

Distracted Driving: An Epidemic

A Study of Distracted Driving Attitudes, Behaviors and Barriers Preventing Change

Prepared for

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Executive Summary

Distracted driving research was conducted to uncover data that could be used by the Oregon Department of Transportation (ODOT) to develop a targeted campaign with potential to influence a state-wide change in behavior. Research comprised of five primary objectives relating to the incidence of distracted driving behavior; attitudes and awareness towards behaviors; barriers that prevent change; influences; and opportunities to promote change.

Findings reveal that the majority believe distracted driving behavior is a rising concern, not anticipated for reform unless awareness and enforcement are elevated. Conclusions and recommendations were formulated after merging primary objectives with survey results and secondary, supporting research. Maintaining focus on objectives resulted in clear and concise recommendations involving development of a targeted awareness campaign in conjunction with enactment and enforcement of the law.

The survey was sponsored by the Oregon Department of Transportation (ODOT) and the Southern Oregon University (SOU) Graduate School of Business. This survey represents interests by each of these parties.

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Chapter 1 – Introduction

Background and Need for the Study

Distracted driving behavior has become pervasive and entrenched in our society. In a 2012 report published by the National Highway Traffic Safety Administration (NHTSA), U.S. Transportation Secretary, Ray LaHood, went as far as to declare distracted driving as an epidemic (Aldana, 2012). Driving while distracted may involve any type of behavior that takes a driver’s mind or eyes off the road, hands off the wheel or any combination of the three. Common distracted driving behaviors include eating and drinking, grooming, reading, talking to another passenger, driving drowsy, selecting music or managing a child in the backseat. Unfortunately, new technologies have expanded the distracted driving portfolio to include behaviors such as checking emails, texting and staying connected with social media. These new diversions are contributing to a “multi-tasking,” “stay-connected” lifestyle, which may be increasing fatal automobile crashes on our roadways.

According to the U.S. Centers for Disease Control and Prevention, nine Americans are killed every day in automobile crashes that involve a driver who is distracted by some other activity while behind the wheel (Norton, 2015). As distracted driving crashes continue to claim lives, agencies like the Oregon Department of Transportation (ODOT) diligently work to develop countermeasures that will convince drivers to drive more responsibly.

Problem Statement

Despite ODOT’s consistent efforts to implement safe driving campaigns including billboard slogans, graphic video clips, television (TV) and radio ads,

publications and legislative initiatives; automobile crashes continue to rise. As reported by Kullgren (2015), fatal crashes in Oregon spiked from 217 to 288, or 33% from September 23, 2014 through September 23, 2015. During this same time period, total deaths increased from 238 to 312, or 31%; pedestrian deaths increased from 33 to 54, or 64%; and motorcycle deaths increased from 40 to 46, or 15%. Amy Joyce, ODOT's Legislative Liaison, reported, "Sixty percent of fatal crashes involved a car drifting from its lane, most likely from using a cellphone or some other type of distraction" (Kullgren). Somber statistics like these have created heightened concerns for the safety of people travelling Oregon's roadways and stimulated the need for a study to better understand contributing behaviors, attitudes and barriers preventing society-wide reform.

Objectives of the Study

The purpose of this study is to collect and analyze feedback regarding distracted driving behaviors. The results may provide ODOT with baseline data to assist in the development of a long-term, targeted campaign to modify distracted driving behaviors in Oregon. Southern Oregon University MBA students gathered both primary and secondary research in order to accomplish the following objectives:

1. Measure distracted driving awareness
2. Reveal behaviors and attitudes towards distracted driving
3. Identify barriers preventing behavior modification
4. Identify prominent influences to promoting behavior modification
5. Recognize methods that may reduce distracted driving behaviors

Primary research was gathered through an anonymous electronic survey distributed via email to approximately 15,500 individuals registered with ODOT. Secondary research

was gathered through an extensive review of existing literature including journals, previous studies, databases and additional online resources.

Chapter 2 – Review of Related Literature

General Findings

In recent years, researchers have conducted extensive amounts of studies concerning distracted driving behavior. Although there is no general definition of distracted driving, Ranney's (2008) definition is widely accepted among scholars: "Driver distraction results when a secondary activity diverts attention away from the primary task of driving" (p. 1). Although the issue of distracted driving behavior has existed since the introduction of the first motor vehicles, research has revealed that the rise of new sources for distraction, like hand-held electronic devices, have led to an increase in crashes caused by distracted driving behavior over the last decade (Bingham, Zakrajsek, Almani, Shope, & Sayer, 2015). In 2013, the NHTSA reported 3,151 persons were killed and 424,000 persons non-fatally injured in crashes in which at least one driver was distracted (National Highway Traffic Safety Administration, 2015). These numbers underline the significance of distracted driving behavior as a public health concern (Bingham et al., 2015).

Although research results are not entirely uniform, several studies provided empirical evidence of the negative effects of driver distraction on roadway safety (Holland & Rathod, 2013). Several simulator-based experimental studies have revealed impacts of driver distraction on driver performance, such as reduced situation awareness, delayed speed adaption and more hard braking (Drews & Strayer, 2009). A study by Dingus, Hanowski & Klauer (2011) has revealed that glances away from the roadway for more than two seconds increase the danger of "crash or near-crash" events significantly (p. 10). The authors point out that relatively complex visual-manual distracted driving

tasks that require several steps to complete and are not associated with built-in features of the vehicle are especially dangerous. For example, distracted driving behaviors like “manipulating a hand-held or other electronic device, looking at a map, taking notes and text messaging were associated with the greatest risk” (Dingus, Hanowski & Klauer 2011, p. 9). These behaviors increased the risk of crash or near-crash events by 600 to 2,300%.

Schroeder, Meyers, & Kostyniuk (2013) conducted the “National Survey on Distracted Driving Attitudes and Behaviors – 2012”. Their extensive study revealed precious nationwide insights on distracted driving behaviors. The major results can be summarized as follows:

Talking on a cell phone while driving. According to results, 48% of drivers reported answering phone calls while driving. Of the drivers who answered their phones, 58% continued driving, 17% informed their callers they would call back and 11% pulled over to continue the conversation. The study also reported that 24% of drivers were at least sometimes willing to start a cell phone call while driving and 49% reported that they are never willing to initiate a cell phone call. Of the drivers who admitted to cell phone use while driving, 77% claimed the frequency of their cell phone usage had not changed within the previous 30 days. A minimal 3% reported an increase in cell phone usage and 19% reported a decrease. Of those who reported a decrease, 24% claimed the decrease was due to an increased awareness of the dangers of distracted driving.

Sending text messages and emails while driving. The study concluded 10% of the drivers in the respondent group send text messages or emails at least sometimes, whereas 80% of drivers stated they never do so and 11% on rare occasions. On the

contrary, 14% claimed they read text or email messages at least sometimes, 74% stated that they never do so and 44% wait until they reach stop lights. Of those respondents who reported sending text or email messages, 35% continued to drive while sending messages, 7% reported using a voice command feature and 6% reported pulling over. The frequency of sending text or email messages did not change for 67% of the drivers in the previous 30 days, 27% reported a decrease and 5% reported an increase. The major reasons for a decrease in frequency included increased awareness of the dangers of distracted driving (38%), laws and regulations that ban texting (8%), and pressure or influence from others (7%).

Feelings concerning safety when riding as a passenger. When respondents were asked about their feelings concerning safety as passengers in a car with a driver engaged in distracted driving behaviors, 86% reported they would feel unsafe if the driver was sending email or text messages, 85% would feel unsafe if the driver was reading email or text messages and 41% would feel unsafe if the driver was talking on a cell phone.

Likelihood of intervention. When respondents were asked how likely they would be to intervene if the driver was engaged in distracted driving behaviors, 66% reported somewhat likely to intervene if the driver was talking on the cell phone and 87% somewhat likely to intervene if the driver was sending text or email messages.

Educational messages. Messages discouraging distracted driving behavior were seen or heard by 63% of all respondents within the past 30 days. Of this group, 72% reported TV commercials, 27% billboards and 30% radio ads as the source of the

message. Sixty-one percent of all respondents reported they had seen or heard at least four slogans to discourage distracted driving within the past 30 days.

Existing Efforts to Combat Distracted Driving Behavior

Agencies across the nation have individually and jointly mulled over possible antidotes to the distracted driving epidemic. A documented partnership, as presented by Telecommunications Reports (2009), was with the Federal Communications Commission (FCC) and the U.S. Department of Transportation (US DoT). This partnership was created with intent to evaluate technologies that could help lessen the effects of the distracted driving epidemic. In this article, reference was made to the formation of a collaboration that would improve public education and increase awareness.

As expressed by US DoT's Transportation Secretary, Ray LaHood, "We must put an end to distracted driving, which is costing lives and inflicting injuries across the nation's roads and railways". FCC's Chairman, Julius Genachowski, went on to say, "Changing this ingrained behavior will require us to develop creative solutions using technology and education" (Telecommunications Reports). Both LaHood and Genachowski entered into this partnership in hopes that by combining resources, they could tackle the distracted driving epidemic with a more powerful take-down. These agencies announced their plans to jointly evaluate solutions at a hearing held on November 4, 2009, with the House Energy and Commerce Committee (Telecommunications Reports).

At the time, many Democrats and subcommittees in attendance were open to additional federal legislation. Highway and safety advocates stressed the need for additional research, education, enforcement of statutes and implementation of new

technologies that could disable wireless devices. As research has suggested, many forms of distracted driving behavior exist, but the impact of wireless devices is dominating conversation. Democratic Representative, Henry A. Waxman (California) expressed that changing distracted driving behavior will not be easy, but that strong laws, consistent enforcement, innovative technology and industry-wide participation can be impactful (Telecommunications Reports, 2009). On the other hand, several Republicans felt that federal lawmakers should allow states to continue to pass laws at the local level and that the federal government should focus on education, additional research and technological solutions. Regardless of party differences, both agreed upon the need for strong enforcement and large-scale education.

During this time period; 2009, LaHood called distracted driving and epidemic and expressed considerable concern for the nation's youngest drivers. Many involved in the hearing, were said to share personal testimonies and horrific stories of distracted driving accidents and fatalities. The general consensus of this article was that everyone was on board for the need for education and enforcement. However, getting prosecutors on board seemed to be a primary concern. A concluding and noteworthy comment was made late in the panel discussion by Executive Vice-President at the Cellular Telecommunications Industry Association (CTIA), Bobby Franklin. Mr. Franklin stressed that a "strategic combination" of education, legislation and technology would deliver the most results. At the time, the CTIA was working with the National Conference of State Legislatures to craft "model legislation" that could be adopted across the nation (Telecommunications Reports, 2009).

Oregon Cell Phone Law

Not too long after the 2009 hearing and according to ODOT (2012), Oregon's Cell Phone Law (ORS 811.507) became effective on January 1, 2010. The law was later modified on January 1, 2012. Driving while using a cell phone without a hands-free accessory is a Class C traffic violation, carrying a minimum fine of \$142; as a primary offense, which means law enforcement officers may stop drivers who are not using a hands-free device. Later reported by the Oregon Department of Motor Vehicles (2013), the fine increased to a maximum of \$250, but lobbied to double that in late 2013. Increasing the maximum fine to \$500 would make Oregon one of the states with the highest fines for distracted driving violations in the nation. The Oregon statute, ORS 811.507, is referenced below:

ORS 811.507¹

Operating motor vehicle while using mobile communication device

- Exceptions
- Penalty

(1)As used in this section:

(a)Hands-free accessory means an attachment or built-in feature for or an addition to a mobile communication device, whether or not permanently installed in a motor vehicle, that when used allows a person to maintain both hands on the steering wheel.

(b)Mobile communication device means a text messaging device or a wireless, two-way communication device designed to receive and transmit voice or text communication.

(2) A person commits the offense of operating a motor vehicle while using a mobile communication device if the person, while operating a motor vehicle on a highway, uses a mobile communication device.

(3) This section does not apply to a person who activates or deactivates a mobile communication device or a function of the device or who uses the device for voice communication if the person:

(a) Is summoning medical or other emergency help if no other person in the vehicle is capable of summoning help;

(b) Is using a mobile communication device for the purpose of farming or agricultural operations;

(c) Is operating an ambulance or emergency vehicle;

(d) Is 18 years of age or older and is using a hands-free accessory;

(e) Is operating a motor vehicle while providing public safety services or emergency services;

(f) Is operating a motor vehicle while acting in the scope of the person's employment as a public safety officer, as defined in ORS [348.270](#) (**Scholarships for children of public safety officers and former foster children**);

(g) Is operating a tow vehicle or roadside assistance vehicle while acting in the scope of the person's employment;

(h) Holds a valid amateur radio operator license issued or any other license issued by the Federal Communications Commission and is operating an amateur radio;

(i) Is operating a two-way radio device that transmits radio communication transmitted by a station operating on an authorized frequency within the citizens or family radio service bands in accordance with rules of the Federal Communications Commission;

(j) Is operating a vehicle owned or contracted by a utility for the purpose of installing, repairing, maintaining, operating or upgrading utility service, including but not limited to natural gas, electricity, water or telecommunications, while acting in the scope of the persons employment; **or**

(k) Is using a function of the mobile communication device that allows for only one-way voice communication while the person is:

(A) Operating a motor vehicle in the scope of the person's employment;

(B) Providing transit services; **or**

(C) Participating in public safety or emergency service activities.

(4) The offense described in this section, operating a motor vehicle while using a mobile communication device, is a Class C traffic violation.

(5) The Department of Transportation shall place signs on state highways to notify drivers that violation of this section is subject to a maximum fine of \$500. [2007 c.870 §2; 2009 c.834 §1; 2011 c.530 §1; 2013 c.757 §1]

(ORS 811.507)

As confirmed in the Oregon Traffic Safety Legislature Summary, ODOT introduced nine bills during the 2013 Oregon Legislation (ODOT, 2013). Of these bills, two passed that are directly related to this research; House Bill 2264 and Senate Bill 9 (ODOT). House Bill 2264, Teen Driver Education, changes the statutes governing the Teen Driver Education Program to increase the number of teens who complete the program. The bill directs ODOT to: 1) increase subsidy for low-income students to reduce the cost of driver education to the parent/teen; 2) develop adaptive strategy to

increase availability of the program in areas of the state where there are few or no teen driver education programs; and 3) hold education providers and instructors accountable for non-compliance . ODOT will revise administrative rules for the program and utilize the Student Driver Training Fund to continue to fund the bill's objective (ODOT).

Senate Bill 9, Increased Penalty for Using a Cell Phone While Driving, increases the penalty for the offense of using a mobile communications device (cell phone) to a Class C (\$500 maximum fine). An Oregon driver may use a cell phone with a hands-free accessory. In addition, drivers may use a cell phone without violating the law in an emergency and in several occupational settings. Senate Bill 9 directs ODOT to place signs on state highways notifying drivers of the maximum fine for this violation (ODOT, 2013).

