

What is the Effect of Driver Education Programs on Traffic Crash and Violation Rates?

FINAL REPORT 546

Prepared by:

Stephen Michael
Sun Consulting
P.O Box 40921
Tucson, AZ 85717

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16. Abstract <p>The use of educational interventions following traffic citations has become a common practice in nearly all states across the United States. Although there is an underlying assumption that educational intervention will reduce the rate of recurring citations and crashes, little evaluation of programs across the country has been completed.</p> <p>Following the review of the evaluations conducted in six of the states that offer educational interventions, such as Traffic Survival School, a brief survey was conducted with the schools contracted with the Arizona Department of Transportation to assess the level of effectiveness of programs. Since the schools have no contract clause requiring evaluative measures of the programs, none of the schools conducted any formal evaluation of the program offered.</p> <p>Data for drivers referred to Traffic Survival School during the calendar year 2001 (high-risk offenders) were compared with data for drivers who received a citation during 2001, but were not referred to a Traffic Survival School (low-risk offenders). There is little difference in the rate of receiving another citation between the drivers who complete Traffic Survival School and those who were not referred to school. Those who opt to have their license suspended did show a significantly higher number of citations than those who were not referred. The long-term effect of attending a Traffic Survival School or having a license suspended is minimal as more than 80% of each group who do receive another citation will do so in the first year. This is significantly higher than the lower risk drivers, at 62%.</p> <p>Crash rates among those who are referred to a Traffic Survival School are significantly higher than those who are not referred. In all groups the incident of crashes is significantly reduced, but the biggest reduction is seen, again, in drivers who have their license suspended.</p>		
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fc	foot candles	10.76	lux	lx	lx	lux	0.0929	foot-candles	fc
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²	cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
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lbf	poundforce	4.45	newtons	N	N	newtons	0.225	poundforce	lbf
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa	kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

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Executive Summary

The use of educational interventions following traffic citations has become a common practice in nearly all states across the United States. Although there is an underlying assumption that educational intervention will reduce the rate of recurring citations and crashes, little evaluation of programs across the country has been completed. The findings of the evaluations that have been completed are not consistent. Some demonstrate that the effectiveness of educational interventions is significant, while others do not. Other studies demonstrate some effectiveness of educational intervention with use of other types of interventions, such as warning letters.

Following the review of the evaluations conducted in six of the states that offer educational interventions such as Traffic Survival Schools a brief survey was conducted with the schools contracted with the Arizona Department of Transportation (ADOT) to assess the level of effectiveness of Traffic Survival School program offered in Arizona. Since the schools have no contract clause requiring evaluative measures of the programs, none of the schools conducted any formal evaluation of the program offered.

Data for drivers referred to Traffic Survival School during the calendar year 2001 (high-risk offenders) were compared with data for drivers who received a citation during 2001, but were not referred to Traffic Survival School (low-risk offenders). The data indicated that more men than women tend to receive citations, but the percent of men who comprised the high-risk group was greater than the low-risk group. A significantly larger percent of men referred to Traffic Survival School opted to let their license suspend instead of completing school. Age does not seem to be a significant factor. There is little difference in the rate of receiving another citation between the drivers who complete Traffic Survival School and those who were not referred to school. Those who opted to have their license suspended did show a significantly higher number of citations than those who were not referred. The long-term effect of attending a Traffic Survival School or having a license suspended is minimal, as more than 80% of each group who received another citation will did so in the first year. This is significantly higher than the lower risk drivers, at 62%.

Crash rates among those who are referred to Traffic Survival School are significantly higher than those who are not referred. In all groups the incident of crashes is significantly reduced, but the biggest reduction is seen again in drivers who have their license suspended. Crash rates for drivers completing Traffic Survival School and those not referred were nearly the same. A complicating factor for Arizona, similar to California, is the presence of the Defensive Driver Program, which provides another educational intervention. Many of those completing Traffic Survival School have probably completed the Defensive Driver Program, but there is no record at the ADOT to assess the impact of multiple exposures to educational interventions.

1 Purpose

The purpose of this report is to examine the effectiveness of educational intervention in reducing future traffic citations and crashes. This report examines practices in other states in reducing traffic incidents specifically related to traffic safety classes. An informal survey of traffic safety classes in the Spring of 2003 was conducted to examine the extent to which schools measure the effectiveness of participation in a traffic safety classes. Using Arizona data, a review of traffic citations and referrals to Traffic Survival School is presented to examine whether traffic citations are reduced after participating in Traffic Survival School.

2 Background

The State of Arizona provides licensed drivers with traffic violations the opportunity to improve their driving performance through educational programming. Arizona Revised Statutes (A.R.S.) Section 28 outlines two different options to drivers. A.R.S. § 28-3391 through 28-3399 allows a driver the option to attend a Defensive Driving Course in lieu of accumulating points against the driver's record. A.R.S. § 28-3306 allows drivers facing suspension of their license the option of attending Traffic Survival School in lieu of having a license suspended. The Defensive Driver Program is established and monitored through the Arizona Supreme Court, while the Traffic Survival School is conducted under the authority of Arizona Department of Transportation (ADOT) Motor Vehicle Division (MVD).

The goal of both programs is to improve driving behaviors through an increase in knowledge of traffic laws and resulting consequences of traffic violations, in hopes of reducing traffic violations and the number and severity of traffic crashes. Ultimately this would reduce the costs to state and local law enforcement agencies, insurance companies, and individual taxpayers. The goal of this research project is to assess the relative impact Traffic Survival School may have on reducing traffic crashes in the State of Arizona.

The Traffic Survival School classes are run by independent contractors who are supplied with a curriculum from the MVD. The contractors provide classes to drivers referred by the MVD or the courts. The contractors are required to provide the educational material and conduct the

testing included with the curriculum. The contracts with the independent providers do not require any post-curriculum evaluation to assess behavioral change at any time after the class.

