# Stopgap Measures in Driver Education During a Pandemic or an Emergency

This document provides temporary solutions for behind-the-wheel instruction, end-of-course knowledge testing and driving performance assessment.

In collaboration with

**ANSTSE**

The Association of National Stakeholders in Traffic Safety Education

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## Purpose

The purpose of this report is to provide stopgap measures to address disruptions in driver education and training that occur during a pandemic or an emergency. These stopgap measures assist State driver education administrators and providers in maintaining operational continuity and levels of service in driver education. The report focuses on two high priority issues:

1. Behind-the-Wheel (BTW) instruction
2. Testing/assessment

The report also highlights the need for States and programs to develop and maintain a risk management plan to address the disruption in driver education services during the current pandemic and other future emergencies.

## Background

The Association of National Stakeholders in Traffic Safety Education (ANSTSE) consists of volunteers representing national Associations in traffic safety education. This stakeholder group was formed in 2010 to support an initiative from National Highway Traffic Safety Administration (NHTSA) in creating national driver education standards, now known as the Novice Teen Driver Education and Training Administrative Standards (NTDETAS).

Representatives from some of the most prestigious organizations with expertise in the driver education and driver licensing community from across the United States were convened. To date this stakeholder group continues to inform the driver education and training community, serving under a formal charter.

Brett Robinson, Executive Director of the American Driver and Traffic Safety Education Association (ADTSEA) and President of Highway Safety Services, LLC serves as the ANSTSE Secretariat.

The NTDETAS are recommended and intended to be accepted as the minimum standard for "novice driver education programs" within the United States, which States should strive to implement. To promote the effective implementation of the NTDETAS, ANSTSE serves in an administrative capacity, offering technical assistance support to States for implementation of the standards. For more information on ANSTSE or the NTDETAS, visit the ANSTSE website at www.anstse.info.

## ANSTSE

Consists of the following organizations and representatives:

- AAA and AAA Foundation for Traffic Safety, William Van Tassel Ph.D.;

- American Association of Motor Vehicle Administrators (AAMVA), Kevin Lewis;

- American Driver and Traffic Safety Education Association (ADTSEA), Connie Sessoms;

- Association for Driver Rehabilitation Specialists (ADED), Elizabeth Green;

- Driver Education and Training Administrators (DETA), Nina Jo Saint Ph.D.;

- Driving School Association of the Americas (DSAA), Sharon Fife;

- Governors Highway Safety Association (GHSA), John Saunders; and

- Transportation Research Board (TRB), Dan Mayhew.

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Serving as the premier group of national stakeholders in driver education and training, ANSTSE advocates areas of common ground for the improvement of traffic safety education to keep the United States' roadways safer. With the COVID-19 pandemic outbreak, ANSTSE stepped forward to offer its expertise and support to States and providers amid an unprecedented time in United States history. State mandates, that included public shutdowns, affected most educational efforts, including driver education programs. These mandates include health screening and social distancing accommodations that have become the norm throughout the United States. With guidance from several professional organizations and State offices, some driver education providers were able to make appropriate adaptations to continue to offer driver education and training opportunities.

In response to State driver education administrators', driver education providers' and teachers'/instructors' inquiries amid the pandemic, ANSTSE conducted webinars on March 20 and April 28, 2020 with State Administrators to discuss issues related to the COVID-19 pandemic to assist them in collaborating and sharing resources. These webinars identified the need for ANSTSE to initiate a Community of Practice (CoP). According to the Centers for Disease Control and Prevention (CDC), a CoP serves as a means for like-minded individuals to learn, share expertise, and work together to find solutions to common problems in their communities' focus areas.