The Impact of Laws and Regulations on Distracted Driving Behavior

In response to the rising concern of distracted driving, several organizations and agencies have demanded for the passage of laws and regulations that ban drivers' use of electronic devices like cell phones while driving on public roadways (Governors Highway Traffic Safety Association, 2014). Schroeder, Meyers, & Kostyniuk's (2013) National Survey on Distracted Driving Attitudes and Behaviors revealed several findings concerning laws and regulations on distracted driving. Their major results can be summarized as follows:

Support law banning talking on cellphone and texting. State laws that ban talking on a cell phone while driving were supported by 74% of respondents. State laws that ban texting or writing emails while driving were supported by 94% of respondents.

Perceived likelihood of receiving a ticket for distracted driving. Of those respondents living in states that ban cell phone usage, 52% anticipated drivers would be likely to receive a ticket within the next 6 months if they continued to regularly talk on their cell phones while driving; 44% reported receiving a ticket would be unlikely; 46% anticipated drivers would be somewhat likely to receive a ticket within the next 6 months if they were to regularly send text or email messages; and 37% reported receiving a ticket would be somewhat unlikely.

Scientific evaluations of cell phone and texting bans have shown mixed results. Interestingly, the majority of evaluations indicate respective bans have been largely ineffective in reducing crash risks, especially among teenage drivers (Burger, Kaffine & Yu, 2014; Cheng, 2012). In contrast, other studies have suggested that cell phone and texting bans are effective and reduce crashes (Carpenter & Nguyen, 2014). A study of Abouk & Adams (2013) revealed that any positive effects are only short-term oriented. Cheng (2015) conducted a multi-state study to examine the effectiveness of “cell phone bans” (p. 1420). This study gives evidence that cell phone bans influence driving behavior. More specifically, Cheng observed that texting laws reduce visible texting while driving by 60% and hand-held bans reduce the likelihood of talking on hand-held cell phones while driving by around 50%. Additionally, cell phone bans tend to have a higher influence on adult drivers and drivers riding with passengers.

Cheng’s findings also suggest that changes in behavior do not lead to significant reductions of distracted driving accidents over medium or long-term periods (Cheng, 2015). Cheng provides several potential interpretations for this observation. First, the usage of hand-held devices might be less dangerous and cause fewer accidents than

generally believed. Second, the risk of using hand-held cell phones while driving could be balanced by driving more carefully during the usage of the device. Third, the bans might lead to more hidden use of cell phones while driving and this could be even more dangerous and cause more accidents than obvious usage.

Distracted Driving and Teenage Drivers

Generally speaking, teenagers are particularly exposed to a higher risk of distracted driving crashes compared to other demographic groups of drivers. Researchers give two primary reasons for the higher risk. First, teenagers lack critical driving skills that can only be developed by gaining more driving experience. Second, teenagers adopt new technologies more quickly and use them more frequently. These new technologies, like hand-held electronic devices, are key sources of driver distraction (Bingham et al., 2015).

Teenage driving behavior is strongly influenced by the attitudes, behaviors and examples provided by parents. Parental influence starts quite early during childhood. By the time young children reach teenage years, kids have been exposed to their parents' driving behaviors for a long time (Simons-Morton, Ouiment, & Catalano, 2008). Parents act as role models for their children; and therefore, should be aware that their distracted driving behaviors will coin their children's future driving behaviors (Bingham et al., 2015).

Bingham et al. (2015) conducted a study to examine teens' and their parents' engagement in distracted driving behavior while driving. The purpose of their study was to describe patterns of distracted driving behaviors. The key findings of their study can be summarized as follows: 1) Gender differences are of minor importance and 2) Male and

female teenagers reported almost exactly the same frequency of using an electronic device while driving. In line with that, mothers and fathers reported almost the same frequencies of being involved in distracted driving behaviors. In addition, Bingham et al. points out: “Teens reported significantly more frequent involvement in reading or sending a text message, using an electronic device for music, checking the Internet or social media, and looking for something in the vehicle” (p. 24). In contrast, parents reported dealing with passengers significantly more often than their teenage children.

Generally speaking, the most common distracted behaviors for both parents and teens were eating and drinking, and paying attention to passenger issues while driving. The least common behaviors reported by both teenagers and parents were reading longer extensive texts like books, e-books and websites. Furthermore, the study uncovered a positive correlation of parents’ frequency of distracted driving with their children’s distracted driving behaviors. As a result, the authors draw the conclusion that parents’ examples of driving behavior are a major determinant of teen driving behavior.

Educating Teenage Drivers of the Dangers of Distracted Driving

Many secondary tasks are problematic to assess in a controlled setting or not safe to force into real driving conditions. Therefore, surveys are especially useful in gathering data regarding unobservable behavior. An education presentation combined with survey data collection offers an effective and reliable means for assessing driver distraction mitigation.

The goal of a study conducted by Hurwitz, Boyle, Abdel-Rahim, and Brown (2014) was assess teenage distracted driving habits in the Pacific Northwest. Particularly, to identify teenager views on potential determine engagement in said distractions while

driving. The study varies from other teenage distracted driving studies in two essential points: 1) Samples were collected among three states on the Pacific Northwest (including Oregon), and 2) Pre- and post-survey responses were gathered to measure effectiveness of interactive presentations.

One thousand six teenagers from Oregon, Washington, and Idaho (with a mean age of 16.17 years) filled out a pre- and post-survey on perception of distracted driving activities (Hurwitz et al., 2014). After the pre-survey, the teenagers were given an interactive presentation. This session was designed to provide a variety of evidence showing how a range of distracting activities performed while driving can significantly impact driving performance. Two weeks later, the post-survey was conducted.

Hurwitz et al. (2014) reported that working on homework and text messaging were the two most distracting activities. Furthermore, the study pointed out that tuning the radio, eating and drinking, adjusting the air conditioning or heater, and changing CDs were perceived to be the least distracting activities while driving by teenage drivers. These findings imply that activities related to “on-board, in-vehicle technologies” are perceived as naturally less distracting, compared to mobile devices. Thirty-eight percent of the respondents described frequently engaging in other secondary tasks while driving. Nearly 27% of participants admitted to changing clothes or shoes while driving, followed by 17% singing or dancing, and 14% interacting with passengers. Other distracted driving activities included adjusting glasses (a variation of personal grooming), cleaning, and other activities (Hurwitz et al.).

The impact of interactive demonstration within this study was analyzed through paired t-tests. The analysis concluded that, on average, responses were higher in the post-

survey, indicating enhanced perceptions of the dangers related with distracted driving (Hurwitz et al., 2014). The results also demonstrated shifts in perspective were more noteworthy for teenage drivers who answered the presentation directly compared to those who answered two weeks later. This study has proven that it is possible to change self-reported teenage driver perceptions concerning the dangers distracted driving behavior.

Suggestions to Change Distracted Driving Behavior

Given a lack of consent among researchers on whether bans of electronic devices are effective or not, some scholars suggest pursuing behavior change strategies. Effective behavior change appears to rely upon a solid understanding of individual motivations and decision-making processes that lead to distracted driving behaviors. Several studies have uncovered a research gap concerning drivers' motivations and decision-making processes leading to distracted driving behaviors (Bingham et al., 2015).

Parent-Teen Agreement

Based on the findings of their study, Bingham et al. (2015) suggest a so-called "parent-teen agreement" to reduce teens' distracted driving behaviors (p. 26). The parent-teen agreement is based on several scientific theories and consists of three major components (Fischbein & Ajzen, 1975). First, the agreement should include an educational component that informs parents about the dangers of distracted driving behaviors for them, but more importantly, for their children who are less experienced. The educational component should also raise parents' awareness that their driving behaviors significantly influence their teens' driving behavior and that they should serve as a good example for their children. Second, the agreement should include an honest conversation between parents and children. Parents need to confess that they have

engaged in distracted driving behaviors that should actually be avoided. Parents also have to express and demonstrate their honest intent to minimize future distracted driving behaviors. Third, a written parent-teen agreement should be drafted. Parents should try to encourage discussions with their children about potential strategies and measures to avoid future distracted driving behaviors. Concrete steps, like turning off the cell phone while driving or to adjust the settings on the music or entertainment systems before starting to drive, need to be written down. Finally, both parents and children agree on the written aspects and express their sincere intent to comply with the agreement.

Influencing Social Change

A concept known as the “Tipping Point” was introduced by bestselling author, Malcom Gladwell, in his book titled, *The Tipping Point: How Little Things Can Make a Big Difference* (Little, Brown and Company, as cited in Zemke, 2000). The tipping point can be explained in simplest terms by comparing the theory to the spread of a virus. In Gladwell’s book, he uses medical science logic to explain the dramatic moment when a virus suddenly spreads like wildfire through a population to soon become an epidemic if contributing factors are not altered (Zemke). Associating this logic with ideas, products, messages and behaviors may help to better understand how social change can be influenced.

Zemke (2000) relays Gladwell’s argument that behaviors spread person to person in a similar manner as a virus. A prime example of this theory is supported with a story of the resurrection of a familiar consumer product; Hush Puppies shoes. Zemke explains how Hush Puppies was a dying brand in 1994, but by autumn of 1995 became a national craze. The brand sold 400,000 more pairs of shoes in the following year as a result of a

few young fashion designers in New York who found the brand to be “funky.” The tipping point was triggered when those few designers included the shoes in their up-scale, New York fashion shows. Hush Puppies quickly became popular, stimulating a contagious consumer behavior.

In retrospect, Hush Puppies can be categorized as a fad of the time. Consumers all across the United States considered the brand to be popular in what seemed like an instant. A perception developed that everyone had a pair of the shoes, when in fact the brand was resurrected by the simple actions of a small group of individuals. The psychological factors that influenced consumer buying behavior can be associated with Gladwell’s concept that all fads share three characteristics including: 1) fads are products of “contagious behavior” that spread from person to person; 2) small changes have extraordinarily large effects; and 3) real change occurs in a hurry, not slow and steady (Zemke, 2000).

In the context of this study, a fad may also be considered a social or behavioral epidemic, all of which are known to develop in various areas of concentration. As stated by Gladwell, “If there can be epidemics of crime and epidemics of fashion, there must be all kinds of things just as contagious as viruses” (Zemke, 2000). Through the research presented herein, distracted driving behavior appears to carry these three characteristics and warrants true consideration of a social epidemic in need of a society-wide change.

Zemke (2000) also introduces Gladwell’s Three Rules of the Tipping Point: 1) The Law of the Few, 2) The Stickiness Factor and 3) The Power of Context. These three rules explain not only how epidemics spread but also how they can be predicted. As described in literature, the first law suggests a few well-connected, influential people can

bring great attention to a previous or existing unknown circumstance. For example, a young elementary student has the potential of quickly spreading pink eye to her six-grade classmates through simple behaviors. First of all, arriving at school with mascara on sends a subtle message that others should also wear mascara, even if doing so is not allowed. By demonstrating how to apply mascara and sharing her infected mascara with friends, she is serving as toxic role model. She is not only spreading an attitude, but also a behavior that may spread with disregard to consequence. This analogy is an example of Gladwell's Law of the Few.

The second rule, known as the Stickiness Factor, is the idea that specific ways exist to make a contagious message more memorable (Gladwell, 2000 as cited in Zemke, 2000). Zemke uses the popular children's TV show, "Sesame Street," to explain Gladwell's second rule. All viruses require a carrying agent to spread throughout a population. In this situation, the show's producer is using television as the agent to spread literacy to a target population of three- to five-year olds. The tipping point occurred as the show became a fad among underprivileged children. A few simple behaviors including live animation, celebrity song and dance, and star comedy sketches, taught children the alphabet and influenced a society-wide literacy reform. Joan Gants, the show's producer, was successful at infusing a society-wide change through a television show that stuck with viewers even through scrutiny (p. 126).

Gladwell's third rule, The Power of Context, insinuates that people are more sensitive to the environment than would appear (Gladwell, 2000 as cited in Zemke, 2000). Zemke uses the New York Transit Authority (NYTA) crime reduction project as an example. In order to decrease subway crime, the agency not only worked to arrest

more criminals, but simultaneously cleaned up subway stations and cars. The general idea was that as the subway was cleaned up, the environment would appear safer, which would draw in more users and ward off crime. By creating a perception opposite of what was causing the negative behavior, NYTA was successful at changing the community's perception during the time period of 1990 – 1994 (Zemke).

Gladwell's Three Rules of Tipping Point have been associated with three completely different scenarios, which can collectively serve as affirmation of the potential impact of implementing an intelligent strategy to influence social change. Identifying the right people to influence others, selecting an effective agent to spread the contagious behavior and a developing a strategy to change perception can together, help direct change.

Chapter 3 – Research Design and Methodology

Definition of Population Investigated in the Study

The target population for the ODOT – Distracted Driving Survey consisted of 15,397 individuals that were either self-subscribed with ODOT or imported from GovDelivery, a government list serve organization. The combined target list consisted of stakeholder groups from separate highway and bridge construction projects; stakeholder groups for specific issues (freight rail, passenger rail, funding, project selection processes, etc.); trucking companies; various advocacy groups; and Oregon media.

Research Design

The primary source of data for this research came from an 18-question survey developed through Qualtrics, survey development software. Our survey was developed from through research into the topic of distracted driving habits and behaviors, as well as through extensive understanding of the goals presented by ODOT. The survey attempted to focus on the aforementioned objectives set forth by the ODOT:

1. Measure distracted driving awareness
2. Reveal behaviors and attitudes towards distracted driving
3. Identify barriers preventing behavior modification
4. Identify prominent influences to promoting behavior modification
5. Recognize methods that may reduce distracted driving behaviors

The survey questions were divided into two primary sections: Demographic and Research Specific. The initial four questions comprised the demographics section of the survey. Age, gender, parental status, and residency were asked to establish a description of the audience reached. The goal was to identify trends between different groups of

people as well as measure awareness across age groups. Secondary research indicated that parents tend to have a “do as I say, not as I do” attitude. Thus, the question regarding parental status shows how children and teens may be affected by their parents’ behaviors, as well as whether or not driving with children in the vehicle may affect one’s behavior. ODOT is specifically concerned with an Oregon-centric campaign, thus the residency question was intended to categorize the data and zone in on specific groups. All demographic questions were multiple choice, and limited to one response per respondent.

The remaining 14 questions were designed to identify influences and barriers to preventing distracted driving behavior modification. The goal was to uncover data that would serve as a baseline for the development of a more targeted campaign intended to change distracted driving behavior in Oregon. Questions 5, 6, and 9 were related to influential people and media sources, as well as potential means of advertising. Identifying the top most influential people may allow a targeted campaign to be more personal, thus potentially reaching more drivers. On the other hand, knowing the most influential sources of media may allow ODOT to target specific outlets and reach the most drivers without spending undue time and resources on unimpactful medium.

Distracted driving has become more prevalent and accepted over the past few decades, as research has shown. However, concern lies in whether or not the general public is aware of this dramatic change. Questions 7 and 8 were designed to measure awareness of both distracted driving as a percentage of all drivers and provide an idea of whether or not the general public believes these incidents are increasing. Generally speaking, if people do not understand or are not aware of an issue, behaviors and patterns remain consistent. Simply put, out of sight, out of mind. Furthermore, Question 14 was

added to assess awareness of the reaction time of different types of dangerous driving behaviors including texting, checking emails and driving under the influence of alcohol or drugs. Research implies that drivers may not be fully aware of the differences in a driver's reaction time when involved in the previously mentioned examples (Austin, 2009; as cited in ODOT, 2016).

