Best practices for implementing telematics devices
Simple steps to protect your temporary workers
Beat the summer heat: Protect your skin

THE FUTURE OF FREIGHT
Driver-assist & self-driving trucks
The past few months have been a whirlwind for Protective Insurance. As we updated our branding and logo to better align with our company values and vision, we wanted to ensure that The Quill was a part of the celebration—which meant that it was time for a new name.

The shield transcends thousands of years of human history as a symbol of protection and safety. At Protective Insurance, the reason why we are in business is to protect our customers. So, when brainstorming new names for The Quill, it was appropriate to title our publication Shield. We are pleased to bring you the same quality safety and risk management content, now as Shield!

Does your company currently utilize telematics devices across your fleet? Whether you’re in the midst of adopting the technology now or curious about how it works, check out page 5 to learn more about how data from these devices can help your drivers develop safer habits on the road.

Summertime inevitably entails scorching hot temperatures across the country. Unfortunately, truck drivers are especially at risk for skin cancer and sun damage due to the sun exposure they receive through their truck windows. Read more about the dangers of UV ray exposure and how your drivers can protect themselves on page 13.

One of the hottest topics in transportation these days is autonomous vehicles. They have the power to fundamentally shake up the entire industry. We have a very long way to go before we see driverless trucks frequenting the roads, but there are exciting developments in the works right now. You can read more about the advancements being made in autonomous vehicle testing, along with challenges and roadblocks, on page 8.

If you have a topic idea or a suggestion or wanted to share your thoughts on this issue of Shield, please contact me at shield@protectiveinsurance.com, or (800) 644-5501 x2692.

Yours in safety,

Dennis Shinault, CDS
Director of Loss Prevention & Safety Services

After reading this issue of Shield, we want to hear from you! Do you have a useful resource for educating your drivers that our readers should know about? Are there topics you’d like to see addressed in future issues? Send your feedback and ideas to shield@protectiveinsurance.com.
Welcome to the Summer 2017 Shield!

With our new logo and brand identity comes a new title—The Quill will now be known as Shield! You can still expect the same caliber of quality safety & risk management content that you have been receiving with The Quill, but with a refreshed title and design to celebrate our new logo and branding.

Be Prepared to Stop Sheds Light on Precarious Condition of America’s Infrastructure

The millions of trucks in the U.S. carrying goods across highways to their final consumption point are a critical, yet often overlooked, facet of the U.S. economy.

In order to reach their final destination, trucks travel thousands of miles on highly congested, rapidly dilapidating and poorly maintained highways. What would happen if these highways were to completely deteriorate in front of us?

That’s the question that Be Prepared to Stop asks. This thought-provoking documentary digs deep into the state of the American highway and postulates a harrowing conclusion: If our roads and bridges continued to erode at the current rate and trucks were no longer able to safely pass, the lives of every U.S. citizen would come to a complete halt within just a few days. The lack of accessibility to and presence of basic necessities ranging from food and drinking water to medicine and fuel would essentially bring our country to a standstill.

Be Prepared to Stop encourages viewers to take action by contacting their local representatives and speaking up at city council meetings to ensure that this important issue is brought to awareness on a grand scale.

Protective Insurance is proud to have played a role in the development and production of Be Prepared to Stop by helping to sponsor the documentary.

The documentary is available for rent or purchase on Amazon or iTunes. For more information and a full trailer, visit BePreparedToStop.org.

Join Protective from October 16 – 17 for our annual Claims + Safety Seminar in Indianapolis, Indiana. This free event brings together noted trucking and public transportation industry experts to take your safety operations to the next level with specialized content and engaging presentations. In addition, you will have the opportunity to extend your stay and attend an OSHA 10-hour General Industry Training course.

Be on the lookout for more information soon, and visit claimsandsafety.com for the most up-to-date information!
One of the most common issues observed in maintenance shops involves the safety surrounding the condition and use of hand tools. Using the wrong tool for the task at hand, as well as the condition of the tool, can have a serious impact on your safety, as well as the safety of those around you.

