University Transportation Research Center - Region 2

Final Report

Effects of New Jersey's Cell Phone and Text Ban

Performing Organization: Rutgers University

December 2013

Sponsor:
University Transportation Research Center - Region 2

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The Region 2 University Transportation Research Center (UTRC) is one of ten original University Transportation Centers established in 1987 by the U.S. Congress. These Centers were established with the recognition that transportation plays a key role in the nation's economy and the quality of life of its citizens. University faculty members provide a critical link in resolving our national and regional transportation problems while training the professionals who address our transportation systems and their customers on a daily basis.

The UTRC was established in order to support research, education and the transfer of technology in the field of transportation. The theme of the Center is "Planning and Managing Regional Transportation Systems in a Changing World." Presently, under the direction of Dr. Camille Kamga, the UTRC represents USDOT Region II, including New York, New Jersey, Puerto Rico and the U.S. Virgin Islands. Functioning as a consortium of twelve major Universities throughout the region, UTRC is located at the CUNY Institute for Transportation Systems at The City College of New York, the lead institution of the consortium. The Center, through its consortium, an Agency-Industry Council and its Director and Staff, supports research, education, and technology transfer under its theme. UTRC's three main goals are:

Research

The research program objectives are (1) to develop a theme based transportation research program that is responsive to the needs of regional transportation organizations and stakeholders, and (2) to conduct that program in cooperation with the partners. The program includes both studies that are identified with research partners of projects targeted to the theme, and targeted, short-term projects. The program develops competitive proposals, which are evaluated to insure the mostresponsive UTRC team conducts the work. The research program is responsive to the UTRC theme: "Planning and Managing Regional Transportation Systems in a Changing World." The complex transportation system of transit and infrastructure, and the rapidly changing environment impacts the nation's largest city and metropolitan area. The New York/New Jersey Metropolitan has over 19 million people, 600,000 businesses and 9 million workers. The Region's intermodal and multimodal systems must serve all customers and stakeholders within the region and globally.Under the current grant, the new research projects and the ongoing research projects concentrate the program efforts on the categories of Transportation Systems Performance and Information Infrastructure to provide needed services to the New Jersey Department of Transportation, New York City Department of Transportation, New York Metropolitan Transportation Council , New York State Department of Transportation, and the New York State Energy and Research Development Authorityand others, all while enhancing the center's theme.

Education and Workforce Development

The modern professional must combine the technical skills of engineering and planning with knowledge of economics, environmental science, management, finance, and law as well as negotiation skills, psychology and sociology. And, she/he must be computer literate, wired to the web, and knowledgeable about advances in information technology. UTRC's education and training efforts provide a multidisciplinary program of course work and experiential learning to train students and provide advanced training or retraining of practitioners to plan and manage regional transportation systems. UTRC must meet the need to educate the undergraduate and graduate student with a foundation of transportation fundamentals that allows for solving complex problems in a world much more dynamic than even a decade ago. Simultaneously, the demand for continuing education is growing – either because of professional license requirements or because the workplace demands it – and provides the opportunity to combine State of Practice education with tailored ways of delivering content.

Technology Transfer

UTRC's Technology Transfer Program goes beyond what might be considered "traditional" technology transfer activities. Its main objectives are (1) to increase the awareness and level of information concerning transportation issues facing Region 2; (2) to improve the knowledge base and approach to problem solving of the region's transportation workforce, from those operating the systems to those at the most senior level of managing the system; and by doing so, to improve the overall professional capability of the transportation workforce; (3) to stimulate discussion and debate concerning the integration of new technologies into our culture, our work and our transportation systems; (4) to provide the more traditional but extremely important job of disseminating research and project reports, studies, analysis and use of tools to the education, research and practicing community both nationally and internationally; and (5) to provide unbiased information and testimony to decision-makers concerning regional transportation issues consistent with the UTRC theme.

UTRC-RF Project No: 49111-19-23

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Principal Investigators:

Ali Maher, Ph.D.
Professor of Civil & Environmental Engineering &
Director of Center for Advanced Infrastructure and Transportation (CAIT)
Rutgers, The State University of New Jersey
100 Brett Road
Piscataway, NJ 08854
Tel: 732-445-3111; Fax: 732-445-0577;
Email: mmhaher@rci.rutgers.edu

In Cooperation With:
Patricia Ott, P.E.
MBO Engineering, LLC
Andrews Drive Bordentown, NJ 08505
Tel: 609-610-0278
Email: pat@mboengineering.com

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To request a hard copy of our final reports, please send us an email at utrc@utrc2.org

Mailing Address:

University Transportation Reserch Center
The City College of New York
Marshak Hall, Suite 910
160 Convent Avenue
New York, NY 10031
Tel: 212-650-8051
Fax: 212-650-8374
Web: www.utrc2.org

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16. Abstract

Since March 1, 2008 there has been a ban on wireless telephone and electronic communication devices in New Jersey while operating a motor vehicle. But from general observation on any roadway, it appears that there are still drivers who are talking on their phones or texting while driving. From 2006 to 2009, NJ crashes, injuries, and deaths for hand-held devices have averaged 1837, 769, and 6, respectively, while hands-free averaged 1570 crashes, 659 injuries, and 3 deaths. It is generally believed that the number of crashes attributable to phone or text use is under-reported as drivers will rarely admit to their use and enforcement normally does not witness the crash event. Additionally, law enforcement resources may be limited and issuing citations for phone or text use may be competing with other enforcement priorities. The objectives of this research were to ascertain whether the legislation has had any effect on actual crash and citation data as well as driver attitude toward the phone and text use while driving and the legislative ban. The results showed that actual hand-held cell phone crashes increased after the ban was implemented but citations issued also increased. Survey results indicated that drivers were knowledgeable about NJ's law but admitted to violating that law anyway. Drivers supported more enforcement but recognized that the law is difficult to enforce. Recommendations included potential revisions to NJ's crash form; consistent national legislation; and evaluation of other states' programs.

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Introduction

With the amount of wireless communication technology available today, its use while driving has become a significant issue around the country as it relates to crashes, injuries and deaths on the nation's roadways. The National Highway Traffic Safety Administration (NHTSA) reported over 6000 deaths and over 500,000 injuries in 2008 attributed to distracted driving. The USDOT is making considerable efforts to encourage states' to enact legislation to ban use of devices while driving as well as efforts to educate the public on the dangers of this type of activity. As of September 2010, 8 states and the District of Columbia have banned hand-held cell phone use for all drivers and 30 states have banned texting for all drivers. The USDOT has provided some early support to states with sample legislation, pilot programs for high-visibility enforcement efforts, and a Distracted Driving Information Clearinghouse.

Since March 1, 2008 there has been a ban on wireless telephone and electronic communication devices in New Jersey while operating a motor vehicle. But from general observation on any roadway, it appears that there are still drivers who are talking on their phones or texting while driving. From 2006 to 2009, NJ crashes, injuries, and deaths for hand-held devices have averaged 1837, 769, and 6, respectively, while hands-free averaged 1570 crashes, 659 injuries, and 3 deaths. It is generally believed that the number of crashes attributable to phone or text use is under-reported as drivers will rarely admit to their use and enforcement normally does not witness the crash event. Additionally, law enforcement resources may be limited and issuing citations for phone or text use may be competing with other enforcement priorities.

The objectives of this research effort are to ascertain whether the legislation has had any effect on actual crash and citation data as well as driver attitude toward the phone and text use while driving and the legislative ban. This research activity will analyze crash and citation data to see if the law had an effect on reducing crashes, injuries, and deaths on NJ's roadways and whether law enforcement efforts, mainly citations, increased as a result of the cell phone ban legislation. A survey mechanism was completed as part of this effort to understand if NJ drivers know and understand the law and with that knowledge, their level of compliance. Efforts of this study will focus on crash behavior and citation activity before and after the legislative ban; a review of other states' legislative efforts and their results; and a survey of cell phone and texting-while-driving attitudes. Results of this effort will provide opportunities for New Jersey and other states to enhance their current legislation; expose challenges with data collection and reporting and provide recommendations; and provide recommendations for educational efforts to the public from the survey results.

Task 1: Information and Background Review

1a. Literature Review

With the amount of wireless communication technology available today, its use while driving has become a significant issue around the country as it relates to crashes, injuries and deaths on the nation's roadways. The National Highway Traffic Safety Administration (NHTSA) has reported 5,474 fatalities in 2009 involving distracted driving with 995 of those fatalities involving cell phone use as a distraction. They estimate that 448,000 injuries are attributable to distracted driving with 24,000 directly related to cell phone use. New Jersey reported 1807 crashes, 759 injuries and 8 fatalities relating to hand-held cell phone use in 2009, with 1750 crashes, 804 injuries, and 2 fatalities related to hands-free cell phone use.

Get on any roadway today and you can't help but notice the amount of drivers using cell phones while in the act of driving. According to CTIA there were 300,520,098 cell phone subscribers in the United States in 2010 compared with 340,213 in 1985. Wikipedia estimates that there were 327,577,529 cell phones in use in 2011 for a US population of 310,866,000. The availability and use of technology in our vehicles has exploded in the last decade and has contributed to a significant amount of research into its effects on roadway safety.

