FY 2010 Appropriations Request Form

Office of Congresswoman Jackie Speier
211 Cannon House Office Building
Washington, D.C. 20515
Phone: 202/225-3531
Fax: 202/226-4183

Website: www.speier.house.gov

Individuals/Organizations must respond to all questions on the form. Incomplete proposals will not be considered.

All requests will be evaluated before the 12th Congressional District's Oversight Panel. Appointments to appear before the panel must be made through Cookab Hashemi, chief of staff, at 202/225-3531 or Cookab.Hashemi@mail.house.gov. The panel will convene on the following days; Saturday, March 7, Friday, March 13 and Friday, March 20, 2009. All proposals must be submitted by March 2, 2009.

Date Submitted: March 2, 2009

Project Name:

DRIVE RSTC, INC. Applying proven driver training methods to save lives!

Individual/Organization: (is the grantee located in the 12th Congressional District?)

Yes: Our Head Quarters is located in Burlingame California

Amount Requested (if requesting report language, please attach):

Scenario A	Scenario B
Working capital (Federal grant)	To build the first center
$1 MM	Up to $10 MM

- **Appropriations Bill/Account/Relevant Authorization law/bill/status** (e.g. "Public Law 107-111": "FY2008 DOD Authorization", "Currently pursuing authorization through Agriculture Committee", "Safe Drinking Water Act"' or "Hatch Act"):

U.S. Department of Transportation (Federal aid and appropriations), and NHTSA (National Highway Traffic Safety Administration)

Local Contact (Please provide full contact information, including any relevant phone extensions, and indicate if there is a separate D.C. contact.):

Contact Robert Cole at

DRIVE RSTC, INC.
1021 Burlingame Ave
Burlingame, CA 94010
[t] 650-344-2653
[m] 415-794-0441
[f] 650-344-2675

rcole@vnscorporation.com
www.DriveRSTC.com

Organization's Main Activities (Please limit your response to 250 words and indicate whether it is a public, private, non-profit or private for-profit entity.)

DRIVE RSTC, INC. (private for profit) provides the only driver training process available that is proven to reduce auto accidents with measurable results. Empirical data supports this claim. This training process is not available in the United States. Our primary objective is to bring this process to the US. Key points:

- This training benefits all drivers from novice to professionals
- The process supports all vehicles legal to drive on US highways - private and public transportation, and commercial.
- All of the countries that provide this training lead the US in reducing auto accidents by significant margins (in many cases over 30% annually).

The proven curriculum can only be supported by driver training facilities built to exact, scientifically engineered, specifications. Our goal is to build the first such facility in the US beginning in the San Francisco Bay Area. This is an opportunity for California to lead the way for the nation by providing a proven solution to reduce auto accidents.

Current Activities:

- Fundraising - seeking working capital to continue operations
- Intergovernmental relations - working with State and Federal representatives and engaging Public Affairs specialists
- Public Relations - generating awareness nationwide that a solution exists
- Reviewing land opportunities to build the first US center (such as Hunter's Point Naval Shipyard Redevelopment)
- Developing International business relationships necessary to bring the solution the United States
- Engaging traffic safety experts and advocates
- Maintaining web presence (www.DriveRSTC.com)

Please show main items in the project and total cost in a simplified chart form (Please include the amount of any Federal/State/Local/Private funds including any in-kind resources)

Scenario A		Scenario B
$1 MM		$10 MM
Working capital (Federal grant)		To build the first center
	@ $1 MM	- land cost not included
Staff:	35%	- Costs are parcel dependant
Services:	35% - 40%	- Estimate only
Overhead:	5%	- ROI within 5 years at approximately 35% attendance to capacity
Other:	5%	
Land option:	15% - 20%	Pro-forma financials available upon request
	100%	

Project Description, including a timeline, goals, expected outcomes and specific uses of Federal Funds (Your response must focus on the requested funds rather than the organization's mission and general activities. Please limit your response to 250-500 words.)

Use of funds and timeline discussion:

We are seeking working capital to continue operations and secure additional investment and/or bank loans. This will lead to construction of the first center, and a model for nationwide implementation. Funds will be used generally as explained below. Note: we are struggling to raise working capital due to this current economy:

- Intergovernmental relationships - working with City, State, and Federal representatives
- Public Relations - generating awareness nationwide that a solution exists
- Reviewing land opportunities to build the first US center
- Continue International business development necessary to bring the solution the United States
- Engage traffic safety experts and advocates
- Travel expenses for European partners
- Site and architectural designs and feasibility studies
- Maintaining web presence (www.DriveRSTC.com)

	3 mos	4 mos	5 mos	6 mos	12 mos	30 mos
Immediate	By date TBD	By date TBD	By date TBD	By date TBD	By date TBD	By date TBD
Expand staff	Engage Townsend PA, continue search for land, tighten up legal agreements Engage PR	Participate research committee (state fed) Complete pro-forma financials, For banks/ investors	Pursue grant opportunities, Secure Land, Conduct site feasibility studies etc., Secure additional funds for construction	Complete feasibility studies, optimize designs, secure all approvals Break ground Engage Marketing	Finalize research team Open first facility & PR	First year operations, research results, continue PR

What is the local significance of this project?

Saving lives and reducing injuries resulting from auto accidents:

- Improves health and well being of the community (overall)
- Improves morale (reduces social impact resulting from tragic accidents)
- Saves the local community millions annually in the form of reduced costs associated with auto accidents (city employees, local businesses, and community members can benefit).
- Increases productivity, which in turn increases the tax base
- The first center of this kind will attract nationwide press and curiosity
- Will create jobs (our head quarters is located in the 12th District)
- Will create research opportunities

This problem affects us all

Americans suffer over 2.5 million injuries and 40 thousand deaths due to auto accidents each year. The number one cause of death among teenagers remains auto accidents. Conversely all of the countries that support the proven training process now lead the US in reduced accidents by significant margins (in numerous cases over 30% per year). This solution can improve life and economic conditions for all communities that embrace it. We will provide studies indicating statistics and cost benefit scenarios that support the statements made herein.

How many residents of the 12th CD will benefit from this project? (i.e. jobs created, services rendered to, how many people, etc.)

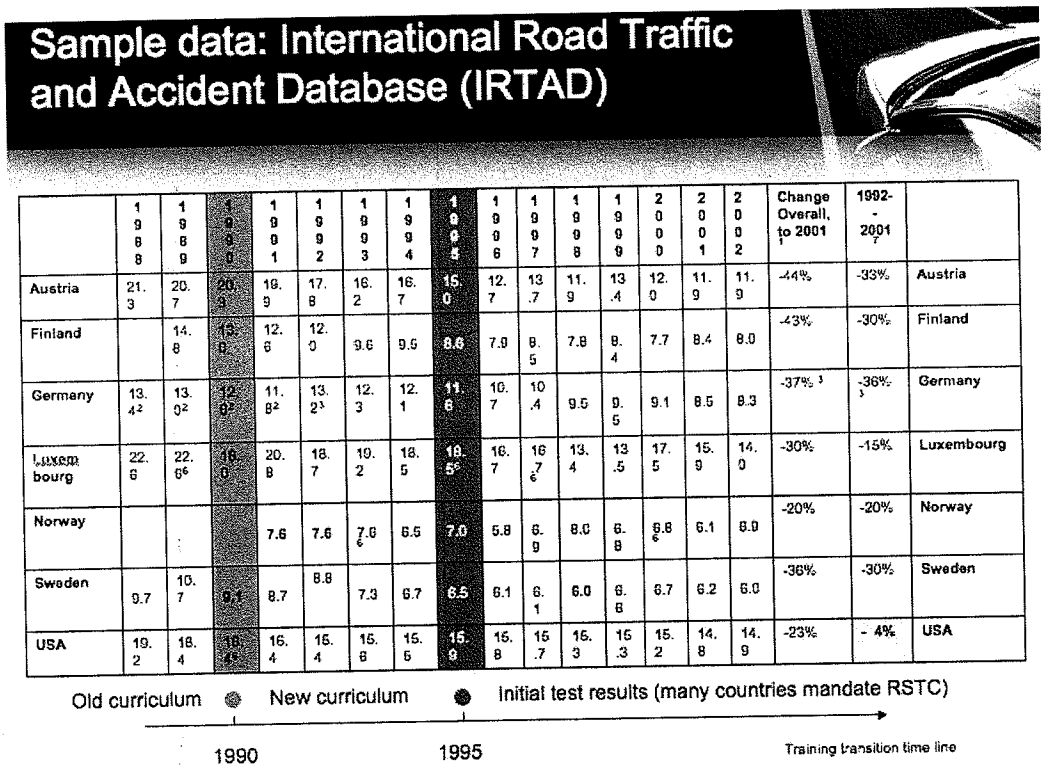
Qualitative: Potentially all members of the community can benefit from a training solution that improves driver behavior. It will raise awareness among those who attend and those who do not.

Quantitative: The National Highway Transportation and Safety Administration (NHTSA), indicates that $230 BB is lost to auto accidents annually ($820 per US resident). Costs are associated with property damage, lost productivity, disability, and healthcare (among other categories).

A 20 acre RSTC facility (necessary to provide our proven curriculum) can support approximately 20,000 to 30,000 participants annually with a staff of less than 30 people (these centers are very efficient). In 1995 Luxembourg (pop. similar to small US city) measured 34.3% reduction in accidents among control groups.

Based on US statistics approximately 600 auto accidents would occur among 20,000 drivers (Source: FARS 2007). A 34% reduction in accidents among 20,000 RSTC participants would result in approximately 204 fewer accidents per year (34% of 600). Depending on the type of accident reductions (e.g. minor or major) savings to the local community can exceed $2 MM to over $4 MM annually. Assumptions are based on NHTSA and FARS 2007 data noted above, and a report conducted by OSHA.gov entitled, "Guidelines for Employers to reduce motor vehicle crashes." This report indicates that the average crash costs an employer $16,500. When a worker has an on-the-job crash that results in an injury the cost to their employer is $74,000. Costs can exceed $500,000 when a fatality is involved.

The following table compares countries that implemented the proven training process to the US (fatality rates per 100 thousand licensed drivers 1988 to 2001).



	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Change Overall, to 2001 [1]	1992-2001 [7]	
Austria	21.3	20.7	20.3	18.9	17.8	16.2	16.7	15.0	12.7	13.7	11.9	13.4	12.0	11.9	11.9	-44%	-33%	Austria
Finland		14.8	13.6	12.6	12.0	9.6	9.5	8.6	7.9	8.5	7.8	8.4	7.7	8.4	8.0	-43%	-30%	Finland
Germany	13.4[2]	13.0[2]	12.8[2]	11.8[2]	13.2[3]	12.3	12.1	11.6	10.7	10.4	9.5	9.5	9.1	8.5	8.3	-37% [3]	-36% [3]	Germany
Luxembourg	22.6	22.6[6]	18.0	20.8	18.7	19.2	18.5	18.5[6]	16.7	16.7[6]	13.4	13.5	17.5	15.9	14.0	-30%	-15%	Luxembourg
Norway				7.6	7.6	7.6[6]	6.5	7.0	5.8	6.9	6.0	6.8	6.8[6]	6.1	6.9	-20%	-20%	Norway
Sweden	9.7	10.7	9.1	8.7	8.8	7.3	6.7	6.5	6.1	6.1	6.0	6.6	6.7	6.2	6.0	-36%	-30%	Sweden
USA	19.2	18.4	16.4[4]	16.4	15.4	15.8	15.5	15.9	15.8	15.7	15.3	15.3	15.2	14.8	14.9	-23%	- 4%	USA

In 1988 Austrian drivers suffered more accidents than Americans. By 1992 Austria became a leading expert in implementation of this now proven driver training process. By 2001 Austria reduced accidents by 33% compared to 4% in the Untied States during the same period. With a population of approximately 80 million German drivers now experience 50% fewer fatalities per 100k licensed drivers when compared to the US (not shown on table above), and they reduced accidents overall by 36% compared to 4% in the United States. Note, all of the countries noted in the table have strict licensing regulations e.g. GDL (graduated Drivers License programs) when compared to the United States, but they still suffered high rates of accidents. Their statistics and many studies available in Europe indicate that their now proven training process has in fact reduced auto accidents substantially.

This driver training solution has already provided health and monetary benefits to communities across Europe. By providing these programs in the United States a potential exists to save tens of Billions over time and improve the health and well being of citizens in cities (districts) nationwide. We must act now and make these changes!

List any other organizations or state/local elected officials who have expressed support for the project in writing. (Please submit copies of support letters along with the proposal.)

Please review attached files:

1. Exhibit "A" Statements made by endorsees from our website (see below)

2. See attached: recent article pertaining to DriveRSTC in Autoweek Magazine (or go to, http://www.autoweek.com/assets/pdf/AW_TEEN_08.pdf).

3. **Note:** State Senators Leland Yee (8th District) and Joe Simitian (11th District) are currently reviewing our empirical data and related papers

Does the organization have any other funding requests for this project? (Federal, State, Local or private pending?)

No

Has the organization previously received Federal funds for this project? (Please list any funds received [by fiscal year] and briefly describe how those funds were spent.)

No

Please attach a list of your organization's staff and board members (if any)

Robert J. Cole **CEO**
Hi-tech 10 years, and retail automotive industry experience 22 years (including 8 years as dealer). 5 years researching RSTC authored white paper: *United States Driver Training a blueprint for the future*

Clifton Wong **CFO**
Financial officer experience includes public and private companies during a career spanning 24 years in the technology industry

Robert Thompson **VP and Director of Marketing**
Extensive experience in marketing, print, and packaging profession (Clients: Virgin, Restoration Hardware, Levi, Banana Republic, GAP)

Marland Townsend **Director Board of Directors**
Former Captain USS Kitty Hawk, founded elite US Navy flight school Top Gun, former mayor Foster City, board member league of California cities, and chairman of the Bay Area Air Quality Management District (extensive experience city, state and federal government)

Development partnerships

Dr. Jorg Shoener **Civil Engineer RSTC operations expert**
CEO of two leading RSTC facilities in Germany. Extensive Road Safety Training Center operations experience. Located in Germany (will join DriveRSTC in the US).

Felix Common **Civil Engineer (strategic partner IngenAix)**
Founder and Managing Director IngenAix Participated in design and development 24 RSTC centers (IngenAix – exclusive development partner to DRIVE RSTC INC) Located in Germany

Please attach any additional relevant materials.

White Paper entitled, "United States Driver Training: A blueprint for the future"

This paper was written and published by DRIVE RSTC, INC. co-founder, Robert J Cole. The purpose of this paper is to explore the differences between driver training practices that have been successfully applied throughout Europe compared to programs provided in the United States, and to clarify the misconceptions as to the dangers and benefits of these programs. Ultimately, the goal of the author is to raise awareness to the fact that a solution exists that will benefit Americans, and that we need to investigate how to implement this solution here in the United States. This paper also references numerous studies conducted by many countries that verify the efficacy of these programs (see paper attached, or go to: http://www.driverstc.com/private/research.html).

OSHA / NETS / NHTSA White Paper entitled, "Guidlines for Employers to Reduce Motor Vehicle Crashes." "Every 12 Minutes someone dies in a motor vehicle crash, every 10 seconds an injury occurs. Many of these incidents occur during the workday or during the commute to and from work. Employers bear the cost for injuries that occur both on and off the job. Whether you manage a fleet of vehicles, oversee a mobile sales force or simply employ commuters, by implementing a driver safety program in the workplace you can greatly reduce the risks faced by your employees and their families while protecting your companies bottom line" This paper also includes a worksheet developed to use traffic accident statistics to show businesses owners how auto accidents can negatively effect their bottom line (see white paper attached, or go to: http://www.driverstc.com/private/research.html).

For further information please visit our website: www.DriveRSTC.com

Exhibit "A"
Endorsement examples

The following quotes were submitted to DriveRSTC.com via our website, or sent directly to us. There are many more heart felt quotes and 133 endorsements.

