Developing a Comprehensive Safe-Driving Program for Teens

To create a “win-win-win” proposition for insurers, teens and their parents, the industry needs a technology-driven, safety-focused solution that addresses the requirements of all parties, monitors teen driving and reduces losses — in real time.

Executive Summary

Teen driving is a major concern for both families and the insurance industry, and the catalyst behind numerous awareness programs and corrective steps. While it is encouraging to know that since 2005, deaths from automobile accidents involving teens have dropped 47% (from 5,889 to 3,150 in 2011), errors traced to teenage drivers were identified as the cause of 75%-plus of the 3,150 deaths reported in 2011 — the last year reliable data was available. This is a troubling statistic that calls for the development of a more comprehensive solution to help safeguard young drivers and their passengers.

With the evolution of the SMAC Stack™ (social, mobile, analytics and cloud), insurers have the opportunity and the ability to devise a more compelling solution focused on safe driving for teens. In this paper, we examine the needs of teen drivers, their parents and their insurers — those who have the most to gain from a value-centered and highly effective safe-driving program.

We will also detail a SMAC-based solution tailored to this group of stakeholders. Key elements of the solution include:

- **A smart mobile app** that appeals to teens; provides driver scores that can be compared with those of peers; monitors driving; and offers safe-driving tips for young people.
- **Software that sends real-time alerts to parents** concerning their teen’s faulty driving or breach of any governing rules (speeding, driving outside pre-defined geographic areas and roads, etc.).
- **Capabilities that help insurers reduce losses** by utilizing meaningful data from telematics devices across networks.

We will also introduce GeoLocus, Cognizant’s advanced telematics solution, that insurers can use to build an all-inclusive safe-driving program for young people and their families.
The Need for Teen Safety

Sounding the Alarm

Young men and women (ages 16 through 19) constitute one in 20 motorists; yet they cause one in seven vehicle accidents. These statistics underscore the importance of designing safe-driving programs tailored to teens. Additional research reinforces this critical need:

- Motor vehicle crashes are the leading cause of death for U.S. teens; in 2010, seven teens ages 16 to 19 died every day from motor vehicle injuries.2
- Per mile driven, teen drivers are three times more likely than drivers 20 and older to be involved in a fatal crash.3
- In 2010, 22% of drivers between 15 and 20 years old who were involved in fatal motor vehicle crashes were drinking.4
- In 2011, only 54% of high-school students reported that they always wear seat belts when riding with someone else.4
- More than 1,000 young drivers lose their lives each year in vehicle crashes because of an impaired driver (i.e., either from their own driving or someone else’s).5
- Teens are involved in vehicle accidents primarily because they are inexperienced – not necessarily because they take more risks than older drivers.

Leading Causes of Teen-Driven Accidents

The findings we have cited demonstrate the magnitude of the problem: The majority of teens’ lives are at risk due to their driving behavior. This is especially true when it comes to newly licensed drivers, teens driving with teen passengers, and male teens (accident rates are almost double those of female teens) who are more prone to risk-taking. Year over year, numbers show that teen safety is a clear and serious societal concern. Research confirms that the leading cause of accidents involving young drivers can be traced to one or a combination of the following factors:

- Lack of awareness of the consequences of risky behavior.
- Inexperience with the complexities of driving.
- Peers in the vehicle with the teen driver.
- Distraction caused by cell phones.
- Viewing driving as a social activity.
- Impaired driving due to road conditions, including driving at night.
- Reckless driving, including speeding.
- Driving under the influence of alcohol or other drugs.

The Ineffectiveness of Existing Programs

While there are many methods and programs for improving teens’ driving behavior, most have proven ineffective. The reasons?

Most involve one-time/shorter periods of training — either before a license is granted or after a driving incident occurs. Also, teens’ participation in this type of program is focused on granting them a driver’s license, not at motivating them to become and remain a safe driver.

Moreover, the effectiveness and reach of a program depends on the stringency and application of specific laws in the area where incidents take place and where the teen lives.

Most teens tend to drive older vehicles, which lack sophisticated safety features. And last, but not least, young people’s decision-making capabilities do not fully develop until they reach their mid-twenties.