3 Literature Review

A review of the literature demonstrates a breadth of knowledge regarding the impact of driver education programs. The majority of these programs are offered to new, young drivers or elderly drivers facing new challenges due to advancing years. John Mattox reported the results of his study on the impact of programs for teenagers and concluded, “The most effective programs employed both antecedents and consequences, instructing youth how they should or should not drive and enforcing consequences for inappropriate behaviors.”¹ It is assumed that the results of studies similar to this are used as support for programs aimed at violators, with the belief that better education will lead to safer driving.

In the Spring of 2001, the Insurance Institute for Highway Safety (IIHS) conducted a literature review and determined that education alone will not reduce the crash rate of drivers. This literature review focused primarily on mass education campaigns, such as road signs or television ads, and youth-focused driver education programs. This report noted that education seems to be effective only if accompanied by visible enforcement of traffic rules.² A report by the National Highway Traffic Safety Administration (NHTSA) about the results of a University of Texas at Austin program supports these findings. This study provided education to 12,000 high-risk, young drivers. Although the program did not focus on violators, the campus noted a 39% drop in traffic violations on campus over the two-year period.³

¹ Mattox, John R., II. A Review of Interventions To Increase Driving Safety among Teenage Drivers. Paper presented at the Annual Meeting of the American Psychological Association (105th, Chicago, IL, August 15-19, 1997).

² Insurance Institute for Highway Safety. “Education Alone Won’t Make Drivers Safer.” Status Report, Vol. 36, No. 5 (May 2001).

³ National Highway Traffic Safety Administration. University of Texas at Austin College Safety Program Report, US Department of Transportation; Spring 1988.

Other studies over the past 20 years have indicated similar results regarding crash rates following driver education classes. Lund and Williams⁴ (1985) and Struckman-Johnson⁵ (1989) found similar results in their reviews of driver education courses. Although, like the conclusions of the IIHS review, little impact was seen in reducing crash rates, the reviews by Lund and Williams and Struckman-Johnson found an improvement in driving records other than crash rates in drivers who had attended some type of driver education course.

4 Review of Other States

Several states offer similar programs for traffic violators who have accumulated points against their licenses. A summary of an informal survey conducted by the Arizona Supreme Court indicates the following:

Table 1
Arizona Supreme Court Survey

	Number of States	Percent of States
Offer Traffic School for Violators	41	82%
Have Statutes Regulating/Requiring Traffic School	33	66%
Allow Dismissal of Violation	8	16%
Allow Point Reduction	26	52%
Allow for Insurance Discounts	7	14%

(For Details – See Appendix C)

More than 80% of states offer some sort of traffic school for violators and two-thirds of states regulate these programs. There are not many states that have conducted evaluations regarding the effectiveness of their traffic schools or driver education programs. At least six states have

⁴ Lund, Adrian K. and Alan F. Williams. “A Review of the Literature Evaluating the Defensive Driving Course.” *Accident Analysis and Prevention*, Vol. 17, No. 6 (1985), pp. 449-460.

⁵ Struckman-Johnson, David C. “Comprehensive Effect of Driver Improvement Programs on Crashes and Violations.” *Accident analysis and Prevention*, Vol 21, No. 3 (1989), pp. 203-215.

conducted some sort of a valuation of their traffic safety schools prior to 2002. The NHTSA report, “Traffic Safety in the New Millennium”⁶ outlines a need for program evaluations:

Develop and use a regular and ongoing program evaluation system, using both quantitative and qualitative criteria to measure the desired outcomes of current programs and aid in planning future programs. (This is not a sentence, and for that reason, not a very persuasive quote. I would useNHTSA in its (name of study) recommends developing and using, “a regular and ongoing program evaluation system, using both(etc.)”)

Given the extremely limited information regarding the impact of traffic safety programs in the State of Arizona, the timeliness of this research project is vital.

The most significant evaluations conducted regarding state programs were those by California and Florida. These two states have at least one preliminary evaluation study with at least one follow up study.

4.1 California Study

In 1975 the California Legislature passed legislation to develop standards for traffic schools. With the large increase in the number of drivers referred to these programs, the legislature felt that the effectiveness needed to be evaluated. This led to legislation to evaluate the effectiveness of the traffic schools.

The first evaluation in 1979⁷ used an experimental design that randomly assigned drivers to traffic schools or waived attendance. A statistical analysis of the accident and violation records of drivers in each group indicated no significant difference in the two groups. Contrary to several previous studies, the 1979 evaluation found no significant difference in drivers’ accident

⁶ U.S. Department of Transportation National Highway Traffic Safety Administration. “Traffic Safety in the New Millennium: Strategies for Law Enforcement”; DOT HS 809 158, August 2001.

⁷ Peck, R.C., Kelsey, S.L., Ratz, M., Sherman, B.R. “The Effectiveness of Accredited Traffic Violator Schools in Reducing Accidents and Violations.” State of California Department of Motor Vehicles, 1979.

and violation records whether they attended a traffic schools. An analysis of public versus private schools also found no significant differences.

The 1979 researchers concluded that the lack of difference in results for those attending traffic schools compared to those who did not attend could be due to the changes in program focuses, the large number of schools, and possibly a change in the types of drivers that are being referred to traffic schools. Because first-time offenders can have a violation dismissed from their driving record, the researchers determined there could be complicating factors related to “hidden violations” that are not reported.

As a result of the 1979 report, the California Legislature enacted new legislation that required courts to report dismissed violations to the California Department of Motor Vehicles (DMV) beginning in 1982. This was revised in 1986 due to a concern that insurance companies would have access to data indicating that a driver had a dismissed violation. The new legislation allowed only the reporting of any violation dismissed after receiving a second violation in a 12-month period.

Subsequent studies were conducted in 1987,⁸ 1991⁹, and 1993¹⁰ to further examine the impact that masking violations through dismissal may have on traffic safety. These studies looked at an analysis of traffic records for violators in the traffic schools and the impact on the Negligent Operators Treatment System. The traffic schools are set up for court referrals as an option to having violations placed on a driving record. Upon completion of a class provided by a contracted traffic school, the violation leading to the referral can be dismissed. The Negligent Operators Treatment System is a graduated consequence program for drivers with multiple violations consisting of four levels:

- Level 1 letter of warning
- Level 2 notice of intent to suspend

⁸ Gebers, M.A., Tashima, H.N., Marsh, WC. “Traffic Violator School Dismissals: The Effects of Citation Masking on Accident-Risk Assessment and on the Volume of Department of Motor Vehicles’ License Control Actions.” State of California Department of Motor Vehicles, 1987.

