IOWA Department of Management

A Data-Driven Analysis of OWI and Re-Offense (2021–2024)

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Introduction

Operating While Under the Influence (OWI) remains a significant challenge within Iowa's criminal justice system. Repeat impaired driving offenses affect public safety and create ongoing demands for law enforcement, courts, prosecution, defense, and correctional systems. Understanding patterns of subsequent charges (recidivism) can help inform these systems about when re-offending occurs, the types of offenses that follow an OWI conviction, and how patterns vary across demographic groups

This report examines 42,580 OWI convictions involving 38,800 individuals, with initial dispositions occurring between calendar years 2021 through 2024. The analysis examines subsequent criminal offenses occurring after an OWI conviction, including whether and when a subsequent offense occurred and the type of offense involved. To allow for consistent measurement of re-offending, each conviction included at least 365 days of post-conviction tracking. Additional details regarding the cohort, observation period, and methodology are provided in the Methodology section.

The analysis focuses on three areas:

1. **Timing and Re-offending:** Examining how frequently and how soon subsequent offenses occur following an OWI conviction, including patterns across the 2021-2024 conviction cohort.
2. **Demographic Patterns:** Examining differences in re-offending patterns across age, race, and gender groups.
3. **Subsequent Offense Type:** Examining the types of offenses associated with subsequent offending, including whether subsequent offenses involve impaired driving or other criminal offenses. For individuals with a subsequent offense, the analysis uses the most serious offense in that case.

Executive Summary

This report examines OWI re-offense patterns in Iowa using data from the Iowa Justice Data Warehouse (JDW). The study includes 42,580 OWI convictions involving 38,800 unique individuals, with baseline disposition dates between January 1, 2021, and December 31, 2024. Each baseline conviction had at least 365 days of follow-up to identify subsequent criminal charges. The analysis examines the frequency and timing of re-offending, differences across demographic groups, and the types of offenses associated with the subsequent criminal activity.

Key Findings:

OWI Conviction Cohort: The annual number of OWI convictions remained relatively stable during the time frame, decreasing by 2.5% from 10,768 convictions in CY2021 to 10,502 convictions in CY2024. OWI-1st convictions accounted for 73.6% of the cohort, while OWI-2nd convictions accounted for 20.8%, and OWI-3rd or subsequent convictions accounted for 5.6%. Individuals ages 25-44 represented 56.0% of all OWI convictions.

One-year Re-Offense: Within 365 days of the baseline OWI conviction, 24.8% of unique individuals (9,622) had a subsequent criminal charge. These individuals were associated with 10,593 subsequent criminal charges. Among convictions followed by a subsequent charge, the average time to re-offense was 150.3 days, or approximately five months. The timing of subsequent offenses was concentrated in the first six months following the baseline conviction.

Age: Individuals ages 25-34 accounted for the largest share of one-year re-offenses at 34.2%, followed by individuals ages 35-44 at 23.9%. One-year re-offense rates differed significantly across age groups, with younger age groups showing higher rates than older age groups. Average time to re-offense ranged from 148.7 days among individuals ages 21-24 to 165.4 days among individuals ages 65-74.

Race: White individuals accounted for 64.9% of individuals who re-offended within one year, while Black individuals accounted for 18.2%. One-year re-offense rates differed significantly across racial groups. Black and Hispanic individuals had higher one-year re-offense rates than White individuals, while White individuals had a higher one-year re-offense rate than Asian individuals. Among individuals who re-offended, approximately 40% had a subsequent offense within the first 100 days across the racial groups shown.

Gender: Males accounted for 73.0% of OWI convictions where a subsequent offense occurred, compared to 23.2% for females and 3.8% for individuals with unknown gender. The average time to a subsequent offense was similar for males and females, at 150.2 days and 149.3 days, respectively. Males had a statistically significantly higher one-year re-offense rate than females.

Subsequent Offense Categories: Non-OWI traffic violations represented the largest category of subsequent offenses, accounting for 46.9% of 365-day re-offenses. Subsequent OWI offenses accounted for 11.8%, followed by non-impaired alcohol offenses at 7.6%, assault at 7.4%, and local ordinances at 5.6%. Together, these five categories accounted for 79.3% of all 365-day re-offenses. The results demonstrate that subsequent criminal activity following an OWI conviction was not limited to repeat OWI offenses.

Overall, the findings provide baseline for understanding the frequency, timing, and types of offenses associated with re-offending following an OWI conviction. The results also identify differences in re-offense patterns across age, race, and gender groups.

