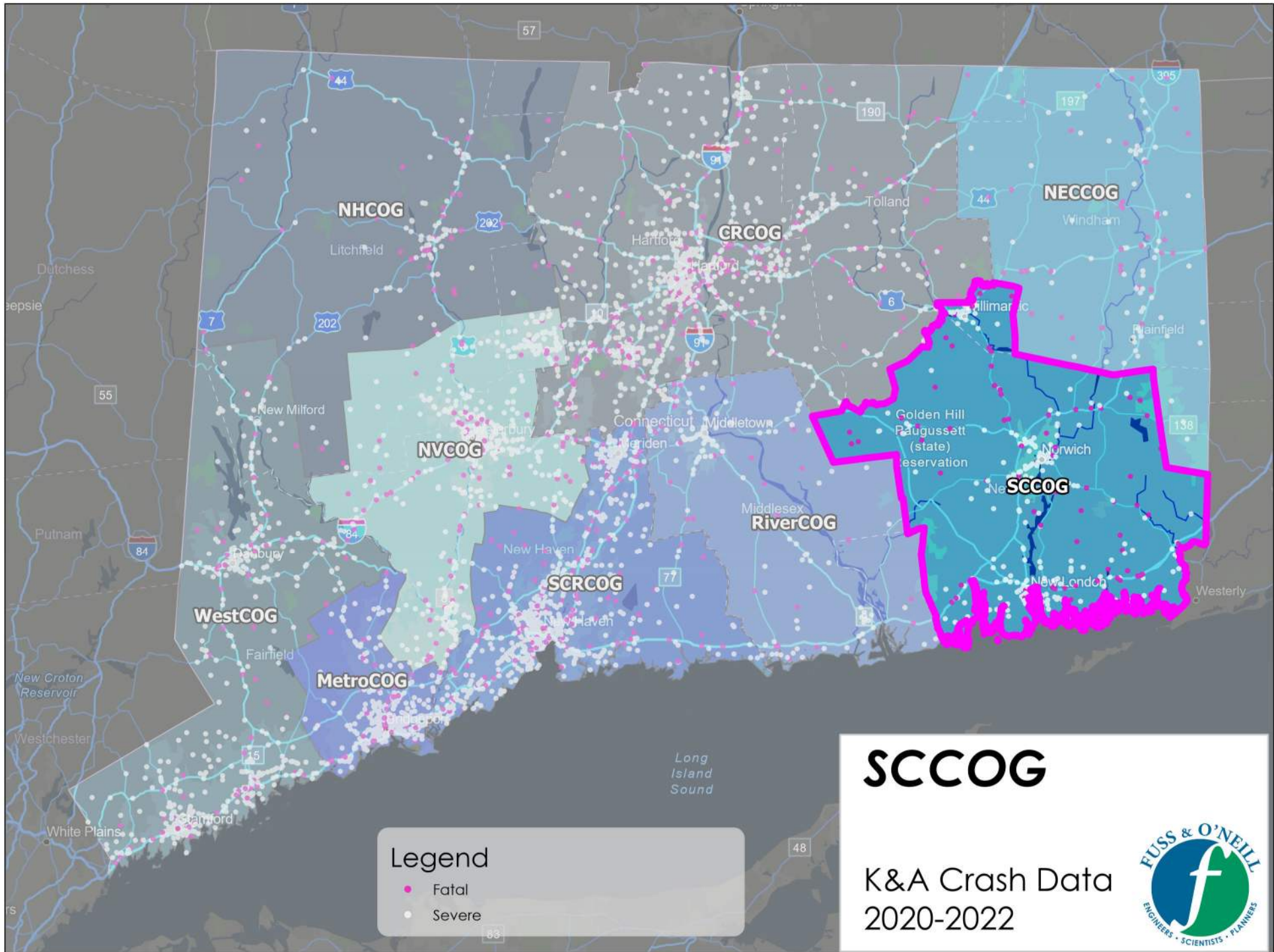


RiverCOG State vs. Municipal Road K&A Crash Data 2020-2022



RiverCOG State vs. Municipal Road K&A Crash Data 2020-2022





Legend

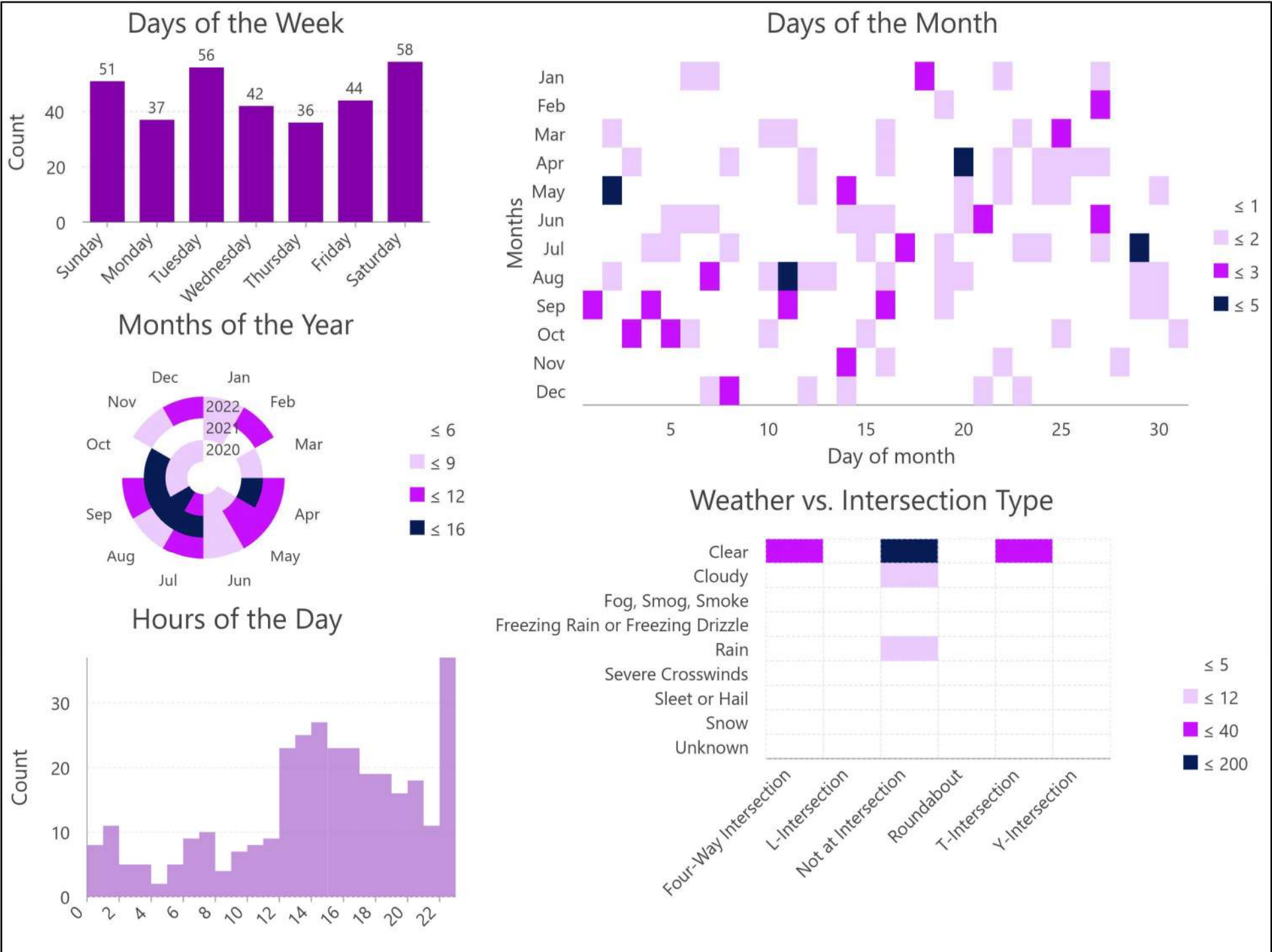
- Fatal
- Severe

SCCOG

K&A Crash Data
2020-2022

Data Notes:
Obtained from <https://www.ctcrash.uconn.edu/> for K and A Data between Jan 1, 2020 and Dec 31 2022

