IOWA Department of Management

Evaluating High Risk Driving Behaviors: An Analysis of Chronic Traffic Recidivism in Iowa (2021–2025)

September 2026

AUTHORS:
Melinda Mattingly, Ph.D.
Laura Roeder-Grubb

This report was made possible through funding from the Governor's Traffic and Safety Bureau. Points of view or opinions expressed in this report are those of the Department of Management, Division of Data, Planning and Improvement, and do not necessarily reflect the official position of the Governor's Traffic and Safety Bureau.

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Executive Summary

The objective of this research is to enhance traffic safety analysis by evaluating the driving behaviors of chronic traffic offenders in Iowa across a 5-year period from Calendar Year (CY) 2021 through CY2025.
Chronic drivers are identified using two operational criteria:

- Acute Recidivism: accumulating 3 or more qualifying convictions within 365 days
- Long-Term Recidivism: accumulating 10 or more qualifying convictions across the 5-year cycle

By isolating and analyzing targeted high-risk violations, specifically speeding, impaired driving, distracted driving, and moving violations that are reckless/aggressive or impact public safety, and comparing them across demographic variables (e.g., race, gender, age), this analysis identifies patterns of risky driving behaviors and recidivism.

Between CY2021 and CY2025, chronic offenders comprised 1.85% (12,760) of convicted drivers in Iowa but accounted for 6.18% (56,516) of all traffic convictions.

Chronic offenders are heavily male dominated (78.12%). White drivers comprised 61.87% of chronic offenders followed by Black drivers at 13.09%. Notably, 21.86% of chronic offenders had differing race classifications recorded across their multiple convictions. The age bracket with the highest concentration of chronic offenders is 36–45 (16.60%), followed closely by young adult cohorts aged 19–21 (15.48%) and 22–25 (14.52%).

Convictions for non-chronic offenders are primarily issued by the Iowa State Patrol (55.02%). In contrast, chronic offenders show significantly higher conviction rates from local police departments (chronic = 25.81%, non-chronic = 19.76%), sheriff's offices (chronic = 23.39%, non-chronic = 21.54%), and other agencies (chronic = 6.12%, non-chronic = 3.69%) such as the Iowa Department of Natural Resources.

Non-chronic offenders are predominantly convicted of speeding (69.67%), whereas chronic offenders show a higher concentration in reckless/aggressive driving (chronic = 29.60%, non-chronic = 18.09%), public safety violations (chronic = 12.80%, non-chronic = 5.73%), and distracted driving (chronic = 1.21%, non-chronic = 0.94%). All these comparisons are statistically significant.

Overall, these results improve Insights by characterizing the specific

behavioral patterns present for those with chronic traffic violations, shifting traffic safety efforts from reactive reporting to proactive intervention. Furthermore, they support data-driven policy by providing decision-makers with actionable data to refine enforcement strategies and educational campaign details.

Introduction

Roadway safety relies on the collective adherence to traffic laws designed to protect drivers, passengers, and pedestrians. While many drivers incur a single traffic citation, a distinct cohort of motorists demonstrate a persistent pattern of non-compliance thereby increasing the likelihood of a crash. To address this risk, this report presents a descriptive analysis of these chronic offenders, focusing specifically on individuals who repeatedly accrue violations across five critical categories:

- Distracted Driving
- Operating While Under the Influence (OWI)
- Public Safety-Impacting Moving Violations
- Reckless or Aggressive Driving
- Speeding

By analyzing historical traffic conviction records, this analysis shifts perspective from isolated traffic violations to behavioral patterns. Evaluating this data enables us to provide an empirical snapshot of the frequency and co-occurrence of these high-risk driving behaviors among chronic offenders.

Another challenge with this population is that traditional enforcement mechanisms often fail to correct these high-risk driving behaviors. According to the National Highway Traffic Safety Administration (NHTSA), while escalating penalty systems establish a baseline of general deterrence for the broader population, they frequently exhibit limited efficacy in altering the behaviors of chronic, high-risk offenders[1].

To address this critical gap and evaluate the systemic nature of recidivism, this analysis looks at chronic traffic offenders across Iowa from Calendar Year (CY) 2021 through CY2025. This foundation is designed to provide law enforcement as well as state agencies and policymakers with the actionable insights required to optimize resource allocation and refine targeted enforcement strategies.

