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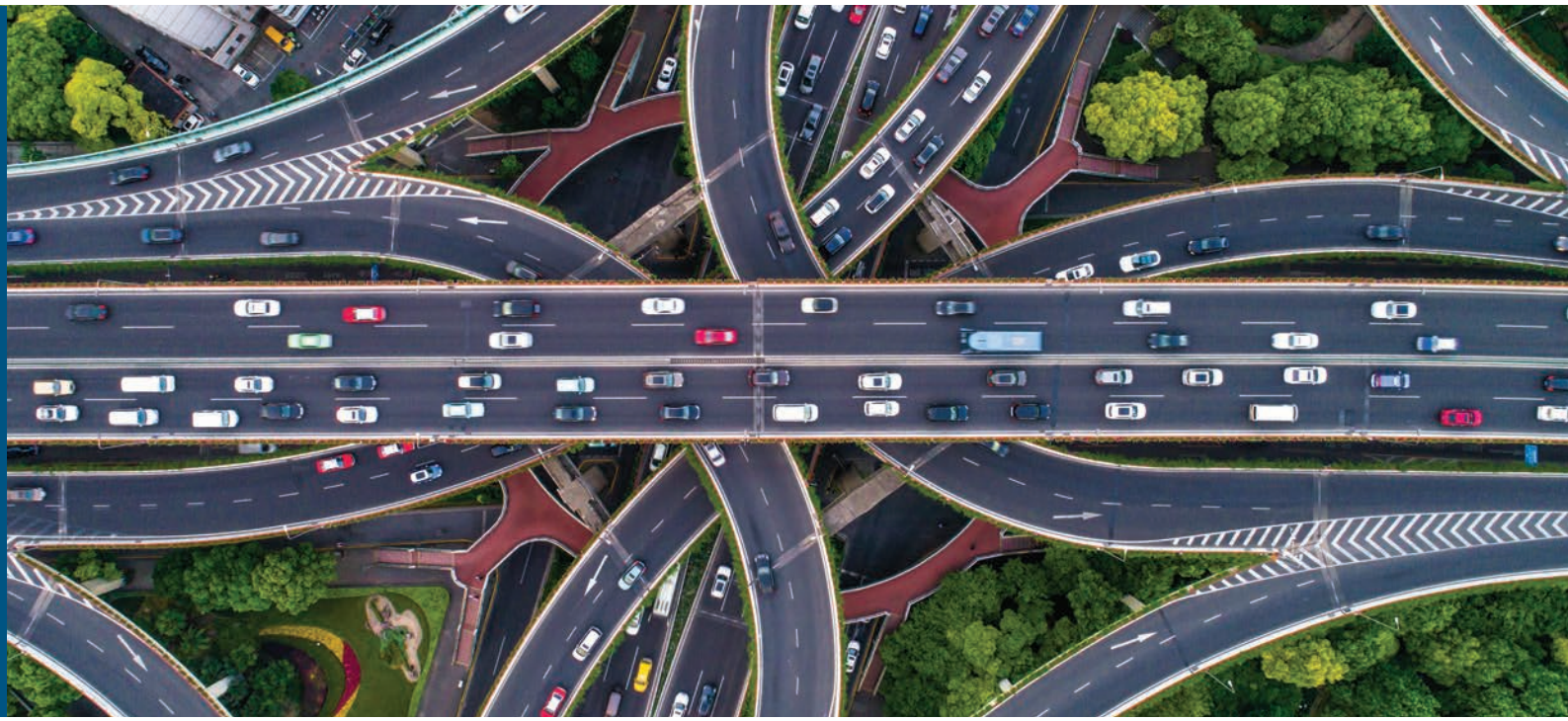

DRIVERCARE COPILOT® WHITEPAPER

HOW A MOBILE SAFETY SOLUTION REDUCED COLLISIONS BY 29% PMM, INCREASED POLICY COMPLIANCE, & IMPROVED DRIVER BEHAVIORS

In 2021, Element launched a mobile safety solution, DriverCare CoPilot®, a smartphone app with patented data collection from the phone's accelerometer and gyroscope sensors. DriverCare CoPilot measures drivers based on five unsafe driving behaviors predictive of crash risk, calculates scores for their driving, and allows drivers to compare themselves to others throughout their team and fleet.