So how is distracted driving defined? NHTSA has recently found it necessary to modify the definition of distracted driving from:

> "Distraction occurs when a driver's attention is diverted away from driving by some other activity."

To this new definition:

> "Distraction occurs when a driver voluntarily diverts attention away from driving to something not related to driving that use the driver's eyes, ears, and hands."

The new definition puts the responsibility for distraction squarely on the driver who "voluntarily" takes their attention away from their driving activities. This implies that the driver has the ability to control their behavior and activities and their ability to be distracted or not within the vehicle itself.

While the definition of distracted driving has been modified, NHTSA continues to outline the four main types of driver distraction as follows:

Visual: taking your eyes off the road
Auditory: hearing other than driving related
Manual: taking your hands off the wheel
Cognitive: thinking about other things than driving

Most distractions involve more than one type at any time and cell phone use usually involves all four types: picking up and holding the phone, looking at the phone to dial, listening to the call and thinking about the conversation.

A study as early as 1969 (Brown, Tickner and Simmonds) in judging gaps and telephoning concluded that "telephoning has minimal effect on the more automatized driving skills, but that perception and decision-making may be critically impaired by switching between visual and auditory inputs." Since the early 1990s hundreds of studies have been performed to understand the effects of driving performance and distracted driving related to cell phone use. These studies range from

Epidemiological: analysis of the relationship between increased crash risk and cell phone use using actual crash reports
Experimental and Behavioral: analysis of the cognitive effects of cell phone use and driving performance
Real-World: observation and analysis of drivers through in-vehicle monitoring

Each study type has both advantages and disadvantages in their use and can result in very diverse conclusions, but the general consensus from the large amount of studies suggest that the use of cell phones does degrade driver performance.

Research from 1991 (McKnight and McKnight) used a driving simulator to test the performance of driving skills while using a hand-held cell phone and while they concluded that driver performance was impacted, they noted that distraction itself is not easily observable. It should be noted here that it is generally inferred that a driver was distracted in some crash causes, but it cannot be proved whether distraction was actually the cause unless directly reported by the driver or reliable witness.

While a large amount of research has been done related to cell phone distraction and safety effects, very little has been done to look at the effectiveness of the laws that restrict or ban cell phone use while driving. The USDOT is making considerable efforts to encourage states to enact legislation to ban use of devices while driving as well as efforts to educate the public on the dangers of this type of behavior, but many of the laws are very recent and have not been in effect long enough for review.

As of May 2012, 10 states, the District of Columbia, Guam and the Virgin Islands prohibit all drivers from using hand-held cell phones while driving. With the exception of Maryland and West Virginia all laws are a primary offense. 31 states and D.C. ban all cell phone use by novice drivers; 37 states, D.C. and Gaum ban text messaging, 34 of them, D.C. and Gaum as a primary offense (NHTSA). A comprehensive listing of specific state laws can be found at http://www.ghsa.org/html/stateinfo/laws/cellphone_laws.html. Currently no state prohibits all drivers from using either hand-held or hands-free cell phone devices.

Since 1999 each state has considered some form of law banning the use of cell phones, but New York was the first state to enact legislation in 2001. Evaluation of that

legislation one year after enactment showed that cell phone use rates returned to what they had been prior to the enactment of the legislation (IIHS, 2003). Pre-law cell phone observation rates were observed to be 2.3% in four areas of NY. Several months after the ban, the observed rate was 1.1%. By March of 2003, the rate was observed to be back at 2.1%, not significantly different than the pre-law rate. An area in Connecticut, where no such ban existed, was used as a comparison site, which showed a modest increase in observed cell phone use from 2.9% to 3.3% over the same time period. Conclusions from this early study suggest that "without enforcement that's well publicized and vigorous, drivers tend to revert to their prior behaviors." (IIHS, 2003)

The District of Columbia (DC) banned the use of hand-held cell phones in 2004 and observed use dropped nearly 50%, 6 % to 3.5% (IIHS, 2005) immediately after the law went into effect. 5 years later the observed use had only slightly increased, mainly attributed to the sustained enforcement of the law.

In late 2006 North Carolina prohibited the use mobile communication devices by drivers younger than 18 years old. Cell phone use was observed at high schools prior to the law and then 5 months post enactment, with use at 11% pre-law and 11.8% post-law. Cell phone use was observed in South Carolina as a control with use at 13%. Researchers concluded that the NC law had little effect on teenage drivers' cell phone use (Przybyla & Zhou, 2008).

A very interesting study was conducted that compared pre and post-law automobile crash rates in New York from 1997-2001 and 2002-2007 to assess the effect of hand-held cell phone bans on driving safety. The study used the number of fatal and injury crashes per the number of licensed drivers per year. It is noted that both fatal and injury rates decreased over the study period, but the researchers cautioned that these results may not be the result of only a cell phone ban and that other factors such as road construction, safety education, and automobile safety features may be contributing factors as well (Nikolaev, Robbins, Jacobson, 2010).

The Insurance Institute for Highway Safety (IIHS) and the affiliated Highway Loss Data Institute (HLDI) looked at 4 states (California, Louisiana, Minnesota, and Washington) crash claim rates pre and post texting ban and found that in 3 out of the 4 states claims actually increased after the text prohibition laws took effect. Their research "calls into question the way policymakers are trying to address the problem of distracted driving crashes." (IIHS, 2010)

A USDOT "early step" has provided sample legislation for states to use to craft legislation of their own for restrictions of cell phone use. A recent report from the World Health Organization (WHO) provided a review of legislation from the US as well as other countries with the assessment that the legislation "illustrates the lack of consistency in measures being applied to address the issue of mobile phone use."

Clearly the research has shown that more study is needed to ascertain the effects of laws prohibiting cell phone use while driving. While many states have enacted laws it is

very unclear whether they have had any impact on the reduction in use by drivers and ultimately reducing crashes, injuries, or deaths on our roadways. This is echoed in a 2011 report prepared by the World Health Organization and NHTSA which states "despite increasing action taken by many countries to limit the use of mobile phones in vehicles through legislative measures, there is very little data on the effectiveness of such countermeasures on crash rates."

What has been seen from this review has been that the current legislative efforts have not appeared to modify drivers' behavior in reducing the number of drivers who continue to use their cell phones while driving. The studies that have been completed stress the short term declines in hand-held cell phone use, but return to pre-ban levels after enforcement has been reduced. The small number of studies that have combined sustained enforcement with education and media efforts has shown promising longer term results, but continued research efforts need to replicate these results on a wider scale.

With the significant level of effort that has been made nationwide to enact legislation to prohibit the use of hand-held cell phone devices and prevent text messaging, the effectiveness of these laws has yet to be proven. Research from around this country has seen a lack of consistency in the laws passed and the data collected to support those laws. What little research has been done to date has shown mixed results into the legislation's effectiveness. Possible factors affecting this may be that states' laws have not been in place for a significant period of time as well as difficulty in quantifying this type of law's effect on driver behavior. Additionally, it appears that the majority of the research is focused around cell phone related crashes and severity without much discussion on the legislation or enforcement components of this issue.

1b. NJ's Legislation History

New Jersey amended their hand-held cell phone/texting ban on March 1, 2008 which made it a primary offense for a motorist to talk or text message with a hand-held wireless telephone or electronic communication device while driving.

As early as 1996, the NJ Senate introduced legislation (S1070) requiring the Commissioner of Insurance, the Division of Highway Traffic Safety (Attorney General's Office) and the Highway Traffic Safety Policy Advisory Council (HTSPAC) to evaluate whether crashes have increased due to cell phone use by drivers and whether their use or non-use should be a factor in insurance premium rates, as well as any other safety factors that should be disclosed to drivers. The legislation was never approved.

The Assembly of 2001 introduced legislation (A3402) in March entitled the "Cellular Telephone and Safer Driving Act", which was to "balance the safety risks of cellular telephone use with the reality of the widespread acceptance and use of such devices in motor vehicles and their beneficial effects." There was recognition at this early stage that hand-held cell phone use was a safety concern and this legislation was to ban

hand-held use, but permit hands-free, with some limitations. This legislation would have phased out the use of hand-held devices over a two year period; phase in hands-free devices , but restrict them during "statewide peak traffic volume", when visibility was less than 500 feet, or during hazardous weather-related driving conditions. This Bill was subsequently withdrawn from consideration.

Later in 2001 the Assembly then introduced "The Mobile Telephone Act". This legislation was modeled after a New York State law that took effect in November 2001. The NJ legislation would ban hand-held cell phones except in emergency situations; permit hands-free at all times; provide for a warning period before ticketing begins; and require the NJ Department of Transportation to study the effects of cell phone use and other forms of driver inattention on driver safety. An amended version of this bill was introduced by the Assembly and Senate in March 2002, reducing the transition period from six months to three months and removing the NJDOT study. This bill did not move forward.

The New Jersey Legislature did not take up this topic again until February 2003, when legislation was introduced to ban the sale of hand-held cell phones from the state of NJ and permit only the sale of hands-free devices. This legislation did not move forward.

