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ROADBLOCKS AND LAW ENFORCEMENT SPENDING IN NEW HAMPSHIRE

Analysis of Expenditures and Effectiveness

**Prepared for the New Hampshire House Committee on Criminal
Justice and Public Safety**

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EXECUTIVE SUMMARY

Sobriety checkpoints in New Hampshire are used to deter drunk drivers and to keep New Hampshire roads safe. Though not legal in all states, New Hampshire legitimizes and legalizes these checkpoints through statute with judicial approval. Early in the session, the New Hampshire Committee on Criminal Justice and Public Safety received HB1283 which would prohibit the use of sobriety checkpoints. The bill passed out of committee by a 12-8 vote on February 13, 2018 and was passed in the House by a voice vote on February 22, 2018. The purpose of this report is to review the costs and benefits of these roadblocks as well as to compare law enforcement spending between New Hampshire and other states, in order to inform the decisions of policymakers as the bill moves to the Senate.

1. INTRODUCTION

According to an FBI report, “Sobriety checkpoint programs are defined as procedures in which law enforcement officers restrict traffic flow in a designated, specific location so they can check drivers for signs of alcohol impairment. If officers detect any type of incapacitation based upon their observations, they can perform additional testing, such as field sobriety or breath analysis tests.”¹ States have the legal and financial discretion to use or not to use sobriety checkpoints, which are also known as DUI checkpoints; thirty-seven states and the District of Columbia implement sobriety checkpoints while thirteen states do not.²

Before analyzing the costs and benefits of sobriety checkpoints, we first identified how states implement these roadblocks. The states that use roadblocks vary by implementation frequency and by the way in which the roadblocks are legalized. Some states, like New Hampshire, primarily conduct these checkpoints weekly through local and state police, while others may only implement roadblocks a few times per year. Several states, including New Hampshire, legalize roadblocks via statutes, while other states have provisions regarding roadblocks included in their constitutions.

Sobriety checkpoints were deemed constitutional by the Supreme Court in *Michigan Department of State Police vs. Stitz* in 1990.³ The Court found that the public interest in keeping drunk drivers off of the roads outweighed the potential violation of privacy. Law enforcement generally may not otherwise detain drivers from the road, and individual states still have the prerogative to prohibit sobriety checkpoints if they so choose. While many states are allowed to implement sobriety checkpoints as per their own Constitutions, checkpoints in New Hampshire are legalized by a statute, NH Rev Stat § 265:1-a (2015), which reads as follows:

“Notwithstanding any provision of law to the contrary, no law enforcement officer or agency shall establish or conduct sobriety checkpoints for the purposes of enforcing the criminal laws of this



state, unless such law enforcement officer or agency petitions the superior court and the court issues an order authorizing the sobriety checkpoint after determining that the sobriety checkpoint is warranted and the proposed method of stopping vehicles satisfies constitutional guarantees.”⁴

In this project, we do not delve into the constitutional issues surrounding these roadblocks; we instead focus on the economic reasons to implement or not to implement these roadblocks and whether or not sobriety checkpoints are effective in reducing alcohol-impaired driving and related vehicle accidents.

2. USE AND COSTS OF SOBRIETY CHECKPOINTS IN NEW HAMPSHIRE

Alcohol-related automobile accidents are an increasingly prevalent issue in New Hampshire. New Hampshire is very close to the national average in terms of traffic fatalities caused by drunk drivers (see Figure 1). However, New Hampshire is not trending in the right direction (see Figure 2). According to a police study, fatal crashes in New Hampshire have increased since 2005, and the percentage of those related to alcohol—56 percent—has additionally increased.⁵ The New Hampshire State Police conducted 15 sobriety checkpoints last year and arrested 21 intoxicated people out of 2,574 vehicles stopped.⁶ Local police also conduct sobriety checkpoints in an effort to decrease alcohol-impaired driving. As alcohol-related fatal crashes are still increasing, it is important to determine how effective sobriety checkpoints are at reducing drunk driving and accidents caused by impaired driving in New Hampshire.

