OFFICE of INSPECTOR GENERAL
NATIONAL RAILROAD PASSENGER CORPORATION

SAFETY AND SECURITY:

The Company Can More Effectively Use Injury Claims Data to Help Reduce Risks

Certain information in this report has been redacted due to its sensitive nature.

Interim Audit Report OIG-A-2021-007 | February 25, 2021

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Memorandum

To: Steven Predmore
Executive Vice President/Chief Safety Officer

From: Jim Morrison
Assistant Inspector General, Audits

Date: February 25, 2021

Subject: *Safety and Security: The Company Can More Effectively Use Injury Claims Data to Help Reduce Risks* (Interim Audit Report OIG-A-2021-007)

Amtrak's (the company) top priority is to ensure the safety of its employees and passengers, and it has devoted significant resources to this effort. However, from fiscal years (FY) 2015 through 2019,[1] safety incidents resulted in 26 passenger and employee fatalities, numerous injuries, and $267 million in actual and estimated employee claims payouts and other associated costs. In FY 2018, it began its most recent effort—developing and implementing its System Safety Program Plan, commonly known as a Safety Management System (SMS).[2]

In April 2020, we began assessing the company's progress implementing the SMS. In October 2020, we issued an interim report that found that the company had not established a baseline measurement of its safety culture.[3] As our work progressed, we also identified an opportunity in the near term for the company to better use its injury claims data to help manage safety risks. As a result—and in response to the Chief Safety Officer's request that we provide early alerts of needed changes—we are providing this second interim report. We plan to issue a third report assessing the company's overall progress implementing its SMS, which will conclude our work on the SMS at this time.

For this report, we focused on assessing the extent to which the company is incorporating its injury claims financial data which includes settlement amounts, and other costs associated with resolving claims such as the cost of investigation and

[1] FY 2019 was the most recent year for which the company had readily available data for our analysis.
[2] Unlike previous efforts, the SMS is a federal requirement, and the company must maintain compliance. See 49 C.F.R. § 270.
[3] *Safety and Security: The Company Can Take Steps to Evaluate Its Current Safety Culture* (Interim Audit Report OIG-A-2021-001); October 2, 2020.

defense into its SMS.[4] We used data analytics and the company's claims database to help identify the impacts of safety incidents, including injury patterns and settlement costs. We also interviewed officials from the Operations and Safety departments responsible for developing and implementing the SMS, as well as officials in the Law department; we conducted research on safety and risk management; and we interviewed executives from other passenger transportation companies to determine the types of data they typically use to help mitigate safety risks. For more information on our scope and methodology, see Appendix A.

SUMMARY OF RESULTS

Better integrating injury claims data into its risk management process in the near term could help the company identify and manage safety risks. The Safety and Operations departments use injury and accident reports to identify the most frequent incidents and help inform the SMS. They have not, however, had regular access to injury claims data, which resides with the company's Claims group, a part of the Law department. Our work determined that these data could allow the Safety and Operations departments to better identify additional risks and mitigation strategies, which would help improve safety outcomes and minimize the impact of safety incidents on the company.

Therefore, we recommend that the company develop a policy and process to regularly share legally appropriate injury claims data internally and use these data to help identify and mitigate safety risks as part of its risk management process. In commenting on a draft of our report, the Law department, in conjunction with the Safety and Operations departments, said they fully support our recommendations. For Management's complete response, see Appendix D.

BACKGROUND

The SMS is a formal, top-down, organization wide approach to managing safety risk and ensuring the effectiveness of efforts to mitigate these risks. It consists of four interconnected lines of effort, as Figure 1 shows.

[4] According to the General Counsel, there are six types of injury claims data: incidents, injuries, medical costs, lost time, settlement amounts, and other costs associated with settling claims such as the cost of investigation and defense. Throughout this report, we use the term "injury claims financial data" to refer to the last two categories of claims data.

Figure 1. SMS Four Lines of Effort

Source: OIG analysis of SMS documents

The company's program is designed to be a highly data-driven approach to managing safety risks. Risk management is a fundamental component of a successful SMS, and risk management and safety assurance form a feedback loop to drive continuous improvement to better manage risk and protect customers and employees. Risk analysis is part of this process and generally incorporates a variety of factors, including the potential severity of an incident, loss of life and monetary costs, and the likelihood of the incident occurring.

To develop and implement the SMS, including the risk management process, the Safety department is responsible for collaborating with the four Operations departments: Engineering, Mechanical, Stations and Customer Service, and Transportation. In addition, the Safety and Operations departments manage most employee and customer injury data. Separately, the Claims group, which is part of the Law department, investigates, negotiates, and resolves customer and employee injury claims and evaluates the company's actual and potential liability for these claims. The Law

department maintains data specifically related to these claims and manages internal access to this data and the legal documents associated with them.

THE COMPANY COULD USE INJURY CLAIMS DATA TO HELP INFORM ITS SAFETY RISK MITIGATION

The Safety and Operations departments generate injury and accident reports from their existing databases to identify the most frequent incidents and help inform the SMS. Using this data, they have also recently begun incorporating measurements of injury severity into their SMS strategy. These departments, however, have not had regular, access to company data on employee and passenger injury claims—specifically injury claims financial data—which provide other measurements of severity. Therefore, they could not readily include this information when they analyzed injury trends to inform their safety strategies or fully identify their impacts. As a result, the company is not fully consistent with its own standards that call for the use of all available relevant data to manage risk and form the foundation of its SMS efforts, and with common management standards.[5]

To demonstrate that assessing these data can help the company identify and mitigate safety risks, we conducted a series of potential analyses. Our analyses are not intended to be prescriptive, but instead illustrative of the types of assessments the company could consider. These analyses show that some injuries are more traumatic and disruptive to employees—and the company—than others, and even a small decrease in these incidents would have a significant positive impact on employees' well-being and company operations.[6]