"As a practicing officer of the law, I'm all too familiar with the incidence and severity of auto-related deaths, especially among young drivers. DriveRSTC provides a valuable experience for drivers of all ages, but especially those just gaining skills and confidence."
James McCoy CA (Officer, SFPD)

"With proven efficacy in Europe, these training facilities are known to reduce auto-related deaths and prepare young drivers to handle dangerous road situations safely. I believe DriveRSTC facilities will be an asset to any community."
Linda Koeling CA
Former Mayor, Foster City, CA and Owner, Kids Connection Elementary School

"I had intentions of my three kids (7,5,4) attending racing school to help them learn car control BEFORE they get their license. However, this looks to be even more intelligent choice. The US drivers are woefully under-educated on driving. I learned car control illegally and inappropriately in parking lots mostly in the snow. We need RSTC. It only makes sense."
James Phillips OH

"I own a private driver training school and this is the exact type of training I would love to be involved with to provide the ultimate in driver training and also I agree the present form of training does not get it done, and we need a different approach. I would love to discuss this concept with some one. I have down loaded the White Paper article and find it totally fascinating. Please contact me with more info. Thanks, Bob Gillmer Driver Training Services."
Robert Gillmer PA

"I was at one time certified to reach Drivers Education in NH, however after the training I realized it was merely teaching students to pass another test and had nothing to do with them learning what should be and could be learned in the DriveRSTC program. And, I have a 15 yo son and 13 yo daughter that I would love to see experience the training. Heartfelt thanks for your (and Autoweek's) efforts for something I've dreamed of for many years.
Peter Knight NH

United States Driver Training

A blueprint for the future

Applying proven driver training practices to save lives

By: Robert J. Cole

rcole@DriveRSTC.com

Completed: 3-25-2008

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SUMMARY

This paper focuses on the implementation, development, and effectiveness of European advanced driver training programs. These programs are taught in scientifically engineered track environments that use slippery surfaces to reduce tire-to-road friction for the purposes of teaching vehicle maneuvering techniques safely. Types of maneuvers conducted during training include over-steer and under-steer, emergency evasion and lane change, braking, and slide control among others. Throughout this paper this form of instruction is referred to as Slippery Track Training ("STT"). Key points:

1. US driving-related deaths total over 40,000 annually.

2. European countries that have successfully implemented STT have drastically reduced driving deaths such as Finland. As indicated by the "DAN Report 2000", which states; *"The general accident statistics also show that the total number of accidents decreased by 22.6% between 1989 to 1995, from 100,996 to 78,211 accidents. The pre- and post-renewal groups were compared..."*[1]

3. STT is now mandatory in many European countries. This began in Luxembourg 1995-96, and further reductions in accidents occurred as a result. As indicated by the "DAN Report 2000", which states; *"The 34.3% improvement of fatal accidents for novice drivers, before and after the second phase training started in 1996, is a statistical fact."*[2]

4. Certain groups in the United States such as vehicle insurance providers have actively resisted supporting STT practices because the misconception exists that they are unsafe.

5. Claims in the United States that STT is unsafe are based on outdated research conducted in Norway in 1988 (Glad 1988)[3].

6. The appropriate improvements and safety measures have been applied to the old standards referenced in the Norway study (Glad 1988), resulting in measurable results and success across Europe.

7. The United States has not yet implemented the new European safety measures with regard to STT programs taught here in the US and thus, the misconceptions continue.

8. The purpose of this white paper is to explore the differences between STT practices that have been successfully applied throughout Europe compared to STT programs provided in the US, and to clarify the misconceptions as to the dangers and benefits of these programs. Ultimately, the goal of the author is to raise awareness to the fact that a solution exists that will benefit Americans, and that we need to investigate how to implement this solution here in the United States.

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[1] DAN Report 2000 page 76
[2] DAN Report 2000 page 147
[3] Glad, A. (1988). Driver Training Phase 2 – Effects on Accident Risk. Oslo, Institute of Transport Economics

INTRODUCTION

Research clearly indicates that certain regions in Europe have dramatically reduced motor vehicle accidents due to mandatory STT. Conversely, this form of training is highly criticized in the United States for producing unintended results that have likely lead to an increase in vehicle accidents due to driver error. Our research indicates that the training can be safely and effectively taught here using the learning's from successful operations in Europe. Why is this important? In the United States, Motor vehicle crashes claim nearly 43 thousand lives, cause nearly 3 million injuries, and cost Americans $230 billion annually according to various federal government sources. According to the American Automobile Association, a person is injured every 12 seconds, or dies every 12 minutes, due to motor vehicle accidents in the United States. Tragically, among these accidents, approximately 300 thousand teenagers are injured and 6 thousand killed annually. Every potential solution to reduce these statistics must be explored. According to the Centers for Disease Control (CDC):

"The number one cause of death in the United States in the 16 to 19 age group is auto accidents."

How does the US rank compared to the rest of the world with regard to motor vehicle accidents? Kevin Wilson, in his recent Autoweek Magazine article entitled "Licensed to Die – American driver training and licensing don't measure up to world standard," (the text is available at www.Autoweek.com), states: "While our safety agencies have focused on vehicles, technology and litigation, other countries have zeroed in on the cause of most crashes: drivers. Through education and rigorous law enforcement, they've improved driver behavior and driver performance, yielding far greater gains in traffic safety than we've attained."

According to Leonard Evans in his authoritative book "Traffic Safety", in a chapter entitled "The Dramatic Failure of U.S. Safety Policy." (the text is available at www.scienceservingsociety.com), it states; "with regard to reducing motor vehicle accidents, Australia, Canada, Denmark, Finland, Norway, the United Kingdom, the Netherlands, Sweden and Switzerland all went from trailing the United States to leading it," Mr. Evans goes on to say, "In 2005, the US recorded 43,443 traffic deaths, the highest total in 15 years. Sweden recorded 440 – their lowest total since the 1940s. Among US states with smaller populations than Sweden, 23 recorded more deaths than Sweden, 11 more than twice as many, and one (NC with 1,534) more than three times as many."

Most experts agree that implementing effective, but stringent, European traffic regulations in the United States is unrealistic due to cultural expectations. Some options would include increasing the age to obtain a learners permit from 16 to 18 in the US, or increasing traffic fines to very high levels. However, there are elements of European driver "education" that can be brought to the United States, specifically STT. This paper explores how these programs can help reduce accidents in the US by improving driver behavior while not adversely affecting our civil liberties.

CONTEXT OF SLIPPERY TRACK TRAINING

European Slippery Track Training is now mandatory in countries such as: Austria, Estonia, Netherlands, Sweden, Finland, Luxembourg, Switzerland, and Norway. However, in 1988 STT programs were nearly abolished throughout Europe. This was due to a particular study (Glad 1988), which revealed that Norwegian STT methods were increasing accidents post-training. The training emphasized technical mastery of driving skills (e.g. successful vehicle slide control) and as a result were dangerously increasing levels of confidence among student drivers. For example, an over-confident driver (predominantly male) had less incentive to slow down before driving a vehicle through a corner because a professional driving instructor taught him/her how to control a sliding vehicle. The result was an increase in single vehicle accidents. It was not until the study (Glad 1988) was conducted that evidence clearly indicated that STT as it was taught in Norway at that time changed the attitudes of drivers with negative results. Instead of abolishing the "Norwegian" form of training altogether, the Europeans realized that if behavior can be negatively changed perhaps it could be altered positively, as well. Beginning in Finland in 1990, a new STT training curriculum was successfully implemented. The new STT programs lead to measurable reductions in vehicle accidents by improving driver behavior. A shift to behavior modification rather than a skill based training curriculum was key. We will explore those changes and the results herein.

DISPELLING OLD MYTHS

The ***old*** Norwegian slippery track training methods are similar in many ways to those provided throughout the United States today. As a result, US based driver safety advocates, researchers, and journalists that write about this subject express concern regarding training provided by US-based STT schools. However, they incorrectly assume that training here in the US is similar to programs provided in Europe. Herein lies the root of the confusion and misconceptions that continue to be argued. European STT methods have evolved since the discoveries made in Norway in 1988, and new programs were implemented in Finland beginning in 1990. European studies on this topic refer to this transition as the **pre-renewal** and **post-renewal** eras. Post-renewal STT programs are literally 20 years ahead of the US with regard to research, development, and successful implementation. These programs have reduced accidents attributed to driver error in measurable ways, and continue to do so. Post-renewal STT methods are fundamentally different by comparison to those taught in the Unites States.

The following are examples of the shortfalls of US-based STT that were addressed within the Post-renewal transition in Europe over 20 years ago; In the US, driving instructors have no effective ways to measure a student's actual skill level when driving. This is due primarily to the use of uncontrolled and unpredictable training environments such as parking lots. Without a purpose-built driver training environment, US instructors can not enable students to loose control of their vehicles safely, and repetitively. They also can not predict the threshold of control for any given vehicle consistently. Without the ability to know the speed at which a vehicle will reach the threshold of control, instructors lack the primary benchmark required to analyze driver

skill. Moreover, students themselves have no effective way to analyze their own mistakes, which cause a loss of control during training maneuvers. Due to the unpredictable training environment, instructors in the US are forced to focus training on mastery of driving skills as the benchmark. According to research this simple but critical fact leads to accidents (Glad 1988).

The aforementioned Post-renewal training methods developed in Europe address the shortfalls of "skills" based training. They are proven effective as indicated by numerous studies noted herein. This paper explores the differentiators between US and European STT philosophies. Specifically, we will explore changes made by the Europeans during the early 1990s that lead to mandatory STT for all newly licensed drivers in many countries beginning in Luxembourg 1995-96. Both the compulsory and mandatory Post-renewal programs lead to significant reductions in motor vehicle accidents. A European Community study completed in 2000 entitled "The **D**escription and **A**nalysis of Post Licensing Measures for **N**ovice Drivers ("DAN Report") states:

"The 34.3% improvement of fatal accidents for novice drivers, before and after the second phase training started in 1996, is a statistical fact."[4]

THE EVOLUTION OF ROAD SAFETY TRAINING CENTERS - TO GET RSTC YOU MUST UNDERSTAND THE HISTORY

To understand how the European STT solution evolved and how it can be applied in the United States, we begin by reviewing its history and in particular why a purpose-built driver training center is necessary to support the new training curriculum. Modern European Road Safety Training Centers (RSTC) evolved beginning in Vienna, Austria in 1984. These facilities are commonly referred to as RSTC. They were developed by a company known as Test & Training GmbH (T&T) in cooperation with Austria's leading Automobile-club Österreichischer Automobil und Touring Club (ÖAMTC). The OAMTC is the Austrian equivalent of the American Automobile Association (AAA). T&T and the OAMTC operate 10 centers throughout Austria.

RSTC facilities and related STT methods have been developed, refined, and researched during the past 20 years. However, no such facilities exist in the US. Therefore, training methods with proven efficacy do not exist here, and neither do the results. The design of these centers and the technology involved to run them is highly developed to support methods known to measurably reduce motor vehicle accidents by changing driver behavior. There are three primary phases of development leading ultimately to the combination of new STT methods taught at RSTC facilities beginning in approximately 1979:

- Pre-Renewal of methods Phase I (1979 – 1990) - European STT fails (Norway)
  - Note: US driver training is in this phase

[4] DAN Report 2000 - page 147

- Post – Renewal of methods Phase II (1984 – 1990) - European RSTC transition
- RSTC becomes mandatory Phase III (1995 – present)

DETAILED EXPLANATION OF EACH PHASE

Pre-Renewal of methods Phase I (1979 – 1990) - European STT fails (Norway)

In June 2007, the European Commission published a report entitled "Supreme - *Thematic Report: Driver Education, Training & Licensing*" in *Summary and Publication of Best Practices in Road Safety in the Member States.* This report reviewed the best practices in driver education and training throughout Europe. It states:

> *"In 1979 a 2 - phase driver training program was introduced in Norway. The post - test 2nd phase of training consisted of 3 courses: a defensive driving course (classroom), a slippery surface track training and a course on driving in the dark. The track training was designed to allow the novice drivers to practice emergency maneuvering. An evaluation in 1988 revealed that novice driver accidents had significantly increased as a result of the training. The increased accident risk is attributed to overconfidence, especially amongst male drivers, following the skills - based training. The training was then changed to focus more on risk awareness and hazard perception. The phenomenon of increased risk taking following skills based training has been replicated in several studies and has implications for all jurisdictions with track based training for learner / novice drivers."*[5]

The **"old"** Norwegian Slippery Track Training practices focused on technical mastery of driving skills. Loss of control of vehicles by students was considered unpredictable, dangerous, and as failure. While loss of control occurred, instruction techniques emphasized successful mastery of skills just like they do today in the US. Research determined that mastering vehicle control is not as important as understanding the psychology involved that motivates the driver. For example, this form of training did not provide awareness as to the consequences of wrong decisions made by drivers. The training did not make an impression as to the physical limitations of the vehicle, or help the participant understand their own limitations. As noted above, this form of training produced over confidence predominantly in young males who left training feeling like they could handle dangerous situations. It was later determined that this form of training actually reduced confidence in some drivers (predominantly females). This was due to increased fear during training maneuvers. Both situations lead to an overall increase in accidents attributed to driver error. What was needed was a way to identify the actual skill level of drivers and align there confidence with their capabilities. As described in the "DAN Report 2000," which states:

[5] Supreme - Thematic Report: Driver Education, Training & Licensing – page 90

"Skills for vehicle maneuvering and mastery of traffic situations are the basis for successful operation in traffic and these aspects should be learned well during driver training. Psychomotor and physiological aspects are important as basic requirements for operations at the lowest levels of the hierarchy of driver behavior. However, these skills are used under guidance of higher level goals and motives. The driver selects the style of vehicle maneuvering and the strategy in a certain driving situation according to his or her goals. This means, that in addition to the training of basic skills, driver training should be able also to deal with the higher levels in the hierarchy and take into consideration the driver's goals connected with driving and for example skills for dealing with social pressures during a trip. Driver's goals may have an effect on both, increase or decrease of risks.

A hierarchical approach to categorizing driver characteristics for the purposes of providing instruction was developed. As indicated below "Vehicle maneuvering," which was the primary objective in the Pre-renewal era (e.g. mastery of skills) is now at the lowest level of the instruction hierarchy. "DAN Report 2000," which states:

"Hierarchical levels of driver behavior (Adapted from Keskinen 1996)

1. *Goals for life and skills for living*
    a. *Importance of cars and driving on personal development*
2. *Goals and context of driving*
3. *Mastering traffic situations*
4. *Vehicle maneuvering*
    a. *controlling speed, direction and position*

"The idea in a hierarchical approach is that ***failure as well as success*** *at higher levels affect the demands on skills at lower levels. A person's general goals for life and the means for satisfying these (e.g. developing one's identity with car- and driving related activities), as well as a person's general skills for life (e.g. self control) can be considered as the highest level in the hierarchy. For example, a young male driver, who is very enthusiastic about cars and driving, and focuses on these interests as a central way for building up his identity will also select his driving context according to this motivational orientation. This will have an effect on the second level (goals and context of driving) as certain qualitative properties of exposure such as night-time driving with friends where the driver is looking for opportunities to show off. This inevitably affects the demands and selection of internal models for mastering traffic situations. The strategy might be for example to maintain as high speed as possible in all situations. High speed driving, then increases the strain on the information processing with the risk of overloading the processing capacity and this may in turn lead to misjudgments or other mistakes in traffic situations. With a high speed also the demands on vehicle maneuvering increase.*

Another example could be a driver with a safety oriented strategy and a neutral approach to driving. This kind of motivation very likely leads to moderate

speed and perhaps even to a decision not to drive. These kinds of processes could easily be imagined to be present in e.g. female drivers with little experience in driving or elderly drivers. When the driver feels worried about his or her skills for coping in difficult road-conditions and is willing to maximize safety, and at the same time has no ambitions connected with driving, i.e. a decision not to drive or driving with a low speed is not considered as a loser's strategy, a safe way of operation is easily adopted. This leads to a less demanding driving task at the lower levels of the hierarchy and the result will be a safe trip, even though the absolute skill level for e.g. maneuvering may not be perfect.