⁹ Peck, R.C., Gebers, M.A. “The Traffic Safety Impact of Traffic Violator School Citation Dismissals.” State of California Department of Motor Vehicles, 1991.

¹⁰ Gebers, M.A., Peck, R.C., Janke, M.K., Hagge, R.A. “Using Traffic Violator School Citation Dismissals in Addition to Convictions as the Basis for Applying Postlicense Control Actions.” State of California Department of Motor Vehicles, 1993.

Level 3	DMV hearing
Level 4	suspension of license

An important finding of the 1987 study was that the traffic schools' reduction in citations (10%) was exactly the same as the number of Negligent Operators Treatment System Level 1 warning letters issued by the DMV. The studies also found that the masking of violations through the traffic schools program had the effect of reducing the reported number of drivers who were really Level 3 or Level 4 violators, increasing traffic safety risks. The conclusion was that traffic schools had an opposite effect than the intended one on traffic safety in the long term.

Researchers recommended that dismissed violations be tracked but not reported, unless a driver received a second violation within a year. At that point the dismissed violation would be added into the scoring formula for the Negligent Operators Treatment System program

This research led to one more study in 1995¹¹ to assess the impact of increased knowledge and change in attitude on the driving records of drivers in the traffic schools. The study found that:

1. Although the increase in knowledge was significant, the percent increase was very small (only 8%).
2. The method of presentation of the information did not impact the level of knowledge increase.
3. An increase in knowledge did have an impact on the level of citations, but not on the overall number of crashes for participants.

The California program could be compared to Arizona's Defensive Driver Program plus the Traffic Survival School. Much like the earlier California programs, Arizona's Defensive Driving Program does not report dismissed violations to the ADOT MVD, which could also obscure information on the effectiveness of the ADOT Traffic Survival School. California, unlike Arizona, allows only the educational format as the first stage, with the repeat offenders receiving differing levels of disciplinary actions. Arizona allows a driver to attend an educational program as a method of dismissing points from a driving record and also allows drivers with multiple offenses to attend an educational program to forgo the suspension of a license.

¹¹ Gebers, M.A. "Knowledge and Attitude Change and the Relationship to Driving Performance Among Drivers Attending California Traffic Violator School." State of California Department of Motor Vehicles, 1995.

4.2 *Florida Study*

Florida provides a program for drivers with multiple offenses to reduce points on their records by attending a traffic school. Unlike California or Arizona, there is no dismissal of violations on a driver's record in Florida. In 1991, the State of Florida gave the Division of Motor Vehicles the authority to regulate the traffic safety schools and included an evaluation component in the legislation. In 1995, the traffic schools were deregulated, and only the approval of schools/curriculums and evaluation of programs were left in the hands of the department. In 1997¹² the first evaluation was conducted.

The Florida evaluation was a quasi-experimental design that matched violators referred to traffic safety schools with nonviolators on the basis of gender, age range, five digit zip code, and number of moving violations received in the 18 months prior to the course. A comparison was made between the two groups examining the traffic violations and crash rates in the 18 months following the course. The evaluation looked only at whether a course curriculum passed or failed the effectiveness test, and evaluating curriculums against each other was not part of this evaluation.

In order to pass the effectiveness test, drivers in the experimental group had to demonstrate one of two things:

1. the experimental group was worse overall than the control group prior to attending class, and measurably the same or better 18 months after completing the class, or
2. the experimental group scored similar to the control group prior to completing class and were measurably better 18 months after completing the class.

The study found that there was a significant difference between the two groups, and those receiving a course had improved driving records compared to those who did not attend. This study eliminated drivers who did not receive violations (non-offending drivers) from the control

¹² Grosz, M.J., III., Zeller, R.E. "Study of the Effectiveness of Basic Driver Improvement Courses." State of Florida Department of Highway Safety and Motor Vehicles Division of Driver Licenses, 1997.

group to assure that only drivers appropriate for the intervention were being compared. They felt that including non-offending drivers would skew the data significantly. The researchers repeated the evaluation five years later and the 2002 report¹³ showed even more significant impact than the 1997 report.

In order to alleviate any budgetary conflict, the Florida Legislature allowed the Division of Motor Vehicles to collect a small fee, paid by the violator, to cover the cost of administering the program and developing and maintaining an evaluation of the program. Any monies in excess fees collected by the Division of Motor Vehicle are surrendered to the general fund at the end of each year. As long as the program is self-sufficient, and the program is showing effectiveness, the Florida Legislature plans to continue its support. Arizona's Traffic Survival School are fully supported by the fees paid by the violators. At the time of this report, no part of the collected fee is issued to the Arizona MVD for administrative oversight of the program. The contracts with the independent Traffic Survival School providers do not allow for a fee for Arizona MVD administration, nor do they require any effectiveness studies.

4.3 Arizona Study

In 1997, the ADOT MVD commissioned a study¹⁴ to examine the effectiveness of two different curriculums for drivers with multiple violations. Drivers found eligible for Traffic Survival School were assigned to either a crash reduction course or a new recidivism reduction course. Drivers were assigned on an every-other-person method. Although not random, this kept the numbers in each group relatively even. Results were based on 24 months of follow up for violations and 12 months for crashes.

The results of the study indicated that more than 50% of assignees in each group never showed up for their classes. This resulted in their licenses being suspended. Characteristics of those who participated in each group were nearly identical and did not pose a threat to the study. A comparison showed an 8% greater reduction in violations for those who completed the

¹³ Grosz, M.J., III., Zeller, R.E. "Study of the Effectiveness of Basic Driver Improvement Courses." State of Florida Department of Highway Safety and Motor Vehicles Division of Driver Licenses, 2002.