A safety-focused fleet tested DriverCare CoPilot with nearly 200 fleet drivers throughout the Northeast and Midwest United States over a five-month period. The fleet had an established safety program that included monitoring for MVR changes, remedial training, and driver risk assessments. Territories covered major metropolitan cities, suburban, highway, and rural driving. Fleet drivers are in sales positions with time-sensitive appointments, and heavy use of communication for appointment setting and confirmations. This whitepaper is based on the results of this test case.

OVERALL RESULTS

By the end of the test period, Element found the test group achieved:

Collision Avoidance

- 29% reduction in their preventable collision rate per million miles

Reduction in Phone Distractions

- 78% improvement in compliance with score thresholds among deficient drivers
- Verification of non-compliant drivers

Reduction of Speeding by Riskiest Drivers

- 75% improvement in compliance with score thresholds among drivers deficient for speeding

Reduction in Hard Cornering & Harsh Acceleration

- 67% improvement in compliance with score thresholds among deficient drivers

Improve Performance Through Training & Coaching

- 33.9% increase in meeting required score among drivers in trained & coached group
- 8.7% decrease in meeting required score among drivers in non-trained group

Visibility of Hidden Poor Drivers

- 46% of drivers in a low-risk category (using MVR and collision data) were in the bottom half of driver scores
- 100% of collisions in test group were incurred by low-risk drivers

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METHODOLOGY

Drivers installed the DriverCare CoPilot app on their company phones. They drove with the phones in their company vehicles, and data was collected in real-time. The test was segmented into two groups. Group A involved mandatory remedial training and coaching for poor-performing drivers. Group B had optional coaching available but relied mainly on self-correction for performance improvement.

Element examined the data and segmented the drivers by their scores into quartiles, and by their risk levels at the start of the test for analysis. Participating drivers began the test in one of four levels, Level 0 being the lowest risk, and Level 3 being the highest.

Our analysis examined scores for specific driver behaviors as well and overall weighted scoring. This included:

- Phone Use While Driving
- Speeding
- Hard Braking
- Hard Cornering
- Harsh Acceleration

Scores range from a low of 40 to a high of 100.

Drivers start out at the reporting period with scores of 100 for each behavior. They lose points in a behavior score when they exhibit that unsafe driving behavior. A high score is desirable. A low score indicates unsafe driving.

Our client set acceptable threshold scores for each behavior, providing tolerances below perfect 100 scores that our client felt would help reduce driver "noise" through the test and focus communications on significant unsafe driving behaviors. Acceptable score threshold for phone use was set higher than all other behaviors.

Drivers cycled in and out of the teams participating in the DriverCare CoPilot test. Our analysis focused on the 94% of drivers who participated in the test a minimum of 6 weeks.

METHODOLOGY

Two Segments:

- Trained & Coached
- Self-Correction Only

Four Risk Levels:

- 0 (lowest)
- 1
- 2
- 3 (highest)

Five Behaviors Measured:

- Phone interaction
- Speeding
- Hard Braking
- Hard Cornering
- Harsh Acceleration

Score range 40 to 100

Acceptable score thresholds set by client

Six-week minimum participation in test

COLLISION AVOIDANCE

Element examined the collision history of drivers participating in the test groups. We compared the number of preventable collisions incurred in the same period year over year by these drivers. During the test period, our client saw a 29% reduction per million miles in the number of preventable collisions. *See Figure 1.*

Avoiding collisions delivers significant savings to a fleet. Even more so when you avoid collisions with a third party. Since 100% of collisions during the testing period involved 3rd parties, we assume the avoided collisions would also have involved 3rd parties when estimating cost savings. Using the average cost for collisions that involve injuries, as published by the Network of Employers for Traffic Safety (NETS), and the cost for the pilot program, our client realized a 1242% return on investment.

One surprising result from the test was that all collisions experienced by the testing groups involved risk Level 0 drivers. A deeper dive into the data showed that drivers with collisions had weaker performance in certain behaviors than the average driver, and more so than drivers within their risk level category. Their worst behavior was speeding, followed closely by hard braking. Surprisingly, they did better than average and better than their peer group in risk Level 0 drivers in phone use. *See Figure 2.*

With speeding a problematic behavior for the drivers involved in collisions, and a contributing factor to increased severity of collisions, this is an area our client can focus on to further improve their loss experience.

DriverCare CoPilot delivered a 1242% ROI through collision avoidance.