When using hand tools, **four questions should always be asked prior to use:**

1. Have you selected the correct tool?
2. Do you know how to use the tool correctly?
3. Has the tool been maintained properly?
4. Are you selecting the proper and adequate personal protective equipment (PPE) required?
TOOL USE

Even when the correct tool is selected, the possibility of harm still exists. A common injury seen throughout the workplace involves using box knives incorrectly. Pulling the blade toward you, placing your free hand on the surface being cut, and trying to make one single cut instead of several shallow passes are all practices that can lead to serious injury.

TOOL SELECTION

All tools are designed for a specific job or need. A wrench is not a hammer, a screwdriver is not a chisel and a knife is not a screwdriver. Using a hand tool not designed for the task at hand can cause serious injury and in some cases, even death. Common sense should not be relied upon when selecting tools. Proper training is needed to ensure employees know which tool is needed for which job.

TOOL MAINTENANCE

All tools should be inspected prior to and after each use. Look for issues such as cracked handles, worn out springs and even “mushroomed” heads on impact tools. A mushroomed and split end on a seal driver can cause serious injury if a piece were to break off when in use. If any part of a tool becomes damaged or worn, consideration should be made to replace the tool entirely. Never attempt to fix or modify any tool as this can compromise the integrity of the tool and cause injury to the user.

PERSONAL PROTECTIVE EQUIPMENT PROGRAM (PPE)

The type of PPE needed when using hand tools will vary with the type of tool being used and the task being performed. Some form of eye protection must be worn at all times such as safety glasses or safety goggles. At a minimum, all companies should have a Personal Protective Equipment program that uses assessments to determine the proper PPE needed for a particular task and tailored to the tools that will be used.

Ensuring that the proper tools are being selected, used for their designated purpose, well-maintained, and paired with the proper PPE will help ensure everyone is working safely and efficiently. After all, the main goal is to keep everyone safe and injury free.
Telematics devices have the power to be a significant asset within a company’s loss prevention program.

The data gleaned from these devices can be used to craft an effective driver monitoring and coaching program. The program collects information about driver behavior, specifically the frequency and severity of unsafe driving practices such as speeding, hard stops, hard turning, following too close and lane departure, to name a few. The information can be used for operational and equipment utilization, as well.

START BY FOCUSING ON SPEEDING

It is widely believed that speeding is a leading cause of motor vehicle crashes, and research indicates that vehicle speed is directly correlated to increased severity. Speeding increases the risk of crashes in the following ways:

1. Longer reaction distance
2. Longer braking distance
3. Longer steering distance
4. Higher impact severity
5. Reduced seat belt/air bag effectiveness, leading to increased injury potential
6. Rollover/loss-of-control potential

Research shows that drivers who drive fast on highways have more “hard stops” and “hard turns” than their counterparts. Research also shows drivers who have these speeding events aren’t driving longer distances than others. These “high event count” drivers don’t speed to do their work; they speed because they don’t really understand the risks they are taking.

Once the telematics devices are installed, inform the drivers the company is implementing a program to improve safe driving. Publish your standards of performance so that drivers will understand what is expected of them and how the program will be managed. It is critical for them to realize that implementing this program will not only benefit the company, but more importantly how they will benefit from the program as well.

Regularly monitor the data. Periodic or infrequent monitoring can send a perception to the drivers that your company is not taking the program seriously. If just starting a program, begin by identifying and coaching the bottom 10 percent of drivers who stand out the most. Once you have been able to make positive steps, concentrate on a larger group. However, make sure the size of the group is manageable.

The drivers must truly understand you are concerned about their behavior to protect their health and safety, and that you will continue to monitor their performance and provide the training to prevent future errors. They must be sincere about giving you a commitment that they are willing and need to change their unsafe behavior. Continue to track those individuals to determine if their status improves. If it doesn’t, meet with them again and use a more effective approach. Document the guidance that you provide. Good drivers do not need to worry about the data being collected, because it will confirm their good performance.

COACHING GUIDELINES

1. All drivers must participate in the program at all times with no exceptions. Driver violations must be included and addressed in all driver performance reviews. Protective also recommends that driver performance
recognition programs be created to identify and reward the best performing drivers. The program should be effectively publicized and consistently maintained to reinforce the company's commitment to uphold the program standards.