¹⁴ McKnight, A. James, Tippetts, A. Scott. "Accident Prevention Versus Recidivism Prevention Courses for Repeat Traffic Offenders." *Accident Analysis and Prevention*, Vol. 29, No. 1, pp. 25-31, 1997.

recidivism reduction course compared to those who completed the crash reduction course. Those completing the recidivism reduction course also showed an 18% greater reduction in crashes compared to those completing the crash prevention course.

The surprise result in this study was the greater impact on those who did not show up for their assigned course. There was a 25% greater reduction in violations for those who did not complete a course compared to those who did complete a course. The reduction in crashes for those not completing courses was 51% greater. The researchers concluded that the suspended drivers still continued to drive, but less frequently and more cautiously.

4.4 Oregon Study

In 1997, Oregon conducted a third evaluation of its driver improvement program.¹⁵ The driver improvement program was modeled on the California Negligent Operators Treatment System program. Oregon's program has three levels of intervention:

1. letter informing the driver of a violation, description of the program, and need to be aware of driving behaviors.
2. warning letter indicating that there is a likelihood of suspension for further violations with a recommendation to attend a driver improvement class.
3. counseling session with a department staff member prior to suspension.

The focus of the evaluation was on the Level 2 intervention – warning letters.

The analysis examined the effects of the standard Oregon Division of Motor Vehicles letter versus a soft-sell warning letter (see Appendix D for letter content). In the first evaluation in 1991,¹⁶ the only difference found was a reduction in major violations for women who received the soft-sell warning letter. In the 1993¹⁷ evaluation, both letters appeared to reduce violations and crashes with a higher effect on violations with the standard Division of Motor Vehicles letter.

¹⁵ Jones, Barnie. "Age Differences in Response to High and Low-Threat Driver Improvement Warning Letters." *Journal of Safety Research*, Vol. 28, No. 1, pp. 15 – 28, 1997.

¹⁶ Jones, Barnie. "Effectiveness of the Oregon driver improvement program." Salem, Oregon: Driver and Motor Vehicle Services Branch, Oregon Department of Transportation, 1991.

¹⁷ Jones, Barnie. "Effectiveness of the Oregon driver improvement program." Salem, Oregon: Driver and Motor Vehicle Services Branch, Oregon Department of Transportation, 1993.

The third evaluation incorporated a survival analysis that allowed for superior analysis over the first two studies. The third study also followed driving records for 38 months while the first two studies covered only 12 months.

The study examined the difference in violations and crashes between a group that received the standard Department of Motor Vehicles letter, the group that received the soft-sell letter, and a group that received no intervention. The results indicated that the effect of the letter was based on age group. The group below the age of 25 had increased crash survival rates if they received no intervention. The 25 and younger groups that received letters actually had increased crashes and violations. Since this age group represented 48% of the participants, the researchers suggest the state might benefit more by not intervening at this level with this age group.

In all age groups the effect of the soft-sell letter is more positive in reducing violations. For the group 40 years and older, the benefit of sending either letter surpasses that of not sending any letter. A gender difference was also found in the category of major violations. The standard Department of Motor Vehicles letter tended to be more effective for men, while the soft-sell letter seemed to be more effective for women.

4.5 Pennsylvania Study

In 1993 Pennsylvania developed and implemented a pilot driver improvement program that consisted of three levels of intervention. Level 1 was a warning letter. Level 2 was either referral to the traditional traffic school or the chance to take a test based on improving driver decision-making. Level 3 was a hearing before the Pennsylvania Bureau of Motor Vehicles. The evaluation of the program focused on Level 2 results.

The study¹⁸ concluded that the effectiveness of the examination compared to participation in the traditional course was significant at 3-, 6-, 9- and 12-month intervals following completion of the exam. The differences in crash rates after 1 year of completion were even more significant than violations, 20% lower for those taking the exam compared to those who participated in the class.

¹⁸ Staplin, Loren. "Cost-Effective Driver Improvement Treatment in Pennsylvania." *Transportation Research Record*, 1401, pp. 26 – 36, 1994.

4.6 Illinois Study

Cook County in Illinois completed an evaluation of driver's education following the first citation as opposed to driver's education following multiple violations.¹⁹ All drivers receiving their first citation were referred to a traffic safety school. Cook County used an experimental design to evaluate whether the traffic safety school was more effective than no intervention. The evaluative study found that those completing the traffic safety class received far fewer traffic citations than those who received no class. However, a survival analysis indicated that the effect lasted only 120 days. After the 120 days, drivers completing the class still received fewer citations, but the significant difference dropped.

This study did not focus on crash rates or drivers with multiple citations. The researchers did find that many of the participants in the study were drivers with multiple citations. The tentative analysis of those drivers indicated that drivers who received more than five citations continued to receive multiple citations and were unaffected by participation in a traffic safety class.

5 Survey of Arizona Traffic Survival School

A survey was developed to assess the estimated number of drivers in Arizona who are opting to attend Traffic Survival School, the overall cost to drivers, and whether any of the schools have chosen to conduct their own effectiveness studies. The survey was distributed by fax or mail to each of the schools contracted as of February 28, 2002. Nonresponding schools were faxed surveys three times.

Eighty-four of the 89 contracted Traffic Survival School providers were contacted and sent a survey. The five that were not contacted either did not return phone calls or had no answering machine. Because some schools are operated by the same company, those companies were faxed

¹⁹ Raub, Richard A., Wark, Richard I, Reischl, Broderick E., and Lucke, Roy E. "Recorded Traffic Offenses of Graduates of Traffic Safety School, Cook County, Illinois." *Transportation Research Record*, 1693, pp. 18 – 24, 2000.

only one survey and asked to fill in the survey with cumulative totals for all the schools operated by them. Therefore, only 49 surveys were actually mailed or faxed.

Total Surveys Sent	49	
# Schools Represented	84	
Total Returned	32	65.3%
# Schools Represented	41	46.1%

The responses to the survey questions are presented below.