Through the framework of the CoP and at the early onset of the pandemic, State driver education administrators were asked to identify their greatest State-level concerns, potentially requiring stopgap measures for driver education. Shown in Figure 1, of 21 participating State administrators, 95% felt that conducting BTW instruction was their greatest challenge, following closely with a 75% response rate related to testing/ assessment practices. Both BTW and testing/ assessment are clearly a challenge due to the



Figure 1: Greatest Challenges States are Faced with During the Pandemic

As of April 28, 2020

need for social distancing practices to help prevent the spread of the virus and the need to resolve backlogs for the completion of BTW and assessments. Other areas of shared concern were identified by States that may be a focus for future CoPs, but these two clearly stood out as initial areas of focus.
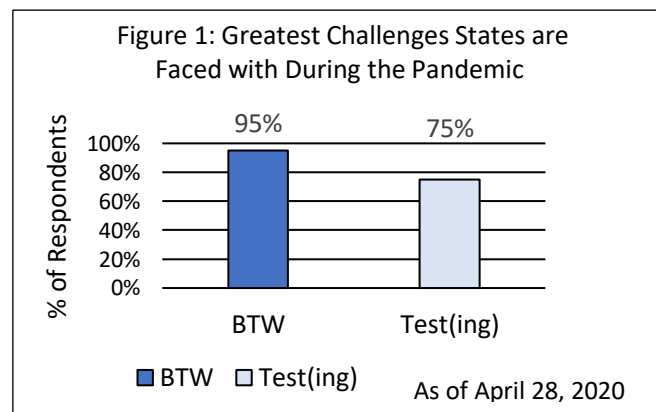
## ANSTSE Task Groups

In response to the need to implement the CoP, ANSTSE formed two task groups of subject matter experts (SME's) to examine the priority concerns and to begin to build the cornerstone solutions that would benefit everyone across the United States. The assembled task groups consisted of State driver education administrators, driver education providers, driver education teachers/instructors, driver license administrators, third-party providers, traffic safety researchers and injury prevention specialists with expertise in 1) BTW and 2) testing/assessment. The task groups met regularly through web meetings to discuss, develop and prioritize stopgap measures

to serve as guidance, recommendations, or alternative solutions for State driver education administrators during a pandemic or an emergency. Both task groups were managed by Brett Robinson, Executive Director of ADTSEA, President of Highway Safety Services, LLC and ANSTSE Secretariat; and Christie Falgione, Project Manager for ADTSEA and Highway Safety Services, LLC.

### Behind-the-Wheel (BTW) Task Group

The BTW Task Group consists of the following members:

- Prince Boparai (WI), Driving School Owner, Teach Safe LLC and United Driving School
- Troy E. Costales (OR), Facilitator, Highway Safety Professional*
- Sharon Fife (OH), ANSTSE Chairperson, Past-President Driving School Association of the Americas (DSAA), Driving School Owner, D and D Driving School, Inc.
- Reggie Flythe (NC), retired Driver Education State Administrator, North Carolina Department of Public Instruction
- Greg Mangan (TN), Driving School Owner, Drive4Life Academy
- Jacqueline Milani, Senior Highway Safety Specialist, Enforcement & Justice Services Division, National Highway Traffic Safety Administration (NHTSA)
- Michael Wagner (DE), Driver Education State Administrator, Delaware Department of Education
- Chelsea Ward McIntosh MS, CCRP, Neuroscience of Driving Program Manager, Children's Hospital of Philadelphia (CHOP)
- Flaura Winston, MD Ph.D., Chair in the Department of Pediatrics, Scientific Director, Children's Hospital of Philadelphia (CHOP)

*Represents ANSTSE designated Task Group facilitator.*

The following topics were examined and discussed by the BTW Task Group and are included in the stopgap measures:

- Assisting with Behind-the-Wheel Instruction
- Availability of Teachers/Instructors
- Dealing with Backlogs for Behind-the-Wheel Instruction
- Completing Required In-Car Student Observation Time

### Testing/Assessment Task Group

The Testing/Assessment Task Group consists of the following members:

- Suzanne Hill MA, Program Director, Advocacy and Outreach, Children's Hospital of Philadelphia (CHOP)
- Andrew Krajewski, Facilitator (MD),* retired Director Driver Safety, Maryland Motor Vehicle Administration
- Jacqueline Milani, Senior Highway Safety Specialist, Enforcement & Justice Services Division, National Highway Traffic Safety Administration (NHTSA)