By January 2004, a bill was approved that banned the use of wireless telephones except when the phone was a hands-free device. Enforcement of this law was only a "secondary" infraction, meaning that the driver must be detained for another violation under Title 39 Motor Vehicle Statutes, before being cited for this one. This infraction carried no points on a driver's license and the Motor Vehicle Commission was to develop a program to notify and inform the public of the provisions of this law.

It was not until November 2007 that legislation was approved making New Jersey's cell phone law a "primary" offense to talk or text message with hand-held devices while driving. This law became effective in March 2008 and is what law enforcement is using today to cite drivers who violate this statute. The current penalty structure (2013) for the cell phone law is as follows:

- For a first offense, not less than $200 or more than $400;
- For a second offense, not less than $400 or more than $600; and
- For a third or subsequent offense, not less than $600 or more than $1000
- For a third or subsequent violation, the court, in its discretion, may order the person to forfeit the right to operate a motor vehicle over the highways of NJ for a period of 90 days. In addition, a person convicted of a third or subsequent violation shall be assessed three motor vehicle penalty points.

After the approval of the primary law, legislation was introduced in 2010 to modify the violation in the event of a death caused by a driver using a cell phone to reckless under vehicular homicide and assault statutes (Kulesh and Kubert's Law). A 2012 version

was introduced (Kulesh, Kubert, and Bolis' Law) that has passed both the Assembly and Senate and at the time of this writing is awaiting approval by the NJ Governor.

Two other bills were approved related to cell phone use specifically prohibiting school bus drivers (December 2002) and operators of public transit vehicles (January 2011) from use of cell phones except in emergency situations. Bills introduced to prohibit driving instructors, rail operators, and bicyclists were introduced but did not move forward.

Research has seen that the NJ Legislature has each session from 2000 to the present, introduced some type of legislation related to cell phone use and/or distracted driving. Bills introduced 2002-2007 have attempted to clarify distracted driving and elevate the charge to reckless, careless or unsafe driving. These bills while introduced did not have the support to move forward.

Proposed legislation introduced in late 2011 and early 2012 have sought to increase the fines for a first offense of violating the hand-held cell phone law from $100 to $200; a second offense at $400, and third and subsequent offenses at $600 plus at the court's discretion a 90-day license suspension and 3 motor vehicle penalty points. This bill would also allow the fines to be used by the Motor Vehicle Commission to develop and implement a public education campaign on the dangers of texting and driving. A subsequent Bill had modified the penalties to include a mandatory term of imprisonment or community service for each offense. At the time of this writing neither bill had yet to be approved.

In a 2011 challenge to the current NJ hand-held cell phone ban law, an Appellate Court reversed a municipal court decision of a cell phone violator, stating that "penalties are not automatic when police see a driver holding a cell phone. The plain language of the statute permits some manual phone operations while driving." The judges pointed out the law specifically allows for "the use of either hand" for the actions of activating, deactivating, or initiating a function of a cell phone. The violator contended that he had broken no laws by "pushing buttons" on his phone, which was upheld by the Appellate Court.

It remains to be seen what effect this decision will have on NJ's Hand-held Cell Phone Ban law, but may provide significant challenges for law enforcement in the future in citing cell phone use violators.

Legislation Time Line

December 12, 2002: Governor signed into law that it shall be unlawful for the driver of a school bus to use a cellular or other wireless telephone while operating a school bus.

January 20, 2004: The use of a wireless telephone by an operator of a moving motor vehicle on a public road or highway shall be unlawful except when the telephone is a

hands-free wireless telephone, provided that its placement does not interfere with the operation of federally required safety equipment and the operator exercises a high degree of caution in the operation of the motor vehicle.

July 1, 2004: Hand-free law takes effect.

November 2, 2007: Governor signed into law a bill that amends N.J.S.A. 39:4-97.3 to make the use of a wireless hand-held telephone or electronic communication device by the operator of a moving motor vehicle a primary offense.

March 1, 2008: Cell phone/text ban takes effect.

January 26, 2011: Governor signed into law a bill to prohibit train operators, bus drivers, and light rail operators from using wireless telephones and other electronic communication devices.

Relevant Bills Introduced but not Approved:

2006-2007
A4031: Establishes that driving a motor vehicle while using a hand-held wireless telephone in violation of State law may constitute recklessness. A person commits vehicular homicide when he causes the death of another by driving a motor vehicle recklessly. Vehicular homicide is generally a crime of the second degree, punishable by imprisonment of five to ten years, a fine of up to $150,000, or both.

2008-2009
A2205: This bill amends the State's vehicular homicide statute to establish that driving a motor vehicle while using a hand-held wireless telephone in violation of State law may constitute recklessness. A person commits vehicular homicide when he causes the death of another by driving a motor vehicle recklessly. Vehicular homicide is generally a crime of the second degree, punishable by imprisonment of five to ten years, a fine of up to $150,000, or both.

2010-2011
A2287: This bill, known as "Helen's Law", establishes that a motor vehicle accident caused by a person using a cell phone while driving, in violation of State law, which results in the death of another person is a crime of the third degree and requires a one-year driver's license suspension in addition to any other sentence determined by the court upon conviction. A crime of the third degree is punishable by three to five years imprisonment, a fine of up to $15,000 or both. This bill also establishes a crime of the fourth degree if the accident results in the serious bodily injury of another person, and is punishable by a one-year license suspension in addition to any other sentence determined by the court upon conviction. A crime of the fourth degree is punishable by up to 18 months imprisonment, a fine of up to $10,000 or both. This bill negates the presumption of non-imprisonment typically applicable to crimes of the third and fourth

degree. This bill does not preclude or limit prosecution for death by auto or any other defense. The bill provides that it may be a defense to a prosecution that the injured person or decedent contributed to the motor vehicle accident by negligent conduct or operation of a motor vehicle. This bill is named "Helen's Law" to honor the memory of Helen Kulesh, a beloved resident of Elizabeth, who was killed by a driver talking on a cell phone in February 2006, and to encourage the State's drivers to abide by the State's prohibition on driving while using a wireless telephone to make the streets safer for other drivers and pedestrians.

A4176: Under this bill, a person who illegally uses a hand-held cell phone to talk or text while operating a motor vehicle would be guilty of reckless driving. A person convicted of a first offense of reckless driving under the bill would be subject to a fine of $100, imprisonment for up to 60 days, or both. The violator would be required to make a court appearance. In addition, five motor vehicle penalty points would be assessed. Current law prohibits the use of hand-held wireless telephone or electronic communication device by the operator of a moving motor vehicle on a public road or highway in this State. A person who violates this provision is fined $100. No motor vehicle points or automobile insurance eligibility points are assessed for this offense.

A4233: This bill prohibits a law enforcement officer from extracting information from a person's cell phone without first obtaining a warrant. This bill waives this warrant requirement if the law enforcement agency believes in good faith that an emergency involving danger of death or serious bodily injury requires the law officer to seize the wireless communication device and extract location information or data from that device.

A4266: This bill establishes that a person who illegally uses a hand-held cell phone to talk or text while operating a motor vehicle is guilty of reckless driving. The bill establishes a gradation of penalties for violators. Under the provisions of the bill, a person guilty of reckless driving is subject to the following penalties: (1) for a first offense, a fine of $100 and a term of imprisonment or community service for a period of 60 days; (2) for a second offense, a fine of $250 and a term of imprisonment or community service for a period of 60 days; (3) for a third offense, a fine of $350, a term of imprisonment or community service for a period of 90 days, and shall forfeit his right to operate a motor vehicle over the highways of this State for a period of six months; and (4) for a fourth or subsequent offense, a fine of $500, a term of imprisonment or community service of a period of 120 days, and shall forfeit the right to operate a motor vehicle over the highways of this State for a period of one year. The violator would be required to make a court appearance. In addition, five motor vehicle penalty points would be assessed. Current law prohibits the use of a hand-held wireless telephone or electronic communication device by the operator of a moving motor vehicle on a public road or highway in this State. A driver who violates this provision is fined $100. Motor vehicle points or automobile insurance eligibility points currently may not be assessed for this offense. The bill also requires the New Jersey Motor Vehicle Commission to inform the public of the enhanced penalties imposed under the bill as part of its currently required public education program on the law concerning cell phone use while driving.

A3154 & S2181: Provides for graduated penalties for violators of hands-free cell phone/texting law; first time violators would be $200; second offense in 10 years would be $400; third and subsequent offenses within 10 years of the first violation would be $600 plus a 90-day license suspension.

A2331: Would prohibit driving instructors from using cell phones (handheld and hands-free) as well as other handheld wireless communications devices; first violation of $25, then $50 for each subsequent violation.

A2816 & S1950: Provides for charge of vehicular homicide or assault by vehicle if a death occurs due to a driver's cell phone use. Driving while using a cell phone would be assumed to be reckless driving, aka Kulesh and Kubert's Law. Penalties would include prison time and fines up to $150,000, similar to drunken driving punishments.