Methodology

This analysis uses data from the Justice Data Warehouse (JDW), a central repository of key traffic, criminal, and juvenile justice information received from the Judicial Branch, Department of Corrections, and the Department of Health and Human Services.[1]

Study Cohort

The study cohort includes 42,580 OWI convictions with disposition dates between January 1, 2021 and December 31, 2024. All OWI convictions meeting the study criteria were included in the baseline cohort. Because an individual may have more than one OWI conviction during the study period, the number of convictions is greater than the number of unique individuals. The cohort includes 38,800 unique individuals.

The analysis was limited to OWI convictions. Convictions involving non-motor vehicles, including ATVs, snowmobiles, and boats, were excluded. Changes to OWI statutes during the study period resulted in multiple statutory references being used for the same offense level. These statutes were grouped into consistent categories for OWI-1st, OWI-2nd, and OWI-3rd or subsequent offense to allow comparisons across the four-year study period.

Re-offense

For this analysis, re-offense is defined as a subsequent criminal charge occurring within 365 days after the disposition date of the baseline OWI conviction. The analysis includes subsequent criminal charges and is not limited to subsequent OWI or traffic offenses. For individuals with a subsequent criminal case, the most serious offense associated with that case was used to classify the type of re-offense.

The 2021–2024 baseline period was selected to provide a full 365-day follow-up period for each baseline conviction. Meaning, the 2024 cohort was followed through December 31, 2025, to capture subsequent charges occurring within 365 days of each baseline conviction.

Identification of Subsequent Offenses

Criminal court activity was examined to identify the first subsequent charge following each baseline OWI conviction. The first subsequent case was used to examine whether the next recorded offense involved another OWI or a different type of criminal offense.

When a subsequent case contained multiple charges, a most serious charge hierarchy, based on charge severity, charge type, and charge subtype, was used to select a single offense for analysis. This approach provides a consistent way to classify the first subsequent criminal case while recognizing that a case may contain multiple charges.

[1] https://dom.iowa.gov/state-government/data-analytics

Because an individual may have multiple OWI convictions during the baseline period, re-offense measures are reported at both the conviction and individual levels. Conviction-level measures count each qualifying OWI conviction in the cohort, while individual-level measures count each unique person once. This distinction is maintained throughout the analysis to avoid combining the number of convictions with the number of individuals involved.

Demographic Analysis

Demographic characteristics, including age, race, and gender, were examined to identify differences in re-offense patterns across population groups. Demographic information was based on the information associated with the baseline OWI case. Records with missing or unavailable demographic information were retained and reported as missing or unknown rather than excluded from the analysis.

Re-offense Analysis

The analysis includes counts, percentages, re-offense rates, and a measure of time to subsequent offense. Kaplan-Meier survival analysis and log-rank tests were used to examine the differences in the rates of re-offense across demographic groups.

Annual cohorts from CY2021 through CY2024 were examined to identify changes or consistency in re-offense patterns over time. Average time to a subsequent offense is reported as the primary measure of time to re-offense.

In addition to the primary analysis of the first subsequent criminal case, a separate analysis of OWI offenses was conducted to examine repeat impaired-driving offenses specifically. This analysis considers subsequent OWI offenses independently of other criminal offenses and is intended to provide additional context on the repeat OWI behavior.

Throughout the report, results are presented with consideration for the distinction between convictions and unique individuals, as well as the characteristics of the baseline OWI conviction. These distinctions are important when interpreting re-offense rates and comparing results across annual cohorts and demographic groups.

Results and Findings

Cohort

To establish a structured foundation for re-offense analysis, the study cohort encompasses 42,580 motor-vehicle Operating While Under the Influence (OWI) convictions representing 38,800 unique individuals with disposition dates between calendar years 2021 and 2024. This section reports the demographic attributes (i.e., age, race, gender) and offense severity of the cohort as it was reported at the time of the initial OWI conviction.

Table 1: Convictions by Year and Offense

CONVICTING CHARGE	2021	2022	2023	2024	TOTAL
OWI-1ST	7,817	7,816	7,851	7,836	**31,320**
OWI-2ND	2,320	2,336	2,127	2,075	**8,858**
OWI-3RD	631	615	565	591	**2,402**
TOTAL	**10,768**	**10,767**	**10,543**	**10,502**	**42,580**

Table 1 Remarks:

- OWI-1ST convictions account for 31,320 convictions (73.6%) across the four-year period. Annual volume remained stable.
- OWI-2ND convictions comprised 20.8% of all convictions and showed a steady decline from CY2021 (2,320 convictions) to CY2024 (2,075 convictions).
- OWI-3RD or subsequent felony convictions totaled 2,402 (5.6%).