SCCOG Time & Conditions K&A Crash Data 2020-2022

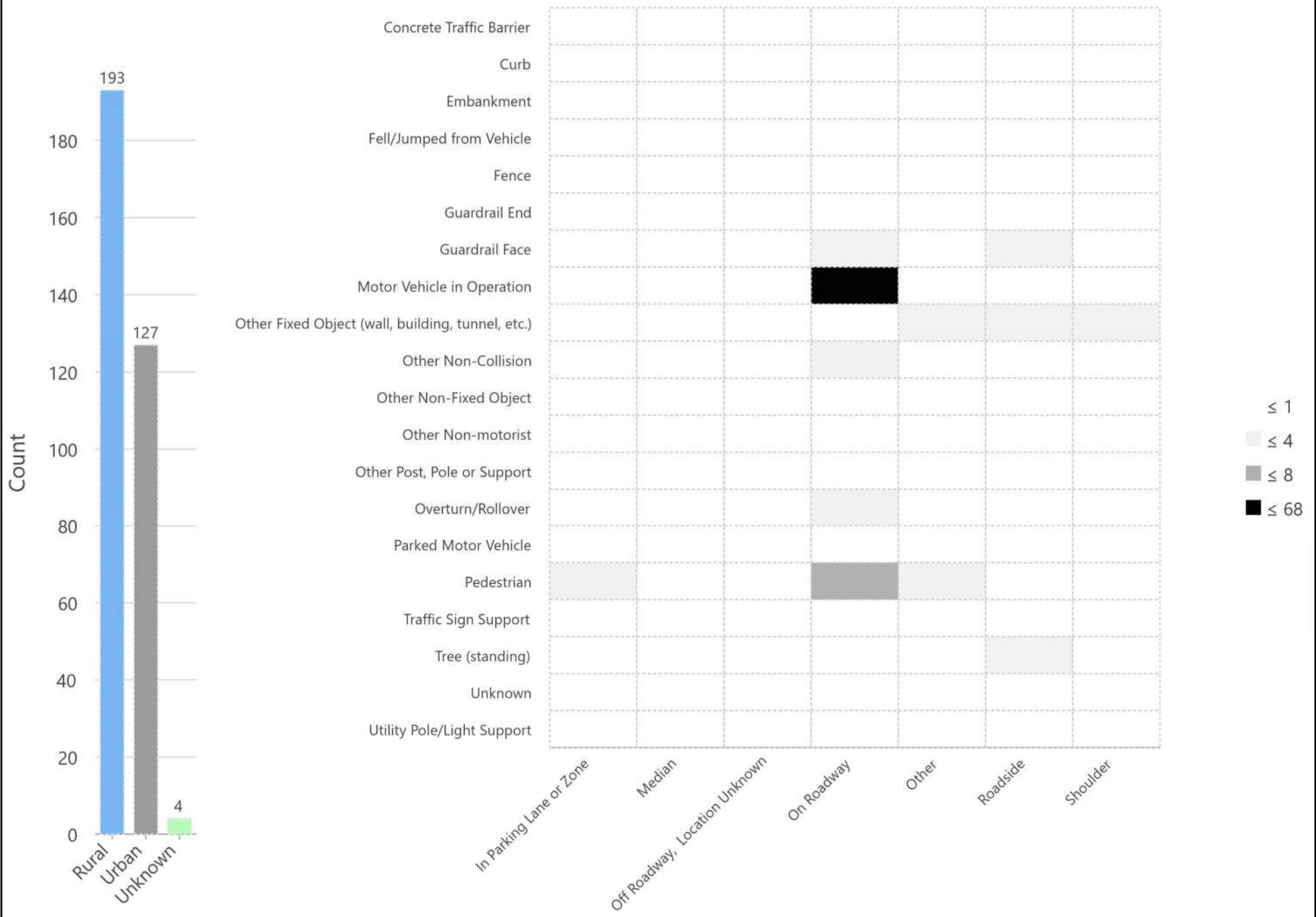


SCCOG Rural vs. Urban K&A Crash Data 2020-2022



SCCOG Rural vs. Urban K&A Crash Data 2020-2022

Urban - Location Type vs. Event Type

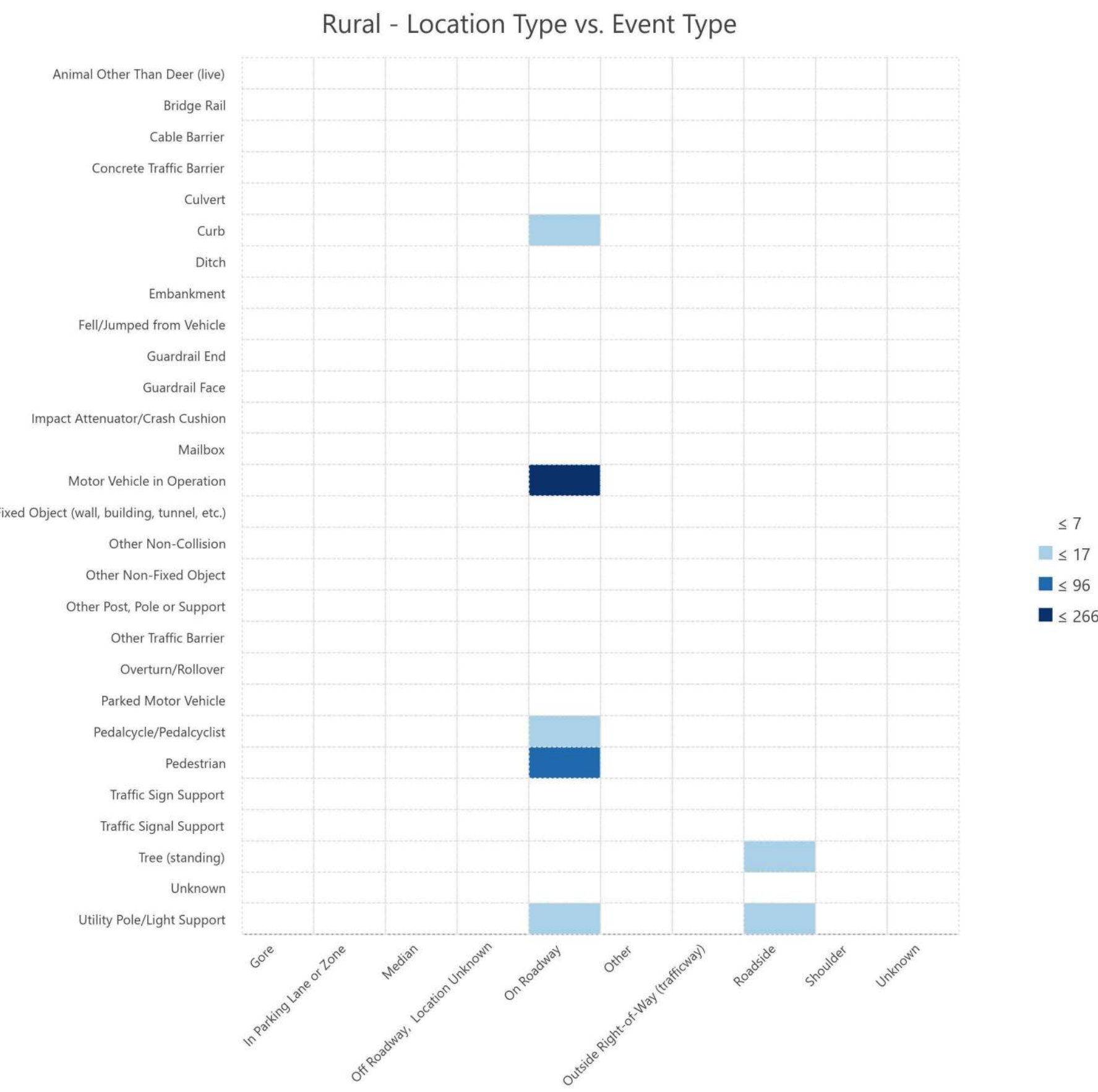
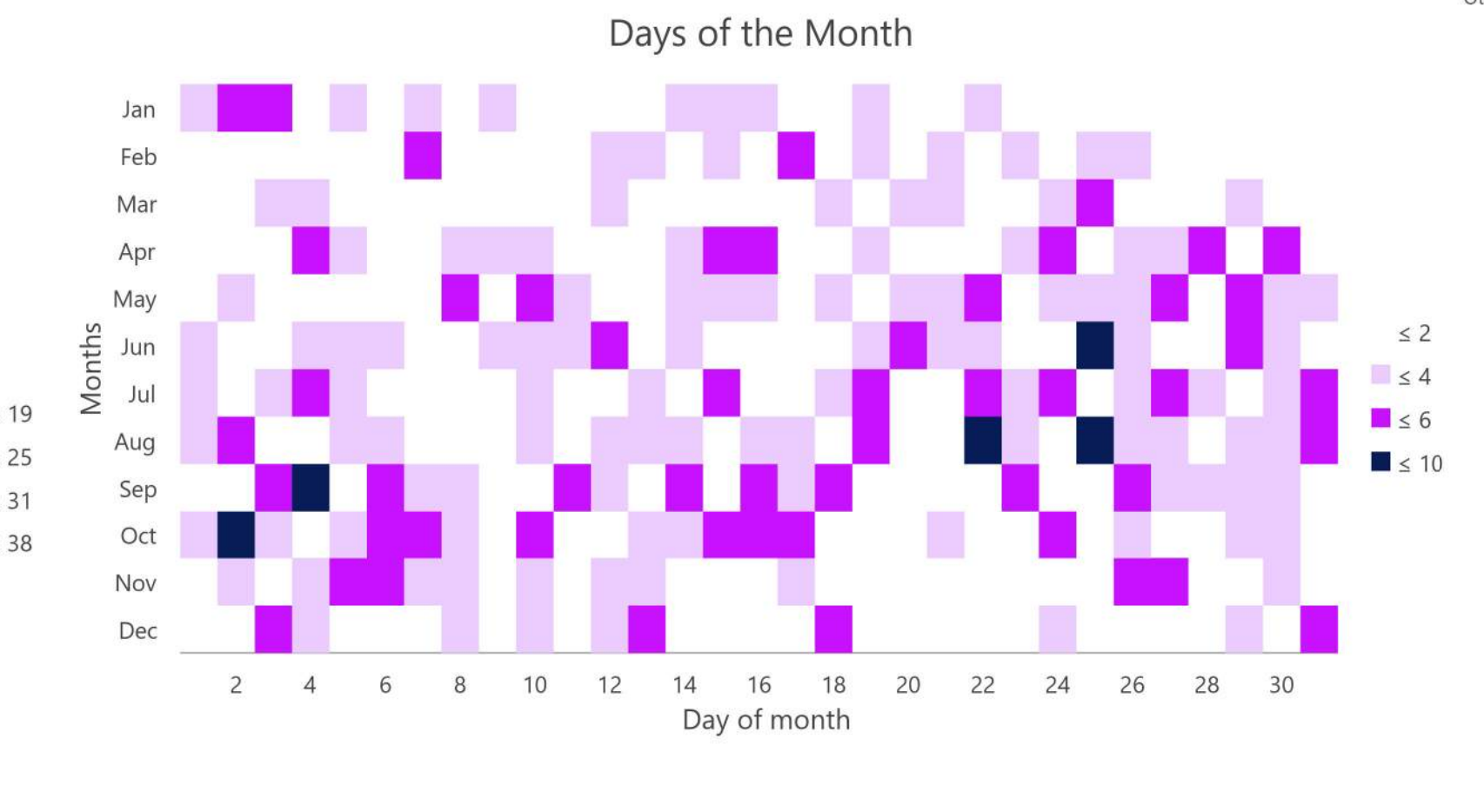