2. **Drivers with the most violations should be included in a Progressive Disciplinary Plan.** The plan should be developed with the support of executive management, human resources and operations so it will be consistently enforced by all functional groups. A “three strikes” or similar format is recommended in which a driver is provided corrective remedial guidance and coaching to help them identify and improve upon their weaknesses. Determining their cooperativeness and attitude towards improvement is a key element in how further corrective action or guidance needs to be applied.

3. **Drivers are often concerned that telematics systems are “spying” on them.** They must understand these systems are designed to not only assist them in performing their job legally and safely, but also provide fleet data to improve vehicle location/utilization logistics, routing/off-route movements, fuel consumption, idle time and vehicle malfunction information. Along with helping drivers, these systems also help fleets operate more profitably and more safely. The geo-fencing capabilities not only help management know where their vehicles are, but can be used by your operations team to determine if drivers are stopping at forbidden or unsafe locations, which can compromise vehicle and driver safety.

**ADDITIONAL USES FOR TELMATICs**

There are multiple systems for monitoring numerous aspects of vehicles, dispatch, driver performance and maintenance. Many will even duplicate data produced by the other systems, which can oftentimes result in an overload of more data than you can proficiently work with. Meet with each of your company's departmental leadership and midlevel management to determine exactly what they need to know to promote better equipment utilization, efficiency, profitability and safety. In addition to the data needed by the safety department, determine how you can use the other departments' data to improve your information. Most reports from each system are very good as a stand-alone product. However, tie multiple reports together to get an even bigger and more complete profile of what you need to know. Multiple reports can also aid in collision reconstruction. The following are other methods to use with telematics for driver coaching. This information can help you with the following:

- Determine the root cause for an event, whether it be driver performance, dispatcher forced/motivated, operational inefficiencies, distracted driver situations, fatigue, illness, injury, personal problem, etc. Perhaps your driver has experienced multiple hard braking events because they are not effectively managing their sight distance or recognizing a stale green light. The information may not provide all the details you need, but it does create a starting point for your investigation.

- Examine current trends and compare to previous behaviors, coaching, and desired results. Determine what has been done previously to make positive adjustments and what modifications need to be completed to attain the desired results. When used properly, an objective scorecard recording results provides a historical evaluation process for both driver and operational measurements.

- When are poor results being recorded? Are they due to traffic lanes, time of day, traffic, fatigue, length of trip, customer demands, poor trip planning or aggressive dispatching? Or is it due to driver training needing to be improved with better orientation, defensive driving or remedial training programs?

- Is there a specific terminal that has higher violation frequency or severity? If so, determine if the root cause is due to improper driver behavior, driver management or operational management.

- Determine if trends exist with the recruiters, those that complete the driver paperwork, or if there could be a specific road examiner or the road examination process that needs improvement.

- Did violations start immediately or have they progressively developed over time? Either way, it must be determined if and/or what circumstances may have changed or are developing that are affecting it.

Continued on next page >>
This case study demonstrates the value of video telematics data in providing evidence during an accident.

A driver was traveling on a two-lane divided interstate in the middle of the night. With little warning, another vehicle appeared in front of the driver, traveling the wrong way on the interstate. The driver took evasive action, but could not avoid a collision, as there was another tractor/trailer in the lane directly to his right. The vehicle and at-fault party struck head on.

Initial reports indicated the at-fault party may have been forced across the median into the driver’s lane of travel. Thankfully, our vehicle had an onboard video monitoring system that captured the event looking out onto the roadway from the cab and simultaneously captured the driver during the collision. It was evident based on the video that the at-fault vehicle entered the roadway intentionally and the driver took all necessary precautions to avoid the collision, but simply could not.

The police report later indicated that the at-fault party was indeed intoxicated, but the video evidence will be the key in supporting the case for subrogation and recovery.

**THE COST**

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<td>Vehicle</td>
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<td>Bodily injuries (anticipated)</td>
<td>$15,000</td>
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<td>Anticipated amount paid after claim closes</td>
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*Costs are likely to increase, as this is an ongoing claim.

It is possible that without the video evidence the at-fault party’s insurance would have made the case that their driver was not at fault because he was forced into oncoming traffic by another unknown vehicle. This would have made recovery much more difficult.

Luckily, the use of technology will likely mean a significant recovery from the at-fault party. The cost of the video monitoring system paid for itself multiple times over as the result of one collision.

In addition to driver behavior, consider all aspects of the company that may have been a contributing factor.