Table 2: OWI Convictions by Year and Age group

Age Group\Year	2021	2022	2023	2024	Grand Total
17-20	554	591	596	601	2,342
21-24	1,429	1,487	1,417	1,318	5,651
25-34	3,690	3,513	3,296	3,201	13,700
35-44	2,515	2,565	2,490	2,570	10,140
45-54	1,420	1,421	1,449	1,558	5,848
55-64	869	858	936	853	3,516
65-74	243	260	297	321	1,121
75+	27	39	35	56	157
N/A	21	33	27	24	105
Grand Total	**10,768**	**10,767**	**10,543**	**10,502**	**42,580**

Table 2 Remarks:

- Individuals aged 25-44 represent 56.0% of all OWI convictions. The 25-34 age group represented the largest share (32.2%), followed by the 35-44 (23.8%).

- OWI convictions among individuals ages 25-34 decreased 13.3% between CY2021 and CY2024, while convictions among those ages 21-24 age group decreased 7.8%.
- OWI convictions increased among older age groups: Convictions increased 9.7% among individuals ages 45-54, 32.1% among ages 65-74, and 107% (from 27 to 56 convictions) among those ages 75 and older.

Table 3: OWI Convictions by Year and Race

Race Description	2021	2022	2023	2024	Grand Total
WHITE	7,591	7,531	7,293	7,051	29,466
BLACK	1,365	1,319	1,297	1,386	5,367
HISPANIC	425	455	466	465	1,811
ASIAN	201	249	250	272	972
NATIVE AMERICAN	136	128	117	99	480
OTHER	214	205	224	276	919
UNKNOWN	836	880	896	953	3,565
Grand Total	**10,768**	**10,767**	**10,543**	**10,502**	**42,580**

Table 3 Remarks:

- White individuals accounted for 69.2% of all OWI convictions during CY2021–2024, followed by Black individuals at 12.6% and Hispanic individuals at 4.3%.
- The number of OWI convictions involving White individuals decreased from 7,591 in CY2021 to 7,051 in CY2024, while convictions involving Black individuals remained relatively consistent, ranging from 1,297 to 1,386 per year.
- OWI convictions increased among several smaller racial groups during the study period, including Asian individuals (35.3% increase) and individuals classified as Other (29.0% increase). These groups represent a relatively small share of the overall cohort.
- Because the number of OWI convictions varies substantially across racial groups, the number or percentage of re-offenders should not be interpreted as a re-offense rate. Re-offense rates presented later in the report account for the size of the underlying racial group.

Table 4: OWI Convictions by Year and Gender

Gender	***2021***	***2022***	***2023***	***2024***	***Total***
Female	2,531	2,510	2,536	2,428	**10,005**
Male	7,764	7,738	7,469	7,467	**30,438**
Unknown	473	519	538	607	**2,137**
Total	**10,768**	**10,767**	**10,543**	**10,502**	**42,580**

Table 4 Remarks:

- Male individuals accounted for 30,438 OWI convictions (71.5%), while female individuals accounted for 10,005 convictions (23.5%). An additional 2,137 convictions (5.0%) had an unknown gender.

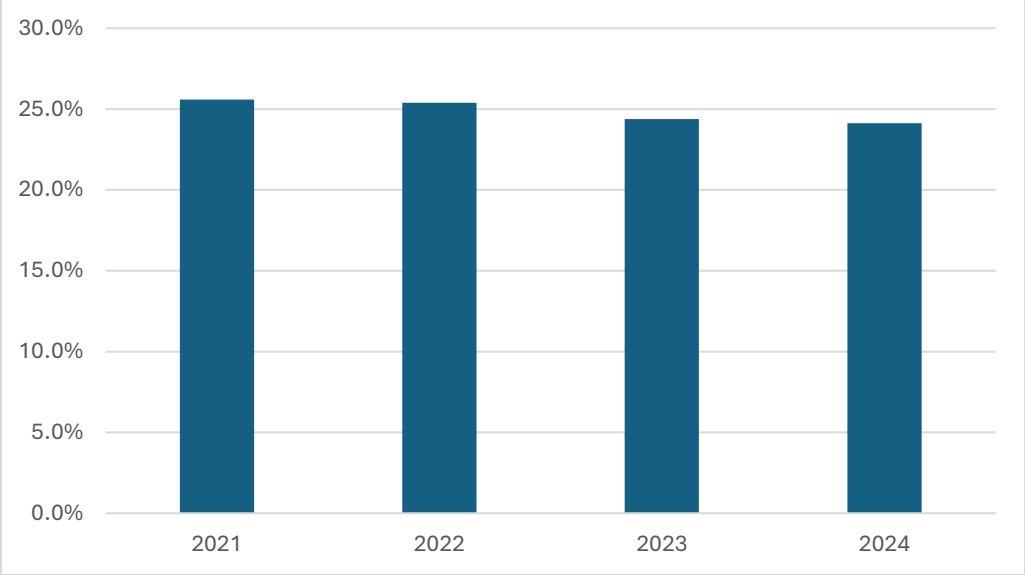
Temporal Data & Re-offense Window

Across the CY2021-2024 cohort, 24.8% of unique individuals (9,622) incurred 10,593 subsequent criminal charges within 365 days of the baseline conviction.