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A1074 & S1616: This bill would make it easier for prosecutors to obtain convictions for vehicular homicide or assault by auto against a person who illegally uses a cell phone while driving and, as a result, kills or injures someone. A person is guilty of death by auto or assault by auto when it is proven that he or she drove a motor vehicle recklessly. This bill specifically provides that the illegal use of a cell phone while driving would give rise to an inference that the defendant was driving recklessly. Vehicular homicide is generally a crime of the second degree, punishable by imprisonment of five to ten years, a fine of up to $150,000, or both. Assault by auto is a crime of the fourth degree if serious bodily injury occurs and a disorderly person's offense if bodily injury occurs. A fourth degree crime is punishable by up to 18 months imprisonment, a fine of up to $10,000, or both. The penalty for a disorderly person's offense is imprisonment for up to six months, a fine of up to $1,000, or both. The bill is designated as "Kulesh and Kubert's Law" after Helen Kulesh who was tragically killed by a person who was using a cell phone while driving, and David and Linda Kubert who were both severely injured by a driver who was illegally using a cell phone.

A1480: This bill prohibits a law enforcement officer from extracting information from a person's cell phone without first obtaining a warrant. The bill waives this warrant requirement if the law enforcement agency believes in good faith that an emergency involving danger of death or serious bodily injury requires the law officer to seize the wireless communication device and extract location information or data from that device.

A1628: Under this bill, a person who illegally uses a hand-held cell phone to talk or text while operating a motor vehicle would be guilty of reckless driving. A person convicted of a first offense of reckless driving under the bill would be subject to a fine of $100, imprisonment for up to 60 days, or both. The violator would be required to make a court appearance. In addition, five motor vehicle penalty points would be assessed. Current law prohibits the use of a hand-held wireless telephone or electronic communication

device by the operator of a moving motor vehicle on a public road or highway in this State. A person who violates this provision is fined $100. No motor vehicle points or automobile insurance eligibility points are assessed for this offense.

A2199: This bill would make it easier for prosecutors to obtain convictions for vehicular homicide or assault by auto against a person who illegally uses a cell phone while driving and, as a result, kills or injures someone. In addition, the bill imposes increased fines for illegally talking or texting while driving. A person is guilty of death by auto or assault by auto when it is proven that he or she drove a motor vehicle recklessly. This bill specifically provides that the illegal use of a cell phone while driving would give rise to an inference that the defendant was driving recklessly. Vehicular homicide is generally a crime of the second degree, punishable by imprisonment of five to ten years, a fine of up to $150,000, or both. Assault by auto is a crime of the fourth degree if serious bodily injury occurs and a disorderly person's offense if bodily injury occurs. A fourth degree crime is punishable by up to 18 months imprisonment, a fine of up to $10,000, or both. The penalty for a disorderly person's offense is imprisonment for up to six months, a fine of up to $1,000, or both. In addition, this bill imposes increased fines for multiple offenses of talking on a hand-held wireless telephone or texting a message with a hand held wireless electronic communication device while driving. Under current law, the fine for this motor vehicle violation is $100. This bill would increase that fine to $200 for a first offense, $400 for a second offense, and $600 for third or subsequent offenses. The bill also permits the court at its discretion to impose a 90-day driver's license suspension for persons convicted of the offense for a third or subsequent time. In addition, third and subsequent offenders would receive three motor vehicle penalty points. Under the bill, a person convicted of a second offense of driving while talking or texting on a hand-held device would be treated as a first time offender for sentencing purposes if the second offense occurs more than 10 years after the first offense. Similarly, a person convicted of a third offense would be treated as a second time offender for sentencing purposes if the third offense occurs more than ten years after the second offense. The bill is designated as "Kulesh, Kubert, and Bolis' Law" after Helen Kulesh who was tragically killed by a person who was using a cell phone while driving, and David and Linda Kubert who were both severely injured by a driver who was illegally using a cell phone. This bill is also designated for Toni Bolis and her son, Ryan Jeffrey Bolis, who died in a motor vehicle accident that was allegedly caused by a person who was using a cell phone while driving.

As seen in the history of NJ's hand-held cell phone ban law, developed over a period of 11+ years, the Legislature has recognized the severity of hand-held cell phone use by its drivers. Legislative efforts are continuing today to refine definitions, increase fines and impose additional penalties.

As can be seen by the amount of legislation that was introduced but not adopted, the NJ Legislature continues to grapple with the use of cell phones while driving a motor vehicle. It appears that the Legislature feels that increasing the penalties and fines to drivers will deter this type of behavior. But the fact that the bills have not been approved speaks to the fact that there is uncertainty that an increasing fine and penalty

structure is what will deter this type of behavior. As of 2009, there were over 250 bills pending in 42 states that prohibited or restricted cell phone use while driving (Nikolaev et al 2010). Clearly the majority of other states' are grappling with this issue as well.

1c. Data Collection

The collection of crash information is the responsibility of law enforcement in this country. Each state has the flexibility to develop their own crash reporting form and collect information they deem appropriate to their state about a crash. While this has given states freedom to develop and implement state-specific reporting, this has led to the inability to compare data sets from around the country as each state may be collecting different information.

Efforts by the Federal Highway Administration (FHWA), Governors Highway Safety Administration (GHSA), Federal Motor Carrier Safety Administration (FMCSA) and National Highway Traffic Safety Administration (NHTSA) to standardize the data elements to be collected led to the development of the Model Minimum Uniform Crash Criteria Guideline (MMUCC) which, since 1998, provides a set of 107 data elements that should, at a minimum, be collected regarding a traffic crash. 75 elements should be collected at the scene, 10 elements should be derived from the collected data, and 22 elements should be obtained from other linked data regarding driver history, injury and roadway inventory data. This voluntary guideline encourages states to include as many of the 107 data elements into their crash collection programs to promote "comparability of data within the highway safety community".

The MMUCC states "Statewide motor vehicle traffic crash data systems provide the basic information necessary for effective highway and traffic safety efforts at any level of government – local, State, or Federal. State crash data are used to perform problem identification, establish goals and performance measures, allocate resources, determine the progress of specific programs, and support the development and evaluation of highway and vehicle safety countermeasures. Unfortunately, the use of State crash data is often hindered by the lack of uniformity between and within States."

The MMUCC guideline provides a definition for driver distraction: distraction which may have influenced the driver performance. The distractions can be inside the motor vehicle (internal) or outside the motor vehicle (external). They recommend the following minimum attributes for inclusion on a crash reporting form:

- Not Distracted
- Electronic Communication Device
- Other Electronic Communication Device (navigation device, DVD player, etc.)
- Other Inside the Vehicle
- External Distraction (outside the vehicle)
- Unknown

The rationale for including these attributes is that they are “important for evaluating the effect that driver behavior has on crashes.”

New Jersey is currently 63% MMUCC compliant; meaning that the NJTR-1 Crash Reporting Form includes 63% of the minimum recommended reporting elements. A review of New Jersey’s crash reporting form, the NJTR-1, shows that “Cell Phone in Use” has been listed as an Apparent Contributing Circumstance (ACC) since 2001. The revisions of 2006 (latest) to the NJTR-1 separated “Cell Phone in Use” into its own block and distinguished between “Hand-Held” and “Hands-Free”. The reporting form does not currently list any other distractions, but Driver Inattention is listed as an ACC and if used by law enforcement must be described in the narrative portion of the form. Other types of driver distractions can be placed in this area. An initiative by the NJ Legislature in 2007 to require the NJDOT to revise the NJTR-1 to include specific distractions failed to win approval for implementation, therefore Driver Inattention with a descriptor is used for that purpose.

1d. Enforcement

One of the key components of effective legislation is the sustained enforcement of the provisions of that law over time and the ability to maintain a high level of public perception of enforcement. In 2010, NHTSA sponsored a small study in Hartford, Connecticut and Syracuse, New York to test a high visibility enforcement (HVE) model aimed at reducing talking or texting using a hand-held cell phone. The HVE also included paid and earned media with an emphasis on enforcement-based messaging and a pre and post evaluation. Both communities used the tag line *“Phone in One Hand, Ticket in the Other”* for their media campaign. Results showed that hand-held cell phone use dropped 56% in Hartford and 38% in Syracuse, while texting while driving was reduced 68% in Hartford and 42% in Syracuse. Enforcement rates in both towns was reportedly 5 times their benchmark and law enforcement pleased with the dedicated media that focused on their enforcement activities (NHTSA, 2010)

But challenges remain for law enforcement to effectively enforce cell phone ban legislation. It is estimated that 5% of drivers or about 660,000 drivers are holding a cell phone to their ear at any one time during the day in the US (NHTSA, 2011). Law enforcement suffers from staff shortages in many communities leading them to prioritize their resources often foregoing traffic enforcement activities. Additionally, enforcement at night is extremely difficult if not impossible, and in heavy traffic and in vehicles with tinted windows. (WHO, 2011)

Additional challenges for law enforcement are determining whether a cell phone was in use and a contributing circumstance to a crash. For the most part, law enforcement does not witness a crash and therefore must rely on the driver, passenger(s) or witnesses to ascertain whether cell phones were in use. Most drivers would be reluctant to admit that they were using a cell phone as it could result in a citation. Therefore it is believed that crashes involving cell phone use is underreported. A

NHTSA study in North Carolina concluded that while the reporting of driver inattention crashes was 1.5% of the total, the estimated value in more comprehensive studies indicated that 30-50% was a more realistic value (Przybyla & Zhou, 2008).

