



P E R M ASM

APPENDIX A

Crossover Vest Pilot Program

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Executive Summary

Promoting the use of crossover vests within the PERMA membership, and helping to supplement the funding for this equipment, is a true representation of what PERMA stands for and the level to which PERMA will support improving the overall safety within the municipalities they represent. PERMA's crossover vest pilot program proved successful, not only in the return on investment and ease of implementation, but more importantly in reducing claims and increasing quality of life in the area that the targeted intervention was designed for.

Introduction

Today, a police officer carries more equipment on their duty belt than ever before. In addition to the issued duty weapon, ammunition and handcuffs, many officers carry additional items such as a portable radio, Taser, second set of handcuffs, collapsible baton, flashlight, pepper spray, and law enforcement survival kit (LESK) pouch that contains a tourniquet and quick clot.

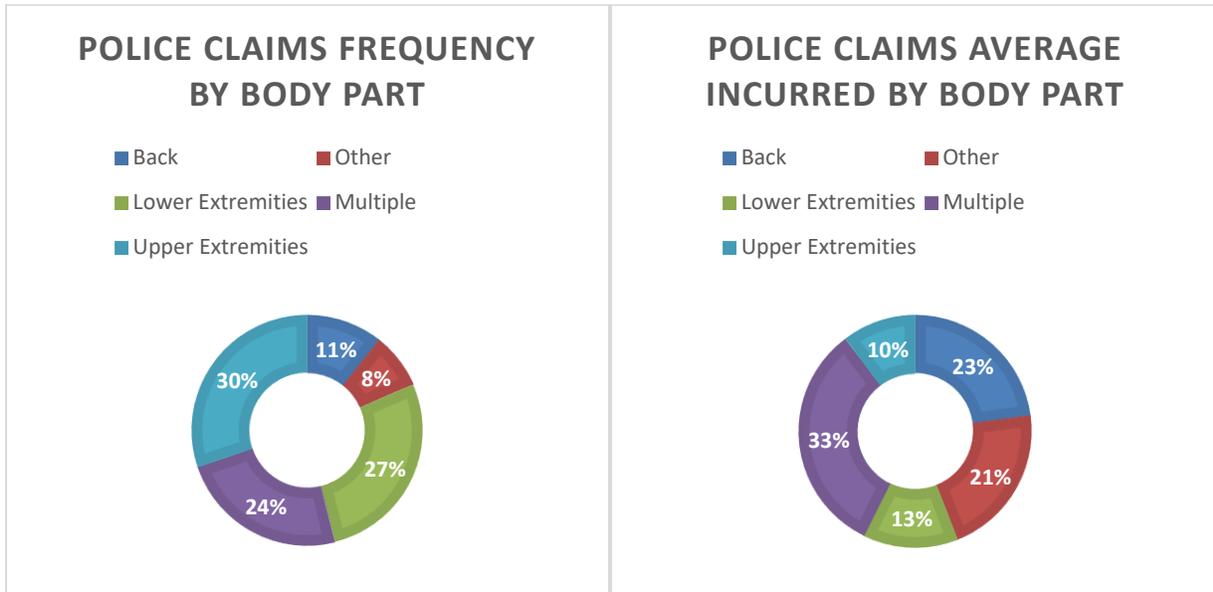
An officer's equipment usually weighs more than twenty (20) pounds, all of it carried around the waist. An article published in the February 2010 issue of *American City and County* stated that "duty belt discomfort is a common complaint and a significant health and safety issue for uniformed police personnel. Pain in the low back, hip, and pelvis can be caused by pressure exerted by the edges of the duty belt, holster shank and other equipment attached to the belt. Further compounding the problem is the length of time officers are required to perform their job behind the wheel of the patrol car." Lower back injuries are a leading cause of both short-term and permanent disability for police officers.

The Problem

From 2008 to 2013, PERMA incurred \$3.24M in indemnity costs (wage replacement benefits) for police lower back claims, with each claim costing an average of \$84,000. In order to mitigate this risk and reduce the cost to the member and the pool as a whole, Risk Management needed to look at not only the activities performed by a police officer but the equipment necessary to do the job. It has long been suggested that the amount of weight a police officer carries on their duty belt contributes to low back strain, complicated by the physical nature of police work - long periods of sitting in a vehicle interspersed with quick bursts of activity.