- Dave Muma (MI), Driving School Owner and Third-Party Tester, Century Driving School of Holland
- Nina Jo Saint Ph.D. (TX), ANSTSE Vice Chairperson, Executive Director Driver Education and Training Administrators (DETA)
- Joan Saleh (D.C.), Driver Services Administrator, District of Columbia Department of Motor Vehicles
- Jennifer Sletten (MN), Public School Driver Education Teacher, Rothsay Public School
- Carol Thurn (ND), Program Manager, Safety Division, North Dakota Department of Transportation
- Chelsea Ward McIntosh MS, CCRP, Neuroscience of Driving Program Manager, Children's Hospital of Philadelphia (CHOP)

*\* Represents ANSTSE designated Task Group facilitator.*

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The following topics were examined and discussed by the Testing/Assessment Task Group and are included in the stopgap measures:

- Distance-Learning End-of-Course Knowledge Testing
- In-Car Behind the Wheel Assessments
- Parent/Guardian In-Car Assessments
- Third-Party Driver Education Provider License Testing

## Risk Management Planning

The results of this emergency pandemic have helped us all to learn the value and importance of risk management planning. During the continuation of the pandemic and other future emergencies, State driver education administrators, driver education providers and national safety organizations must have current plans in place for the continuation of driver education instructional programs including BTW instruction and testing/assessment.

According to the Project Management Institute (PMI)[1] and the Project Management Body of Knowledge (PMBOK Guide)[2], "Risk is an uncertain event or condition, that if it occurs, has a positive or negative effect on one or more project objectives such as scope, schedule, cost or quality,"

*The task groups recommend that States and providers prepare for and adapt to the pandemic and any future pandemics or emergencies by participating in risk management planning and considering which stopgap measures may be best suited for their State.*

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[1] Project Management Institute, 2008. The meaning of risk in an uncertain world. Retrieved from https://www.pmi.org/learning/library/project-risks-uncertain-world-8392.

[2] Project Management Institute, 2017. Project management body of knowledge (PMBOK Guide). Newton Square, PA.

(p.237). By utilizing the theories from PMI, an organization can be better positioned to manage or mitigate emergency situations, should they arise.

The definition of Risk has been accepted as part of the International Organization of Standardization (ISO). ISO is an independent, non-governmental body of international organizations. The definition of risk was developed by an international committee representing over 30 countries and is based on the input of several thousand subject matter experts[3]. According to PMI, Risk Management is, "The identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization or opportunities. Risk can involve both known and unknown risks. The ideal situation would be to implement a planned risk response, should either occur. It is therefore essential for organizations to act in a proactive manner to develop a strategy for managing risks."

ANSTSE recommends that States consider the options outlined in this report and conduct a process to develop a Risk Management plan. While PMI recommends a set of six steps, implementing even a few basic steps will help States as they continue to address the current pandemic and to address emergency preparedness in the event there is a future need for such action.

## Opportunities/Recommendations

- Conduct a group process to identify potential risks. Include a description of the risk, timeframe, and assign a risk manager (do not name a person, but assign it to a role or position which will help in the event of staff turn-over or attrition).
- Perform a qualitative risk analysis to further understand your organizational risks and to help plan risk response strategies.
- Develop a risk response plan. This plan will help determine when to accept, avoid, mitigate, transfer or take some other action to address a risk should it arise.

## Utilizing the Stopgap Measures

As the stakeholder group supporting the NTDETAS, ANSTSE will always put the NTDETAS first, but also recognizes that unordinary times require extraordinary responses. States should always strive to provide quality and consistent driver education and training no matter the circumstances.