Figure 1. Traffic Fatalities Caused by Drunk Driving, State Comparison⁷

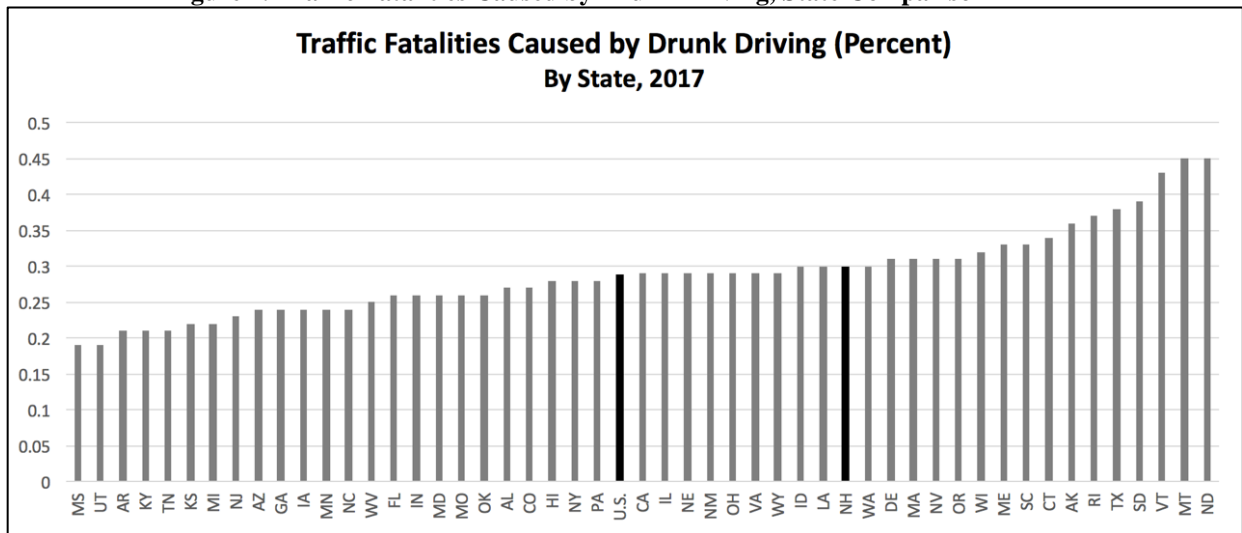
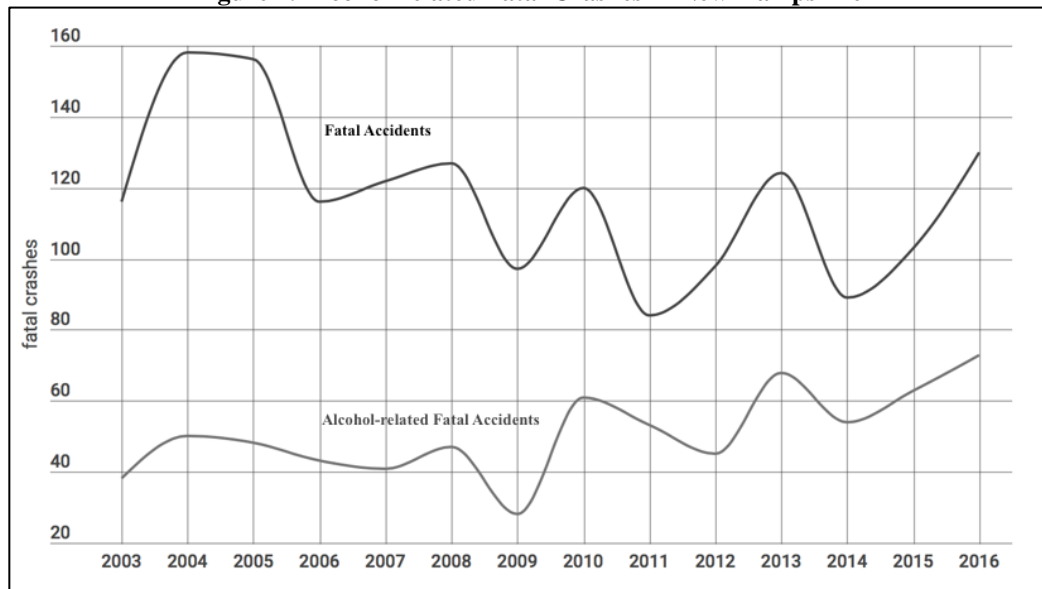