Scoping the Problem

In 2016, Risk Management staff researched police low back strains, identifying possible contributing factors, including specific job tasks, how the tasks were performed and equipment used. All were evaluated to determine a targeted solution to mitigate these claims.



Although difficult to isolate lower back claims specific to the amount of weight carried on the duty belt, back related injuries within police account for 11% of their overall claims frequency and 2nd highest in average claims costs regardless of the activity they were involved in when the injury occurred.

The Solution

In Spring 2017, PERMA began a pilot project to determine if a new type of body armor (bulletproof vest) called a “crossover vest” would reduce both the number and cost of lower back claims filed by police officers. This new vest allows equipment to be carried higher on the body, up on the chest. As a result, weight is removed from the hip and lower back areas, and discomfort caused by the duty belt while seated in a patrol vehicle is reduced.

Point Blank Enterprises, a body armor industry leader, has been developing and manufacturing ballistic protection for over 40 years and added the *Guardian* line of crossover vests to their products. Equipment is carried on the vest using customizable pouches attached to a Modular Lightweight Load-Carrying Equipment (MOLLE) system. MOLLE systems are used frequently by the military and other tactical response organizations.



Two PERMA members agreed to be pilot program participants. These agencies were selected for a variety of reasons; dissimilar geographical locations, agency sizes, populations served, and EMFs, as well as having prior lower back injury claims. The agencies agreed to 6 months of vest use and observation. The vests, which cost around \$1,000 each, were paid for by PERMA (50%) and the U.S. Office of Justice Assistance Bulletproof Vest Partnership program (50%). Pouch costs were absorbed by the members as these were dependent on personal preference and required customization based on the equipment being carried.

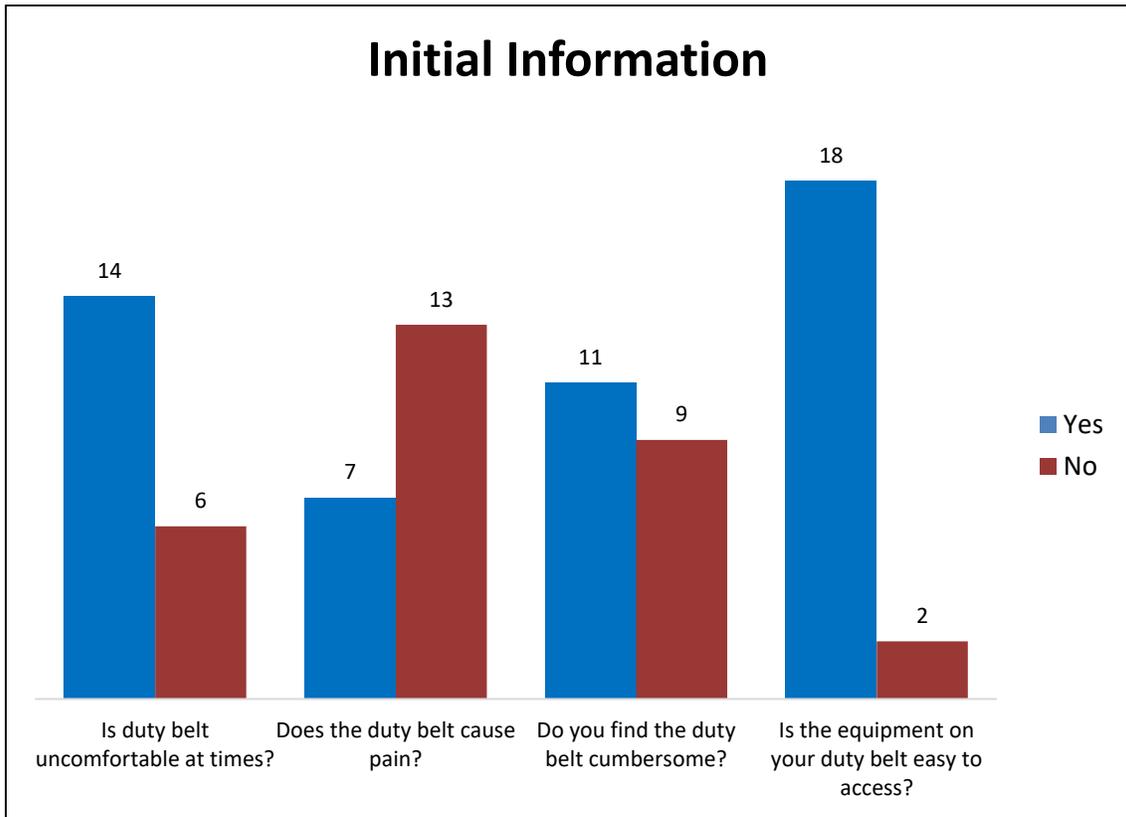
Prior to implementing the crossover vests, an initial officer survey was conducted in order to obtain baseline information. Among the information garnered was:

- height
- weight
- years of service
- history of prior back injuries
- work-related injuries and treatment
- current experience of back pain

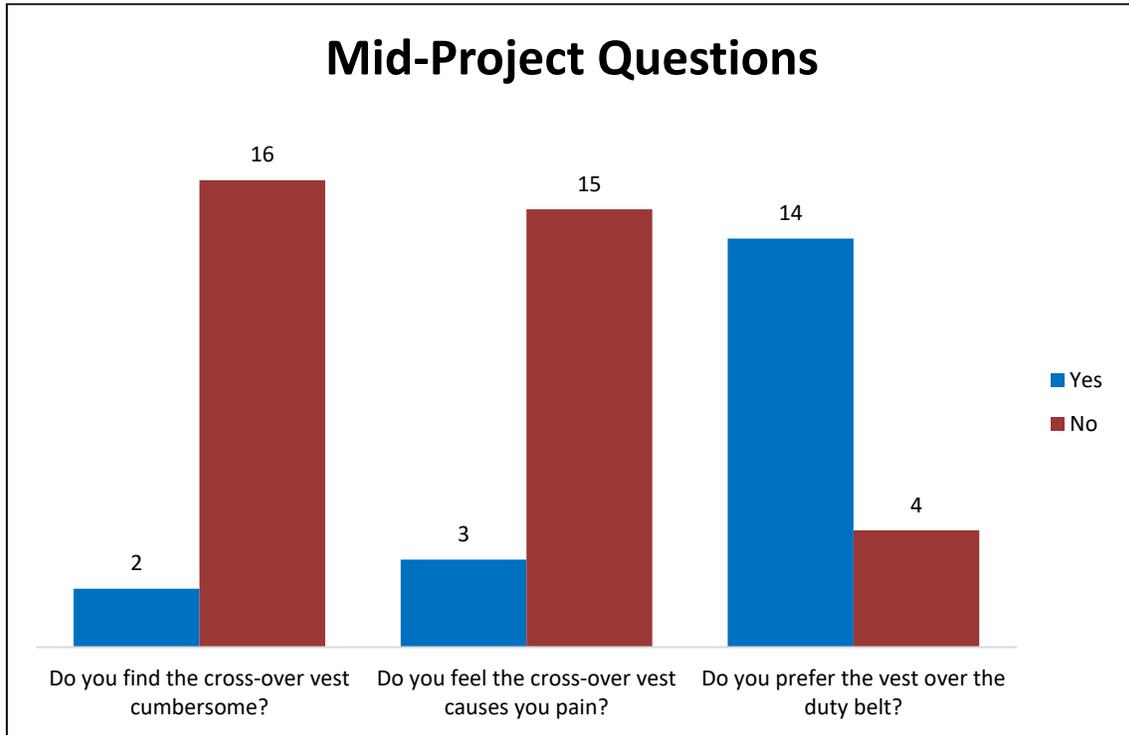
Participants’ duty belts were weighed, and type of belt material recorded. Individuals were also asked how they felt about their duty belt, including comfort level, and occurrence/frequency of pain encountered when wearing it.

