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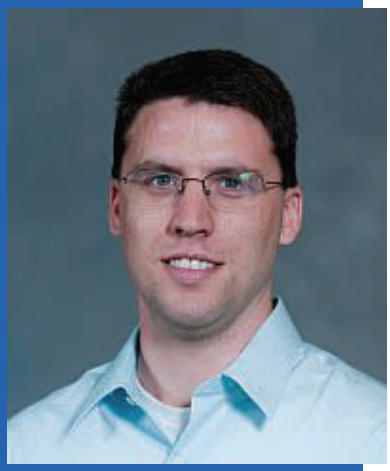
Project Summary

Technology Transfer Outreach Publication



Identifying Cost and Funding Alternatives for Equipping Operating While Intoxicated Offenders with Ignition Interlock Devices

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Wisconsin Department of Transportation

Project Title
Indentifying Costs and Funding Alternatives for Equipping Operating While Intoxicated Offenders with Ignition Interlock Devices

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Ignition Interlock Devices (IID) have been used in multiple states to deter repeat operating while intoxicated (OWI) offenders from further offenses. It has been found in the state of California that a group of offenders who had an order to use an IID had a reduction in future crash rates of 24 percent, while slight changes were seen in those that were not ordered the use of an IID. Those drivers who installed the IID also had a lower rate of future DUI convictions. A major issue with IIDs has been compliance. Studies have shown that as few as 10% of drivers convicted of OWI and ordered to install an IID device, actually do so.

Research Objectives

1. Identify and characterize OWI offenders in Wisconsin and develop a 10 year forecast of overall OWI arrests and arrests of particular high risk offenders.
2. Estimate IID implementation costs based on the forecast model developed and determine the overall affordability of IID devices for OWI offenders
3. Identify potential funding sources to increase IID installations.

Methodology

Information regarding over 200,000 OWI offenders in Wisconsin from 2005-2009 was analyzed. Using a logistic regression model, characteristics of OWI offenders who were likely to repeat the offense within 1 or 2 years were identified. Additionally, a 10 year forecast model was developed which was based on annual historical arrest levels over the past 20 years, as well as monthly vehicle miles travelled an d economic data over the past 5 years. Using this information, along with cost data collected from interviewing IID manufacturers, the overall cost to equip the vehicles of future OWI offenders was collected. Income levels of IID offenders were also modeled using an exponential distribution to determine what proportion of offenders may be unable to afford an IID. Finally, an analysis of potential funding sources was conducted to determine if supplementing the cost of IIDs might be a feasible means of increasing IID order compliance.

MichiganTech
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University Facts

Total Enrollment	6,957
Graduate Enrollment	1,241
Number of Faculty	464
Placement Rate	87.5%

Michigan Tech is located in Houghton, MI on the south shore of Lake Superior. This rural area is known for natural beauty, pleasant summers, abundant snowfall, and numerous all-season outdoor activities. In addition, the University maintains its own downhill and cross-country ski facilities and golf course. There are numerous cultural activities and opportunities on campus and in the community. Michigan Tech has also been rated as one of the safest college campuses in the United States, and the local community provides excellent resources conducive to an outstanding quality of life.

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Implementation Plan

Contents of the final report will contain a comprehensive demographic summary of OWI offenders and an aggregate summary of the ability of these offenders to finance IIDs. From this information, WisDOT will be given a clear summary of the funding shortfall, which offenders are like to fall into the "unable to afford" category, and which of the 4-5 funding alternatives is most effective. The report will include sources of funding, and also identify likely revenue ceilings available from those sources in order to determine how to combine funding. This plan will be based on the 10 year forecast timeline to ensure that the funding quantities grow (or decline) with demand. Eliminating mismatch between expense and revenue timing is critical to ensuring the success of any proposed strategy.

Expected Benefits

Lessons from studies of the California IID laws can serve as a means for direction in this area. Combined with this project's results, reductions in future crash rates and subsequent DWI arrests can be expected. Affordability of IID's is a critical issue. Cost estimates and potential funding sources for IID implementation can provide significant changes to the number of offenders using the devices, thus lowering the incidents of crash rates and repeat DWI offenses.

Related Studies

Hill, J. & Boyle L. (2006) Assessing the Relative Risks of Severe Injury in Automotive Crashes for Older Female Occupants. *Accident Analysis and Prevention,* Vol 38, no 1, pp 148-54.

Hill, J. & Boyle L. (2006) The Safety Implications of Vehicle Seat Adjustments. *Journal of Safety Research,* Vol 37, no 2, pp 187-93.

Hill J. & Boyle L. (2007) Stress as influenced by Driving Maneuvers and Roadway Conditions, *Transportation Research, Part F,* Vol 10, no 3, pp 177-86.

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