When viewed from this perspective, it is rather easy to understand why several attempts to improve safety by improving skills at the lower levels of the hierarchy (vehicle handling skills on slippery road) have actually failed to decrease accidents (Glad, 1988; Christensen and Glad, 1996), exclusive vehicle handling skills of race-drivers are connected with high number of accidents (Williams and O'Neill, 1974) or that some groups benefit from training to master slippery road-conditions and other groups obtain a negative effect from it (Keskinen et al 1992; Katila et al.1996). If increased skills, or even worse, imagined increase in skills (Gregersen, 1996a) are used to satisfy needs for maintaining as high speed as possible, the results are very likely to be negative. If the motivational level fails to produce a safe strategy for driving, no level of skills in mastering traffic situations or vehicle handling is high enough to compensate for this lack of safety orientation and to result in greater safety."[6]

Post – Renewal of methods Phase II (1984 – 1990) - European RSTC facility transition

Due to the research conducted in 1988 and coinciding with RSTC facility development begun in 1984, a fundamental shift occurred with regard to STT training techniques beginning in Finland in 1990. Methods were completely redeveloped, and training facilities such as RSTC became necessary to support these new methods. The goal was to change the attitudes of drivers so that they develop a safe driving strategy every time they drive a motor vehicle on public roads. To satisfy the requirements of the new hierarchal approach developed to improve driver behavior it was determined that "new" STT techniques must focus on providing a student driver with insight into their actual skill level versus their self estimated skill level. The new training curriculum must increase awareness as to how their actions affect vehicle dynamics, and provide insight into the mechanical limitations of any given vehicle. The training must help students learn to anticipate dangerous situations to avoid trouble. Accomplishing this required a training environment where students could safely loose control of their vehicles on their own. This would enable students to experience the consequences of their mistakes, and learn to manage dangerous situations should they occur. The environment must also enable instructors to analyze student performance before, and after, the threshold of control is reached. Though it is not specifically stated in European research papers, it is commonly known in countries such as Austria that RSTC facilities provided the ideal

[6] DAN Report 2000 – pages 19-21

format. As indicated by the "DAN Report 2000" regarding the "Finnish driver training renewal of 1990." The report states;

> *"A new two-phase driver training curriculum was introduced in Finland in 1990. At that time the increase in accidents of the Norwegian two-phase system was already known (Glad, 1988)[7]. The focus of the Norwegian model was on improvement of skills for driving in difficult road-conditions. In Finland it was decided already from the outset to make a totally new curriculum, not only to add a second phase after the old training."* Additionally, *"The aim of the new curriculum was to develop driver skills in such a way that the emphasis should not be mainly on technical driving and vehicle handling skills but more on higher level skills, e.g. anticipating."*[8]

THE RSTC SOLUTION - LEARNING BY DOING IS KEY

The changes made in Finland (1990) represent a radical shift away from training techniques similar to those available today in the United States. This is a fact that US-based researchers, driver safety advocates, and journalists consistently misinterpret when reviewing European research. The key to understanding the differences in training philosophies between US and European methods requires an understanding as to how purpose built training facilities such as RSTC are used to support unique STT programs. This combination has resulted in a paradigm shift in driving culture to one of awareness when behind the wheel versus complacency, or over-confidence.

Road Safety Training Center driver training modules are developed specifically to support a controlled, measurable, and failure-safe driving environment (for examples please refer to figures 1 and 2 below page 12). These modules enable a training curriculum to be shifted from a **"mastery of skills"** format to a **"failure-success"** based format. People learn through failure in school, in athletics, or while learning to play an instrument for example. Learning how to align confidence with actual skill level during dangerous situations is no different. Flight instructors require trainees to fly and land airplanes "dead stick." This is a process where an instructor shuts down the engine during flight. The student must adapt to the situation and manage the gliding airplane. Altitude provides the time to address the situation, and professional observation enables safe simulation of hazard. The student has a chance to make mistakes and learn proper procedure in a realistic way. In essence, the process helps to align the trainee's confidence with their actual skill level. Once the instructor understands the level of a student's actual skill instruction can be applied effectively. A similar process was needed with driver training, and this is what the Europeans have developed with their Post-renewal STT programs and modern RSTC facilities.

All RSTC driving modules are designed to provide a safe environment to lose control of vehicles. This was accomplished by developing unique road surface materials and sophisticated water management systems combined with civil engineering methods

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[7] Glad, A. (1988). Driver Training Phase 2 – Effects on Accident Risk. Oslo, Institute of Transport Economics

[8] DAN Report - page 71

that have evolved over time. Software was developed to control every aspect of the training environment. A new training format was conceived whereby instructors manage driver participation from control towers while maintaining contact with students using radios placed in vehicles (instructors do not ride in vehicles). This enables the drivers to make mistakes and overcome them on their own, and improves the ability of instructors to analyze student behavior. While photographs of an RSTC facility may look similar to programs taught in the US, further investigation reveals that they are radically different. For example, water is used in three ways (this can be seen in figure 2, page 12 below);

- First – unlike orange cones used by US schools, water is used to form surprise obstacles that remain in the driver's line of sight during an exercise. This provides visual feedback.
- Second – water obstacles provide safe audible feedback when hit signaling to the driver that he, or she, made a mistake.
- Third – water is used in combination with proprietary road surface materials specifically to reduce the threshold of control of a vehicle to safe speeds.

All elements and components of each driving module work in unison to provide a controlled and measurable training environment that is predictable and safe. No matter what speed, weight, and momentum combination of any given vehicle—semi-tractor trailer, passenger car, mini van, or bus when driven through an RSTC training module the instructor knows the speed at which that vehicle will lose control – every time. It is physically impossible for a driver to control a vehicle in the RSTC environment past a certain point (i.e. the threshold). The threshold of control for the vehicle becomes the benchmark that the driver's skill is measured against. Computer systems are used to monitor and measure the driving environment. Other elements involved (such as water, road slope, and slick surface materials) work in unison to reduce the "threshold" of control not only to a safe speed, but in ways that reduce the forces exerted on the vehicle while extending the period of loss of control. Extending the period after loss of control, safely, provides the student extra time to absorb the experience.

Despite repetitive loss of control, training is absolutely safe. Every competent involved with each driver training module is safety oriented and ample runoff space exists in each driving module to enable sliding vehicles to come to a safe stop. Vehicles literally slide and spin for many seconds, similar to losing control in winter conditions. The experience is analogous to the aforementioned flight school training.

As a result of the new training environment and failure-success based training process, drivers with lower confidence become less afraid and begin to focus on what they did wrong instead of their fear as indicated by the "DAN Report 2000," *which states;*

> *"An increase in confidence in one's own skills for driving in slippery road conditions and lower experienced risk became evident in the second questionnaire among the female drivers."*[9]

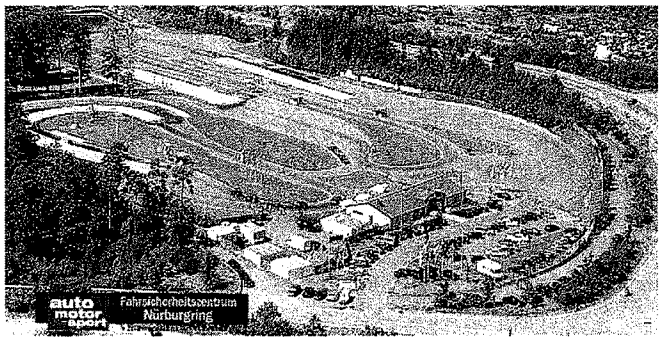
[9] DAN Report – page 81

Drivers with over-confidence realize just how easily the threshold of control can be reached. In both cases, the students begin understand that they are not invincible, especially male drivers. As indicated by the "DAN Report 2000," which states;

> "*The post-renewal male drivers were not as confident about their vehicle handling skills and their ability to operate in dangerous situations as the pre-renewal drivers. This kind of evaluation could also imply a safer and more cautious driving style.*"[10]

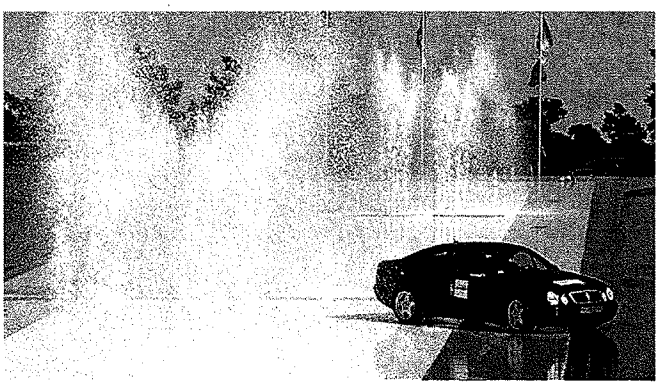
Knowing the threshold and controlling the environment enables instructors to provide a failure-success based training process that increases awareness among students, but the key to successful impact with students is that they must learn-by-doing.

Figure 1 - Aerial view of RSTC facility located in Germany



From this perspective, the various driving modules can be seen such as: cornering, braking, lane change, and aquaplaning. The white strips represent slippery surface material painted on the course

Figure 2 - Driving module view of an RSTC located in Germany



From this perspective, some of the various components involved to create the failure-success based training can be seen such as: water obstacles, slippery surface material, and engineered road slope.

THE PSYCHOLOGY BEHIND RSTC (POST – RENEWAL CURICULUMN)

A typical Phase II RSTC program begins with the instructor pushing students past the threshold of control in a completely safe manner. By design, loss of control occurs sooner and at slower speeds than the student anticipated. The period of loss of control

[10] DAN Report – page 80

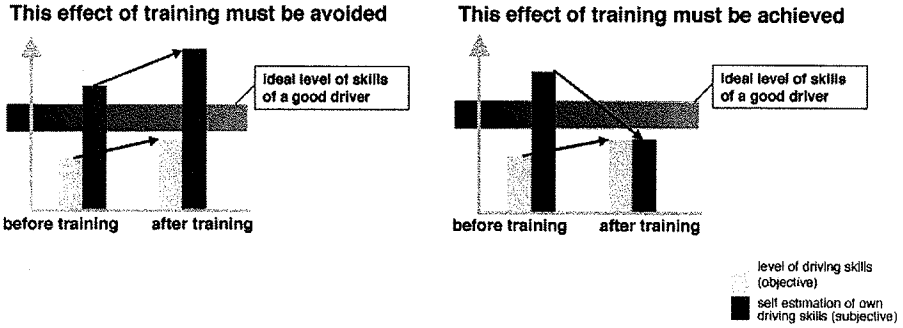
lasts much longer than anticipated. The instructors make it difficult for the student to actually control their own vehicle by manipulating certain aspects of the driving environment. This does a number of things effectively. Over-confident students become challenged to succeed. They literally must learn how to gain control of their own vehicle. This requires training. Because the instructors know the actual threshold speed for any given vehicle, and because they are not riding in the vehicle, their ability to watch while a student drives through a module enables them to easily determine what mistakes are made. Instructors use the environment creatively to force students to make mistakes such as over-reacting, which sends their vehicle into an unrecoverable spin, as previously discussed all components of each RSTC driving module are designed to work in unison to ensure safe loss of control of virtually any vehicle. The RSTC process enables instructors to analyze mistakes made by students while taming their ego. Once the ego is tamed, the training truly begins. Soon students learn to control their vehicles properly because the instructors and the students themselves can analyze mistakes effectively.

As previously discussed an aspect of the **"old"** versus **"new"** STT programs includes increasing confidence among lesser confident drivers (predominantly female). Old STT methods such as those provided in Pre-renewal Norway and the US often frightened students. This form of training reduces confidence leading to situations where frightened student drivers over-react prematurely, and put themselves into unrecoverable situations. Post-renewal STT methods address this by enabling loss of control safely and in ways that enable a driver to understand the situation that resulted due to their actions. Soon students become comfortable with the aspects of handling loss of control. They learn not only how to avoid dangerous situations altogether, but more importantly why to avoid them. As indicated by the DAN Report 2000," which states;

> *"The learner driver shall, after the education, achieve increased insight in the advantages of avoiding risks and has the opportunity to realistically assess his/her driving skill."*

Moreover, they learn how to handle dangerous situations, if they occur, with confidence aligned with their actual skill level. The intended results of Post-renewal training are expressed the following graphic as indicated in the DAN Report page 228:

Example for a young male high risk driver



By enabling student drivers to experience the consequences of their mistakes, RSTC programs leave a lasting impression. The process provides students with tremendous insight into their limitations, and the limitations of the vehicles they drive. Through this process, students learn to align their self-estimated skill levels with their actual skill levels. They align their confidence with their learned skill sets. They develop a true respect for the potential dangers when driving vehicles based on the laws of physics, and they learn firsthand that these "laws" do not change no matter how much training they receive. They learn that there are limits, and that they are not invincible. Ultimately, they develop a strategy for safe driving.

Research as well as discussions with RSTC instructors suggests that as a result of RSTC training young drivers are more likely to pay attention while driving instead of talking on the phone. Teens that have attended these programs are less likely to ride in vehicles with drivers who they feel do not understand vehicle limitations. They are less likely to speed through corners. Specifically, they become aware of the consequences of their actions because they have experienced surpassing the threshold on their own with professional guidance (e.g. flight school).

As a result of the post-renewal programs, Norway went from a dismal accident rate with STT programs proven to be counter productive in 1988 to currently leading the US in reducing motor vehicle accidents attributed to driver error. Germany, Austria, Luxembourg, Sweden, Finland lead the US in reduced accidents in the same period as well. One significant and measurable reason is due to the fundamental changes that European countries made to their STT methods. A description of the pre and post renewal shift is explained in the "DAN Report 2000," pertaining to Swedish STT. It states;

> *"At the skid training, in which all applicants have to participate before they take the driving test, emphasis is laid on safety margins and risk awareness. The advocates of a revised form of skid training presumed that a skilled driver is not necessarily a safe driver. First the current skid training aims to avoid that drivers abuse the skills they acquire in the course, second the benefits of the training should not lead to over-estimation by the participants. In a Swedish experiment (Gregersen 1996) two different strategies for training were compared with regard to their influence on estimated and actual driving skills as well as the drivers' degree of over-estimation of own skills. One of the strategies was to make the learner as skilled as possible in handling a braking- and evasive maneuver in a critical situation. The other strategy concentrated on awareness of limits of own skills of braking and evading. The "skill group" estimated their skills higher than the "insight group" before their performance was measured in a test situation after the training. No difference was found between the groups regarding their actual skills in the test situation. The results confirm the main hypothesis that the skill training strategy produces more false overestimation than the insight training strategy, in this case even without any difference in actual skills. Recently this safety aspect has been introduced in the national curriculum for skid training and applied to most of the skid courses in Sweden. In the near future the curriculum for the Swedish skid courses shall be compulsory and binding for all*

training centres. In the following the change in curriculum is illustrated by quotations from the old and the new concept.[11]

Author's note: training that puts these skills at the top of the driver behavior hierarchy - should be avoided

*An example from the **old curriculum** for skid training:*
The candidate should, after the course, be able to perform the following:

- *Starting and acceleration braking on high as well as low friction surface*
- *Hard braking at a speed of 60km/h*
- *Hard braking and evasive maneuver*
- *Correct a skid when driving in a curve on low friction*
- *Choose appropriate speed according to the situation*
- *Master the special conditions that come with low friction driving and be prepared for suddenly occurring danger, for example kidding vehicles*

Author's note: The STT focus noted below is necessary to improve driver behavior. Training that supports this curriculum is currently not available in the United States:

*An example from the **new curriculum** for skid training :*

- *The education shall focus on demonstrating the difficulties involved in driving on low friction and the possibilities to avoid the risks involved in such driving.*
- *Car control skill aspects shall be limited and the risks combined with overestimation as a result of the education shall continuously be shown.*
- *The learner driver shall, after the education, achieve increased insight in the advantages of avoiding risks and has the opportunity to realistically assess his/her driving skill*[12].