Task 2: Data Review

Since March 1, 2008 there has been a ban on the use of wireless telephone and electronic communication devices while operating a motor vehicle in New Jersey. But from general observation on any roadway, it appears that there are still drivers who are talking on their phones or texting while driving. It is generally believed that the number of crashes attributable to phone or text use is under-reported as drivers will rarely admit to their use and enforcement normally does not witness the crash event. Additionally, law enforcement resources may be limited and issuing citations for phone or text use may be competing with other enforcement priorities.

A significant component of this research effort is to analyze the pre- and post- crash data associated with cell phone use in New Jersey. Statistically significant changes in the data, namely the number and severity of crashes, can be an indirect indication of whether safety countermeasures are having impacts on behavior modification. Along with the enforcement component of cell phone use, ticketing a driver for using a hand-held device, and a picture of crash related cell phone use begins to emerge.

The data analysis was broken into three (3) sections as depicted below.

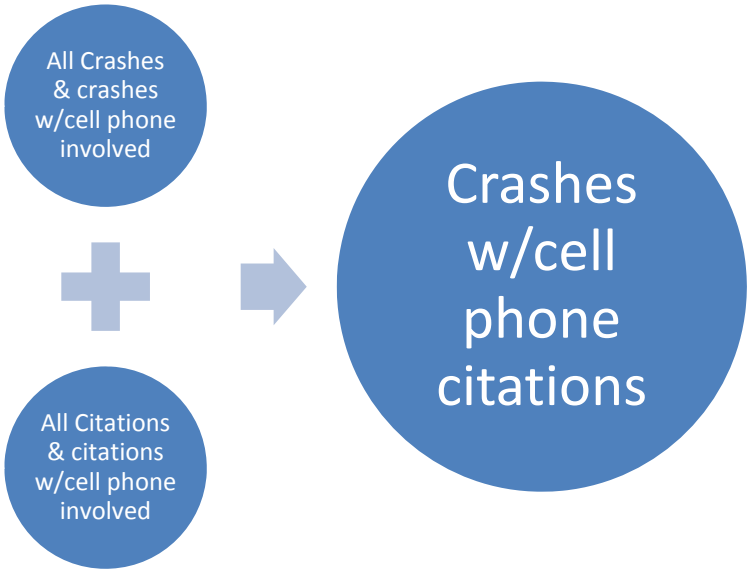

Figure 1: Crash and Citation Diagram

The number of overall crashes was compared to the number of crashes attributed to cell phone use; the number of overall citations written statewide was compared to the

number of citations written for illegal cell phone use; and finally a review of cell phone crashes where a citation was issues was performed.

Crash

Crash data is available on the New Jersey Department of Transportation website for years 1997 through 2011. For the purposes of this study the years 2006-2011 were used for analysis. A review of NJ's crash reporting form, the NJTR-1, shows that "Cell Phone in Use" has been listed as an Apparent Contributing Circumstance (ACC) since 2001. In January 2006, the crash form, NJTR-1, was modified to include new and to update existing fields, one of which was to incorporate two new fields for cell phone use, hand-held and hands-free.

The NJDOT currently publishes crash information related to cell phone crashes on their website which was a starting point for the analysis. This information includes the number of crashes, injuries, and fatalities by county. But it is important to look further at the contributing circumstances for those cell phone use crashes to ascertain whether the cell phone use was the real cause.

It is noted that crash information is completed by law enforcement who generally are not witness to the crash. Through their investigation they make a determination as the apparent contributing circumstance which is generally accepted as the true cause of the crash.

The big picture view of all crashes, injuries and deaths on NJ's roadways is summarized in the Table 1 below:

Year	Total # of Crashes	Total # of Injuries	Total # of Fatalities
2006	295,547	70,293	770
2007	306,819	69,079	724
2008*	303,013	68,502	590
2009	301,233	67,488	584
2010	299,575	66,851	556
2011	293,595	64,568	627

Table 1: NJ Crash Summary 2006-2011
Note: * Hand-held cell phone law enacted March 1, 2008

NJ's fatalities peaked in 2006 followed by very significant positive declines through 2010, with an increase in 2011, but overall crashes and injuries continued their decline through 2011. Various reasons have been cited for the significant decline in fatalities including the implementation of SAFETEA-LU which increased the available federal

safety funding for safety improvements including public awareness campaigns and more focused and collaborative efforts throughout the safety community. Additionally, the economic downturn after 2008 resulted in fewer vehicle miles traveled decreasing crash risk. Regardless of the reasons, a decline in crashes, injuries, and fatalities is the goal of the safety community.

The table below outlines the crashes, injuries, and deaths attributable to hand-held and hands-free devices, pre and post prohibition.

Hand-Held				**Hands-Free**		
Year	Crashes	Injuries	Fatalities	Crashes	Injuries	Fatalities
2006	1854	757	6	1726	673	5
2007	1866	765	3	1421	471	1
2008*	1821	795	7	1383	690	4
2009	1807	759	8	1750	804	2
2010	1833	838	3	1518	633	0
2011	1832	803	5	1398	516	0

Table 2: Crashes due to Hand-Held and Hands-Free Phone Use
Note: * Hand-held cell phone law enacted March 1, 2008

Since the 2008 ban, data shows a 3-year decrease in hands-free crashes, injuries and fatalities. While the number of total crashes associated with hand-held devices remained fairly consistent pre and post ban, the injuries and fatalities post-ban are trending above the pre-ban data. Total crashes post ban are still below pre ban, but injuries and fatalities are averaging above those prior to the legislation. While the actual numbers provide some insight into the trends, a calculation of the difference between the proportion of hand-held and hands-free crashes before and after the ban was performed. A two sample z-test statistic of 0.4423 was calculated with a corresponding p-value of 0.3300 for hand-held crashes and z-test statistic of 0.0625 and corresponding p-value of 0.4761 for hands-free crashes was also calculated. The year of the ban, 2008, was not used in these calculations. Based on this analysis it can be stated that there is no significance (sig ≤ 0.05) to the difference in pre and post ban crashes.

To put this in perspective of all crashes, New Jersey averages about 300,000 crashes per year, with an average of 640 fatalities and 68,000 injuries.

Crash Rates			Hand-Held	Hands-Free
Year	Statewide	VMT**	Cell Phone	Cell Phone
2006	3.38	75.602	0.00663	0.00650
2007	3.46	76.073	0.00667	0.00511
2008*	3.58	72.238	0.00690	0.00524
2009	3.54	72.849	0.00679	0.00658
2010	3.54	72.033	0.00697	0.00577
2011	4.03	73.094	0.00686	0.00524

Table 2A: Crash Rate Comparison by Year
Note: * Hand-held cell phone law enacted March 1, 2008
** Vehicle Miles Traveled in Billions

Table 2A above drills further down into the crash information by looking at the crash rate both statewide and relating to only cell phone crashes. Crash rates are a function of the roadway volume and as seen below the volume decreased in 2008 but with an increase in the statewide crash rate. The volume was consistent through 2010 with a slight decrease in the rate, but 2011 saw and increase in the overall statewide crash rate with an increase in volume. It has been surmised that the economic downturn in 2008 was a contributing factor to the reduction in volume nationwide, thus reducing the amount of risk drivers faced due to the reduction in volume on the roadways.

The crash rate for Hand-Held devices was inconsistent through the study period but is should be noted that it was at its peak post implementation of the law. It is also interesting to note the while the overall statewide crash increased in 2011 from 2010, the Hand-Held crash rate decreased in that same time period. The crash rate for Hands-Free devices saw an increase in the year after the ban implementation but has steadily declined despite the increase in volume from 2010 to 2011.

The following three tables attempt to provide some perspective as to the magnitude of the cell phone crash problem in NJ with respect to the overall number of crashes, injuries and deaths.

Year	Total # of Crashes	Total # of Hand-Held Crashes	% of Total Crashes	Total # of Hands-Free Crashes	% of Total Crashes
2006	295547	1854	0.63	1726	0.58
2007	306819	1866	0.61	1421	0.46
2008*	303013	1821	0.60	1383	0.46
2009	301233	1807	0.60	1750	0.58
2010	299575	1833	0.61	1518	0.51
2011	293595	1832	0.62	1398	0.48

Table 3: % of Hand-held and Hands-free crashes
Note: * Hand-held cell phone law enacted March 1, 2008

Table 3 above looks at hand-held and hands-free cell phone crashes as a percentage of the total of number of overall crashes occurring in NJ. The overall percentage of cell phone attributed crashes is well under 1% of total crashes, with hand-held pre-ban increasing slightly after ban implementation and hands-free post-ban decreasing.

