PCRB
PENNSYLVANIA
Compensation Rating Bureau

To: The Honorable Michael Humphreys, Insurance Commissioner

From: Brent Otto, FCAS, MAAA Vice President of Actuarial Services and Chief Actuary

Date: September 18, 2025

Subject: Actuarial Memorandum for Filing No. 346: First Responder Loss Cost Changes for Expanded PTSI Coverage in Response to Act 121 of 2024; Proposed Effective April 1, 2026.

This actuarial memorandum provides a discussion of the analysis performed by the PCRB resulting from Act 121 of 2024 (Senate Bill No. 365 of the 2023-2024 Session), enacted by the Commonwealth of Pennsylvania's General Assembly. This piece of legislation amended portions of the Workers' Compensation Act related to ambulance corps (code 807), salaried police and firefighters (code 985), volunteer ambulance corps (code 993), and volunteer fire company (code 994) by expanding eligibility for first responder workers' compensation claims for Post-Traumatic Stress Injuries (PTSI). Based on the PCRB's review and evaluation of this legislation, which expands coverage, the PCRB has performed an analysis resulting in adjustments to the four class codes to reflect the legislation.

SUMMARY OF THE FILING

This filing proposes a targeted adjustment to the loss costs for specific first responder class codes to reflect the expanded eligibility for PTSI claims introduced by Act 121 of 2024. The overall impact of the changes is estimated to be approximately 0.13% on overall system costs.

The loss cost impacts on the following four affected class codes are:

Class	Class Description	Percent Change[1]
807	Ambulance Service: Salaried Employees	12.7%
985	Police or Firefighters: Salaried Employees	3.0%
993	Volunteer Ambulance Corps – First Responders	13.0%
994	Volunteer Fire Company – First Responders	5.9%

These changes are the result of applying temporary adjustments to reflect the anticipated increase in claim frequency and severity resulting from the expanded PTSI coverage. The adjustments are intended to be in place for several years to bridge the gap until actual class experience reflecting this expanded exposure becomes available and can be incorporated into the ratemaking process through standard actuarial procedures. Also, the understanding is that this legislation only includes defined first responders, so class codes 906-Volunteer Ambulance

[1] The percentage change in loss costs differs slightly from the adjustment factors shown in Exhibit 4 due to rounding conventions applied during the post-surcharge calculations. For example, for Class 807, while the adjustment factor is 1.1283, rounding of the current and proposed post-surcharge loss costs results in a percentage change of 12.7%.

Corps-Support Staff, and 989-Volunteer Firefighter Company-Support Staff are not impacted by this change.

DEFINITION OF COVERAGES SUBJECT TO THIS FILING

Pennsylvania Governor Josh Shapiro signed Senate Bill 365 into law as Act 121 of 2024 on October 29, 2024. Act 121 expands workers' compensation coverage for first responders with PTSI. The PCRB anticipates an increase in related claims due to additional exposures from the expanded coverage. In response to the potential additional exposure, the PCRB determined that a loss cost filing was necessary to address the long-term impact of Act 121.

Act 121 defines "first responder" as any of the following public servants:

- An emergency medical services (EMS) provider
- An active volunteer, employee, or member of a fire company
- A Pennsylvania state police officer
- A peace officer

Act 121 specifies that first responders are entitled to receive compensation for a PTSI suffered during the course of the individual's employment. This is a significant change that was introduced. Prior to the passing of this Act, coverage for PTSI was limited only to "abnormal working conditions."

Act 121 outlines specific circumstances that are presumed to be covered under workers' compensation for first responders diagnosed with PTSI. These include:

- Witnessing someone being seriously injured or killed
- Handling cases involving harmed or abused children
- Facing a direct threat to life
- Responding to mass casualty events
- Investigating violent or disturbing crime scenes

To file a claim, a first responder still must meet certain criteria. The criteria list is as follows:

- The PTSI must be diagnosed by a licensed psychologist or psychiatrist.
- The claim must be filed within three years of diagnosis.
- The traumatic event must have occurred within five years of the law's effective date.
- Benefits are limited to a maximum of 104 weeks.
- Claims related to routine job actions (e.g., termination, transfer, or performance reviews) are not eligible.

ADHERENCE TO ACTUARIAL PRINCIPLES AND STANDARDS OF PRACTICE

This filing has been developed using actuarial methods that are consistent with all applicable actuarial principles and standards of practice. Loss costs, as developed, filed and distributed by the PCRB, represent estimates of future costs. These estimates rely on projections of loss experience (claim costs) to the prospective time period during which they will be in effect. That is, they are estimates of the costs of claims that are made under workers compensation insurance policies to be in effect from April 1, 2026 to March 31, 2027. The ultimate, true value of these claims will not be known until they have all closed. As a result, estimates of the future costs must

be used. Adherence to actuarial principles and standards of practice ensures the reasonableness of the estimates, along with their compliance with regulatory requirements.

Four principles are provided in the Casualty Actuarial Society's Statement of Principles Regarding Property and Casualty Insurance Ratemaking. The fourth principle states:

> "A rate is reasonable and not excessive, inadequate, or unfairly discriminatory if it is an actuarially sound estimate of the expected value of all future costs associated with an individual risk transfer."

There are many Actuarial Standards of Practice (ASOPs) applicable to this filing. These documents establish the standards, including appropriate considerations, that guide an actuary in developing and presenting the methods and calculations contained in this filing. These include ASOPs regarding data quality, credibility, trend, risk classification, and communications.