1. How many people attended your Traffic Safety School in 2002?

A total of 12,936 attendees were reported by the schools that responded. Based on these results, we estimate a minimum of 28,000 drivers attended a Traffic Survival School in 2002.

2. Do you record whether a participant has taken TSS or any other Defensive Driving Program before?

TSS	(4) <input type="checkbox"/> YES	(26) <input type="checkbox"/> NO
Other Defensive Driver Program	(4) <input type="checkbox"/> YES	(26) <input type="checkbox"/> NO
if YES,		
How many participants have taken a class before?		95

Only 27% of schools reporting ask whether their students have attended any kind of driver training before. The schools that do ask this question do not record this information anywhere and the total is an estimate provided by the schools. Most of the schools that ask this question also have a contract to provide Defensive Driver Programs for the Arizona Supreme Court.

3. How much do you charge each participant for the class?

Average Cost	Range	Total for Reported Students	Estimated Minimum Spent
\$51	\$25 - \$75	\$644,105	\$1.4 Million

4. Do you do any testing to determine what content was learned? (29) YES (2) NO
 if YES
 (7) Pre/Post Test (22) Post Test Only

Most of the schools use only the curriculum tests that are provided by the Arizona MVD, which is a post-test only. Most programs are not measuring any growth in knowledge. As reported in the Insurance Institute of Highway Safety report,²⁰ the average increase in knowledge from taking a course is only 8%. This may indicate that the impact of attending a class may not be from just gaining further knowledge regarding violations and consequences.

5. What criteria do you use to measure the effectiveness of your Traffic Safety School?
 Of those that reported some form of measure –

MVD curriculum tests	8
use only student feedback	8
use the questions asked by students	3
uses the difference between pre/post tests	1
uses recidivism rates (but does not report how they determine recidivism)	1
uses the evaluations at the end of class	1

All the measurement instruments do not directly relate to changes in behavior. These measures look only at knowledge and attitude, which has clearly been shown in the literature to have little impact on the behavior of drivers attending Traffic Survival School.

6. Do you do any post-class follow up to see if your class was effective? (1) YES (31) NO
 if YES
 (1) Phone Call Mailer Other_____

Similar to the early California studies, there is practically no follow up conducted by the schools because they are not contracted to do this.

²⁰ Insurance Institute for Highway Safety. "Education Alone Won't Make Drivers Safer." *Status Report*, Vol. 36, No. 5 (May 2001).

7. Do you have any written reports about the effectiveness of your program? (1) YES (31) NO
if YES

How do we get a copy? _____

Only one school reported having anything in writing; however, they reported that they have only the written evaluations of the classes.

6 Analysis of Driver Records

The data used for analysis includes a record set of drivers who were referred to Traffic Survival School during fiscal year 2001 (the referral group) and a comparison record set of drivers who received at least one citation during fiscal year 2001, but were not referred to Traffic Survival School (non-referral group). The purpose of the comparison record set is to examine any difference in a population that would include drivers who are more cautious drivers as a result of receiving a citation.

The referral group includes 38,252 drivers who were referred to Traffic Survival School between January 1, 2001 and December 31, 2001. The non-referral group includes 129,433 drivers who received at least one citation between January 1, 2001 and December 31, 2001, but had not been referred to Traffic Survival School prior to December 31, 2001.

6.1 Demographic Breakdown

Table 2
Difference Between Referral and Non-Referral Groups by Sex and Age Group

		<i>Referral Group</i>	<i>Non-Referral Group</i>
Sex	Male	78%	67%
	Female	22%	33%
Age Group	< 18	4.6%	0.3%
	19 – 29	53.5%	45.9%
	30 – 39	20.0%	23.1%
	40 - 49	13.5%	15.4%
	50 – 64	7%	10.6%
	> 65	1.3%	4.6%

The demographic breakdown by sex and age between the two groups indicates that males are more likely than females to be higher risk drivers receiving more citations that lead to Traffic Survival School referrals. Both groups indicate that more than 70% of drivers receiving citations and referrals are under the age of 40. The percent of drivers in age groups over the age of 18 in the non-referral group is slightly higher in each category due to the requirement that drivers under the age of 18 be referred to Traffic Survival School when they receive their first citation.

Table 3
Difference Between Referrals Who Received Citations Following Completion of Traffic Survival School and Non-Referrals Who Received a Second Citation

		<i>Referrals</i> 7,255 <i>19% of Total</i> <i>Referrals</i>	<i>Non-Referrals</i> 38,122 <i>29% of Total</i> <i>Non-Referrals</i>
Sex	Male	79%	72%
	Female	21%	28%
Age Group	< 18	6.9%	0.6%
	19 – 29	67.8%	56.5%
	30 – 39	14.0%	21.7%
	40 - 49	7.4%	12.6%
	50 – 64	3.4%	6.6%
	> 65	0.1%	2.0%

The data indicates that those who are referred to Traffic Survival School are less likely to receive another citation within 18 months of completing the school than non-referred drivers. Those most likely to re-offend after completing Traffic Survival School are under the age of 30. Of those who are non-referrals, there is a higher percent over the age of 30 who re-offend than those who complete a school. A referral to Traffic Survival School, regardless of the outcome of that referral clearly indicates that any intervention other than just receiving a citation reduces the number of traffic citations received after being referred.

6.2 Breakdown of Referrals

Table 4
Demographic Differences Between Drivers Who Complete a Traffic Survival School and Those Who Have Their License Suspended

		<i>Completed TSS 21,131 55% of Total Referrals</i>	<i>License Suspended 17,120 45% of Total Referrals</i>
Sex	Male	74%	83%
	Female	26%	17%
	Total	100%	100%
Age Group	< 18	4.8%	4.5%
	19 – 29	52.4%	54.8%
	30 – 39	18.2%	22.3%
	40 – 49	14.0%	12.9%
	50 – 64	8.7%	4.8%
	> 65	1.9%	0.7%
	Total	100%	100%

TSS=Traffic Survival School

The data indicates that nearly half of all drivers referred to Traffic Survival School do not attend a class, and the vast majority of those who opt to let their license suspend are males. The distribution by age group of drivers who complete the school is similar to the age distribution of those who have their licenses suspended, indicating that age is not a determining factor in the choice to complete Traffic Survival School or let a license suspend.