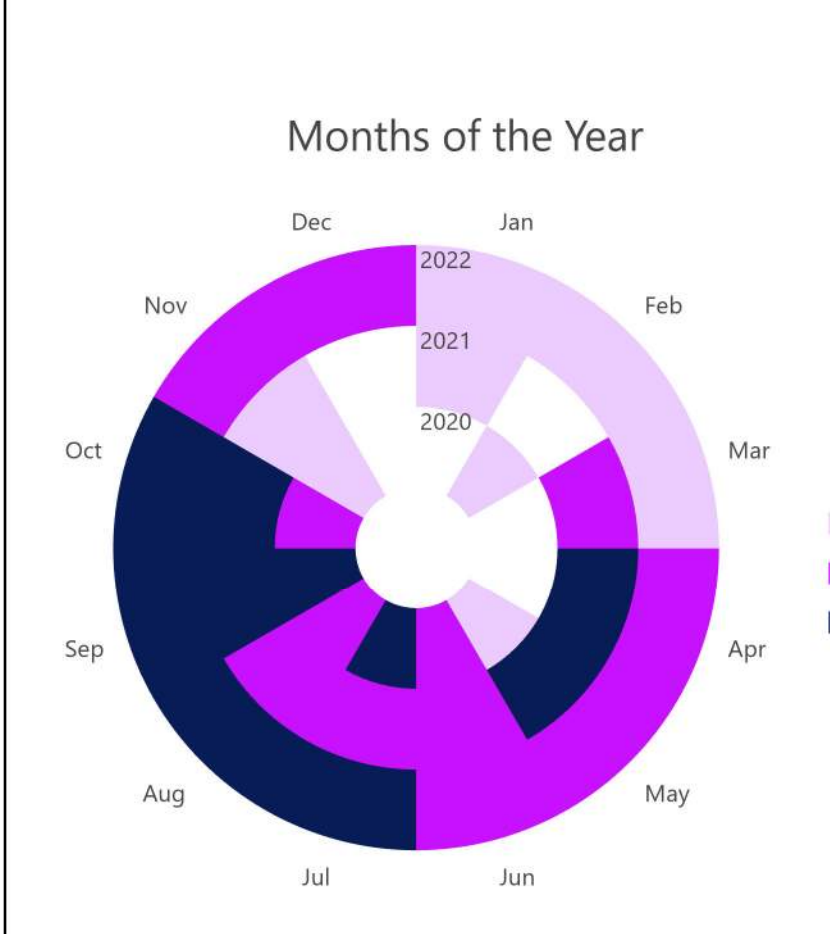
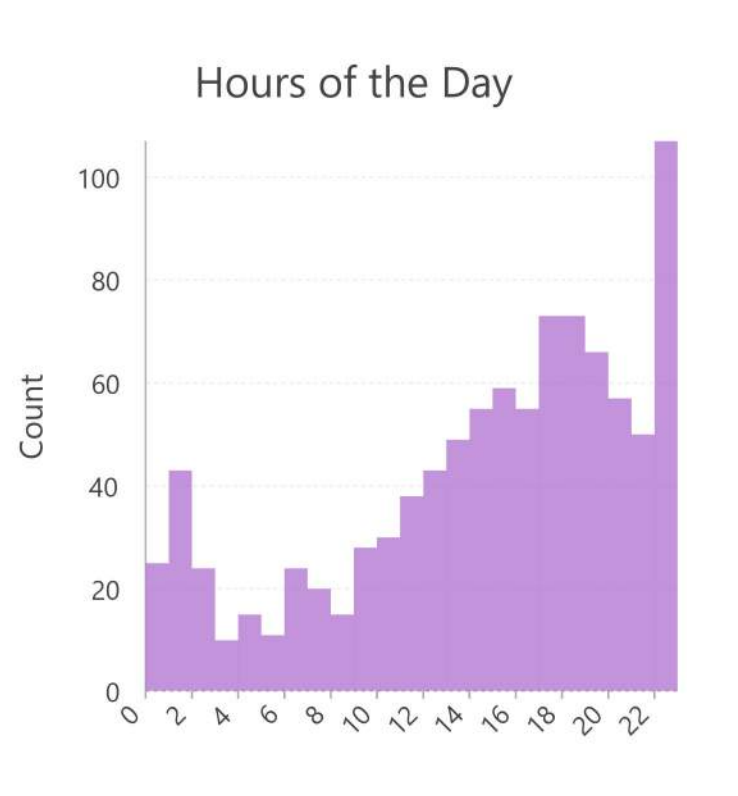
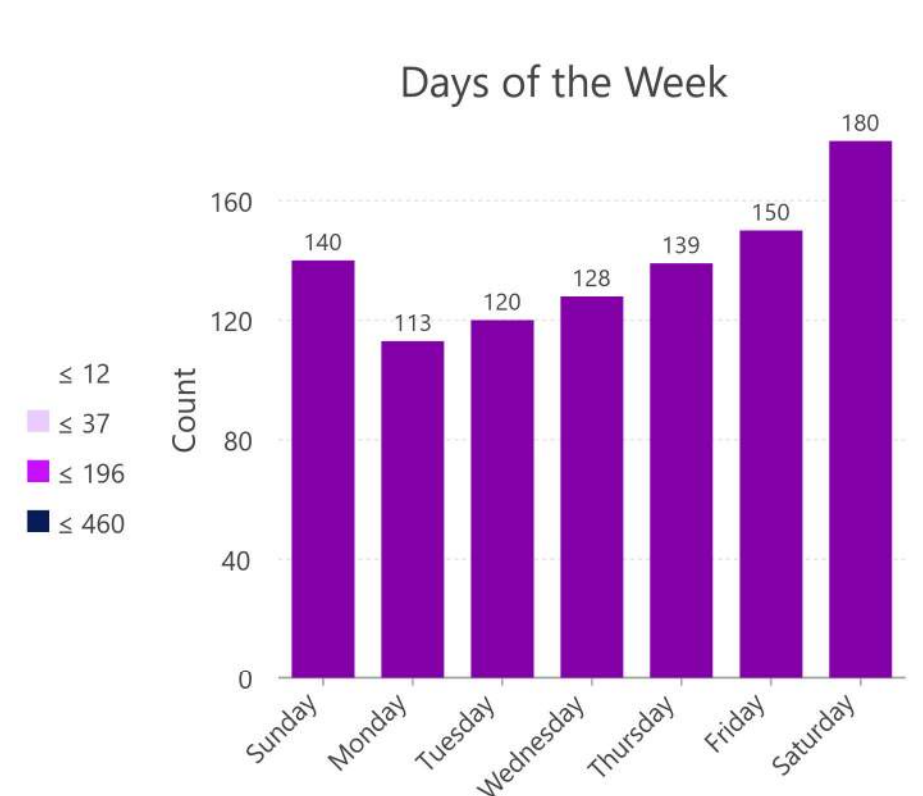
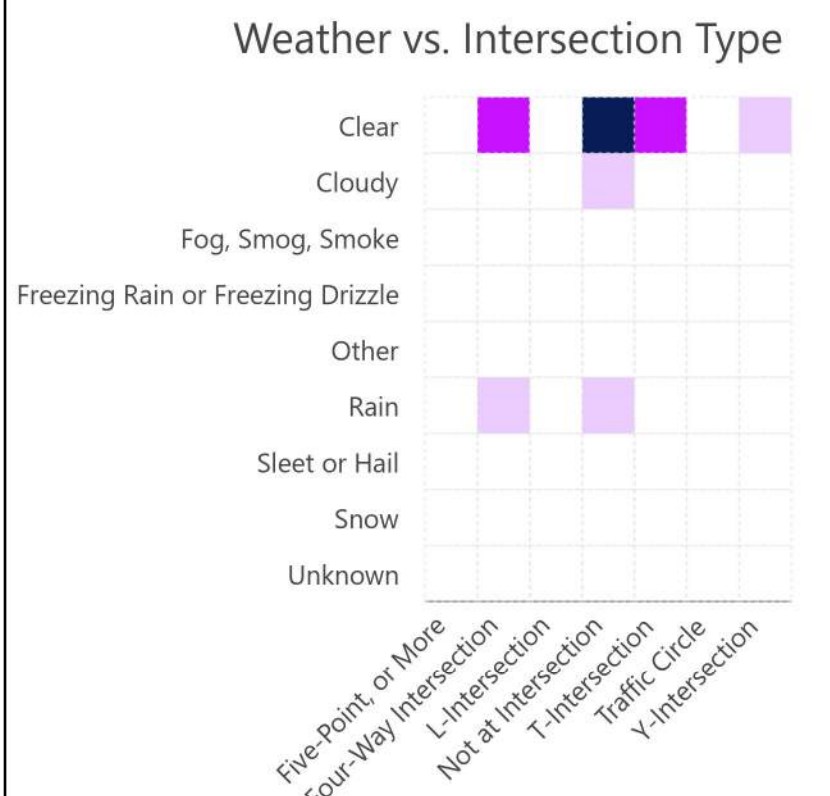
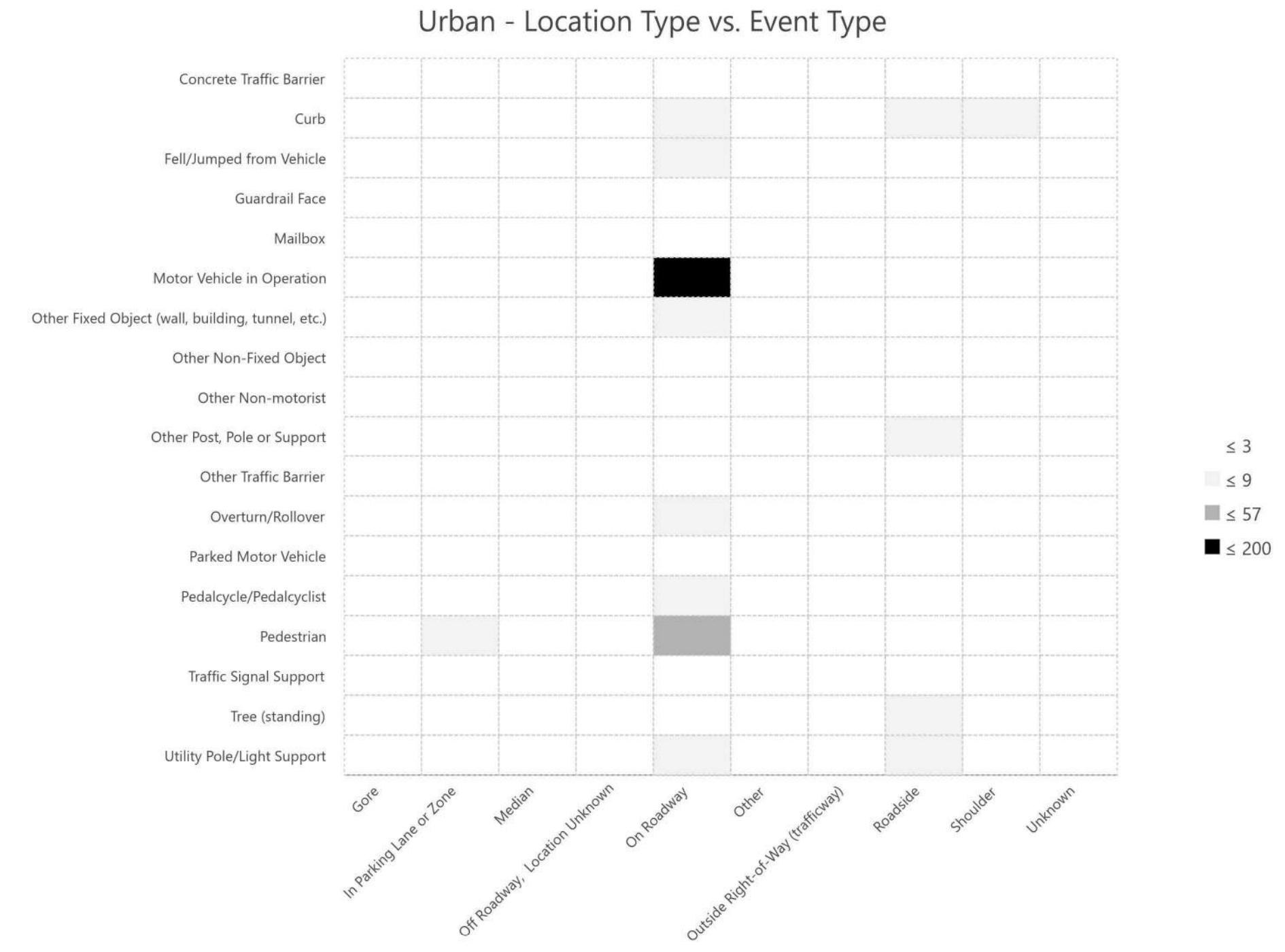
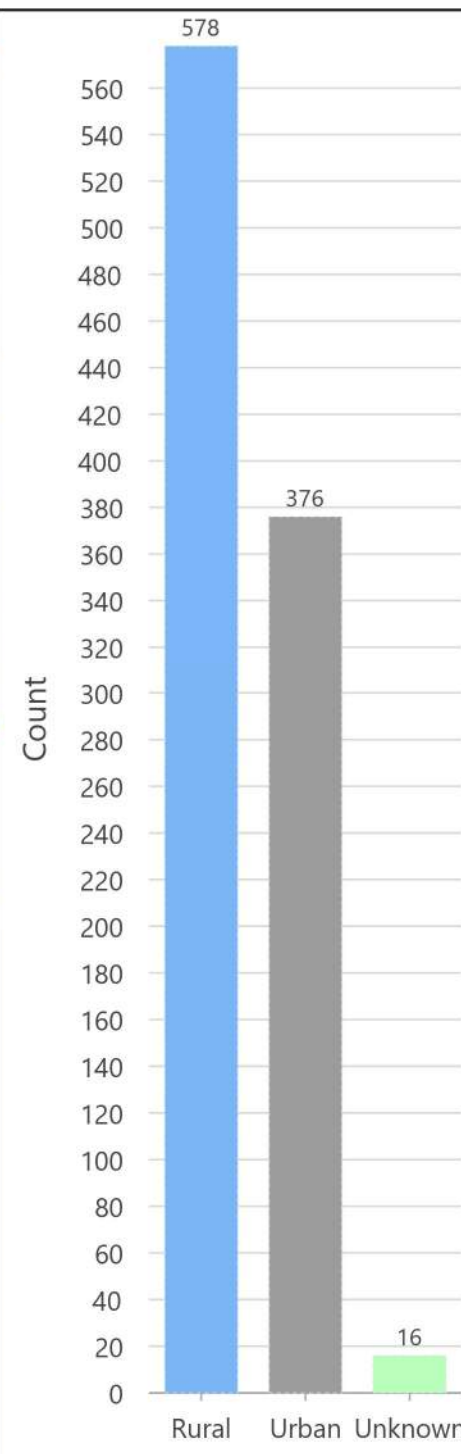
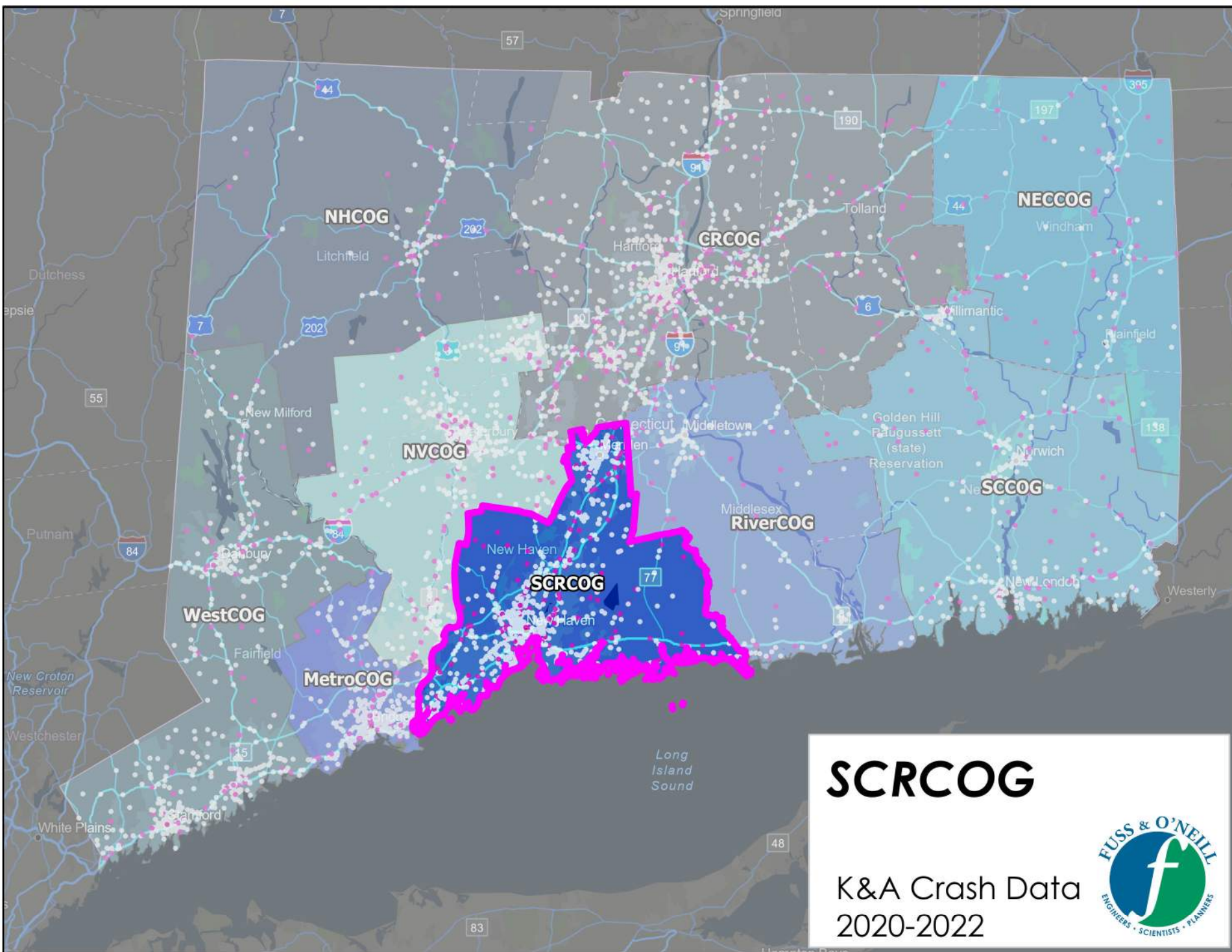