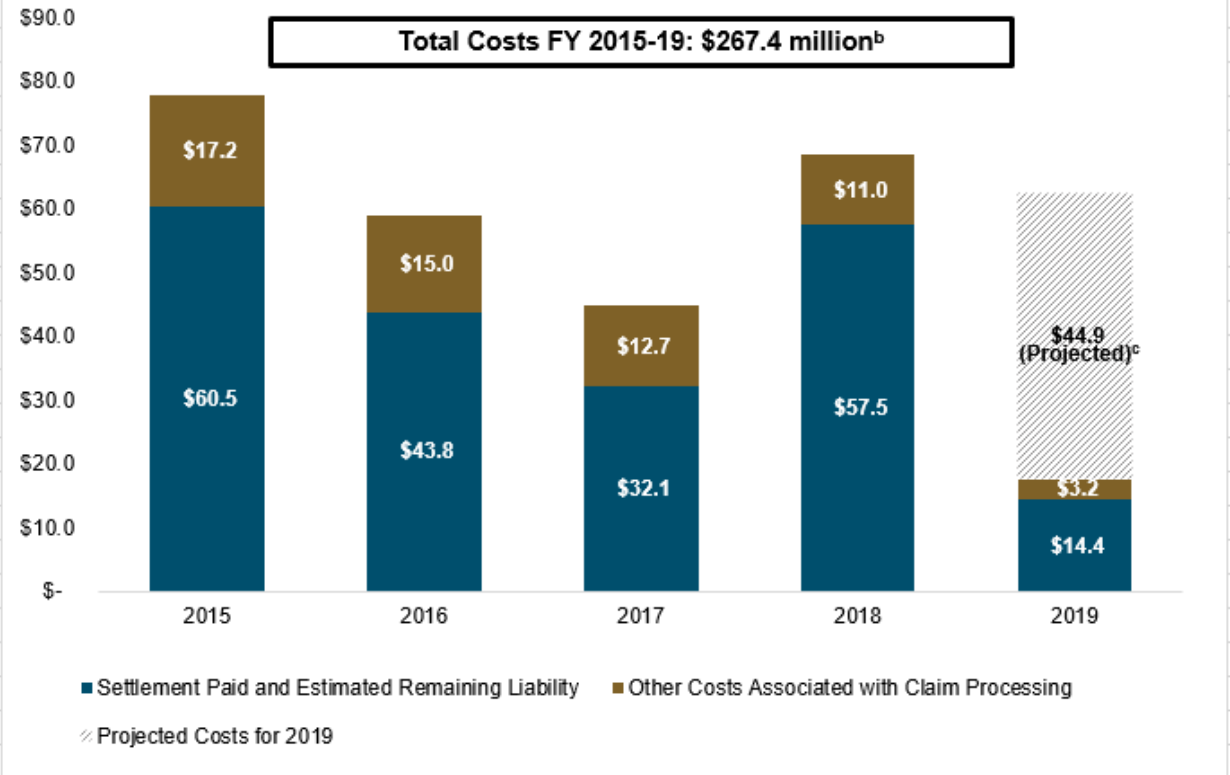
The Claims group has historically shared aggregate claims data reports with other internal departments on an ad hoc basis when requested, but it has not regularly shared these injury claims financial data because of concerns about legal risks, such as attorney-client confidentiality and personal privacy protection of claimants' health information. The Law department, however, has previously discussed and examined this issue and is assessing ways to share these data internally in an appropriate manner

[5] MIL STD 882E.
[6] We did not use financial data from passenger injury claims but anticipate that using this data would have similar benefits. We also did not assess the company's efforts to reduce the severity of injuries over time, but we expect that a reduction in injuries would also reduce related claims.

that protects valid legal concerns, but it has not yet issued a policy to implement such processes.

The company's SMS plan calls for the Safety and Operations departments to better use data such as employee and passenger injury statistics to proactively identify risks and actions to mitigate them. Including injury claims financial data in such an analysis could also help identify safety risks and reduce the costs of injuries and incidents. From FY 2015 through FY 2019, the company made more than $148 million in actual liability payments on employee injury claims, and it could make up to an additional $60 million in estimated payments pending the outcome of its unsettled employee claims, for a total of more than $208 million. The company also spent more than $59 million in other employee claims-related costs, such as legal, medical, consulting, and surveillance associated with processing the claims, as shown in Figure 2.

Figure 2. Employee Injury Claims Payments and Processing Costs for FY 2015–FY 2019[a] (in millions)



Source: OIG analysis of employee and injury claims data

Notes:
[a] Costs represent settlements paid until July 17, 2020 and aggregated by the year in which the incident occurred. Further, the estimated remaining liability is for open cases as of July 17, 2020.
[b] The $267 million does not include the $44.9 million in projected costs for FY 2019.
[c] Estimate based on average of previous four fiscal years (FY 2015–2018) representing the potential costs of anticipated and delayed claims payment, as well as other costs associated with processing claims.

Our analysis demonstrated how analyzing injury claims financial data could inform risk-mitigation efforts. In Table 1, we identified the top 10 injuries companywide by claims costs and how they rank in terms of frequency.[7]

[7] For a more detailed analysis, see Appendix B.

Table 1. Comparison of Top 10 Costliest Injuries and Frequency of Employee Claims Companywide, FY 2015–FY 2019

Injury Type	Rank by Cost	[redacted]	[redacted]	Rank by Claim Frequency[a]	[redacted]
Fatality	1	[redacted]	[redacted]	38	[redacted]
Cartilage/Muscle Tear	2	[redacted]	[redacted]	6	[redacted]
Fracture	3	[redacted]	[redacted]	10	[redacted]
Sprain	4	[redacted]	[redacted]	1	[redacted]
Cancer[b]	5	[redacted]	[redacted]	17	[redacted]
Herniated disk	6	[redacted]	[redacted]	16	[redacted]
Concussion	7	[redacted]	[redacted]	22	[redacted]
Contusion	8	[redacted]	[redacted]	2	[redacted]
Sprain/strain	9	[redacted]	[redacted]	11	[redacted]
Crush	10	[redacted]	[redacted]	30	[redacted]

Source: OIG analysis of employee and injury claims data

Notes:
[a] The company tracks 51 injury types. The data in this table is aggregated by primary injury type, which is how the company categorizes injuries in its database.
[b] The company tracks cancer caused by a potential workplace-related exposure to a carcinogen.

Based on this analysis, we found that some types of injury claims are less frequent but more traumatic to employees and operations than others. A modest decrease in those claims could have a significant, positive impact on the safety and well-being of employees and could also reduce costs, as the following examples show:

- **Muscle tears and fractures** occur less frequently than sprains and strains but are more traumatic and disruptive for employees. Moreover, muscle tears cost an average of 8 times more per incident than sprains and strains, and fractures cost an average of 11 times more. In January 2020, the company announced a goal of reducing injuries by 10 percent. To help achieve this goal, the company