Table 5
Demographic Distribution by Sex and Age Group
Complete a Traffic Survival School vs. License Suspension

		<i>Completed TSS 21,131 55% of Total Referrals</i>	<i>License Suspended 17,120 45% of Total Referrals</i>	<i>Total</i>
Sex	Male	52%	48%	100%
	Female	65%	35%	100%
Age Group	< 18	56.8%	43.2%	100%
	19 – 29	54.1%	45.9%	100%
	30 – 39	50.2%	49.8%	100%
	40 - 49	57.2%	42.8%	100%
	50 – 64	69.0%	31.0%	100%
	> 65	76.9%	23.1%	100%

TSS=Traffic Survival School

The data indicates that little more than half of the males referred to Traffic Survival School (52%) opt to complete a Traffic Survival School class, while nearly two-thirds of females referred (65%) chose to complete a Traffic Survival School class. Although more than half of every age group opts to complete Traffic Survival School, those drivers over 50 are the most likely to complete a Traffic Survival School class.

6.3 Re-Offenders

When examining the recurrence of traffic violations for the referred and non-referred drivers, a clear separation begins to occur.

Table 6
Comparison of Drivers Who Re-Offend After Completing Traffic Survival School or Having License Suspended and Drivers Who Haven't Yet Been Referred to Traffic Survival School

	<i>Referred</i> 7,255 <i>19% of Total Referred</i>		<i>Non-Referred</i>
	Completed TSS	License Suspended	
Total	21,131	17,120	129,433
Re-Offenders	5179	2076	38,122
Percent of Total	25%	12%	29%

TSS- Traffic Survival School

The data indicates that more than twice as many drivers who complete Traffic Survival School will be cited again within 18 months than those who opt to have their driver's license suspended. The percentage of drivers who were not referred was slightly higher than those who completed the Traffic Survival School, although not significantly higher. These driving records indicate that suspending a license has the greatest impact on reducing the recurrence of traffic citations.

Table 7
Comparison of Drivers Who Re-Offend After Completing Traffic Survival School or Having License Suspended and Drivers Who Haven't Yet Been Referred to Traffic Survival School by Number of Days Until the Next Citation

NUMBER OF DAYS TILL NEXT OFFENSE	<i>Referred</i> 7,255 <i>19% of Total Referred</i>		<i>Non-Referred</i>
	Completed TSS	License Suspended	
< 90 days	25%	21%	21%
91 – 180 days	37%	38%	16%
180 – 365 (1 yr)	20%	20%	25%
1 yr – 18 mths	19%	21%	38%

TSS- Traffic Survival School

The data indicates that more than half of drivers who complete Traffic Survival School or have their licenses suspended will receive another citation within six months of completing a class or having a license suspended. There is no significant difference between those who complete Traffic Survival School and those who have a licensed suspended. In the non-referred group, the largest group of drivers (38%) does not receive another citation for over a year, indicating a

significant difference in those who are referred to a class versus those who have not yet been referred. This indicates that the long-term effect of completing Traffic Survival School or having a licensed suspended diminishes more quickly compared to those who have not been referred to Traffic Survival School.

6.4 Crash Rates

Table 8
Comparison of Drivers Cited for Crashes Referred to Traffic Survival School vs Non-Referred Drivers

	<i>Referred</i>		<i>Non-Referred</i>
	Completed TSS	License Suspended	
Total	21,131	17,120	129,433
Crashes Pre	3957 (18.7%)	3200 (18.7%)	9318 (7.2%)
Crashes Post	835 (4.0%)	293 (1.7%)	4726 (3.7%)

TSS=Traffic Survival School

The data regarding crash citations indicates mixed results. Initially, the non-referred drivers had a significantly lower percent of crashes than those who were referred to Traffic Survival School, compared to both those who completed their class and those who chose to have a license suspended. Although there is no significant difference between those who complete a Traffic Survival School class and those who are non-referred on a second crash-related citation, the difference for those who choose to let a license suspend is significantly lower. All three groups show a significant drop, but those referred to Traffic Survival School have more significant drops in crash citations than the non-referred.

7 Summary of Findings

More males tend to be referred to Traffic Survival School (78%) than those who received citations and are not referred (67%). After being referred to Traffic Survival School, more males also tend to let their license suspend (48%) than females (35%). The rate of receiving a citation is not significantly lower for those who complete Traffic Survival School (25%) compared to those not referred to a school (29%). Those who choose to let their license suspend, however, receive another citation at a significantly lower rate (12%) than those who are not referred (29%). Clearly, having a license suspended has a larger effect on reducing the chances of drivers

re-offending than attending Traffic Survival School. The long-term effect of either attending Traffic Survival School or having a license suspended is minimal. More than 80% of both groups who receive another citation will do so within a year of completing school or having a license suspended. This is significantly higher than the 62% of drivers who are not referred who received another citation within a year of receiving their previous citation.

Drivers who are referred to Traffic Survival School have a significantly higher number of crash citations (18.7%) than those who have received a citation, but were not referred to a school (7.2%). This may be a reflection of some crash violations requiring a referral to Traffic Survival School. There is no significant difference in the number of crashes following the completion of Traffic Survival School (3.7%) compared to those who receive a citation and are not referred (4.0%). Those who let their license suspend do, however, demonstrate a significantly lower number of crashes (1.7%) than those who are not referred (4.0%).

A complicating factor in the effectiveness of educational interventions is the presence of the Defensive Driver Program that allows drivers to have points waived. As there is no record of these citations or participation in the program at the ADOT, no analysis of the effect of repeat educational interventions can be completed. Since most of the drivers referred to Traffic Survival School have multiple violations, there is a strong assumption that they have already completed the Defensive Driving Program at least one time.

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Appendix A – Arizona Traffic Survival School Survey Instrument

Arizona Department of Transportation Survey of Traffic Safety Schools

The *Arizona Department of Transportation* is examining the effectiveness of driving programs for traffic violators. As part of the study, we are interested in gathering some basic information about participants in Traffic Safety Schools (TSS) and how they are impacted by a TSS.