PHASE II RESULTS – POST RENEWAL

After a few short years of analysis the results of the Post-renewal training process were clear. As The "DAN Report 2000" indicates regarding Finland:

"The general accident statistics also show that the total number of accidents decreased by 22.6% between 1989 to 1995, from 100,996 to 78,211 accidents." Further, "The pre- and post-renewal groups were compared regarding their accident risk. The number of drivers with accidents (data from insurance companies) was related to the number of license holders (official driving license register). The post renewal drivers had less accidents (χ2-test). The amount of 18-20 year old drivers involved in accident had decreased in both sex groups."[13]

[11] DAN Report 2000 – page 190
[12] DAN Report 2000 – page 191
[13] DAN Report 2000 – page 76

This indicates a direct and positive impact on young drivers. The success continued into the mid 1990s. Again as indicated by the "DAN Report 2000," which states;

> *"Implementation of compulsory training course in Comar Berg – Luxembourg Results: "The overall improvement for all fatal accidents and all age categories between 1993 and 1995 as well as the years 1997 and 1999 was 24.2 %, the second highest improvement (- 37.28%) was reached for the age category 18-24 years."*[14]

The programs continued to develop positive results through the 1990s and started to become mandated beginning in Luxembourg in 1995-96. As again indicated by the "DAN Report 2000," regarding Luxembourg, which states;

> *"The 34.3% improvement of fatal accidents for novice drivers, before and after the second phase training started in 1996, is a statistical fact."*[15]

RSTC becomes mandatory - Phase III (1995 – present)

Reductions in vehicle accidents due to post-renewal STT were measured and thoroughly documented during the 1990s in studies performed at facilities in numerous countries such as Austria, Luxembourg, Sweden, and Finland. Due to the positive results RSTC programs became mandatory for all newly licensed drivers beginning in 1995 in Luxembourg. Standards for facility quality control and instructor training requirements were developed and enforced. As indicated by the "DAN Report 2000," which states:

> *"The laws from 1995 and 1999 issued by the Ministry of Transport of Luxembourg fixed the quality regulations necessary for the dispensation of the second phase driver training. At the same time the government determined an auditing team to inspect the training facilities and the subject matter of the training. The instructors as well as the facility itself and the material taught have to be approved and certified by the national authorities. The following aspects are regulated in the quality management procedure:*
> 1. *Objectives and philosophy of the training*
> 2. *Duration of a complete training session (minimum 7hours)*
> 3. *Teaching units (subject, content, sequence and duration)*
> 4. *All details of the training units and the material taught have to be documented in operating manuals checked and certified by the authorities*
> 5. *Exact description of the tools (infrastructures, surfaces, buildings, vehicles, equipment, etc.) used to hold the training.*
> 6. *Location of the training facility*
> 7. *Safety areas and devices*
> 8. *Insurance policies*
> 9. *Modalities of the organization of the training*

[14] DAN Report 2000 – page 144
[15] DAN Report 2000 page 147

10. Education, formation and behavior of the instructors
11. Security register
12. From 1st January 2001, the organization of an authorized center and the offered training have to be certified in agreement with the ISO 9001 norms to assure the quality of the service."[16]

Many other countries providing STT have now made STT mandatory, and regulate standards in similar ways to those in Luxembourg. STT has obviously evolved since the negative aspects were discovered in Norway during the late 1980s, or these governments would not obligate their citizens to attend. Germany now has 60 centers operated by various companies including the leading German automobile club known as ADAC. The key word is "evolved." According to the aforementioned EC report *"Supreme - Thematic Report: Driver Education, Training & Licensing:"*

> *"As a result of the evaluation, the course was changed in Norway and has now been integrated into a single phase of training. The implications of these findings are, moreover, relevant to a number of other countries, especially those with obligatory track - based training modules for learner and novice drivers, such as: Austria (2nd phase), Estonia (2nd phase), Netherlands (RIS), Sweden (initial phase), Norway (initial phase), Finland (2nd phase), Luxembourg (2nd phase), and Switzerland (2nd phase)."*[17]

EFFECTS OF MANDATORY RSTC FOR NEWLY LICENSED DRIVERS

As indicated above, Road Safety Training Center design and development was pioneered in Austria beginning in 1984. As such, Austria has played an integral roll in the development and application of "Post-renewal" Slippery Track Training methods. Even though RSTC facilities have been part of the driving culture in Austria for over twenty years, these programs were not mandatory there until 2003. Studies performed by certain government bodies such as the Austrian Ministry of Transportation indicated that the leading cause of accidents among teenage boys in their country was in fact single car accidents. This high-risk age group of 18 to 20 year old males was also less likely to attend compulsory programs as they believed that they did not need such training (e.g., over-confident). The best way to address this issue was to mandate STT programs taught at RSTC facilities. This is exactly what the Austrians did. The decision was prompted by a country wide road safety plan established in 2002, which includes objectives such as reducing all motor vehicle accidents in Austria by 50% by year 2010. As described in a report entitled, "Austrian Road Safety Programme" edition 2004, which states:

> *"The Austrian government introduced in January 2002 an extensive road safety programme that establishes the following target: to halve the number of deaths by year 2010."* Further, *"By the year 2010, this programme should contribute to the eventual reduction of road fatalities by 50% and the reduction of injury accidents by 20%. By carrying out the described measures the target of*

[16] DAN Report 2000 – pages 215-216
[17] Supreme - Thematic Report: Driver Education, Training & Licensing – page 92

reducing fatalities by 25% and injury accidents by 10% should be reached 2004."[18]

The results of the new mandatory training were measured in a resent study by BARTL & ESBERGER Institut Gute Fahrt, Vienna (2005): entitled; *"Multi-phase driver licensing - first analysis of effectiveness"* The study states:

"The multi-phase driving license (second phase training) was introduced in Austrian law in early 2003. All learner drivers must thus complete a safe driving course, psychological group discussion and two feedback drives with a driving school in the first year after gaining the license. After a hesitant start – the first safe driving courses only began in the summer of 2003 – the first full observation years of 2004 and 2005 for 18 and 19 year old novice drivers can now be considered.

The multi-phase license is described in law as 'second phase training' (§§ 4a, 4b und 4c FSG). This is understandable from a legal perspective as the basic training has long been legally determined and now a further phase has been added after obtaining the driving license. The term 'multi-phase driving license' is, rather, the one used by traffic experts because this conveys the idea of continuous ongoing training through several modules which provide a harmonious and seamless continuum. In no way should the new multi-phase driving license be considered solely an 'annex' to initial training.

The focus of the present analyses is on traffic accidents with personal injury in a before-after comparison and in comparison to all other age groups. A process evaluation in the form of a feedback analysis is also included.

Context of the multi-phase driving license

The question as to whether any post-license measures could reduce accidents (and if so, which) was first comprehensively documented and analyzed in the EU DAN Project – Description and Analysis of post licensing measures for Novice drivers (Bartl, 2000a).

Obligatory 'anti-skid training' for learner drivers in the 1980s actually led to an increase in skid-related accidents, as Glad (1988, in the DAN Report) revealed. An obligatory technical driving course in Luxembourg was analyzed as part of the DAN Report and no accident-reducing effects could be found. In contrast, a combination of practical driving exercises and demonstrations on a driving track, a feedback drive in regular traffic and a psychological self-evaluation of one's own driving style led to an accident reduction in Finland in the 1990s (Katila et al., 2000, in the DAN Report, p. 80).

[18] Austrian Road Safety Programme" edition 2004 – pages: 3 and 5

The initial basis of the Austrian multi-phase training for categories A and B can thus be traced to the successes from Finland. Worthy of particular mention is the two hour traffic psychology group discussion which is combined with the six hour safe driving course in order to stave off any potentially negative effects from the latter training, and to form a common unit as laid down in § 4a Abs.4 FSG and § 4b Abs. 2 FSG of the multi-phase law. Exercises which could lead to overconfidence in one's abilities should be avoided (§ 13b Abs.1 FSG-DV).

The exact training requirements for the driving teachers, safe driving instructors and psychologists are also laid down in law. The two hour feedback drives also include discussion. The first feedback drive takes place between two and four months after obtaining the license. This feedback drive is not required for learners following the more comprehensive L17 driver training programme. The second feedback drive takes place between six and twelve months after the license. The combined safe driving course and psychological group discussion take place between the third and ninth month. Failure to attend these modules results initially in reminders and extended probationary period and ultimately to withdrawal of the license.

The law was passed in the summer of 2002 by all 4 political parties in parliament."

Mandatory Multi-phase driver licensing results in Austria according to the study (BARTL 2005):

"2135 18 and 19 year old car drivers were involved in accidents causing personal injury in the first half of 2003. In the first half of 2005, this figure was only 1896. This is equivalent to a reduction of 11.2%."

Discussion of the results

The objective of the multi-phase driving license was to combat the number one killer of young people – the traffic accident. In order to reach this goal, the content of the multi-phase training needed to be made in such a way as to reduce the frequency of the most common accident type in which young people die – the single-vehicle accident. In 2002, 64% of road fatalities amongst 18-24 year old drivers were single-vehicle accidents; in 2004 this figure was only 54%. This can be cautiously considered as an indication of the effectiveness of the new measures. In any case, the traffic psychologists are obliged, according to the law (§13c FSG-DV), to address the causes of single-vehicle accidents, such as collisions with trees, etc, in the group discussion, and to work towards developing strategies to deal with such situations. Indeed, it can be seen as a paradox that such a simple traffic situation as driving on an empty country road - which almost every novice driver has mastered after only a few hours of driving – actually represents the most deadly traffic situation. Clearly, by addressing this theme in the psychological component, and indeed more and more in basic training too,

there can be an accident-reducing effect. This change within accident types is a poignant one, independent of the number of driving licenses issued."[19]

STATE OF STT IN THE UNITED STATES

The United States is literally 20 years behind Austria, and all other countries that learned from the mistakes made in Norway during the pre-renewal era, and successfully implemented STT programs that require RSTC facilities during post-renewal era. No such facilities exist in the United States. Therefore, the positive results do not exist either.

Current US STT programs are alarmingly similar to those taught in Norway during the pre-renewal era in that they emphasize mastery of driving skills as described above in the sections entitled "Context of Slippery Track Training," and "Pre-Renewal of methods Phase I (1979 – 1990) - European STT fails (Norway)." Further, STT services in the United States promote a high performance image. The instructors typically have a high performance driving background. In many cases race car drivers are teaching the American teenage population how to master driving techniques such as slide control. This promotes over-confidence (Glad 1988). Every parent certainly will realize upon grasping this concept that it represents a recipe for disaster for young drivers. As research indicates; a highly skilled driver is not necessarily a safe driver.

In the US, our instructors of novice drivers are primarily parents. In countries such as Sweden, Austria, Luxembourg, instructors are government-certified as driver training specialists. In the US STT programs rely on watered down parking lots for a training environment. RSTC programs rely on a highly controlled and specialized training environment designed for failure safe driving, and to measure driver skill levels. In the US, a driver learns about vehicle dynamics on public roads - usually when things go wrong, and eminent danger is present. At RSTC, in Europe the same driver can learn about vehicle dynamics and how to control his/her vehicle safely in dangerous situations with confidence aligned with actual skill. When something goes wrong on public roads he/she has a much better chance of surviving. Better yet, the awareness and insight that each driver obtains through a **failure-success based training process** will help them avoid an accident all together. This is what research such as the DAN Report verifies. Authors and members of steering and scientific DAN-committee who contributed to the DAN Report referenced throughout this paper include 10 psychologists, 1 engineer, 1 political scientists, 1 sociologists, and 2 Jurist Dr. of Law. The DAN Report references numerous additional studies and reports conducted during the past two decades. Many of these studies include before-after test groups to determine the effectiveness of pre versus post renewal era STT. The results are conclusive. These programs are saving lives by improving driver behavior.

[19] BARTL & ESBERGER Institut Gute Fahrt, Vienna (2005) - Multi-phase driver licensing - first analysis of effectiveness – page 10

CONCLUSION

The United States must apply the RSTC solution to reduce accidents – now!

The countries that deemed Slippery Track Training ineffective in Norway during the late 1980s (Glad 1988) are the same countries that now mandated this training, including Norway. They are saving lives in Europe with STT. This is a "statistical fact." However, this fact is not expressed by US based driver safety advocates, researchers, or journalists who write about the STT subject. They frequently sight the aforementioned European studies without explaining the evolution of the training between the pre and post renewal periods. They do not explain the results, or the fact that this training is now mandatory and why. They take the position that all STT no matter what methods of training provided are counter productive. The problem with this assumption is that it requires that all STT programs are identical in nature. Clearly this assumption is incorrect. The confusion appears to derive from a lack of proper interpretation of the RSTC solution and post-renewal STT methods by US experts. As a result they do not understand how to interpret the European research. Further complicating matters is the fact that after 20 years of development, European RSTC programs are now an integrated part of driving culture within the countries that implemented such practices. As a result their research assumes that the reader understands the solution. Detailed descriptions of the process are omitted. This makes understanding the finer details as to differentiators between US and European STT programs difficult to asses. Language barriers also exist. However, many reports completed in Europe are now translated into English. This paper is written with the main purpose of clarifying the Post-renewal solution. As the author of this paper it should be known that I am involved as co-founder and managing director of a company founded to bring RSTC to the United States. The purpose of this paper is to clarify that a solution exists, and to put that solution into proper context by leveraging extensive research and hard data combined with a lay summary explanation. The goal is to help parents, teachers, politicians, law enforcement, employers, and driver training experts alike begin to understand that all Slippery Track Training is not alike, and that there is a path to successful improvement of driver behavior before us to reduce the number of road deaths in the US.

Fortunately we have *a blue print for the future of driver training in the United Sates,* in the forms of RSTC and post-renewal STT method development. The US can catch up quickly, but only if the powers that be pay attention and study the actual benefits carefully. European traffic laws and regulations may be too stringent for US citizens. Therefore, they will not likely be applied anytime soon. However, the RSTC solution can be implemented in the US now. The laws of physics don't change due to cultural differences. Every 12 minutes that we delay another US citizen dies in an auto accident. Let's not wait any longer.

Please show your support today by logging on to the DRIVE RSTC INC website and signing our petition at www.DriveRSTC.com. Help us bring the proven Road Safety Training Center programs to the United States.

ABOUT THE AUTHOR

Robert J. Cole is co-founder and managing director of DRIVE RSTC INC, a US company based in Northern California, which was founded to bring the time tested and proven RSTC solution to the United States. The company mission is to save lives through enhanced driver training. Mr. Cole spent four years traveling throughout Europe researching the RSTC solution. He has compiled extensive research on the subject, and intimately understands the differentiators between US and European practices.

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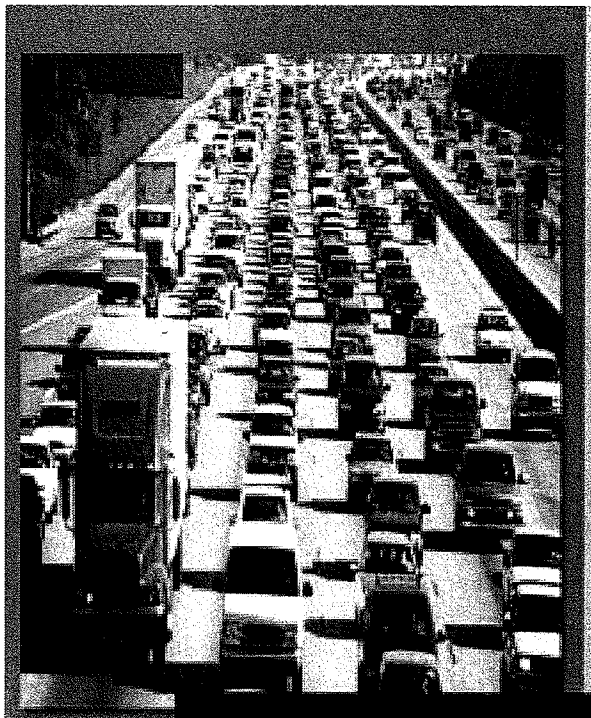
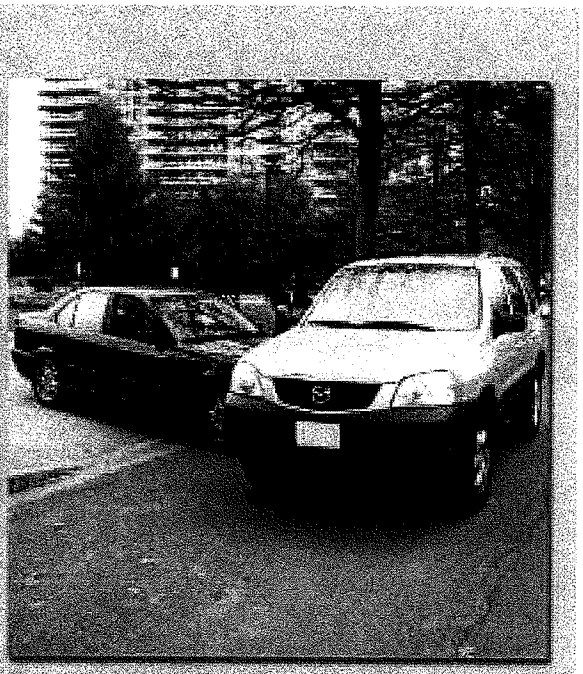
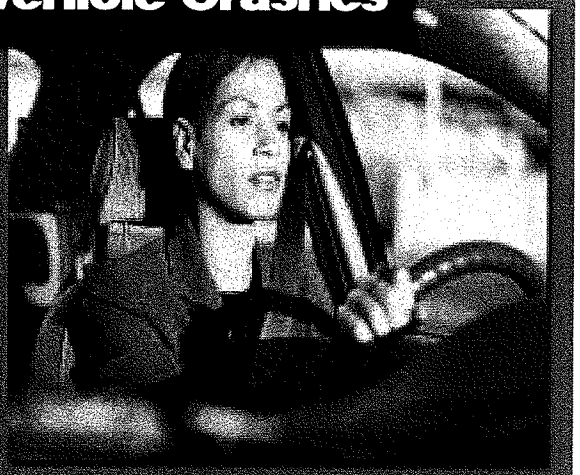




Guidelines for Employers to Reduce Motor Vehicle Crashes



OSHA
Occupational Safety and Health Administration
U.S. Department of Labor

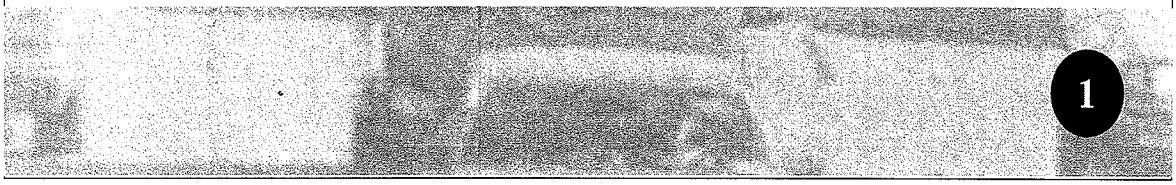
NHTSA
People Saving People
www.nhtsa.dot.gov

NETS
Network of Employers for Traffic Safety

This document represents a joint effort by NETS, NHTSA and OSHA to reduce motor vehicle-related deaths and injuries in the nation's workforce.