[1] Increasing Penalties

Methodology

Data Sources and Scope

The primary data source for this analysis was the Iowa Justice Data Warehouse (JDW), managed by the Iowa Department of Management. The JDW serves as a central repository for key traffic, criminal, and juvenile justice data received from the Iowa Judicial Branch, the Department of Corrections, and the Department of Health and Human Services.

This analysis specifically isolates Iowa traffic conviction data recorded over a 5-year cycle encompassing calendar years 2021 through 2025.

Defining Chronic Offenders

Motorists were classified as chronic offenders if their conviction records met either or both of the following operational thresholds within the CY2021-2025 study period:

1. **Acute Recidivism:** The accumulation of 3 or more qualifying convictions within a single calendar year.
2. **Long-Term Recidivism:** The accumulation of 10 or more total qualifying convictions across the full five-year report cycle.

Convictions are counted on an individual offense basis rather than an enforcement basis. For example, if a motorist received three or more qualifying convictions on a single case, those offenses are counted independently and satisfy the acute recidivism criteria for that calendar year.

Conviction Categorization

To focus the analysis on behaviors that directly impact public safety, individual traffic conviction codes were aggregated and categorized into five distinct, high-risk categories:

- Distracted Driving (e.g., texting while driving, electronic device violations)
- OWI (Operating While Under the Influence)
- Public Safety (e.g., leaving the scene of an accident, fleeing law enforcement, improper lane changes, etc.)
- Reckless/Aggressive (e.g., reckless driving, failure to obey signage/lights, unsafe passing, etc.)
- Speeding

Exclusion Criteria: Administrative, equipment, parking, and non-moving violations (e.g., registration or no valid driver's license) were excluded from this analysis to maintain a strict focus on moving violations and behavioral

risks.

Demographics

Demographic variables include sex, race, and age at the time of disposition. To capture age-specific behavior trends, offenders were segmented into 12 discrete age brackets:

- 14 and under
- 15-16
- 17-18
- 19-21
- 22-25
- 26-30
- 31-35
- 36-45
- 46-55
- 56-65
- 66-75
- 76 and over

Arresting Agency

Arresting Agency was categorized into four distinct categories:

- State Patrol
- Local Police Department
- Sheriff's Office
- Other Agencies (e.g., Iowa Department of Public Safety)

Data Analysis and Findings

Overall Results

Analysis of drivers convicted of one or more moving violations in Iowa between calendar years 2021 and 2025 established a cohort of 690,770 unique drivers. Over the 5-year study period, this population accumulated a total of 915,037 convictions.

Offenders were grouped into two mutually exclusive cohorts: Chronic Offenders and Non-Chronic Offenders.

- **Chronic Offenders:** Comprised 1.85% (N = 12,760) of the cohort and accounted for 6.18% (N = 56,516) of all recorded traffic convictions.
- **Non-Chronic Offenders:** Comprised 98.15% (N = 678,010) of the cohort and accounted for 93.82% (N = 858,521) of total convictions.

The disparity between population size and conviction volume highlights the significant systemic risk posed by this small subset of drivers, underscoring the limited utility of traditional general deterrence mechanisms for high-rate traffic recidivists.

Measuring Demographics of Chronic Offenders: Driver vs. Offense Counts

While some demographic variables (i.e., sex and race) capture distinct driver counts (N = 12,760), other demographic variables (i.e., age) are evaluated on an offense-by-offense basis (N = 56,516 total convictions). This is because, unlike sex and race, chronic offenders can be different ages at the time of their multiple convictions in the CY2021-2025 study period.

Sex

Among the 12,760 chronic offenders, 10,030 (78.12%) were male and 2,749 (21.41%) were female (see Figure 1).

There were 61 chronic offenders where sex was missing or classified as unknown. There were also 80 chronic offenders whose label varied across conviction records over the 5-year cycle. Thus, the sum of the counts in Figure 1 will be 80 more than the number of chronic offenders.

Figure 1: Sex of Chronic Offenders

Male N	Female N	Unknown N
10,030 (78.12%)	2,749 (21.41%)	61 (0.48%)

Race

Chronic offenders were overwhelmingly White. Of the 12,760 chronic offenders, 61.87% were White, followed by 13.09% Black, and 10.51% where race was entered as Unknown (see Figure 2). Further, 10.29% was entered as Other, 2.11% Hispanic, 1.65% Asian, and 0.48% Native American.

