AON

2023 Aon Public Transit Liability Benchmark Report

Public Transit Liability Analysis

Executive Summary

April 2023

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Introduction

Aon's Actuarial and Analytics professionals are pleased to present the fourth edition of the Aon Public Transit Liability Benchmark Analysis.

This benchmark study is produced under a co-marketing cooperation between Aon and the American Public Transportation Association (APTA). Participation in this edition of the benchmark study was open to all public transit organizations.

This study is designed with public transit risk managers and stakeholders in mind. The report offers an opportunity to gain more insight into the risk profile of public transits and specifically to enable them to measure, maintain, and potentially reduce their liability exposure. The quantitative and qualitative aspects of the report allows for peer group comparisons of losses, discussion of the impact of safety and loss prevention best practices, and overall perceptions of the leading risk trends. Because of the unique nature of transit risks, a benchmark report that provides risk managers with an effective tool to compare their organization to transit peers is valuable for controlling the probability and/or impact of unfortunate events.

All participants were asked to complete a survey with two main sections. The first section consisted of questions about the organization's risk management structure and practices. The second section presented a list of thirty risks and asked the participants to choose and rank the top ten risks they thought posed the greatest threat to their organization. After completing the survey, participants were asked to provide their loss runs valued between 6/30/2021 and 3/31/2022. Seventeen organizations responded, representing one hundred and ten individual transits across twenty-six states and Washington DC. Approximately 1.3 billion rider trips are taken on these organizations each year.

The database of public transit liability claims underlying the industry benchmarks contains approximately 50,000 non-zero claims from both auto liability and general liability lines, representing approximately $940 million of incurred losses. The database contains historical claim information for eleven accident years, 2011 to 2021. To preserve the confidentiality of the participants, all results are presented on an aggregated basis.

The benchmark statistics in this study are grouped on an accident year basis, based on the date of the incident that led to the claim. The study provides actuarial analysis and projections for public transit liability costs from varying perspectives, including:

- Countrywide benchmark statistics based on the entire database of transit systems
- Benchmark statistics by bus and rail operations separately based on ridership exposure
- Benchmark statistics for bus operations based on bus count and mileage exposures
- Benchmark statistics at various per occurrence limits from $100,000 to $5,000,000
- Statistics based on severity, expense, litigation status, and report lag
- Survey results
- Claims categorized and summarized

The study examines trends in frequency, severity, and overall loss rates related to public transit liability. With the exception of incident-only statistics, claims with zero dollar value are excluded from the analysis. Unless otherwise noted, these statistics can be defined as follows:

Frequency

The number of occurrences per a unit of exposure measurement. Frequency for bus operations and rail operations are both measured based on annual ridership. Bus operations frequency is also measured based on bus count and annual miles driven.

Severity

The average loss per occurrence, where the loss includes indemnity and allocated loss adjustment expense (ALAE).

Loss Rate

The annual incurred loss dollars per the same unit of exposure measurement by which the frequency was measured, which for bus and rail operations is annual ridership. Bus operations loss rate is also measured based on bus count and annual miles driven.

The loss rate is the product of the frequency and the severity, and it is a major component of the total cost of risk for a public transit entity.

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Executive Summary

The combination of the post-pandemic environment and the new challenges brought about by supply chain disruption and inflation brings extra importance to the 2023 study of public transit liability. When the 2020 report was conducted, data was just beginning to emerge on COVID-19. In the last two years, the COVID-19 pandemic emerged fully and was followed by inflation, the likes of which have not been seen in over 40 years. The dynamic conditions that entities face today compared with two years ago are very different, but they continue to make the environment for risks related to public transportation operations very challenging. We expect the environment to continue to be difficult as these new risks and their repercussions are more fully known. Prior to the pandemic effect on ridership, the commercial risk transfer markets for public transits had already begun to impact the price and availability of liability insurance. Post pandemic, the availability of insurance capacity continues to tighten and pricing for liability insurance for transit risks continues to increase.

The impact of COVID-19 in the report is seen more in the exposure basis of annual ridership than in the claims data and the exposure bases of bus count and annual miles driven. The combined annual ridership for calendar year 2020 was 35% less than calendar year 2019 and almost 40% less than the historic average of 1.3 billion rider trips taken each year. The combined annual ridership for calendar year 2021 continues on this trend, with a 45% decrease compared to the historic average. With continued changes in consumer habits, such as the prevalence of remote work, these ridership trends are something to continue to analyze in future reports.