This [white paper] was funded under [Purchase Order Number B-9-4-2-3576] for the U.S. Department of Labor, Occupational Safety and Health Administration. The views expressed herein do not necessarily represent the official position or policy of the U.S. Department of Labor.

Every 12 minutes someone dies in a motor vehicle crash, every 10 seconds an injury occurs and every 5 seconds a crash occurs. Many of these incidents occur during the workday or during the commute to and from work. Employers bear the cost for injuries that occur both on and off the job. Whether you manage a fleet of vehicles, oversee a mobile sales force or simply employ commuters, by implementing a driver safety program in the workplace you can greatly reduce the risks faced by your employees and their families while protecting your company's bottom line.



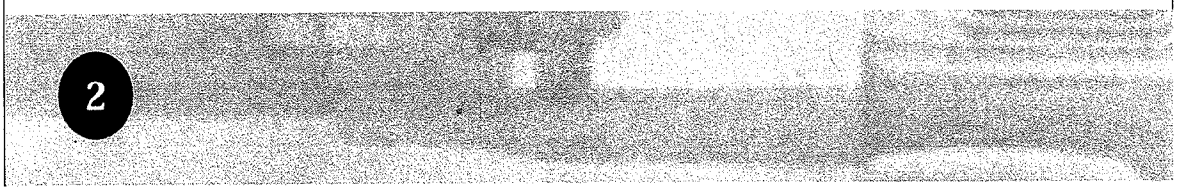
Set Up a Safe Driving Program to Keep Your Employees Safe on the Road

Motor vehicle crashes are a leading cause of death and injury for all ages. Crashes on and off the job have far-reaching financial and psychological effects on employees, their co-workers and families, and their employers.

You need a driver safety program:

- To save lives and to reduce the risk of life-altering injuries within your workforce.
- To protect your organization's human and financial resources.
- To guard against potential company and personal liabilities associated with crashes involving employees driving on company business.

Your program should work to keep the driver and those with whom he/she shares the road safe. And, if necessary, the program must work to change driver attitudes, improve behavior, and increase skills to build a "be safe" culture. By instructing your employees in basic safe driving practices and then rewarding safety-conscious behavior, you can help your employees and their families avoid tragedy.



Employees are an employer's most valuable assets. Workplace driver safety programs not only make good business sense but also are a good employee relations tool, demonstrating that employers care about their employees.

This booklet outlines ten steps for building a driver safety program in your workplace. These steps will be useful to any organization regardless of size of the organization, type of traffic encountered, number of vehicles involved, or whether employees drive company or personal vehicles for work purposes. Also included are real-life examples of successful safety programs, key traffic safety issues to address in the workplace, instructions for calculating your organization's loss from motor vehicle crashes, and a list of resources to help you fine-tune your program.

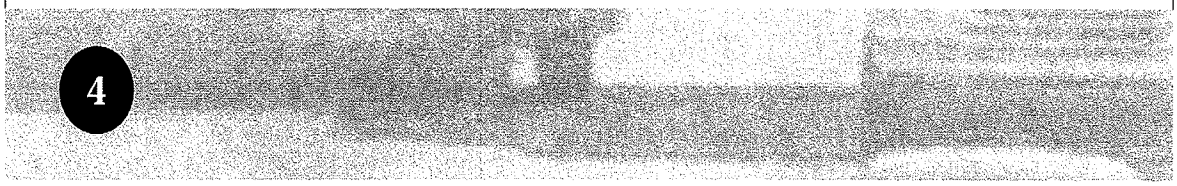
Promoting Safe Driving Practices Helps Your Bottom Line

Motor vehicle crashes cost employers $60 billion annually in medical care, legal expenses, property damage, and lost productivity. They drive up the cost of benefits such as workers' compensation, Social Security, and private health and disability insurance. In addition, they increase the company overhead involved in administering these programs.

The average crash costs an employer $16,500. When a worker has an on-the-job crash that results in an injury, the cost to their employer is $74,000. Costs can exceed $500,000 when a fatality is involved. Off-the-job crashes are costly to employers as well.[1]

The real tragedy is that these crashes are largely preventable. Recognizing the opportunity that employers have to save lives, a growing number of employers have established traffic safety programs in their companies. No organization can afford to ignore a major problem that has such a serious impact on both their personnel and the company budget.

[1] *NHTSA [2003]. The economic burden of traffic crashes on employers: costs by state and industry and by alcohol and restraint use. Publication DOT HS 809 682.*

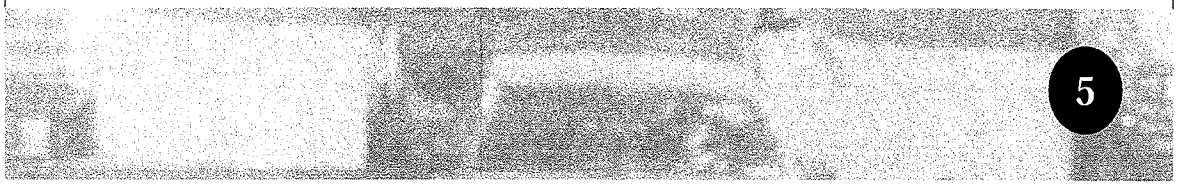


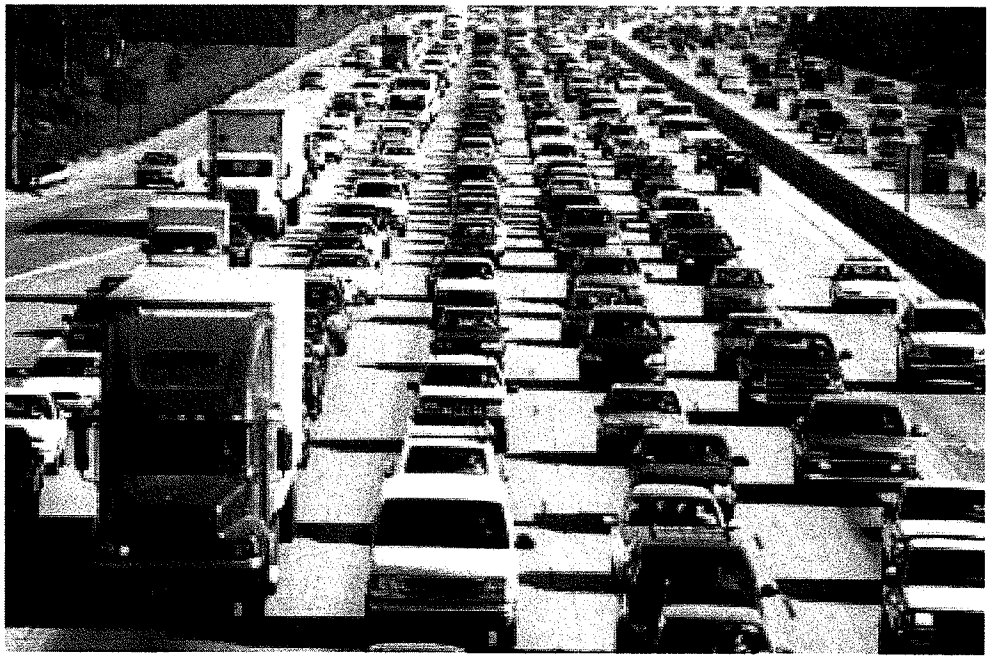
Calculate Your Costs for Motor Vehicle Crashes

To understand the impact of motor vehicle crashes on your organization, use the Costs of Traffic Crashes to Employers Worksheet, found at the end of this booklet, to calculate the cost of your crashes. You may want to initially select one recent crash to illustrate the magnitude and complexity of such losses. Once you master the worksheet for one crash, you can then apply it to all the crashes experienced in a chosen time frame (e.g., annually) within your organization to characterize your crash loss profile.

Once you know the costs associated with motor vehicle crashes you will realize that the costs associated with implementing a driver safety program are minimal compared to the costs of crashes to your organization. Examples abound of the positive return-on-investment (ROI) realized by companies – small, medium, and large – that have implemented well-designed safety programs for the benefit of their employees. In fact, the Liberty Mutual Insurance Company reported in 2001 that, based on its Executive Survey of Workplace Safety, 61 percent of surveyed business executives believe their companies receive an ROI of $3.00 or more for every $1.00 they spent on improving workplace safety.[2]

[2] *Liberty Mutual Insurance Company [2001]. Liberty Mutual Executive Survey of Workplace Safety.*

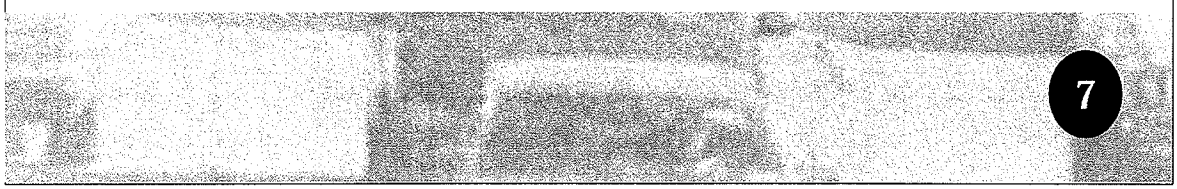




Where to Start

Depending on the size of your organization, you may have access to all of the data that you need. Or you may need to work with your human resource manager, safety manager, workers' compensation representative, accountants, and medical and motor vehicle insurance representatives to obtain the numbers you'll need.

Costs of Motor Vehicle Crashes to Employers Worksheet
Use the worksheet found at the end of this booklet to estimate the cost of a motor vehicle crash to your organization. The costs included on the worksheet will be estimates based upon the records, receipts and recall of those involved with the crash. It may be helpful to consult copies of accident reports, police reports, damage receipts, insurance claim records and payroll records. It is often very difficult to identify all costs associated with these crashes, so use the best information you have available. If your company incurred expenses not listed on the worksheet, be sure to include them.



Success Stories: Workplace Driver Safety Programs in Action

Many companies have already benefited from the approach to driver safety outlined in this booklet. Here's how:

Nationwide Insurance - Columbus, Ohio

Program:

- Nationwide, one of the largest insurance and financial services companies in the United States, operates a large, private motor vehicle fleet.
- In 1998, Nationwide developed and implemented a comprehensive motor vehicle safety program using a 10-step program as outlined in this booklet.

Results:

- While the number of miles driven by Nationwide associates has increased by 19 percent, the organization's preventable crashes have decreased by 53 percent.
- The organization's total motor vehicle loss costs are down 40 percent.

Charter Communications – Michigan

Program:

- Charter Communications provides cable service to Michigan residents. With a fleet of over 650 vehicles, Charter employees drive 1.5 million miles per month.
- In early 2001, the company began a program to increase seat belt use among their company drivers. Charter worked with Michigan NETS to establish a corporate seat belt program and to reward seat belt use.
- Participation in the NETS annual Drive Safely Work Week campaign and the NHTSA "Safety Belt Award Program" were both used to support the corporate program.
- During this same period, Charter began a defensive driving program for employees.

Results:

- In 2001, Charter-Michigan Region's seat belt use rate was 74 percent. In two years, they reached a 94 percent seat belt use rate and have continued to maintain that rate.

- They also experienced a 30 percent decrease in motor vehicle crashes during this time.

General Motors Corporation - Detroit, Michigan

Program:

- GM, the world's largest vehicle manufacturer, implemented the Safe Driving Program, "Create the Habit," for over 250,000 employees in November 1998.
- This comprehensive initiative provided workplace education programs and strict seat belt usage policies.
- An incentive program was developed to recognize and reward seat belt use. GM surveyed 90 sites each quarter.

Results:

- GM increased employee seat belt usage from 61 percent in 1998 to 85 percent by December 2003. Ongoing awareness programs continue to promote the safety message.
- The Safe Driving Program is credited with saving five lives a year.

Pike Industries - Barre, Vermont

Program:

- Pike Industries, an asphalt paving company, has approximately 250 employees in Vermont. They operate the 280 vehicles (pickups, tractor-trailers, dump trucks, etc.) in the fleet.
- Their fleet safety program requires all new drivers to receive classroom training; each is assigned a veteran "mentor." Veteran drivers attend annual classroom training, reviewing topics that include federal regulations and accident avoidance techniques.
- All drivers attend weekly "toolbox" talks to discuss fleet safety topics.

Results:

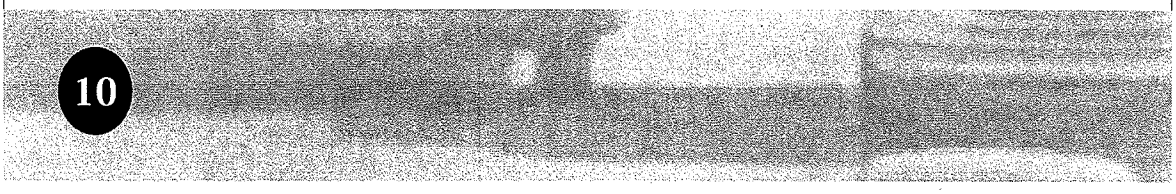
- Company drivers traveled over 2 million miles in 2003 hauling construction equipment and materials, performing construction activities (many were in highly dangerous work zones) and did not have any significant roadway incidents.
- Workers' compensation claims for vehicle incidents dropped from a high of 73 percent of total losses in 2001 to 2 percent in 2003. Vehicle property damage losses also followed this trend.

NETS 10-Step Program to Minimize Crash Risk

The 10-Step Program provides guidelines for what an employer can do to improve traffic safety performance and minimize the risk of motor vehicle crashes. Following these steps helps to ensure that you hire capable drivers, only allow eligible drivers to drive on company business, train them, supervise them, and maintain company vehicles properly. Adherence to these 10 steps can also help to keep your motor vehicle insurance costs as low as possible.

1. **Senior Management Commitment & Employee Involvement**
2. **Written Policies and Procedures**
3. **Driver Agreements**
4. **Motor Vehicle Record (MVR) Checks**
5. **Crash Reporting and Investigation**
6. **Vehicle Selection, Maintenance and Inspection**
7. **Disciplinary Action System**
8. **Reward/Incentive Program**
9. **Driver Training/Communication**
10. **Regulatory Compliance**

These steps are from the NETS *Traffic Safety Primer: A Guidebook for Employers.*



Step 1: Senior Management Commitment and Employee Involvement

The safety of an organization's employees as they drive for work and to and from work is so important that it requires the attention of top-level management. Senior management can provide leadership, set policies, and allocate resources (staff and budget) to create a safety culture. Actively encouraging employee participation and involvement at all levels of the organization is a good practice and will help the effort to succeed. Workers and their representatives must be involved in the initial planning phase.

Step 2: Written Policies and Procedures
A written statement emphasizing the commitment to reducing traffic-related deaths and injuries is essential to a successful program. Create a clear, comprehensive and enforceable set of traffic safety policies and communicate them to all employees. These are the cornerstones of an effective driver safety program. Post them throughout the workplace, distribute copies periodically, and discuss the policies at company meetings. Offer incentives for sticking to the rules, and point out the consequences of disregarding them. Below are sample policies that can be adapted for use by your company.

Sample Alcohol and Drug Use Policy
(Name of Company/Organization) has a vital interest in maintaining safe, healthy, and efficient working conditions for its employees. Therefore, the consumption of alcohol or illegal drugs by any employee during "duty hours" is prohibited. Duty hours consist of all working hours, including break periods and on-call periods, whether on or off company premises. The consumption of alcohol or illegal drugs while performing company business or while in a company facility is prohibited.