This filing relied on the classification study survey data collected by the PCRB, which assisted in the development of assumptions used to quantify the impact of the added exposures due to the legislation. The analysis also used data provided by our member companies; however, in accordance with ASOP No. 23 Data Quality, the data has been reviewed for reasonableness and consistency. Some examples of review include, but are not limited to, identifying data anomalies, comparing loss data, and data patterns observed in other analyses.

Actuarial Standard of Practice No. 25, Credibility Procedures (ASOP25 or the Standard), provides guidance that is applicable to this filing. ASOP25 defines the term "Credibility" as, "A measure of the predictive value in a given application that the actuary attaches to a particular set of data (predictive is used here in the statistical sense and not in the sense of predicting the future)."[2] The Standard provides guidance to actuaries for the use of credibility procedures. Relevant to this filing, the standard describes the use of professional judgment:

> The actuary should use professional judgment when selecting, developing, or using a credibility procedure. The use of credibility procedures is not always a precise mathematical process. For example, in some situations, an acceptable procedure for blending the subject experience with the relevant experience may be based on the actuary assigning full, partial, or zero credibility to the subject experience without using a rigorous mathematical model.

Given the uniqueness of this exercise, the Standards also provide the following discussion:

> A number of ratemaking methodologies have been established by precedent or common usage within the actuarial profession. Since it is desirable to encourage experimentation and innovation in ratemaking, the actuary need not be completely bound by these precedents. Regardless of the ratemaking methodology utilized, the material assumptions should be documented and available for disclosure. While no ratemaking methodology is appropriate in all cases, a number of considerations commonly apply. Informed actuarial judgments can be used effectively in ratemaking. Such judgments may be applied throughout the ratemaking process and should be documented and available for disclosure.[3]

DISCUSSION OF THIS FILING'S APPROACH, DATA, METHODS, AND FINDINGS

[2] ASOP25, Section 2.1.
[3] CAS Principles of Ratemaking, lines 59 through 64, 138 through 140.

General Approach

The PCRB believes the legislation requires an increase in loss costs given the clear expansion of eligibility. The legislation is not just codifying current practices but expanding exposures.

PCRB developed two approaches to reasonably estimate the frequency of claims. While it is estimated that the costs for the added exposures are relatively small compared to the overall system, they were deemed material to warrant an adjustment in the loss costs for the individual classes.

To account for the new exposure, adjustments to the loss cost of four classes' (i.e. Codes 807, 993, 994, and 985) are projected based on estimated additional annual PTSI claim costs. Average severity of PTSI claims is calculated by developing losses to ultimate level for first responder classes. The average number of additional PTSI claims is estimated by averaging an empirical method with an exposure method. The PCRB also conducted a survey of first responder organizations to assist the analysis. The resulting cost impact is calculated using the severity and frequency of PTSI claims and then allocating projected losses across the four affected class codes based on historical PTSI claim experience and average annual claim size of each class. The adjustment factor is determined by comparing its share of PTSI-related losses to each classes' average annual losses.

The study also acknowledges that there are limitations to the analysis. The analysis is based on a relatively small number of PTSI claims (464 over five years), which may not fully represent the broader first responder workforce or future trends. There is uncertainty in the behavioral response to the legislation. The estimated increases rely on assumed filing behaviors and acceptance rates under Act 121, which may differ from actual outcomes once the law is implemented. The assumption-based modeling is also dependent on simplified assumptions that may not fully capture all real-world complexities. To help mitigate some of these limitations, actuarial best practices were used to consider multiple methods thus reducing the potential bias from any single assumption.

Data and Methods Used

It was determined that the best approach to establish loss costs would be to determine projected class code adjustments. Using various data sources, adjustment factors were calculated based on a frequency times severity method, both described below. These factors serve as the basis in adjusting loss costs for the four classes.

The severity relies on Unit Statistical Data of statewide medical nature of injury 69 (mental disorder), and 77 (mental stress) claims and indemnity class codes 807 (Ambulance Service – Salaried Employees), 985 (Police or Firefighters – Salaried Employees), 993 (Volunteer Ambulance Corps), 994 (Volunteer Firefighters).

The frequency projections utilizes an average of both empirical and exposure-based methods.

The empirical method estimates additional claims by analyzing historical claim data and applying assumptions about newly eligible claims due to Act 121. This method uses claims counts and denial rates associated with codes 807, 985, 993, and 994. The assumption is that claims that

were previously denied are more likely to now enter the system. Claim data from the Pennsylvania Department of Labor & Industry for Policy Years 2020-2024 is used to calculate the average number of accepted and denied PTSI claims. Using this as a baseline, the methodology projects two categories of additional claims:

1. New claims from previously denied cases, now potentially eligible due to the removal of the "abnormal working condition" requirement

2. New claims arising from expanded awareness or access, expected to increase overall filing rates

Each projection is calculated using high and low estimate scenarios, which reflect different assumptions about acceptance rates and behavioral responses. These results are then incorporated alongside the exposure-based method to support a balanced and data-informed filing recommendation.

The exposure-based method estimates the number of potential PTSI claims among first responders using external data sources and role-specific assumptions. This approach recognizes that EMS personnel, firefighters, and police officers experience PTSI at different rates, as supported by multiple peer-reviewed studies and national surveys. Accordingly, separate PTSI prevalence rates are applied to each occupational group.