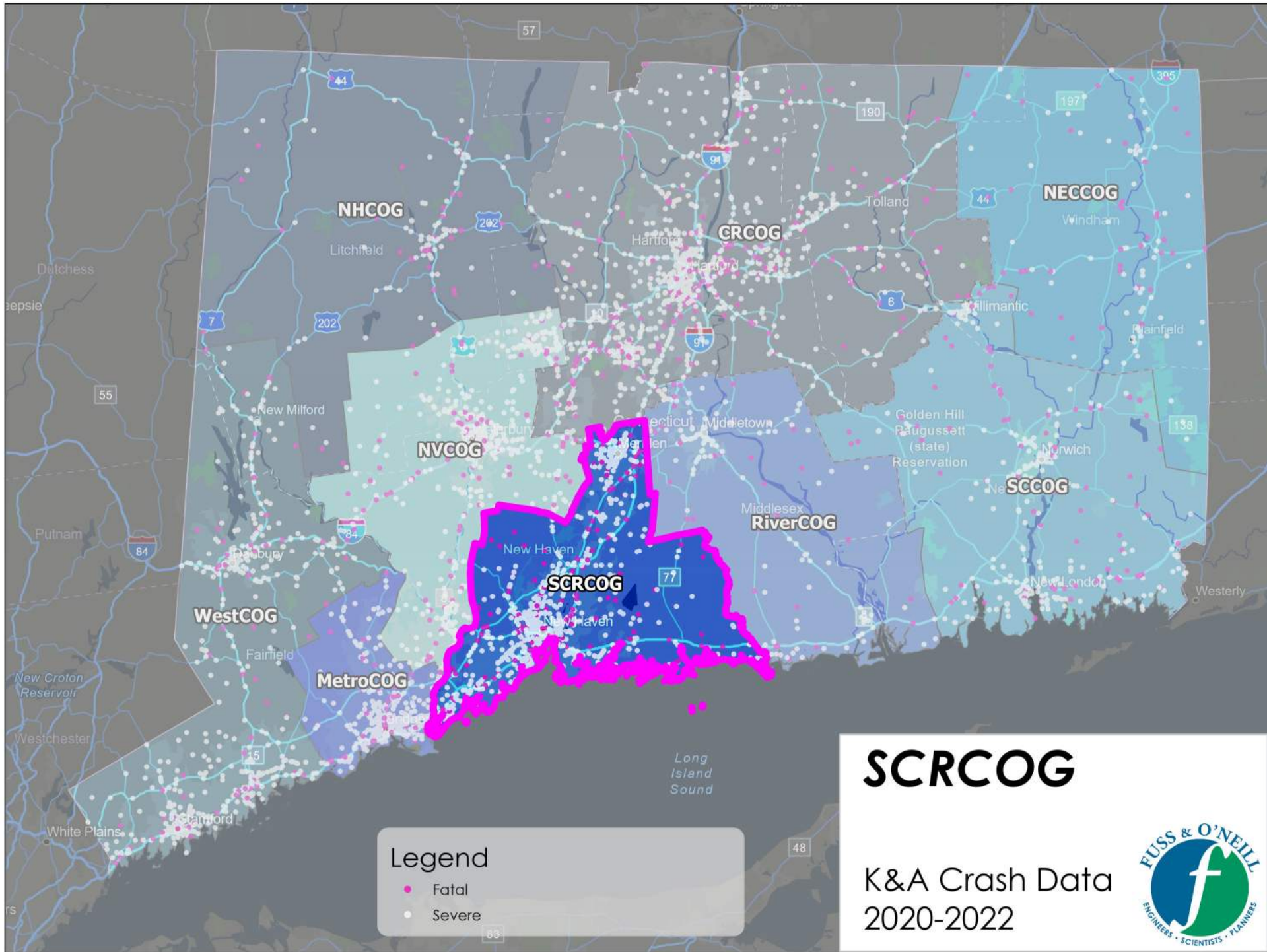
SCCOG State vs. Municipal Road K&A Crash Data 2020-2022