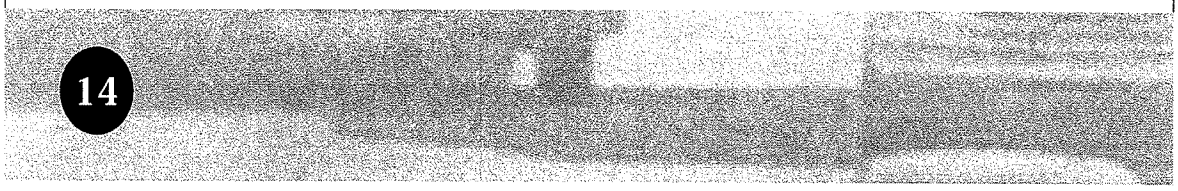
Sample Seat Belt Use Policy
(Name of Company/Organization) recognizes that seat belts are extremely effective in preventing injuries and loss of life. It is a simple fact that wearing your seat belt can reduce your risk of dying in a traffic crash by 45 percent in a car and by as much as 60 percent in a truck or SUV.

We care about our employees, and want to make sure that no one is injured or killed in a tragedy that could have been prevented by the use of seat belts. Therefore, all employees of (Name of Company/Organization) must wear seat belts when operating a company-owned vehicle, or any vehicle on company premises or on company business; and all occupants are to wear seat belts or, where appropriate, child restraints when riding in a company-owned vehicle, or in a personal vehicle being used for company business. All employees and their families are strongly encouraged to always use seat belts and the proper child restraints whenever they are driving or riding in any vehicle, in any seating position.

Step 3: Driver Agreements
Establish a contract with all employees who drive for work purposes, whether they drive assigned company vehicles or drive their personal vehicles. By signing an agreement, the driver acknowledges awareness and understanding of the organization's traffic safety policies, procedures, and expectations regarding driver performance, vehicle maintenance and reporting of moving violations.

Step 4: Motor Vehicle Record (MVR) Checks
Check the driving records of all employees who drive for work purposes. You must screen out drivers who have poor driving records since they are most likely to cause problems in the future. The MVR should be reviewed periodically to ensure that the driver maintains a good driving record. Clearly define the number of violations an employee/driver can have before losing the privilege of driving for work, and provide training where indicated.

Step 5: Crash Reporting and Investigation
Establish and enforce a crash reporting and investigation pro-cess. All crashes, regardless of severity, should be reported to the employee's supervisor as soon as feasible after the incident. Company traffic safety policies and procedures should clearly guide drivers through their responsibilities in a crash situation. All crashes should be reviewed to determine their cause and whether or not the incidents were preventable. Understanding the root causes of crashes and why they are happening, regardless of fault, forms the basis for eliminating them in the future.



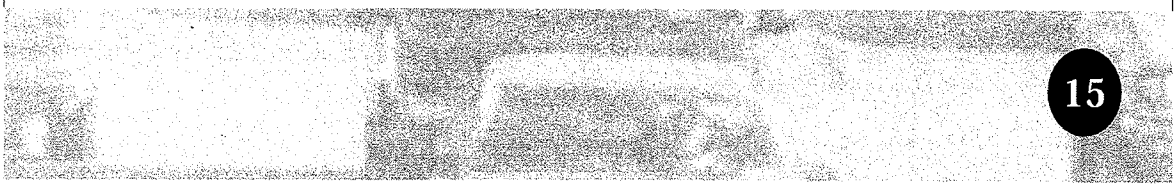
Step 6: Vehicle Selection, Maintenance and Inspection
Selecting, properly maintaining and routinely inspecting company vehicles is an important part of preventing crashes and related losses.

It is advisable that the organization review and consider the safety features of all vehicles to be considered for use. Those vehicles that demonstrate "best in class" status for crash-worthiness and overall safety should be chosen and made available to drivers.

For the latest information on crash test ratings and other important vehicle safety information, visit www.safercar.gov. To report a concern about a defect or problem with your vehicle, contact the NHTSA Auto Safety Hotline at: 1-888-DASH-2-DOT.

Vehicles should be on a routine preventive maintenance schedule for servicing and checking of safety-related equipment. Regular maintenance should be done at specific mileage intervals consistent with the manufacturer's recommendations. A mechanic should do a thorough inspection of each vehicle at least annually with documented results placed in the vehicle's file.

Personal vehicles used for company business are not necessarily subject to the same criteria and are generally the responsibility of the owner. However, personal vehicles used on company business should be maintained in a manner that provides the employee with maximum safety and reflects positively on the company.



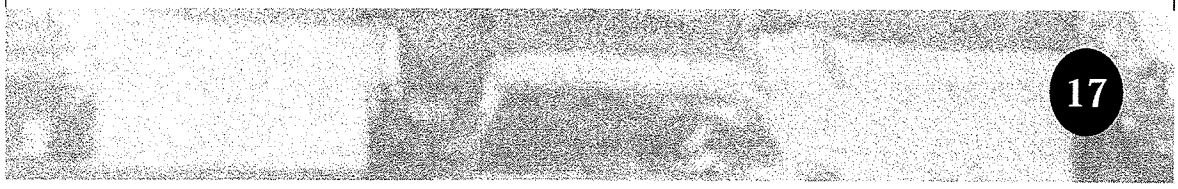
Step 7: Disciplinary Action System
Develop a strategy to determine the course of action after the occurrence of a moving violation and/or "preventable" crash. There are a variety of corrective action programs available; the majority of these are based on a system that assigns points for moving violations. The system should provide for progressive discipline if a driver begins to develop a pattern of repeated traffic violations and/or preventable crashes. The system should describe what specific action(s) will be taken if a driver accumulates a certain number of violations or preventable crashes in any pre-defined period.

Step 8: Reward/Incentive Program
Develop and implement a driver reward/incentive program to make safe driving an integral part of your business culture. Safe driving behaviors contribute directly to the bottom line and should be recognized as such. Positive results are realized when driving performance is incorporated into the overall evaluation of job performance. Reward and incentive programs typically involve recognition, monetary rewards, special privileges or the use of incentives to motivate the achievement of a predetermined goal or to increase participation in a program or event.

Step 9: Driver Training/Communication
Provide continuous driver safety training and communication. Even experienced drivers benefit from periodic training and reminders of safe driving practices and skills. It is easy to become complacent and not think about the consequences of our driving habits.

Step 10: Regulatory Compliance
Ensure adherence to highway safety regulations. It is important to clearly establish which, if any, local, state, and/or federal regulations govern your vehicles and/or drivers. These regulations may involve, but may not necessarily be limited to the:

- Federal Motor Carrier Safety Administration (FMCSA)
- U.S. Department of Transportation (USDOT)
- National Highway Transportation Safety Administration (NHTSA)
- Federal Highway Administration (FHWA)
- Employment Standards Administration (ESA)



Promote Safe Driving Practices to Protect Your Most Valuable Investment – Your Employees

The increasing traffic congestion on our nation's roadways wastes significant time and money, reduces productivity and promotes risky driving behavior. Employees may feel pressured to drive faster and for longer periods of time and to engage in potentially distracting in-vehicle activities to meet their job responsibilities. Engaging in unsafe driving practices affects those who occasionally drive their personal vehicles for work purposes as well as those who spend their workday driving a company vehicle.

As an employer, do your part by keeping your parking lot well lighted and well maintained. Keep roadway and parking spaces properly striped, and clear of debris and snow. Install signs at parking lot exits reminding employees to buckle their seat belts and drive safely. Let your concern for their safety be their final thought as they leave your parking lot.

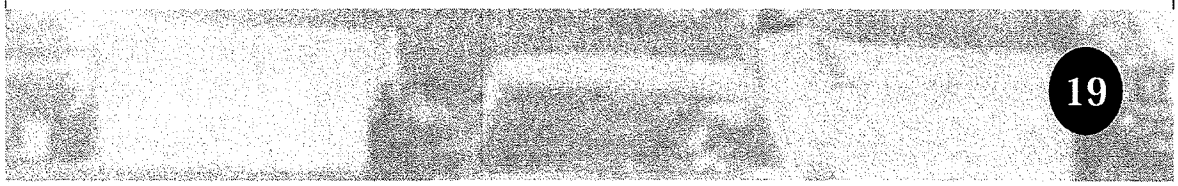
Employers have enormous power to protect their businesses by educating their employees about safe driving practices. The safety issues described below should be addressed in an employee awareness and training program.

More detailed information on Aggressive Driving, Distracted Driving, Drowsy Driving and Impaired Driving can be found beginning on page 27.

Secure Materials for Transport
Tools or equipment should be secured while being transported to prevent unsafe movement of materials. During a crash or when making sudden maneuvers, loose objects can slide around or become airborne, injuring the driver and any passengers. Objects that could become a hazard should be secured or stored outside the passenger compartment.

Seat Belt Use
Seat belts are the single most effective means of reducing deaths and serious injuries in traffic crashes. As the most effective safety device in vehicles, they save nearly 12,000 lives and prevent 325,000 serious injuries in America each year. During a crash, anyone not wearing a seat belt will slam into the steering wheel, windshield, or other parts of the interior, or be ejected from the vehicle.

Distracted Driving
Distracted driving is a factor in 25 to 30 percent of all traffic crashes. With hectic schedules and roadway delays, many employees feel pressured to multi-task just to keep up with their personal and work-related responsibilities. More time on the road means less time at home or at work but "drive time" can never mean "down time." Since drivers make more than 200 decisions during every mile traveled, it's critical for employers to stress that when driving for work, safe driving is their primary responsibility.



Alcohol and Drug Impaired Driving
Alcohol use is involved in 40 percent of all fatal motor vehicle crashes, representing an average of one alcohol-related fatality every 30 minutes. It is estimated that three in every 10 Americans will be involved in an impaired driving-related crash some time in their life. Alcohol, certain prescription drugs, over-the-counter medications, and illegal drugs can all affect a person's ability to drive safely due to decreased alertness, concentration, coordination and reaction time. Busi-nesses pay a high price for alcohol and drug abuse; alcohol is a contributing factor in 39 percent of all work-related traffic crashes.

Fatigued Driving
Fatigued or drowsy driving may be involved in more than 100,000 crashes each year, resulting in 40,000 injuries and 1,550 deaths. Sadly, these numbers represent only the tip of the iceberg since these crashes are seriously under-reported. These days, it's more important than ever for employees to be well rested, alert and sober on the road so that they are in a position to defend themselves from drivers who do not make the same choice. Train employees to make smart decisions when they're behind the wheel, on and off the job.

Aggressive Driving
Employees commuting to and from work and traveling for work purposes often find themselves caught up in bottlenecks and traffic delays, wasting their time and reducing their productivity. These situations create a high level of frustration that can spark aggressive driving behavior. The roadway is one place that being aggressive never pays.

Aggressive driving acts include excessive speed, tailgating, failure to signal a lane change, running a red light and passing on the right. The best advice is to avoid engaging in conflict with other drivers and to allow others to merge.

Young Drivers

The 16-20-year-old population represents a significant highway safety problem. Traffic crashes are the leading cause of fatalities for teens. Historically, this group is the age group that has the lowest seat belt use rate and is the most likely to engage in risky driving behaviors that include: speeding, driving while alcohol or drug impaired and when drowsy. It is important for employers with young workers to actively promote safe driving practices.

We have learned much about teen driver safety during the past decade. There are proven, specific safety benefits from a variety of best practices that are commonly referred to as "graduated driver licensing" or GDL. GDL practices have resulted in substantial reductions in crashes, injuries and fatalities for novice teenage drivers.

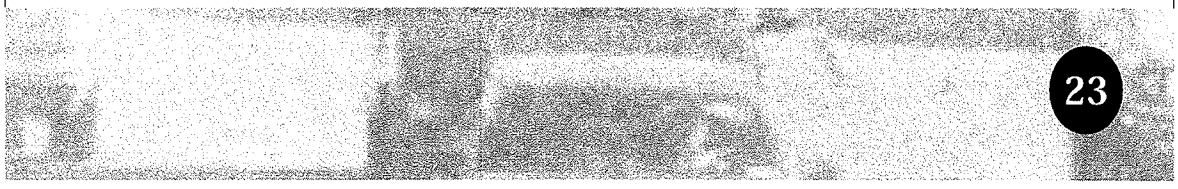
Under Federal law, 16-year-old workers are prohibited from driving as part of their job, and 17-year-olds may drive for work only under strictly limited circumstances. Some state laws may be more restrictive than Federal laws. For more information on child labor laws visit, www.youthrules.dol.gov or www.cdc.gov/niosh/topics/youth/.

Reach Out to Family and Community Members

Once your driver safety program is operational, consider extending it to your employees' families and members of your community. Employers are in a position to foster safe driving practices and reduce the number of traffic crashes in their communities. Employer programs not only inform employees about traffic hazards and educate them about responsible driving practices but they can create a safer roadway environment for the entire community.

Four reasons for reaching out to employees' families and members of the community:

- Provides public relations benefits for your company.
- Boosts employee morale.
- Creates a safer driving environment for your employees, their dependents, and members of the community.
- Reduces employer and employee healthcare costs.

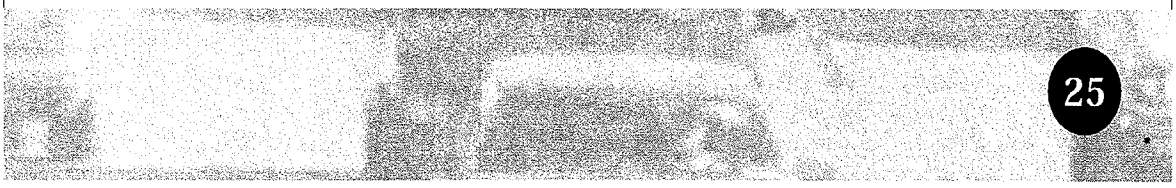


Where to Go for Additional Information

For more information and assistance in implementing a traffic safety program in your workplace, you can contact the Network of Employers for Traffic Safety (NETS), the National Highway Traffic Safety Administration (NHTSA), the Occupational Safety and Health Administration (OSHA) or the National Institute for Occupational Safety and Health (NIOSH).

National Highway Traffic Safety Administration
NHTSA's mission is to save lives, prevent injuries, and reduce traffic-related health care and other economic costs. The organization can provide technical assistance, various highway safety awareness materials, and other support for your program. For more information on highway safety programs, visit www.nhtsa.dot.gov or contact NHTSA at 400 Seventh Street, SW, Washington, DC 20590.

National Institute for Occupational Safety and Health
NIOSH, as the national agency responsible for occupational safety and health research, is committed to reducing the toll of work-related roadway crashes on American workers. Prevention of work-related crashes poses one of the greatest challenges in occupational safety. The roadway is a unique environment. Compared with other work settings, employers' ability to control working conditions and to exert direct supervisory controls is limited. Workers may be pressured to drive faster and for longer periods and to use technologies that may lead to inattention to the driving task. The problem of work-related crashes affects those who occasionally drive personal vehicles on the job as well as those who routinely drive commercial motor vehicles over long distances. For more information on motor vehicle occupational research visit: www.cdc.gov/niosh or contact NIOSH at 1-800-35-NIOSH or 1-800-356-4674.



Network of Employers for Traffic Safety
NETS is an employer-led, nonprofit, public/private partnership dedicated to improving the safety and health of employees, their families, and members of the communities in which they live and work, by reducing the number of traffic crashes that occur on and off the job. NETS provides employers of all sizes and industry types with effective programs, policies, best practices, and employer-led activities, whether an employee drives for work or to and from work. Drive Safely Work Week (DSWW) is an annual campaign sponsored by NETS to promote safe driving practices for all employees. For further information on NETS, the 10-Step Program, and DSWW, visit www.trafficsafety.org or contact NETS at 1-800-221-0045.

Occupational Safety and Health Administration
Employers are responsible for providing a safe and healthful workplace for their employees. OSHA's role is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. Information on motor vehicle safety can be found on OSHA's website at www.osha.gov/SLTC/motorvehiclesafety/index.html

The following pages contain more detailed information on Aggressive Driving, Distracted Driving, Drowsy Driving, Impaired Driving and a worksheet, Costs of Motor Vehicle Crashes to Employers.

Aggressive Driving

As traffic congestion continues to grow, motorists commuting to and from work and traveling for business purposes often find themselves caught up in bottlenecks and significant delays, wasting time and reducing their productivity. This situation creates a high level of frustration and can spark aggressive driving among these overwhelmed drivers. To protect against aggressive driving, remember that your primary responsibility is to drive focused and stay safe.