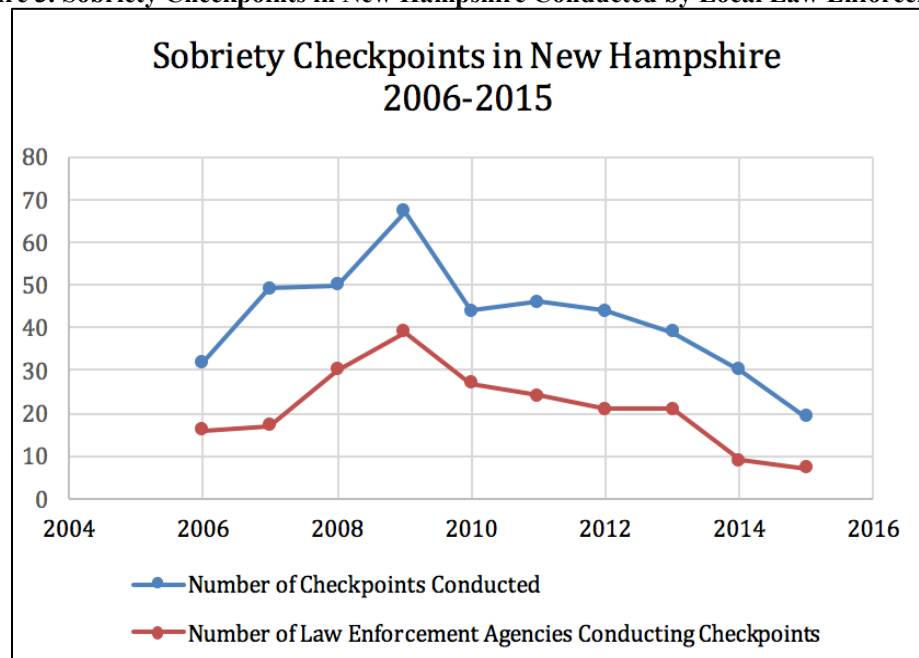


Figure 2. Alcohol-related Fatal Crashes in New Hampshire⁸



From 2006 to 2015, the number of local law enforcement agencies conducting checkpoints and total number of checkpoints in New Hampshire varied by year (see Figure 3). The number of local law enforcement agencies involved in sobriety checkpoints peaked in 2009 at thirty-nine but decreased to just seven in 2015. The number of checkpoints conducted followed a similar trend, peaking in 2009 and reaching its minimum of 19 in 2015.⁹

Figure 3. Sobriety Checkpoints in New Hampshire Conducted by Local Law Enforcement¹⁰





New Hampshire participates in the annual campaign of the National Highway Traffic Safety Administration—“Drive Sober or Get Pulled Over”—which includes a mobilization period to aggressively target drunk driving.¹¹ In 2015, this mobilization period went from August 21 to September 7. During this mobilization period, approximately \$70,000 was spent in conducting 39 DUI/DWI patrols and sobriety checkpoints. The patrols and checkpoints cost about \$1,795 each, and these efforts resulted in about 70 DWI arrests.¹² These figures indicate that each DWI arrest cost at most \$1,000 with approximately 22 hours of police time per arrest due to related arrests and violations resulting from these checkpoints and patrols.¹³ For example, there were 429 speeding violations awarded citations or arrests as a result of the checkpoints and patrols.¹⁴ It is worth noting that if the speeding tickets issued from these checkpoints brought in revenue from traffic fines, this could offset the cost of implementing the checkpoints.

In addition to state police, local law enforcement agencies also conduct checkpoints and patrols during the mobilization period and throughout the year. The state receives Section 410 funding from the federal government if they can demonstrate their commitment to reducing traffic safety problems caused by alcohol-impaired driving. Local law enforcement agencies are then able to apply for grants (from the Section 410 funds) for their local initiatives to combat issues relating to alcohol-impaired driving. In 2015, \$18,890 of Section 410 funds were used to implement sobriety checkpoints through local law enforcement agencies, and \$51,592 of Section 410 funds were used by the state police to conduct checkpoints. Throughout the year, these figures indicate that each arrest cost about \$1,442 and consumed roughly 25 manpower hours per arrest; again, these costs per arrests are overestimates for the reasons previously mentioned.¹⁵

DWI/DUI patrols are also conducted by state and local police in New Hampshire throughout the year. In 2015, about \$281,150 from Section 10 funding was spent by 64 local law enforcement agencies to conduct 5,600 hours of overtime patrols, and the state police conducted 3,000 overtime hours with about \$212,060 of Section 405D funds.¹⁶ Section 405 funds come from the National Priority Safety Program grant used for states to improve highway safety.¹⁷

The costs of the sobriety checkpoints need to be carefully weighed against the benefits of each DWI arrest and deterring drunk driving. The checkpoints pass a cost/benefit test if lives saved, property damage averted, and healthcare costs associated with each DWI arrest exceed about \$1400 (per the cost estimates above). Although there have not been any New Hampshire specific studies that detail the quantitative benefits of sobriety checkpoints, studies have been conducted in other states. We review these studies in Section 3, and this review highlights some alternative policies that New Hampshire may consider in combating drunk driving.