Since the report analyzes only auto liability and general liability claims, there were very few claims that were flagged as being a direct result of COVID-19. In terms of the different exposure bases, bus count and annual miles driven did not change by more than 10%. Even while ridership was decreasing, we've concluded buses were still generally driving their routes, and most vehicles remained in the fleet, even if not all of the vehicles were in use. This difference in these exposure bases compared to ridership will also continue to be noted and analyzed in future reports.

Our actuaries and transit practice professionals have invested a significant amount of time and effort to deliver this unique tool to the transit industry. Our goal is to continue to develop the report to produce useful findings and to assist the industry with identifying risk trends and best practices. We offer our sincerest gratitude to the participants in the study for their time and efforts and to the supporters at APTA without whom we would not have been able to produce the information that follows.

Key Findings

Based on our analysis of public transit liability limited to $1 million per occurrence, we have found the following:

Overall Results and Trends

Frequency

- Overall public transit liability claim frequency has been relatively flat with an average annual change of 0%.
- The forecasted 2022 accident year frequency for bus and rail operations combined is 0.39% per 1,000 riders. In other words, this implies one occurrence per 257,667 riders.
- The forecasted 2022 accident year frequency for incident-only/$0 claims is 0.74% per 1,000 riders. This implies one incident-only report per 135,512 riders.

Severity

- Overall public transit liability claim severity is increasing at a 7% annual rate.
- The severity forecast for accident year 2022 is $19,869.

Loss Rate

- Overall public transit liability loss rates are increasing by an average of 7% annually.
- The forecasted 2022 accident year loss rate for bus and rail operations combined is $77.11 per 1,000 riders, or approximately 7.7 cents per rider.

Public Transit Liability Benchmark

Advisory Benchmarks	Projected Accident Year 2022	Selected Annual Trend
$0 Claim Frequency*	0.74%	
Frequency*	0.39%	0.0%
Severity	$19,869	7.0%
Loss Rate*	$77.11	7.0%

*per 1,000 riders

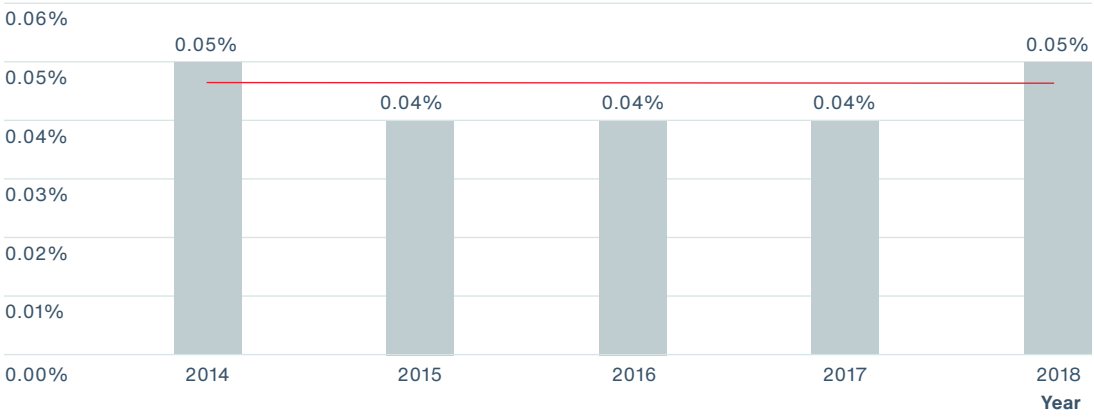
Results and Trends by Bus and Rail Operations (ridership)