The remaining survey questions were designed to help identify barriers to preventing a change in distracted driving behavior; Question 10, uncover possible solutions; Questions 11 and 12, gauge the comfort level of passengers in the vehicle with a distracted driver; Question 13, measure frequency of distracted driving behavior; Questions 15 and 16, and identify the likelihood of a change in behavior; Question 17. The 18th and final question was included to invite personal, open-ended comments. Given the complexity of the distracted driving epidemic, this question offers the potential of uncovering specific awareness, attitudes and suggestions.

The survey was developed over a six-week period of time and underwent critique from a variety of sources. After developing a first draft, researchers conducted a pilot study to critique the survey, including both format and content criticism. Following further revisions, ODOT staff reviewed the survey and helped narrow focus on specific objectives. Finally, the survey was reviewed by Professor Donna Lane, assessed the validity of the survey. Upon final approval, the survey was submitted to the Internal Review Board (IRB) through Deborah d' Este Hoffer, SOU Grants Administrator, along with the remaining requested documentation. The research project and survey questions were identified as exempt on February 23, 2016 and the survey was distributed to the target population.

Gathering data about individual people and their unethical or illegal habits can be rather difficult. A suggested means of reducing the initial instinct to lie or be offended by a question was to eliminate the term “you” as much as possible throughout the questions. As a result, the survey focused on the theoretical driving habits of the general population, rather than the individual’s specific behaviors.

Determination of Sample Size and Description of Sampling Method Used

A larger sample of unduplicated responses yields more accurate results, but sometimes an excessive amount of data can be difficult to analyze. The focus of this study revolved around adult drivers within the state of Oregon; a population of approximately 2.5 million people. As indicated herein, and for the purpose of completing this research, ODOT’s target population consisted of 15,397 potential respondents. The survey was distributed via email, with 15,233 successfully delivered and 164 returned as undeliverable. Per ODOT’s request, the survey invitation email was distributed once to prevent potential duplication and limit the respondent pool to Oregonians.

Next, a margin of error, confidence level, and expected standard of deviation was determined. A 90% confidence level with a 5% margin of error was appropriate for the research conducted via this survey. The average response need only be accurate 90% of the time and the sample mean need only be within 5% of the population mean. Furthermore, using a relatively conservative standard of deviation at .5, allows calculations to result in an appropriate sample size even though survey results had not been analyzed yet. The required sample size for this study is 271. This means that in order to appropriately represent the population in Oregon, the survey must have generated a minimum of 271 complete responses.

Research Procedures Employed

Throughout the duration of this research, 14 procedures were employed to help validate the research process and develop accurate and useful results. Considerable time and attention was given to the first procedure, which was to assess the client's needs and define survey objectives. This focus allowed the research team to efficiently navigate through to the reported findings. Performing quantitative data analysis identified trends and patterns within the data, which contributed to the development of findings. Collectively, through the research procedures, (see Figure 1) the research team was able to develop final conclusions and recommendations.

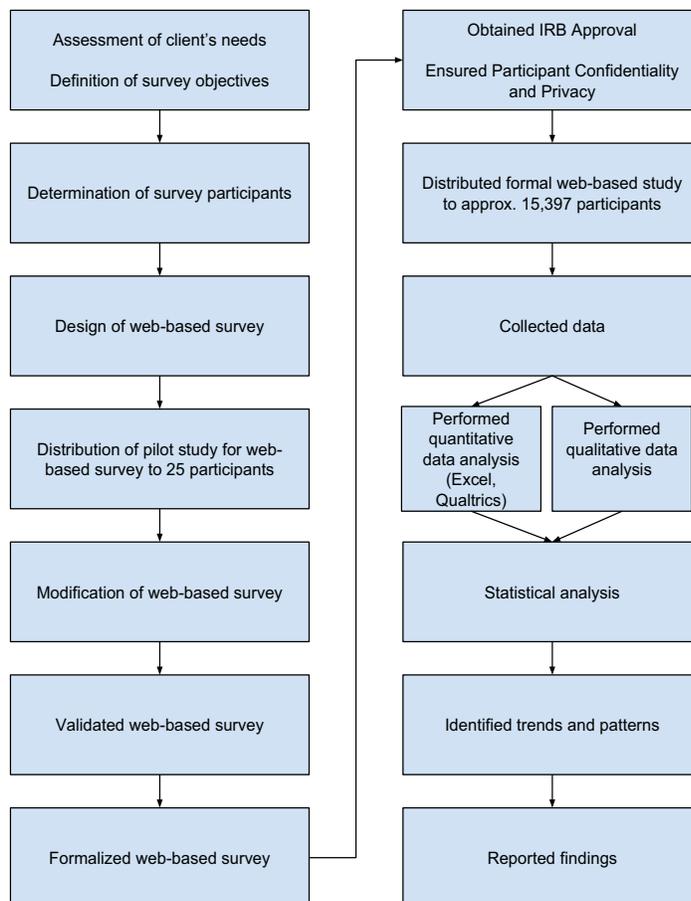


Figure 1. Distracted Driving Research Methodology Flowchart

As represented in the research methodology flowchart in Figure 1, the web-based survey was distributed to a pilot group of approximately 25 respondents prior to final distribution. This pilot group was comprised of other students from Southern Oregon University and professionals from various occupations including trucking and transport, heavy equipment rental and sales and community planning. The research team collected key suggestions for improving survey questions, primarily with regard to question length, wording, and order of presentation.

Limitations of the Study

Research attempted to analyze the behavioral patterns of distracted driving as well as awareness of the issue to provide baseline data for ODOT. Release of the survey was delayed several days as a result of the IRB process, but within the first day, 844 or 49.33% of the total responses were collected. The survey remained open for six days and by the close, over 1,500 completed surveys were collected. There was no concern of a slowing in the response rate towards the end of the survey as this was considered standard and the minimum response rate had been reached. The survey generated 1,711 survey starts and a total of 1,594 survey completions, resulting in a 93% response rate.

Collecting data that adequately represented the population was a matter of concern. Given the sensitive nature of the study and ODOT's relationship to the target group, respondents may have felt pressure to provide inaccurate information, especially regarding questions about personal distracted driving behavior. Furthermore, given the target population was limited to individuals interested in receiving ODOT updates; the sample may not serve as an accurate representation of the Oregon population as a whole.

In addition, only 22% of the total respondent group was between the ages of 18 and 44. Consequently, the majority of respondents were of an older generation, thus potentially skewing the results of the data. This limitation will be addressed further, upon analysis of the results.

Research was also limited to the scope of study. An abundance of avenues would have been interesting and valuable to explore, but given the limited number of questions, focus remained on client defined objectives. Recommendations for future studies may expand the reported findings of this research.

Chapter Four: Results and Findings

Overview

The survey was released on Tuesday, February 23, 2016 and scheduled to close on Monday, February 29, 2016, at 5:00 pm. At the expiration, 1,711 surveys had been started; however, only 1,594 had been completed. The survey duration was estimated at six to eight minutes. The average respondent spent 12 minutes in the survey (this result excludes outliers), with a range of one minute to four hours. On February 23, 49.33% (844) of surveys were started; followed by 31.5% (539) on February 24. The remaining 19.17% (328) of surveys were started between February 25 and February 29. All survey recipients received the same link via the email provided to the ODOT GovDelivery system. The majority of the start times were spread across the first 24 hours, with a significant portion; 23.09% (395), started in the four o'clock hour. Qualtrics reported 61.54% (1,053) of respondents completed 90% of the survey, while 32.02% (548) completed the full survey. The remaining 6.43% (110) surveys ranged from 0% to 80% complete. The survey required the first demographic question regarding age be answered in efforts to restrict minors from completing the survey.

Data Analysis

The following breaks down the statistics and findings for each of the 18 questions compiled in the survey, including response rates and mean statistics for relevant questions. Questions were divided into two sections: 1) Demographics and 2) Research Specific.

Demographics.

Question 1: What is your age? The survey completion rate for this question was 99.3%, or 1,699 respondents. Results were filtered to show only the responses from survey participants who completed the full survey. In this case, there were 1,590 responses, with 100% completion of the question. Responses ranged from “Under 18” (less than 1%; 1) to “85+” (less than 1%; 6).

- 1% (16) of respondents were ages 18-24.
- 8% (125) of respondents were ages 25-34.
- 13% (211) of respondents were ages 35-44.
- 23% (364) of respondents were ages 45-54.
- 32% (514) of respondents were ages 55-64.
- 19% (295) of respondents were ages 65-74.
- 4% (58) of respondents were ages 75-84/

The majority of responses, 68% (1,089) were between the ages 35 and 64.

Question 2: What is your gender? Of the total respondents, 99.18% (1,697) completed this question; again, results were filtered to show only the 1,589 respondents who answered this question and completed the survey. 55% (868) answered as male and 45% (718) answered as female, with less than 1% (3) selecting the “other” option.

Question 3: Which parental status option is most applicable to you? The 99.01% (1,694) of total responses was filtered down to show the 1,588 responses of those who completed the survey. The following is a breakdown of the results:

- 32% (509) were “without children.”
- 10% (158) were “with young children.”

- 8% (134) were “with teenagers.”
- 4% (56) were “with young children and teenagers.”
- 46% (731) were “with adult children.”

The majority of responses, 78% (1,240) did not have children living at home

Question 4: Which [residential] option is most relevant to you? The response rate for this question was 98.5%, or 1,693 respondents. These results were filtered down to 1,590 respondents who completed the survey. The majority, 95% (1,503) claimed to be residents of Oregon, 4% (70), non-residents, and 1% (17), part-time residents of Oregon.

Section 2: Research.

Research Specific.

Question 5: Who are the most influential individuals in your life? The 97.43% (1,667) responses were filtered to show 1,522 completed responses. Of the 1,522 responses the number 1 rank went to “Teachers” 7.10% (108) of the time, “Coaches” .99% (15) of the time, “Youth leaders” .46% (7) of the time, “Medical professionals” 3.61% (55) of the time, “Friends” 22.27% (339) of the time, “Parents” 38.44% (585) of the time, “Siblings” 4.14% (63) of the time, and “Other” 23.00% (350) of the time. The “other” responses can be found in Appendix E, and include answers like: children, colleagues or coworkers, and spouses.

In terms of mean or average value, the lower the mean; the higher the ranking. In this case, “Friends” had the lowest mean at 2.84, even though “Parents” were ranked number 1 more often. The following is a list of means for each option:

- Teachers – 3.89
- Coaches – 5.50

- Youth leaders – 6.14
- Medical professionals – 4.76
- Friends – 2.84
- Parents – 3.04
- Siblings – 4.37
- Other – 5.45

Question 6: Which are the most influential media in your life? Within the respondent pool, 97.02% (1,660) respondents completed this question, but only of those that completed the question at 100%. Social media and TV ranked number one the most frequently at 22.18% (326) of the time and 25.17% (370) of the time, respectively.

Overall, the distribution was normal, with the following mean values:

- Social media – 3.28
- TV – 2.72
- Newspapers – 2.89
- Magazines – 3.98
- Radio – 3.00
- Other 5.14

The mean for “Other” was so high because 75.51% (1,110) of respondents marked it as rank 6 and filled in alternative options, such as: Internet news, Music, or Scholarly journals. A complete list of fill-in answers for this question can be found in Appendix E.

Question 7: Distracted driving incidents are increasing. The response rate for this question was 96.96%, or 1,659 respondents. Of those respondents, 1,589 completed

the survey. On average (with a mean of 4.23 on a five-point scale), respondents agreed that distracted driving incidents are increasing.

- 5.10% (81) Strongly disagree
- 1.95% (31) Disagree
- 10.01% (159) marked “Unknown”
- 31.21% (496) Agree
- 51.73% (822) Strongly agree

Question 8: What percentage of drivers do you believe drive while distracted?

Of the 96.96% (1,659) response rate, 1,578 were considered in these results. The conclusion was that people believe, on average, 56.03% of all drivers drive while distracted.

Question 9: How likely do you feel each of the following [actions] could reduce distracted driving behavior? Of the 95.91% (1,641) who responded, only 1,573 completed the survey. 47.20% (742) ranked “Enforce the use of apps...” as very likely to reduce behaviors, while 16.97% (267) ranked “Raise public awareness” and 29.24% (460) ranked “Pass laws...” as very likely to reduce behavior. 44.82% (147) of those 265, who opted to select other, filled in the “Other” option as very likely. Responses can be found in Appendix E.

Mean values on a five-point scale were consistent, at 3.57, 4.06, 3.73, and 4.27 for awareness, applications, laws, and other, respectively.

Question 10: Please rank the top three reasons why you feel drivers may choose to continue to drive distracted. This question collected responses from 94.68%, or 1,620 of respondents. As this question was a ranking question that only required the top 3

choices to be selected, percentages will not add up to 100% and a total count for completed surveys cannot be determined.

The following are the rankings based on mean, where a smaller mean implies a higher rank:

- Manage a busy lifestyle (687 responses) – 2.10
- Social media (717 responses) – 2.33
- Family emergencies (232 responses) – 2.53
- Text messaging (1,271 responses) – 1.76
- Work (188 responses) – 2.79
- Children in the car (383 responses) – 2.72
- Phone calls (1,088 responses) – 2.33
- Personal grooming (231 responses) – 2.80
- Eating or drinking (547 responses) – 2.82
- Current events (152 responses) – 2.86
- Other (119) – 1.99

Responses to the “other” selection can be found in Appendix E.

Question 11: How likely do you feel each of the following [sources] would reduce distracted driving behavior? This question recorded responses from 94.1% (1,610) of respondents; however, similarly to number 10, not all parts of the question were fully answered. The range of completed responses was 1,536 to 1,559. The “other” option received 474 comments, which can be found in Appendix E.

Video clips had the most likely and very likely responses with 58.81% (914 out of 1,561 responses), followed by TV ads at 55.61% (867 out of 1,559), Radio at 49.84% (778 out

of 1,554), and Facebook at 52.12% (812 out of 1,558). In this case, a higher mean on the five-point scale implies a greater likelihood:

- TV ads – 3.33
- Billboards – 3.01
- Facebook posts – 3.31
- Twitter headlines – 2.97
- Video clips – 3.49
- Radio ads – 3.25
- Other – 4.08 (With fewer respondents)

Question 12: The minimum fine for a distracted driving offense is \$142. To keep people from driving distracted, should it: Increase, Decrease, or Stay the Same? The response rate for this question was 93.86%, or 1,606 respondents. However, this was filtered down to the 1,586 respondents who completed the survey. Of those 1,586, 30% (471) believe fines should remain at the same level, 4% (56) believe fines should decrease, and 67% (1,059) believe fines should increase.

Question 13: When riding as a passenger, how comfortable would you feel if your driver was sending a text message? Of the 93.75% (1,604) who participated in the survey, 1,589 survey respondents were included in these results. On a five-point scale from very uncomfortable to very comfortable, the following results were obtained:

- 9% (145) were very comfortable
- 2% (34) were aware but not uncomfortable
- 5% (73) were somewhat uncomfortable
- 15% (244) were uncomfortable

- 69% (1,093) were very uncomfortable

Question 14: Which distracted driving behavior do you feel would most affect your response time while driving? Of the 93.69% (1,603) of participants who responded to this question, 1,582 completed the survey. Of the three options, writing a text message ranked highest with 56% (882) of responses, followed by driving under the influence with 36% (569) of responses, and checking an email with 8% (131) of responses.