- Follow-up as soon as possible with the driver when notified of events, especially if there are several events in a row. Perhaps the driver is becoming ill, distracted, fatigued or being pushed by dispatch.

- Tailor your guidance/corrective action to the situation. Even though the driver is ultimately responsible for the vehicle, if they are being pushed by dispatch to hurry with a run, you will want to have corrective action with that dispatcher and their supervisor as well.

Be sure to recognize drivers that are regularly demonstrating safe performance. This gives them satisfaction in knowing that their safe habits are noticed by management, and it enforces to all drivers that you are monitoring everyone’s performance. Create a performance incentive program, not just a disciplinary program.
The transportation industry is on the brink of a revolution. Depending on how the next few decades play out, we could be faced with drastically reduced wage expenses and a safer road system. The potential for autonomous vehicles has society fantasizing about its possibilities, and the trucking industry is no different. However, there are still unknowns with the technology before it can become mainstream. It will show up in some areas before others depending on how the technology develops and public perception. The route that the government chooses to take with regulation will also have a massive effect on its adoption.

Current State of the Technology
Autonomous vehicles (AV) are not so much a question of “if,” but “when?” and “how?” When are we going to be able to use autonomous trucks, and how will they be integrated into society? We can speculate that commercially used automated trucks will begin in low-risk areas before high-risk areas. This is due to both the relative ease of driving in rural areas and low traffic density conditions.

Another assertion that we can make is that the technology will be demonstrated to be safe on highways before it is safe on city roads. City streets are more hazardous for an automated system to navigate than highways given visual distractions, pedestrians and cyclists. The good news is, with autonomous trucks being able to drive themselves on the highway, drivers can stay closer to home since they won’t have to worry about traveling the long distances to other cities. A driver could theoretically “pick up” loads at highway exits that arrive at their city.

Another factor to be considered when speculating on the use of autonomous technology is the values of the cargo being transported. Low value cargo can be more readily transported without a driver who would also serve as a guard for high value cargo.

Plan on autonomous trucks being available before personal auto. The financial incentive from the freight industry will certainly push the technology through faster than personal auto. When it comes to naming a specific year where the technology will be commercially available, it is difficult to say. Some estimates have its release in some form or another in 2025. Other estimates put the release date around 2045. The role the government decides upon and how people react to an automated vehicle on the market can accelerate or delay the process.

Policy/Regulation
The Department of Transportation has stated its willingness to work with states and create policy guidance that will address the main challenges and issues of testing and deploying autonomous vehicles on a wide scale. So, the good news is that the government will support the technology’s implementation. The bad news is the direction local and federal governments will take in policy is currently up in the air. Many believe that the Federal Government should step back and let states handle their own jurisdiction. Regardless of the spread of power between federal and state legislatures, there are common practices that both can begin putting in place to help push automated vehicles out of the gate.

Continued on next page >>
History has shown already that government interference has a large effect on adoption. In Sweden, simply by recommending that citizens choose a car with electronic stability control (ESC), the government was able to turn 15% of new cars with ESC into more than 90% in only four years. If the government decides to take the route of mandates, we can rest assured that the technology will be implemented more quickly than without.

**Regulatory Strategies**

Before they start making recommendations, officials need to become informed about the nature of the technology. They should outfit administrations with subject matter experts who can update policy makers on developments and relevant information. Armed with these tools, they will be able to advance their understanding and pass policies in anticipation of advances instead of trying to catch up.

**Legal Strategies**

There is still an unknowable amount of laws currently in place that contradict automated vehicles. An example would be a California law that requires a driver to have both hands on the wheel at all times. Revising these policies is essential in fostering the advancement of AV. After current laws are rewritten, the government may establish relationships with the developers of the technology to assist in the creation of new laws. The main focus of these new laws should be to encourage the adoption of the technology, as opposed to trying to restrict it. This will allow automation to develop organically and force the most efficient innovation instead of being boxed into certain methods.

**Public Perception**

FedEx CEO Michael Ducker believes that public perception and regulation would do far more to help or hinder the advancement of autonomous vehicles than the technology barriers. Currently, it appears the United States is not very trusting of automated vehicles. The top concerns are legal liabilities, system performance in severe weather and human drivers being able to deal with new or complex situations better than computers. The high cost of outfitting an existing fleet with autonomous technology may also be a barrier to entry. Right now, the projected cost of installing the technology into an existing truck is within the range of $20,000 – $40,000.