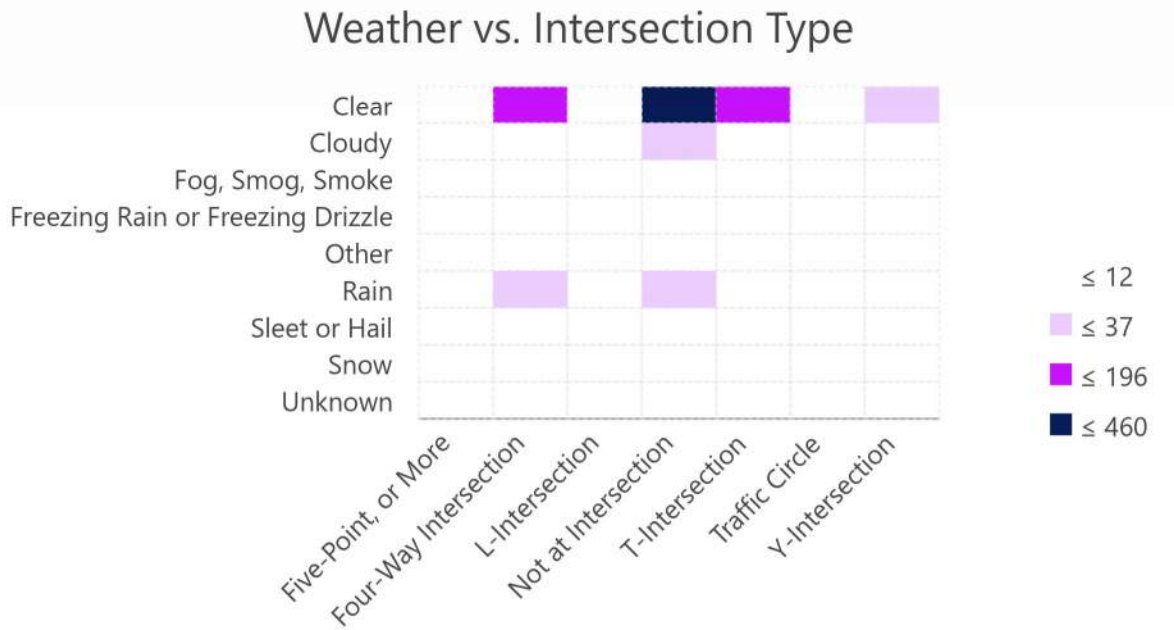
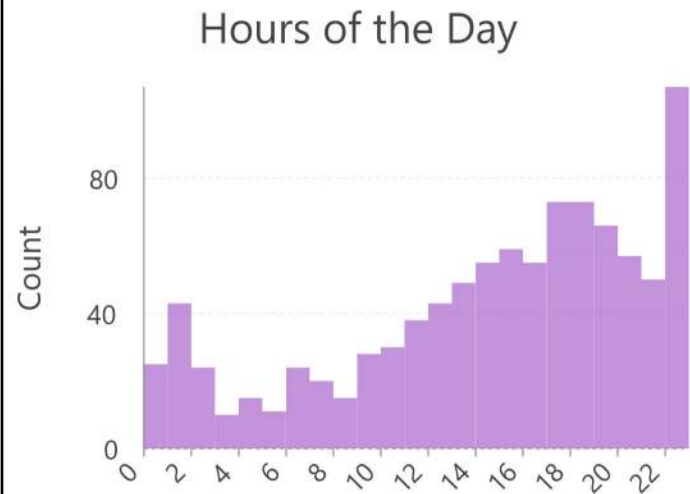
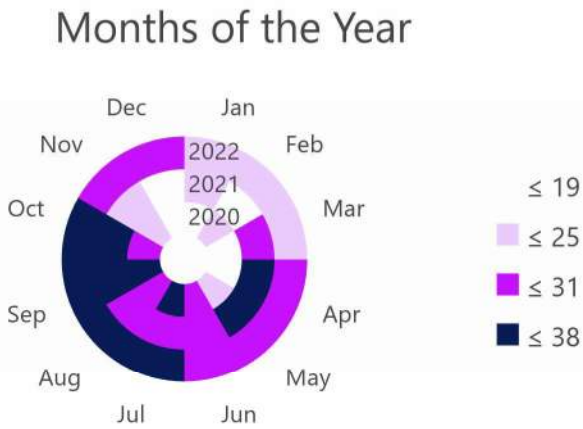
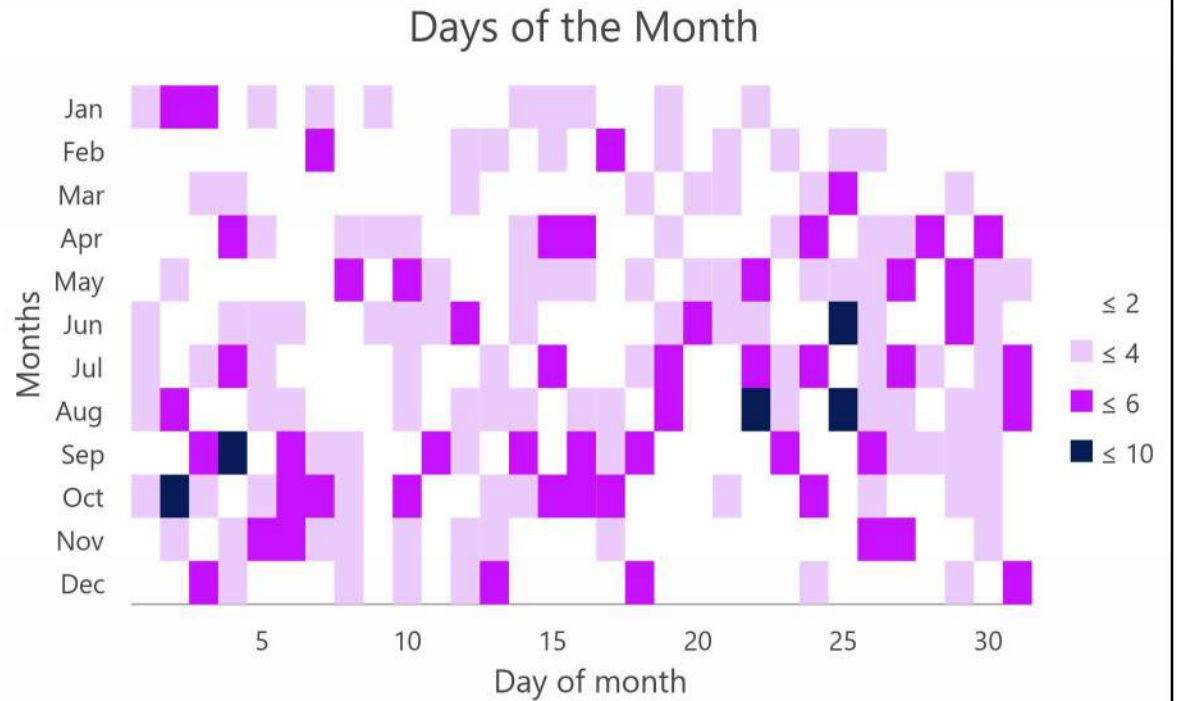
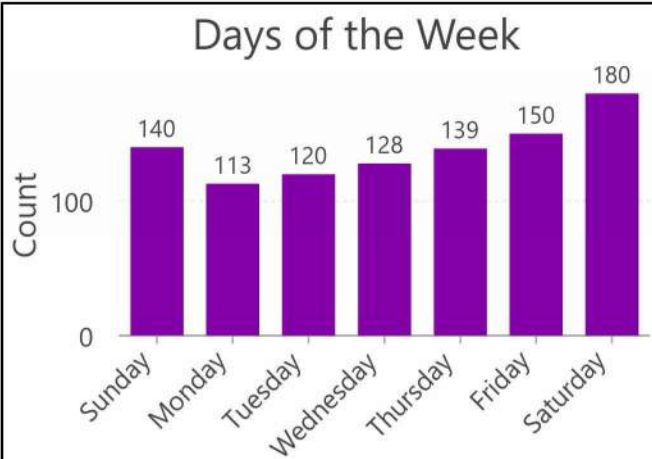
SCCOG State vs. Municipal Road K&A Crash Data 2020-2022