Question 15: How often do you participate in distracted driving behaviors while driving alone in your vehicle? Of the 93.69% (1,603) responses recorded for this question, 1,587 respondents completed the survey. The results regarding participation in distracted driving behaviors while alone were as follows:

- 1% (15) always
- 2% (30) most of the time
- 5% (72) about half of the time
- 65% (1,030) sometimes
- 28% (440) never

Question 16: How often do you participate in distracted driving behavior while driving with passengers in your vehicle? Of the 93.69% (1,603) responses recorded for this question, 1,570 respondents completed the survey. The results regarding participation in distracted driving behaviors with passengers were as follows:

- Less than 1% (6) always
- 1% (10) most of the time
- 2% (32) about half of the time
- 40% (627) sometimes

- 57% (895) never

Question 17: How likely are you to change your potential distracted driving behavior if the following scenarios occurred: you were more likely to hurt yourself, another adult, or a child? The recorded response rate for this question was 93.57%, or 1,601 respondents. Like some of the previous questions, not all parts were answered, so a total count of participants ranges from 1,563 to 1,573 respondents.

In this case, a higher mean on the five-point Likert scale corresponded to a higher probability of changing behavior. The means were as follows:

- Hurting oneself – 4.13
- Hurting an adult – 4.47
- Hurting a child – 4.63

Within the respondent pool, 44.08% (689 of 1,563) were very likely to change behavior if there was a greater likelihood of hurting themselves; 64.88% (1,016 of 1,566) were very likely to change behavior if there was a greater likelihood of hurting an adult; and 79.34% (1,248 of 1,573) of respondents were very likely to change behavior if there was a greater likelihood of hurting a child.

Question 18: If you have any further comments or concerns, please list them here. Of all the survey respondents, 32.03% (548) opted to leave a comment in the open-ended question box at the end of the survey. A complete list of responses can be found in Appendix E.

Correlations. A complete correlation matrix of all scalar questions can be found in Appendix F. While there were 144 significant p-values (values less than .1), of those, only 53 had logical relationships. Those 53 were narrowed further based on the R-value,

to 9 significant results. Finally, the R^2 -value, otherwise known as the explanatory value, was calculated to assess the significance of the relationships. Of those 9, only 2 had explanatory values over 50%: the relationship between hurting oneself and another adult had an explanatory value of .5198, and the relationship between hurting an adult and a child had a value of .7362. Upon further consideration, these results were deemed irrelevant, as the relationship did not provide meaningful insight. A correlations matrix can be found in Appendix G.

Analysis of Variances (ANOVA). Further analysis was conducted on the categorical questions via an analysis of variance on each question. The resulting graphs and statistics are available in Appendix H. There were no significant differences between the categories analyzed: age, gender, and parental status.

Likert-scale Analysis. Further analysis was conducted on questions that were assigned a rating scale. The survey questionnaire contained seven Likert-scale questions. Graphical representation of each of these questions can be found in Appendix I.

Chapter 5 – Conclusion and Recommendations

Conclusion

Conclusions and recommendations were formulated based on significant findings related to the five primary research objectives defined early in the study. Maintaining focus on these objectives resulted in clear and concise conclusions and viable recommendations that may help influence change across Oregon and beyond. Primary objectives were directly tied to awareness, attitudes, behaviors, influence and change. Although overall research was complex and sensitive by nature, key findings were matched with objectives to formulate logical and attainable recommendations.

Measure distracted driving awareness. According to respondents who completed the survey, distracted driving incidents are increasing. This 83% affirmation, coupled with strong opinion that cell phone use influenced Oregon's 33% (12-month) fatal car crash increase in September 2015, prompted a conclusion that cell phones are one of the biggest contributing factors of driving epidemic (Kullgren, 2015). Respondents were also asked to gauge the percentage of drivers believed to drive distracted, which was reported at a 56% average. This figure is 19% lower than the percentage of respondents that admitted to driving distracted, which presents a conclusion that more drivers actually drive distracted than averages insinuate. On the contrary, secondary data reported a closer correlation with 58% of drivers admitting to drive distracted by answering phone calls (Schroeder, et al., 2013).

Lastly, the survey attempted to gauge awareness of distracted driving safety hazards by asking respondents to compare the reaction times required when sending a text, reading email and driving under the influence of alcohol or drugs. As provided by

ODOT (2015), sending a text message requires 70 feet of reaction time, while driving legally drunk only requires 4 feet. Fifty-six percent of respondents agreed with this comparison, which was slightly higher than originally expected. A final conclusion relating to awareness is that Oregon drivers, as represented by the target population, are aware of distracted driving, but continue to engage in the behavior.

Reveal behaviors and attitudes towards distracted driving. Research uncovered sincere but conflicting data relating to attitudes towards distracted driving behaviors. A staggering 75% of respondents admitted to driving distracted while alone and 57% with passengers in their vehicles. An even more staggering revelation was the 84% that answered they feel uncomfortable driving as a passenger in the car with a distracted driver. This “do as I say, not as I do” attitude leads to a strong conclusion that action should focus on changing a perception that the safety hazards of distracted driving are any different whether alone or with passengers in the vehicle. The other strong-willed attitude that appears to be present is, “nothing is illegal, as long as you don’t get caught.”

Research results conclude that people are aware of the distracted driving hazards that accompany the behavior. Awareness seems to be tipping to a strong perception that something needs to be done about the problem. In fact, 67% of respondents feel that an increase in cell phone violation fines may be an answer. This attitude towards distracted driving appears to be a cry for help from a society that has lost control.

Identify barriers preventing behavior modification. When respondents were asked to reveal the main reasons why distracted driving is most likely going to continue; texting, managing a busy lifestyle and social media were tagged in the top three. All three reasons involve the use of a cell phone; even managing a busy lifestyle. Ironically, what

better resource to manage a busy lifestyle than a cell phone? This outcome tells stakeholders that drivers do not have strong intent to put down cell phones while driving behind the wheel.

Identify prominent influences to promoting behavior modification. Primary research identified parents as the most influential people on a scale of 1 to 8. Parents were ranked 1st more often, with 38% of respondents in agreement. Friends were, by no surprise, ranked second at 26%. Among the most influential media; television (26%) and social media (22%) stole the show. Malcom Gladwell's "Tipping Point" theory suggests that influential people can help bring about change, and with the right medium, this message can become contagious (Zemke, 2000). This theory of how to influence social change, when merged with survey results, served beneficial in formulated recommendations that although seem simple, may be overlooked.

Recognize methods that may reduce distracted driving behaviors. As mentioned above, TV and social media have been recorded as the most influential medium to administer a large-scale campaign. The survey was designed to uncover methods of delivering impactful campaigns that can make a difference. Through extensive data analysis; video clips, enforcement and Facebook posts ranked as the top three. However, enforcement was not identified as the second choice using traditional measurement methods. Rather, the outcome was derived through an "other" category on the survey question. Of the comments provided under this category, 46 out 240 responded with some form of suggestion relating to enforcement. Combining total responses of likely and very likely produced a slightly different outcome with video clips

(914 total responses), TV ads (897 total responses) and Facebook posts (812 total responses) in ranking order.

Research successfully addressed ODOT's primary objectives. As supported through research findings discussed in Chapter 4, people are accurately aware of the distracted driving epidemic, and becoming increasingly concerned. Research has also uncovered barriers to preventing change as well as identified who can help fix the problem and how these barriers may be alleviated.

Secondary research gathered from Malcom Gladwell's three rules of epidemics, known as the "Rules of Tipping Point," compliment conclusions made through primary research. Gladwell's first law; *The Law of Few*, instructs those interested in influencing social change to identify a few influential people (Zemke, 2000). This research has identified parents and friends as the most likely few. Gladwell's second law; *The Stickiness Factor*, provides instruction to employ a medium that will allow the message to be spread like a contagium across a population (Zemke). With regard to the distracted driving epidemic, the medium a choice has proven to be TV, video clips and Facebook. The interesting relationship among this combination is that video clips, also referred to as video Public Service Announcements (PSAs) for purposes of this research, can be administered using both TV and Facebook. Gladwell's third and final rule; *The Power of Content*, emphasizes that people are more sensitive to perception than they may appear (Zemke). In order to take down an epidemic, perception must be changed at just the right time; with just the right medicine; and by just the right person.

Recommendations

Research results conclude an overall consensus that more and more people are driving distracted using cell phones and that this behavior is likely to continue. Therefore, a strategic combination of two recommendations has been identified. The first recommendation suggests ODOT utilize data uncovered from this research to design a targeted campaign against using cell phones while behind the wheel. The campaign should focus on a target audience including parents, teens and friends. Spreading messages among the most influential members of this target audience can help reach more people. Recognizing key methods and medium to spreading the word within the target audience may help the message stick, which in turn may help stimulate real change. The second recommendation focuses on taking action against a perception that cell phone violations are not enforced. Providing notification to drivers on our roadways and lobbying to enact new law may remedy perception and change behavior.

Change attitude through awareness. The first recommendation encompasses development of a targeted campaign utilizing video Public Service Announcements (PSAs) and Facebook posts. PSAs and Facebook posts should serve as the methods, and television and social media as the medium. Research identifies five suggestions to consider before creating a PSA campaign. According to Georgiadis (2013), PSAs should target a specific audience, but at the same time; be diverse. A good example is the Let's Move! Campaign introduced in 2010 by Michelle Obama. Nineteen Let's Move! PSAs represented kids and parents from all ethnic and socio-economic backgrounds, in addition to gender, age, height and weight. PSAs consistently communicated the same message of solving the epidemic of childhood obesity, and infused strategic messages to empower

through solutions rather than problems. PSAs should be short; not long, and use pictures; not words (Georgiadis).

Pierce (2012) presents similar data regarding ways to promote Facebook Page engagement such as keeping posts short, asking questions and using the right words to send a strong message. Facebook posts should be short, preferably 100 characters or less. Pierce concludes that potential users will not likely read a post over 140 characters. Another report by Constine (2011), suggests that using not more than 80 characters can increase engagement by 27%. Once again, identifying a target audience can help select the right words for a strong message. Posts should be sent during peak times, which are between the hours of 1:00 p.m. and 3:00 p.m. on Thursdays and Fridays. Studies show that posts delivered during these peak times are 18% more likely to engage an active audience, which may be associated with a TGIF (Thank God It's Friday) centric society (Pierce).

Another valuable suggestion involves the lifespan of a post. The overall, average lifespan of a post is considered to be three hours (Pierce, 2012). This concept suggests that if a second post is delivered before the lifespan of the first post as ended, engagement will be lost. Organizations should find their average post lifespan and develop a schedule for posting messages that require maximum engagement to be effective. This can be accomplished through analytical software such as EdgeRank Checker (Pierce).

A final suggestion to developing strong Facebook Page engagement involves the use of Uniform Resource Locators (URLs). URLs represent the exact website address of where a file, picture or video is located on the Internet. Examples of all three options are referenced below (Pierce, 2012):

1. **Full-Length URL:** http://www.victoriassecret.com/shoes/whats-new/studded-suede-pump-betsey-johnson?ProductID=68804&CatalogueType=OLS&cm_mmc=fb-stores-status-suedpump090512.
2. **Brand-Specific URL:** <http://i.victoria.com/wSI>
3. **URL Shortener:** <http://bit.ly/z3fuZx>

These three types of URLs were presented as a comparison by Pierce (2012). The full-length URL can be intimidating if users are concerned about where the address will take them; whereas the brand-specific is inviting because the address is familiar. Using a URL shortener offers no real advantage outside of eliminating a lengthy address. In fact, studies suggest that page developers should choose a full-length URL over a URL shortener such as bit.ly or ow.ly (Pierce). In option 2, Victoria's Secret uses a brand-specific URL shortener to assure their customers of where they are traveling on the Cloud. This option is the best option when developing an awareness campaign that uses URLs.

In summary, implementation of a well-planned, targeted campaign to change attitude through awareness is the first recommendation presented herein. Applying the first two laws of Gladwell's Tipping Point to Oregon's distracted driving epidemic can influence change. Reaching the most influential people through the most influential means can make this happen quicker.

Changing perception through enforcement. The second recommendation is delivered in three-fold, utilizing Gladwell's third rule of influencing social change as an inspiration. The rule suggests that context has great power; which means, if perception is altered then so is behavior. The recommendation is to change the way people perceive the punishments of distracted driving through enhancement and enforcement of Oregon law.

Place violation signs on our roadways. The first suggestion relates to ORS 811.507, which clearly states that operating a motor vehicle while using a mobile communications device is illegal (ORS 811.507). Additional language under the law states that ODOT shall place signs on state highways to notify drivers that a violation of this section is subject to a maximum fine of \$500 (ORS 811.507). The recommendation is to place violation signs on state highways as well as frequented roadways and active intersections where drivers are required to slow down or stop. Although this recommendation may not be a direct enforcement action, research suggests that notifying drivers of the consequence may help change the way they perceive the law.

Elevate ORS 811.507 to a Class B violation. Research results concluded that drivers do not anticipate severe consequences for violating ORS 811.507. Although there are some exceptions to the law, using a cell phone without a hands-free accessory is illegal. However, the high rate of distracted driving incidents suggests that people feel immune to the law. This attitude may exist because the fine is too low. In other words, the existing presumptive fine of \$160, potential reduced of fine of \$80.00 and maximum fine of \$500 does not seem to be doing the job. (D. Bostwick, personal communication, March 8, 2016).

D. Bostwick agreed with the prediction that expecting local jurisdictions to uphold the existing maximum fine at the local level may be ineffective and inconsistent. (D. Bostwick, personal communication, March 8, 2016). The current manner in which the law is written, reserves judgment of a higher fine for more serious violators of either action and/or frequency. Elevating ORS 811.507 to a Class B offense may result in

judgements of higher fines because the presumptive fine would increase to \$260, the minimum reduced fine to \$120, and the maximum fine to \$1,000 (Bostwick).

Conflicting research regarding fines was cleared up during a telephone interview with Medford's Municipal Court Clerk, Denise Bostwick. As expressed by D. Bostwick, violators are currently afforded the option of mailing in a check for \$160 rather than contesting the conviction in a court of law. If a violator chooses to contest the citation; the presumptive option expires and the fine is then subject to court decision, which can be as low as \$80 or as high as \$500 (D. Bostwick, personal communication, March 8, 2016). Given this process, the most feasible way to increase the minimum fine is to increase the maximum through a change in the law. Therefore, the recommendation is to lobby for a new bill to elevate the law's class during the 2017 Legislative Session. If there is not sufficient time to introduce a well-organized and supportive initiative before then, the bill should be introduced in 2019. Although opposition is expected, research supports this recommendation through a 67% opinion that the minimum fine should be increased. An increase in fines in addition to placement of violation signs with the new maximum fine of \$1,000 will most likely shift driver perception and reduce distracted driving behavior.