Among convictions followed by a subsequent charge, the average time to re-offense was 150.3 days (~5 months).

As shown in Figure 1, the one-year re-offense rate was relatively consistent across the four annual cohorts, with a decrease from CY2021 to CY2024.

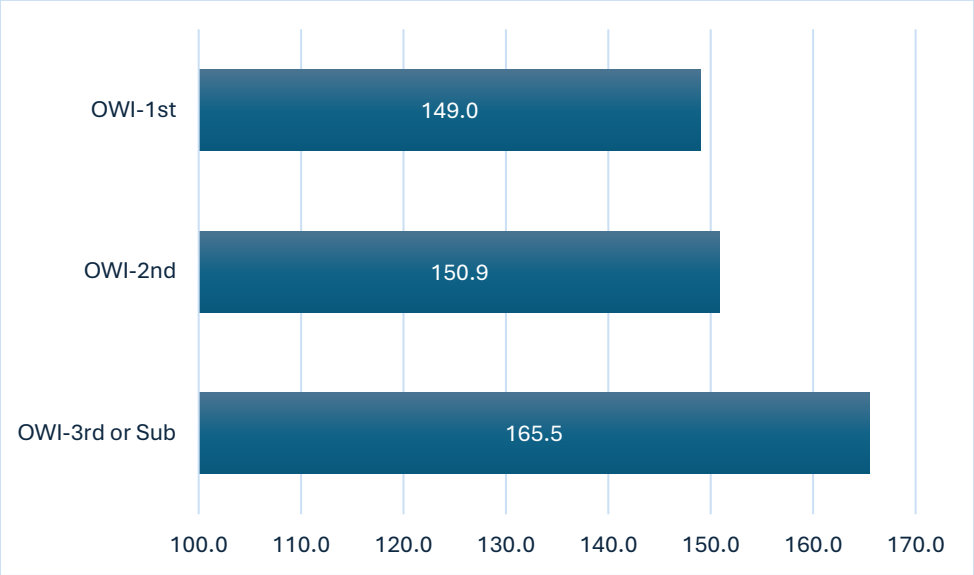
Figure 1: Re-offense Rates by Year – All OWI Convictions



Recidivism by Year	
2021	25.6%
2022	25.4%
2023	24.4%
2024	24.1%

The timing of the subsequent offenses was concentrated in the first six months following the baseline conviction. Average time to subsequent offense varied based on the level of the OWI conviction. The average time was 149.0 days for OWI-1st, 150.9 days for OWI-2nd, and 165.5 days for OWI-3rd or subsequent, as shown in Figure 2.

Figure 2: Average Days to Re-offense



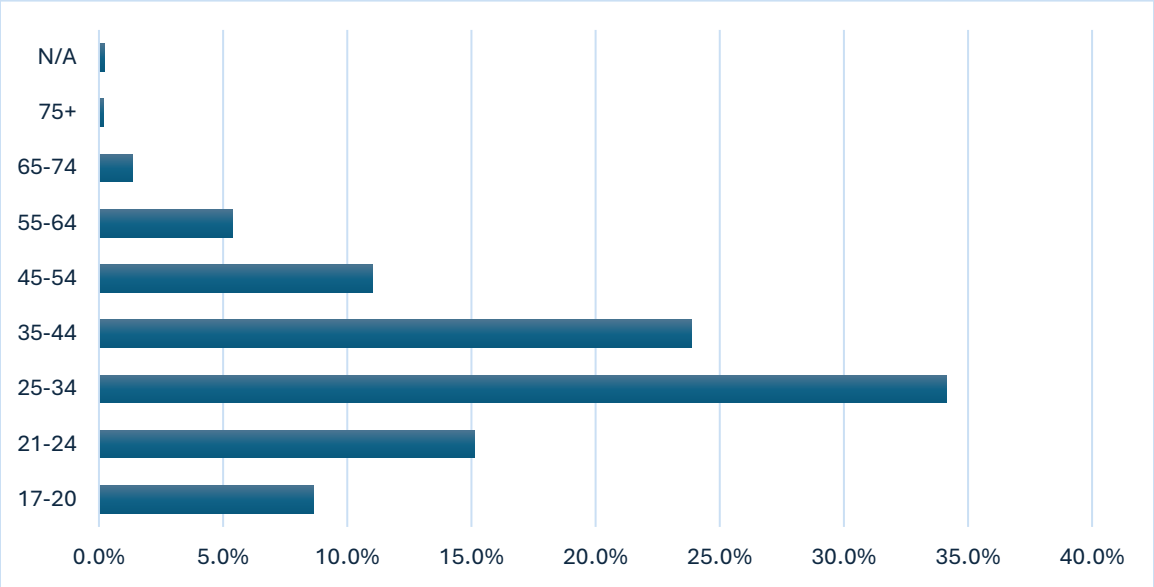
Average Time to Reoffend	
OWI-1st	149.0
OWI-2nd	150.9
OWI-3rd or Sub	165.5