Participant Baseline Averages

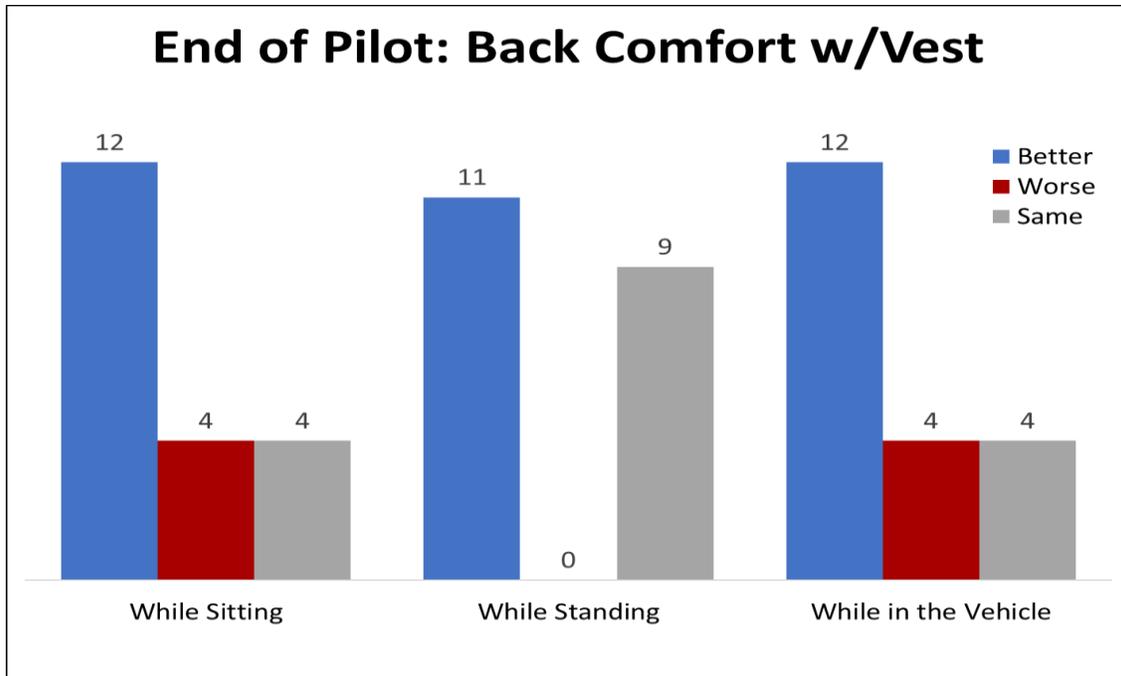
Age	45.5 years
Weight	214.6 lbs.
Weight of equipped duty belt	25.7 lbs.
Percentage having prior back injury	45%



Participants were contacted monthly for follow-up. Some of the questions asked during follow-up are depicted below.



At the end of 6-month pilot period, the participants were asked to make a conclusion as to how the vest felt overall, as well as when sitting, standing and while seated in a patrol vehicle. Other questions regarded job performance while wearing the crossover vest and whether officers would recommend the vest to others. Results are depicted below.



While Sitting: 60% felt better while wearing the vest, 20% felt worse, 20% felt the same

While Standing: 55% felt better, 45% felt no difference

While in Vehicle: 60% felt better, 20% felt worse, 20% felt no difference

82% of the participants stated they would recommend the vest to others.

Throughout the pilot, participants were permitted to comment on the vests. Positive comments included:

- “Keeps weight off the hips”
- “Nothing digging into my spine”
- “Riding in the car with less stuff on my belt made it more comfortable”
- “I feel like I can move around more. With my prior back injury, one move and it was sore”
- “Easier to move around. No back pain...before, hips were sore”

Negative comments included:

- “Vest constantly unbuttoned mag pouch”
- “Design is terrible”
- “It’s not comfortable, but I am a big guy”

Several negative comments indicated aesthetic displeasure concerning the tactical nature of the vest.