2017

**Novice Teen Driver Education and Training Administrative Standards (NTDETAS) 2017 Revision**

- Program Administration
- Education and Training
  – Content Standards
  – Classroom Delivery
  – Behind-the-Wheel Delivery
  – Online Delivery
- Instructor Qualifications
  – Stages for Instructor Preparation Program
  – Model Teacher Training Materials
- Coordination with Driver Licensing
- Parent/Guardian Involvement

National **Driver** **Education** Standards

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[3] Dittmer, J. (2013). Risk management and the PMBOK. Retrieved from https://pmiwdc.org/sites/default/files/presentations/201310/PMIW_LocalCommunity_WashingtonCircle_PresentationSlides_2013-09.pdf

The stopgap measures are based on expert opinion and promising practices already in place or adopted in response to COVID-19 in some States. Due to the emergency and time-sensitive nature of the current pandemic, they have not been proven to perform as well as or better than usual methods of BTW instruction and driver testing/assessment. Research may be needed to establish the operational, cost, and safety effectiveness of these stopgap measures compared to the usual methods they replace during the COVID-19 pandemic and future emergencies.

> *The stopgap measures provided in this report are temporary short or mid-to-long term fixes for considerations by States and should not become permanent practices or policies. However, as time evolves, some of these stopgap measures may prove themselves as permanent solutions (see the Possible Permanent and Temporary Solutions for Driver Education section of this report). The NTDETAS remain the minimum standards for excellence in driver education.*

The stopgap measures provided in this report may offer an opportunity for individuals in the field of research to help front line driver educators and State administrators better understand the value, validity and effectiveness of these measures. State administrators are encouraged to research available resources and make their own determination on how to resolve or respond to the challenges they are facing. A shared resource library has been made available by ANSTSE affording State driver education administrators to benefit from the work of the CoP task groups. Additional resources are available at www.anstse.info.

ANSTSE has provided these stopgap measures for State consideration and implementation prior to being utilized by driver education providers and teachers/instructors. Providers and teachers/instructors will need to follow all regulations and requirements established by the State and/or the driver education program.

These stopgap measures may not be possible for all States to implement. In many cases, these measures may require amending laws, rules, policies or standards. What works in one State may not work in another. States will need to take into consideration other areas that may be impacted by the measures including insurance, liability, funding and limitations to the stopgap measures. They should also consider whether these stopgap measures for resolving challenges to BTW and testing/assessment meet the operational and safety objectives of their driver education program. State administrators need to create plans now to avoid future problems by participating in risk management planning and considering which stopgap measures may be best suited for their State (see the Risk Management Planning section of this report).

States and providers should identify and deploy mitigation health and safety strategies to protect teachers/instructors, students and parents/guardians in a pandemic or emergency. "Tips for COVID-19 Management in Driver Education" have been developed and offered by the American Driver and Traffic Safety Education Association (ADTSEA). You can obtain these tips at this web address: www.adtsea.org under Resources/Driver Ed Curriculum and Resources.

## Section 1: Stopgap Measures for Behind-the-Wheel Instruction within Driver Education During a Pandemic or an Emergency

This section addresses stopgap measures to assist with behind-the-wheel (BTW) instruction in driver education during a pandemic or an emergency. State practices within BTW identified as possible stopgap issues needing resolution included:

- conducting BTW instruction,
- availability of teachers/instructors,
- dealing with backlogs, and
- in-car student observation time.

In addition to reviewing State practices, information was gathered on perception-based instruction and multiple-car driving range instruction. There may be future occasions where BTW may be shut down, for instance, if there are additional waves of the current COVID-19 pandemic or other future emergency situations, where stopgap measures should be given consideration. Subsections 1 through 4 provide possible stopgap measures for implementation and consideration in planning for future emergencies.