Frequency

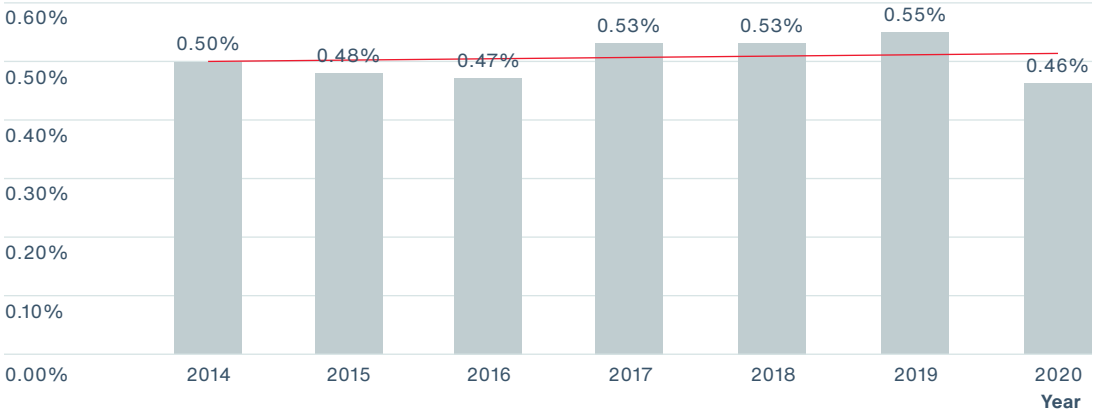
The frequency rate for bus operations is significantly higher than that of rail operations. The forecasted 2022 accident year frequency for bus is 0.50% per 1,000 riders, which implies one occurrence per 198,129 riders, while the forecasted 2022 accident year frequency for rail is 0.05% per 1,000 riders, which implies one occurrence per 2,211,789 riders. The frequency rate for bus and rail operations has been relatively flat with an annual change of 0.0%.

For incident-only/$0 claims, the frequency rate for bus operations is also higher than that of rail operations. The forecasted 2022 accident year frequency for bus is 0.95% per 1,000 riders, which implies one incident-only report per 105,198 riders, while the forecasted 2022 accident year frequency for rail is 0.11% per 1,000 riders, which implies one incident-only report per 880,542 riders.