3. STUDIES ON THE EFFECTIVENESS OF SOBRIETY CHECKPOINTS

We reviewed research conducted over the past thirty years to examine the effectiveness of sobriety checkpoints, their costs, and their benefits. Throughout the studies reviewed, sobriety checkpoints have generally been found to reduce the number of alcohol-related vehicular crashes and deter drivers from driving under the influence, especially when these checkpoints are highly publicized. Common challenges to implementing these checkpoints (in states in which there is no constitutional issue) include lack of resources, lack of staffing, and the perception that checkpoints are not cost-effective.¹⁸

3.1 Reducing Alcohol-Related Crashes

Sobriety checkpoints have generally been shown to reduce car accident fatalities attributed to alcohol impairment. A California study showed that communities that implemented a checkpoint program saw an average decrease in alcohol-related crashes that was three and a half times greater than the statewide decrease over the same period of time.¹⁹ In addition, a community in the same study that implemented roving patrols instead of checkpoints only saw a five percent decrease in alcohol-related crashes, though this was less than the statewide average of eight percent.²⁰ These numbers do not account for the deterrence effect that could also contribute to a decline in impaired driving instances.

Moreover in 1999, a study of statewide sobriety checkpoints in Tennessee concluded that the use of checkpoints reduced the number of alcohol-related crashes.²¹ This study was one of the first to examine statewide programs, as many sobriety checkpoint programs are conducted by local law enforcement. The initiative was highly publicized, using various media outlets to alert citizens of the checkpoints. Lacey et al. found a 20.4 percent decrease in alcohol-related crashes, which was “sustained for at least twenty-one months after completion of the formal program.”²² The study was subsidized by the federal and state governments, and the police officers were simply reallocated from other positions to the sobriety checkpoints with no overall increase in police expenditures.

Checkpoints for DUIs are estimated, overall, to reduce alcohol-related crashes by 17 percent, and by 14 percent when controlling for publication bias.²³ Crashes independent of alcohol involvement are estimated to be reduced by 10 to 15 percent.²⁴ According to a meta-analysis conducted by Erke et al., crash reductions slowly decline over time, as they found that crash reduction rates were the highest within the first six months of a DUI-checkpoint program.²⁵ Australian checkpoints were found to produce the most dramatic reduction in alcohol-related crashes in the world due to a large amount of publicity, high level of enforcement, and the use of “booze buses”—mid-sized police vehicles that are visible to drivers and allow law enforcement to increase the number of cars tested.²⁶ However, it is important to note that Australia had a very high initial level of drunk driving, at 44 percent of all drivers in 1981 in comparison to 30 percent in the United States at that time.²⁷



Of all of the studies potentially relevant to efforts in New Hampshire to reduce drunk driving through sobriety checkpoints, a study in 2006 in West Virginia is particularly vital to our meta-analysis. The study is relevant because West Virginia is comparable to New Hampshire demographically, geographically, and governmentally. As shown in Figure 3, West Virginia and New Hampshire have similar state police expenditures per capita and rates of traffic fatalities caused by drunk driving. The study looked at two groups of counties, an experimental group and a comparison group, to compare consistent low-manpower checkpoints to infrequent regularly staffed checkpoints, and the study concluded that these checkpoints could reduce impaired driving with fewer police officers involved.²⁸ The study also concluded that these low-manpower checkpoints are especially effective in rural locations. The low-manpower checkpoints in the study had between three to five officers per checkpoint and generally cost under \$400 each.²⁹ Passive alcohol sensors greatly enhanced the effectiveness at these checkpoints, which we discuss later in greater detail. This study is particularly relevant to New Hampshire because of its emphasis on rural areas and low-cost efforts to deter drunk driving and related accidents. Past checkpoints in New Hampshire have cost up to \$1,800 each; low-manpower checkpoints are one implementation strategy that could decrease costs but probably not the effectiveness of sobriety checkpoints in New Hampshire.

Figure 4. New Hampshire and West Virginia Comparison

State	NH	WV
State Police Expenditures ³⁰ per capita (FY15)	\$47.83	\$41.74
Drunk Driving ³¹ percent of traffic fatalities caused by drunk driving (FY16)	30%	25%

3.2 Deterrence Effects

Simply looking at the costs of the checkpoints does not capture all of the potential benefits they can provide; deterrence effects may also be valuable. Checkpoint publicity can serve as a key deterrent to drunk driving, especially when using paid publicity. Law enforcement officers may also utilize free publicity, i.e., for a local or school campaign to reduce drunk driving.³² However, the growth of social media is a potential factor impacting the effectiveness of sobriety checkpoints, as drivers increasingly warn others of checkpoint locations thus reducing the number of drunken drivers caught at these checkpoints.³³ Navigation apps, such as Waze, frequently alert drivers if there is a roadblock or police speed trap on their route ahead.³⁴ Although there are some concerns that social media is detracting from the checkpoints in terms of number of drunk drivers apprehended, some argue that social media publicity of the checkpoints still deters drunk driving.³⁵