Enact law mandating traffic safety education for all new drivers. The third and final recommendation under changing perception through enforcement is to gather state-wide support for an amendment to ORS 807.065; Additional eligibility requirements for persons under 18 years of age. Under current law, drivers under the age of 18 may not obtain a driver license until they certify completion of at least 50 hours of drive time with a person at least 21 years of age who has had a valid driver license for at least 3 years; **and** one of the following options:

1. Completion of a traffic safety education course that meets standards developed by the department under ORS 336.802; or,
2. Certification of completion of 50 additional hours of driving experience during which the driver was supervised by a valid adult driver as defined under ORS 807.065(1)(d).

Consideration of utilizing mandatory traffic safety education to influence long-term change is optimistic for several reasons. The primary reason is that driver education can reduce distracted driving convictions. Data supporting this theory was collected from William Warner, Driver Education Program Manager for ODOT. The table below illustrates traffic violation convictions against teen drivers ages 16 to 18 in 2014 (ODOT, 2016). As indicated in Table 1, traffic violation convictions are almost entirely from teen drivers who have not completed the a teen driver education course; 95.69% among 16 year olds, 98.93% among 17 year olds and 99.67% among 18 year olds. This pattern suggests that dangerous behavior increases with age and comfort behind the wheel. The fact that incidence of conviction is almost nonexistent among 18 year olds who have completed the course, proves that education must be sticking.

Year	Age	Reported Convictions	With Driver Education	Without Driver Education	With Driver Education	Without Driver Education
2014	16	789	33	755	4.18%	95.69%
2014	17	2,057	22	2,035	1.07%	98.93%
2014	18	4,286	14	4,272	.33%	99.67%
2014	Combined	7,132	70	7,062	.98%	99.02%

Table 1. Oregon Teen Driver 2014 Convictions, Driver Education (Warner, 2016).

Further confirmation of the influence teen driver education can have on driving safety is illustrated in Table 2. A total of 3,916 teen driving accidents were recorded in 2014, with 96.37% resulting from drivers who did not complete a traffic safety course.

This data solidifies any doubt against mandating all teen drivers complete traffic safety education prior to obtaining a valid Oregon driver license.

Year	Age	Reported Accidents	With Driver Education	Without Driver Education	With Drivers Education	Without Drivers Education
2014	16	844	95	749	11.26%	88.74%
2014	17	1,344	39	1,305	2.90%	97.10%
2014	18	1,728	8	1,720	0.46%	99.54%
2014	Combined	3,916	142	3,774	3.63%	96.37%

Table 2. Oregon Teen Driver 2014 Accidents, Driver Education (Warner, 2016).

W. Warner expressed the importance of presenting accurate and relevant data when going before legislatures. He also confirmed that his department plans to continue tracking incidence of both convictions and accidents as associated with driver education (W. Warner, personal communication, March 8, 2016).

The recommendation is to proceed with efforts to introduce a 2019 bill that would mandate teen drivers complete traffic safety education prior to obtaining a valid Oregon driver license. This amendment is expected to result in long-term sustainable change for several key reasons including: 1) Driver education data collected in 2014 proves promising for future results; 2) ODOT is committed to collecting data that may be useful in legislative session; 3) Teen Driver Education Expansion - HB 2264, was strongly supported on the Senate floor in 2013 with a passing vote of 20-7. This outcome accompanied with proven performance forecasts favorable outcome in 2019 (W. Warner, personal communication, 2016); 4) HB 2264 reduces financial barriers for low-income students by subsidizing course registration fees; and 5) The teen driver education program connects parents with teens through a course curriculum that requires parent involvement on at least five separate occasions (Warner).

If a new traffic safety education law was to pass, more parents and teens would connect. This would serve as another avenue to implementing change through the most influential people, as suggested under Gladwell's first law of few. Video PSAs could be incorporated in the driver education curriculum, which would help the message stick as suggested under Gladwell's second rule. Lastly, drivers would become more aware of the reality of distracted driving behavior, which holds the power to change perception under Gladwell's third rule. In conclusion, amending ORS RS 807.065 offers an especially optimistic opportunity for shifting the distracted driving epidemic by strategically aligning all three of Gladwell's Rules of Epidemics.

Suggestions for Future Studies

As indicated by the limitations of the study, data collected during research may not adequately represent Oregon's population as a whole. Although 95% of respondents identified as Oregon residents, the overall target population was somewhat isolated to those individuals and stakeholders interested in ODOT (or partnering agencies') updates, projects and/or operations. In addition, the majority of responses were derived from older generations between the ages of 45 -74. This age range accounted for 74% of all responses with 23% from ages 45-54; 32% from ages 55-64; and 19% from ages 65-74. Based on analysis of these results, a primary suggestion for future research would be to conduct a study encompassing a broader target population and more neutral method of distribution. Conducting future studies targeting a younger audience may prove useful in identifying cultural contributing factors preventing behavior modification.

A second suggestion for a future study is to complete a more in-depth review of data relating to Oregon cell phone conviction records, prosecution levels and effective

placement of violation notification signs. A better understanding of these contributing factors and/or possible solutions should be obtained prior to development of targeted campaigns involving enforcement.

A third suggestion focuses on a nation-wide inventory developed by the Conference of State Legislatures (NCSL). This inventory chart documents specific bans on all cell phones including hand-held devices and texting, in addition to enforcement levels and crash data collection for each of the 50 states as well as the District of Columbia, Virgin Islands and Puerto Rico (NCSL, 2015). Among the 41 states that collect crash data, 51.2% do not enforce a ban on hand-held devices, 29.3% enforce a ban on all devices, 9.75% allow enforcement as an option at local levels, and 9.75% enforce a ban at some smaller, more specific level. Interestingly, among this same 41-state group, Montana is the only state that does not enforce a ban on texting while driving. Twenty-four out of 41 states enforce all violations as a primary offense, 17 vary between primary and secondary and only one; Nebraska, enforces all violations as a secondary offense. Given these variances, a second suggestion for a future study would include a comparative analysis between the states that collect crash data. Comparing state crash data with levels of enforcement and bans may uncover results supporting future legislative initiatives and indicators of the overall impact of previously implemented campaigns.

Appendix A – Research Proposal

SOUTHERN OREGON UNIVERSITY

School of Business
1250 Siskiyou Blvd.
Ashland, OR 97520

January 5, 2016

Oregon Department of Transportation
Attn: Tom Fuller
355 Capitol Street NE, MS 11
Salem, OR 97301-3871

RE: Southern Oregon University School of Business Consulting Project- Distracted Driving

Dear Mr. Fuller:

The purpose of this letter is to verify that we intend to pursue the Southern Oregon University School of Business Consulting project that we discussed in our recent meeting. We would also like to explain our understanding of the tasks that we are expected to accomplish. As you well know, we are required to bring the following statement concerning the nature of the student consulting engagement that we are embarking upon to your attention:

“This research project is made possible under the cooperative agreement between Southern Oregon University and the school of Business. The analysis, recommendations, and final report that will be provided are based on provisions of that agreement. The report that you will receive should contain views and opinions of the School of Business student team based on discussions, observations, investigations and analysis on the topic of this research project.”

Based on our discussion with you on Tuesday, January 5, 2016, we intend to accomplish the following tasks in the process of completing this consulting engagement:

Survey Oregon citizens to uncover data associated with the incidence of distractions such as: texting, emailing and accessing social media while driving. This data should include attitudes towards these types of behaviors, awareness of the dangers and consequences, demographics and a measurement of the value and trust ranking of the dissemination of awareness messages from various sources such as teachers, family, friends, co-workers, coaches, social media posts, news media stories, in person presentations and advertisements.

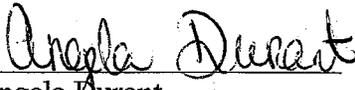
Survey results will provide the Oregon Department of Transportation with baseline data to develop a long-term, sustainable campaign that may change the behavior of distracted drivers and save lives.

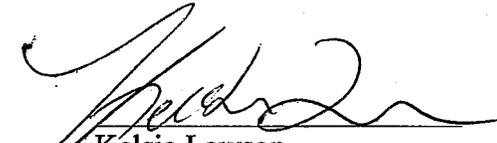
We intend to develop a useful, factual report that will assist you in taking your project to the next level. Although our emphasis will be on the above tasks, we may undertake additional, relevant

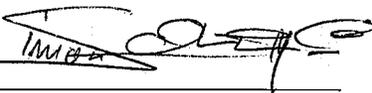
tasks if time allows. Our goal is to provide you with both a written and oral report on or before the end of the Winter 2016 term.

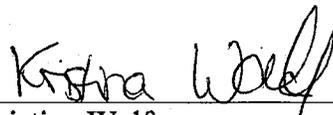
Thank you for giving us the opportunity to apply our knowledge and skills in an actual business environment. We are looking forward to an interesting and challenging assignment.

Sincerely,


Angela Durant
Student Consultant

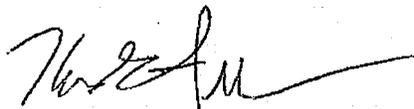

Kelsie Lawson
Student Consultant


Simon Schubnell
Student Consultant


Kristina Wolf
Student Consultant


Donna Lane, Ph.D.
Faculty

Receipt of engagement letter acknowledged:


Tom Fuller, Communication Section Manager
Oregon Department of Transportation
Client

Appendix B – Research Plan

Purpose of the Research

The Oregon Department of Transportation’s (ODOT’s) goal is to identify and modify distracted driving behaviors. The purpose of this study is to collect and analyze driver feedback regarding distracted driving behavior. The results will provide ODOT with baseline data to assist the creation of a targeted distracted driving campaign. Based on client goals and desires, the following research objectives were developed:

1. Identify driver attitude towards distracted driving habits:
 - a. Are drivers aware of the risks?
 - b. Why do these habits continue?
 - c. Do drivers think they are immune to risk?
2. Identify sources of influence:
 - a. Who are the most influential people?
 - b. What sources of media are most influential?
3. Recognize what methods would succeed in reducing distracted driving behavior:
 - a. What messages most resonate?
 - b. What causes distracted drivers to care?

Research Design

The research method will be a self-administered online questionnaire. Each participant will receive an online survey link via email. Surveys are voluntary and confidential and will take approximately 7-10 minutes to complete.

Sample questions are listed below:

1. Which distracted driving behavior do you feel would most affect response time while driving?
 1. Writing a text message
 2. Driving under the influence
 3. Using Google Maps to find your destination
 4. Talking on the phone
2. Please pick a number from the scale below to show how much you agree or disagree with the following statement: “The number of distracted driving incidents is increasing”.
 1. Very Unlikely
 2. Unlikely
 3. Neutral
 4. Likely
 5. Very Likely

3. How likely would the following reduce your distractedness while driving? Please check one number on each of the scales to express likeliness.
 1. Raise Awareness of the issue
 2. Enforce the use of applications that would deactivate devices while driving
 3. Pass laws to strengthen penalties
 4. Other (please explain)

Sample Design

A survey of approximately 9,000 individuals located throughout the state of Oregon will provide the database for this study. These individuals will voluntarily supply their information, which will then be used to represent the general Oregon population.

Data Gathering (Primary research)

An anonymous electronic survey will be distributed to all respondents via email.

Data Gathering (Secondary research)

Research and a review of existing literature will be conducted through the Hannon Library databases, journals, previous studies, and additional online research. Sample articles are listed below:

Bingham, C. R., Zakrajsek, J. S., Almani, F., Shope, J. T., & Sayer, T. B. (2015). Do as I say, not as I do: distracted driving behavior of teens and their parents. *Journal of safety research*, 55, 21-29.

Cheng, C. (2015). Do Cell Phone Bans Change Driver Behavior?. *Economic Inquiry*, 53(3), 1420-1436.

Young, K. R., & Stanley, L. M. (2013). Driver's attitudes and behaviors regarding voice-activated texting technology and distracted driving. *IIE Annual Conference.Proceedings*, , 1861-1867. Retrieved from <http://search.proquest.com/docview/1471959736?accountid=2624>.

Study finds encouraging trend among teen drivers, work still needed. (2013).*ProfessionalSafety*, 58(10), 18. Retrieved from <http://search.proquest.com/docview/1492259227?accountid=26242>

Data Processing and Analysis

Standard editing and coding procedures will be utilized. Simple tabulation and cross tabulations will be utilized to analyze the data.

Report Preparation

A comprehensive written report will be prepared as research is collected and analyzed. In addition, the research team will make an oral presentation to the client reporting the findings and providing analysis and recommendations.

Budget and Time Schedule

There are no predicted costs associated with this study. A flexible timeline is provided below. Date ranges are suggested check-in periods for completing each portion of our research.

Week/Date	Activity description
1 Jan. 4-10 review	Establish research team, meet and interview client, and IRB
2 Jan. 11-17	Develop Research Proposal and begin Literature Review
3 Jan. 18-24	Submit research plan, IRB application, and draft survey
4 Jan. 25-31	questions
5 Feb. 1-7	Create and revise preliminary Qualtrics survey
6 Feb. 8-14	Finalization and distribution of Survey Questionnaire
7 Feb. 15-21	Collecting and processing data, complete chapters 1-3 of
8 Feb. 22-28	report
9 Feb. 29-Mar. 6	Interpreting and reporting results, collecting and processing
10 Mar. 7-13	data
11 Mar. 14-18	Interpreting and reporting results. Construct and submit
	data tables
	Data processing and analysis, begin findings and
	recommendations
	Complete chapters 4-5 of report (findings, conclusion)
	Finalize and submit research report, present to client

Appendix C – Internal Review Board Application

SOUTHERN
OREGON
UNIVERSITY

INSTITUTIONAL REVIEW BOARD (IRB)
REVIEW REQUEST
FOR PROJECTS USING HUMAN SUBJECTS

Investigators are responsible for ensuring that the rights and welfare of human subjects participating in research activities are protected, and that methods used and information provided to gain subject consent are appropriate to the research.

All research activities involving the use of human beings as research subjects (participants) must be reviewed and approved by the Southern Oregon University Institutional Review Board (IRB), unless the IRB chair determines that the research falls into one or more of the categories of exemption established by federal regulation. These categories include research conducted in commonly accepted educational settings involving normal educational practices such as research on regular and special education instructional strategies, research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods. Also exempt is research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior. However, each category of exemption contains specific exceptions. Please note that only the IRB may make the determination if the research qualifies for exemption under Title 45 CFR 46.101.

Investigators may not solicit subject participation or begin data collection until they have received approval or written concurrence that research has been determined to be exempt from the Institutional Review Board.

Application forms are available on the Internet at [Research & Human Subjects Clearance](#). The form may be downloaded and completed but must be submitted in hard copy due to signature requirements. If you have **questions** about the IRB application form or about the review process, contact:

Deborah d'Este Hofer
Grants Administration
Churchill #205

Phone: 552-8662 /E-mail: hofer@sou.edu

INSTITUTIONAL REVIEW BOARD (IRB)

The Institutional Review Board generally meets on an ad hoc basis as proposals are submitted for review. Applicants must allow 2 weeks for the review process.

A notice of the IRB's action will be sent to the researcher(s). It is the responsibility of the researcher(s) to see that the form is given to any agency which may require it.