To estimate the total number of first responders in Pennsylvania, data was drawn from the Bureau of Labor Statistics (BLS) and Pennsylvania Fire & Emergency Services Institute (PFESI). The uniqueness within the state of having the majority of first responders within a volunteer role rather than a full salaried position was also considered in the selection of some assumptions. Each group's estimated count was then used to calculate the annual exposure, incorporation assumptions about:

- Average career length
- Proportion of responders privately insured
- Percentage of individuals who develop PTSI
- Likelihood of seeking treatment
- Likelihood of filing a workers' compensation claim

Actuarial best practice is to use multiple methods when more than one reasonable method is available. While both methods took different approaches relying on different assumptions, the two methods produced different, but reasonably consistent projections. Based on the fact that neither method seemed superior to the other, the final selected claim amount was determined as the simple average of the additional claims produced by each method.

The adjustment factor to determine the change needed for each loss cost was determined by multiplying the severity with the average of the two frequency methods and distributing the total loss amongst the four first responder class codes based on PTSI prevalence. Each class is adjusted to post-surcharge with the factor.

Key Results

Class	Current Loss Cost	Proposed Loss Cost	% Change
807	2.09	2.355	12.7%
985	1.82	1.875	3.0%
993	255.92	289.240	13.0%
994	0.82	0.868	5.9%

Note on Class Code 994: Unlike the other three first responder classes, Class Code 994 (Volunteer Fire Company – First Responders) uses a unique exposure base. Since 1977, loss costs for this class have been determined based on the population served by each volunteer fire company, rather than payroll or per capita basis. This approach accounts for the significant variation in service areas across Pennsylvania's municipalities. A schedule of adjusted annual loss costs by population range is provided in Exhibit 5.

DISCUSSION OF EXHIBITS

An index of all exhibits appears at the end of this memorandum. The following material provides discussion of the key elements.

Exhibit 1 – Severity

Exhibit 1 derives the average PTSI claim severity of $40,000 using empirical Unit Statistical Data for both indemnity and medical components. Indemnity losses were developed using Unit Statistical Data for the four first responder classes noted above, with appropriate loss development factors applied. Medical losses were developed using all class codes with nature of injury codes associated with mental disorder (69) and mental stress (77). This combined severity is used to allocate the projected PTSI-related costs to class codes 807, 985, 993, and 994 in Exhibit 4.

Page 1 displays the indemnity and medical Loss Development Factor (LDF) calculations. 5-year average LDF was selected with the tail set at 10th report to develop losses to ultimate.

Page 2 displays indemnity and medical:

- Ultimate loss amounts
- Claim counts
- Average Severity

The selected average PTSI claim severity: $40,000 = $31,760 indemnity + $8,554 medical average claim severity components rounded to $1,000.

The reasonableness of the severity selection was also informed by looking at other average severities. For example, statewide average WC severity for loss-time claims is approximately $60,000 in the state of Pennsylvania. However, the expectation is that the medical severities will be lower for PTSI claims since any physical injuries costs are removed from this analysis. Also,

data from other states (i.e. Florida, New York, Ohio) and other research organizations were reviewed, and the average severities for PTSI claims were generally in the range of $40,000 to $63,000[4], which puts the selection at the lower end of this range.

Exhibit 2 – Empirical Method

Exhibit 2 illustrates the estimated number of additional annual PTSI claims among first responders using an empirical-based method. Based on the projection:

- The low estimate is 32.5 additional claims per year
- The high estimate is 65.0 additional claims per year

These estimates will be averaged with those from the exposure-based method to develop the final projected increase in PTSI-related workers' compensation claims.

Methodology and Data Sources

This analysis relies on data from the Pennsylvania Department of Labor and Industry (L&I) to estimate the number of additional first responders PTSI claims expected. The L&I provided the PCRB with and the claim counts for PTSI-related accepted and denied claims for policy years 2020 to 2024.

Across the five policy years, there were 464 total PTSI-related claims (both accepted and denied), resulting in an average of 92.8 claims per year. Historical denial rates show that approximately 50% of PTSI claims were denied, meaning the average annual number of accepted claims is estimated at 46.4. Using this data, the projection model identifies two sources of potential new claims under Act 121:

1. Previously denied claims that may now qualify under the expanded definition
2. New claims resulting from expanded awareness, education or access to benefits

For the previously denied claims**,** the model applies:

- A low estimate: 50% of previously denied claims may now be accepted
- A high estimate: 100% of previously denied claims may now be accepted

The expanded awareness and education group is necessary to capture the claims that were never filed to have the chance of denials given the previous qualification standards. For this portion, the model assumes:

- 20% increase in claim filings

Together, these assumptions yield:

[4] Rand: https://www.rand.org/pubs/research_briefs/RBA1391-1.html
Florida: https://www.flsenate.gov/Session/Bill/2022/689/Analyses/h0689e.SAT.PDF
New York: https://www.nycirb.org/nycirb-documents/documents/Amended-Mental-Injury-Law-2025.pdf
Ohio: https://www.lsc.ohio.gov/assets/organizations/legislative-service-commission/monthly-agency-reports/agency-reports/files/mar-124-hb80-2019-ptsd-annual-cost-estimate.pdf

- Low Estimate: 23.2 claims (from requalified denials) + 9.3 claims (from new awareness) = 32.5 total
- High Estimate: 46.4 claims (from requalified denials) + 18.6 claims (from new awareness) = 65.0 total

Exhibit 3 – Exposure Based Method

Exhibit 3 presents the projected number of additional annual PTSI claims among first responders using an exposure-based methodology. The model yields:

- A low estimate of 22.7 additional claims per year
- A high estimate of 137.5 additional claims per year

These estimates will be averaged with those from the empirical-based method in Exhibit 2 to develop the final projected increase in PTSI-related workers' compensation claims.