3.3 Alternatives to Conventional Sobriety Checkpoints

Checkpoints do not necessarily need to rely on an abundance of police officers to be effective. A 2004 study found that checkpoints conducted by three-to-five police officers were just as effective as checkpoints conducted by fifteen or more officers.³⁶ The same study also noted that utilizing passive alcohol sensors could make checkpoints more efficient while using less officers. A 2015 study further noted that passive alcohol sensors—“devices that unobtrusively sample the ambient air around a person’s mouth to determine the presence of alcohol”—helped improve detection of alcohol impairment.³⁷ These sensors seem to be especially effective when law enforcement officers have limited interaction with the driver, such as at sobriety checkpoints, which suggests that increased use could require less time from officers.³⁸ Passive alcohol sensors assess the ethanol content in the air around the subject’s mouth, however they do so qualitatively instead of quantitatively; the sensors do not always provide an accurate reading of a driver’s breath. For instance, passive alcohol sensors can pick up on ethanol from other passengers even if the driver is sober, and anecdotal evidences indicates that the sensors can be inhibited by mouthwash or strong perfume.³⁹ The passive alcohol sensors are helpful to an extent, but it is worth noting the potential for inaccuracy.

While sobriety checkpoints have been shown to reduce the number of alcohol-related crashes in many states, they appear to be more successful when paired with saturation patrols—increased enforcement targeting specific geographic areas to “identify and arrest impaired drivers.”⁴⁰ For instance, between October 2010 and September 2011, only 3.2 percent of DUI arrests in West Virginia came from sobriety checkpoints.⁴¹ In his dissenting opinion in *Commonwealth v. Yastrop* in 2004, Pennsylvania Supreme Court Justice Russell Nigro noted that between 1999 and 2001, only 0.71 percent of drivers stopped at sobriety checkpoints were charged with driving under the influence, while 7.69 percent of drivers stopped by roving patrols, which target drivers with symptoms of drunk driving, were charged for the same offense.⁴² Nigro also notes that the number of manpower-hours expended per checkpoint arrest was 28.77, while only 18.82 police manpower-hours were utilized per roving patrol DUI arrest, showing how roving patrols also have potential to reduce drunk driving.⁴³

Some stakeholders are interested in the relatively small number of arrests made at these sobriety checkpoints, especially compared to the number of drivers that pass through them. Interest groups such as American Beverage Institute advocate for fewer restrictions on Americans exercising their ability to consume alcohol responsibly without government interference. Sarah Longwell of the American Beverage Institute noted that of the more than one million vehicles stopped at 1,469 sobriety checkpoints in California in 2008, less than 0.33 percent were arrested for driving under the influence of alcohol.⁴⁴ Similarly, less than one percent of the more than 181,000 drivers stopped at Pennsylvania sobriety checkpoints in 2007 were arrested for driving under the influence of alcohol.⁴⁵ In addition, because sobriety checkpoints are stationary, officers often do not have the opportunity to



properly assess how drivers are handling their vehicles. As a result, a 1997 study found that in North Carolina, over half of drivers with a blood alcohol content (BAC) greater than 0.08 percent, and more than 90 percent of drivers with a BAC greater than 0.05 percent were not detained at sobriety checkpoints.⁴⁶ Police at sobriety checkpoints frequently use breathalyzer tests, but these tests are not required; other field sobriety tests (i.e., walking in on a straight line and turning around) and passive alcohol sensors are generally less intrusive and therefore also used in conducting these checkpoints. However, these methods are not as accurate as a breathalyzer test and involve some degree of subjectivity on the officers' part, which likely contributes to inaccuracy of DUI arrests.⁴⁷ New Hampshire could consider a range of alcohol-impairment testing techniques for their sobriety checkpoints as a result.

3.4 Summary of Findings

Implementing sobriety checkpoints has been shown to decrease the number of alcohol-related crashes, though the benefits must be weighed against the costs of conducting these checkpoints. Moreover, alternatives (such as roving patrols or technology assisted checkpoints) also have the potential be positive contributions to reducing drunk driving. New Hampshire may consider these alternatives to sobriety checkpoints.

4. LAW ENFORCEMENT SPENDING AND POLICE SALARIES ACROSS STATES

Ultimately, the decision of whether to reduce, or eliminate, the use of sobriety checkpoints depends on the social benefit of drunk driving averted compared to the costs of conducting these checkpoints in New Hampshire as well as constraints on law enforcement spending. In this section, we present statistics on state police expenditures and police salaries in New Hampshire to show how law enforcement spending compares to other states in aggregate. These statistics may provide context as policymakers consider whether to eliminate the use of these checkpoints based on financial considerations.