FIGURE 1: PREVENTABLE COLLISIONS WITHIN TESTING GROUPS

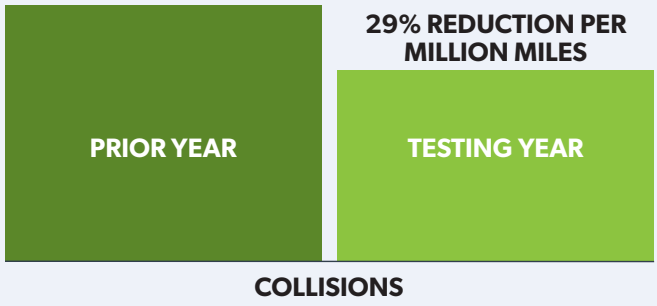
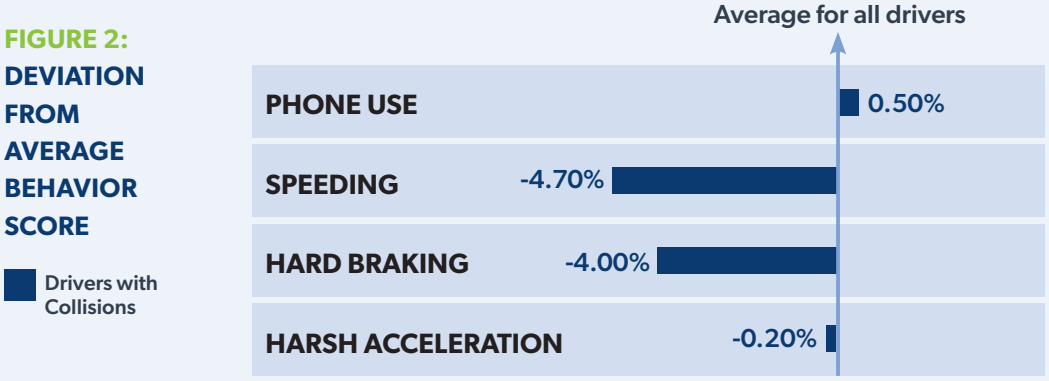


FIGURE 2: DEVIATION FROM AVERAGE BEHAVIOR SCORE

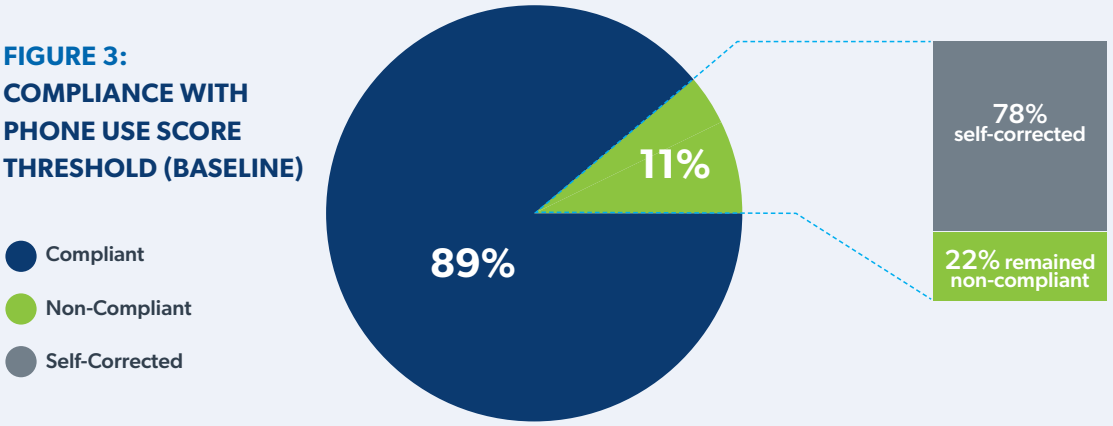


ZERO TOLERANCE CELL PHONE INTERACTION POLICY

This fleet had a zero-tolerance electronic device interaction policy, but illegal phone use was one of their top five violations during MVR checks. During this test, our client used DriverCare CoPilot's ability to capture cell phone movements and interactions to measure the real compliance level of drivers.