### Subsection 1: Assisting with Behind-the-Wheel Instruction

Driver education providers were unable to conduct BTW instruction during shutdowns due to stay-at-home orders or other restrictions imposed for public safety reasons. Maintaining physical distancing during BTW/in-car lessons and to ensure providers are following proper safety and health precautions to prevent the spread of the virus poses challenges. The following are possible stopgap measures to BTW instruction for consideration in creating a risk management plan at the State and provider level:

### Multiple-Car Range (MCR) Instruction

*Background*



Multiple-car range (MCR) is a defined roadway course closed to public traffic allowing for the re-creation of various basic driving scenarios. MCR instruction has been utilized for decades and some States still allow for the substitution of some BTW instructional hours in regulation or rule, although few programs still take advantage of substitution hours utilizing MCRs. The MCR allows for multiple training vehicles to be used simultaneously for instructional purposes (greater teacher/instructor to student ratio) that allows for an environment for students to interact with other vehicles on an off-street facility, under the direction of one or more teachers/instructors who are positioned outside of the instructional vehicles. The MCR method allows one student per car (or a student and their parent/guardian) to operate simultaneously. The teacher/instructor typically interacts with the beginning drivers via communication devices. Individualized lessons in a parking lot are NOT the same as MCR instruction. (See the ANSTSE recording on utilizing MCR instruction at www.anstse.info.)

*Suggestions for Implementing*

In a pandemic or an emergency, the State could:

1.  Allow for and consider amending laws, rules, policies or standards, if required, to grant permission to schools (public and private/commercial) to exercise the option to utilize MCR instruction, only for BTW introductory lessons (only lower speed maneuvers can be completed in this environment), to partially augment/substitute MCR instruction for BTW instruction hours, if not already in place.
2.  Approve MCR options for solutions to meet instructional hour requirements that may include a combination of the following:
    a.  Allow for the substitution of two hours of MCR instruction time for one hour of actual on-street BTW instruction time.
    b.  Limit the substitution to no more than one-half of the total required hours of BTW instruction.
    c.  Limit the MCR instruction substitution hours to be counted toward BTW hours and not towards classroom instruction hours.


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    d.  Allow for the utilization of MCRs to assist those students who only need one or two more hours of BTW driving to complete the remaining required hours, only if on-road BTW instruction is suspended.

If MCRs are utilized during a pandemic or an emergency, driver education providers should:

1.  Allow only one student per vehicle.
2.  Ensure the teacher/instructor(s) remain outside of all vehicles, during instruction time.
3.  Allow parents/guardians to ride with their teen, if desired, as long as the parent/guardian is utilizing their personal vehicle, shows proof of insurance and makes sure their insurance agent is aware they are using the vehicle on an MCR so there is no issue with the insurance coverage.
4.  Limit the use of driver education program owned vehicles on the MCR to students only (no parents/guardians in program vehicles) to ensure program insurance coverage is valid.
5.  Develop or obtain comprehensive lesson plans that can be executed on the MCR.
6.  Ensure teachers/instructors are trained and retrained in the methods for teaching driving skills for MCR instruction, including how to communicate effectively with the students.
7.  Ensure that students are familiar with how to safely operate the vehicle on an MCR, including how to communicate with the teacher/instructor and the importance of following the teacher's/instructor's directions.



8.  Require MCRs to be set up on school-owned or leased property to ensure students and vehicles have insurance coverage in case of an emergency.
9.  Limit the number of individuals that can be on the MCR based on your State's physical distancing guidance and limitations on social gatherings.
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10. Use communication devices (e.g. two-way radios) to interact with students while teaching on the MCR. See ANSTSE recording on utilizing MCRs at www.anstse.info.
11. Follow all State and local health and safety guidelines/requirements. Additional health and safety tips for driver educators are also available at www.adtsea.org under Resources/Driver Ed Curriculum and Resources.

*Other Considerations for the State Before Implementing*

1. Recognize that many schools or driver education programs do not have access to an established MCR.
2. Recognize that finding enough space to set-up an MCR can be challenging. Onsite or offsite parking lot options may be available.
3. Recognize that teachers/instructors or other educators would need to learn how to best set up an MCR and how to utilize them appropriately.
4. Realize that facilitating MCR instruction has not been included in most teacher/instructor training programs for at least the last decade; therefore, many teachers/instructors have not been trained or prepared to teach MCR instruction.