A one-sample *z*-test for proportions found that White offenders were underrepresented ($z = -60.39$, $p < .001$) while Black offenders were overrepresented ($z = 46.79$, $p < .001$) among chronic offenders when compared to the racial makeup of Iowa according to the U.S. Census Bureau.[2]

For 2,789 chronic offenders (21.86%), race classifications varied across separate conviction records, likely reflecting differences in administrative data entry across the reporting jurisdictions. Therefore, the sum of the counts in the data table below will be 2,789 more than the total number of chronic offenders.

[2] https://www.census.gov/quickfacts/fact/table/IA/PST045225

Figure 2: Race of Chronic Offenders

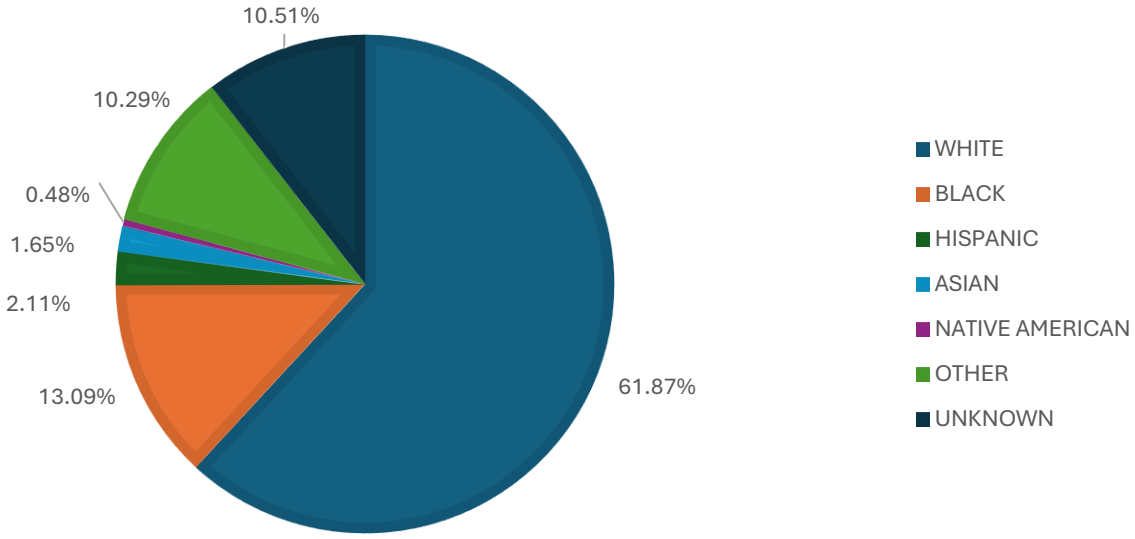


Figure 3: Data Table for Race of Chronic Offenders

Race	N
White	9,620 (61.87%)
Black	2,036 (13.09%)
Hispanic	328 (2.11%)
Asian	257 (1.65%)
Native American	74 (0.48%)
Other	1,600 (10.29%)
Unknown	1,634 (10.51%)
Total	**15,549**

Age

Figure 4 shows the number of chronic offenders in each of the 12 discrete age brackets. The age bracket with the most offenders was 36-45 (16.60%), followed by 19-21 (15.48%), and then by 22-25 (14.52%). Please note that this is not a distinct count of offenders because an offender could be of different ages at the time of their multiple convictions.

Figure 4: Age Brackets of Chronic Offenders

Age Bracket	Convictions (N)
13-14	80 (0.14%)
15-16	1,237 (2.19%)
17-18	4,685 (8.29%)
19-21	8,747 (15.48%)
22-25	8,204 (14.52%)
26-30	7,938 (14.05%)
31-35	7,001 (12.39%)
36-45	9,384 (16.60%)
46-55	5,323 (9.42%)
56-65	2,742 (4.85%)
66-75	952 (1.68%)
76 and over	223 (0.39%)
Total	**56,516**

Measuring Arresting Agency and Conviction Category: Driver vs. Offense Counts

Chronic offenders can incur violations across multiple law enforcement jurisdictions and conviction categories over the study period. Categorizing these metrics by total convictions (Chronic Offender N = 56,516, Non-Chronic Offender N = 858,521) rather than distinct individual counts ensures that every recorded violation is accurately represented at the time of conviction.

Arresting Agency

Overall, 54.38% of convictions came from citations issued by the Iowa State Patrol, 21.65% came from Sheriff's Offices, 20.13% from local police departments, and 3.84% from other agencies such as the Iowa Department of Natural Resources or the Iowa Department of Public Safety. Figure 5 shows the number of convictions by arresting agencies for chronic and non-chronic offenders, respectively.