We would appreciate your taking a few minutes to respond to these questions and return this survey in the enclosed envelope or fax back your responses. Fax (520) 628-9405.

Person Completing this Survey: _____

School: _____

Contact Phone: _____ email: _____

If you have any questions regarding the completion of this survey, please contact the researcher, Stephen Michael, at (520) 241-7357 or email at stephenmichael@cox.net.

8. How many people attended your Traffic Safety School in 2002? _____
9. Do you record whether a participant has taken TSS or any other Defensive Driving Program before?
- | | | |
|--------------------------------|------------------------------|-----------------------------|
| TSS | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| Other Defensive Driver Program | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
- if YES,
How many participants have taken a class before? _____
10. How much do you charge each participant for the class? _____
11. Do you do any testing to determine what content was learned? YES NO
if YES Pre/Post Test Post Test Only
12. What criteria do you use to measure the effectiveness of your Traffic Safety School?
13. Do you do any post-class follow up to see if your class was effective? YES NO
if YES Phone Call Mailer Other _____
14. Do you have any written reports about the effectiveness of your program? YES NO
if YES
How do we get a copy? _____

Thank you for participating.

Appendix B – Arizona Traffic School Survey Results

School Number	Other Schools	Total Schools	Contact	# Students	Previous TSS	Other Program	Repeats	Student Cost	Total Cost	Test	Pre/Post	Post Only	Criteria for Effectiveness	Post Class Followup	Type	Written Report
406	2071	2	Robin Thim	1400	no	no		\$45	\$63,000	yes		yes	Feedback	no		no
45		1	Patrick Burke	0					\$0							
405		1	Phyllis E. Wells	430	no	yes	2	\$50	\$21,500	yes		yes	curriculum tests	no		no
428		1	Gil Montiel	26	no	no		\$40	\$1,040	yes		yes	Q & A	no		no
464		1	Tom Gladieux	323	no	no		\$60	\$19,380	yes		yes	Q & A	no		no
1920		1	Joe Bittick	20	no	no		\$75	\$1,500	yes	yes		Exit Interview	no		no
2038		1	Brenda Bailey	178	no	no		\$45	\$8,010	yes		yes	Q & A	no		no
418		1	Linda Aguilar	240	no	no		\$25	\$6,000	no				no		no
1982		1	Glenda Webb	25	yes	yes	1	\$65	\$1,625	yes		yes	Student Response	no		no
1994	2057	2	Dave Paul	41	no	no		\$55	\$2,255	yes		yes		no		no
1953		1	Ed Heinsius	206	no	no		\$50	\$10,300	yes	yes		feedback in class	yes	phone	no
442	1998	2	Brad Holmes	450	no	no		\$55	\$24,750	yes		yes	recidivism rate	no		no
864		1	Julie Harris	380	no	no		\$49	\$18,620	yes		yes	feedback in class	no		no
422	466, 1865, 2088	4	Debra Provost	1903	no	no		\$50	\$95,150	yes	yes		pre/post difference	no		yes
1793	2009	2	David May	770	yes	yes	5	\$50	\$38,500	yes		yes	class participation, attitude, questionnaire	no		no
401		1	Doris Wight	658	no	no		\$45	\$29,610	no			curriculum tests	no		no
423		1	Allen Flitcraft	470	no	no		\$50	\$23,500	yes		yes		no		no
1992		1	Panda Allen	200	no	no		\$50	\$10,000	yes		yes	curriculum tests	no		no
2093		1	David Ginsberg	0	no	no		\$45	\$0	yes		yes	curriculum tests	no		no
34		1	Joseph Riffe	117	no	no		\$50	\$5,850	yes	yes		curriculum tests	no		no
404		1	Dr. Joseph Parham	926	no	no		\$55	\$50,930	yes		yes	curriculum tests	no		no
1935		1	Kimberly Landero	96	no	no		\$75	\$7,200	yes		yes		no		no
429		1	Jim Armbrust	400	no	no		\$50	\$20,000	yes		yes	curriculum tests	no		no
2066		1	Andrea Hinkel	18	no	no		\$50	\$900	yes		yes	curriculum tests	no		no
2094		1	Cynthia Luna-Dulgov	116	yes	yes	87	\$35	\$4,060	yes	yes		client feedback	no		no
51		1	Ann Teich	415	no	no		\$50	\$20,750	yes		yes		no		no
409		1	Della Decker	99	no	no		\$25	\$2,475	yes		yes	feedback	no		no
1833		1	Robert A. Simmons	1100	no	no		\$50	\$55,000	yes	yes		feedback	no		no

School Number	Other Schools	Total Schools	Contact	# Students	Previous TSS	Other Program	Repeats	Student Cost	Total Cost	Test	Pre/Post	Post Only	Criteria for Effectiveness	Post Class Followup	Type	Written Report
414		1	Jim Henry	154	no	no		\$50	\$7,700	yes		yes		no		no
1914		1	Debbie Grado	570	no	no		\$50	\$28,500	yes		yes		no		no
1932	2084	2	Cindy Williams	975	no	no		\$50	\$48,750	yes	yes		class evaluation	no		no
416	2075	2	Jo Elaine Lewis	230	yes	no		\$75	\$17,250	yes		yes	feedback	no		no
460	2076, 2077, 2078	4	Olivia						\$0							
43		1														
493	494, 495, 1794, 1860, 1976, 2101	7	Anastasia Keller						\$0							
439	489, 1731, 1947	4	Lily						\$0							
479	480, 481	3							\$0							
421	1942, 1970, 1971, 2000	5	Joe Zahara						\$0							
474	2090	2							\$0							
415	2083	2	Sue						\$0							
197		1	Lisa						\$0							
402		1	Corrine						\$0							
413		1	Mario Biasiucci						\$0							
417		1	no answer						\$0							
484		1	Steve Mayfield						\$0							
487		1							\$0							
496		1	Jerry Lyman						\$0							
1738		1							\$0							
1792		1							\$0							
1837		1							\$0							
1960		1							\$0							