Methodology and Data Sources

This approach uses first responder workforce data for Pennsylvania's first responder workforce, segmented into three occupational groups:

- EMS providers
- Firefighters
- Police officers

Estimates for occupational counts of EMS providers and Police Officers were sourced from the U.S. Bureau of Labor Statistics (BLS)[5]. The estimate of Firefighter occupational counts is based on the average of Pennsylvania Fire & Emergency Services Institute (PFESI)[6], and the U.S. Fire Administration (USFA)[7]. The total first responder workforce of 63,000 is derived as follows:

- Police officers: 30,000 = 24,280 (Police and Sheriff's Patrol Officers) + 5,310 (First-Line Supervisors of Police and Detectives) rounded to 1,000
- EMS providers: 15,000 = 9,810 (Emergency Medical Technicians) + 4,070 (Paramedics) + 1,550 (Ambulance Drivers and Attendants) rounded to 1,000
- Firefighters: 18,000 = 40,000 (volunteer firefighters) * 12.5 (average hours worked) / 40 (full time hours) + 5,000 (career firefighters) rounded to 1,000. Volunteers are converted into Full-Time Equivalent (FTE) based on a 12.5 hour average amount of weekly work.

[5] BLS Bureau of Labor Statistics SOC codes 33-1012(First-Line Supervisors of Police and Detectives), 33-3051(Police and Sheriff's Patrol Officers), 53-3011(Ambulance Drivers and Attendants, Except Emergency Medical Technicians), 29-2042(Emergency Medical Technicians), 29-2043(Paramedics) for the period of May 2024, Pennsylvania.
[6] PFESI Pennsylvania State Government Emergency Services Information, 2018. https://pfesi.org/ferebag/2020/05/SR-6-REPORT-FINAL.pdf
[7] USFA National Fire Department Registry, 2025. https://apps.usfa.fema.gov/registry/download

Estimates for average career lengths were from multiple sources such as the Police Executive Research Forum (PERF)[8], National Fire Protection Association (NFPA)[9], Office of Justice Programs (OJP)[10], and International Association of Fire Fighters (IAFF). These career lengths are used to estimate the amount of first responders exposure per year by dividing the column (a) with column (b). The exposure per year needs to account for self-insured first responder companies. 85% is multiplied by column (c) to remove the estimated 15% self-insured organizations and isolate the privately insured portion of first responders. This assumption is based on viewing the percentage of policies and fire departments compared to the statewide counts. The Pennsylvania Insurance Department corroborated our assumption based on prior research data. Each occupational group is multiplied by a low and high estimate of PTSI prevalence based on national studies[11]. The PCRB conducted a survey of first responder organizations, and the results supported the PTSI prevalence rates of around 10%, similar to the average calculated value.

These PTSI estimated values in column (f) are then passed through a series of multipliers based on published assumptions:

- 40% of individuals with PTSI seek treatment[12]
- 62.5% of those who seek treatment file a workers' compensation claim

It is appropriate to assume that not all individuals who seek treatment will also file a claim as some may elect to handle treatment by other individual means. It was assumed between 50% and 75% would most likely file a claim for these injuries, so the selection is simply based on an average of this range. Other views ranged even further from only 15% to 100%, however we felt this selection was most reasonable, and the overall approach is not overly sensitive to any single assumption if actual results turnout to be slightly different.

The method subtracts the current observed average of accepted PTSI claims (46.4 per year) from the total in column (h) to get the number of additional PTSI claims per year in column (i).

- Low estimate: 69.1 – 46.4 = 22.7 additional claims
- High estimate: 183.9 – 46.4 = 137.5 additional claims

These estimates will be multiplied with the severity from Exhibit 1 to develop the final projected increase in PTSI-related workers' compensation claim losses.

Exhibit 4 – Impact

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[8] PERF Survey of Police Departments, 2023. https://www.policeforum.org/staffing2024
[9] NFPA Survey of Fire Departments for US Fire Experience, 2020. https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/us-fire-department-profile
[10] OJP Office of Justice Programs, Police Officer Retirement: The Beginning of a Long Life, 1987. https://www.ojp.gov/pdffiles1/pr/109485.pdf
[11] NIH Berger, W., Coutinho, E. S., Figueira, I., Marques-Portella, C., Luz, M. P., Neylan, T. C., Marmar, C. R., & Mendlowicz, M. V. (2012). Rescuers at risk: a systematic review and meta-regression analysis of the worldwide current prevalence and correlates of PTSD in rescue workers. *Social psychiatry and psychiatric epidemiology*, *47*(6), 1001–1011. https://doi.org/10.1007/s00127-011-0408-2
[12] NIH Nobles, C. J., Valentine, S. E., Gerber, M. W., Shtasel, D. L., & Marques, L. (2016). Predictors of treatment utilization and unmet treatment need among individuals with posttraumatic stress disorder from a national sample. *General hospital psychiatry*, *43*, 38–45. https://doi.org/10.1016/j.genhosppsych.2016.09.001

Exhibit 4 presents the calculation of proposed adjustment factors for the four first responder class codes—807 (Ambulance Service – Salaried Employees), 985 (Police and Firefighters – Salaried Employees), 993 (Volunteer Ambulance Corps), and 994 (Volunteer Fire Company)—using results from Exhibits 1 through 3.

