
Where Traffic Safety Education Should be Going – An Overview



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Overview

- ▶ How Risky Are Teen Drivers?
- ▶ Recent Driver Education Evaluations
- ▶ Non-Traditional Driver Education Evaluations
- ▶ What is being done to Improve Driver Education Nationally
- ▶ Driver Education Standards
- ▶ ANSTSE and ANSTSE Projects
- ▶ What States are Doing in Driver Education
- ▶ Vehicle Technologies
- ▶ Future of Driver Education

How Risky Are Teen Drivers?

- ▶ For every mile driven, teen drivers have crash rates 4 times higher than drivers age 20 and older.
- ▶ Their crash risk is especially high during the first few months of driving solo.
- ▶ Unfortunately, teen drivers themselves are not the only ones affected by their high crash rates; 2 out of 3 people killed in fatal teen crashes are people other than the teen driver.

Sources: Insurance Institute of Highway Safety and NHTSA Traffic Safety Facts 2017

Why Do Teen Drivers Have Such High Crash Rates?

- ▶ New teen drivers lack driving experience
- ▶ Other key factors include:
 - Overconfidence
 - Sensation-seeking
 - Widespread sleep deprivation among teens
 - Intentional risky driving behaviors, such as speeding, tailgating, and distracted driving

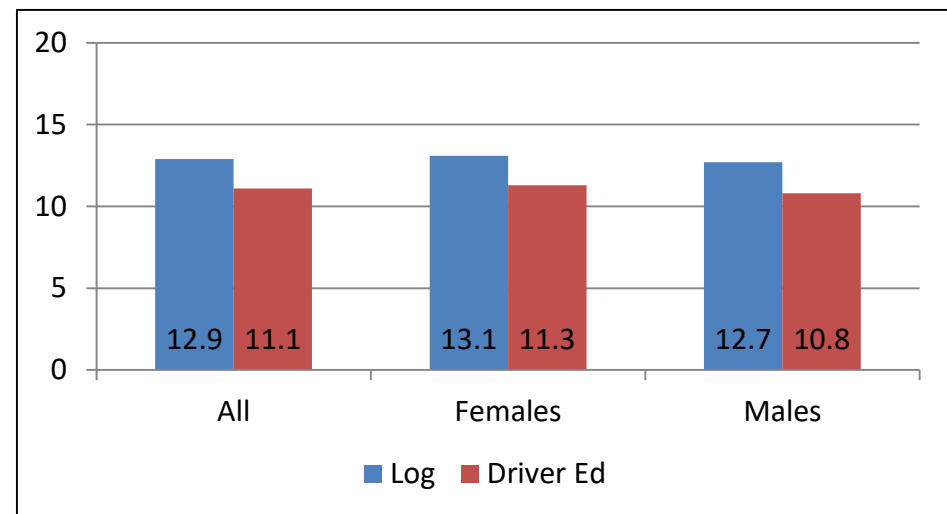
Recent Driver Education Evaluations

- ▶ Early studies did not find an effect.
- ▶ More recent studies involved larger numbers of teen drivers and more advanced methodologies.
 - Nebraska – *Driver Education and Teen Crashes and Traffic Violations in the First Two Years of Driving in a Graduated Licensing System* (Shell, Newman, Córdova–Cazar & Heese, 2015)
 - Manitoba and Oregon – *Evaluation of Beginner Driver Education Programs: Studies in Manitoba and Oregon* (Mayhew, et. al, 2014)

Recent Driver Education Evaluations

- ▶ Reduced crashes and citations of teens who have taken driver education in Nebraska, Manitoba and Oregon show promise.