These facts send a clear message that new approaches and techniques are required to facilitate safer teen driving. These should include:

- A broader view, from multiple dimensions (not just teens alone).
- Advanced technology to support/extend safety coverage.
- Provisions for continually monitoring the success of the solution.
- The use of psychological techniques to help improve the effectiveness of the program.

Teens are well aware of the risks and consequences of unsafe driving. However, they tend to overlook the consequences.
A Better Approach to Teen Safety Programs

Ideally, a successful safety program for teen driving should motivate teens to participate; be sensitive to parents’/guardians’ needs; and apply precise data-collection tools and deep-dive analytics for insurers to prevent losses and achieve higher profit margins.

Enabling Teen Participation

Studies have revealed that simple peer pressure can encourage teens to develop risky driving habits. Furthermore, research shows that the presence of other teens in a car being driven by a teen significantly increases the chances of a motor-vehicle accident — whether or not the passengers are explicitly urging the driver to make unsafe driving decisions/traffic maneuvers. Additional findings confirm that a teen’s ability to react to a situation may be lacking when compared to adult drivers. Teens are well aware of the risks and consequences of unsafe driving. However, they tend to overlook the consequences.

Many existing programs provide teens with information and instructions about safe driving, but fall short when it comes to addressing the underlying attitudes that influence how they drive. Moreover, many programs do not offer a way to gauge teen driving habits. A comprehensive program should:

- Encourage teens to enroll.
- Sustain continuous adoption.
- Support/reward safe driving.
- Measure driving behavior.

For teens, social factors — from peer pressure to showing off behind the wheel, to racing and speeding — are major contributors to unsafe driving. We believe that employing social media to encourage safe driving can be a more familiar and acceptable way to reach out to teen drivers.

Also, teens’ use of smartphones is on the rise; statistics suggest that about 70% of individuals between the ages of 16 and 19 use these devices,6 which have become an indispensable part of their day-to-day lives.

Keeping this in mind, smartphones are ideal for helping teens adopt and stick with a driving safety program.

Complementing the program with gamification techniques that motivate teens to win can keep them interested and engaged in learning safe driving habits. A leaderboard that tracks individuals’ driving skills is a good way to inspire young drivers to do their best.

In our view, a smart mobile app that appeals to teens, provides driver scores, compares driving scores with those of other participating teens, gives safe-driving tips and provides real-time alerts during dangerous driving offers a compelling proposition.

Involving Parents

Parents are naturally concerned when their teen is behind the wheel of a vehicle. They want to know where they are and how they are driving. Nonetheless, parents can be a distraction. In fact, recent research findings confirm that approximately 53% of teens who said they spoke on the phone when behind the wheel were actually communicating with a parent; 46% said they typically spoke with a friend.7

A good driver-safety program for teens should provide parents with:

- Ubiquitous access to information.
- Boundaries and limits to govern teen driving.
- Real-time monitoring while the teen is behind the wheel.

With the advent of SMAC technology, these three objectives can be met — all via a device with a smart app installed in the car or carried by the individual. The device transmits real-time information about the driver’s location, the speed at which they are driving and other vital information related to their behavior behind the wheel. Big-data analytics tools, such as those from Espertech, a provider of complex event processing (CEP) and analysis, can process this information in real time and disseminate it to relevant stakeholders.

Working together, these technologies can create a comprehensive monitoring mechanism that checks how a teen is driving at any given time or place. A parent or other designated party can...
set up a “geo fence” and specify the areas in which their teen is allowed to drive. They can also establish speed limits. Once this configuration is completed, the data coming from the teen’s car or mobile device can be monitored and parents notified of nonconformance. All in real time.

For instance, assume that a mother has set up a geo fence that limits her son’s driving to a 15-mile radius around their home. If her son drives beyond that area, she will immediately receive a text message or e-mail notification.

A solution that informs a parent how their teen is driving and sends alerts if they are driving poorly and/or breaking rules can offer peace of mind and help keep their child out of harm’s way.

Supporting the Insurer
Apart from parents and teens, teen safety is a major concern for states, many of which have had success with graduate driving-license programs (GDLs). Numerous non-profit organizations, such as Brakes for Brett, Lives Interrupted and Drivers Edge have also taken up the cause, as have automotive manufacturers and insurers.