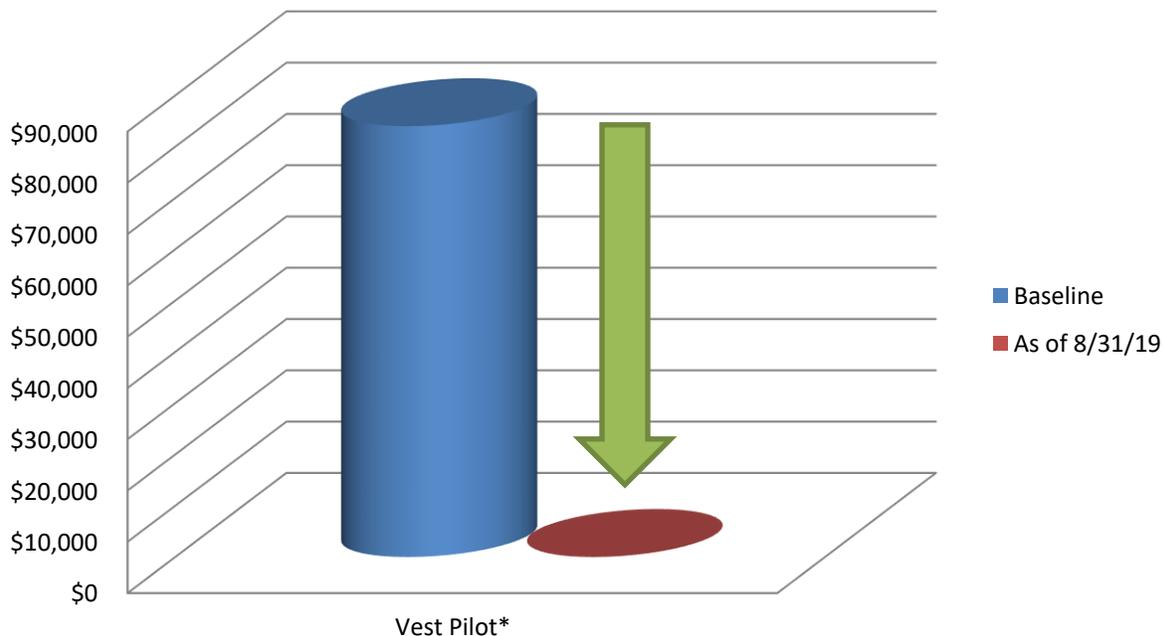
Business Benefits

There are several benefits to all parties involved. For PERMA, the investment of \$400 to offset a potential claim loss that averages \$84,000 per occurrence, is money well spent. The vest represents a tangible piece of equipment that, based from our initial pilot, impacts the bottom line, reducing claims costs for the participating member directly as well as improving the claims experience for the pool overall. For the member it provides an upgrade to equipment that may already be budgeted for, allowing them to potentially reinvest in other safety related equipment that they couldn't otherwise afford. Since bulletproof vests are already standard equipment it is typically easy to implement relatively quickly and provides for customization so that members only need to purchase what they need. For the employees of the municipalities that implement these vests, it provides for increased comfort, while still maintaining the necessary tools and support to do their jobs safely and represents their employer's dedication to keeping them safe possibly resulting in higher workforce morale.

Summary

Claims for participants were tracked throughout the pilot period and no new lower back claims, or claims related to the implementation of the vest, were reported. The results are depicted below.

Police Interventions Avg. Lost Time Claims Cost Results



For those members that were not included in the pilot, for the same time period June 1 2017 – August 31 2019, 26 lost time claims were reported totaling just over \$1M with an average cost per claim of \$40K. (Keep in mind that these claims are still considered “green” and may not be fully developed.)

Based on that data and officer feedback, the use of crossover vests is highly recommended.



The officer pictured above is wearing more than 24 pounds of equipment. He had a prior back injury that required surgery and put him out of work for months. During the pilot, he reported that the vest took away the discomfort by putting the weight on his shoulders instead of his back.

Call to Action

As a result of this pilot project and the apparent benefits a crossover vest provides, PERMA will offer a grant program to its members to subsidize the purchase of this equipment. The criteria and amount of the grants to be rewarded will be communicated separately. This is our commitment to our membership and a proven way to mitigate this targeted risk. We encourage our members to review the results of our pilot along with the grant offering and consider outfitting your departments with crossover vests to continue to support the safety and wellbeing of our police officers.