> *While most of the other stopgap measures provided in this document are temporary solutions, using MCR to assist with BTW instruction may likely be a permanent solution States may choose to adopt.*

## Simulation, Computer-Based Training Programs and Virtual Reality (VR)

*Background*

Driving simulation employs interactive computer programs which may or may not utilize basic vehicle controls and instruments imitating real or imaginary driving scenarios. Simulation is often used to create events that would normally be impossible, difficult, or dangerous to the novice teen driver and other roadway traffic users. Simulation instruction has been utilized for decades and some States still allow for the substitution of some BTW instructional hours in regulation or rule, although few programs still take advantage of substitution hours utilizing simulation instruction.


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Computer-based training (CBT) provides education that is primarily administered using a computer at a designated workstation or at home rather than a traditional in-person teacher/instructor approach. CBT may be delivered over the web utilizing training programs or platforms.

Virtual reality (VR) refers to a computer-generated simulation in which a person can interact within an artificial three-dimensional environment in a seemingly real or physical way using electronic devices, such as a headset/screen, controls and/or gloves fitted with sensors. Systems may or may not have basic vehicle controls and instruments.

Driving simulators have been in use for decades and newer simulator technologies have achieved significant advancements. The recent introduction of VR training has also added to the advancement in available technologies. Modern simulation, CBT and VR show promise for aiding in the process of teaching driver education.

Some of these technologies may assist in developing cognitive skills for hazard perception, awareness and decision making. This is especially the case as available research suggests that part-task computer-based hazard perception training improves hazard detection and response, at least in a simulated driving environment (Romoser et al., 2014; McDonald et al., 2015). A CBT program on Risk Awareness and Perception Training (RAPT) for young drivers has been shown to improve hazard detection on a simulator and on-road (Garay-Vega et al., 2007; Fisher 2008; Pradhan et al., 2006; Thomas et al., 2017). A recent crash-based evaluation of an upgraded version of this program produced mixed results, significantly lower crash rates for males but not females (Thomas et al., 2015). For NHTSA's evaluation of an updated version of RAPT visit: www.anstse.info. Additional references to research on simulation, CBT and VR as training and assessment tools for young drivers is in Appendix A.

*Suggestions for Implementing*

In a pandemic or an emergency, the State could:

1. Allow for and consider amending laws, rules, policies or standards, if required, to grant permission to schools (public and private/commercial) to exercise the option to utilize simulation/CBT/VR instruction, to partially augment/substitute for BTW instruction hours, if not already in place.
2. Approve simulation/CBT/VR options for solutions to meet instructional hour requirements that may include a combination of the following:


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   a. Allow for the substitution of four hours of simulation/CBT/VR time to one hour of actual BTW instruction time.
   b. Limit the substitution to no more than one-half of the total required hours of BTW instruction.
   c. Limit simulation/CBT/VR instruction substitution hours to be counted toward BTW and not towards classroom instruction hours.
   d. Utilize simulation/CBT/VR to assist those students who only need one or two more hours of BTW driving to complete their remining required hours when BTW is suspended.

In a pandemic or an emergency, driver education providers could:

1. Develop or obtain comprehensive lesson plans that can be executed using simulation/CBT/VR.
2. Ensure that teachers/instructors are trained and retrained in the methods for teaching simulation/CBT/VR instruction.
3. Ensure that students are familiar with using simulation/CBT/VR instruction.
4. Limit the number of individuals that can use simulators/CBT/VR simultaneously/daily if used in the classroom so physical distancing and cleaning practices are maintained, unless a CBT program is completed at home using the student's home computer.

5.  Follow all State and local health and safety guidelines/requirements. Additional health and safety tips for driver educators are also available at https://www.adtsea.org under Resources / Driver Ed Curriculum and Resources.

*Other Considerations Before Implementing*

1.  Take into account the cost benefits of such equipment and the availability of emergency or other funds to implement and maintain. Schools may not have access to equipment or funds needed at the onset of an emergency.
2.  Identify teacher/instructors who would need to learn how to conduct simulation/CBT/VR instruction and how to utilize the practice appropriately.
3.  Realize that facilitating simulation/CBT/VR instruction has not been included in most teacher/instructor training programs for at least the last decade; therefore, many teachers/instructors have not been trained or prepared to teach simulation/CBT/VR instruction.