Rail Benchmark Claim Frequency



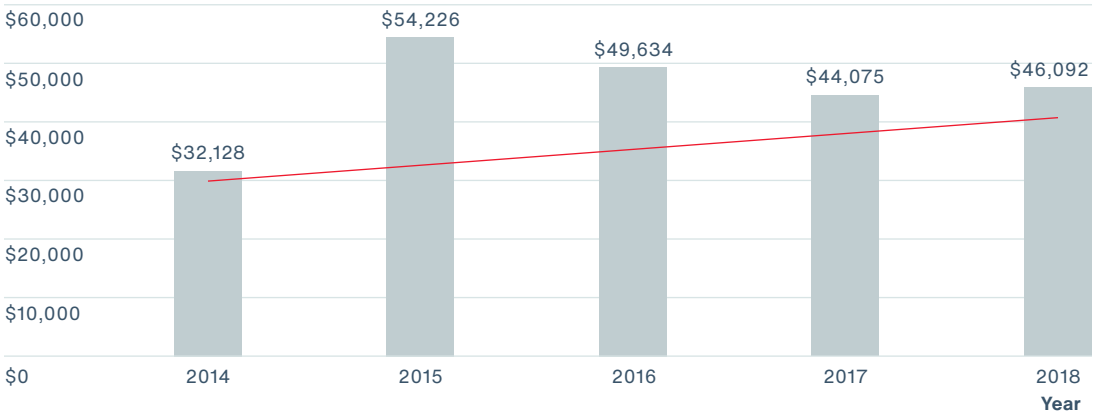
Bus Benchmark Claim Frequency



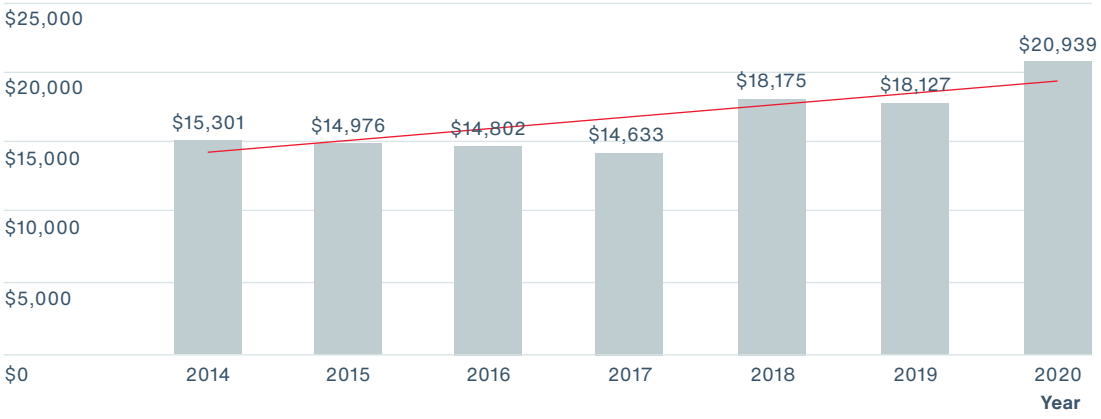
Severity

The severity rate for bus operations is lower than that of rail operations. The forecasted 2022 accident year severity is $18,975 for bus operations and $50,738 for rail operations. The severity for bus operations is increasing at a 7.0% annual rate while the severity for rail operations is increasing at a 6.0% annual rate.

Rail Benchmark Claim Severity



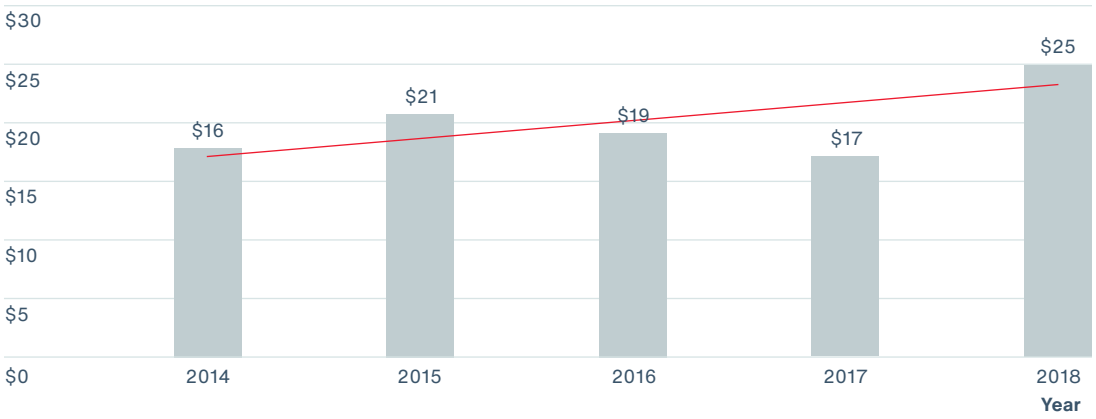
Bus Benchmark Claim Severity



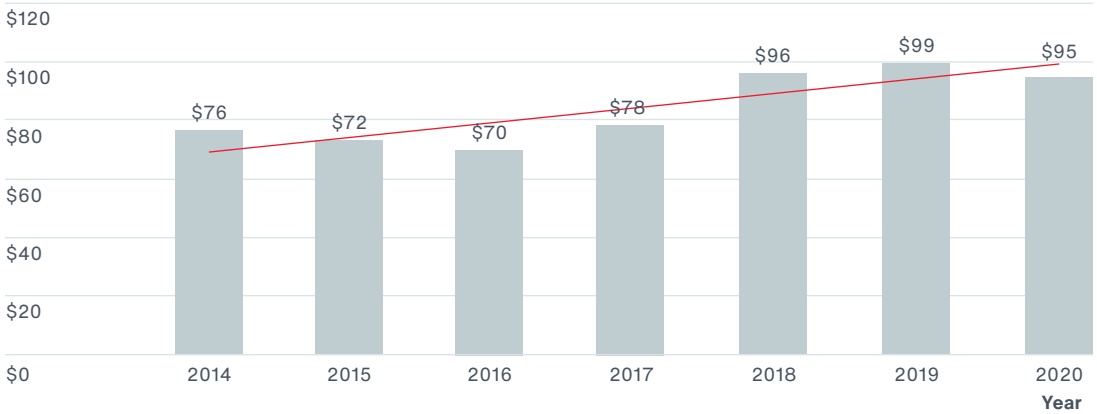
Loss Rate

The loss rate for bus operations is significantly higher than that of rail operations. The forecasted 2022 accident year loss rate for bus operations is $95.77 per 1,000 riders, or approximately 9.6 cents per rider, while the forecasted 2022 accident year loss rate for rail operations is $22.94 per 1,000 riders, or approximately 2.3 cents per rider. The loss rate for bus operations is increasing at a 7.0% annual rate while the loss rate for rail operations is increasing at a 6.0% annual rate.