Figure 5: Convictions by Arresting Agency for Chronic and Non-Chronic Offenders

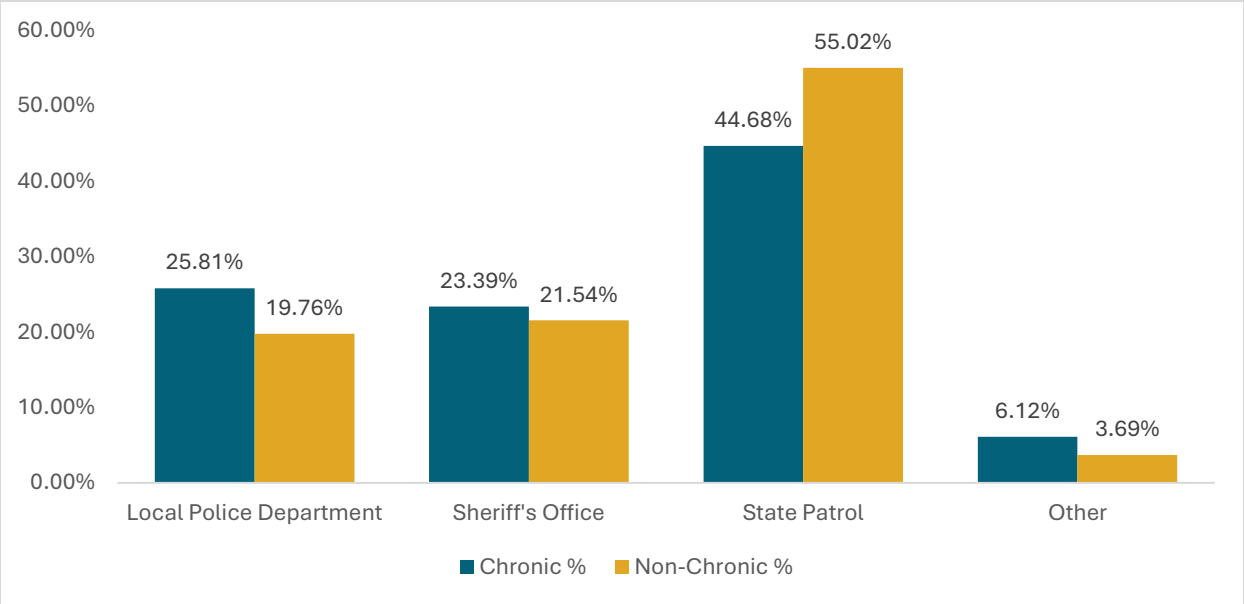


Figure 6: Data Table for Convictions by Arresting Agency for Chronic and Non-Chronic Offenders

Arresting Agency	Chronic N	Non-Chronic N
Local Police Department	14,586 (25.81%)	169,613 (19.76%)
Sheriff's Office	13,221 (23.39%)	184,889 (21.54%)
State Patrol	25,251 (44.68%)	472,361 (55.02%)
Other Agencies	3,458 (6.12%)	31,658 (3.69%)
Total	56,516	858,521

A chi-square test of independence was conducted to determine if the arresting agency differed significantly between chronic and non-chronic offenders. The relationship between the arresting agency and the type of offender was statistically significant χ^2 (3, N = 915,037) = 2,909, $p < .001$.

- **Chronic Offenders:** Comprised a higher proportion of local police department, sheriff's office, and other agencies convictions than non-chronic offenders.
- **Non-Chronic Offenders:** Comprised a higher proportion of state patrol convictions than chronic offenders.

Conviction Category

The distribution of conviction categories differed between chronic and non-chronic offenders (see Figure 7). Speeding accounted for 69.67% of convictions among non-chronic offenders, compared with 51.27% among chronic offenders.

In contrast, chronic offenders had substantially higher proportions of reckless/aggressive driving (29.60% vs. 18.09%) and public safety-related violations (12.80% vs. 5.73%). The proportions of OWI convictions were similar between the two groups (5.12% vs. 5.57%), while distracted driving represented a relatively small share of convictions for both chronic and non-chronic offenders.