Safety Facts for the Road

- A major reason for increased traffic congestion is that our highway system has not kept pace with the growing demands placed on it. Since 1970, the number of drivers increased by 64% while the roadway system increased by only 6%.
- Many Americans believe aggressive driving is on the rise and worry about the behavior of other drivers but admit to engaging in aggressive driving themselves.
- A substantial number of the 6.8 million crashes that occur each year are estimated to be caused by aggressive driving.
- Overly frustrated drivers are turning their cars into extensions of their homes and offices, creating a dangerous distraction on the road that fuels aggressive driving among other drivers.

Drive Focused. Stay Safe. Avoid Aggressive Driving.

- Correct your own unsafe driving habits that are likely to endanger, antagonize or provoke other drivers.
- Keep your cool in traffic; be patient and courteous to other drivers and don't take their actions personally.
- If you think you have a problem, seek help. Look for anger or stress management classes or self-help books.
- Reduce your stress on the road by allowing plenty of time to reach your destination, plan your route in advance and alter your schedule or route to avoid busy roads.
- If despite all your planning, you're going to arrive late, accept it and avoid aggressive driving.
- Make every attempt to safely move out of an aggressive driver's way. If a hostile motorist tries to pick a fight, do not make eye contact and do not respond. Ignore gestures and refuse to return them.
- Report aggressive driving to the police. Provide a vehicle description, license number, location and the direction of travel.

Are you "just driving like everyone else" or are you driving aggressively?

The Nerves of Steel Survey is a national survey that reveals how Americans define aggressive driving.

Is this act aggressive?

Tailgating	95%
Making rude gestures	91%
Passing on the shoulder	90%
Pulling into parking space someone else is waiting for	88%
Failing to yield to merging traffic	85%
Flashing high beams at the car in front of you	74%
Waiting until the last second to merge with traffic on the highway	66%
Changing lanes without signaling	66%
Driving through a yellow light that is turning red	62%
Honking the horn	53%
Double parking	53%
Driving 10 mph or more under the speed limit	27%

The Steel Alliance. 2002.

For more information on aggressive driving, contact NETS at 1-888-221-0045 or visit: www.trafficsafety.org.

Distracted Driving

Longer commutes, an increase in heavy traffic, the availability of in-vehicle technology are all factors that result in driver distraction. More time in your vehicle results in less time at home or on the job, causing drivers to feel the pressure to multi-task to keep up with their responsibilities. Countless distractions tempt drivers to forget that their primary responsibility is to drive focused and stay safe.

Safety Facts for the Road

- Distracted driving is estimated to be a factor in between 25 to 30% of all traffic crashes—that's 4,000 or more crashes a day.
- Events inside and outside the vehicle can distract a driver. Adverse roadway and weather conditions require a driver's full attention.
- While taking one's eyes off the road presents obvious risks, activities that take a driver's mind away from driving are just as risky.
- A driver's ability to manage distractions varies widely and can change from day-to-day depending on their level of stress and fatigue.
- Distracted drivers fail to recognize potential hazards in the road and react more slowly to traffic conditions, decreasing their "margin of safety."
- Research suggests that distracted driving increases the risk of rear-end and single-vehicle crashes.

Do you know when you're driving distracted?

- Has a passenger in your car screamed or gasped because of something you did or did not do?
- Did you run a stop sign unintentionally?
- Have you slammed on your brakes because you didn't see the car in front of you stop?
- You do not remember driving from one place to another?

Drive Focused. Stay Safe. Avoid Distracted Driving.

- Safe driving practices require that you constantly search the roadway ahead for situations that could require you to take quick action.
- Recognize that driving requires your full attention.

Did you know that even the most routine activities are potentially distracting while driving?

A national survey revealed the activities that distract today's drivers.

NETS DISTRACTED DRIVING SURVEY

Activities Drivers Engage in While Driving

96%	Talking to passengers
89%	Adjusting vehicle climate/radio controls
74%	Eating a meal/snack
51%	Using a cell phone
41%	Tending to children
34%	Reading a map/publication
19%	Grooming
11%	Preparing for work

Participation in Distracting Activities While Driving for Work or for Personal Purposes

57%	Personal purposes
25%	Work purposes
14%	Both equally
2%	Don't drive for work
3%	Don't know

Network of Employers for Traffic Safety. 2001.

For more information on aggressive driving, contact NETS at 1-888-221-0045 or visit: www.trafficsafety.org.

Drowsy Driving

As a driver, your number one responsibility is to get yourself and your passengers to your destination safely. When behind the wheel, you always need to be alert and focused. At 55 mph, a vehicle travels the length of a football field in 3.7 seconds. This is no time for a "mini" snooze. Being an attentive driver, and looking out for the driver who isn't, is increasingly important. Drive focused. Stay safe.

Safety Facts for the Road

- Drowsy driving causes more than 100,000 crashes each year, resulting in 40,000 injuries and 1,550 deaths.
- Crashes caused by drowsy driving are often serious crashes and occur most often on high-speed rural highways when the driver is alone.
- Drowsy driving can happen to anyone. A recent National Sleep Foundation study revealed that one half (51%) of adults have driven while drowsy and 17% report having fallen asleep while driving within the past year.

Drive Focused. Stay Safe. Avoid Aggressive Driving.

- Be aware of your behavior and the behavior of others on the road during the late night, early morning and mid-afternoon hours when drowsy driving crashes are most likely to occur. Plan a rest stop during these hours.
- Get a full night of rest before driving. If you become tired while driving, stop. A short nap (15 to 45 minutes) and consuming caffeine can help temporarily.
- Stop at regular intervals when driving long distances. Get out of the car every 2 hours to stretch and walk briskly.
- Set a realistic goal for the number of miles you can safely drive each day.
- Avoid taking medications that cause drowsiness.

Do you know when you're driving drowsy?

Some warning signs of fatigue:

- You can't remember the last few miles driven.
- You hit a rumble strip or drift from your lane.
- Your thoughts are wandering and disconnected.
- You yawn repeatedly.
- You have difficulty focusing or keeping your eyes open.
- You tailgate or miss traffic signs.
- You have trouble keeping your head up.
- You keep pulling your vehicle back into the lane.

If you're tired and are in danger of falling asleep, then you cannot predict when a "mini" sleep may occur. A driver cannot react to road dangers when tired. Getting enough sleep will not only help you feel better, it can save your life.

For more information on aggressive driving, contact NETS at 1-888-221-0045 or visit: www.trafficsafety.org.

Impaired Driving

On our congested roadways, it's more important than ever to drive with a clear head and a sharp focus. Make it a life-governing rule not to drive when you've had too much to drink. On average, a driver makes over 200 decisions per mile, so it's critical that a driver make the decision to drive alert before getting behind the wheel. Not only will you be a safer driver but you will be in a much better position to defend yourself from the driver who doesn't make that choice. Drive focused. Stay safe.

Safety Facts for the Road

- Alcohol impaired driving accounts for about 40% of fatal crashes.
- About three in every 10 Americans will be involved in an alcohol-related crash at some time in their lives.
- Research shows that alcohol is a contributing factor in 39% of all work-related traffic crashes.
- Nearly 1.5 million people are arrested each year for driving while intoxicated (DWI). Two-thirds of all drivers arrested for DWI are first time offenders.
- A DWI/DUI conviction on a person's driving record may prevent them from getting a job, receiving a promotion or even result in a job loss.
- Many companies have corrective action programs that suspend company driving privileges for a DWI/DUI violation.
- Nine out of 10 insurance companies automatically cancel the policy of a driver convicted of a DWI/DUI violation. Consequently, the driver must find a high-risk insurance company and face substantial rate increases.

Drive Focused. Stay Safe. Avoid Aggressive Driving.

- Alcohol involvement is highest at night (9 p.m. to 6 a.m.), on weekends and on holidays.
- Driving skills, especially judgment, are impaired in most people long before they exhibit visible signs of drunkenness.
- Celebrations are a part of our lives and sometimes they include alcohol. They should not, however, involve impaired driving:
  - Decide who is the designated driver before the party starts.
  - Be the kind of co-worker who will take the keys if someone has had too much to drink.
  - If you're impaired, make the safe choice – ride with a designated driver, call a taxi, stay where you are, or call a sober friend or family member. Making the safe choice could save your life.

Can you spot an impaired driver on the road?

Drivers under the influence of alcohol often display certain characteristic driving behaviors. Keep these in mind to avoid a dangerous situation.

- Weaving, swerving, drifting or straddling the center line.
- Driving on the wrong side of the road.
- Driving at a very slow speed.
- Stopping without cause or braking erratically.
- Turning abruptly or responding slowly to traffic signals.
- Driving with the window down in cold weather.
- Driving with headlights off at night.

If you spot an impaired driver, stay a safe distance from their vehicle. Alert the police that there is an unsafe driver on the road.

For more information on aggressive driving, contact NETS at 1-888-221-0045 or visit: www.trafficsafety.org.

Costs of Motor Vehicle Crashes to Employers Worksheet

Direct Costs to the Organization

Workers' compensation benefits	$_____
Healthcare costs	$_____
Increases in medical insurance premiums	$_____
Auto insurance and liability claims and settlements	$_____
Physical and vocational rehabilitation costs	$_____
Life insurance and survivor benefits	$_____
Group health insurance dependent coverage	$_____
Property damage (equipment, products, etc.)	$_____
Motor vehicle repair and replacement	$_____
EMS costs (ambulance or medivac helicopter)	$_____
Vehicle towing, impoundment and inspection fees	$_____
Municipality or utility fees for damage to roads, signs or poles	$_____

Direct Total $_____

Indirect Costs

Supervisor's time (rescheduling, making special arrangements)	$_____
Fleet manager's time to coordinate vehicle repair, replacement, etc.	$_____
Reassignment of personnel to cover for missing employees (less efficient)	$_____
Overtime pay (to cover work of missing employees)	$_____
Employee replacement	$_____
Re-entry and retraining of injured employees	$_____
Administrative costs (documentation of injuries, treatment, absences, crash investigation)	$_____
Inspection costs	$_____
Failure to meet customer requirements resulting in loss of business	$_____
Bad publicity, loss of business	$_____

Indirect Total $ _____

TOTAL **$** _____

OSHA
Occupational Safety and Health Administration
U.S. Department of Labor

NHTSA
People Saving People
www.nhtsa.dot.gov

NETS
Network of Employers for Traffic Safety

FOCUS ON TEEN DRIVERS BEARS FRUIT

Death rates are still too high, but innovators are stepping up

BY KEVIN A. WILSON

ALERTED THAT CAR crashes are the leading cause of death and injury among young people, Americans are stepping up to address the issue. While governments, regulators and insurers focus on making graduated-driver-licensing (GDL) laws more rigorous and widespread, individuals aren't waiting on the safety establishment but are taking action in independent and innovative ways.

A year after the first *AutoWeek* Teen Driving Safety Summit (TDSS) in August 2007—an event the magazine plans to reprise in 2009—a survey of the field finds much activity, despite restraints imposed by the national economic downturn.

A few examples of what's new since last year at back-to-school time:

- A California company aims to establish European-style driver training at dedicated facilities in the United States.
- In Ohio, Cincinnati-area dealers and Toyota are backing a competition for high-school students to improve driving attitudes, knowledge and skills.
- In New Jersey and Pennsylvania, regulators and hospital researchers have organized to improve licensing laws.
- The national AAA has increased efforts to alert teens and parents to the dangers of distractions at the wheel, especially cell-phone text-messaging.
- New technology helps parents track a young driver's activity at the wheel.
- There is broadening appreciation for the responsibility that society places on parents of new young drivers.

The most ambitious of these initiatives is that of Drive RSTC in Burlingame, Calif. The company's goal is nothing less than the widespread application of European-style driver training in the United States.

The distinctions are significant, and company founder Rob Cole details them in a 20-page paper available as a download

at www.driverstc.com. *AutoWeek* reported on many of the differences between the European and American models for driver training last year (Aug. 27, 2007), but Cole's analysis is more extensively researched and detailed.

The issues are complex, but Cole says the key is that European researchers discovered 20 years ago that instruction centered on driving skills alone (such as skid control) resulted in new drivers who were either overly confident in their car-control abilities or overly fearful. This 1988 research, often cited by opponents of such skills-centered instruction in the United States, did not lead Europe to abandon such training, Cole asserts, but instead led to a refinement discussed in more recent safety literature as the "postrenewal" period.

Newer research, Cole says, shows a 34 percent reduction in accidents among students who learn the same skills but within the context of a curriculum that sets a priority not on car control for its own sake as much as on safe on-road behavior and the understanding of the limits of car, driver and road. That's a 34 percent gain, mind you, among young drivers who experience much lower rates of crashing, death and injury than are typical in the United States.

"This is radically different from what you find in the United States. But after years of research," says Cole, "I am confident that there is no other way."

The classes he takes as a model, typical of Germany, Luxembourg, Austria and Norway, among others, take place at dedicated facilities—road safety training centers, or RSTCs—using water jets as obstacles (rather than traffic cones) and wet, slippery road surfaces, all computer-controlled from a central station, with students driving alone (with no ride-along instructor).

These tracks allow students to experience a total loss of control, analogous to the experience of students learning to fly airplanes who must master the "dead-stick" powerless landing and recovery from a spin. Cole says most U.S. skills training does not allow for this total loss of control and thereby teaches students either that they can always be fully in control of the car or that they may never be, which has profound implications for the psychology of the young driver and how he or she approaches the task.

This approach led Marland Townsend, a former U.S. Navy pilot who made the proposal that led to the Navy's "Top Gun" flight school, to sign on as a member of the Drive RSTC board of directors.

The curricula at the European schools lead students to take the wheel with a goal of arriving safely at the destination without excessive risk. Students taught only the skills without the goal-setting context, Cole argues, may set their own inappropriate objectives, such as speed, high g loadings or peak fuel economy, all of which are inappropriate substitutes for safety of both the driver and other road users.

All of this skills training, crucially, takes place *after* students have done enough training and testing to have acquired their probationary licenses, so that they can place the skills in the context of their on-road experience. Laws vary by nation, but generally, a driver earns a probationary license at age 17 or 18 and then must attend skills and attitude training within two years to obtain a full license.

Such centers, typically on 20 to 40 acres of land, are not cheap, though colocation with test facilities used by automakers or suppliers or at racetrack sites may spread the cost of building and operating them.

Pushing for Awareness

>> A MAJOR CONTRIBUTOR to the reduction in drunk-driving deaths and injuries in the United States during the past 20 years was a widespread public-relations push to make the behavior socially unacceptable. There was a similar push against smoking. Teens and young adults are still among those who most often take these risks, but it is hoped that similar peer and social pressures can be used to address unsafe driving.

To that end, insurance company State Farm and the Children's Hospital of Philadelphia lobbied Congress and got the third week of October designated as National Teen Driver Safety Week. Although the bill was passed barely in time for last year's effort, the designation will apply this October, and advocates will have had a year to gear up their programs.

Also, Bridgestone Firestone North America, a primary sponsor of the Driver's Edge training program, ran its second-annual Safety Scholars event, awarding scholarships to young people ages 16 to 21 who developed public-service commercials promoting auto safety. Social-networking Web sites YouTube, Facebook and MySpace were used to distribute these messages, which you can view at www.safetyscholars.com.

Winners of the $5,000 scholarships this year were Danny Belkin of Rockland, Md., a film buff attending New York University's Tisch School of the Arts, whose video warns about the dangers of cell-phone use at the wheel. Ryan Massey, an 18-year-old from Laguna Niguel, Calif., was critically injured in a car accident that claimed the lives of two of his friends—none was wearing a seatbelt—and Massey's first-person account reaches out to peers to explain the importance of belt use. And a video by Sarah Wilson of Tampa, Fla., a junior at the University of South Florida, features a group of teens discussing a crash they attribute to cell-phone text-messaging; the camera pulls back to reveal that the teens are actually ghosts in a graveyard. A special Critics Choice Award went to 17-year-old Angel Roscioloi of Bethlehem, Pa., whose video features a girl writing a farewell letter to her parents detailing the decisions that will lead to a fatal crash.

All four winning videos will be used as public-service TV commercials by Bridgestone Firestone. The winners also will attend the 2009 Chicago auto show to display their work to auto journalists covering the show. **—KAW**

COACH IN A BOX

ELECTRONIC UNIT MENTORS YOUNG DRIVERS

» WHAT, YET ANOTHER black box that uses GPS to let parents monitor their teen drivers? Yes, but the new Tiwi from Inthinc boasts several key differences. First, it's a smart computer that talks to the driver, mentoring much the way parents did from the passenger seat in the learning phase. Second, it's smart enough to know local speed limits. It also can be used as an emergency alert system, notifying authorities in the event of an accident.