Percent Crash in First Year Driving



Source: Nebraska Study

Non-Traditional Driver Education

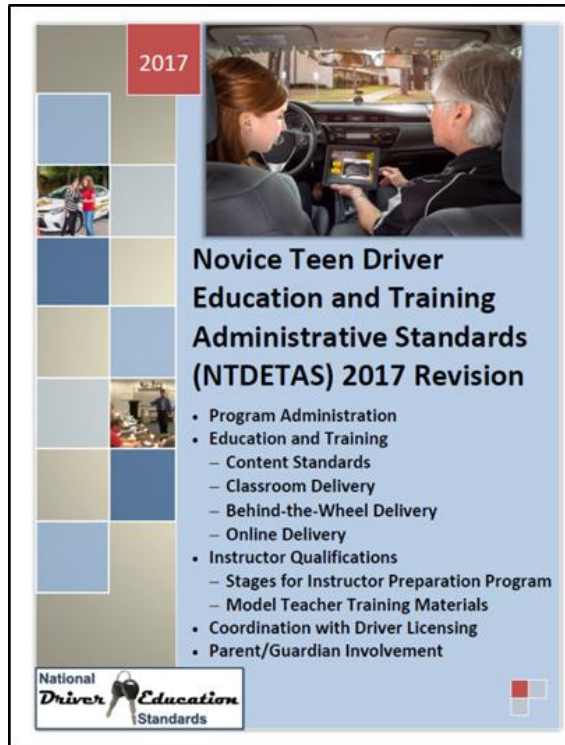
- ▶ teenSMART and risk awareness and perception training (RAPT) show promise.
 - Improves specific driving skills taught in the program
 - Improves knowledge, driving-related skills and on-road driving performance
 - Improved hazard detection
 - Statistically significant lower collision rates

Sources: TIRF Dan Mayhew, “White Paper: Safety Performance of teenSMART” and NHTSA, Evaluation of an Updated Version of the RAPT Program for Young Drivers

What Has Been Done to Improve Driver Education Nationally?

- ▶ NHTSA is deeply involved in supporting efforts to improve driver education.
- ▶ According to Former NHTSA Administrator David Strickland, “*Driver education is a key part of the...approach needed to reduce tragic young driver crashes...*”
- ▶ NHTSA has also funded the creation of the Novice Teen Driver Education and Training Administrative Standards (NTDETAS) and support for ANSTSE.

Novice Teen Driver Education and Training Administrative Standards



1. Program Administration
2. Education and Training (including instructional hours and online delivery)
3. Instructor Qualifications (program & materials)
4. Parental Involvement
5. Coordination with Driver Licensing

ANSTSE Members



AAA



AAA
Foundation for
Traffic Safety



The Association
for Driver
Rehabilitation
Specialist
(ADED)



American
Association of
Motor Vehicle
Administrators
(AAMVA)



American
Driver and
Traffic Safety
Education
Association
(ADTSEA)



Driver Education
and Training
Administrators
(DETA)



Driving
School
Association of
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(DSAA)



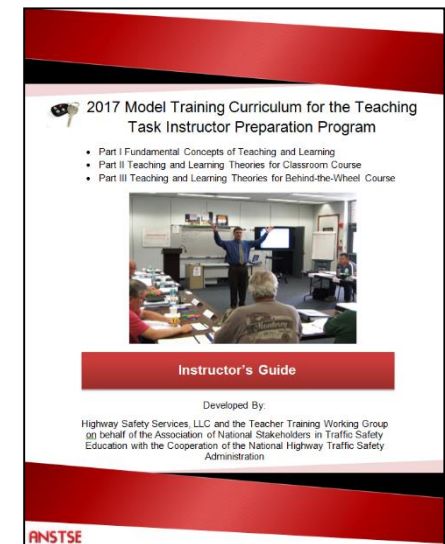
Governors
Highway
Safety
Association
(GHSA)



Transportation
Research Board
(TRB)

Instructor Training Materials

- ▶ Developed model curriculum for the teaching task of driver education teacher training.
 - Part I: Fundamental Concepts of Teaching and Learning
 - Part II: Classroom Teaching and Learning Theories
 - Part III: BTW Teaching and Learning Theories



ANSTSE Website

www.anstse.info

- ▶ Revised NTDETAS
- ▶ Model teaching task instructor curriculum
- ▶ ANSTSE Strategic Plan
- ▶ NHTSA State assessment / ANSTSE technical assistance reports
- ▶ Driver education reports and research



Novice Teen Driver Education and Training Administrative Standards

NTDETAS
Novice Teen Driver Education and Training Administrative Standards
Setting the Standard for Driver Education

Initiating improvements in the administration of driver education and defining the priorities of the driver education community.