To account for the anticipated increase in PTSI-related losses under Act 121, the model uses these estimates:

- Additional Annual PTSI Claims: 64 = (32.5 Low Empirical Method + 65.0 High Empirical Method + 22.7 Low Exposure Method + 137.5 High Exposure Method) / 4 rounded to a whole number.
- Average PTSI Severity: $40,000 = $31,760 Indemnity + $8,576 Medical rounded to $1,000 per claim.
- Increased annual claim cost: $2,560,000 = 64 * $40,000
- This estimated increase represents an overall 0.13% impact on system costs, calculated by dividing the $2,560,000 increase by the average annual claim amount from policy years 2017–2021.

The distribution of this projected claim cost across the four class codes is based on the expected proportion of first responders with PTSI by occupation:

- Class 807 (Ambulance Service – Salaried Employees) receives 52.8% of the additional cost, resulting in $1,350,863 in estimated impact.
  This percentage is calculated by multiplying:
  - the selected PTSI prevalence rate for ambulance workers, and
  - the distribution of total indemnity losses between salaried (Class 807) and volunteer ambulance (Class 993) services based on historical Unit Statistical Data
- Class 985 (Police and Firefighters - Salaried Employees) receives 19.2%, or $491,520.
- Class 993 (Volunteer Ambulance Corps) receives 1.1%, or $28,977.
  Like Class 807, this was calculated using the PTSI prevalence rate multiplied by the share of historical losses attributed to Class 993 within the ambulance group.
- Class 994 (Volunteer Fire Company) receives 26.9%, or $688,640.

These distributed loss estimates are then compared to each class code's average annual claim amount (derived from class book data) to calculate an adjustment factor:

- 807: 1.1283
- 985: 1.0278
- 993: 1.1302
- 994: 1.0577

These adjustment factors reflect the proportional impact of the new PTSI claims on the underlying loss costs for each class and will be applied until actual experience reflects the expanded eligibility.

Exhibit 5 – Loss Cost Manual Page Changes

Exhibit 5 shows current and proposed manual pages reflecting the four class code adjustments calculated in Exhibit 4.

- Pages 1-2 show the current and proposed loss costs and expected loss factors.
- Pages 3-4 show the current and proposed loss costs for code 994 by population size.

The following table shows the loss cost percentage changes for each class.

Class Code	Current Loss Cost	Proposed Loss Cost	% Change
807	2.09	2.355	12.7%
985	1.82	1.875	3.0%
993	255.92	289.240	13.0%
994	0.82	0.868	5.9%

This filing has been developed by and under the direction of Brent Otto, FCAS, MAAA. He meets the Qualification Standards of the American Academy of Actuaries to provide the actuarial opinion contained within this filing.

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PCRB Institution of Act 121 of 2024 (SB 365 from 2023-2024 Session) Exhibit 1
Calculation of Loss Development Factors to Determine Ultimate PTSI Severity

Indemnity Incurred (First Responder Class Codes(807, 985, 993, 994), and All Nature of Injury Codes)

Policy Year	1/2	2/3	3/4	4/5	5/6	6/7	7/8	8/9	9/10	10-Ult
2009				1.0211	1.0221	1.0136	1.0139	1.0179	1.0006	
2010			0.9870	1.0184	1.0145	1.0253	1.0238	1.0348	1.0031	
2011		1.0032	1.0423	0.9909	1.0360	0.9984	1.0056	0.9942	1.0100	
2012	1.2712	1.1417	1.0458	0.9976	1.0066	1.0109	1.0073	1.0002	0.9874	
2013	1.2548	1.0442	1.0312	1.0016	1.0030	1.0284	1.0001	1.0099		
2014	1.3003	1.0574	1.0480	1.0352	0.9947	0.9900	1.0166			
2015	1.3260	1.0996	1.0390	0.9836	0.9986	1.0125				
2016	1.3267	1.0970	0.9628	0.9818	1.0040					
2017	1.2324	1.0804	1.0161	0.9916						
2018	1.3086	0.9833	1.0557							
2019	1.1922	1.0204								
2020	1.2505									
Averages										10th to ULT
All Years	1.2736	1.0586	1.0253	1.0024	1.0099	1.0113	1.0112	1.0114	1.0003	1.0231
5 Year	1.2621	1.0561	1.0243	0.9988	1.0014	1.0080	1.0107	1.0114	1.0003	1.0231 *
Selected LDFs	1.2621	1.0561	1.0243	0.9988	1.0014	1.0080	1.0107	1.0114	1.0003	1.0231
Cumulative	1.4400	1.1410	1.0803	1.0546	1.0559	1.0545	1.0461	1.0350	1.0234	1.0231

Medical Incurred (All Class Codes, and Nature of Injury Mental Disorder(69) Mental Stress(77))