Figure 5. State Police Expenditures Per Capita by State⁴⁸

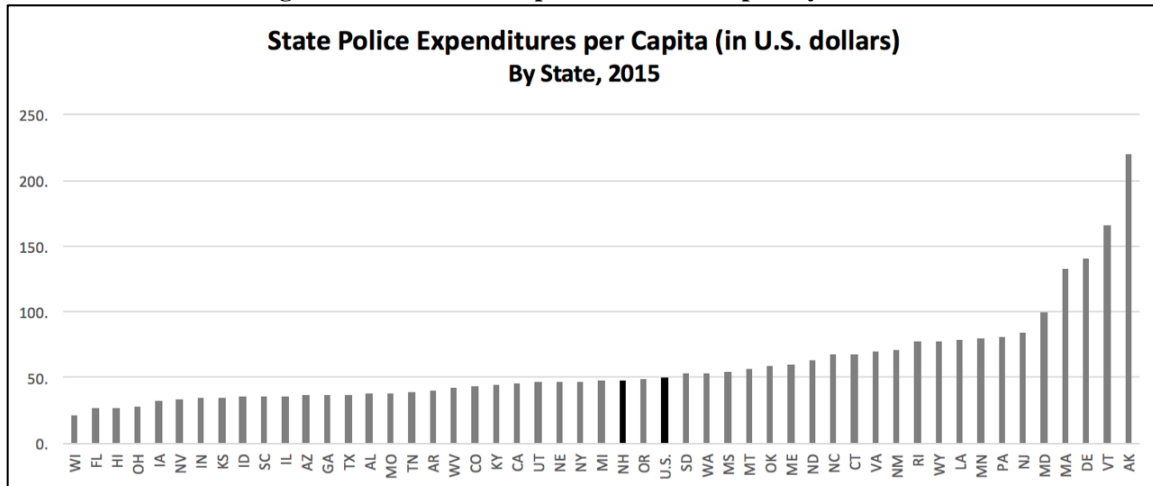
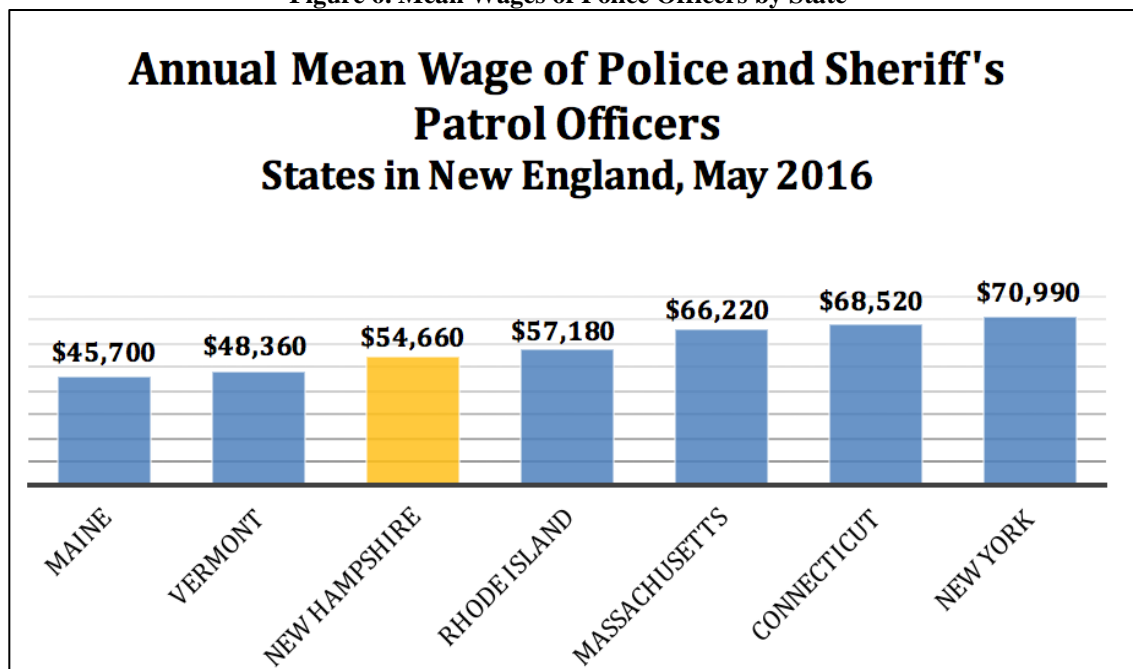


Figure 5 shows that New Hampshire is close to the national average when it comes to state police expenditures per capita. Similarly, when just comparing police salaries (see Figure 6) to those in neighboring New England states, New Hampshire is again roughly in the middle. Whether this is where New Hampshire should lie is a normative question that policymakers must answer.