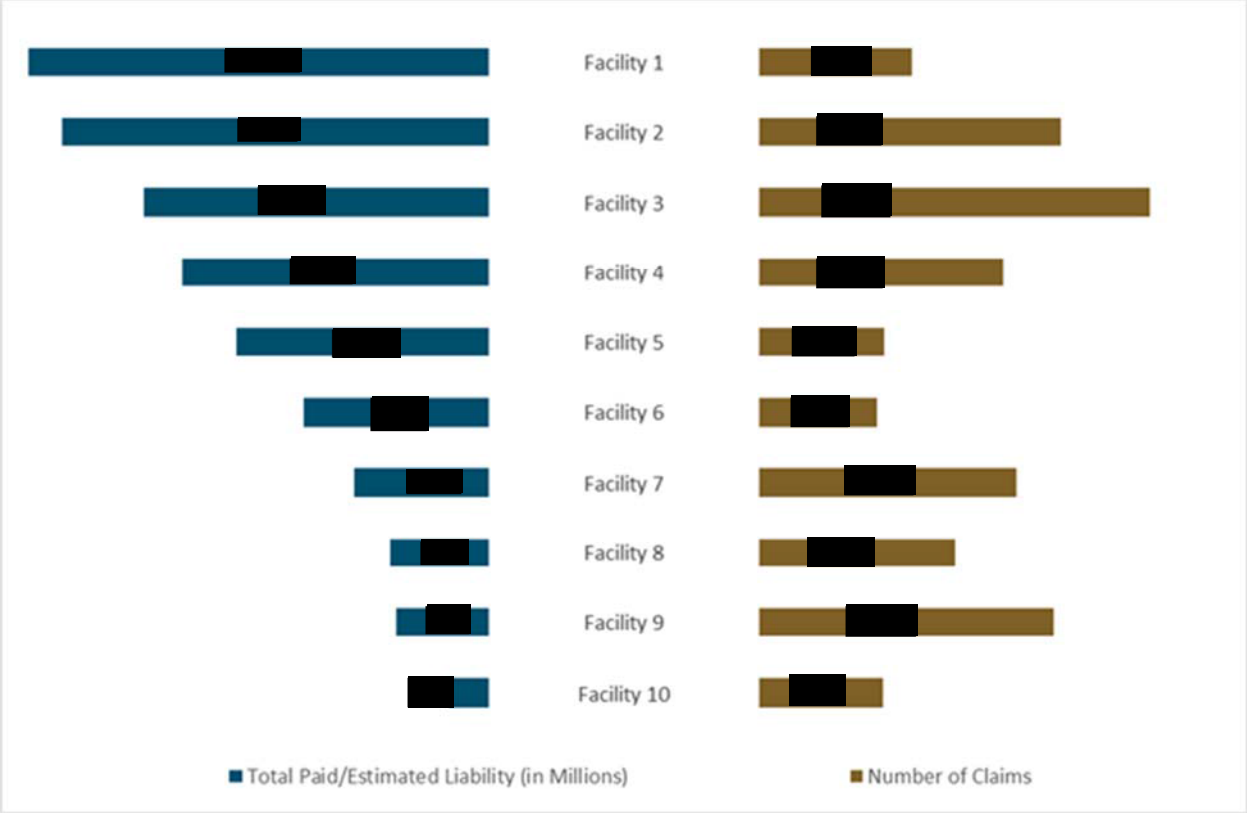
introduced a physical stretching program to reduce sprains and strains—the most common injury type. Reducing sprains and strains by 10 percent could help improve employee well-being; it could also save [redacted] over five years. If the company instituted a similar program to reduce muscle tears and fractures by the same percentage, it could reduce injuries that are more traumatic. If it had such a program in place over the last five years, it could have also saved up to another [redacted] which they could have put to better use.[8]

- **Concussions** cost the company an average of about [redacted] per claim, totaling [redacted] during the five years we assessed. Concussions are the third-costliest injury claim, on average,[9] even though they are the 22nd-most-frequent incident type, with [redacted] total claims during these five years.[10] A 10 percent reduction in concussions achieves a significant safety benefit; if accomplished over the past five years, it could have saved the company more than [redacted].[11]

We also found that the locations with the most safety incidents are not necessarily those with the highest claims costs, as Figure 3 shows for the Operations department.[12] Such an analysis could inform decisions about where to invest in mitigation activities to both protect employees and minimize safety impacts.

[8] Doing both could have saved the company [redacted] over the past five years.
[9] Concussions are the seventh-most-costly injury overall.
[10] For a list of the top 20 injuries by cost for all departments, see Appendix B, Table 2.
[11] Reducing muscle tears and fractures and concussions by 10 percent could have saved the company up to [redacted] over the past five years.
[12] For a more detailed analysis, see Appendix C.

Figure 3. Comparison of Cost and Number of Claims for Operations Department Locations, FY 2015–FY 2019[a]



Source: OIG Analysis of employee and injury claims data

Note:
[a] Data are current as of September 2020, but claims can be filed within three years of the date of the incident. We excluded from this analysis incidents that did not have a specific location listed in the data.

Representatives from several other passenger transportation companies told us they have policies and procedures to share injury claims data internally to identify risks and target specific mitigating actions or investments, as shown in the following examples:

- A regional transit organization analyzed its claims data, including costs, and identified that one type of safety incident on its escalators cost 10 times more than other types of escalator incidents. Using this information, it developed corrective actions to target these incidents with the goal of improving safety performance. It also determined that the anticipated savings from reducing these injuries justified the cost of implementing the corrective actions.

- One major passenger airline integrated claims cost data into its risk management process and identified additional injury and safety incident trends it needed to address, as well as previously unknown weaknesses in its airport ground crew operations. Using this information, it then developed a program to decrease injuries by ensuring that ground crews followed safety procedures.
- Another major passenger airline analyzed employee injury data and found that rotator cuff injuries caused by baggage handling were the costliest injuries. They placed affected employees out of work on medical leave for about six months, resulting in an average of $65,000 in medical costs per incident. Using this information, it developed policies and procedures to ensure that employees handled baggage properly, with the goal of reducing injuries, better protecting employees, and reducing costs in the process.

National Safety Council[13] research also shows that the costs of injuries and claims are key data that organizations should use to help them develop a risk mitigation strategy, and that reducing injuries can lead to a parallel reduction in costs. For example, in 2016, the council reported that one transportation company integrated all data, including claims costs, into its risk management process, and over a two-year period both reduced its injuries by 11 percent and its financial damages by 23 percent.

The Safety department compiles employee injury data into a central database, which it uses to track safety incidents to report to the Federal Railroad Administration and identify risks to mitigate. For example, in FY 2020, when its data analysis showed that the most common employee injuries are sprains and strains, it implemented the physical stretching program. The company does not similarly analyze its injury claims financial data, but senior officials from both the Safety and Operations departments said they could use the additional data to better identify patterns of safety incidents and develop mitigation strategies.

Our analysis and work with other companies demonstrate the value of departments using claims data to operate more safely and, potentially, reduce costs. Moreover, the General Counsel told us the Law department is assessing ways to share the financial claims data within the company and that the department is open to developing a policy with the proper legal precautions to codify such processes but has not implemented

[13] The National Safety Council, chartered by Congress, is a leading nonprofit safety advocate, working to eliminate the leading causes of preventable deaths and injuries, and focusing efforts on where to make the greatest impact on the workplace.

a policy to date. With the ability to analyze these data, the company could identify other important patterns that would allow it to more efficiently allocate resources, save lives, prevent injuries, reduce costs, and ultimately meet its safety goals.

CONCLUSION

Since January 2018, the company has taken actions to implement its SMS, even as it continues to address a broad spectrum of challenges associated with the global coronavirus pandemic. In the near term, the company has opportunities to better use its injury claims financial data to better protect employees and passengers, and to reduce claims costs. For example, taking the actions we identified by conducting some sample analyses could address more traumatic injuries and could improve employee and passenger well-being. In addition, it could have saved the company $7.6 million over the past five years that the company could have put to better use. This would better protect employees and passengers, help the company achieve safety goals, and maximize the return on its SMS investment so it can more efficiently manage its resources.