ANSTSE
Association of National Stakeholders in Traffic Safety Education

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[Information Sharing System](#)

Resource Library

[ANSTSE Materials](#)

Standards, Strategic Plan, and Instructor Training Materials

[Automated Vehicles](#)

[Driver Education](#)

Overview and Evaluation of Driver Education, Supplemental and Online Driver Education, and Parent Involvement

[Driver Testing and GDL](#)

Driver Licence Testing / Unlicensed Drivers, and Graduated Driver Licensing

[Educational Resource Materials](#)

White Papers, Fact Sheets, Curriculum, Brochures, Press Releases, Presentations, and Webinars

[Personal Operator Factors](#)

Aggressive Driving, Distracted Driving, Drowsy Driving, Effects of Passengers, Impaired Driving, and Occupant Safety

[Reducing Teen Driver Crashes](#)

Traffic and Highway Safety Resources

[State Reports and Resources](#)

Best Practices, State Assessment Reports, and State Technical Assistance Reports

[Statistics](#)

ANSTSE Materials

Standards

Year	Organization	Title
2017	ANSTSE	2017 Novice Teen Driver Education and Training Administrative Standards
2017	ADTSEA	Attachment A – National Curriculum Standards
2017	DSSA	Attachment B – Curriculum Content Standards
2017	ANSTSE	Attachment C – Stages for Driver Education Instructor Preparation Program
2017	ANSTSE	Attachment D – Table of Contents of the Model Training Materials for the Teaching Task
2017	NHTSA	Attachment E – Graduated Driver Licensing System Model
2017	NHTSA	Attachment F – Uniform Guidelines for State Highway Program – Highway Safety Program Guideline No. 4 – Driver Education

Strategic Plan

Year	Organization	Title
2017	ANSTSE	NTDETAS Strategic Plan
2017	ANSTSE	Requirements for the Review and Update of the NTDETAS and Strategic Plan

Instructor Training Materials

Year	Organization	Title
2017	ANSTSE	Full Instructor's Guide (All 3 Parts)



ANSTSE Projects

- ▶ Develop and Disseminate Resources to Assist States in the Implementation of the NTDETAS
- ▶ Core Elements for a Driver Education Parent/Guardian Session
- ▶ Develop Materials for Training Driver Educators on Advanced Driver Assistance System Technologies

Develop Resources to Assist States in the Implementation of the NTDEETAS

▶ Objectives:

- Provide states with strategies to take action to meet the recommendations provided (e.g., Implementation Guide).
- Provide resources to states to assist in implementing the NTDEETAS (e.g., instructor training modules on vehicle technology).
- Enhance resource library on the ANSTSE website to be searchable.
- Increase states awareness of the benefits of conducting a NHTSA State Driver Education Assessment and ANSTSE Technical Assistance.

Core Elements for a Driver Education Parent/Guardian Session

▶ Objectives:

- Increase the value of parent sessions.
- Provide more uniformity in parent sessions.
- Increase the number of States to require/offer parent sessions.
- Help parents become effective driving coaches for their teens.
- Support new young drivers in developing greater driving skills and risk-reduction abilities.
- Provide a foundation for fewer teen motor vehicle crashes.

Training Materials for ADAS

▶ Objectives:

- Raise the level of awareness and understanding of driver educators on vehicle technology systems.
- Prepare driver educators to teach new drivers about current and near-future vehicle technologies through instructor training and continuing development.
- Assist in informing driver educators on vehicle technologies and providing more familiarity with them.