Figure 6. Mean Wages of Police Officers by State⁴⁹





5. CONCLUSION

Sobriety checkpoints are used in New Hampshire to prevent drunk driving and related fatalities. While in 2015 it cost roughly \$1400 and 25.15 manpower hours per each DWI arrest resulting from sobriety checkpoints, the literature reviewed reflects that they could be less costly by reducing manpower and utilizing technology like passive alcohol sensors.⁵⁰ The West Virginia study showed that checkpoints cost about \$400 (in 2006 dollars) and used between three to five officers per checkpoint.⁵¹ The literature reviewed also showed that sobriety checkpoints were effective at deterring drunk driving and traffic fatalities.

New Hampshire must decide whether the costs of the checkpoints outweigh their benefits; however, there might also be a middle ground. Should New Hampshire choose to forsake conventional high manpower checkpoints, other alternatives are available that could reduce costs. By utilizing technology like passive alcohol sensors to make low manpower checkpoints more effective, New Hampshire could continue its checkpoints while decreasing their costs. Additionally, roving patrols are an alternative to sobriety checkpoints that New Hampshire may still consider should HB1283 pass in the Senate.

It is ultimately up to New Hampshire state legislators to decide how the costs and benefits of sobriety checkpoints should be weighed in determining what methods should be used to combat drunk driving in New Hampshire, and we hope that this report is beneficial in that decision-making process.



REFERENCES

- ¹ Greene, J. W. (n.d.). Battling DUI: A Comparative Analysis of Checkpoints and Saturation Patrols. Retrieved October 30, 2017, from <https://www2.fbi.gov/publications/leb/2003/jan2003/jan03leb.htm>.
- ² "Sobriety Checkpoints." State Laws by Issue. 2017. <https://www.ghsa.org/state-laws/issues/sobriety%20checkpoints>.
- ³ Michigan Department of State Police v. Sitz (State Appellate Court February 27, 1990).
- ⁴ NH Rev Statute XXI § 265:1-a (1996).
- ⁵ Reid, N. (2017, June 24). Are DWI checkpoints in N.H. unconstitutional? Retrieved October 30, 2017, from <http://www.concordmonitor.com/sobriety-dui-checkpoint-set-for-this-weekend-in-chichester-nh-10825737>.
- ⁶ Ibid.
- ⁷ How Does Your State Rate? (n.d.). Retrieved October 30, 2017, from <https://www.madd.org/state-statistics/>.
- ⁸ Reid, N. (2017, June 24). Are DWI checkpoints in N.H. unconstitutional? Retrieved October 30, 2017, from <http://www.concordmonitor.com/sobriety-dui-checkpoint-set-for-this-weekend-in-chichester-nh-10825737>.
- ⁹ Ibid.
- ¹⁰ Clegg, John A. *New Hampshire Highway Safety Annual Report 2015*. Report. 25.
- ¹¹ "National Mobilization." National Highway Traffic Safety Administration. July 12, 2017. Accessed February 17, 2018. <https://www.trafficsafetymarketing.gov/get-materials/drunk-driving/drive-sober-or-get-pulled-over-peak-enforcement-kit/national>.
- ¹² Clegg, John A. *New Hampshire Highway Safety Annual Report 2015*. Report. 26.
- ¹³ Ibid, 26.
- ¹⁴ Ibid, 26.
- ¹⁵ Ibid, 26.
- ¹⁶ Ibid, 24.
- ¹⁷ "Section 405 National Priority Safety Program." GHSA. Accessed February 17, 2018. <https://www.ghsa.org/about/federal-grant-programs/405>.
- ¹⁸ Fell, J. C., Lacey, J. H., & Voas, R. B. (2004). Sobriety Checkpoints: Evidence of Effectiveness Is Strong, but Use Is Limited. *Traffic Injury Prevention*, 5(3), 220-227. doi:10.1080/15389580490465247.
- ¹⁹ Stuster, Jack W., and Paul A. Blowers. *Experimental Evaluation of Sobriety Checkpoint Programs*. Report no. DOT HS 808 287. U.S. Department of Transportation, 1995.
- ²⁰ Ibid.
- ²¹ Lacey, J. H., Jones, R.K., & Smith, R.G. (1999). Evaluation of Checkpoint Tennessee: Tennessee's statewide sobriety checkpoint program. DOT HS 808 841 Washington, DC: National Highway Traffic Safety Administration.
- ²² Ibid.
- ²³ Erke, A., Goldenbeld, C., Vaa, T. (2009). The effects of drunk-driving checkpoints on crashes--a meta-analysis. *Accident Analysis & Prevention*, 41(5), 914-923.