The slight increase in hand-held crashes even after a law banning that activity is a disturbing trend. It would appear that drivers, after an initial decrease have reverted back to their pre-ban behavior. The initial increase in crashes with hands-free devices after ban enactment is somewhat unexplained, but the two years after that show a very positive crash decrease. It may be surmised that after the hand-held cell phone law was initiated that some drivers may have switched to hands-free devices to comply with the new law.

Year	Total # of Injuries	Total # of Hand-Held Injuries	% of Total Injuries	Total # of Hands-Free Injuries	% of Total Injuries
2006	70293	757	1.08	673	0.96
2007	69079	765	1.11	471	0.68
2008*	68502	795	1.16	690	1.01
2009	67488	759	1.12	804	1.19
2010	66851	838	1.25	663	0.99
2011	64568	803	1.24	516	0.80

Table 4: % of Hand-held and Hands-free Injuries
Note: * Hand-held cell phone law enacted March 1, 2008

Injuries attributed to hand-held cell phone crashes was trending upward prior to the 2008 ban as shown in Table 4 above, decreased slightly with its new implementation, had increased after it was enacted, and most recently decreased. Hands-free pre-ban was inconsistent and the first year, 2009, of the post-ban showed an increase in injuries, but has shown decreases over the next two years. A z-test statistic of 3.0633 was calculated with a p-value of 0.0011 for hand-held injuries and a z-test statistic of 4.3065 and p-value of 0.0000 for hands-free injuries calculated as well. Both fall under the significance value of 0.05, indicating that the pre and post ban injuries is significant.

Year	Total # of Fatalities	Total # of Hand-Held Fatalities	% of Total Fatalities	Total # of Hands-Free Fatalities	% of Total Fatalities
2006	770	6	0.78	5	0.65
2007	724	3	0.41	1	0.14
2008*	590	7	1.19	4	0.68
2009	584	8	1.37	2	0.34
2010	556	3	0.54	0	0
2011	627	5	0.80	0	0

Table 5: % of Hand-held and Hands-free Fatalities
Note: * Hand-held cell phone law enacted March 1, 2008

For the five years from 2006-2010 NJ had seen a significant reduction in the fatalities on its roadways (Table 5). An average of less than one quarter of one percent of the crashes resulted in a death. The fatalities attributed to hand-held devices had not shown that same continual decrease but is inconsistent throughout the study period, similar to both crashes and injuries. Hands-free devices, while increasing in the year of the ban, had shown continual decreases with no attributable fatalities in 2010 and 2011. Z-test statistics and p-values for fatalities resulted in 0.9886 and 0.1611 for hands-held and 1.6588 and 0.0485 for hands-free indicating significance (sig ≤ 0.05) for hands-free fatalities pre and post cell phone ban.

Citation

The Administrative Office of the Courts maintains a database of all adjudicated citations from state and local law enforcement agencies. Information on the original citation violation as well as the final court ruling (which may differ from the original violation) is available for both hand-held and hands-free citations for the years 2006-2011. This information is important in understanding the extent of enforcement of the cell phone legislative ban.

Year	Total # of Violations	Cell Phone Violations	% of Cell Phone Violations
2006	2,460,561	15,133	0.62%
2007	2,481,951	15,970	0.64%
2008*	2,488,667	104,112	4.18%
2009	2,333,040	115,860	4.97%
2010	2,382,304	111,516	4.68%
2011	2,321,043	90,575	3.90%
Total	14,467,566	453,166	3.13% (avg)

Table 6: Motor Vehicle Violations vs. Cell Phone Violations
Note: * Hand-held cell phone law enacted March 1, 2008

As can be seen from the Table above the implementation of the Cell Phone Ban Law provided the impetus for law enforcement to significantly expand their enforcement activities as it relates to cell phone use. The first full year of the ban (2009) saw the maximum number of citations written representing about 5% of all the violations written by law enforcement within the State. Subsequent years saw decreases in the number and % of violations written with possible causes being that motorists are obeying the law and there are less violators or law enforcement has decreased issuing citations for this type of violation.

To provide an order of magnitude, the Cell Phone violation was compared to that of Seat Belt violations for the same time period. Information from NJ's *Click It or Ticket* yearly campaigns from the Division of Highway Traffic Safety is provided in Table 6A below:

Year	Total # of Violations	Seat Belt Violations	% of Seat Belt Violations	% of Buckled Front Seat Occupants
2006	2,460,561	56,360	2.30%	89.76%
2007	2,481,951	58,170	2.30%	91.36%
2008	2,488,667	46,026	1.80%	91.75%
2009	2,333,040	41,442	1.80%	92.67%
2010	2,382,304	35,671	1.50%	93.73%
2011	2,321,043	32,228	1.40%	94.51%
Total	14,467,566	269,897	1.85% (avg)	92.30% (avg)

Table 6A: Motor Vehicle Violations vs. Seat Belt Violations

Seat belt violations have decreased since the beginning of the study period while compliance has increased. It can be surmised that the excellent level of seat belt compliance has led to a drop in violations as there are less vehicle occupants who are violating this law.

In looking at both types of violations, they represent an average of 5% of all the citations that were written by law enforcement for the six year period. As stated above, with seat belt compliance increasing, it may represent an opportunity for law enforcement to focus additional efforts on enforcing the hand-held cell phone ban law.

Crash and Citation

A third data analysis activity was conducted in looking at crashes involving cell phones in which citations were issued as a result of that crash. The table below provides an order of magnitude of the number of crashes where a citation was issued to the driver for violating the hand-held cell phone law.

Year	Total # of Cell Phone Crashes w/Citation
2006	128
2007	112
2008*	166
2009	185
2010	187
2011	216

Table 7: Cell Phone Violations where a Citation was issued
Note: * Hand-held cell phone law enacted March 1, 2008

Year	Total # of Crashes	Total # of Hand-Held Crashes	Total # of Crashes with Citation Issued	% of Hand-Held Crashes with Citation Issued
2006	295547	1854	128	6.90%
2007	306819	1866	112	6.00%
2008*	303013	1821	166	9.10%
2009	301233	1807	185	10.24%
2010	299575	1833	187	10.20%
2011	293595	1832	216	11.90%

Table 8: % of Crashes where a Citation was Issued
Note: * Hand-held cell phone law enacted March 1, 2008

Table 8 above provides a snapshot of the number of the cell phone related crashes and a percentage of those crashes where a citation for violating the cell phone law was issued to the driver. While the number of crashes initially dropped in the year after the law was enacted the number of citations issued had increased and continued to increase for the next two years. It is encouraging to think that law enforcement was increasing their diligence enforcing the cell phone law.

Data Discussion

The crash and citation data presented above provides a very brief overview of the impact that cell phone use has on crashes and enforcement activities. Despite passage of legislation to ban the use of hand-held cell phones, crashes rose above pre-ban levels. At the same time the number of citations issued by law enforcement in a cell phone related crashed also increased. A possible explanation may be that law enforcement was more diligent after the 2008 law was passed in attributing the crash to cell phone activity.

There exist several limitations to the data presented above. No attempt was made to provide advanced statistical analyses, but to present just the data as it was collected. This will impede one's ability to make direct correlations to the effect of NJ's hand-held cell phone ban law. There exist as well many possible explanations as to the increase or decrease in crashes, injuries, and fatalities, so it does make it difficult to judge the effect of the hand-held cell phone ban law on the crash data. Additionally, it is difficult to predict the amount of law enforcement resources that have been dedicated to enforcing cell phone use, limiting a direct relationship to the law.

Task 3: Survey

The third task of this research effort was to assess the public attitude towards distracted driving, including opinions, driving habits, and normal cellular phone usage. A short survey taking about 10 minutes to complete, aimed to gather demographic, behavioral, and attitudinal information using a combination of multiple choice and scale questions.

Development

With the amount of attention that distracted driving and specifically cell phone use whiling driving has gotten, there have been recent survey activities to gauge attitudes and habits related to driving while using cell phones, both nationally and within New Jersey. NHTSA and Nationwide conducted national surveys, while Fairleigh Dickinson University's Public Mind Poll conducted a survey in July 2009 specific to NJ drivers. These previous survey efforts provided a variety of potential survey questions for this NJ effort.

This survey was designed to capture 4 areas of interest:

- general driving habits
- driving habits while talking or texting on a cell phone

- knowledge and attitude of NJ's cell phone law
- individual respondent demographics

The survey was designed using Survey Monkey, an on-line tool for the development and distribution of survey activities. This tool provided templates for designing different types of surveys; analysis of results; and specific reports as needed.

Distribution

In an effort to capture a diverse audience for completion of the survey, an initial list of potential agencies and organizations was prepared. These groups were contacted and a brief overview of the project and survey was presented to solicit their interest in having their members participate and complete the survey. These groups included the following:

- NJ Division of Highway Traffic Safety
- AAA Club of Central NJ
- Ridewise – Transportation Management Association (TMA)
- Regional Safety Task Force – Delaware Valley Regional Planning Commission (DVRPC)
- American Society Highway Engineers (ASHE) – Southern NJ

All the above noted organizations agreed to participate. In addition, 20 key transportation professionals were identified and asked to complete the survey and to pass along to other individuals within their network.