Training Materials for ADAS

▶ Deliverables:

- Lesson plans to train driver educators
- Workbook for participants
- Visuals to support lesson plans
 - Slides
 - Graphics
 - Videos
- Resources for continued personal development

Training Materials for ADAS

- ▶ Expert working group
- ▶ Completion sometime in 2020



Vehicle Technology

- ▶ New challenges for driver training & testing
- ▶ Educate drivers on new technology and to remain engaged in the driving task vs. complacency/dependency
- ▶ Technologies assist the driver, they do not replace the driver
- ▶ Drivers must be alert and attentive at all times, even with safety technology
- ▶ Continuous driver education and training for all drivers on new technologies



Courtesy of
mycardoeswhat.org

Vehicle Technology

- ▶ Rapid advances in vehicle technology
- ▶ Advanced Driver Systems (ADS) vs. Advanced Driver Assistance Systems (ADAS)
 - ADS within the decade
 - ADAS is here today
- ▶ ADAS will NOT remove the need for driver education – will increase the need for driver training
- ▶ ADAS training for ALL drivers

Advanced Driver Assistance Systems (ADAS)

- ▶ Assist the driver but do not perform the driving function
- ▶ Designed to enhance the safe operation of the vehicle by helping drivers with certain tasks
- ▶ Becoming increasingly common and more affordable
- ▶ In vehicles that drivers are using to take their road/skills tests today

Vehicle Technology Levels

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) AUTOMATION LEVELS

Full Automation



0

No Automation

Zero autonomy; the driver performs all driving tasks.

1

Driver Assistance

Vehicle is controlled by the driver, but some driving assist features may be included in the vehicle design.

2

Partial Automation

Vehicle has combined automated functions, like acceleration and steering, but the driver must remain engaged with the driving task and monitor the environment at all times.

3

Conditional Automation

Driver is a necessity, but is not required to monitor the environment. The driver must be ready to take control of the vehicle at all times with notice.

4

High Automation

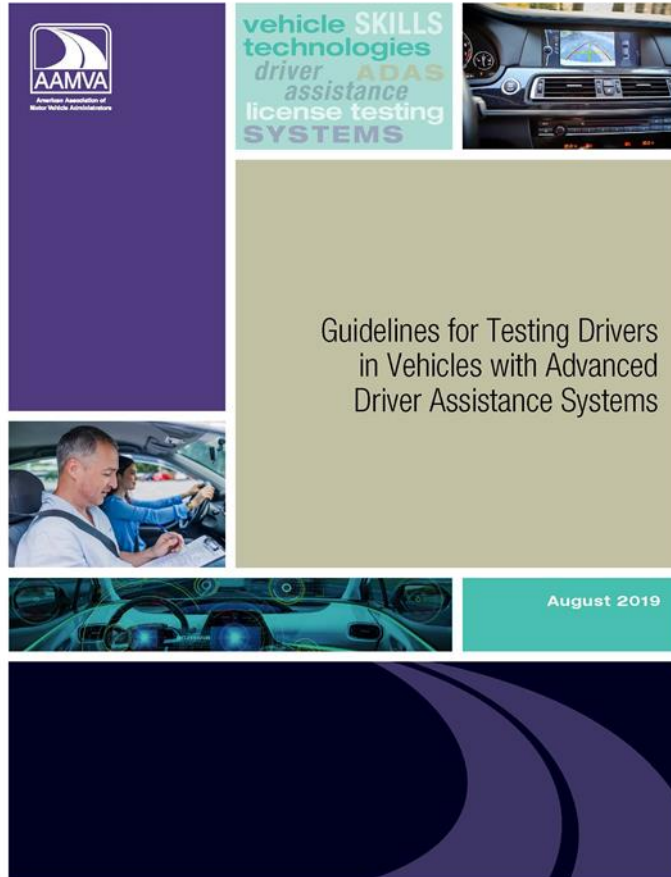
The vehicle is capable of performing all driving functions under certain conditions. The driver may have the option to control the vehicle.

5

Full Automation

The vehicle is capable of performing all driving functions under all conditions. The driver may have the option to control the vehicle.