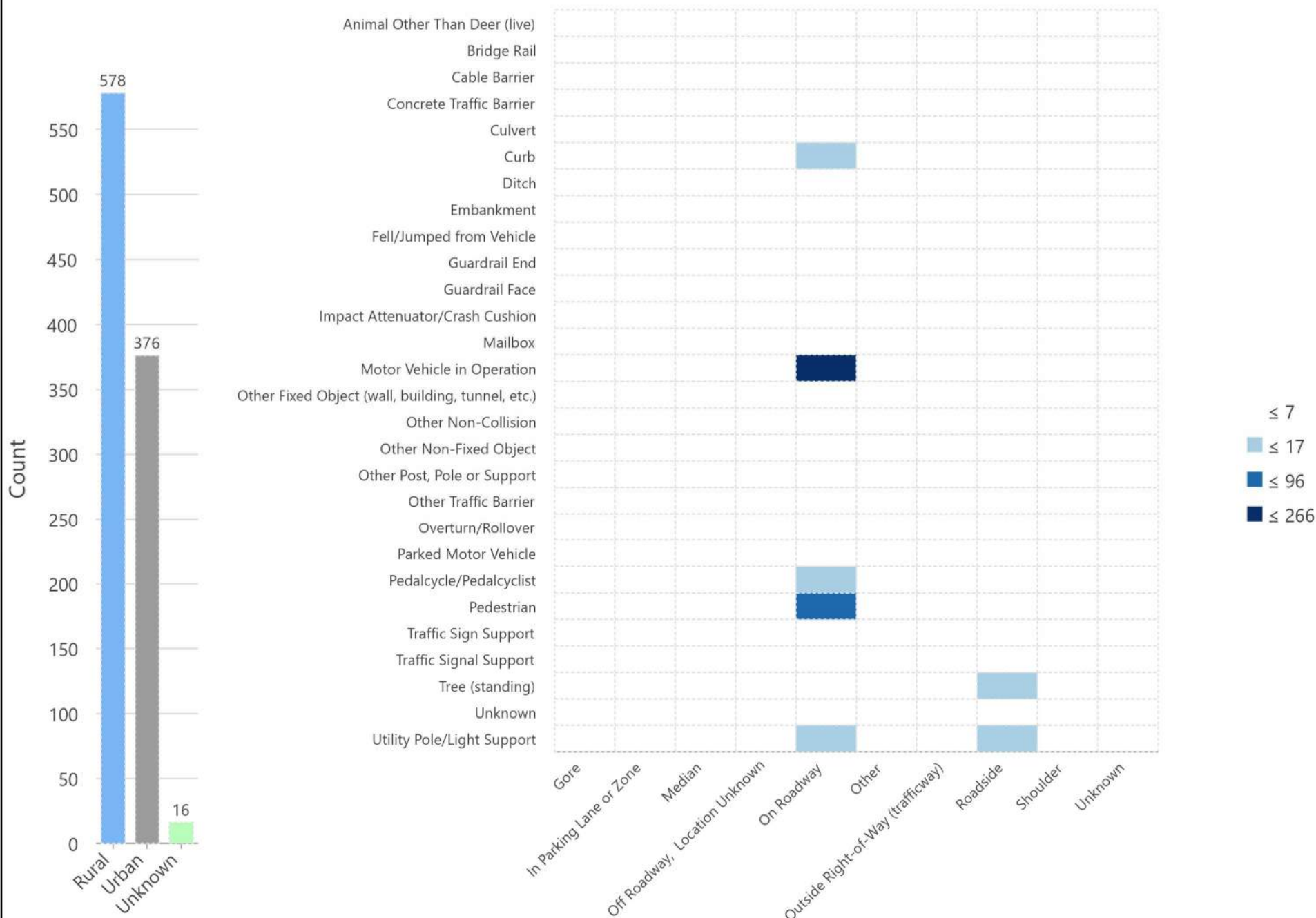


SCRCOG Time & Conditions K&A Crash Data 2020-2022



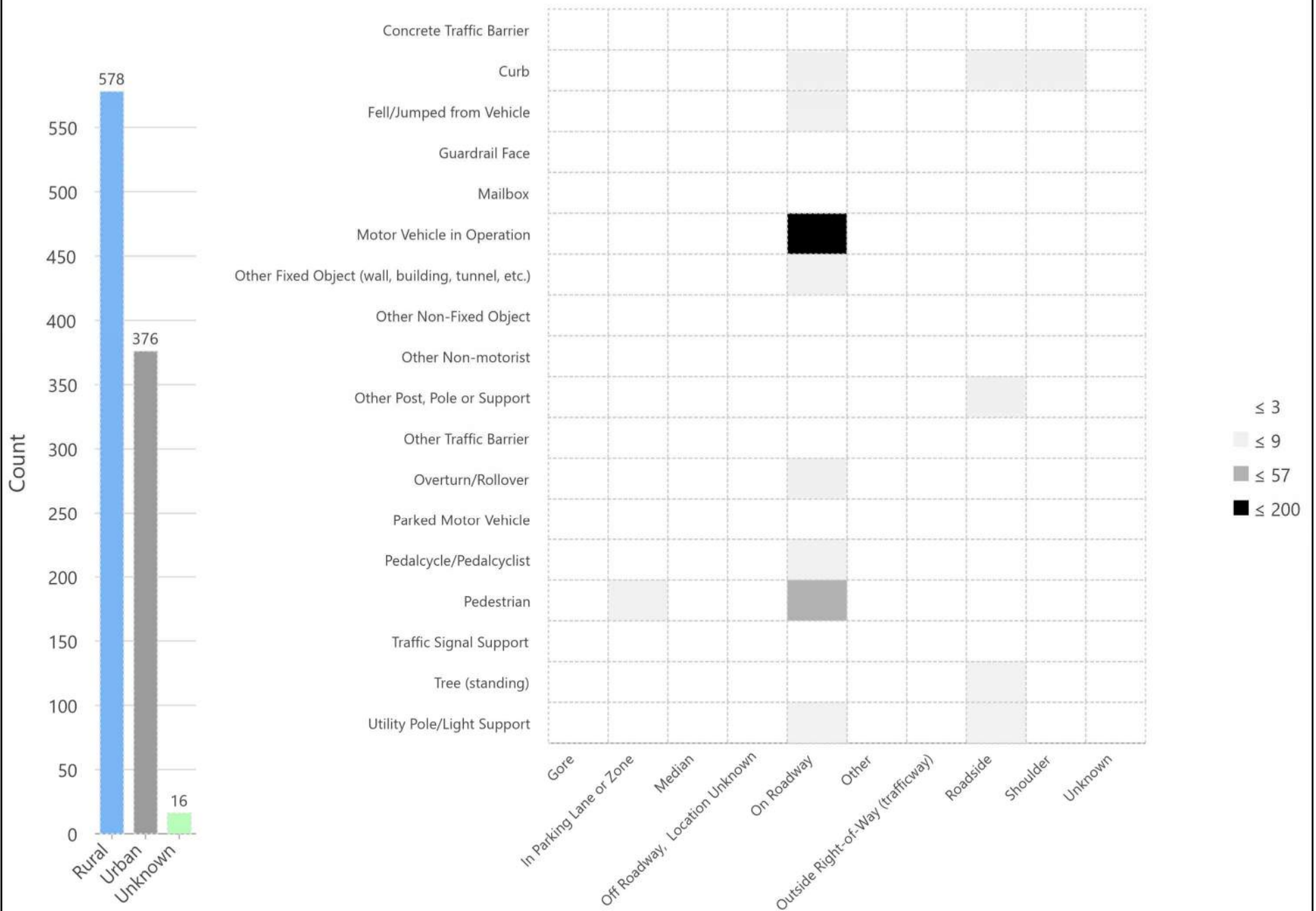
SCRCOG Rural vs. Urban K&A Crash Data 2020-2022

Rural - Location Type vs. Event Type



SCRCOG Rural vs. Urban K&A Crash Data 2020-2022

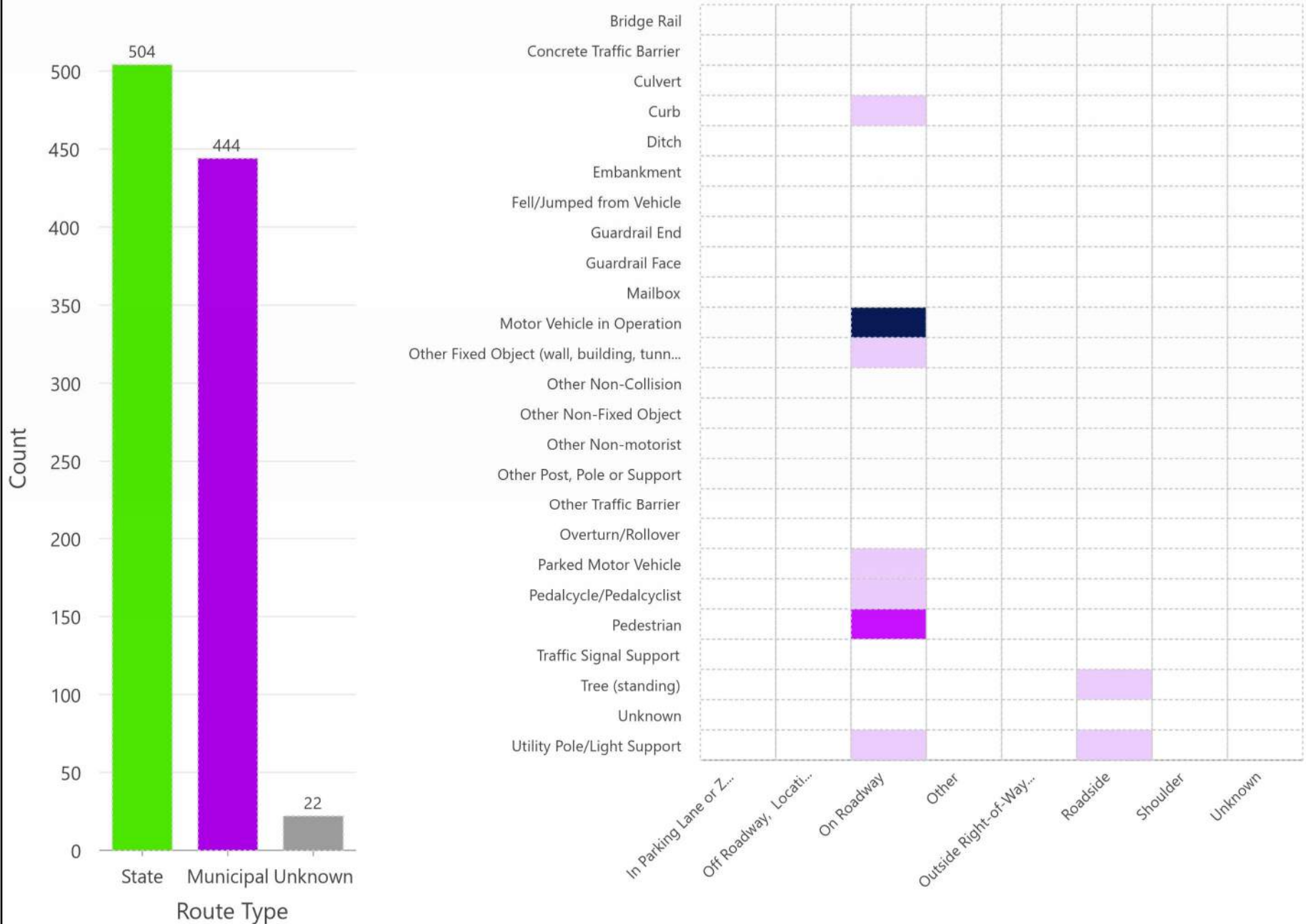
Urban - Location Type vs. Event Type



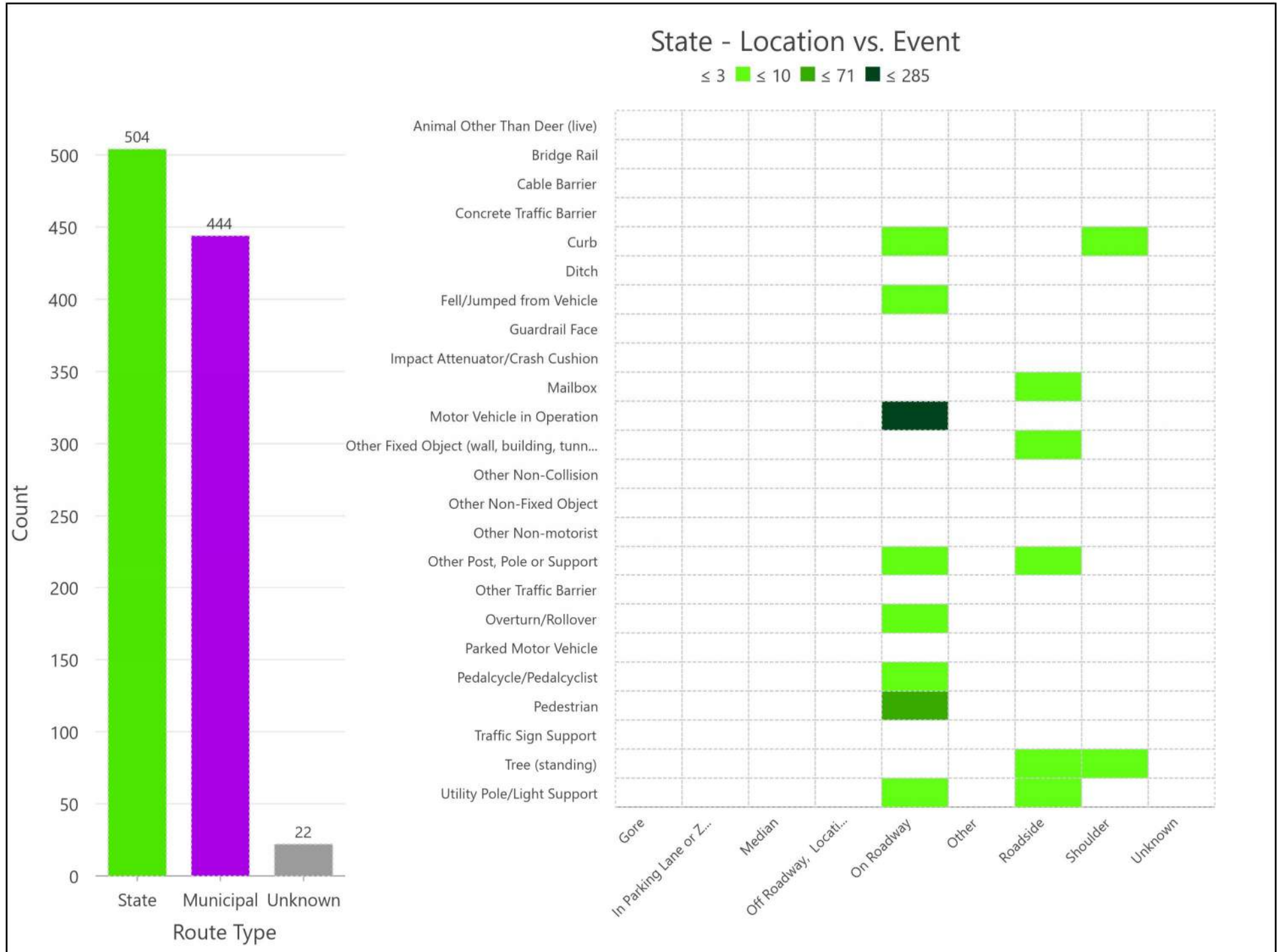
SCRCOG State vs. Municipal Road K&A Crash Data 2020-2022