An estimate of the amount of exposure that the survey received was approximately 5000 people. Each individual and agency/organization was asked to provide feedback on the number of people that the survey was passed along to or the number of people in their membership group. The survey was available between September 25, 2012 and November 30, 2012.

To understand an order of magnitude, in NJ, there were 5,952,583 licensed drivers in NJ in 2010 out of a population of 8,791,894. 51.3% of the licensed drivers are female.

Results

Of the 373 respondents who started the survey, 355 completed the entire survey, 95.2%. Of the approximate survey exposure of 5000, 7.46% started the survey and 7.10% completed the survey.

General Driving Habits

This area of the survey attempted to capture a general understanding of overall driving history and patterns.

- 99.5% of the respondents were licensed drivers with 74.1% with 20 or more years of driving experience.
- These drivers are daily users of their vehicle (96.2%), using the state highway system 88.4%.
- 44.6 % of the drivers own a cell phone, smartphone, Droid, or Blackberry, with 31% owning a smartphone.
- 51.6% of drivers rated their driving skills above average, with 29.2% rating their skills excellent.

Driving habits while talking or texting on a cell phone

It is important to gauge the actual use of cell phones while driving as this portion of the survey was designed to provide.

- 34.7% of the drivers "seldom" will make a call while driving, with 30.6% saying that they "occasionally" will make a call.
- Drivers will "seldom" answer a call, 26.6%, but 25.5% said they "often" will answer a call or "occasionally" answer a call, 22.8%.
- 55.8% responded that they use a hands-free device, while 44.2% stated that they use a hand-held device.
- 44.1% of drivers say they will "never" send or read a text message, with 30% saying "seldom", and 17.6% saying "occasionally". It is noted here that 27 respondents chose to skip the question related to whether they use a hand-held or hands-free phone to make or answer a call while driving.

Two questions were asked of drivers who were observing other drivers talking and sending text messages while driving.

- 74.4% of respondents believe that 51 to 100% of other drivers will occasionally talk on hand-held or hands-free cell phone.
- 34.6% of respondents believe that between 26 and 50% of other drivers will occasionally send text messages while driving, and 29.2% of the respondents believe that drivers will text 51 to 75 % of the time.

Drivers had somewhat different perceptions of driving capabilities while talking on a cell phone versus reading or sending text messages.

- 62.4% believed their driving was different while talking on a cell phone, while 89% believed their driving was different while reading or sending text messages. 38 respondents chose not to answer the question on driving differences while reading or sending text messages, 14 for talking on a cell phone.

Most respondents, 97.3%, believed that taking your eyes off the road for up to 3 seconds would compromise driving safety. Of those, 63.6% believed that safety would be compromised at 1 second or less.

A series of survey questions were prepared to assess the feelings of passengers when observing drivers talking, reading or texting on a cell phone. Respondents were asked how comfortable they felt when a driver was talking on a cell phone and the likelihood of the passenger to say or do something to a driver on a cell phone.

- 37.7% of passengers felt "somewhat" uncomfortable with drivers who were talking on a cell phone, but only 31.3% "maybe" would say or do something about it with the driver.
- In contrast, 72.3% of passengers responded that they were "very" uncomfortable with drivers sending or reading a text message with 55.3% responding that they were "very likely" to say or do something to a driver regarding text messaging.

Knowledge and attitude of NJ's cell phone law

Most of the respondents of the survey, 97.6%, knew that NJ had a hand-held cell phone/text ban law.

- 49.2% were "somewhat" familiar with the information contained in the law, with 44.6% "very familiar".
- The majority of those responding, 91.9% felt that the cell phone/text ban was appropriate and fair, with 33.5% responding that the Legislature should impose more restrictions.
- A question was posed as to whether the Legislature should impose fewer restrictions with 40.1% "strongly disagreeing" to that idea.
- 73.8% of those who completed the survey supported a state law banning use of a hand-held cell phone while 96% supported a state law banning texting while driving. Clearly drivers believe that texting is a far worse or less safe activity than talking on a cell phone.
- Only 7.8% of survey respondents had been stopped by law enforcement for talking or texting on a hand-held cell phone.
- Of those, 63.3% received a "warning" for the offense.
- Drivers responded 54.5% of the time that a person was "not likely" to get stopped and ticketed for talking on a cell phone and 54.3% of the time for sending or reading a text while driving. While drivers responded that texting was a less safe activity, they do not believe that the law is enforced.

Several questions were prepared to assess whether drivers had been aware of efforts to combat hand-held cell phone use while driving.

- 79.1% of drivers responded that they had not heard of any efforts by law enforcement to ticket drivers for violating the law, while 88.1% of the respondents had seen or heard advertisements, news stories or other messages about the dangers of talking and texting while driving.

Demographics

The final area of the survey was designed to understand the type of respondents that participated in the survey.

- The survey respondents were 46% female and 54% male, with 89.8% White/Caucasian, 3% Hispanic, 2.2% African-American, 2.8% Asian, and 2.2% other.
- 33.5% had an undergraduate degree; 33% with graduate or professional school education.
- 34.4% had a median household income between $100,000 and $149,999.
- There were respondents from each of the 21 counties in NJ, with Middlesex County leading the number of responses at 15.4% followed by Gloucester at 12.4%, and Burlington at 11.1%.

Survey Comments

At the end of the survey, respondents were given the opportunity to provide any comments that they felt would be helpful to the Research Team. 114 comments were received from the 373 respondents. An overwhelming amount of the comments stated that there was not enough enforcement of the law:

- "Enacting laws is not enough. We need more enforcement measures to combat texting while driving."
- "Like all traffic laws, I wish they were enforced more."
- "We do not need more restrictive laws we need to enforce the ones we have."
- "I would love to be able to issue citations to drivers."
- "NJ needs to fund more grants for cell phone enforcement efforts."
- "There needs to be more and consistent enforcement."

Additionally, the respondents used this opportunity to voice their displeasure at seeing law enforcement violate this law:

- "It would be interesting to see how many police officers use cell phones during work (in vehicle)."
- "Plus, it is unacceptable for cops to be driving while on the cell phone… so until they lead by example no one will or should follow…."
- "Law enforcement should also be restricted from speaking on the phone as they are the examples of the law."
- "I don't feel the police should enforce a law they themselves break!"
- "I constantly see Police Officers and Troopers driving on roadways talking with a hand-held cell phone. They need to be role models for the average citizens and walk their talk."
- "Until we get law enforcement on board, the law won't be enforced, and it won't have as big as an impact as it should. How can we expect the public to abide by the law when law enforcement is openly breaking it?"

There were several comments that reflected the survey results that while drivers are knowledgeable about the law, they continue to disregard it:

- "For me talking is ok, as I am not distracted…."
- "I am more likely to talk on the cell phone on long drives on an interstate…."
- "I feel that if drivers that smoke can smoke while driving, I feel that I should be allowed to text while driving."
- "I work in EMS and see so many car accidents that are a result of using a phone while driving. I want to add that, while I do occasionally use my phone while driving, I'll check messages at a red light or only answer to tell the person I'm driving and will call them back."
- "I think it's much more distracting talking to my kids or others in the car, than answering or placing a cell phone call, while I hold the phone to my ear."

The survey respondents took the opportunity to propose solutions and ideas that would help to deter this type of behavior:

- "More education is needed to change behaviors. Start early. Get kids involved to pressure parents not to text and drive. It worked with smoking."
- "More effort should be spent on educating the public so we can police ourselves."
- "Cell phone enforcement needs to be done like seat belts."
- "While stricter laws that inhibit distracted driving could help, perhaps a better educated driver is more apt to be the solution to the problem."
- "I would also like to see education regarding cell phone use begin in the grade/primary schools. More public service messages and education should be aired on TV during commercial breaks."
- "I think the most effective solution is to have something in the cars that disables that function in cell phones, if that is possible."
- "Educate the community!"
- "This law, while certainly well-intentioned, is not enforceable. Education is the answer, not additional infringements on our freedoms by passing laws. This law simply doesn't mean anything."
- "A better solution would be for car insurance companies to offer discounts on policies to those drivers who own/operate a vehicle equipped with hands-free technology."
- "…if you impose a $1000 fine, it sends the message of zero tolerance…."
- "While the public recognizes the dangers of using electronic devices while driving, I don't think they believe they're the problem. Rather they think, I can do it safely, but no one else can. Social norming is needed to change this mindset."

Survey Discussion

New Jersey drivers are very familiar with the law banning use of hand-held cell phones while driving but consciously decide to violate that law anyway. Why? Because they also believe that there is very little chance that they will be punished for that violation. These same drivers overwhelming support a ban on talking and texting while driving and a little more than half of them believe that more restrictions on this type of behavior is necessary. Each of these drivers, 74.1%, has over 20 years of driving experience with 70.7% between the age 36 and 65. These drivers who know the law, are experienced, choose to continue to break the law. There seems to be a disconnect between what the drivers believe about cell phone use while driving and what they actually do while driving.