AAMVA Guidelines for Testing Drivers in Vehicles with ADAS



- ▶ To assist jurisdictions prepare to incorporate ADAS into driver testing programs
- ▶ Provides a description of ADAS technologies and considerations for testing
- ▶ Guidance developed by AAMVA available now
- ▶ www.aamva.org

Types of Technologies

1. **Vehicle Warning System Technologies** notify the driver with a warning, by sound, light or vibration, that a crash is about to occur, or it provides an alert that there is a problem or malfunction.
2. **Vehicle Assistance System Technologies** assist the driver in avoiding a hazard or crash. Some automatically make adjustments to the operation of the vehicle and some assist the driver in making adjustments, such as braking or steering.

Safety vs. Convenience Technologies

- ▶ **Safety Critical Technologies** – may prevent or reduce the severity of a crash (e.g., rear or other cameras, alerts, lane departure warning, emergency braking assist).
 - Should be permissible and not be disengaged during the testing process.
- ▶ **Convenience Technologies** – provide conveniences for the driver (e.g., parking assist feature or auto-cruise control).
 - Are not permitted during testing.

Most Common Technologies

- ▶ Technologies used in vehicles today.
 - Back-up Warning
 - Back-up Camera
 - Parking Sensors
 - Blind Spot Detection
 - Adaptive Cruise Control
 - Lane Departure Warning
 - Lane Keeping Assist
 - Automatic Emergency Braking

Back-Up Warning

- ▶ Uses rear sensors to scan for objects behind the vehicle and alerts the driver if an object is detected.



Back-Up Camera

- ▶ Helps see objects directly behind the vehicle by showing a wide view behind the vehicle while backing. Some cameras show a wider view than others.



Parking Sensors

- ▶ Alerts the driver to the position of objects around the vehicle as they park. Listen for the rate of the warning sounds – a constant tone means the vehicle is close to an object.



Blind Spot Detection

- ▶ Warns the driver of other vehicles driving in their blind spots through display of a symbol, sound or vibration. They may provide an additional warning if a driver uses their turn signal when there are other vehicles in another lane.



Adaptive Cruise Control

- ▶ Can increase or decrease the vehicle's speed to maintain a following distance set by the driver. Advanced versions can even slow and stop the vehicle in traffic jams, then accelerate automatically.



Lane Departure Warning

- ▶ Alerts a driver when they are drifting out of their lane using visual, vibration or sound warnings. This feature can help alert a driver to steer back to the center of their lane if they mistakenly drift, helping to prevent a crash.



Lane Keeping Assist

- ▶ This feature can help return you to your lane if you drift out. This could help prevent a crash.



MyCarDoesWhat.org
Know More. Drive Safer.

Automatic Emergency Braking

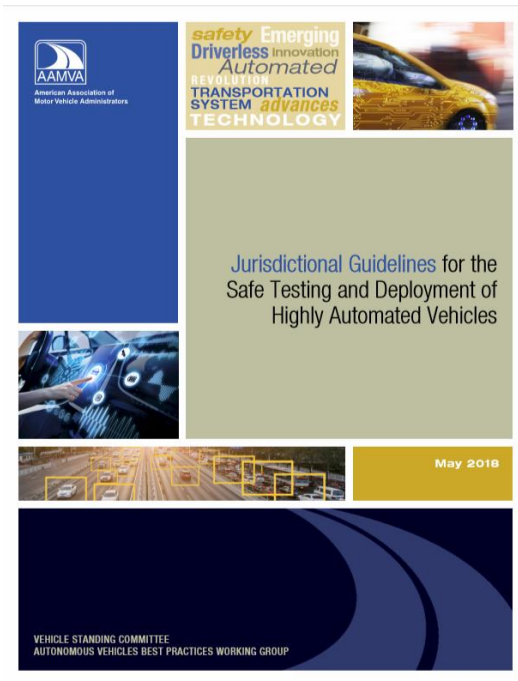
- ▶ This feature can sense slow or stopped traffic ahead and urgently apply the brakes if the driver fails to respond.



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Know More. Drive Safer.

AAMVA Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles

- ▶ Addresses how automated vehicle technology will impact:
 - vehicle registration and titling programs,
 - driver training,
 - testing and licensing programs
 - enforcement of traffic laws and
 - first response to traffic related incidents.
- ▶ Provides recommendations for jurisdictions who regulate testing and deployment of HAVs.