Based on the score threshold for phone use established by our client, Element found that 89% of drivers complied with the parameters at the beginning of the test period. Among deficient drivers, once they became aware of their deficiency, 78% self-corrected to became compliant, and 22% remained deficient at the end of the testing period. *See Figure 3.*

FIGURE 3: COMPLIANCE WITH PHONE USE SCORE THRESHOLD (BASELINE)

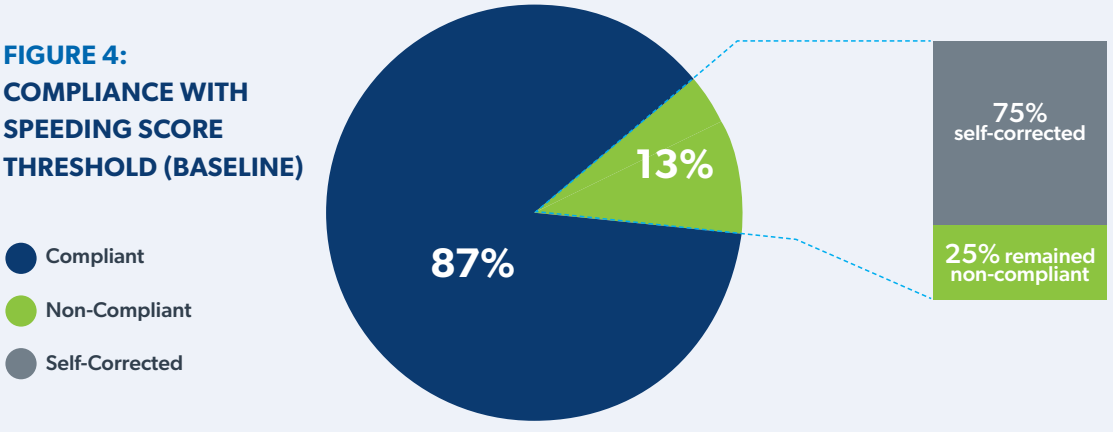


REDUCTION OF SPEEDING BY RISKIEST DRIVERS

With speeding being a contributing factor in 26% of all traffic fatalities, this driving behavior is particularly dangerous. The test group showed that DriverCare CoPilot had a very positive impact on helping deficient drivers reduce their speeding and improve their scores.

We examined the baseline score of all drivers for compliance with the client's required score threshold. We found that 13% of drivers fell below the requirement. By the end of the test, we found 75% of drivers deficient for speeding improved to become compliant with score requirements. *See Figure 4.*

FIGURE 4: COMPLIANCE WITH SPEEDING SCORE THRESHOLD (BASELINE)



REDUCTION IN HARD BRAKING & HARSH ACCELERATION

The test group showed that DriverCare CoPilot also have a positive effect on hard braking and harsh acceleration. For both behaviors, 11% of drivers had baseline scores that fell below the required threshold.

After the conclusion of the testing period, we found that 67% of deficient drivers pulled their scores up in hard braking to meet the client's score threshold. *See Figure 5.* The drivers deficient in harsh acceleration had a similar improvement, with 67% becoming compliant with the client's score threshold. *See Figure 6.*

FIGURE 5: COMPLIANCE WITH HARD BRAKING SCORE THRESHOLD (BASELINE)

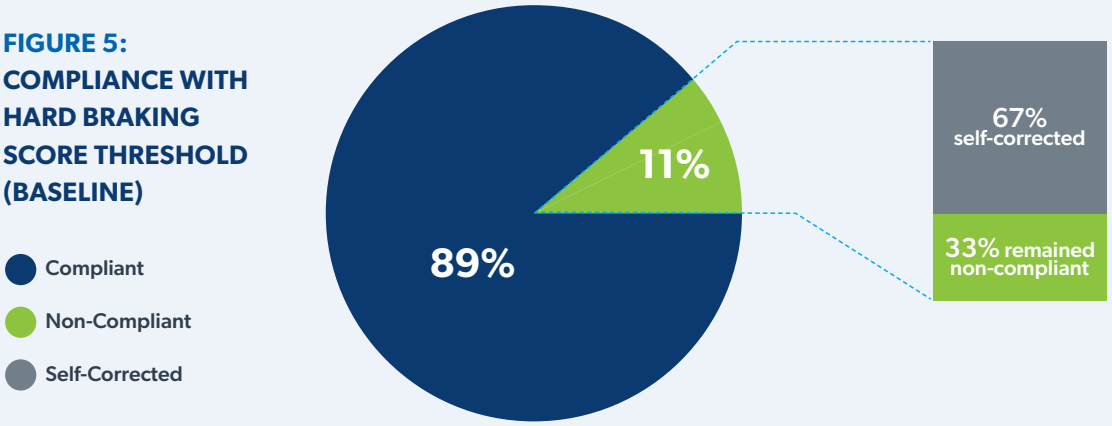
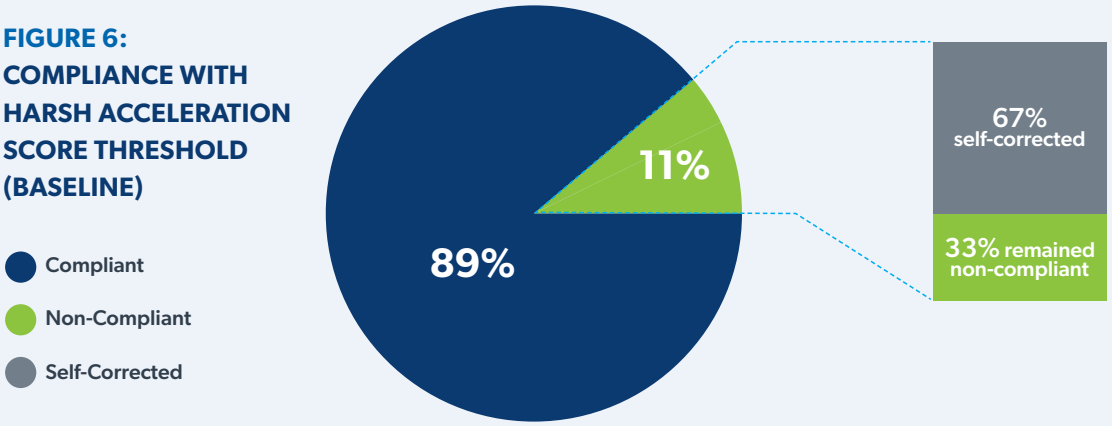


