



Drivers' perceptions and reactions to roadside memorials

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ABSTRACT

Despite their growing popularity in North America, little research has been conducted on understanding the effects of roadside memorials on drivers' behaviour. In this study, an online survey of 810 drivers found that public opinions on the policy options as well as drivers' self-reported reactions to the presence of roadside memorials were fairly divided. In addition, an on-road experiment was conducted to examine the short term effects of roadside memorials at two intersections. Our results showed that the number of red light violations was reduced by 16.7% in the 6 weeks after the installation of the mock memorials compared to the 6 weeks before whereas the number of violations at two comparison sites experienced an increase of 16.8%.

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1. Introduction

Road crashes are a leading cause of deaths and injuries in many developed and developing countries. Around the world, about 1.2 million people are killed on the roads each year (WHO, 2004). In Canada, for example, about 3000 road users are killed and 200,000 are injured while travelling on our road networks (Transport Canada, 2004). The province of Alberta alone experiences over 120,000 motor vehicle collisions every year, which result in the deaths of about 400 road users (AIT, 2005). In addition to this staggering number, fatalities on Alberta roads have consistently been the leading cause of death for Albertans under the age of 26 (ACCIR, 2002).

Despite the statistics, road fatalities are often received with great shock as most road users perceive driving to be a relatively safe activity. As families mourn these losses, they often place memorials by the roadside to mark the spots where their loved ones died, to warn others of potential dangers, and to have an earthly connection with the deceased vehicle occupants (Clark and Cheshire, 2003). In addition, these roadside memorials serve as a visual focus to communicate that a fatality has occurred at these locations. The practice of placing roadside memorials at traffic fatality locations to commemorate the death of road victims, which originated as a religious rest area, has been growing in popular culture. This culture continues to gain popularity in many western countries, especially following public and tragic events, such as the death of Princess Diana and the ensuing memorials set up in London and Paris to remember her (Santino, 2006).

In addition to understanding the needs of families and friends to grieve for their loved ones, road authorities have to determine if the safety benefits of having the memorials by the roadside as a warning to drive safely exceed the potential risks of driver distraction which may result in an increase in collisions. As the number of roadside memorials increases over the years, many municipalities in North America have begun to develop a roadside memorial policy or at least have realised the need to develop a policy in the near future (Churchill and Tay, 2008).

Having the right memorial policy is important because transportation agencies need to balance the safety and maintenance considerations with the needs of the public to grieve for the loss of their loved ones and the people's desire to memorialise certain public figures. Without objective traffic data and an understanding of the values of their stakeholders, a policy may be implemented that will be largely ignored by those who place memorials and misunderstood or unaccepted by other road users, thereby reducing the level of safety. By having a better understanding of the intent of the policy and the expected behaviour of drivers in response to roadside memorial use, combined with observed safety effects, a more informed decision can be made, resulting in a safer road system.

This paper reports on the results of a preliminary study on drivers' perceptions and reactions to roadside memorials. First, a literature review was conducted to provide policy makers with some background on the issues relating to roadside memorials. A simple driver survey was then developed and administered online to gather information about drivers' perceptions and self-reported reactions to the presence of roadside memorials as well as their preferences regarding roadside memorial policies. In addition, a simple on-road experiment was conducted to examine the effect of roadside memorials on drivers' red light running behaviours at selected intersections. Based on the evidence collected, some suggestions and recommendations were provided to

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assist policy makers in deciding the appropriate policy for their jurisdictions.

2. Literature review

Roadside memorials in North America originated in the American Southwest with roots in the Hispanic culture, Catholicism and funerary rights dating back more than 200 years (Collins and Rhine, 2003). The purpose of small white crosses at the roadside was to mark the rest areas for funeral procession pallbearers travelling by foot from the church to the graveyard. These sanctified, holy, rest areas which are called Descansos (Spanish for 'resting place') have since evolved into markers of the location of traffic fatalities by the side of the road (Nance, 2001). The vast majority of memorials consist of a cross, often white, with flowers, photos, notes, cards, dolls or various other memorabilia (Everett, 2000; Clark and Franzman, 2006; Collins and Rhine, 2003; Reid and Reid, 2001).

Collins and Rhine (2003) conducted a survey of the bereaved families to identify their purposes in placing the memorials. They found that the vast majority of memorials were placed for the young, with an average age of 17, whose deaths were considered unexpected, traumatic, and unprecedented, and were placed by those in their early thirties. However, the respondents in the study stated that their desire to return to the place where their loved ones expired or departed was the reason for the placement of the memorial; warning to fellow motorists was found to be an after-thought, or in some cases, a secondary rationale for justifying the placement of the memorial.