Title 45 Code of Federal Regulations Part 46 (45 CFR 46) Protection of Human Subjects specifies federal regulations for the conduct of research involving human subjects. See especially sections 46.102 Definitions, 46.116 General Requirements for Informed Consent, and 46.117 Documentation of Informed Consent. The document is available at <http://ohrp.osophhs.dhhs.gov/humansubjects/guidance/45cfr46.htm>. See references throughout this application to 45 CFR 46.

INSTRUCTIONS:

Your responses to the 21 questions in the summary sheets that follow are basic to the Institutional Review Board's determination about the protection of the rights and welfare of human subjects in your research. Your responses should be clear, complete, and easy to understand.

Place your typewritten response immediately under each question (not on a separate sheet). It is important that you answer every question. If you believe that a question does not apply to your research, enter a response such as "N/A" or "does not apply."

Copies of the following must be included with this form:

1. The cover letter and script that will be used to inform subjects of the nature of the research.
2. The informed consent template the subject(s) will sign.
3. Copies of surveys, instruments or measures, questionnaires, interview schedules, focus group questions and/or other materials used to collect data.

Submit one complete hard copy and one digital copy (via e-mail or disk) to:

**Institutional Review Board
Grants Administration
Churchill #205
Attn: Deborah d'Este Hofer**

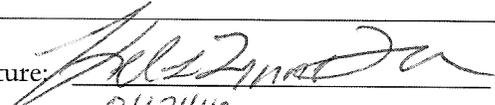
Title Page
Review Form for Projects Using Human Subjects
Southern Oregon University Grants & Human Subjects Administration #205

<i>For office use only</i> PROTOCOL/FIS NUMBER:

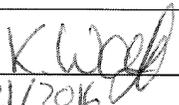
► Research Project Title	Oregon Department of Transportation – Distracted Driving Survey
---------------------------------	--

► Principal Investigator University Relationship: <input checked="" type="checkbox"/> Professor <input type="checkbox"/> Associate Professor <input type="checkbox"/> Assistant Professor <input type="checkbox"/> Instructor <input type="checkbox"/> Other. Please specify. (“Other” categories may require prior approval.)	Name (first, middle initial, last): Donna Lane, Ph.D.	Phone: 541-301-0215
	Department: School of Business	E-mail: <u>LaneD@sou.edu</u>
	Signature:  Date: <u>2/11/16</u> <input checked="" type="checkbox"/>	Fax:

► Co-Investigator University Relationship: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student <input type="checkbox"/> Other. Please specify.	Name (first, middle initial, last): Angela R. Durant	Phone: 541-891-1066
	Department: School of Business	E-mail: duranta@sou.edu
	Signature: <u>Angela R. Durant</u> Date: <u>1/21/2016</u>	Fax:

► Co-Investigator University Relationship: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student <input type="checkbox"/> Other. Please specify.	Name (first, middle initial, last):	Phone:
	Kelsie L. Lawson	707-349-0236
	Department:	E-mail:
	School of Business	Lawsonk1@sou.edu
	Signature:  Date: <u>01/21/16</u>	Fax:

► Co-Investigator University Relationship: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student <input type="checkbox"/> Other. Please specify.	Name (first, middle initial, last):	Phone:
	Simon Schubnell	541-631-9431
	Department:	E-mail:
	School of Business	schubnels@sou.edu
	Signature:  Date: <u>01/21/2016</u>	Fax:

► Co-Investigator University Relationship: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student <input type="checkbox"/> Other. Please specify.	Name (first, middle initial, last):	Phone:
	Kristina Wolf	831-295-9728
	Department:	E-mail:
	School of Business	wolfk@sou.edu
	Signature:  Date: <u>01/21/2016</u>	Fax:

Application Questions
Please type your responses.

INTRODUCTION TO THE PROPOSED RESEARCH

1. Provide the **date** when you propose to begin research and the date when you anticipate that research will be completed.

03/14/2016

Proposed start date: **01/04/2016**

Anticipated completion date: **03/14/2016**

2. Indicate any source(s) of **funding** for the proposed research i.e., department funds or grants.

N/A

DESCRIPTION OF THE PROPOSED RESEARCH

3. Provide a brief (1 page or less) description of the **purpose** of your research.

See attached Research Proposal.

4. Indicate the **setting or location(s)** where research will be conducted. Attach letters of support or agreement, as necessary, showing that you have permission to conduct research at that location.

N/A

5. Describe any **potential problems** of ethics using human subjects (painful stimulation, deception, coercion, embarrassment, lack of confidentiality, lack of full disclosure, lack of feedback for subjects, etc.).

None

6. Does the proposed research require that you **deceive** participants in any way?

Yes No

7. If your response is "yes," describe the type of **deception** you will use, indicate why it is necessary for this study, and provide a copy of the debriefing script.

N/A

8. What is required of subjects?

Subjects will answer a survey questionnaire administered via email. The survey will take 7-10 minutes to complete.

9. What happens to subjects (include a description of any instruments used)?

See attached Survey Questionnaire.

BENEFITS AND RISKS

10. Describe the **potential benefits** of conducting this research. List the benefits to the participants themselves, contributions to the field of knowledge, and benefits to society as a whole. If the research participants will not receive any direct benefits from participating in this study, indicate this in your response.

Conducting this research will provide ODOT with baseline data relating to distracted driving attitudes, behaviors, barriers to change in behavior and optimal methods to influencing change. Research results will contribute to the development of a long-term distracted driving campaign that can prevent accidents and save lives on the road.

11. Describe any potential risks that a research participant may become **upset or distressed** as a result of their participation in this study. When appropriate, provide a list of community agencies or counseling services so that participants can be directed to assistance as needed.

There are no potential risks.

PARTICIPANTS

12. Indicate the total **number of participants** you require, and your sampling procedure.

ODOT will provide an email distribution list of approximately 9,000 potential respondents. A sampling will be taken from the response rate of the subject list provided. All required demographic data will be collected through the survey questionnaire and compiled in the final report to ODOT. The survey will be created in Qualtrics and distributed through GovDelivery; ODOT's existing service program.

13. Describe the **type and source of subjects** required (i.e., single parents at SOU, psychology classes, hysterectomy patients at Rogue Valley Medical Center, fifth graders at Walker Elementary School, etc.).

The source list provided by ODOT will include everyone who has signed up to receive information from ODOT. The list consists of stakeholder groups from dozens of separate highway and bridge construction projects; stakeholder groups for specific issues (freight rail, passenger rail, funding, project selection processes, etc.); trucking companies; and Oregon media.

14. Provide an estimate of the **amount of time** that will be requested from each person who participates in this research study (number of sessions, amount of time per session, and duration or period of time over which the research will take place).

The estimated time for survey completion is 7-10 minutes.

INFORMED CONSENT PROCEDURES

15. Describe what you have done to make sure your subjects are **fully informed** about their role in the research, that their confidentiality will be maintained, and that their participation is **voluntary**, and that they can withdraw at any time without penalty.

This will be an entirely anonymous survey. Respondents will be informed that the questionnaire is anonymous and their participation is voluntary. Please see the informed consent at the beginning of the attached Survey Questionnaire.

16. Describe any **incentives, inducements, or reimbursements** (e.g. extra credit, research credit, cash payment, raffle, gift) that will be offered to the participants. Indicate whether participants will receive the incentives if they withdraw before the study has been completed.

None

CONFIDENTIALITY OF THE DATA

17. Indicate the **intended use** of your data. Check all that apply.

- | | |
|--|--|
| <input type="checkbox"/> Thesis | <input type="checkbox"/> Publication/journal article |
| <input checked="" type="checkbox"/> Capstone | <input type="checkbox"/> Results released to participants/parents |
| <input type="checkbox"/> Undergraduate honors project | <input type="checkbox"/> Results released to employer or school |
| <input type="checkbox"/> Conferences/presentations | <input checked="" type="checkbox"/> Results released to agency or organization |
| <input checked="" type="checkbox"/> Other. Describe below. | |

Data may be used by ODOT for publication/journal article, presentations, conferences and campaigns at their discretion.

18. Describe the steps you will take to insure the **confidentiality** of the data. Indicate how you will safeguard data that includes identifying or potentially identifying information (e.g. coding). Indicate when identifiers will be separated or removed from the data.

Please see informed consent at the beginning of the attached Survey Questionnaire.

19. Indicate where and how you will **store** the data and how long you plan to retain it. (Research proposals that involve any type of use of human subjects must be retained for 3 years.) Describe how you will dispose of it (e.g. erasure of tapes, shredding of data).

Survey data will be input into a spreadsheet and stored electronically with Southern Oregon University's School of Business. Hard copies will be stored at the department's main office. Data will be retained for 5 years, after which will be deleted from the system and hard copies shredded by the university's formal shredding company.

20. Will results of this research be **made available** to the subjects involved? Yes No

21. If so, **how and when**?

Upon project completion, subjects may contact SOU's School of Business to request a copy of the results. All data will be stored for 5 years as stated above. Survey data will be provided to ODOT, as per the attached Research Proposal.

Appendix D – Survey Questionnaire

ODOT - Distracted Driving Survey

ODOT - Distracted Driving Survey

This survey is being conducted by graduate students of Southern Oregon University's MBA program to conduct research on distracted driving in Oregon. Your honest feedback could help save lives that could be lost to distracted driving crashes. Survey results will inform the Oregon Department of Transportation (ODOT) of barriers that may be preventing a positive change in distracted driving behavior. All participation is voluntary and all answers will be kept confidential. This survey contains 18 brief questions and can be completed in 6 to 8 minutes. Survey responses will be collected by a third party before submission to ODOT. Data will be used for statistical purposes only; individual responses will not be made public.

Please complete this survey no later than 5:00 p.m. on February 29, 2016. If you have questions regarding the survey, please contact Deborah Hofer at hofer@sou.edu. Thank you for completing this survey!

By clicking the arrow button below, you are agreeing to the above information.

What is your age?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85+

What is your gender?

- Male
- Female
- Other

Which parental status option is most applicable to you? (Please select one.)

- Without children
- With young children

- With teenagers
- With young children and teenagers
- With adult children

Which option is most applicable to you?

- Resident of Oregon
- Nonresident of Oregon
- Part-time resident of Oregon

Who are the most influential individuals in your life? (Please click and drag in order of influence with most influential at top.)

- Teachers _____
- Coaches _____
- Youth leaders _____
- Medical professionals _____
- Friends _____
- Parents _____
- Siblings _____
- Other (please specify) _____

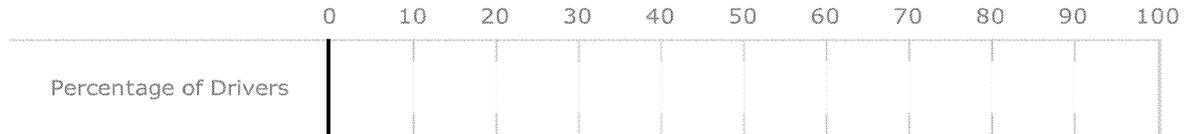
Which are the most influential media in your life? (Please click and drag in order of influence with most influential at top.)

- Social media _____
- TV _____
- Newspapers _____
- Magazines _____
- Radio _____
- Other (please specify) _____

Please select an option on the scale to show how much you agree or disagree with the statement below.

	Strongly disagree	Disagree	Unknown	Agree	Strongly agree
The number of distracted driving incidents is increasing.	<input type="radio"/>				

What percentage of drivers do you believe drive while distracted? (Please select by clicking the bar and sliding to your selection.)



How likely do you feel each of the following could reduce distracted driving behavior? (Please select one option on each scale to express likeliness.)

	Very unlikely	Unlikely	Neutral	Likely	Very likely
TV ads	<input type="radio"/>				
Billboards	<input type="radio"/>				
Facebook posts	<input type="radio"/>				
Twitter headlines	<input type="radio"/>				
Video clips	<input type="radio"/>				
Radio ads	<input type="radio"/>				
Other (please specify)	<input type="radio"/>				

Please rank the top three reasons why you feel drivers may choose to continue to drive distracted. (Select only 1, 2, or 3, with 1 being your top choice).

- Manage a busy lifestyle
- Keep up on social media
- Respond to family emergencies
- Send or receive text messages
- Get ahead at work
- Take care of children in the car
- Make personal phone calls
- Personal grooming
- Eating or drinking
- Keep up with current events

How likely do you feel each of the following would reduce distracted driving behavior? (Please select one option on each scale to express likeliness.)

	Very unlikely	Unlikely	Neutral	Likely	Very likely
Raise public awareness	<input type="radio"/>				
Enforce the use of applications that would deactivate wireless devices while driving	<input type="radio"/>				
Pass laws that would strengthen penalties	<input type="radio"/>				
Other (please explain)	<input type="radio"/>				

The minimum fine for a distracted driving offense is \$142. To keep people from driving while distracted via an electronic device, the penalty should... (Please select one.)

- Stay the same
- Increase
- Decrease

When riding as a passenger, how comfortable would you feel if your driver was sending text messages or emails while driving? (Please select one.)

- Very comfortable
- Aware but not uncomfortable
- Somewhat uncomfortable
- Uncomfortable
- Very uncomfortable

Which driving behavior do you feel would most affect your response time while driving? (Please select one.)

- Writing a text message
- Driving while under the influence of alcohol or drugs
- Checking email

How often do you participate in distracted driving behaviors while driving alone in your vehicle? (Please select one.)

- Always
- Most of the time
- About half the time
- Sometimes
- Never

How often do you participate in distracted driving behaviors while driving with passengers in your vehicle? (Please select one.)

- Always Most of the time About half the time Sometimes Never

How likely are you to change your potential distracted driving behaviors if the following scenarios occur? (Please select one option on each scale to express likeliness.)

	Very unlikely	Unlikely	Neutral	Likely	Very likely
There is a greater chance of hurting myself.	<input type="radio"/>				
There is a greater chance of hurting another adult.	<input type="radio"/>				
There is a greater chance of hurting a child.	<input type="radio"/>				

If you have any further comments or concerns, please list them here.

Appendix E – Responses to Open-Ended Questions

Responses to open-ended questions are quite lengthy; therefore, this data has been stored on a flash drive, which was provided during the research presentation on March 14, 2016. Please see the folder titled: Part II-Responses to Open-ended Questions, for a complete listing of each question's responses.

Appendix F – Computation of Sample Size

Computing the Sample Size

A margin of error, confidence level, and expected standard of deviation was determined. Given the nature of this research, a confidence level of 90% with a 5% margin of error was appropriate. In other words, the average response need only be accurate 90% of the time and the sample mean need only be within 5% of the population mean. Furthermore, using a relatively conservative standard of deviation at .5, allows calculations to result in an appropriate required sample size, even though survey results had not been analyzed yet. The necessary sample size is equivalent to the following formula:

$$N = ((Z\text{-score}) * \text{StdDev} / (\text{Margin of Error}))^2$$

The Z-score (1.645) is related to the chosen 90% confidence level. Thus, the required sample size for this study is 271. This means that in order to appropriately represent the population in Oregon, the survey must generate a minimum of 271 complete responses.