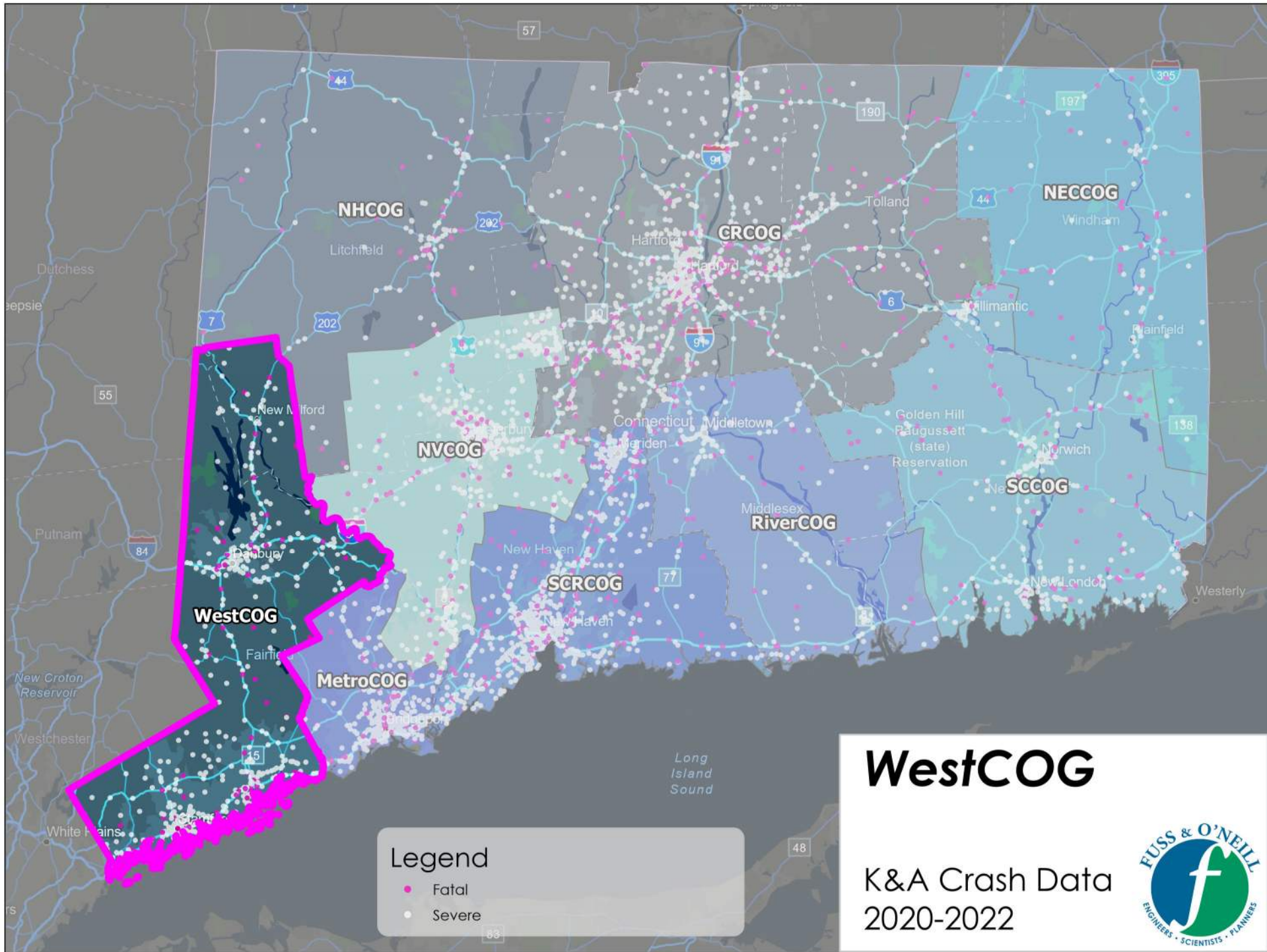
Municipal - Location vs. Event

■ ≤ 5
 ■ ≤ 14
 ■ ≤ 80
 ■ ≤ 192

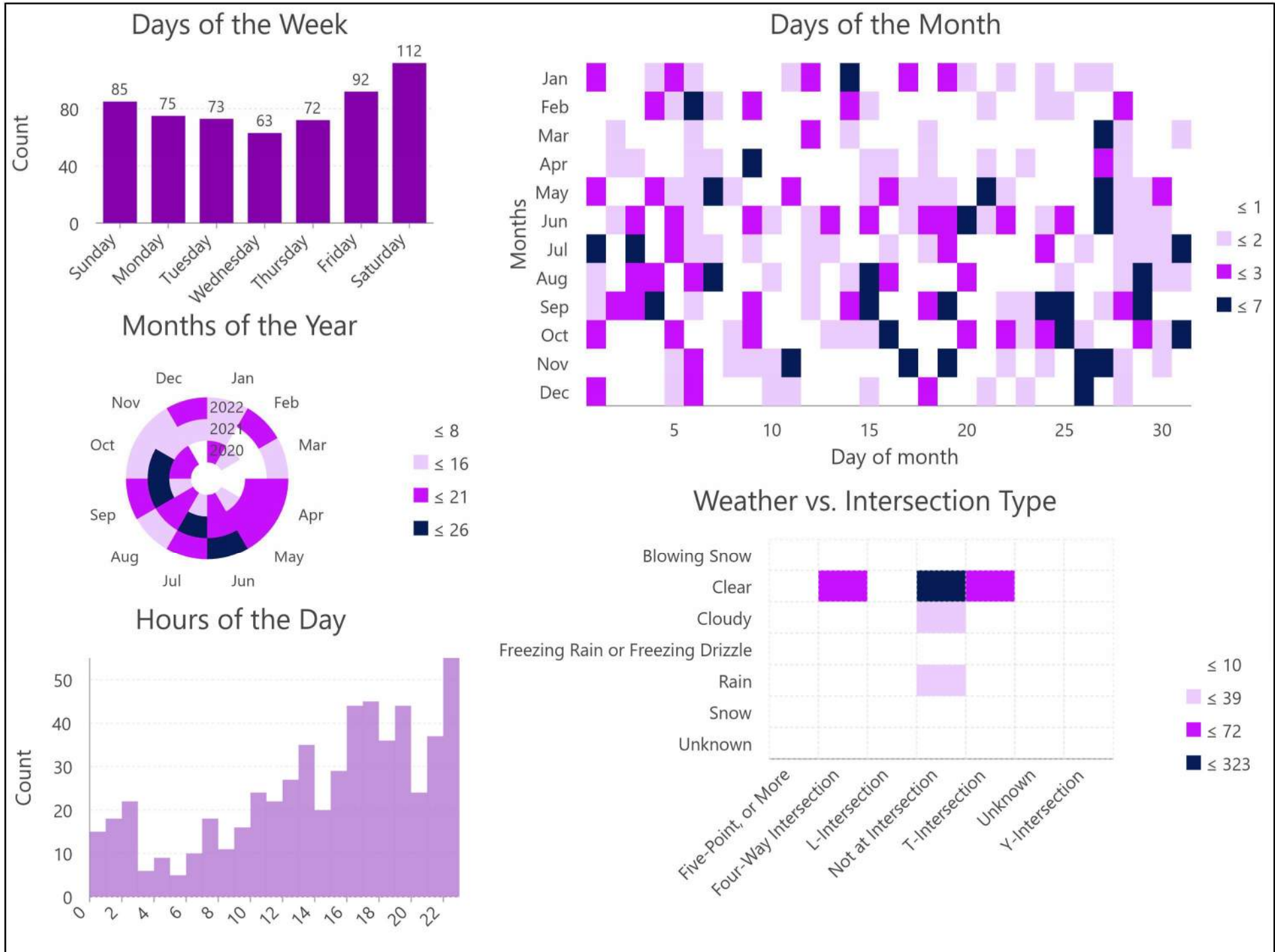


SCRCOG State vs. Municipal Road K&A Crash Data 2020-2022

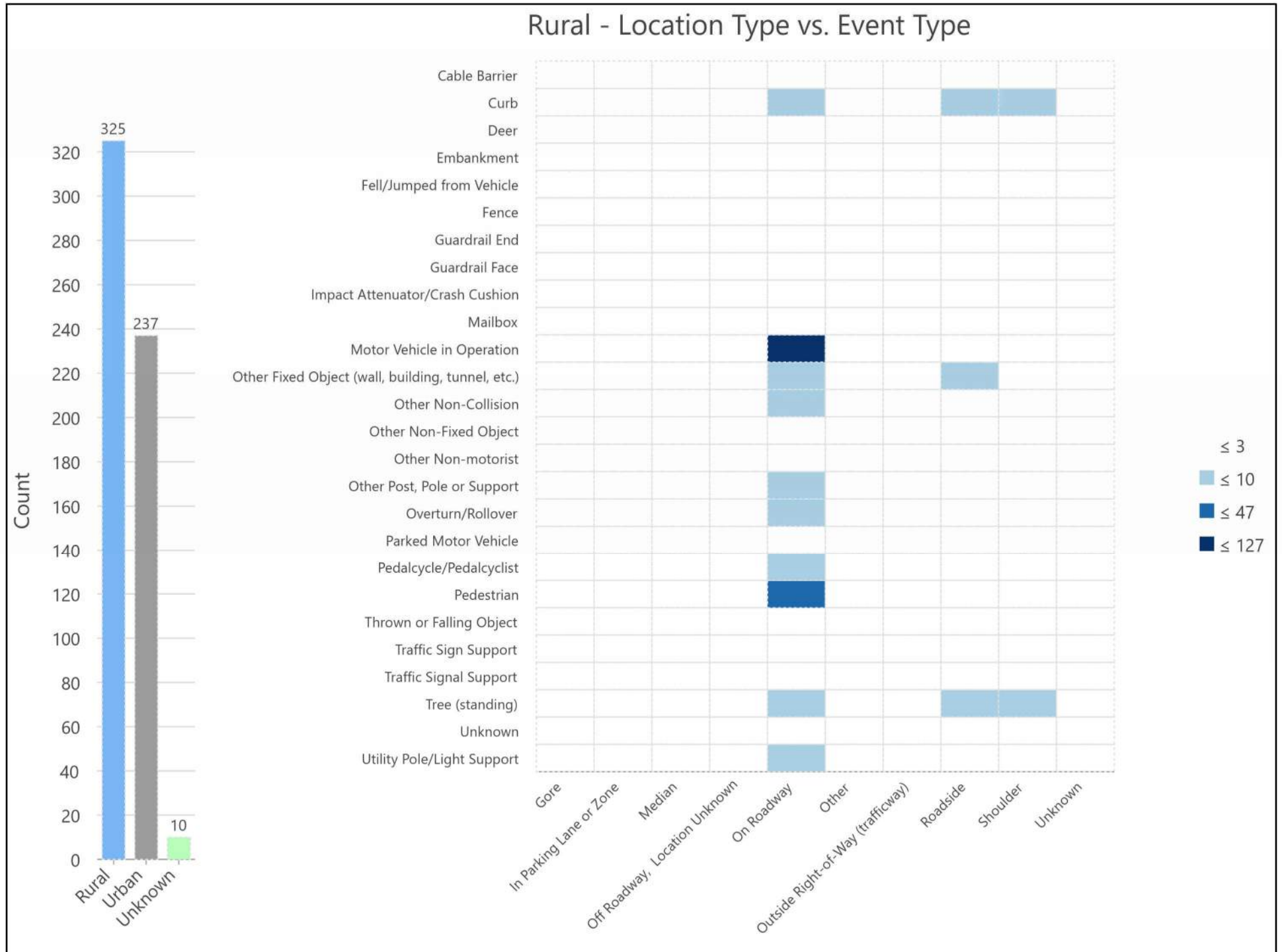




WestCOG Time & Conditions K&A Crash Data 2020-2022