Rail Benchmark Loss Rate



Bus Benchmark Loss Rate



As this study indicates, the frequency of bus claims is higher than that of rail claims, while the severity of rail claims is higher than that of bus claims. As buses interact with pedestrians and other road traffic, there is a greater potential for incidents leading to liability claims. While these claims can sometimes be very severe and expensive, many others are related to minor "fender-bender" incidents, which drive down the overall average bus liability claim severity. On the other hand, rail operations often operate on dedicated tracks with little or no interaction with pedestrians and vehicular traffic. While there are sometimes very severe rail occurrences (e.g. derailments or other train malfunctions), these are relatively rare, but they do drive up the average claim cost of rail occurrences.

Public Transit Liability Benchmark - Rail

Advisory Benchmarks	Projected Accident Year 2022	Selected Annual Trend
$0 Claim Frequency*	0.11%	
Frequency*	0.05%	0.0%
Severity	$50,738	6.0%
Loss Rate*	$22.94	6.0%

*per 1,000 riders

Public Transit Liability Benchmark - Bus

Advisory Benchmarks	Exposure: Ridership*	Exposure: Count	Exposure: Miles**	Selected Annual Trend
$0 Claim Frequency	0.95%	57.6%	2.03%	
Frequency	0.50%	30.6%	1.08%	0.0%
Severity	$18,975	$18,975	$18,975	7.0%
Loss Rate*	$95.77	$5,802	$204.75	7.0%

*per 1,000 riders **per 1,000 miles

Results and Trends by Bus Operations (bus count)

Frequency

The forecasted 2022 accident year frequency for bus operations using bus count as an exposure basis is 30.6% per vehicle, which implies one occurrence per three vehicles every year.

Severity

The forecasted 2022 accident year severity is the same over all exposure bases – $18,975.

Loss Rate

The forecasted 2022 accident year loss rate for bus operations using bus count as an exposure basis is $5,802 per vehicle.

$0 Claim Frequency

The forecasted 2022 accident year frequency for incident-only/$0 claims for bus operations using bus count as an exposure basis is 57.6% per vehicle, which implies one incident-only report per two vehicles every year.

Results and Trends by Bus Operations (HUB mileage)

Frequency

The forecasted 2022 accident year frequency for bus operations using mileage as an exposure basis is 1.08% per 1,000 miles, which implies one occurrence per every 92,674 miles.

Severity

The forecasted 2022 accident year severity is the same over all exposure bases – $18,975.

Loss Rate

The forecasted 2022 accident year loss rate for bus operations using mileage as an exposure basis is $204.75 per 1,000 miles, or approximately 20.5 cents per mile.

$0 Claim Frequency

The forecasted 2022 accident year frequency for incident-only/$0 claims for bus operations using mileage as an exposure basis is 2.03% per 1,000 miles, which implies one incident-only report per every 49,206 miles.

Additional Statistical Detail

1	Approximately 70% of claims had a total incurred value of under $5,000; however, this accounts for only approximately 10% of the total incurred dollars. By contrast, only 0.12% of claims had a total incurred of $1,000,000 or higher, but these claims accounted for approximately 22% of the total incurred dollars.
2	Approximately 45% of all claims for bus and rail were reported the day on which the occurrence that led to the claim occurred. 80% of the claims were reported within a week of their occurrence and 90% of the claims were reported within a month of their occurrence.
3	Increased Limit Factors are presented for various per occurrence limits from $100,000 to $5,000,000 with the base limit of $100,000 per occurrence.
4	Approximately 20% of the total loss dollars were comprised of expense payments.
5	Approximately 24% of claims were litigated; however, these claims accounted for 61% of the total loss dollars. Litigated claims were, on average, 5 times more expensive than claims that were not litigated.
6	Twenty-three questions were asked of participants in the survey. Six of them – closed vs open system, sovereign immunity status, police force, urban vs rural, formal assessment, and claims committee - were further subdivided into frequency, severity, and loss rate analysis. Additionally, the top ten risks participants ranked as the greatest threats to their organization are presented.
7	Approximately 60% of the claims arose from automobile accidents, with 88% of those claims stemming from vehicle on vehicle accidents. Within this category, parking incidents were the most common type of accident. Of the claims that did not arise from automobile accidents, approximately 31% arose from passengers falling and approximately 12% arose from entry and exit issues.

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About

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