FIGURE 6: COMPLIANCE WITH HARSH ACCELERATION SCORE THRESHOLD (BASELINE)



ENGAGEMENT OF WORST OVERALL DRIVERS

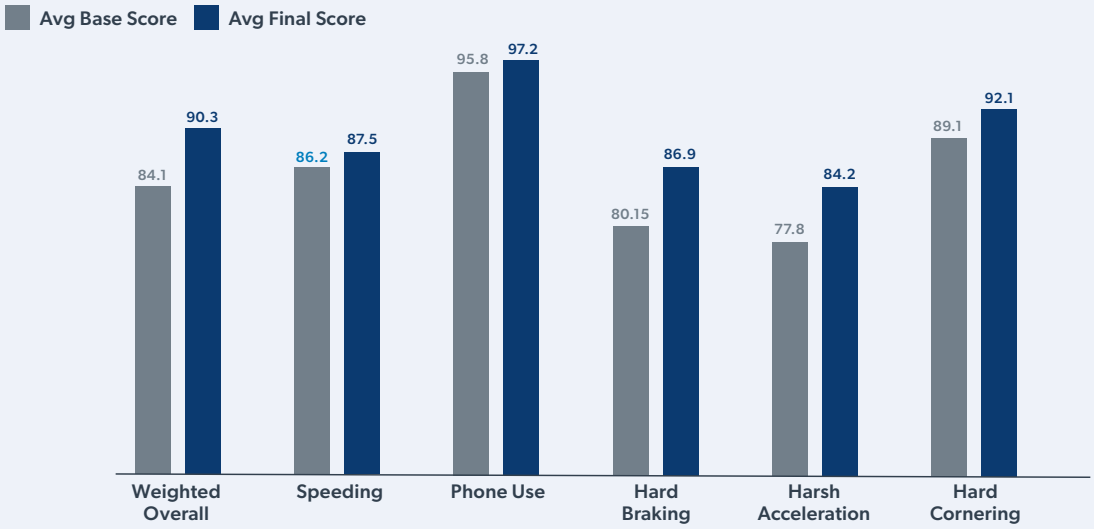
We examined the drivers that fell into the bottom quartile of the test group for overall scores, and each behavior score. We visited these drivers again at the end of the test to see how DriverCare CoPilot impacted their behaviors.

The results showed that average scores for the drivers in the worst performing quartile showed improvements overall, and for every individual behavior as well. *See Figure 7.*

We found that 60.5% of drivers in the lowest quartile were in the group that received training and coaching, therefore, this quartile was overrepresented by drivers who received training.

Our next step was to examine the performance difference between the trained and untrained group to see if it could account for the improvement in the lowest quartile group.

FIGURE 7: BEFORE & AFTER VIEW OF DRIVERS WITH BASELINE SCORES IN BOTTOM QUARTILE OF TEST GROUP



TRAINING & COACHING HELPS DRIVER PERFORMANCE

Half of the test group received remedial training and manager coaching throughout the pilot period. When a driver's score fell below an acceptable threshold, Element's system logged an event in the driver's profile which triggered training assignments and notifications to the driver's manager. Managers held a mini coaching session with materials supplied by Element about the specific deficient behavior. Managers and drivers acknowledged completion of these coaching events. Drivers also had to complete their assigned training modules.