Policy Year	1/2	2/3	3/4	4/5	5/6	6/7	7/8	8/9	9/10	10-Ult
2009				1.3226	1.0372	0.7959	1.1447	1.0000	0.9949	
2010			1.0066	1.0098	0.8224	0.7320	1.0000	0.9999	1.0001	
2011		0.9789	1.2591	1.0038	0.9907	0.9782	0.9993	1.0007	1.0315	
2012	1.1190	1.1735	1.0555	1.4513	1.3746	0.8735	1.0001	1.0000	0.9960	
2013	1.4718	1.3580	1.1777	0.8341	1.9171	0.9992	0.9616	0.9999		
2014	1.2299	1.7141	1.3146	0.8886	1.0032	0.9899	1.6000			
2015	1.4148	1.8104	1.0032	1.0230	1.0251	1.0726				
2016	1.8591	1.0187	1.0000	1.0000	1.0000					
2017	0.4217	0.9178	0.9696	1.0000						
2018	1.1366	0.7376	0.9974							
2019	0.8754	1.0010								
2020	1.2882									
Averages										10th to ULT
All Years	1.2018	1.1900	1.0871	1.0592	1.1463	0.9202	1.1176	1.0001	1.0056	1.0674
5 Years	1.1162	1.0971	1.0570	0.9491	1.2640	0.9827	1.1122	1.0001	1.0056	1.0674 *
Selected LDFs	1.2018	1.1900	1.0871	1.0592	1.1463	0.9202	1.1176	1.0001	1.0056	1.0674
Cumulative	2.0841	1.7341	1.4572	1.3405	1.2655	1.1040	1.1997	1.0735	1.0734	1.0674

* 10th to Ultimate factors from Financial Data

PCRB Institution of Act 121 of 2024 (SB 365 from 2023-2024 Session) Exhibit 1
Calculation of Indemnity and Medical Severity PTSI Claims

Indemnity Severity

Policy Year	Ultimate Indemnity Incurred	Claim Count	Average Severity
2009	21,691,140	712	30,465
2010	24,448,957	737	33,174
2011	21,080,079	732	28,798
2012	21,904,224	702	31,203
2013	24,060,501	702	34,274
2014	16,986,503	633	26,835
2015	18,045,760	574	31,439
2016	15,234,216	544	28,004
2017	18,014,901	603	29,875
2018	20,553,095	606	33,916
2019	17,625,465	531	33,193
2020	22,179,452	580	38,240
2021	16,921,009	491	34,462
Total	258,745,302	8,147	**31,760**

Source: Unit Data

* Class Codes Used for Indemnity Calculation:
  - 807 - Ambulance Serv-Salaried Employees
  - 985 - Police or Firefighters - Salaried
  - 993 - Volunteer Ambulance Corps - First Responders
  - 994 - Volunteer Fire Company - First Responders
* Nature of Injury Codes: All

Medical Severity

Policy Year	Ultimate Medical Incurred	Claim Count	Average Severity
2009	369,425	52	7,104
2010	494,947	43	11,510
2011	218,643	31	7,053
2012	226,292	36	6,286
2013	526,161	46	11,438
2014	362,819	52	6,977
2015	338,015	42	8,048
2016	247,391	42	5,890
2017	214,290	40	5,357
2018	426,472	43	9,918
2019	212,379	30	7,079
2020	387,407	27	14,348
2021	415,289	35	11,865
Total	4,439,531	519	**8,554**