²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Lacey, John H., Susan A. Ferguson, Tara Kelley-Baker, and Raamses P. Rider. "Low-Manpower Checkpoints: Can They Provide Effective DUI Enforcement in Small Communities?" *Traffic Injury Prevention* 7, no. 3 (2006): 213-18.

²⁹ Ibid.

³⁰ Per capita expenditure for state police in the U.S. 2015, by state | Statistic. (n.d.). Retrieved October 30, 2017, from <https://www.statista.com/statistics/306656/us-police-expenditure-per-capita/>.

³¹ How Does Your State Rate? (n.d.). Retrieved October 30, 2017, from <https://www.madd.org/state-statistics/>.

³² "Motor Vehicle Safety." Centers for Disease Control and Prevention. December 02, 2015. Accessed February 12, 2018.

<https://www.cdc.gov/motorvehiclesafety/calculator/factsheet/checkpoints.html>.

³³ "Is Social Media Outsmarting the Sobriety Checkpoint System?" Xavier DWI Defense. July 06, 2015. Accessed February 12, 2018. <https://www.nysdwi.com/social-media-outsmarting>.

³⁴ "Waze." Free Community-based GPS, Maps & Traffic Navigation App. Accessed February 12, 2018. <https://www.waze.com/about>.

³⁵ Brown, DaShawn. "Social media informs drivers of DUI checkpoints." WSOC. December 30, 2017. Accessed February 12, 2018.

<http://www.wsoc.com/news/local/social-media-informs-drivers-of-dui-checkpoints/672168781>.

³⁶ Fell, James C., John H. Lacey, and Robert B. Voas. "Sobriety Checkpoints: Evidence of Effectiveness Is Strong, but Use Is Limited." *Traffic Injury Prevention* 5, no. 3 (2004): 220-27. doi:10.1080/15389580490465247.

³⁷ Eichelberger, A. H., & McCartt, A. T. (2016). Impaired driving enforcement practices among state and local law enforcement agencies in the United States. *Journal of Safety Research*, 58, 41-47.

³⁸ "Passive Alcohol Sensors." Xavier DWI Defense. October 20, 2015. Accessed February 12, 2018. <https://www.nysdwi.com/passive-alcohol-sensors/>.

³⁹ <http://publichealth.hsc.wvu.edu/media/2790/pas.pdf>

⁴⁰ Ibid

⁴¹ Longwell, S. (n.d.). Statistics Don't Justify Sobriety Checkpoints. Retrieved October 30, 2017, from <https://abionline.org/letter/612/>.

⁴² Commonwealth of Pennsylvania v. David Ronald Yastrop (May 2, 2000).

⁴³ Ibid.

⁴⁴ Longwell, S. (n.d.). Statistics Don't Justify Sobriety Checkpoints. Retrieved October 30, 2017, from <https://abionline.org/letter/612/>.

⁴⁵ Ibid.



⁴⁶ Lacey, John H., Susan A. Ferguson, Tara Kelley-Baker, and Raamses P. Rider. "Low-Manpower Checkpoints: Can They Provide Effective DUI Enforcement in Small Communities?" *Traffic Injury Prevention* 7, no. 3 (2006): 213-18. doi:10.1080/15389580600696686.

⁴⁷ Worgul, Mike. "Breathalyzers and Field Sobriety Tests at DUI Checkpoints." Legal Blog. February 24, 2017. <https://www.pittsburghcriminalattorney.com/breathalyzers-field-sobriety-tests-dui-checkpoints/>.

⁴⁸ Per capita expenditure for state police in the U.S. 2015, by state | Statistic. (n.d.). Retrieved February 16, 2018, from <https://www.statista.com/statistics/306656/us-police-expenditure-per-capita/>.

⁴⁹ "Police and Sheriff's Patrol Officers." U.S. Bureau of Labor Statistics. Accessed February 12, 2018. <https://www.bls.gov/oes/current/oes333051.htm>.

⁵⁰ Clegg, John A. *New Hampshire Highway Safety Annual Report 2015*. Report. 25.

⁵¹ Lacey, John H., Susan A. Ferguson, Tara Kelley-Baker, and Raamses P. Rider. "Low-Manpower Checkpoints: Can They Provide Effective DUI Enforcement in Small Communities?" *Traffic Injury Prevention* 7, no. 3 (2006): 213-18.