Comparing the number of drivers that fell below the acceptable score threshold at the beginning of the test period and at the end, it was clear that remedial training and coaching had a positive effect on driver performance. Overall, drivers who received instructional reinforcement had a 42.6% better performance than drivers who improved through self-correction alone. *See Figure 8.*

By using this technology to identify deficient drivers, our client could manage by exception, addressing the fewer than 10% of drivers who had deficiencies in any behavioral category.

FIGURE 8: DRIVERS WHO RECEIVED TRAINING & COACHING

	% of Drivers Deficient at Beginning of Test	% of Drivers Deficient at End of Test	Percent Improvement
Acceleration	8.8%	3.8%	57.1%
Braking	9.4%	4.4%	53.3%
Cornering	4.4%	1.3%	71.4%
Speed	4.4%	4.4%	0.0%
Phone Interaction	6.3%	8.1%	-30.0%
Avg. All Behaviors	**6.7%**	**4.4%**	**33.9%**

The increase in deficient drivers for phone interaction is a point to be watched. We want to ensure drivers understand the danger and are not getting mixed messages about this risk behavior.

FIGURE 9: DRIVERS WITH DRIVERCARE COPILOT APP ONLY

	% of Drivers Deficient at Beginning of Test	% of Drivers Deficient at End of Test	Percent Improvement
Acceleration	6.9%	5.6%	18.2%
Braking	2.5%	4.4%	-75.0%
Cornering	0.6%	3.1%	-400.0%
Speed	3.8%	2.5%	33.3%
Phone Interaction	6.9%	6.9%	0.0%
Avg. All Behaviors	**4.1%**	**4.5%**	**-8.7%**

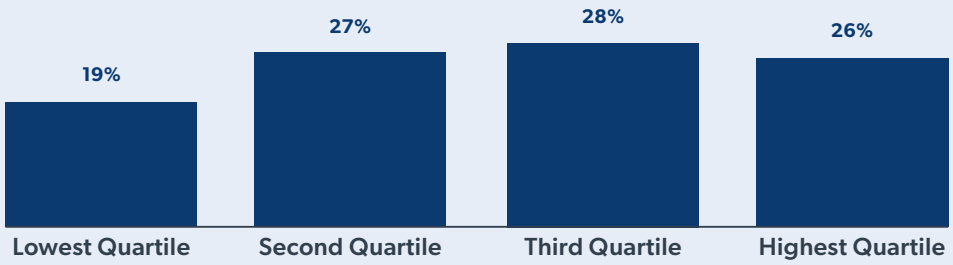
Drivers who relied on self-management alone had inconsistent results, with improvements in some areas, and degraded performance in other areas.

VISIBILITY OF HIDDEN POOR DRIVERS

During the first read-out of data, Element compared the drivers with the worst performance to their current risk levels based on MVR and collision data. We found that 19% of all drivers at a risk Level 0 fell into the bottom quartile of all scores, with 46% in the bottom half of all drivers when measuring actual behaviors on the road. Clearly, there was hidden risk previously not visible to fleet and risk teams.

This became even more evident during the test when 100% of the collisions incurred by drivers in the test groups were Level 0 drivers. *See Figure 10.*

FIGURE 10: DISTRIBUTION OF RISK LEVEL 0 DRIVERS — OVERALL SCORES



CONCLUSION

In summary, the test of DriverCare CoPilot with and without integrated DriverCare training and coaching, proved three main things:

1. DriverCare CoPilot reduces collision rates, resulting in a significant return on investment for this fleet.
2. DriverCare CoPilot in combination with training and coaching provides the most consistent improvement in driver performance.
3. Capturing telematics data as part of the driver risk assessment produces better risk assessments by identifying risks undiscovered by motor vehicle record checks, and collision history.

Our client gained other valuable information about their fleet drivers through the DriverCare CoPilot test. They were able to confirm that the great majority of drivers adhered to their phone interaction policy and identify those who did not.

Additionally, by identifying speeding and hard braking as risk factors connected to their preventable collisions, this fleet can provide training and coaching to drivers exhibiting these behaviors, to address the risk and avoid future collisions.

For more information, contact your Element representative or visit **elementfleet.com**