Another potential delay that could come from public perception is the amount of money that is made available to companies developing the technology. Depending on the state of the economy in the upcoming years, there may
be a great deal of capital available for investment. On the other hand, if the economy slows down, then companies may struggle to put together money for research and development. Even in a booming economy, people won't invest in the technology unless they think that it is profitable. Therefore, the perception of profitability is a hurdle that developers will have to jump for funding.

Given the disruptive nature of the advances, vehicle automation has a lot of stakeholders. The way that unions, workers and employers respond can delay the process significantly. After all, if they don't push for it, or they actively fight against it, then it won't seem to be profitable. None of the developers will have access to funding if shareholders don't see any profitability.

**Driver Assist vs. Driver Assisted**

Most people are thinking in terms of no autonomy to full autonomy. The steps towards widespread use of AV technology is actually much more complicated than that. Starsky Robotics is currently working on a system that would allow the driver to operate the truck remotely.

On highways, the trucks will operate autonomously. The remote drivers will be ready to take over at any time, but will not need to be actively driving the truck the entire trip. Each remote driver will monitor several trucks—likely 10 – 30 at once. The remote driver will take full control of the vehicle upon exiting the highway until it reaches its final destination. This is a likely intermediary before full autonomy and an excellent way to allow close monitoring of the cargo to ensure its safe transportation.

The technology that is currently used is often referred to as “driver assist.” As strides are made toward more advanced technology, driver assist will turn into “driver assisted.” The technology will be supplemented by drivers, instead of it supplementing the drivers. The reality is that because of the nature of some cargo, namely high value or highly volatile cargo, some industries will never be able to implement fully autonomous technology. However, there is still a lot of potential for this technology and it is inevitably poised to make a big impact on the way cargo is transported in coming decades.
Throughout the year, companies can experience a higher than normal workload. To meet this demand, temporary workers from third party staffing agencies may be contracted. There are many advantages and disadvantages to this common practice. With the lowering of the unemployment rate, fewer truly qualified individuals may be available even for temporary work assignments. The Occupational Safety and Health Administration (OSHA) outlines several procedures they recommend to help you use, train, manage and communicate with the staffing agency and the temporary worker.

Whether temporary or permanent, all workers always have a right to a safe and healthy workplace. The staffing agency and you as the host employer are joint employers of the temporary workers. You both share specific responsibilities to protect your interests, the agency’s interests, and the safety and interests of the temporary worker.

The following is an executive summary of the mutual practices OSHA and the National Institute for Occupational Safety and Health (NIOSH) recommend for staffing agencies and host employers. Unless otherwise legally required, these recommendations are to provide guidance and in some cases, represent best practices.
1. Permit the staffing agency to evaluate your worksite to help them not only understand the workplace and job function, but to also help identify any safety exposures.

2. Assign occupational safety and health responsibilities, and define the scope of work in the contract.

3. Make sure it’s clear to the agency and the temporary worker what their exact duties will be while working at your facility and make sure it’s clearly written in the contract.

4. Host employers should provide temporary workers with orientation and safety training that are identical or equivalent to that provided to your own employees who perform the same or similar work. However, depending on the nature of the work and the ability of the temporary worker, consider providing these individuals with more in-depth orientation and safety training. Inform the agency when the training is completed. The safety of your regular employees is also dependent on the safety behavior and work responsibility knowledge of the temporary worker.

5. The staffing agency and the host employer should both be aware of any temporary worker injuries. Avoid assigning job tasks to temporary workers that you would not have a regular employee perform, especially if there are workplace hazards involved.

6. The training of temporary workers is a responsibility that’s shared between the staffing agency and the host employer.

7. The staffing agency will most likely have a written procedure for workers to report any hazards and instances when a worker’s task is modified from what was previously agreed upon.

8. In addition to reporting responsibilities, conduct a thorough investigation of injuries and illnesses, including near misses, in order to determine what the root causes were, what immediate corrective actions are necessary, and what opportunities exist to improve the injury and illness prevention programs.