AAMVA Guidelines – Related Sections

5.3 Driver Training for Consumers of Deployed Vehicles

- ▶ Jurisdictions should:
 - Promote consumer training on the use of HAV functions.
 - Encourage manufacturers, dealers, and insurance companies to provide incentives for consumers to receive proper training on the use of HAV functions.
- ▶ Jurisdictions may also need to encourage manufacturers and dealers to offer incentives to consumers to seek training from a fully qualified driving instructor.

AAMVA Guidelines – Related Sections, cont.

5.4 HAV Driver Training for Motor Vehicle Agency Examiners, Driver Education Programs, and Private Instructors

- ▶ Jurisdictions should:
 - Require driver education curricula to contain information on HAVs and to provide hands-on training in the use of HAV technologies.
 - Establish standards for the conduct and training of driver educators and private instructors for the training of drivers on the use of HAVs.

Benefits of ADS and ADAS

- ▶ Helps to avoid crashes with potential of saving lives and preventing injuries. Economic and societal benefits by eliminating the vast majority of crashes
- ▶ Increase in mobility
- ▶ Reduce driver fatigue and inattention
- ▶ Smoother traffic flow and reduced traffic congestion (ride sharing)
- ▶ Increase in technology jobs

Challenges of ADAS

- ▶ Drivers may not understand the purpose and limitations
- ▶ Over confidence, dependency and complacency in technology
- ▶ Increased distractions from technology
- ▶ Confusing, manufacturers use different naming conventions for same type feature
- ▶ Drivers may not always drive a vehicle equipped with technologies; unfamiliarity (e.g., borrow or rent)

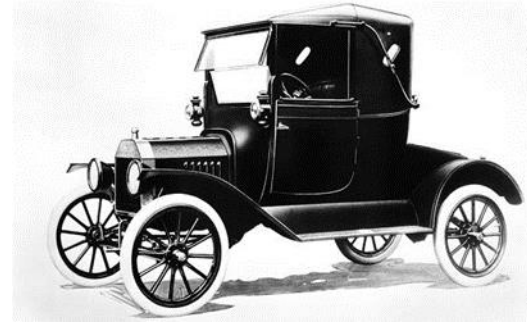
Challenges of ADAS, cont.

- ▶ ADAS may not produce a reduction in crashes alone – driver & vehicle
- ▶ Understanding how to use ADAS and the role of the driver in the safety equation
- ▶ Mix of all highway users (e.g., cars, motorcycles, commercial vehicles, bicyclists, pedestrians, public transportation, etc.)
- ▶ For next several decades, or more, there will be a mix of level 0 – 5 vehicles. This will create a challenge for traffic safety and safety education.



Challenges of ADAS, cont.

- ▶ Model -T Fords are still in circulation.
- ▶ People like to drive in and work on cars. Therefore, manufacturers will produce vehicles for the driving experience with the ability to switch into ADS / ADAS modes.
- ▶ We will not give up the pleasure of driving easily, but will be embraced by future generations.



Opportunities for Driver Education and Training

- ▶ Many opportunities for driver education, training and testing
- ▶ Enhanced training for novice teen drivers and consumers that meets recognized standards
- ▶ Coordination between driver testing and driver education and training



Opportunities for Driver Education and Training, cont.

- ▶ Incentives or certificates for people to seek training:
 - Manufactures
 - Dealers
 - Insurance
- ▶ Driver education and training that meets national standards.



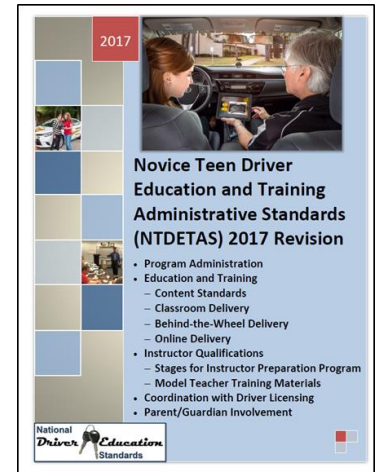
Partnerships Among

- ▶ Manufacturers
- ▶ Dealers
- ▶ Jurisdictional Agencies
- ▶ Jurisdictional Driver License Agencies
- ▶ Insurance Companies
- ▶ Driver Educators
- ▶ Companies / Organizations / Associations
- ▶ Etc.