Figure 7: Convictions by Conviction Category for Chronic and Non-Chronic Offenders

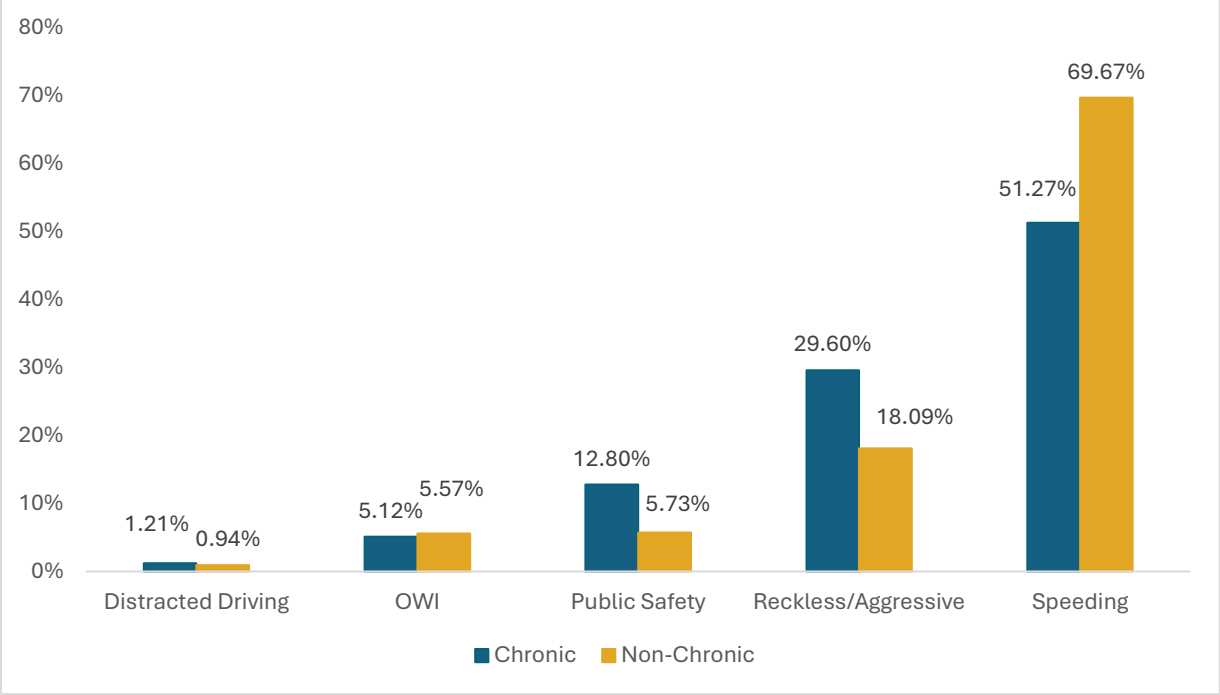


Figure 8: Data Table for Convictions by Conviction Category for Chronic and Non-Chronic Offenders

Conviction Category	Chronic N	Non-Chronic N
Distracted Driving	683 (1.21%)	8,085 (0.94%)
OWI	2,894 (5.12%)	47,796 (5.57%)
Public Safety	7,236 (12.80%)	49,202 (5.73%)
Reckless/Aggressive	16,726 (29.60%)	155,268 (18.09%)
Speeding	28,977 (51.27%)	598,170 (69.67%)
Total	56,516	858,521

A chi-square test of independence was conducted to determine if the conviction category differed significantly between chronic and non-chronic offenders. The relationship between the conviction category and the type of offender was statistically significant χ^2 (4, N = 915,037) = 10,716, p < .001.

- **Chronic Offenders:** Comprised a higher proportion of those convicted of public safety infractions, reckless driving infractions, and distracted driving than non-chronic offenders.
- **Non-Chronic Offenders:** Comprised a higher proportion of those convicted of speeding than chronic offenders.
- **OWI convictions:** Were not statistically different between chronic and non-chronic offenders, p > .05.

Conclusion

While the proportion of chronic offenders in the general population is small, understanding the occurrence of their dangerous driving behavior is important for improving the safety of Iowa's roads.

Traditional deterrence, such as fines and speed enforcement, primarily impact non-chronic drivers whose offenses are predominantly limited to speeding. In contrast, chronic offenders exhibit non-compliance patterns that may require more interventions.

Future Considerations:

- Evaluating age at first conviction vs. chronic escalation over time.

- Comparing urban and rural areas for differences in arresting agency conviction category.
- County conviction data and licensed drivers (instead of conviction totals).
- Establishing the feasibility of linking crash data to JDW conviction records to measure chronic driver crash involvement.