Appendix G – Correlation Matrix

	Age	Incidents	Percentage	TV	Billboards	Facebook	Twitter	Video	Radio	Other	Awareness	Apps	Laws	Other	Passenger	Alone	Self	Adult	Kid	
Incidents	0.042																			
Percentage	0.091	-0.204	0.195																	
TV	0.076	0.067	-0.005																	
Billboards	0.003	0.009	0.854																	
FB	0.036	0.032	-0.023	0.524																
Twitter	0.16	0.203	0.374	0	0.39															
Video	-0.043	0.089	0.044	0.448	0.089	0														
Radio	0.089	0	0.087	0	0	0														
Other	-0.013	0.094	0.041	0.376	0.36	0.783														
Awareness	0.601	0	0.113	0	0	0	0													
Apps	-0.031	0.115	0.102	0.482	0.392	0.579	0.532													
Laws	0.22	0	0	0	0	0	0	0												
Other	-0.004	0.042	0.044	0.554	0.493	0.387	0.345	0.47												
Passenger	0.863	0.095	0.085	0	0	0	0	0	0											
Alone	0.009	0.087	0.037	0.132	0.108	0.053	0.053	0.14	0.116											
Self	0.849	0.06	0.423	0.004	0.02	0.258	0.255	0.002	0.012	0.047										
Adult	0.009	0.042	-0.051	0.481	0.4	0.358	0.288	0.417	0.488	0.047										
Kid	0.722	0.097	0.045	0	0	0	0	0	0	0.31										
Incidents	0.039	0.163	0.119	0.101	0.068	0.128	0.145	0.138	0.107	0.048	0.057									
Percentage	0.126	0	0	0.008	0	0	0	0	0	0.303	0.024									
TV	-0.018	0.189	0.099	0.157	0.152	0.138	0.149	0.137	0.108	0.211	0.151	0.287								
Billboards	0.47	0	0	0	0	0	0	0	0	0	0	0	0							
Facebook	0.123	0.233	0.027	0.055	-0.009	-0.015	-0.018	0.049	0.051	0.69	0.053	0.046	0.215							
Twitter	0.045	0	0.666	0.381	0.888	0.806	0.773	0.436	0.418	0	0.395	0.456	0							
Video	0.107	0.089	-0.004	0.037	-0.003	0.034	0.012	0.02	0.006	0.044	0.067	0.094	0.105	0.055						
Radio	0	0	0.883	0.142	0.891	0.175	0.641	0.442	0.828	0.337	0.008	0	0	0.371						
Other	0.276	0.058	-0.194	0.044	-0.005	-0.049	-0.045	-0.019	-0.045	0.04	0.052	0.041	0.088	0.161	0.125					
Awareness	0	0.021	0	0.08	0.847	0.055	0.079	0.464	0.075	0.391	0.038	0.107	0	0.009	0					
Apps	0.174	0.043	-0.143	0.037	0.017	-0.44	-0.029	0.01	-0.033	0.053	0.017	0.083	0.125	0.09	0.146	0.575				
Laws	0	0.091	0	0.149	0.512	0.087	0.256	0.707	0.19	0.252	0.504	0.001	0	0.145	0	0				
Other	0.095	0.126	-0.006	0.183	0.162	0.162	0.14	0.159	0.183	0.111	0.196	0.156	0.193	0.137	0.113	0.106	0.091			
Passenger	0	0	0.828	0	0	0	0	0	0	0.016	0	0	0	0.028	0	0	0			
Alone	0.005	0.107	0.017	0.189	0.182	0.182	0.171	0.183	0.193	0.09	0.203	0.19	0.175	0.203	0.09	-0.033	0.049	0.721		
Self	0.835	0	0.496	0	0	0	0	0	0	0.052	0	0	0	0.001	0	0.196	0.052	0		
Adult	-0.018	0.105	0.015	0.161	0.186	0.186	0.165	0.174	0.157	0.042	0.176	0.175	0.147	0.067	0.063	-0.089	-0.017	0.611	0.858	
Kid	0.473	0	0.545	0	0	0	0	0	0	0.369	0	0	0	0.28	0.013	0.507	0	0	0	

Appendix H – Analysis of Variances

Categorical Type 1: Age

Question: Is there a difference between ages and whether or not people believe that distracted driving incidents are increasing?

Answer: No

Justification: P-value = 0.415 > 0.10

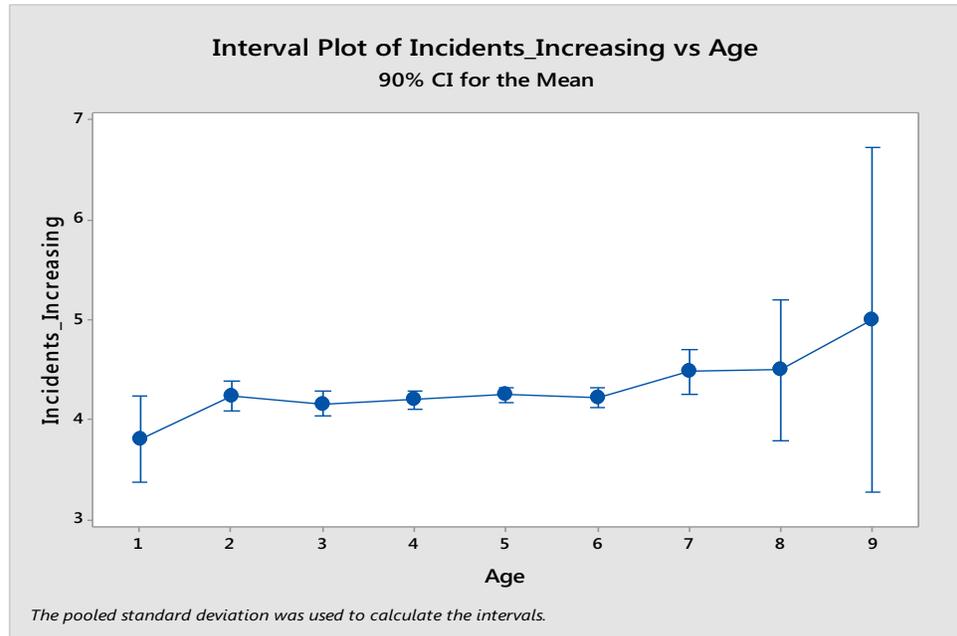


Figure 2. Interval Plot - Incidents Increasing vs Age

Question: Is there a difference between ages and whether or not people believe that fines should increase?

Answer: No

Justification: P-value = 0.138 > 0.10

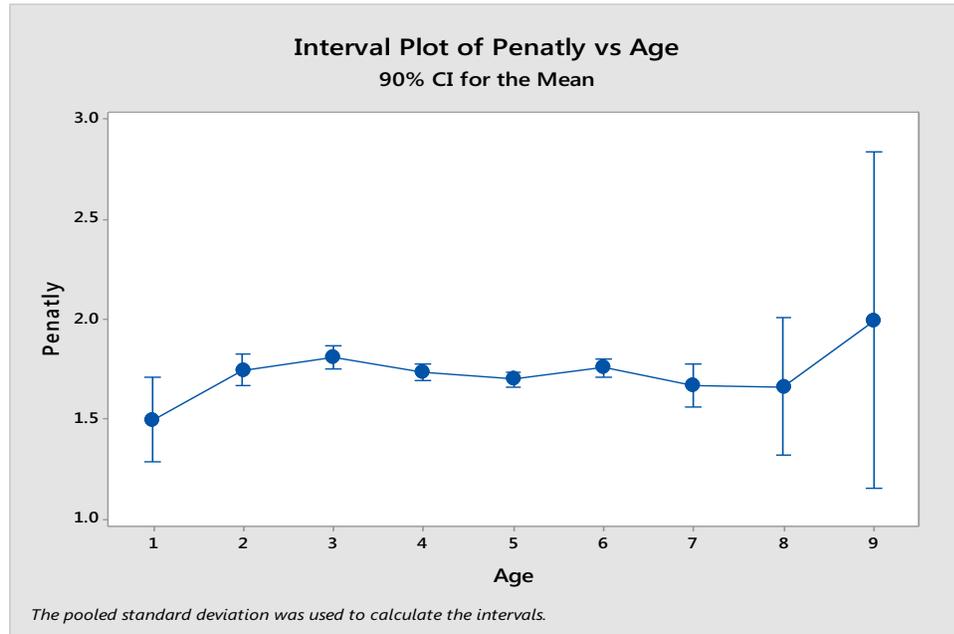


Figure 3. Interval Plot – Penalty vs. Age

Question: Is there a difference between ages and the perceived medium that most affects response time?

Answer: No

Justification: P-value = 0.112

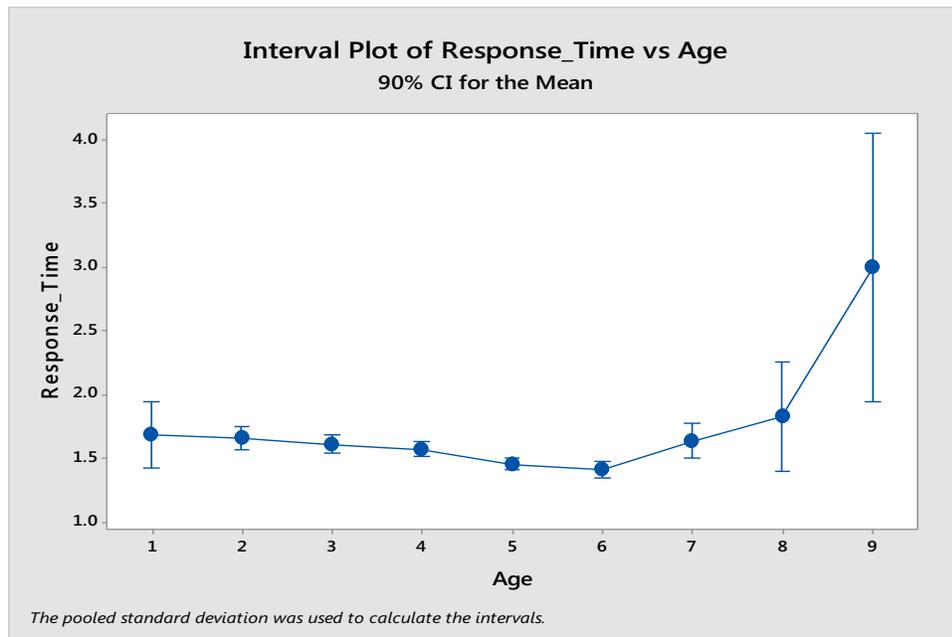


Figure 4. Interval Plot - Response Time vs Age

Categorical Type 2: Gender

Question: Is there a difference between genders and whether or not people believe that distracted driving incidents are increasing?

Answer: No

Justification: P-value = 0.632 > 0.10

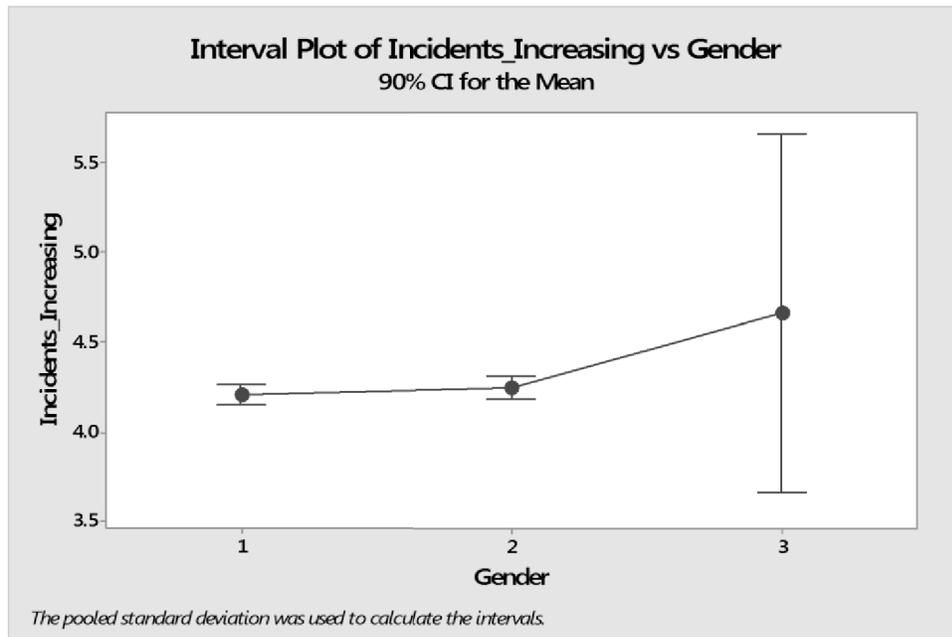


Figure 5. Interval Plot - Incidents Increasing vs Gender

Question: Is there a difference between genders and whether or not fines should increase?

Answer: No

Justification: P-value = 0.548 > 0.10

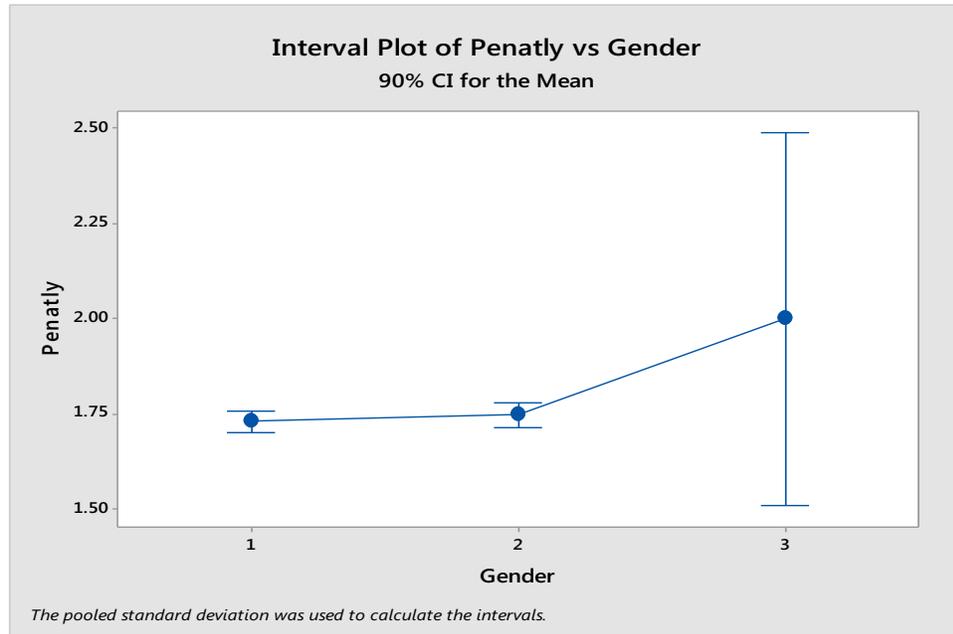


Figure 6. Interval Plot - Penalty vs Gender

Question: Is there a difference between genders and the perceived medium that most affects response time?