School Number	Other Schools	Total Schools	Contact	# Students	Previous TSS	Other Program	Repeats	Student Cost	Total Cost	Test	Pre/Post	Post Only	Criteria for Effectiveness	Post Class Followup	Type	Written Report
1974		1	no answer						\$0							
1980		1							\$0							
1981		1	Carrie Vaughn						\$0							
2011		1	no answer						\$0							
2024		1							\$0							
2029		1	Lorena Rogers						\$0							
2031		1	no answer						\$0							
2041		1	no answer						\$0							
2056		1	Louis						\$0							

Appendix C – Summary of Informal Arizona Supreme Court Survey

Summary Table - Informal Survey of States

**Conducted by Robert Molina, Arizona Supreme Court.
Last updated approximately 2000.**

State	Driver Program	By Statute	Violation Dismissal	Point Reduction	Insurance Reduction
Alaska	YES	YES	NO	YES	UNKNOWN
Alabama	YES	NO	YES	NO	NO
Arkansas	YES	NO	NO	NO	YES
Arizona	YES	YES	YES	YES	NO
California	YES	YES	YES	YES	UNKNOWN
Colorado	YES	YES	YES	NO	NO
Connecticut	YES	NO	NO	NO	NO
Delaware	YES	YES	NO	NO	YES
Florida	YES	YES	NO	YES	UNKNOWN
Georgia	YES	YES	NO	YES	UNKNOWN
Hawaii	YES	NO	NO	NO	UNKNOWN
Iowa	YES	NO	NO	NO	UNKNOWN
Idaho	YES	YES	NO	YES	UNKNOWN
Illinois	YES	YES	NO	NO	UNKNOWN
Indiana	YES	YES	NO	NO	UNKNOWN
Kansas	YES	YES	NO	NO	YES
Kentucky	YES	YES	NO	YES	UNKNOWN
Louisiana	YES	NO	NO	NO	YES
Massachusetts	YES	NO	NO	NO	UNKNOWN
Maryland	YES	NO	NO	NO	UNKNOWN
Maine	YES	YES	NO	YES	UNKNOWN
Michigan	NO	NO	NO	NO	UNKNOWN
Minnesota	NO	NO	NO	NO	UNKNOWN
Missouri	YES	YES	NO	YES	UNKNOWN
Mississippi	NO	NO	NO	NO	UNKNOWN
Montana	NO	NO	NO	NO	UNKNOWN
North Carolina	YES	YES	NO	YES	UNKNOWN
North Dakota	YES	YES	NO	YES	YES
Nebraska	YES	YES	YES	NO	UNKNOWN
New Hampshire	YES	YES	NO	YES	UNKNOWN
New Jersey	YES	YES	NO	YES	YES
New Mexico	YES	NO	NO	NO	UNKNOWN
Nevada	YES	YES	YES	YES	UNKNOWN
New York	YES	YES	NO	YES	YES
Ohio	YES	YES	NO	YES	UNKNOWN
Oklahoma	YES	YES	YES	YES	UNKNOWN
Oregon	NO	NO	NO	NO	UNKNOWN
Pennsylvania	YES	YES	NO	YES	UNKNOWN
Rhode Island	YES	YES	YES	NO	UNKNOWN
South Carolina	YES	YES	NO	YES	UNKNOWN
South Dakota	YES	YES	NO	YES	UNKNOWN

State	Driver Program	By Statute	Violation Dismissal	Point Reduction	Insurance Reduction
Tennessee	YES	YES	NO	YES	UNKNOWN
Texas	YES	YES	NO	YES	UNKNOWN
Utah	YES	YES	NO	YES	UNKNOWN
Virginia	YES	YES	NO	YES	UNKNOWN
Vermont	NO	NO	NO	NO	UNKNOWN
Washington	NO	NO	NO	NO	UNKNOWN
Wisconsin	YES	YES	NO	YES	UNKNOWN
West Virginia	YES	YES	NO	YES	UNKNOWN
Wyoming	NO	NO	NO	NO	UNKNOWN

Total Yes	41	33	8	26	7
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Appendix D – Content of Oregon’s Warning Letters

Text of Driver Improvement Standard Warning Letter
(Oregon Department of Transportation)

Recently, I reminded you of your obligations as a driver. The following traffic violations and/or preventable crashes were posted to your record after the first letter.

Crash/Violation	Crash/Citation Date	Conviction Date
@	@	@
@	@	@
@	@	@

This letter may not apply to you if you have corrected your driving problems. However, you may need to be aware that the Motor Vehicles Division will take the necessary steps to help you be a better driver for the benefit of all Oregon drivers.

If you have additional traffic tickets or preventable crashes within 12 months of this letter, you may be required to attend a Driver Improvement Interview. You will be given the opportunity to discuss your driving record with a Driver Improvement Counselor. I hope this or any other action will not be necessary.

The enclosed pamphlet gives you more information about Oregon's Driver Improvement Program. I hope you will take time to read it since you are now involved in the program.

Text of Driver Improvement Soft-Sell Warning Letter
(Oregon Department of Transportation)

You were told about Oregon's Driver Improvement Program in an earlier letter. Your record shows that you have had two traffic tickets in 12 months. We are warning you that you may lose your privilege to drive in Oregon if you do not take steps NOW to improve our driving. A personal interview with a counselor is the next step in the program.

You can avoid the need for this interview if you drive trouble-free in the next 12 months. To help you do this, we strongly urge you to attend a driver improvement course.

These classes improve driver knowledge of traffic laws and safe driving practices. If you take one of these courses, it could be a very positive step toward improving your driving and will help you avoid future tickets and crashes.

Either class will help you become a safer and more responsible driver. Because we are more concerned than ever about your driving, we ask you to seriously consider taking one of these courses as soon as possible. Enrollment information is at the bottom of this page.

We have enclosed a pamphlet about how our Driver Improvement Program works. Please read it. We believe it offers good information and advice.