Most drivers believe that their driving skills are above average or better, 80.8%, but do believe that their driving is different when they are talking or texting while driving. Drivers have recognized that cell phone use does affect driving skills. This survey didn't gauge how a driver believes their driving is different, only to identify that there are differences in their driving performance.

The survey was overwhelming completed by white/Caucasian respondents, 89.9%, with 79.6% having a household income between $50,000 and $200,000. 66.5% had an undergraduate degree or higher. It is believed that this does not represent the diversity of population currently found in NJ. To provide some comparison, in 2011, NJ's population is 74.1% Caucasian, 18.1% Hispanic and 14.6% African-American. The median household income is $71,180 and 35% of the population have a bachelor's degree or higher.

While there were responses from each county within NJ, there were areas of the state that were under-represented. The northwestern (Sussex, Warren, Hunterdon) and southern-most (Atlantic, Salem, Cumberland, Cape May) counties had minimal participation with 4.6% and 4.3% respectively. The counties of Mercer, Camden, Gloucester, and Burlington had 38.6% participation possibly owing to dissemination through the DVRPC Regional Safety Task Force and whose membership is comprised of those areas. Central NJ (Somerset, and Middlesex) counties had the next largest number of participants with 25.4% and again the dissemination through the regional transportation management association and AAA are noted. The breakdown of respondents clearly shows that dissemination of the survey could have been more widespread throughout NJ. The areas with the most respondents are those with higher driving population groups in suburban areas, while the urban and rural areas are less represented.

The comments received from the respondents supported the responses to the survey in that while drivers knew and understood the cell phone ban law, they were still inclined to violate the law. They recognize the dangers of this type of behavior, especially texting while driving and support increased enforcement, while understanding the difficulties in actually enforcing the law.

Conclusions

The purpose of any law or regulation is to modify or change a behavior. In this case that behavior is the use of a cell phone while driving. But if those laws are not enforced or at least have the appearance of enforcement, they become ineffective to affect that change. The NJ Legislature enacted a cell phone ban law that they believed would reduce the use of hand-held cell phones and ultimately reduce crashes associated with that use. The data collected on cell phone attributed crashes would not point to what the Legislature had intended the law to provide. Overall crashes statewide have been declining, while cell phone related crashes have increased since the March 2008 law was implemented.

Similarly, while the number of citations issued since the ban was implemented had increased dramatically, peaking in the year after the ban, the number of citations has been declining. The legislation was intended to provide law enforcement with a tool to change a risky behavior, but cell phone citations have been on the decline. The GHSA has stated that "failing to enforce a law sends a message that the law is not important." But with that comes the necessary enforcement resources that take away from other enforcement activities. Clearly the NJ legislation is not providing the results that were expected.

While it may be convenient to point to the legislation as ineffective at reducing crashes, it may be better to assert that it has been ineffective in getting drivers to change their behavior. The survey results clearly showed that NJ drivers are knowledgeable about the cell phone ban, but a significant portion disregard or ignore the law anyway. These educated, above median income adults also believe that there is little chance that they will be cited for a hand-held cell phone violation. Hence, drivers will continue to use their phones while driving.

This brings to mind the question of what will it take for most drivers to stop using their phones while driving? There appears to be no easy answer to this question and certainly can't be definitively answered through this research effort, but continued efforts to analyze and evaluate additional programs will provide a clearer understanding what can be effective in changing this type of driver behavior.

Recommendations

From the results of this study the following recommendations are offered:

- The legislation, while well-intended, hasn't produced the results that were expected. It may be prudent to first understand what the expectations of the current NJ law were and then evaluate other states' legislation and its effectiveness to understand whether modification to NJ's law is needed.
- The number of violations issued for cell phone use decreased in 2010 and 2011 after a substantial increase in 2009. It is necessary to understand from the law enforcement perspective why these types of violations are reduced. While it's easy to say it's a resource issue, a more comprehensive review of the enforceability of this law should be undertaken.
- The number of cell phone related crashes is less than one percent of all reported yearly crashes. It may be surmised that these types of crashes are under-reported for any of a number of reasons. In order to understand the effectiveness of any legislation, sufficient and accurate data is needed. NJ's crash report, the NJTR-1, provides for hand-held or hands-free cell phone use. A review of this area of the form in relation to the requirements of MMUCC may provide insight as to whether NJ's form needs revisions to capture additional or more specific data relating to cell phone crashes.
- 88% of the drivers surveyed have seen and heard messages that encourage drivers not to talk or text while driving. Nearly 79% have not seen or heard of efforts by law enforcement to cite drivers who use cell phones. In an effort to get drivers to respect the law, it may be useful to have law enforcement develop and implement focused campaigns on the dangers of cell phone use while driving. A review of successful campaigns is recommended.
- With the issue of cell phone ban legislation having national attention, it is imperative that a review of the effectiveness of such laws also get national attention.
- Evaluation of existing legislation in each state looking for commonalities and differences with the goal to provide model language that would assist states in providing the most effective cell phone ban law.
- Consideration should be given to standardizing the definitions for collection of cell phone related crash data and mandating use instead of voluntary compliance.
- Providing law enforcement with best practices in enforcing cell phone legislation along with potential funding opportunities to support those efforts.

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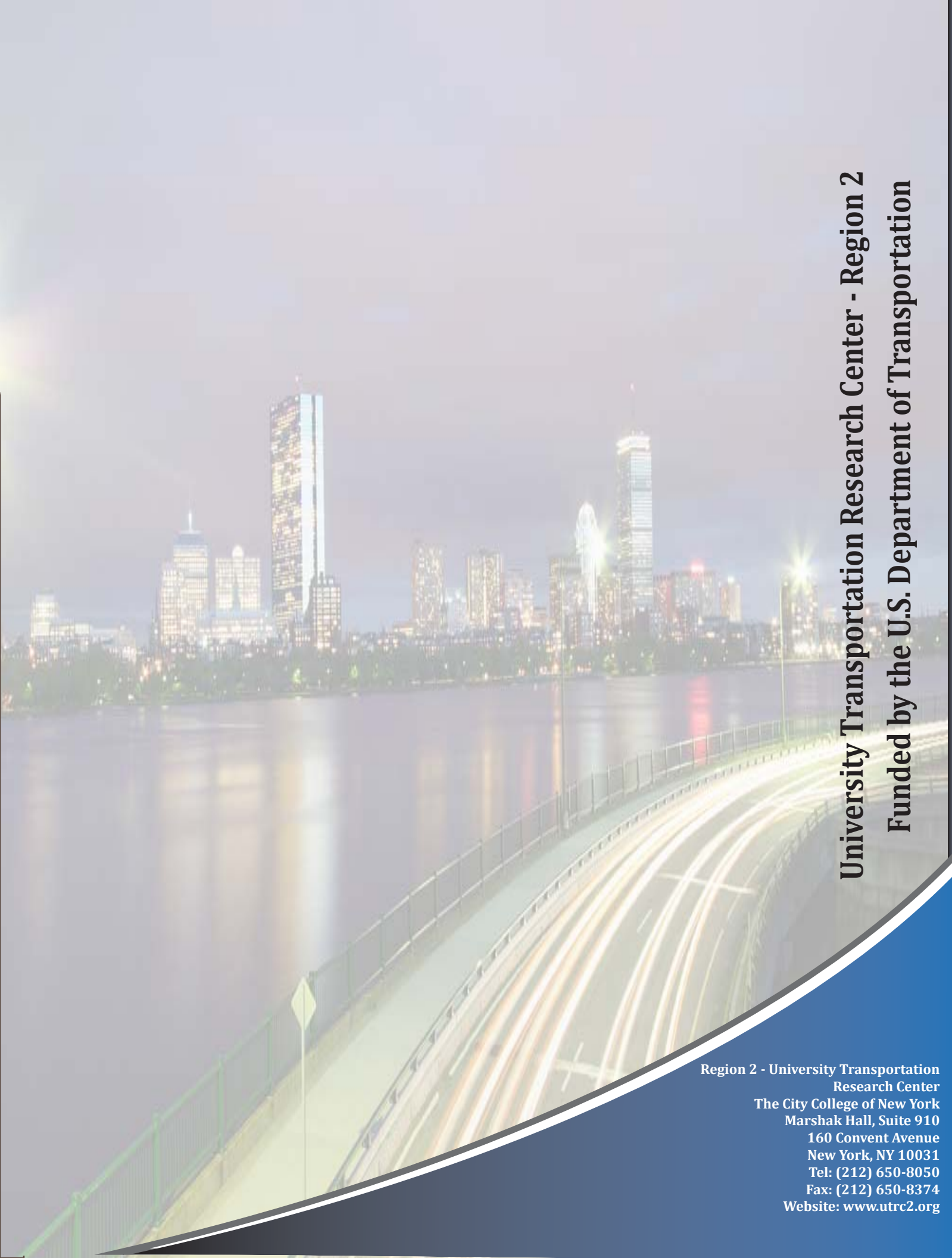

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Region 2 - University Transportation
Research Center
The City College of New York
Marshak Hall, Suite 910
160 Convent Avenue
New York, NY 10031
Tel: (212) 650-8050
Fax: (212) 650-8374
Website: www.utrc2.org