9. Provide temporary employees with information regarding how to report an injury and obtain treatment for their job assignments. Train temporary workers on emergency procedures, including exit routes.

You can download the complete OSHA recommended practices for temporary workers at www.osha.gov/Publications/OSHA3735.pdf. You can also go to the OSHA website at www.osha.gov and search for temporary workers in the “Publications” section. There you will find several publications for temporary workers.
In 2012, a photograph of a Chicago truck driver went viral. After over 25 years of driving, the skin on the left side of his face had undergone severe damage as a result of UV rays permeating through the truck’s window glass. Comparatively, the right side of his face appeared normal; unmarred by the sun’s powerful rays.

BEAT THE SUMMER HEAT: Protect Your Skin
Due to the nature of their occupation, professional truck drivers face extreme sun exposure day after day, year after year. And while the effects of the sun may not immediately manifest visibly in wrinkles and skin damage, they can be the catalyst for skin cancer—heightening the importance of taking care of your skin while on the road. Truck side windows offer notoriously low levels of protection from rays, leaving the left side of the body especially susceptible.

Luckily, there are steps that can be taken to ensure a safe driving environment and to combat the risks associated with UV ray exposure.

### Sunscreen

- Wear sunscreen every single day, even if it is not sunny. Up to 80 percent of the sun's UV rays can pass through clouds, so clouds are never a viable shield for sun damage.
- Apply sunscreen approximately 30 minutes before you begin driving to ensure that it has time to bind to your skin.
- Which SPF is best? According to the FDA, SPF 30 is the best option. Anything above is not necessary and anything below is not effective enough. Be sure to reapply your sunscreen often throughout the day, about every two hours or so.
- When applying sunscreen, do not neglect areas such as the neck, behind the ears, or underneath your upper arms.
- Take care of your lips. Skin cancer can form on the lips as well, so apply a lip balm with SPF 30 throughout the day.
- Try a sun-protective sleeve over your driving arm. This low-cost, practical option is great for hot summer days when you don't want to wear long sleeved shirts or layers of warm clothing.

### Sunglasses

- Wear sunglasses. The power of UV rays has the ability to inflict damage on perhaps your most invaluable asset as a driver.
- Look for sunglasses that block 99 or 100 percent of all UV light. If you find glasses with a label that says “UV absorption up to 400nm,” that is the same thing as 100 percent UV absorption.
- For maximum protection, try wraparound frames, which wrap around your temples and prevent rays from entering from the sides.

### Window Shields

- Install a UV shield. Most side windows have an SPF of around 16, which is not nearly enough when you consider how many hours truck drivers spend behind the wheel each year. A UV shield has the ability to filter more than 99 percent of UV rays without compromising visibility. *Per Federal Motor Carrier Safety Administration (FMCSA) regulations, make sure that your UV shield does not restrict light transmission to less than 70 percent of normal.*

### Clothing

- During colder months, wear long sleeves and long pants made from opaque, tightly woven fabrics to withstand rays.
- During warmer months, apply a sun-protective sleeve over your driving arm. This low-cost, practical option is great for hot summer days when you don't want to wear long sleeved shirts or layers of warm clothing.
- Ensure that you are visiting a dermatologist annually for a skin exam. Even if skin looks healthy on the surface, dermatologists have the ability to capture UV light images which unveil the damage beneath the surface of your skin.
- Perform a head-to-toe skin self-examination monthly. Check the American Cancer Society's website at [http://cancer.org](http://cancer.org) for a quick and effective self-exam routine.
In March, 10 trucking executives participated in an intensive fitness challenge hosted by TCA Wellness at the annual TCA convention in Nashville, Tennessee.

While contestants were assessed on physical fitness and ability, the event attempted to transcend fitness ability by bringing awareness to driver health initiatives and the importance of investing in driver health to improve retention and safety.

The 10 participants, who began preparing In February for the competition with a CDL Wellness coach, were scored based on coaching sessions, biometric improvements and number of repetitions completed throughout the fitness circuit. The fitness circuit included eight stations where participants were timed for one minute for each exercise, and the number of repetitions completed equaled one point.

A special shout-out goes to Andrew Boyle of Boyle Transportation and Michael Eggleton of Raider Express, both Protective customers! Andrew took home the prize as 2017’s Fittest Executive. Congratulations, Andrew!