RECOMMENDATIONS

To help the company better identify and manage safety risks, and potentially reduce injury claims costs, we recommend the following actions:

1. The Executive Vice President/General Counsel & Corporate Secretary should develop and implement a policy and process to regularly share legally appropriate injury claims financial data with the Safety and Operations departments.

2. The Chief Safety Officer, in conjunction with the Chief Operations Officer, should analyze these data to help identify risks and incorporate these results as part of the company's decisions on its safety management and risk mitigation strategies.

MANAGEMENT COMMENTS AND OIG ANALYSIS

In commenting on a draft of this report, the company's Executive Vice President/Chief Legal Officer, General Counsel & Corporate Secretary agreed with our recommendations and described the company's actions and plans to address them, which we summarize below.

Recommendation 1: Management agreed with our recommendation to develop and implement a policy to regularly share legally appropriate injury claims financial data with the Safety and Operations departments. The company plans to develop and implement such a policy to share appropriately aggregated data. The company also notes that it will put certain safeguards in place to protect its interests and ensure it maintains privacy and confidentiality. The target completion date is July 1, 2021.

Recommendation 2: Management agreed with our recommendation to analyze the injury claims financial data to help identify risks and incorporate these results into its risk mitigations strategies. Management stated that the analysis of these data will be ongoing, but the target completion date for incorporating metrics based on these data into its safety reporting is July 1, 2021.

Management also raised two methodological points about our analysis, which we clarify and resolve below:

- Management questioned whether we correctly aligned settlement amounts with specific incidents and locations, noting that claims settlements often occur years after the incident. We confirm that the claims figures in our analyses are correctly aligned with the settlement amounts paid for those claims. Using company data, we identified each incident by claimant name and number, and when the injury occurred. We also identified the total amount Amtrak actually paid for each claim—at once or in multiple installments—even if the claim payments occurred several years after the injury.
- Management questioned whether we used estimated liability payments or actual liability payments, asserting that using estimates could introduce uncertainty into any analysis. Using company data, our analysis included both actual payments for settled claims and estimated liability payments for claims that are not yet settled, as noted in our report. However, rather than introducing uncertainty, using the company's complete dataset allowed us to more accurately portray the universe of claims payments and injuries in our analyses. We note that the company's claims department itself estimates liability amounts and uses them for business purposes. For example, the estimates are part of the annual financial statement audit conducted by the company's independent public accountant. More importantly—as stated in the report—our analyses are not intended to be prescriptive, but instead illustrative of the types of assessments the company could consider as it enacts our recommendation.

APPENDIX A

Objective, Scope, and Methodology

This interim report identifies an opportunity in the near term for the company to better use its injury claims data, which detail costs of injuries and accidents, to help manage safety risks. Our scope focused on its use of data to help mitigate safety incidents from FY 2015 through FY 2019. We performed our audit work from April 2020 through January 2021 in Washington, D.C. Certain information in this report has been redacted due to its sensitive nature.

To help identify and quantify the impacts of safety incidents, we interviewed staff, including senior managers, in the Safety, Operations, and Law departments to understand how they use data—including injury claims data—to manage safety risks. We also used our data analytics tools to assess information from the company's claims database to identify injury patterns and settlement costs. We spoke with senior executives at three passenger transportation organizations—two passenger airlines and a regional transit authority—to understand how they use claims costs to manage safety risks. We selected these three organizations based on our research of industry practices, as well as suggestions from company officials about similar organizations that use claims data to assess and mitigate risks.

We conducted this performance audit in accordance with generally accepted governmental auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Internal Controls

We reviewed the management controls for overseeing the program and mitigating associated risks. We assessed the internal control components and underlying principles, and we determined that the following two components were significant to our audit objective:

> **Information and Communication.** The organization obtains or generates and uses relevant, quality information to support the functioning of internal control.

> *Identifies Information Requirements*. A process is in place to identify the information required and expected to support the functioning of the other components of internal control and the achievement of the entity's objectives.
>
> *Considers Costs and Benefits*. The nature, quantity, and precision of information communicated are commensurate with and support the achievement of objectives.

We developed audit work to ensure that we assessed this control. Because our review was limited to this internal control and the two underlying principles, it may not have disclosed all of the internal control deficiencies that may have existed at the time of this audit.

Computer-processed Data

To identify and quantify the impacts of safety incidents, including injury patterns and settlement costs, we relied on computer-processed data from the company's claims database. We used the Audit Command Language (ACL), a specialized data analysis software tool, to analyze 100 percent of injury claims for FY 2015 through FY 2019.

We compared the total claims payments listed in the claims database to the amount reported on the company's financial reports, and we found that they matched with less than a one percent discrepancy. We aggregated the data to present summary-level information by department, location, and injury type.

Based on this test, we determined that the discrepancy we found between the data set we obtained for analysis and the company's financial records on the total payments it made for liability claims was negligible, and that the data were sufficiently reliable for meeting our objective. Additionally, the Federal Railroad Administration conducts biannual audits of the company's injury reporting, and uses samples from the claims database to help evaluate how the company made determinations about whether injuries are required to be reported.

Prior Reports

- *Amtrak: Top Management and Performance Challenges for Fiscal Year 2021* (OIG-SP-2021-002); October 23, 2020

- *Safety and Security: The Company Can Take Steps to Evaluate Its Current Safety Culture* (Interim Audit Report OIG-A-2021-001); October 2, 2020

- *Safety and Security: Opportunities Exist to Improve the Safe-2-Safer Program* (OIG-A-2015-007); February 19, 2015

APPENDIX B

Top 20 Injuries Companywide and For Select Departments, FY 2015–FY 2019

Table 2. Comparison of top 20 Costliest Injuries and Frequency of Employee Claims Companywide, FY 2015-2019

Injury Type	Rank by Cost	[redacted]	[redacted]	Rank by Claim Frequency[a]	[redacted]
Fatality	1	[redacted]	[redacted]	38	[redacted]
Cartilage/muscle tear	2	[redacted]	[redacted]	6	[redacted]
Fracture	3	[redacted]	[redacted]	10	[redacted]
Sprain	4	[redacted]	[redacted]	1	[redacted]
Cancer[b]	5	[redacted]	[redacted]	17	[redacted]
Herniated disk	6	[redacted]	[redacted]	16	[redacted]
Concussion	7	[redacted]	[redacted]	22	[redacted]
Contusion	8	[redacted]	[redacted]	2	[redacted]
Sprain/strain	9	[redacted]	[redacted]	11	[redacted]
Crush	10	[redacted]	[redacted]	30	[redacted]
Rupture	11	[redacted]	[redacted]	24	[redacted]
Pain	12	[redacted]	[redacted]	5	[redacted]
Laceration	13	[redacted]	[redacted]	3	[redacted]
PTSD[c]	14	[redacted]	[redacted]	29	[redacted]
Carpal tunnel syndrome	15	[redacted]	[redacted]	20	[redacted]
Strain	16	[redacted]	[redacted]	15	[redacted]
Gunshot/knife	17	[redacted]	[redacted]	47	[redacted]
No injury type	18	[redacted]	[redacted]	13	[redacted]
Hernia	19	[redacted]	[redacted]	27	[redacted]
Other	20	[redacted]	[redacted]	9	[redacted]
All Other Injury Types	21	[redacted]	-	-	[redacted]
Total	-	$208,297,180	[redacted]	-	[redacted]