Demographic Analysis

Demographic measures are reported at the level appropriate to each characteristic. Sex and race are based on unique individuals in the cohort (N = 38,800). Age is evaluated at the time of each OWI conviction (N = 42,580) because an individual with multiple OWI convictions during the 2021–2024 study period may have been in different age groups at the time of each conviction.

Age: Individuals ages 25–34 accounted for the largest proportion of one-year re-offenders (34.2%), followed by those ages 35–44 (23.9%), as shown in Figure 3a.

Figure 3a: Re-Offense by Age*

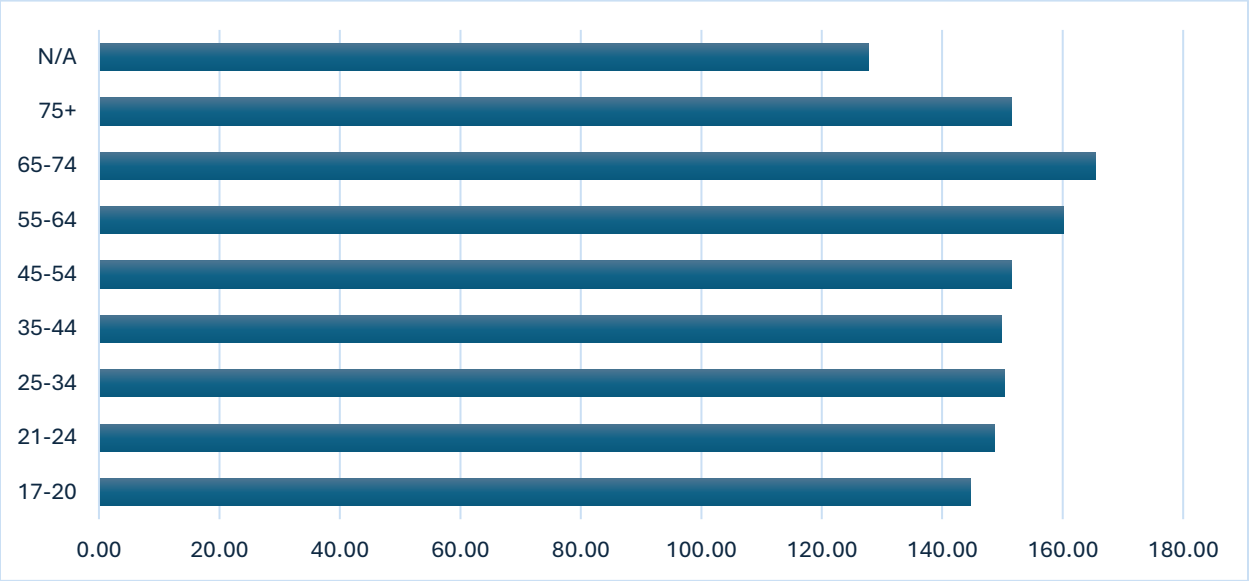


*No individuals under 17 years old were included in the cohort.

Re-Offense by Age	
17-20	8.7%
21-24	15.1%
25-34	34.2%
35-44	23.9%
45-54	11.0%
55-64	5.4%
65-74	1.4%
75+	0.2%
N/A	0.2%

Average time to re-offense also varied by age group. Individuals ages 21–24 had the shortest average time to re-offense (148.7 days), while individuals ages 65–74 had the longest average time (165.4 days), as shown in Figure 3b.