Insurers stand to benefit by offering teen safety programs that can:
- Prevent and reduce loss.
- Corroborate circumstantial data.
- Leverage telematics data for predictive analytics.
- Improve customer satisfaction.

Such a program should be end-to-end, providing the insurer with the amount and type of data that can be corroborated for the actuarial process, pricing and claims processing. The program must also satisfy customers and garner their loyalty, which can translate into higher profit margins.

The data it collects will be the biggest asset for the insurance company. It provides the optics to prevent loss, predict loss frequency, identify riskier driving behavior, and segment dangerous driving zones. Figure 1 below shows how telematics and big data can help insurers prevent losses.

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How Telematics Data Can Enhance the Bottom Line

![Diagram showing how telematics data can enhance the bottom line](image)

**Figure 1**
A Teen Safety Program That Benefits All

A successful teen-safety insurance program should be viewed as a winning proposition by teens, their parents and insurers.

Insurance is meant to indemnify, or compensate, for the financial loss of the insured. On the other hand, insurance means business to carriers; they must earn a profit to sustain and grow their company. In personal insurance lines, teen driving is inevitable. At the same time, statistics tell us that teens are very vulnerable to vehicle crashes, and are considered immature drivers. It is a real challenge for the insurer to reduce and prevent loss and still make a profit.

In general, there are many ways to reduce or prevent the risks posed by teen driving. Introducing safety programs, offering discounts for implementing risk-control programs and stipulating conditions during the issuance of a policy are among them. However, offering a teen-safety program as an addendum to a carrier’s personal insurance policy is one of the best ways to reduce/prevent loss.

To do this, carriers should offer parents and teens a solution that helps them set the driving agreement, make teen enrollment provisions and enable monitoring of teen driving behavior by parents. As a catalyst to gradually improve teen driving behavior, the carrier can also monitor teen driving, provide unbiased feedback to teens and their parents, and reward above-average driver performance.

Figure 2 illustrates the “win-win-win” value proposition for parents, teens and insurers.
The Cognizant Approach

Cognizant’s GeoLocus is a cost-effective, highly scalable hosted telematics solution designed to help insurers provide more value and increase their ROI. This all-in-one system encompasses devices, software, data management, analytics, portals and mobile apps (see Figure 3). Furthermore, GeoLocus covers the entire telematics spectrum, including telemetry data collection; a machine-to-machine (M2M) gateway; a telematics platform, and a sophisticated event-processing engine that provides real-time analytics. These features can be leveraged to build specific solutions in areas such as teen safety or user-based insurance (UBI) programs for insurers and the insured.

The GeoLocus mobile app for data collection, along with the insurer portal, complement a teen safety program with capabilities that include:

- Out-of-the-box integration with core insurance systems (i.e., ACORD-based message and data models, and interfaces to other COTs products).
- Comprehensive features for addressing end-to-end needs, starting with data collection through analytics.
- Smartphone apps that provide a cost-effective option for delivering value-added services such as teen-safety solutions.

- A scalable architecture that meets time-to-market challenges; for example, telematics initiatives like teen safety can be launched within six months.

Looking Forward

Safe driving reduces the possibility of accidents – thereby reducing the number of injuries and losses they inflict. This is especially relevant when it comes to teen drivers – making it prudent for an insurance company to support a highly effective, technology-supported teen-safety program.

Today, using disruptive, market-changing technologies such as telematics, mobility, big-data analytics and cloud, insurers are better positioned to offer all-inclusive programs that help predict and prevent teen-related accidents.

By leveraging the SMAC Stack in conjunction with a knowledgeable telematics consulting partner such as Cognizant, insurers can devise a scalable and flexible teen safety program designed to prevent accidents, save lives and strengthen their position in the marketplace.

*We have partnerships to provide In-Car Device options.

Figure 3

GeoLocus covers the entire telematics spectrum, including telemetry data collection; a machine-to-machine (M2M) gateway; a telematics platform; and a sophisticated event-processing engine.
References


Footnotes


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