Unlike other GPS-based systems marketed for parents of new young drivers, the Tiwi not only watches speed but also matches the car's speed against the local limit.

"Lots of units can tell you that the kid exceeded a preset speed," explains Robert Oosdyke, Inthinc's vice president for consumer sales. "Say you set a limit at 70 mph. Whenever the car goes 70, you get notification. Everybody in this business does that much. But what no one else does yet is tell you the car was going 70 in a 45-mph zone."

The Tiwi will do that, which also allows it to perform the mentoring task.

The box sits on the dash and plugs into the car via the OBD II port. It can be set up to issue a warning: "You're exceeding the speed limit; please slow down." At best, it's a coach in a box. At worst, it's like having a little sister in the back seat saying, "I'm telling Mom if you don't knock it off."

The Tiwi has been endorsed by Ronn Langford of MasterDrive, a driver-education company, one of the presenters at

AutoWeek's 2007 Teen Driving Safety Summit.

The Tiwi allows parents to set their own limits (via the company's Web site) and choose their means of notification—phone, text or e-mail.

Parents can call the unit and talk directly to the teen without the young driver needing to answer a cell phone. If parents get an alert that the car has been speeding or exceeding cornering or braking limits (accelerometers measure these), they can call and say, "Knock it off and bring it home" or "Stop the car and call me; we need to talk"—whatever the parent, not a preprogrammed computer, deems appropriate.

You may have seen the circular green Tiwi logo on the dashboards of NASCAR race cars. Inthinc has made crash-data recorders under the Independent Witness trademark for 10 years and the "black boxes" that have collected crash data for NASCAR since the death of Dale Earnhardt in 2001. It also is working with the stock-car-racing body on new GPS-based timing and scoring systems.

Parents will want to know, though, that the Tiwi has limited memory (just enough to retain data through a lapse in cell-phone network coverage) and no separate plug that authorities can use to extract data for analysis. Whatever information it records and reports goes to the owner and only when it determines that the owner-chosen limits have been exceeded.

The units went on sale in July for $549. The business model includes a monthly subscription fee ($24.95 to $34.95, depending on the level of communication desired), but during the launch period, there's a "race fan" $100 discount on the unit and one year of free service. Visit www.tiwi.com for more information.

The company also has initiated a Teen Driving Council to unite the efforts of those concerned about these issues. To learn more, visit www.teensafety.com.

—KAW

Drive RSTC has signed an agreement with a German firm, IngenAix, which has built more than two dozen such facilities around the world. Cole says he also is developing a proposal that might involve getting a government grant to build a demonstration facility to prove that the concept works.

The European model typically involves government subsidies and licensing regulations that require students to complete such programs. With that kind of impetus behind them, 40,000 students might attend at one facility in one year.

But Cole says he believes the programs could work in a free-market environment in the Unites States without subsidies or regulatory forcing.

"In the United States, I think you'd find that insurers are some of the biggest opponents of skills training," he says. "In Europe, insurers are often sponsors and supporters of these facilities. I think there's opportunity there."

Getting from dream to reality for Drive RSTC will no doubt take years. The evidence from Europe suggests that it could prove to be the ultimate long-range answer for improved driver education in the United States. Meanwhile, however, millions of newly licensed teens take to the roads annually.

David Thompson of Florida-based New Driver Car Control Clinic (www.carcontrol.com) has long operated at the other end of the cost-complexity spectrum, striving to teach as many teens—and their parents—as he can possibly reach with the message that car-control skills, attitude and knowledge can dramatically reduce crash risks for new drivers.

Since April 1 of this year, Thompson has been running a new variation on his program in the Cincinnati area that aims to encourage safe driving practices using some time-honored and very American-flavored incentives: competition, scoring and prize money. With sponsorship from Toyota and its Greater Cincinnati/Northern Kentucky-area dealers, the Toyota Car Control Challenge culminates on Sept. 7. The grand champion wins a Toyota Matrix and $10,000, while those in various categories divided by

age (including one mom and one dad) and by region can win $1,000 each.

As of press time, the points leader going into the final round is a 16-year-old girl who has scored near the maximum in a written test about safe attitudes toward driving and a behind-the-wheel demonstration of car-driving skills but below average in the "knowledge" test, the only portion that aligns with traditional driver education and state licensing exams (asking questions such as "What does a yellow triangular road sign mean?" and "A car going 60 mph needs how many feet to stop?").

In the skill challenge, competitors demonstrate car placement, emergency braking and visual skills in several exercises, including a crash-avoidance maneuver and running over small cups of sand on command.

"It's an old cliché, but this is really where the rubber meets the road," says Thompson, who, along with his instructors, times, measures and scores the drivers as each passes through two laps of a course. All of the exercises are performed at 25 mph or less.

The purpose is to honor and promote successful young drivers who demonstrate safe attitudes, valuable knowledge and driving skills.

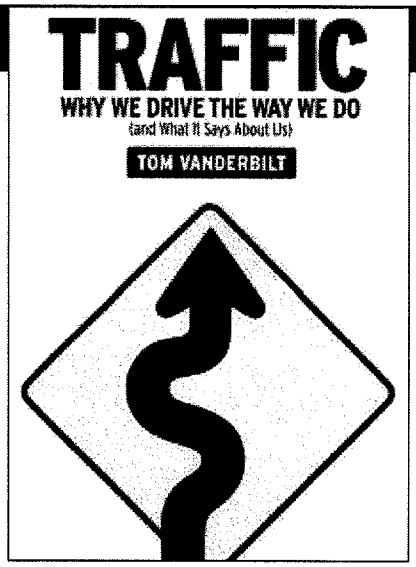
Thompson doesn't train teens without also training parents, who are key elements of the GDL schemes now operating in most states. Typically, parents must sign off on any program their minor children participate in, and few are fully cognizant of the legal liability that may entail (see story on page 26).

Many of today's parents got their licenses during a period when driver education was on the wane in the United States and lack the skills and knowledge that would give them greater insight into what their teens are learning today. Working with the New Jersey Teen Driver Study Commission reviewing that state's GDL system, the Children's Hospital of Philadelphia has recommended improvements that were found to be worthwhile in other states, such as expanded education of parents.

Related measures include limits on unsupervised night driving during the probationary period, allowing only one passenger younger than 18 and expanding the amount of time teens must drive with adult supervision from 30 hours to 50.

The group did not address the issue of distraction, but AAA has launched a campaign recommending that parents step in—even if the law doesn't—to forbid the use of cell phones and text-messaging during a teen's learning period. That would include parents modeling the desired behavior by not using electronic devices themselves while driving.

While we continue to pursue the sort of comprehensive reform of driver licensing that *AutoWeek* has advocated or that Cole envisions, individuals can take actions to enhance roadway safety not only for new young drivers but also for the rest of us who share the road with them.



For Extra Credit
Recommended reading

» TRAFFIC: WHY WE DRIVE THE WAY WE DO (AND WHAT IT SAYS ABOUT US), by Tom Vanderbilt, Knopf, 416 pages, $25.

The entire book is fascinating, but we can wholeheartedly recommend *Traffic* for a single chapter: "Why You're Not As Good a Driver As You Think You Are."

Vanderbilt does not directly address teen-driver education and licensing, but his insights into driver psychology are worth the cover price.

Most drivers rate themselves as above average. Driver's Edge founder Jeff Payne noticed this when he asked parents and teens attending his program to rate their own car-handling skills on a scale of one to 10.

"They inevitably average eight or nine," Payne says. "Really? There's, like, Michael Schumacher, Mario Andretti and then you?"

Vanderbilt finds that not only do drivers not recognize their own unsafe behaviors, but they also are unaware that such behaviors are risky.

Most people, he says, regard driving as an easy task compared with, say, juggling. They can drive repeatedly without failing—their definition of failure being a monumental crash—but always drop the juggled objects. Many say that operating a computer or even a car-racing video game is harder than driving a car, because they often crash the electronic device but have never totaled a real car.

There's an opening here to expand the awareness of drivers regarding the complexity of the task. The understanding of failure to perform at the wheel might include forcing other drivers to make emergency maneuvers, impeding traffic flow and frequent near misses that only avoid becoming tragedies by dint of luck, not driver skill.

Brilliant stuff, highly recommended. —KAW

PARENTS BEWARE!

WHEN YOUR KIDS STRAY, YOU MAY PAY

BY J. P. VETTRAINO

IF YOU THINK your son or your daughter has demonstrated enough skill and responsibility to drive your Corvette Z06 to the homecoming game, think again.

Along with laws creating graduated-licensing programs ("License to Die," *AW*, Aug. 27, 2007), most states have adopted statutes that make parents legally and financially liable for what their minor teens do behind the wheel of a car. Even if your straight-A student is a model citizen and president of the Glee Club, one inappropriate jab at the gas pedal could put at risk everything you've worked hard to build.

Of course, keeping teens out of your high-powered dream machine probably isn't enough. If your 16- or 17-year-old is involved in an accident resulting in injury or damage beyond the scope of insurance indemnity, it may not matter whose car he or she was driving. You could be liable for the consequences, up to and including punitive damages.

"The fundamental reasoning is that you make the person who is in the best position to prevent a potential injury in the first place liable for that injury," says Millie Anne Cavanaugh, a former insurance defense attorney in Los Angeles. "When you are dealing with minor teen drivers, it's pretty easy to identify that person. It's the parent. Even parents who don't care what kind of adult they raise may pay more attention to the raising if there is a financial risk for doing a poor job."

By many accounts, Nick Bollea was not a model citizen, and his recent misdeeds have focused attention in sensational fashion on laws that make parents liable for teen drivers. The son of wrestler-entertainer Hulk Hogan (born Terry Bollea) and a primary subject of VH1's *Hogan Knows Best* reality-TV series, Bollea recently passed his 18th birthday in jail. His incarceration, in Pinellas County, Fla., stemmed from an incident in August 2007 at the wheel of his 1998 Toyota Supra.

Bollea had spent most of that day on Hogan's boat, then headed home through the streets of Clearwater in the tuner-modified, 700-hp Supra he owned with his father. En route, he allegedly began stoplight racing with friend Daniel Jacobs, who was driving Hogan's 2003 Dodge Viper. During one sprint, Bollea lost control. The Supra hit a median curb, slid 100 feet and slammed into a palm tree. Bollea suffered only minor injuries, but passenger John Graziano, a 22-year-old friend recently returned from his second tour of duty in Iraq, suffered massive head injuries and hovered near death.

In May, Bollea pleaded no contest to felony reckless driving. He was sentenced to eight months in jail, five years of probation and loss of his driver's license until age 21. Yet those consequences are only the beginning for him and Hogan and their celebrity family.

Graziano lived, with a severe brain injury that will require constant supervision and medical care for the rest of his life. His family has accumulated more than $1 million in medical expenses, and he will require millions more, with no potential for income.

The Graziano family has sued Bollea—and Hogan—in Florida for compensatory and punitive damages.

The lawsuit alleges that Bollea wanted to be a professional drift racer and practiced his technique on public roadways, with his parents' encouragement. He had been pulled over on several occasions for driving in excess of 100 mph—at least twice with his father in the passenger seat. The suit also alleges that Hogan bought beer on the way to his boat that day and watched as his young guests drank it. He then sent them home, aware of his son's proclivities, in megahorsepower cars that he owned. In short, the suit claims, Hogan knowingly laid the groundwork for disaster.

If the allegations are proved true, Hogan could be held responsible for his son's behavior on several counts. Yet even if they're proved false, the liability Hogan assumed when he signed his minor son's license application remains. If Graziano's injuries are attributed to Bollea's negligence, Hogan's signature exposes him to punitive damages,

which aren't covered by insurance. In Florida, that liability is potentially unlimited.

All but a handful of states now require parental consent at the driving-permit or permit-to-license stage for applicants who are younger than 18. Not all states requiring consent delineate parental liability, but case law can quickly turn consent into liability in the absence of specific statutes. Bottom line: If you allow your minor to get a license, you're potentially on the hook.

"It's not a federal issue, so all states are different," says Cavanaugh, who is licensed to practice in California and Massachusetts. "In California, the statute that requires parental consent caps the amount of financial liability for signing for a license.

"The idea is that parents are in the best position to prevent driving disasters, and that's understandable and appropriate with kids who have demonstrated irresponsibility or substance-abuse problems. The problem, for me, is the instance where a kid has never demonstrated any sign of trouble."

The codification of parental liability has come with the movement toward graduated licensing, which expands a teen's driving privileges in stages, typically extending the requirement for adult supervision over a longer period of time. John Draneas, a Portland, Ore., attorney who is also a club racer, a vintage-rally participant and president of his local Porsche club, agrees that the movement is probably well intended.

"My sense is that these statutes are coming from state legislators who are concerned about the consequences of teen driving, with a lot of input from the usual suspects," such as educators, highway users and the insurance industry, Draneas says. "They're a reaction to statistics that suggest poor driving habits and accidents are age-related."

Some suggest that the idea of parental liability is a product pitched by the insurance industry, but Carolyn Gorman, vice president at the Insurance Information Institute, insists otherwise.

"We've never taken a position on parental liability one way or the other, as far as I know," says Gorman, whose New York-based organization is funded by insurers. "We have advocated the idea of graduated licensing and appropriate education to protect teen drivers."

Some argue that the trend behind parental liability—graduated licensing—has done little to improve teen-driving habits. Jim Baxter, CEO of the National Motorists Association, a for-profit company that advocates road users' rights and helps fight speeding tickets, draws a distinction between "appropriate education" and legitimate driver training.

"We are not proponents of some of the graduated-licensing programs, simply because they've moved the burden of driver education to parents," he says. "In many instances, parents are not the purveyors of good training. They may keep their teen's foot out of the gas in their presence, but they don't necessarily improve overall driving skills. We'd prefer that training begins younger than most graduated requirements allow, starting with simulation.

"The insurance industry is the biggest antitraining proponent out there, because they continue to give appropriate driving skills like car control little credence."

Draneas agrees that graduated licensing isn't what it's cracked up to be. "Accident rates correlate to age, but they are really a function of skill and experience, so what we're left with misses the point," he says. "We're just turning the bad drivers loose when they're 18 rather than 16. The problem is not that drivers aren't old enough. They are not skilled enough, and the only way to address the problem is more effective driver training."

Nonetheless, graduated licensing and parental liability for teen drivers are facts of life, which might leave rational parents wondering not only how to protect their teen drivers but also how to protect themselves.

"Do not sign for your teen's license before they are 18," says Cavanaugh. "Period."

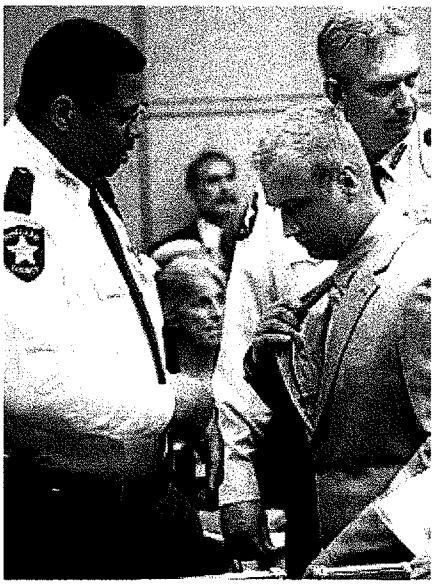
While she realizes that most parents will find that approach inconvenient, and probably inappropriate, Cavanaugh says it's the ultimate defense against the consequences of a teen's behavior behind the wheel. Parents who have signed for a teen's license should be able to withdraw that support at their state's motor-vehicle department.

Cavanaugh also recommends that parents not allow a teen to drive a car registered to or owned by the parent. Providing a car as a gift and registering it to the teen might provide a layer of protection. Parents should provide the best driver training and the most liability insurance they can afford.

Yet all the insurance in the world won't cover punitive damages, which can't be dismissed through bankruptcy. So, if you think your teens are experimenting with alcohol or other controlled substances, don't even let them into the garage.

"My advice is a zero-tolerance policy for anyone under 18," says Cavanaugh. "You need to show that you've done everything you can. If someone can demonstrate you could have done something and didn't, you are going to be liable."

AP PHOTOS (2)



Hulk Hogan and his daughter, Brooke (top), watch as Hogan's son, Nick (above), then 17, is sentenced to jail for causing a crash. Father and son both face a lawsuit in the incident.