Figure 3b: Average time (days) to Re-Offend by Age



Average time (days) to Re-Offend by Age	
17-20	144.7
21-24	148.73
25-34	150.28
35-44	149.79
45-54	151.55
55-64	160.21
65-74	165.43
75+	151.47
N/A	127.75

Re-offense rates differed significantly across age groups.[2] Younger age groups had higher one-year re-offense rates than older age groups. Pairwise comparisons[3] found statistically significant differences between most age groups ($p < .05$). Differences were not statistically significant between the 55–64 and 75+ age groups or between the 65–74 and 75+ age groups ($p > .05$).

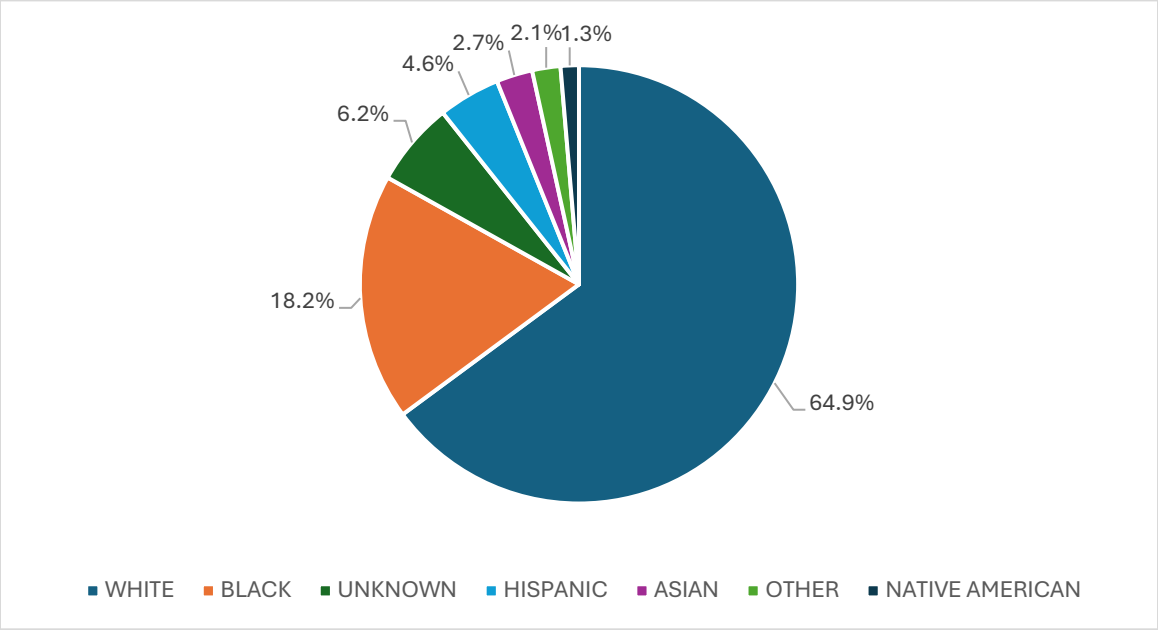
Among individuals who re-offended and for whom age was known, 36% to 43% re-offended within the first 100 days following the baseline conviction. The proportion was lowest among individuals ages 55–64 and highest among those ages 17–20.

[2] A Kaplan-Meier survival analysis revealed statistically significant differences across age groups, χ^2 (8) = 645, $p < .001$.

[3] Pairwise comparisons allow for the comparison of two groups at a time until every possible pair has been examined. The results of pairwise comparisons show which groups are significantly different from each other.

Race: White individuals accounted for 64.9% of individuals who re-offended within one year of the baseline OWI conviction, while Black individuals accounted for 18.2%.

Figure 4: Re-Offense Population by Race



One-year re-offense rates differed significantly across racial groups.[4] Pairwise comparisons found statistically significant differences between Black and White individuals and between Hispanic and White individuals (p <.001), as well as between White and Asian individuals (p < .001). Black and Hispanic individuals had higher one-year re-offense rates than White individuals, while White individuals had a higher one-year re-offense rate than Asian individuals.

Among individuals who re-offended, the timing of subsequent offenses was similar across the racial groups shown. Approximately 40% had a subsequent offense within the first 100 days following the baseline conviction: 41.5% for Black re-offenders, 39.7% for White re-offenders, and 38.4% for Hispanic re-offenders.

[4] A Kaplan-Meier survival analysis revealed statistically significant differences across racial groups, χ^2 (6) = 466, p < .001.

Gender: Figure 5a shows that males accounted for 73.0% of OWI convictions where a subsequent offense occurred, while females accounted for 23.2% and individuals with unknown gender accounted for 3.8%. Despite the difference in the number of convictions, the average time to a subsequent offense was similar for males (150.2 days) and females (149.3 days), as shown in Figure 5b.