Driver Education Standards

- ▶ The NTDETAS contains Content Standards which lists training on technologies for all drivers:
 - Appendix A: ADTSEA Curriculum Standards, and
 - Appendix B: DSAA Curriculum Standards
 - Updated in 2017 / next revision in 2020
- ▶ Driver licensing agencies should become engaged in what driver education, that meets the NTDETAS, can do to teach drivers on ADAS.



Summary of ADAS

- ▶ ADAS may not produce a reduction in crashes alone – driver & vehicle – driver training and testing
- ▶ Understanding how to use ADAS and the role of the driver in the safety equation is critical
- ▶ Opportunities for States, manufacturers, dealers and insurance companies to work with professional driver educators
- ▶ The importance of national standards for quality in training
- ▶ Development of driver educator training resources

What are States Doing in Driver Education?

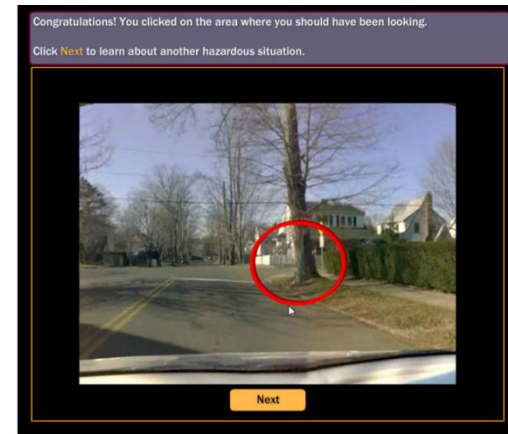
- ▶ Adopting parts of or all the National Standards (NTDETAS), such as:
 - Establishing a state-wide Advisory Board on driver education
 - Strengthening requirements for ongoing education for certified driving instructors
- ▶ Conducting NHTSA assessments of their entire driver education program
- ▶ Utilizing technical assistance provided by ANSTSE/NHTSA to accomplish specific goals to improve driver education at the local level

What are States Doing in Driver Education?

- ▶ Requiring that teens take driver education, or increasing the incentives to take driver education
- ▶ Involving parents during the learning-to-drive process, such as through:
 - Parent/Guardian Seminars
 - Strengthening Parent-supervised practice driving requirements
 - Meetings with BTW teachers / drive-alongs

Future of Driver Education

- ▶ Teaching vehicle technology (new and existing drivers)
- ▶ Focusing on cognitive skill development
- ▶ Online driver education that meets the NTDETAS
- ▶ Non-traditional learning methods
 - Computer based independent student learning (e.g., RAPT)
 - Virtual reality (VR) training



Future of Driver Education

- ▶ Enhanced and evolving materials on impaired operation, driver fatigue, driver distractions, speeding, etc. (leading crash causation factors for teens drivers)
- ▶ Delivery and evaluation methods that facilitate how teens learn today – and tomorrow
- ▶ Blended traditional classroom hours, more BTW instruction combine with non-traditional learning methods

Future of Driver Education

- ▶ Enhanced GDL laws requiring driver education
- ▶ Driver education for >18 year-olds Enhanced parent/guardian participation
- ▶ Instruction for mature drivers (baby boomers)
- ▶ A new approach for training driver education teachers/instructors (driver educators)
- ▶ Ongoing / refresher training (continued education) for driver educators

Future of Driver Education

- ▶ License waiver programs for successful completion of approved driver education.
- ▶ Continued and enhanced partnerships at the local, state and national levels
- ▶ Quality assurance / teacher evaluations
- ▶ A change/acceptance in SAFETY CULTURE
- ▶ A continued vision to move driver education forward...



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Questions

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Thank you!

Thank you for your support and interest in Driver Education and Training!

Advancing Quality in Driver Education!