Source: OIG analysis of employee and injury claims data

Notes:
[a] The company tracks 51 injury types.
[b] The company tracks cancer caused by a potential workplace-related exposure to a carcinogen.
[c] Post Traumatic Stress Disorder

Table 3. Comparison of Transportation Department's Top 20 Costliest Injuries and Frequency of Employee Claims, FY 2015-2019

Injury Type	Rank by Cost	[redacted]	[redacted]	Rank by Claim Frequency[a]	[redacted]
Fatality	1	[redacted]	[redacted]	32	[redacted]
Fracture	2	[redacted]	[redacted]	12	[redacted]
Cartilage/muscle tear	3	[redacted]	[redacted]	8	[redacted]
Sprain	4	[redacted]	[redacted]	1	[redacted]
Herniated disk	5	[redacted]	[redacted]	15	[redacted]
Concussion	6	[redacted]	[redacted]	21	[redacted]
Contusion	7	[redacted]	[redacted]	2	[redacted]
Sprain/strain	8	[redacted]	[redacted]	11	[redacted]
Pain	9	[redacted]	[redacted]	9	[redacted]
Laceration	10	[redacted]	[redacted]	5	[redacted]
Gunshot/knife	11	[redacted]	[redacted]	37	[redacted]
PTSD[b]	12	[redacted]	[redacted]	20	[redacted]
Rupture	13	[redacted]	[redacted]	29	[redacted]
Strain	14	[redacted]	[redacted]	16	[redacted]
No injury type	15	[redacted]	[redacted]	14	[redacted]
Smoke inhalation	16	[redacted]	[redacted]	18	[redacted]
Carpal tunnel syndrome	17	[redacted]	[redacted]	26	[redacted]
Hernia	18	[redacted]	[redacted]	33	[redacted]
Animal/snake/insect bit	19	[redacted]	[redacted]	4	[redacted]
Bruise/contusion	20	[redacted]	[redacted]	19	[redacted]
All Other Injury Types	21	[redacted]	-	-	[redacted]
Total	-	$87,924,068	[redacted]	-	[redacted]

Source: OIG analysis of employee and injury claims data

Notes:
[a] The company tracks 51 injury types.
[b] Post Traumatic Stress Disorder

Table 4. Comparison of Engineering Department's Top 20 Costliest Injuries and Frequency of Employee Claims, FY 2015-2019

Injury Type	Rank by Cost	[redacted]	[redacted]	Rank by Claim Frequency[a]	[redacted]
Fracture	1	[redacted]	[redacted]	6	[redacted]
Cartilage/muscle tear	2	[redacted]	[redacted]	7	[redacted]
Fatality	3	[redacted]	[redacted]	32	[redacted]
Crush	4	[redacted]	[redacted]	23	[redacted]
Sprain	5	[redacted]	[redacted]	1	[redacted]
Herniated disk	6	[redacted]	[redacted]	14	[redacted]
Rupture	7	[redacted]	[redacted]	17	[redacted]
Laceration	8	[redacted]	[redacted]	5	[redacted]
Sprain/strain	9	[redacted]	[redacted]	8	[redacted]
Pain	10	[redacted]	[redacted]	4	[redacted]
PTSD[b]	11	[redacted]	[redacted]	28	[redacted]
Concussion	12	[redacted]	[redacted]	25	[redacted]
Contusion	13	[redacted]	[redacted]	2	[redacted]
Hernia	14	[redacted]	[redacted]	19	[redacted]
Strain	15	[redacted]	[redacted]	15	[redacted]
Amputation	16	[redacted]	[redacted]	30	[redacted]
Carpal tunnel syndrome	17	[redacted]	[redacted]	18	[redacted]
Cancer[c]	18	[redacted]	[redacted]	37	[redacted]
Other	19	[redacted]	[redacted]	10	[redacted]
Burn-electrical	20	[redacted]	[redacted]	20	[redacted]
All Other Injury Types	21	[redacted]	-	-	[redacted]
Total	-	$48,782,347	[redacted]	-	[redacted]

Source: OIG analysis of injury claims data

Notes:
[a] The company tracks 51 injury types.
[b] Post Traumatic Stress Disorder
[c] The company tracks cancer caused by a potential workplace-related exposure to a carcinogen.

Table 5. Comparison of Mechanical Department's Top 20 Costliest Injuries and Frequency of Employee Claims, FY 2015-2019

Injury Type	Rank by Cost	[redacted]	[redacted]	Rank by Claim Frequency[a]	[redacted]
Fatality	1	[redacted]	[redacted]	37	[redacted]
Cartilage/muscle tear	2	[redacted]	[redacted]	5	[redacted]
Sprain	3	[redacted]	[redacted]	1	[redacted]
Contusion	4	[redacted]	[redacted]	2	[redacted]
Herniated disk	5	[redacted]	[redacted]	20	[redacted]
Concussion	6	[redacted]	[redacted]	27	[redacted]
Fracture	7	[redacted]	[redacted]	8	[redacted]
Sprain/strain	8	[redacted]	[redacted]	9	[redacted]
Carpal tunnel syndrome	9	[redacted]	[redacted]	14	[redacted]
Pain	10	[redacted]	[redacted]	4	[redacted]
Stress trauma	11	[redacted]	[redacted]	26	[redacted]
Rupture	12	[redacted]	[redacted]	34	[redacted]
Laceration	13	[redacted]	[redacted]	3	[redacted]
Strain	14	[redacted]	[redacted]	16	[redacted]
Hernia	15	[redacted]	[redacted]	33	[redacted]
Burn-electrical	16	[redacted]	[redacted]	21	[redacted]
Crush	17	[redacted]	[redacted]	24	[redacted]
PTSD[b]	18	[redacted]	[redacted]	38	[redacted]
No injury type	19	[redacted]	[redacted]	15	[redacted]
Other respiratory	20	[redacted]	[redacted]	18	[redacted]
All Other Injury Types	21	[redacted]	-	-	[redacted]
Total	-	$35,846,041	[redacted]	-	[redacted]

Source: OIG analysis of employee and injury claims data

Notes:
[a] The company tracks 51 injury types.
[b] Post Traumatic Stress Disorder