Figure 5a: Re-Offense by Gender

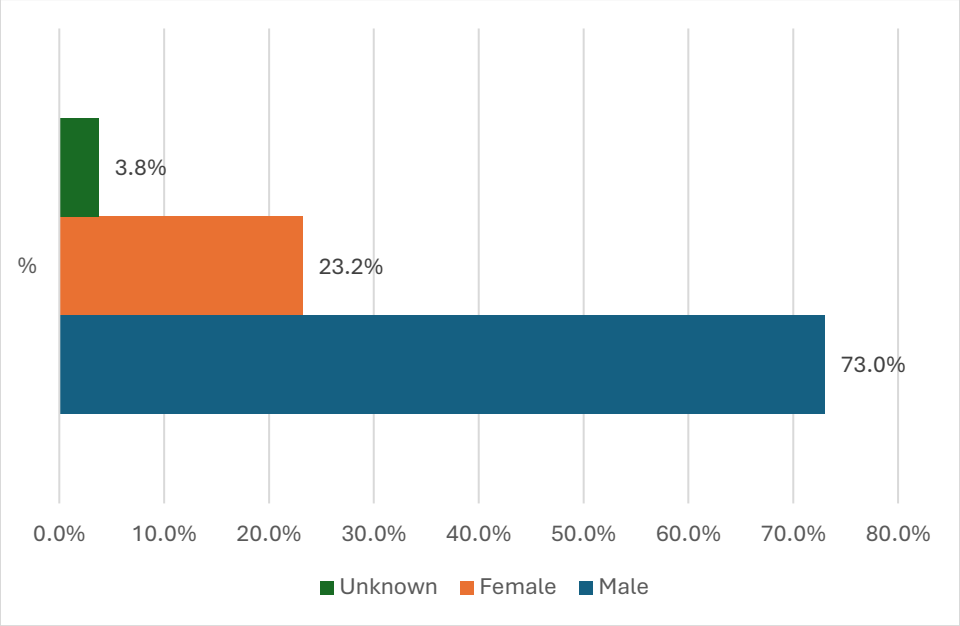
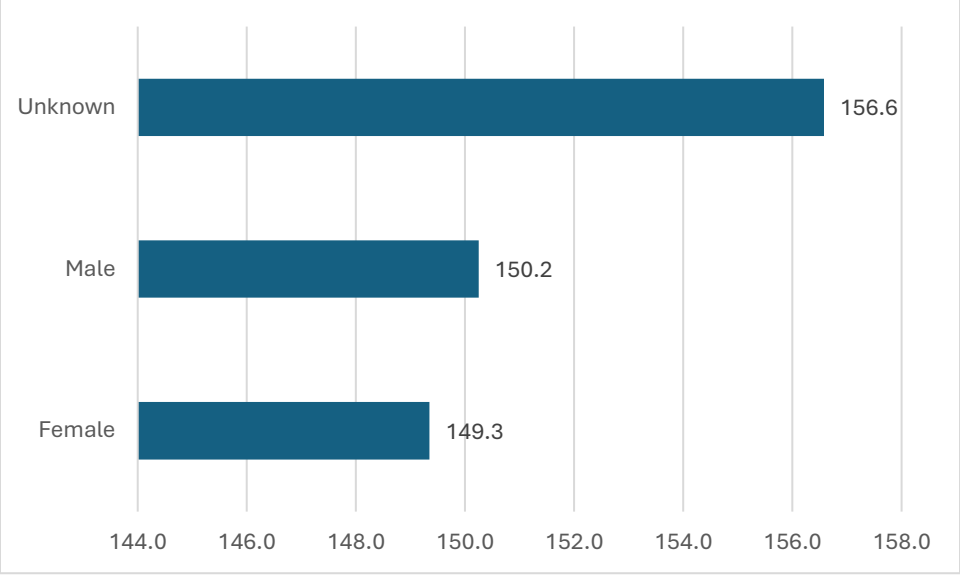


Figure 5b: Average time to Re-Offend by Gender



One year re-offense rates differed significantly by gender.[5] Males had a significantly higher one-year re-offense rate than females (p = .02).