Collins and Rhine (2003) suggested, based on personal communications with state Departments of Transportation, that the main issues for road authorities were maintenance, safety, visual blight, and church-state conflicts. However, the relative importance of these factors was not determined. Although many state DOTs were contacted, no information was provided on the policy adopted because many were in the process of developing a policy. Their observations identified mowing operations within the road right of way and new construction projects as the maintenance issues that created both a hazard to workers and loss of time to work around the memorials. Safety issues identified included rear end collision involvement of drivers stopping at a memorial, driver distraction and the potential of memorials being fixed objects. Finally, since the main structure of memorials is often a simple cross (Reid and Reid, 2001), which is a religious symbol for some segments of the population, it may result in some state-church complications for policy makers.

However, Collins and Rhine (2003) discredited the distraction issue stating that drivers were more likely to be distracted by billboards than the memorials in their study since they were generally only about 1–3 feet tall and about one and a half feet wide. They also noted that from their site visits, many residents were unaware of local memorials in the vicinity until the authors pointed them out. Visual blight was considered as an ongoing problem, usually as the result of vandalism or neglect of the memorials over time rather than the initial condition.

In another survey, Hartig and Dunn (1998) posed two questions about driving behaviour in addition to gathering opinions about the placement of memorials. More than half of the respondents reported driving more cautiously and one-third of males reported driving slower. Drivers under the age of 35 were found to be the most likely to slow down or drive more cautiously in response to seeing a memorial. Another important finding from Hartig and Dunn (1998) report was that, "almost all respondents to our survey supported the placement of these memorials."

In a more recent study, Churchill and Tay (2008) surveyed 82 municipalities in Canada on their perceptions of roadside memorials, their current policies and their preferred policy options.

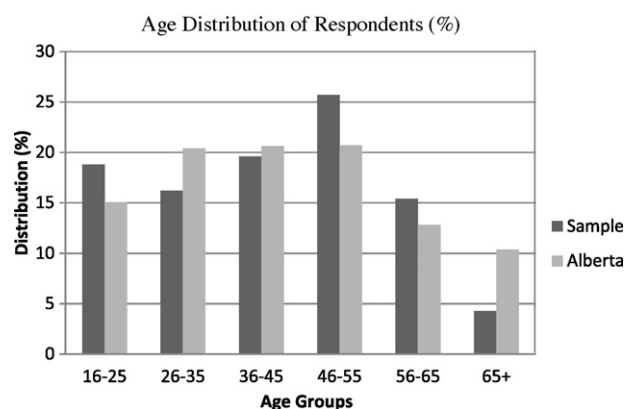


Fig. 1. Age distribution of respondents (%).

Interestingly, the vast majority (90%) of the municipalities surveyed did not have any policy on roadside memorials but respondents generally preferred to allow roadside memorials, albeit with some restrictions. The main considerations of most municipalities in choosing a policy were driver distraction, safety hazard, maintenance, liability, encouragement to drive cautiously and visual blight (eyesore). Among these factors, driver distraction and visual blight (eyesore) were the most significant concerns. Also, most municipalities thought that roadside memorials would help people grieve for their loved ones.

In addition, Churchill and Tay (2008) also surveyed 361 young drivers (mostly college students) because they were often over-represented in crashes and were often the ones who were memorialised. The survey found that drivers preferred standardised memorials with officially allowing them as a close second choice. In contrast to the respondents from municipalities, drivers generally thought that roadside memorials provided safety warnings, encouraged drivers to drive more cautiously and may reduce collisions. Overall, young drivers' support for the use of memorials was positive.

The literature review, however, discovered no publicly available study that collected and analysed traffic data, violations or crashes relating to roadside memorials which were important input in the development of an informed roadside memorial policy. Formulating an effective policy will depend on understanding not only the views of all stakeholders involved but also the objective data on traffic counts, violations and crashes. By its nature, roadside memorial policies are not expected to be uniform across different jurisdictions due to different priorities. However, the application of an evidence-based framework will lead to policies which provide the highest level of safety while meeting the expectations of most stakeholders.

3. Public opinion survey

3.1. Methodology

The driver questionnaire used was adapted from a previous study (Churchill and Tay, 2008) which surveyed both the public and municipalities. In addition to the normal demographic information, this survey asked the participants to choose the most preferred policy options. Participants were asked "Which policy do you think we should have regarding roadside memorials? (Please check one)". This question was followed by a list of options with a check box each. The list of options is shown on the left hand column in Fig. 1.

In addition to their policy preferences, respondents were also asked about their time preference: "Under normal circumstances, how long do you think a memorial should be allowed to remain on an urban roadway?" This question was followed by six options

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