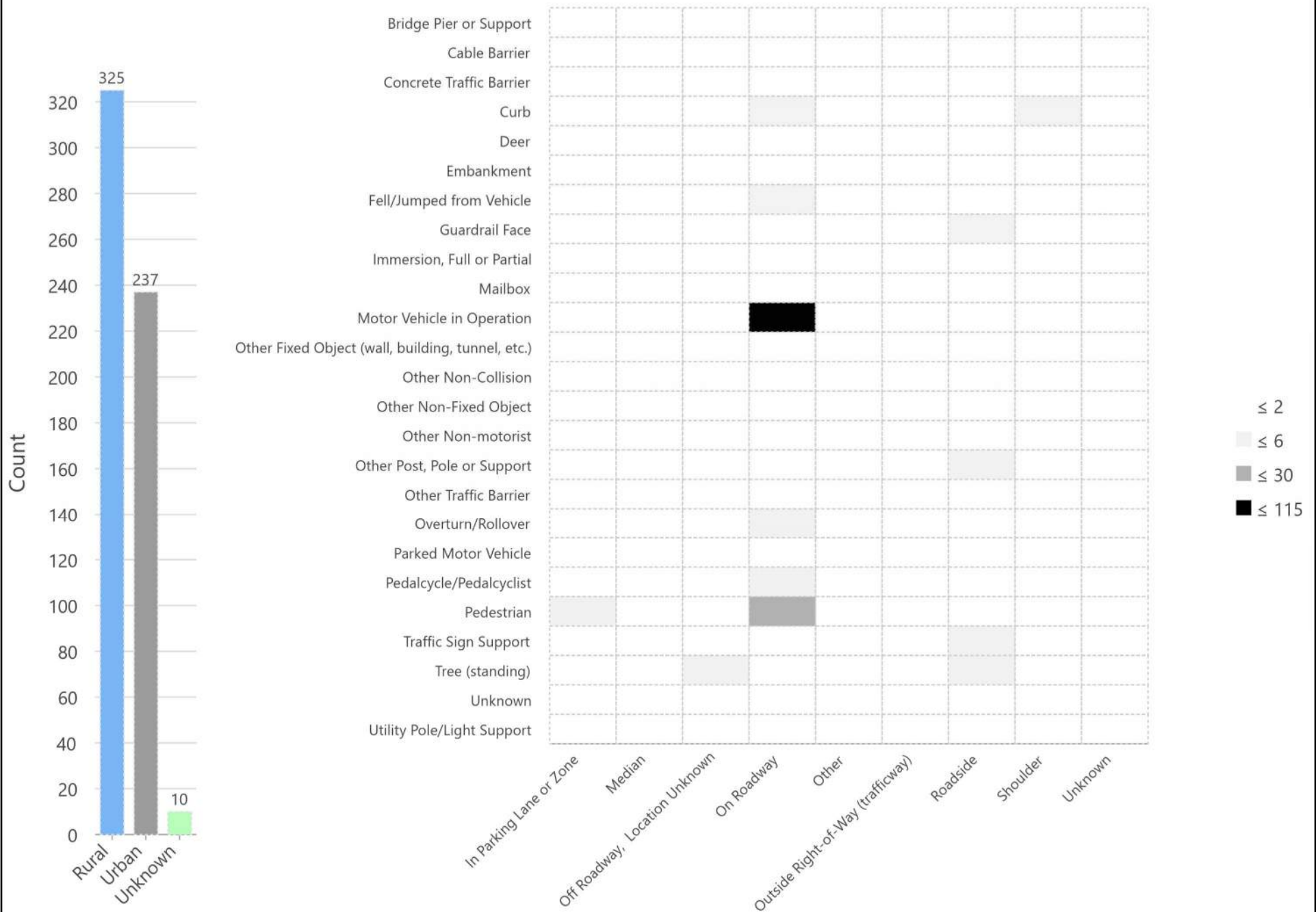


WestCOG Rural vs. Urban K&A Crash Data 2020-2022

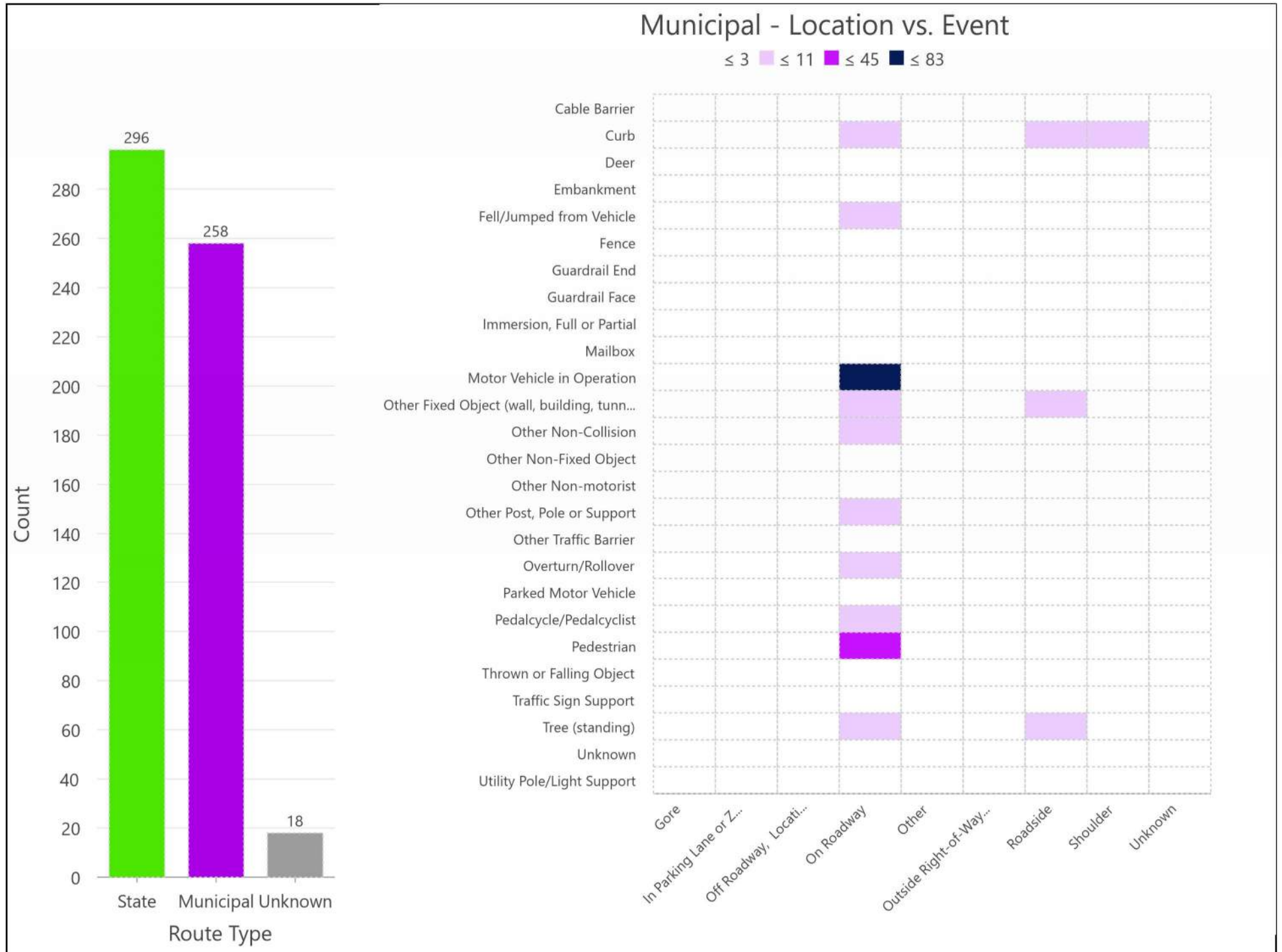


WestCOG Rural vs. Urban K&A Crash Data 2020-2022

Urban - Location Type vs. Event Type



WestCOG State vs. Municipal Road K&A Crash Data 2020-2022



WestCOG State vs. Municipal Road K&A Crash Data 2020-2022