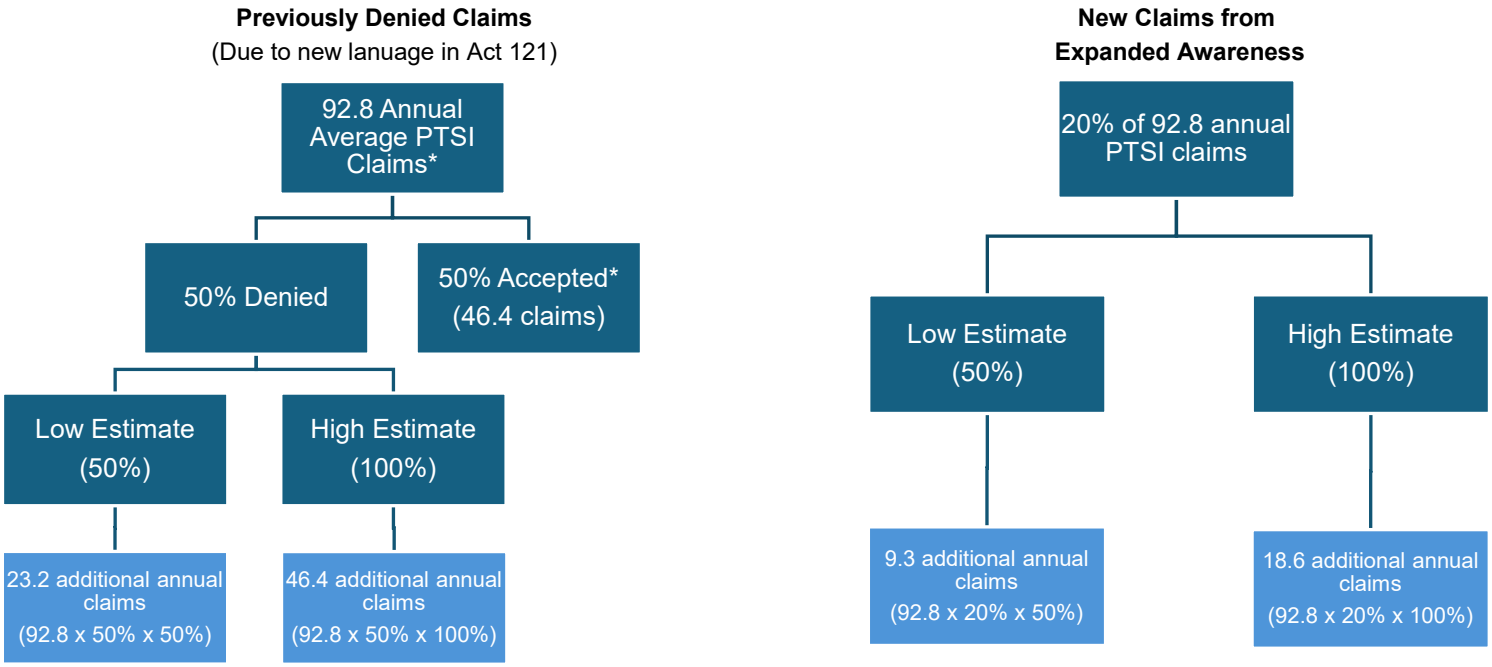
Source: Unit Data

* Class Codes Used for Medical Calculation: All class codes
* Nature of Injury Codes
  - 69 - Mental Disorder
  - 77 - Mental Stress
* Claim Exclusion: Claims >$200,000 were excluded

PCRB Institution of Act 121 of 2024 (SB 365 from 2023-2024 Session)

Exhibit 2

Estimated Additional PTSI Claims Under Act 121 Using Method 1: Historical Empirical Approach



Low Estimate	High Estimate
23.2 + 9.3 = 32.5	46.4 + 18.6 = 65.0

* Data from Pennsylvania Labor & Industry (Class Codes 807, 993, 994, 985)
(464 PTSI Claims PY 2020 - PY 2024)

PCRB Institution of Act 121 of 2024 (SB 365 from 2023-2024 Session) Exhibit 3

Estimated Additional PTSI Claims Under Act 121 Using Method 2:

Exposure-Based Method

Pennsylvania	Count (a)	Avg Career Length (b)	Exposure per Year (c) = (a)/(b)	Private Insured (d) = (c)*(85%)	Selected PTSI (e)	Developed PTSI (f) = (d)*(e)	Seek Treatment (g) = (f)*(40%)	File WC Claim (h) = (g)*(62.5%)	Additional PTSI Claims (i) = (h)-(46.4)
Low Estimate									
Total First Responders	**63,000**	**15**	**5,700**	**4,845**	**5.7%**	**276**	**111**	**69.1**	**22.7**
EMS/Paramedic	15,000	5	3,000	2,550	8.8%	224	90	56	
Fire Fighters	18,000	15	1,200	1,020	3.6%	37	15	9	
Police Officers	30,000	20	1,500	1,275	1.2%	15	6	4	
High Estimate									
Total First Responders	**63,000**	**15**	**5,700**	**4,845**	**15.2%**	**736**	**294**	**183.9**	**137.5**
EMS/Paramedic	15,000	5	3,000	2,550	20.3%	518	207	129	
Fire Fighters	18,000	15	1,200	1,020	11.0%	112	45	28	
Police Officers	30,000	20	1,500	1,275	8.3%	106	42	26	

(d): Based on internal policy counts compared to statewide totals, approximately 85% of first responder organizations in Pennsylvania are estimated to be privately insured. This assumption was later supported by the Pennsylvania Insurance Departement.

(e): PTSI rates based on national study NIH (PMC3974968)

(g): 40% of individuals seek treatment based on NIH study (PMC5536831)

(h): 62.5% file a workers' compensation claim based on average of 50% and 75%

(i): 46.4 average annual PTSI claims from Pennsylvania Labor & Industry

PCRB Institution of Act 121 of 2024 (SB 365 from 2023-2024 Session) Exhibit 4

Calculation of Adjustment Factors to adjust First Responder Class Code Loss Costs

Estimated Additional PTSI Claims	Estimated Severity	Increased Claim Amount
(a)	(b)	(c) = (a)*(b)
64	$40,000	$2,560,000
	Average Annual Total	$1,990,848,143
	Overall Impact	0.13%

Class Code	Class Name	Distribution of First Responders with PTSI	Distributed PTSI Claim Amount	Average Annual Claim Amount***	Adjustment Factor
		(d)	(e) = (c)*(d)	(f)	(g) = (e)/(f)
807	Ambulance Service - Salaried Employees	52.8%	$1,350,863	$10,526,083	1.1283
985	Police and Firefighters Salaried	19.2%	$491,520	$17,700,969	1.0278
993	Volunteer Ambulance Corps.	1.1%	$28,977	$222,607	1.1302
994	Volunteer Fire Company	26.9%	$688,640	$11,924,988	1.0577

(a): Exhibit 2 & 3: 64 = (32.5 + 65 + 22.7 + 137.5)/4 Rounded to Whole Number

(b): Exhibit 1: $40,000 = ($31,760 + $8,579) Rounded to $1,000

(d): Percentage given 807: 53.9%*97.9% = 52.8%, 985: 19.2%, 993: 53.9%*2.1% = 1.1%, 994: 26.9%
Portions based on 14%, 7%, and 5% PTSI rates for EMS, Firefighters, and Police Officers respectively. EMS portion 53.9% = 14% / (14% + 7% + 5%), Firefighter portion 26.9% = 7% / (14% + 7% + 5%), and Police Officer portion 19.2% = 5% / (14% + 7% + 5%)
Distribution of EMS classes(807 and 993) based on the distribution of total losses between the two classes. 807 portion 97.9% = $10,526,083 / ($10,526,083 + $222,607), 993 portion 2.1% = $222,607 / ($10,526,083 + $222,607)