Table 6. Comparison of Stations and Customer Service Department's Top 20 Costliest Injuries and Frequency of Employee Claims, FY 2015-2019

Injury Type	Rank by Cost	[redacted]	[redacted]	Rank by Claim Frequency[a]	[redacted]
Crush	1	[redacted]	[redacted]	21	[redacted]
Sprain	2	[redacted]	[redacted]	1	[redacted]
Contusion	3	[redacted]	[redacted]	2	[redacted]
Allergies	4	[redacted]	[redacted]	22	[redacted]
Fracture	5	[redacted]	[redacted]	7	[redacted]
Sprain/strain	6	[redacted]	[redacted]	9	[redacted]
Herniated disk	7	[redacted]	[redacted]	23	[redacted]
Cartilage/muscle tear	8	[redacted]	[redacted]	24	[redacted]
Other	9	[redacted]	[redacted]	5	[redacted]
Concussion	10	[redacted]	[redacted]	15	[redacted]
No injury type	11	[redacted]	[redacted]	13	[redacted]
Carpal tunnel syndrome	12	[redacted]	[redacted]	16	[redacted]
Pain	13	[redacted]	[redacted]	6	[redacted]
Bruise/contusion	14	[redacted]	[redacted]	17	[redacted]
Amputation	15	[redacted]	[redacted]	27	[redacted]
Burn-liquid	16	[redacted]	[redacted]	25	[redacted]
Asbestos related	17	[redacted]	[redacted]	28	[redacted]
Strain	18	[redacted]	[redacted]	10	[redacted]
Hernia	19	[redacted]	[redacted]	18	[redacted]
Laceration	20	[redacted]	[redacted]	3	[redacted]
All Other Injury Types	21	[redacted]	-	-	[redacted]
Total	-	$4,303,672	[redacted]	-	[redacted]

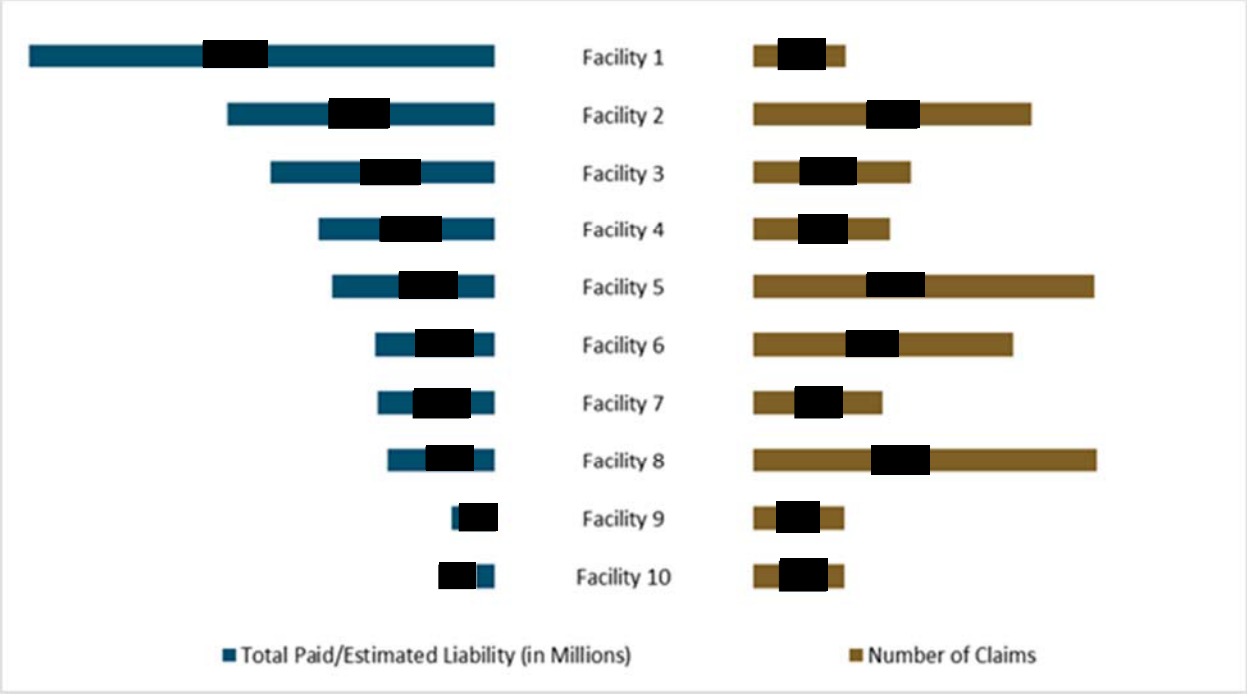
Source: OIG analysis of employee and injury claims data

Note:
[a] The company tracks 51 injury types.

APPENDIX C

Comparison of Operations Departments Cost and Number of Claims By Location, FY 2015–FY 2019

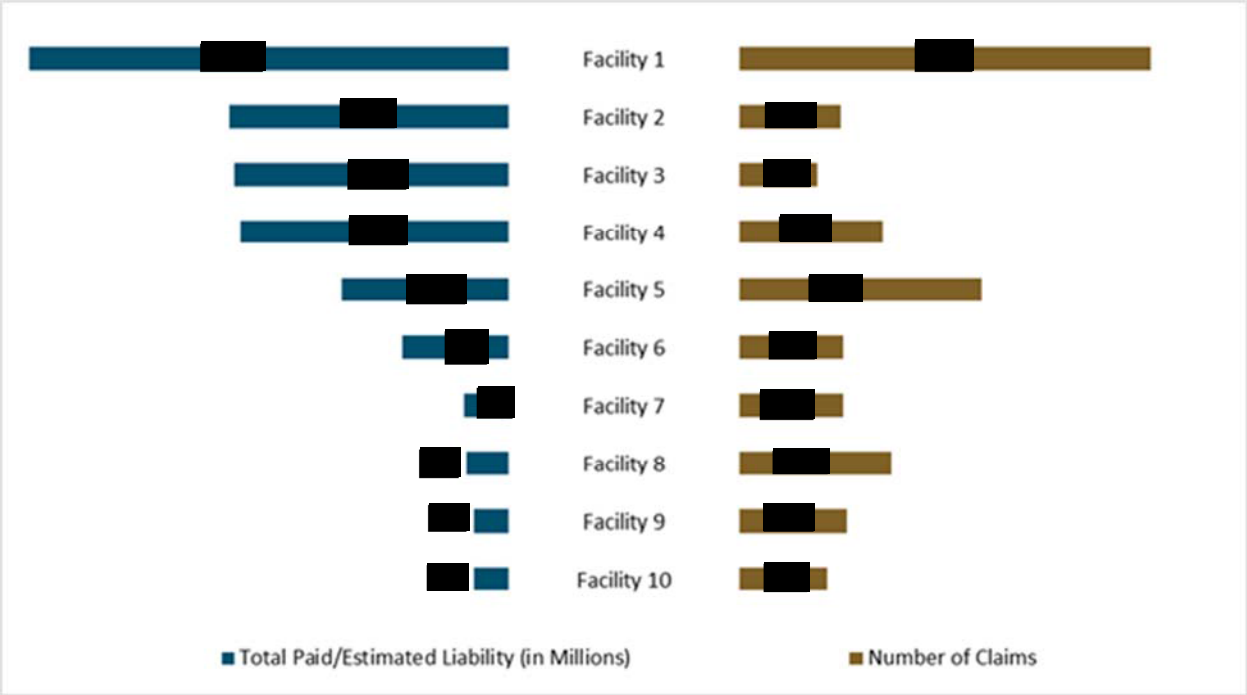
Figure 4. Comparison of Cost and Number of Claims for Transportation Department Locations, FY 2015–FY 2019[a]



Source: OIG analysis of employee and injury claims data

Note:
[a] Data are current as of September 2020, but claims can be filed within three years of the date of the incident. We excluded from this analysis incidents that did not have a specific location listed in the data.