> *While most of the other stopgap measures provided in this document are temporary solutions, using simulation/CBT/VR to assist with BTW instruction may likely be a permanent solution States may choose to adopt.*

## One-on-One BTW/In-Car Instruction

*Background*

Multiple students and the teacher/instructor in the training vehicle at the same time during BTW/in-car lessons require proper safety and health precautions and presents challenges for maintaining physical distancing practices. While MCRs or simulation/CBT/VR instruction may provide alternatives to augment BTW/in-car lessons, they may not be practical or financially feasible for some programs to implement.


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Therefore, one-on-one BTW/in-car instruction may be necessary to minimize potential exposure among multiple individuals in close proximity in the vehicle. Many States require multiple students in the training vehicle for liability purposes, which may not be prudent during a pandemic or an emergency. If one-on-one BTW/in-car instruction is permitted, States will need to establish acceptable requirements and procedures (e.g. use of dash and/or mirror cameras, if acceptable) to cover the liability issues.

*Suggestions for Implementing*

In a pandemic or an emergency, the State could:

1.  Implement requirements for the conduct of one-on-one BTW/in-car instruction with a single student while meeting all State safety and health guidelines.
2.  Consider liability issues and other considerations that may impact one-on-one instruction when establishing requirements.

## Subsection 2: Availability of Teachers/Instructors

*Background*

As with any profession, there are standards of professional development for driver educators. A successful driver education program relies on the training and qualifications that individuals in this chosen profession attain. NTDETAS provide the specific details related to the training of driver education teachers/instructors. The NTDETAS provide information on the minimum standards for teacher/instructor training and qualifications, including prerequisites, entry assessments, course content from State approved driver education curricula, the teaching task, a student teaching practicum or mentorship, exit assessments and ongoing training and recertification. For specific details on Instructor Qualifications, see Section 3.0 of the NTDETAS.


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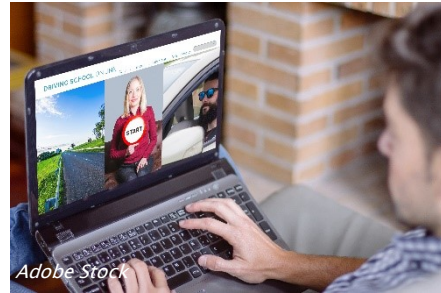
When emergency situations arise, these professionals need to be afforded training and certification/licensing opportunities so the field can continue to grow and to maintain the highest level of competency-based knowledge and skills possible.

*Suggestions for Implementing*

In a pandemic or an emergency, the State could:

1. Allow for alternatives to face-to-face instruction (e.g. virtual*, online** or distance-learning***) for various segments of the teacher/instructor training and/or certification process (not requiring student interaction with the teacher/instructors) and consider amending laws, rules, policies or standards, if required.
2. Develop a plan to resume teacher/instructor training and/or licensing of teachers/instructors as soon as possible during and following the pandemic or emergency.
3. Allow for emergency waivers for teacher/instructor training to be used to hire new teacher/instructors, at a minimum for just BTW instruction, if not already permitted.
4. Maintain certification/licensing standards, not allowing for reduced hours of training for any level/portion of training or certification (e.g. classroom or BTW teacher/instructor). It is imperative to maintain the highest competency-based knowledge possible.
5. Conduct BTW teacher/instructor training or final BTW teacher/instructor assessments in-person in a 1:1 manner.
6. Allow for emergency waivers for teacher/instructor recertification as a stopgap measure (e.g. extension for required hours of professional development).

*Virtual – with respect to online education, being on or simulated on a computer, electronic device or computer network; occurring or existing primarily online or a learning experience that is enhanced through utilizing computers and/or the internet both outside and inside the facilities of the educational organization. The teaching activities are carried out online whereby the teacher/instructor and students are physically separated (in terms of place, time, or both).