(f): Based on Yearly Average Class Book Translated Losses

DIRECT EMPLOYMENT LOSS COSTS AND EXPECTED LOSS FACTORS
FOR PENNSYLVANIA WORKERS COMPENSATION INSURANCE
Proposed Effective Date: April 1, 2025 on New and Renewal Business

CODE NO	LOSS COST		EXPERIENCE RATING PLAN EXPECTED LOSS FACTORS TABLE * A-1	A-2	A-3	HAZARD GROUP A - G
0807	2.09		1.56	1.93	2.06	C
0985	1.82		1.36	1.68	1.80	E
0993	255.92	**e**	190.74	236.03	252.82	D
0994	**g**		**h**	**h**	**h**	F

***** Table A-1 applies to the most current policy year, Table A-2 to the first prior policy year, and Table A-3 to the second prior policy year.

e Per ambulance corps.

g See appropriate page of Section 2.

h Apply the following percentages (A-1 = 74.60%, A-2 = 92.31%, A-3 = 98.88%) to annual loss cost from the appropriate page of Section 2.

DIRECT EMPLOYMENT LOSS COSTS AND EXPECTED LOSS FACTORS
FOR PENNSYLVANIA WORKERS COMPENSATION INSURANCE
Proposed Effective Date: April 1, 2026 on New and Renewal Business

CODE NO	LOSS COST		EXPERIENCE RATING PLAN EXPECTED LOSS FACTORS TABLE * A-1	A-2	A-3	HAZARD GROUP A - G
0807	2.355		1.779	2.201	2.357	C
0985	1.875		1.416	1.752	1.876	E
0993	289.240	**e**	218.434	270.295	289.529	D
0994	**g**		**h**	**h**	**h**	F

***** Table A-1 applies to the most current policy year, Table A-2 to the first prior policy year, and Table A-3 to the second prior policy year.

e Per ambulance corps.

g See appropriate page of Section 2.

h Apply the following percentages (A-1 = 74.60%, A-2 = 92.31%, A-3 = 98.88%) to annual loss cost from the appropriate page of Section 2.

PENNSYLVANIA
VOLUNTEER FIRE COMPANY - FIRST RESPONDERS

CODE 994

SCHEDULE OF ANNUAL LOSS COSTS

Proposed Effective Date: April 1, 2025

Population	Annual Loss Cost	Population	Annual Loss Cost
Up to 300	**1,112**	6,501 to 7,000	**4,648**
301 to 500	**1,366**	7,001 to 7,500	**4,818**
501 to 700	**1,589**	7,501 to 8,000	**4,986**
701 to 1,000	**1,836**	8,001 to 8,500	**5,150**
1,001 to 1,500	**2,160**	8,501 to 9,000	**5,310**
1,501 to 2,000	**2,510**	9,001 to 9,500	**5,463**
2,001 to 2,500	**2,805**	9,501 to 10,000	**5,615**
2,501 to 3,000	**3,071**	10,001 to 15,000	**6,444**
3,001 to 3,500	**3,303**	15,001 to 20,000	**7,878**
3,501 to 4,000	**3,523**	20,001 to 25,000	**9,287**
4,001 to 4,500	**3,727**	25,001 to 30,000	**10,681**
4,501 to 5,000	**3,923**	30,001 to 35,000	**12,052**
5,001 to 5,500	**4,114**	35,001 to 40,000	**13,406**
5,501 to 6,000	**4,294**	40,001 to 45,000	**14,736**
6,001 to 6,500	**4,475**	45,001 to 50,000	**16,044**
		For each additional 5,000 population.....	**1,313**

PENNSYLVANIA
VOLUNTEER FIRE COMPANY - FIRST RESPONDERS

CODE 994

SCHEDULE OF ANNUAL LOSS COSTS

Proposed Effective Date: April 1, 2026

Population	Annual Loss Cost	Population	Annual Loss Cost
Up to 300	**1,177**	6,501 to 7,000	**4,921**
301 to 500	**1,446**	7,001 to 7,500	**5,101**
501 to 700	**1,682**	7,501 to 8,000	**5,279**
701 to 1,000	**1,944**	8,001 to 8,500	**5,452**
1,001 to 1,500	**2,287**	8,501 to 9,000	**5,622**
1,501 to 2,000	**2,657**	9,001 to 9,500	**5,784**
2,001 to 2,500	**2,970**	9,501 to 10,000	**5,945**
2,501 to 3,000	**3,251**	10,001 to 15,000	**6,822**
3,001 to 3,500	**3,497**	15,001 to 20,000	**8,340**
3,501 to 4,000	**3,730**	20,001 to 25,000	**9,832**
4,001 to 4,500	**3,946**	25,001 to 30,000	**11,308**
4,501 to 5,000	**4,153**	30,001 to 35,000	**12,759**
5,001 to 5,500	**4,355**	35,001 to 40,000	**14,193**
5,501 to 6,000	**4,546**	40,001 to 45,000	**15,601**
6,001 to 6,500	**4,738**	45,001 to 50,000	**16,986**
		For each additional 5,000 population.....	**1,390**