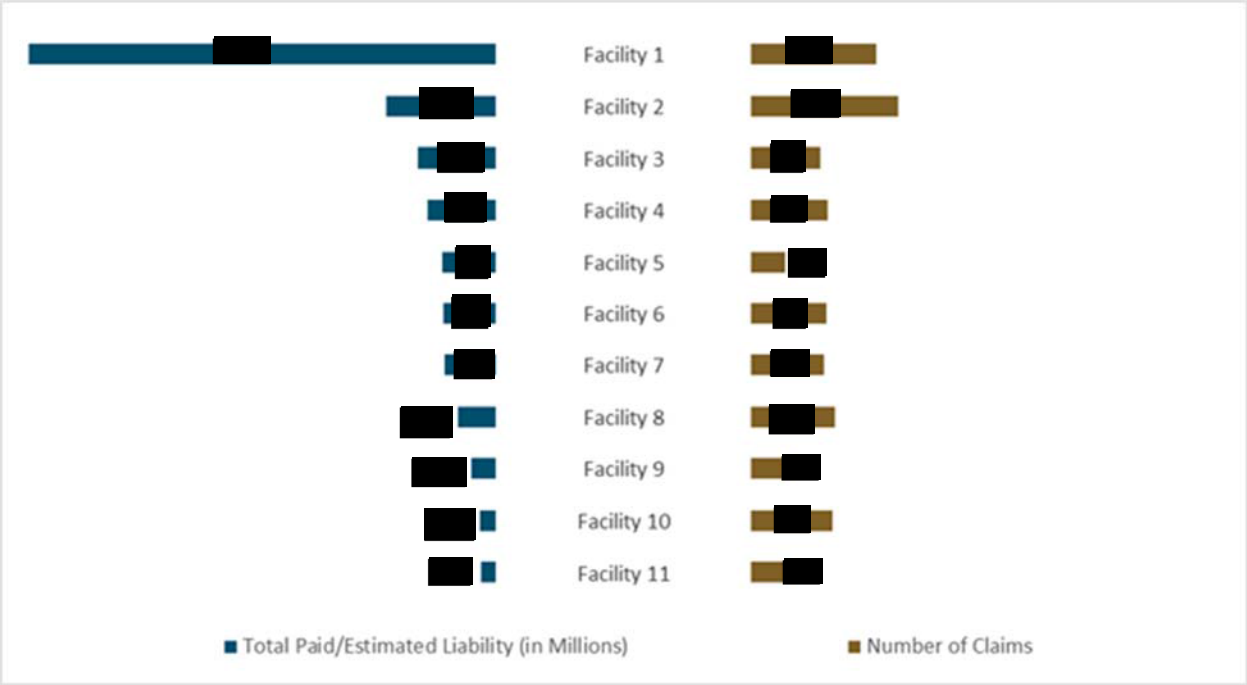
Figure 5. Comparison of Cost and Number of Claims for Engineering Department Locations, FY 2015–FY 2019[a]



Source: OIG analysis of employee and injury claims data

Note:
[a] Data are current as of September 2020, but claims can be filed within three years of the date of the incident. We excluded from this analysis incidents that did not have a specific location listed in the data.

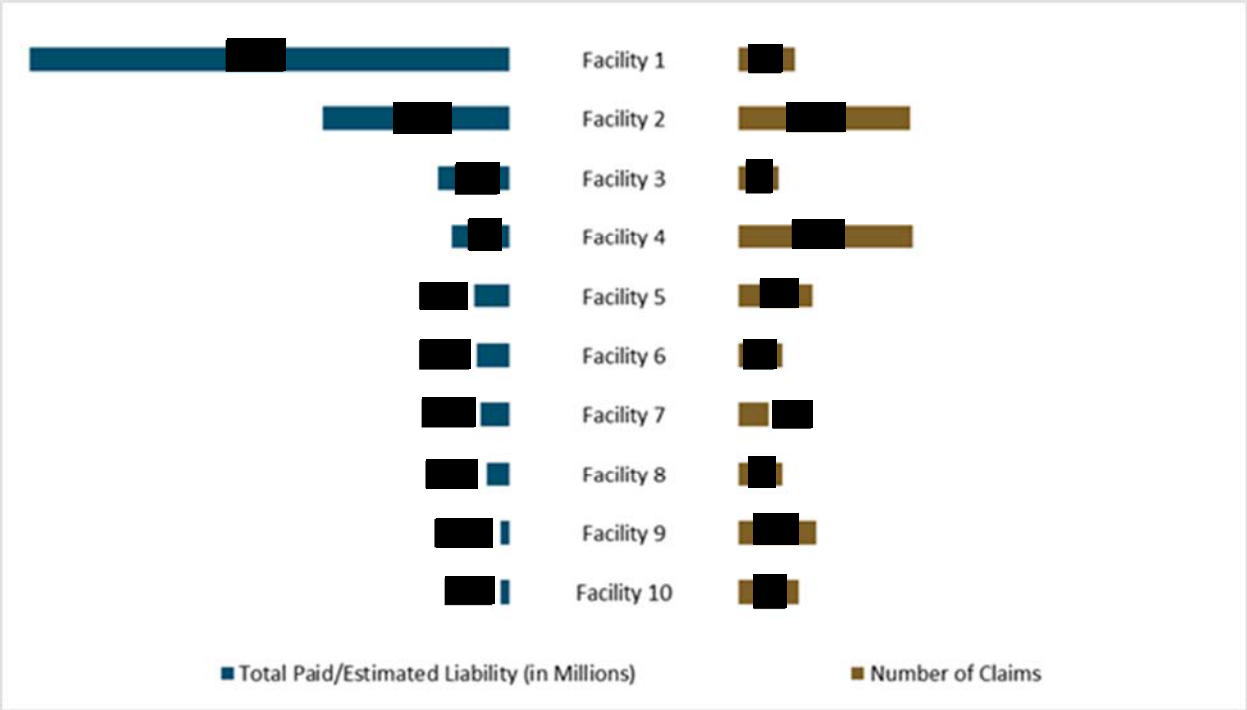
Figure 6. Comparison of Cost and Number of Claims for Mechanical Department Locations, FY 2015–FY 2019[a]



Source: OIG analysis of employee and injury claims data

Note:
[a] Data are current as of September 2020, but claims can be filed within three years of the date of the incident. We excluded from this analysis incidents that did not have a specific location listed in the data.