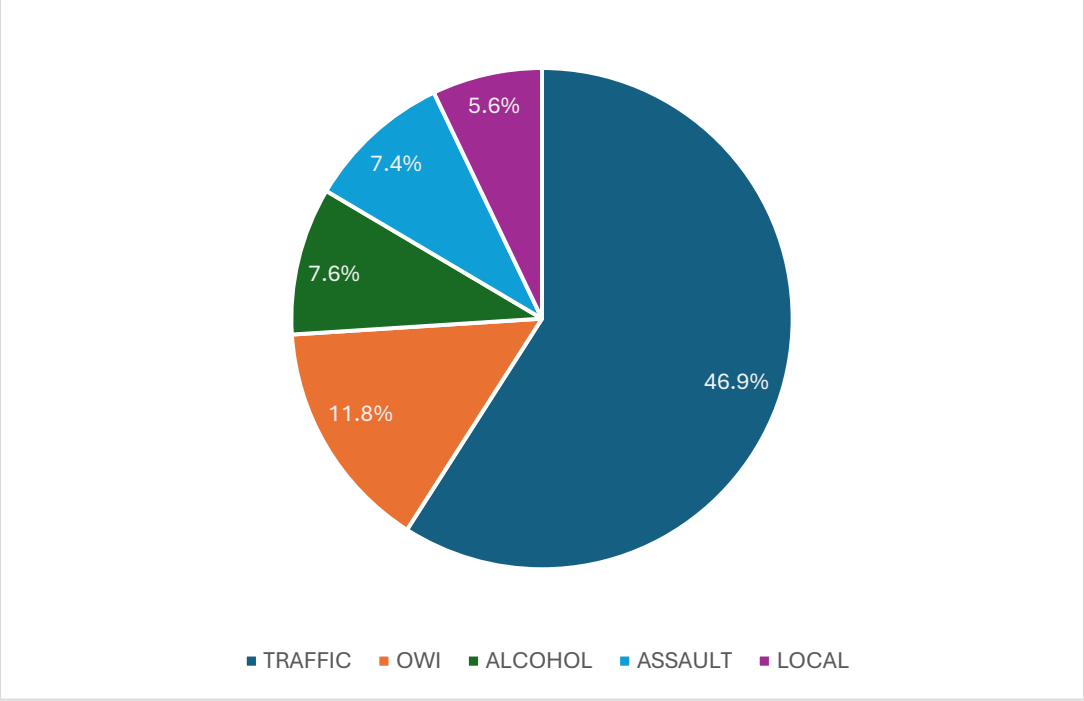
[5] A Kaplan-Meier survival analysis revealed significant differences between genders, χ^2 (2) = 50.9, p < .001.

Among individuals who re-offended, the timing of subsequent offenses was similar. Within the first 100 days following the baseline OWI conviction, 39.98% of males and 40.59% of females had a subsequent offense.

Re-offense Categories

To examine the types of offenses associated with re-offending, subsequent offenses were classified across all offense categories rather than being limited to OWI offenses. As shown in Figure 6, the five largest re-offense categories accounted for 79.3% of all 365-day re-offenses. These included non-OWI traffic violations, subsequent OWI offenses, alcohol-related offenses, assault and other violent offenses, and local municipal violations.

Figure 6: Largest Re-Offense Categories



Among the five largest categories:

- Traffic Violations (e.g., speeding): 46.9% of 365-day re-offenses were non-OWI traffic offenses.
- Subsequent OWI: 11.8% of re-offenses were repeat OWI offenses.
- Alcohol-Related (e.g. public intoxication, consumption in a public place): 7.6% of re-offenses were alcohol-related offenses.
- Assault: 7.4% of re-offenses were classified as assault.
- Local Violations: 5.6% of re-offenses were local municipal violations.

The remaining 20.7% of re-offenses were distributed across other offense categories not shown in Figure 6.

Future Research

This analysis provides a baseline for understanding OWI re-offense patterns in Iowa within 365 days of a baseline conviction. Future research could build on these findings through longer follow-up periods, additional case characteristics, and integration with other data sources.

- **Multi-year Survival Tracking (3- to 5-year windows):** Extend the follow-up period beyond 365 days to examine longer-term re-offending patterns, including whether differences in the timing and frequency of re-offending continue beyond the first year following an OWI conviction.
- **Disposition:** Examine re-offense patterns across different disposition categories, such as deferred judgment, suspended sentence, probation, and incarceration, to determine whether observed re-offense rates and timing vary by case disposition.
- **Subsequent Offense Patterns:** Conduct additional analysis of the types of offenses that follow an OWI conviction, including the 46.9% of re-offenses classified as non-OWI traffic offenses and the 7.4% classified as assault or other violent offenses. Additional analysis could examine whether prior criminal history, baseline OWI offense level, and other available case characteristics are associated with differences in subsequent offense patterns.
- **Additional Data Integration:** Incorporate additional data sources, where available, to examine factors that may provide greater context for re-offending patterns, including prior justice-system involvement, treatment or intervention participation, and other relevant case characteristics.