Answer: No

Justification: P-value = 0.754 > 0.10

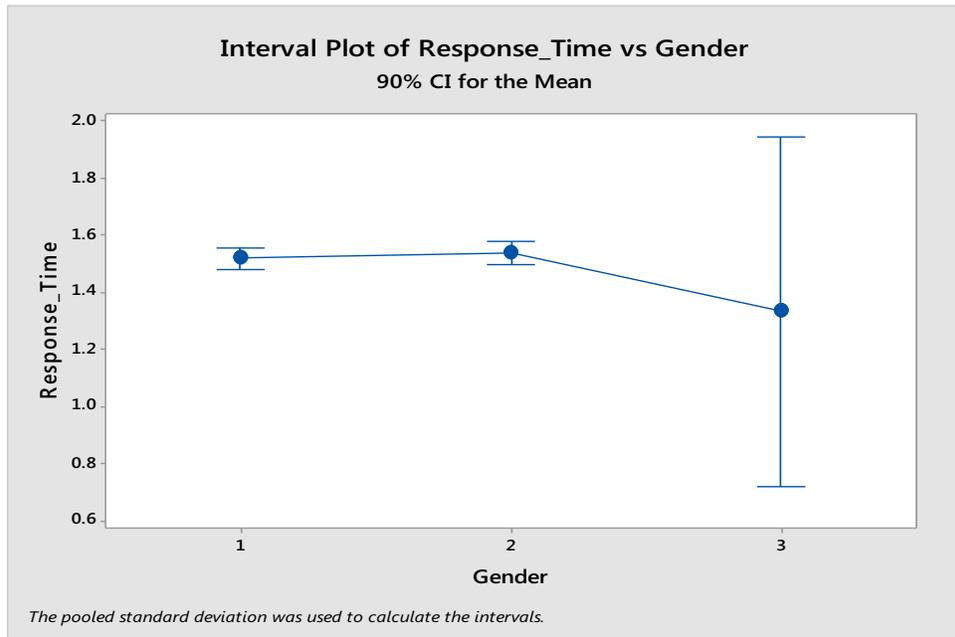


Figure 7. Interval Plot - Response Time vs Gender

Categorical Type 3: Parental Status

Question: Is there a difference between parental status and whether or not people believe that distracted driving incidents are increasing?

Answer: No

Justification: P-value = 0.919 > 0.10

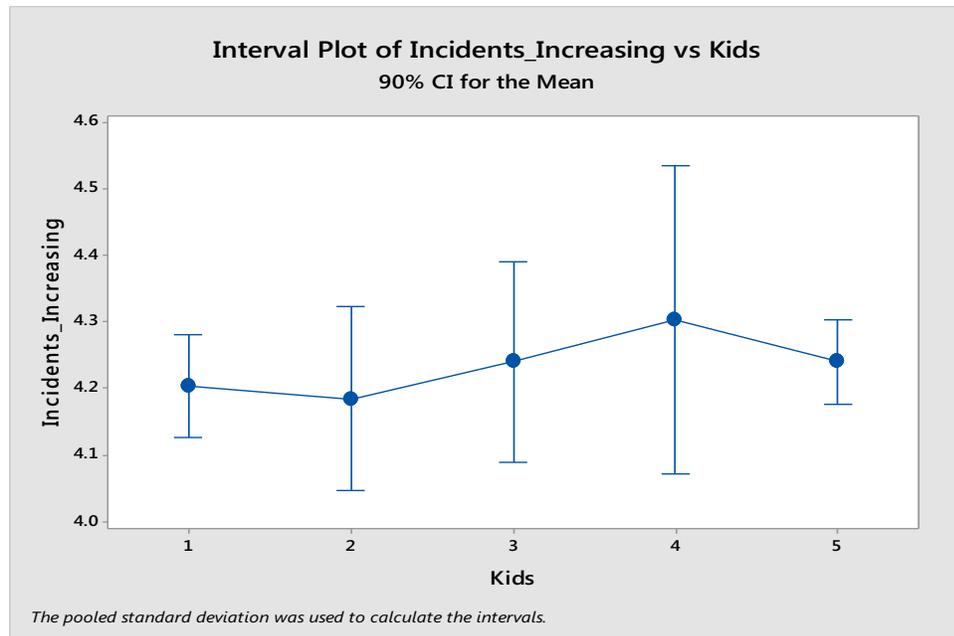


Figure 8. Interval Plot - Incidents Increasing vs Kids

Question: Is there a difference between parental status and whether or not people believe fines should increase?

Answer: No

Justification: P-value = 0.111 > 0.10

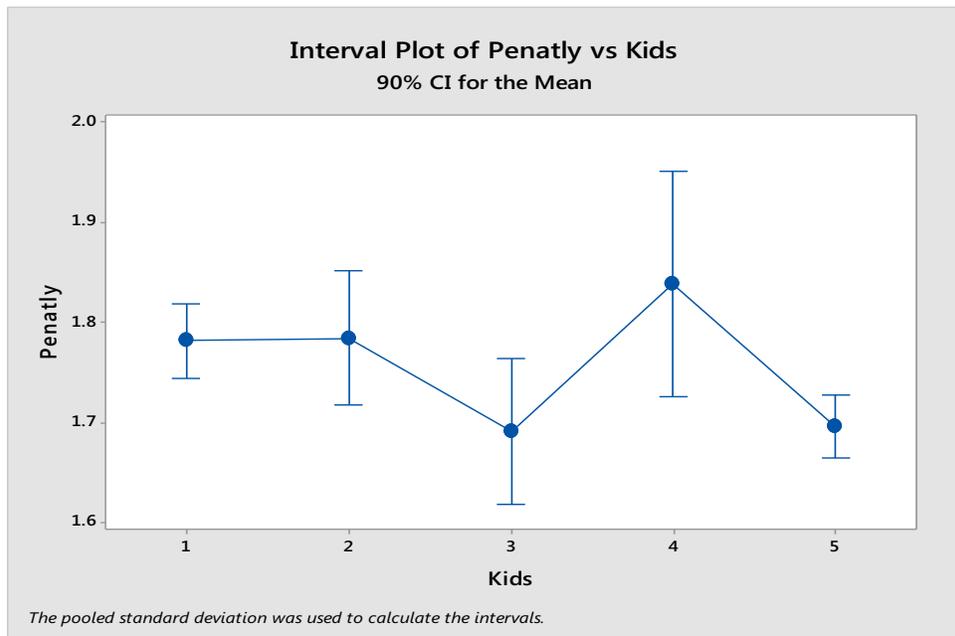


Figure 9. Interval Plot - Penalty vs Kids

Question: Is there a difference between parental status and the perceived medium that most affects response time?

Answer: No

Justification: P-value = 0.18 > 0.10

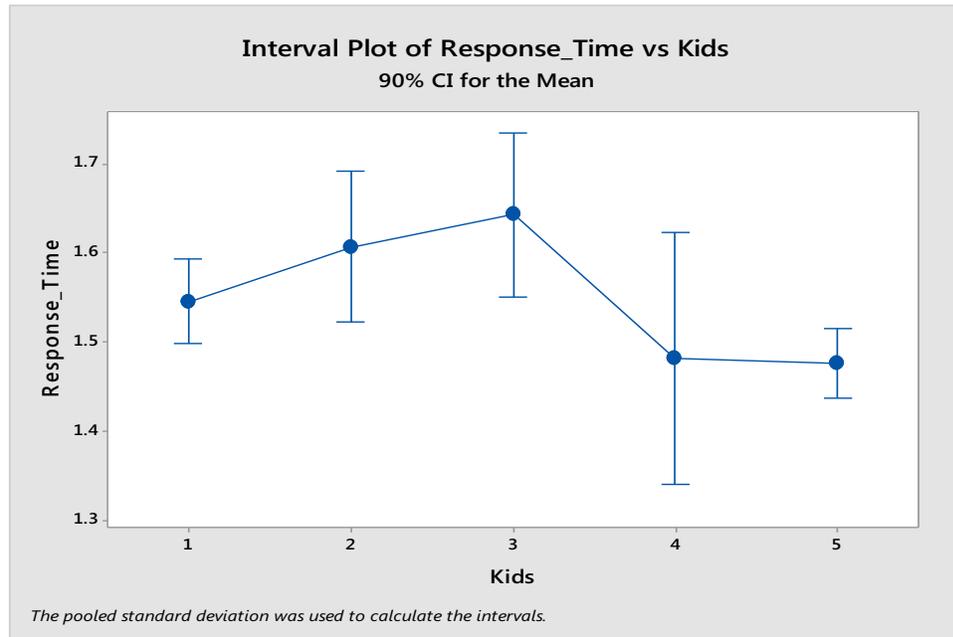


Figure 10. Interval Plot - Response Time vs Kids

Appendix I – Likert-Scale Analysis

Question 7: Please select the option on the scale to show how much you agree or disagree.

Item	N	M	SD
1.) The number of distracted driving incidents is increasing.	1,589	4.23	1.05
<i>Scale: 1 – Strongly Disagree to 5 – Strongly Agree</i>			

Table 3. Levels of Satisfaction by Item - Question 7

Question 7: Please select the option on the scale to show how much you agree or disagree.

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) The number of distracted driving incidents is increasing.	1	81	5.10%
	2	31	1.95%
	3	159	10.01%
	4	496	31.21%
	5	822	51.73%
<i>Scale: 1 – Strongly Disagree to 5 – Strongly Agree</i>			

Table 4. Frequencies and Percentages by Item - Question 7

Question 9: How likely do you feel each of the following [sources] could reduce distracted driving behavior?

Item	N	M	SD
1.) TV Ads	1,559	3.33	1.17
2.) Billboards	1,559	3.01	1.15
3.) Facebook Posts	1,558	3.31	1.19
4.) Twitter Headlines	1,536	2.97	1.18
5.) Video Clips	1,554	3.49	1.11
6.) Radio Ads	1,561	3.25	1.12
7.) Other	474	4.08	1.73
<i>Scale: 1 – Very Unlikely to 5 – Very Likely</i>			

Table 5. Levels of Satisfaction by Item - Question 9

Question 9: How likely do you feel each of the following [sources] could reduce distracted driving behavior?

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) TV Ads	1	152	9.75%
	2	243	15.59%
	3	297	19.05%
	4	669	42.91%
	5	198	12.70%
2.) Billboards	1	194	12.44%
	2	330	21.17%
	3	417	26.75%
	4	505	32.39%
	5	113	7.25%
3.) Facebook Posts	1	160	10.27%
	2	240	15.40%
	3	346	22.21%

	4	588	37.74%
	5	224	14.358%
4.) Twitter Headlines	1	207	13.48%
	2	314	20.44%
	3	481	31.32%
	4	383	24.93%
	5	151	9.83%
5.) Video Clips	1	110	7.08%
	2	180	11.58%
	3	350	22.52%
	4	660	42.47%
	5	254	16.34%
6.) Radio Ads	1	141	9.03%
	2	256	16.40%
	3	386	24.73%
	4	628	40.23%
	5	150	9.61%
7.) Other	1	31	5.73%
	2	9	1.66%
	3	89	16.45%
	4	105	19.41%
	5	240	44.36%
<i>Scale: 1 – Very Unlikely to 5 – Very Likely</i>			

Table 6. Frequencies and Percentages by Item - Question 9

Question 11: How likely do you feel each of the following [actions] could reduce distracted driving behavior?

Item	N	M	SD
1.) Raise Awareness	1,573	3.57	1.05
2.) Enforce Apps	1,572	4.06	1.15
3.) Pass Laws	1,573	3.73	1.13
4.) Other	265	44.27	1.91
<i>Scale: 1 – Very Unlikely to 5 – Very Likely</i>			

Table 7. Levels of Satisfaction by Item - Question 11

Question 11: How likely do you feel each of the following [actions] could reduce distracted driving behavior?

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) Raise Awareness	1	74	4.70%
	2	192	12.21%
	3	331	21.04%
	4	709	45.07%
	5	267	16.97%
2.) Enforce Apps	1	77	4.90%
	2	113	7.19%
	3	192	12.21%
	4	448	28.50%
	5	742	47.20%
3.) Pass Laws	1	68	4.32%
	2	193	12.27%
	3	289	18.37%
	4	563	35.97%
	5	460	29.24%
4.) Other	1	8	2.44%

	2	4	1.22%
	3	43	13.11%
	4	63	19.21%
	5	147	44.82%
<i>Scale: 1 – Very Unlikely to 5 – Very Likely</i>			

Table 8. Frequencies and Percentages by Item - Question 11

Question 13: When riding as a passenger, how uncomfortable would you feel if your driver was sending a text message while driving?

Item	N	M	SD
1.) Level of Discomfort	1,589	4.33	1.24
<i>Scale: 1 – Very Comfortable to 5 – Very Uncomfortable</i>			

Table 9. Levels of Satisfaction by Item - Question 13

Question 13: When riding as a passenger, how uncomfortable would you feel if your driver was sending a text message while driving?

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) With Passenger	1	145	9%
	2	34	2%
	3	73	5%
	4	244	15%
	5	1,093	69%
<i>Scale: 1 – Very Comfortable to 5 – Very Uncomfortable</i>			

Table 10. Frequencies and Percentages by Item - Question 13

Question 15: How often do you participate in distracted driving behaviors while driving alone?

Item	N	M	SD
1.) Alone	1,587	4.17	0.68
<i>Scale: 1 – Always to 5 – Never</i>			

Table 11. Levels of Satisfaction by Item - Question 15

Question 15: How often do you participate in distracted driving behaviors while driving alone??

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) Alone	1	15	1%
	2	30	2%
	3	72	5%
	4	1,030	65%
	5	440	28%
<i>Scale: 1 – Always to 5 – Never</i>			

Table 12. Frequencies and Percentages by Item - Question 15

Question 16: How often do you participate in distracted driving behaviors while driving alone?

Item	N	M	SD
1.) With Passenger	1,570	4.53	0.61
<i>Scale: 1 – Always to 5 – Never</i>			

Table 13. Levels of Satisfaction by Item - Question 16

Question 16: How often do you participate in distracted driving behaviors while driving alone??

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) With Passenger	1	6	<1%
	2	10	1%
	3	32	2%
	4	627	40%
	5	895	57%
<i>Scale: 1 – Always to 5 – Never</i>			

Table 14. Frequencies and Percentages by Item - Question 16

Question 17: How likely are you to change your potential distracted behavior if the following scenarios occur?

Item	N	M	SD
1.) Hurting Myself	1,563	4.13	1.01
2.) Hurting an Adult	1,566	4.47	0.91
3.) Hurting a child	1,573	4.63	0.88
<i>Scale: 1 – Very Unlikely to 5 – Very Likely</i>			

Table 15. Levels of Satisfaction by Item - Question 17

Question 17: How likely are you to change your potential distracted behavior if the following scenarios occur?

Item	Level of Satisfaction	Frequencies	Valid Percentages
1.) Hurting Myself	1	60	3.84%
	2	49	3.13%
	3	207	13.24%
	4	558	35.70%
	5	689	44.08%
2.) Hurting an Adult	1	53	3.38%
	2	17	1.09%
	3	84	5.36%
	4	396	25.29%
	5	1,016	64.88%
3.) Hurting a Child	1	52	3.31%
	2	16	1.02%
	3	63	4.01%
	4	194	12.33%
	5	1,248	79.34%
<i>Scale: 1 – Very Unlikely to 5 – Very Likely</i>			

Table 16. Frequencies and Percentages by Item - Question 17

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