Figure 7. Comparison of Cost and Number of Claims for Stations and Customer Service Department Locations, FY 2015–FY 2019[a]



Source: OIG analysis of employee and injury claims data

Note:
[a] Data are current as of September 2020, but claims can be filed within three years of the date of the incident. We excluded from this analysis incidents that did not have a specific location listed in the data.

APPENDIX D

Management Comments

NATIONAL RAILROAD PASSENGER CORPORATION

Memo

AMTRAK

Date	February 12, 2021	From	Eleanor D. Acheson *Executive Vice President, Chief Legal Officer, General Counsel & Corporate Secretary*
To	Jim Morrison, Assistant Inspector General, Audits	Department	Law
		cc	Mary Kendall, Deputy Inspector General Frank Mazurek, Deputy Counsel William J. Flynn, President & CEO Stephen Gardner, Sr. EVP COCO Steven Predmore, EVP CSO Scot Naparstek, EVP COO Tracie Winbigler, EVP CFO Roger Harris, EVP Marketing & Revenue Dennis Newman, EVP Strategy & Planning Qiana Spain, EVP CHRO Christian Zacariassen, EVP CIO Carol Hanna, VP Controller Mark Richards, Sr. Director Amtrak Risk & Controls Adrienne Gaston, Senior Director Claims Wilfred Mills, Deputy General Counsel Tom Bloom, Deputy General Counsel

Subject Management Response to *SAFETY AND SECURITY: The Company Can More Effectively Use Injury Claims Data to Help Reduce Risks* (Interim Draft Audit Report for Project No. 016-2020) dated February XX, 2021

This memorandum provides Amtrak's response to the draft audit report titled, "*SAFETY AND SECURITY: The Company Can More Effectively Use Injury Claims Data to Help Reduce Risks* (Interim Draft Audit Report for Project No. 016-2020) dated February XX, 2021". Management appreciates the opportunity to respond to the OIG's report and recommendations. As indicated in our responses, we agree with each of the OIG's recommendations and will initiate actions to address each in a timely manner.

General Comments and Observations

Law/Claims appreciates the OIG's revisions to the initial draft of this report. Law/Claims highlights two points, because we think they cloud the conclusions of aspects of the report. The two issues are the temporal alignment of injury claims financial data and the use of EOLs versus settlement costs. There are problems with the use of injury claims financial data in Tables where those data are aligned with other number elements of the whole data group by time period:

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NATIONAL RAILROAD PASSENGER CORPORATION

First, it appears that the OIG is using settlement amounts paid data in a given time period and aligning those data with, for example, numbers of incidents at locations in the time period they occurred: If the OIG's point is that that amount of $ was paid for those incidents in that same time period, unless the OIG has tracked by claimant name or number each incident when the incident/injury occurred and the $ actually paid for that claim and transaction costs incurred for that claim, those sets of data are almost certainly not aligned temporally, as those settlement costs in many, many cases including the material cases trail the incident/injury by years.

Second, to the extent the OIG is using Estimates of Liability (EOLs) rather than actual costs of investigations, defense and settlement, three other material uncertainties are introduced: EOLs change over time as information about an incident and injury develops so a methodological weakness would permeate the Tables and conclusions drawn; EOLs, depending on the stage used, may or may not align with a settlement; and an EOL does not include the investigation and defense cost elements of injury claims financial data.

OIG Recommendation 1:

The Executive Vice President / General Counsel & Corporate Secretary should develop and implement a policy and process to regularly share legally appropriate injury claims financial data with the Safety and Operations departments.

Management Response/Action Plan: Law is fully committed regularly to share Claims financial data with Safety and Operations, with the following caveats that the data be appropriately aggregated and with appropriate safeguards vis-a-vis the legal, contractual, and other legitimate Amtrak interest constraints. The EVP/GC & Corporate Secretary will develop and implement a policy regularly to provide Safety and Operations Claims financial data, subject to compliance with legal and contractual rights to privacy and confidentiality and in such a form as to avoid compromise of Amtrak's Claims policies, strategies, practices and processes, including claims handling and resolution strategy and determination.

Responsible Amtrak Official(s): Eleanor D. Acheson, EVP, Chief Legal Officer, General Counsel & Corporate Secretary.

Target Completion Date: Law/Claims is targeting the regular provision of injury claims financial data to Safety by July 1, 2021.

Recommendation 2:

The Chief Safety Officer, in conjunction with the Chief Operations Officer, should analyze these data to help identify risks and incorporate these results as part of the company's decisions on its safety management and risk mitigation strategies.

Management Response/Action Plan: Amtrak Safety and Operations is fully committed to incorporating the review and analysis of relevant data from Claims on an ongoing basis to better understand and mitigate the occurrence and severity of employee injuries. We have established a working team to

identify data appropriate to meeting this commitment and will be including measures of injury severity into our regular reporting of safety performance to the Executive Safety & Security Committee during FY21.

Responsible Amtrak Official(s): Steven C. Predmore, Executive Vice President & Chief Safety Officer.

Target Completion Date: Analysis of relevant data will be ongoing. We are targeting incorporation of severity metrics into our regular reporting of safety performance by July 1, 2021.

APPENDIX E

Abbreviations

FY	fiscal year
OIG	Amtrak Office of Inspector General
SMS	Safety Management System
the company	Amtrak

APPENDIX F

OIG Team Members

Eileen Larence, Deputy Assistant Inspector General

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Vijay Chheda, Senior Director

Melissa L. Hermes, Senior Audit Manager

Alejandra Rodriguez, Senior Audit Manager

Drew Woodall, Senior Auditor, Lead

Andrew W. Mollohan, Senior Auditor, Lead

Gabriel Picinini, Auditor

Richard M. Weiland Jr., Auditor

Alison O'Neill, Communications Analyst

OIG MISSION AND CONTACT INFORMATION

Mission

The Amtrak OIG's mission is to provide independent, objective oversight of Amtrak's programs and operations through audits and investigations focused on recommending improvements to Amtrak's economy, efficiency, and effectiveness; preventing and detecting fraud, waste, and abuse; and providing Congress, Amtrak management, and Amtrak's Board of Directors with timely information about problems and deficiencies relating to Amtrak's programs and operations.

Obtaining Copies of Reports and Testimony

Available at our website www.amtrakoig.gov

Reporting Fraud, Waste, and Abuse

Report suspicious or illegal activities to the OIG Hotline

www.amtrakoig.gov/hotline

or

800-468-5469

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