**Online – a driver education program in which the classroom/theory portion is delivered via the Internet utilizing a Learning Management System.

***Distance-learning – a method of studying in which lectures are broadcast or classes are conducted by correspondence or over the Internet, without the student's needing to attend in-person (sometimes referred to as remote or virtual learning).

In a pandemic or an emergency, driver education providers could:
1. Recruit new or previously certified teacher/instructors:
   a. Reach out to teacher/instructors who were previously certified as driver education teacher/instructors but are not currently working as a teacher/instructor.
   b. Reach out to encourage current public-school teachers/employees to consider working part-time during off-hours or during holidays (such as summers, extended winter/spring breaks).
   c. Identify and solicit other potential teachers/instructors with previous training or relevant experience in the field (e.g. retired law enforcement, school bus drivers).
2. Consider assignments for teachers/instructors to conduct BTW, MCRs, simulation/CBT/VR or virtual classroom instruction solely or some combination based on their health and safety comfort level.


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3. Consider health and safety factors that may pose hurdles for some teachers/instructors but not others. With the current pandemic, some teachers/instructors may only be comfortable teaching BTW to students who are being taught high school lessons at home in a virtual environment.

*Other Considerations Before Implementing*

1. Review current teacher/instructor qualifications, strengths, weaknesses and level of comfort. Fully understanding a teacher's/instructor's past performance can afford greater flexibility in their assigned workload or in the students assigned to them.
2. Identify alternatives for currently certified/licensed individuals to maintain their certification.
3. Assist current teacher/instructors with maintaining their credentials/certifications.
4. Take into account the level of difficulty and time required for the proper training and hiring of new teacher/instructors. Training State-to-State can vary and can take anywhere from two weeks to six months or longer.
5. Examine alternative methods that can be enacted during an emergency to help recruit and train new teacher/instructors.

**Subsection 3: Dealing with Backlogs to Behind-the-Wheel Instruction**

*Background*

Delays in providing BTW lessons to students who began their instruction process or dealing with those new students who need to begin the instruction process, may create backlogs during a pandemic or an emergency. In some instances, BTW may not be able to be conducted until the emergency subsides. In these instances, stopgap measures for dealing with backlogs may need to be considered.

*Suggestions for Implementing*

In a pandemic or an emergency, the State and providers could:

1. Develop a plan for addressing the backlog of BTW before resuming instruction.
2. Develop a plan to reduce the backlog of BTW by calculating the total number of hours needed to complete BTW with currently enrolled students first.


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3. Determine how to assign teachers/instructors willing to teach BTW, determine how many teachers/instructors and the number(s) of cars needed (separate groups - morning, afternoon, evening so cars are constantly in use).
4. Use a staggered restart, give priority to students that are nearing their license requirements and are ready for BTW testing.
5. Clear the backlog of currently enrolled students before enrolling new students in BTW.
6. Utilize MCRs with more skilled drivers or drivers who have already begun BTW, if allowed by State regulations.
7. Utilize MCRs to conduct introductory BTW lessons, if allowed by State regulations.


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8. Utilize simulation/CBT/VR for students enrolled in driver education to serve as the introductory lessons or in situations where BTW is suspended.
9. Utilize simulation/CBT/VR for those students who only need one or two more hours of BTW driving to complete the remaining required hours.
10. Temporarily increase the number of hours a teacher/instructor may instruct per day/week to address the backlog, if required.
11. Communicate with students prior to the day of a lesson regarding health and safety protocols, checks or other proactive measures that will eliminate delaying BTW for others. See ADTSEA's "Tips for COVID-19 Management in Driver Education" at www.adtsea.org under Resources/Driver Ed Curriculum and Resources.
12. Provide resources to parents or guardians on BTW basics and encourage them to start practicing with their teen prior to BTW instruction. Encourage parents/guardians to coordinate with the certified/licensed teacher/instructor so their time can be focused on more difficult and challenging lessons and maneuvers, if allowed by State regulations. The minimum hours of BTW must still be met.
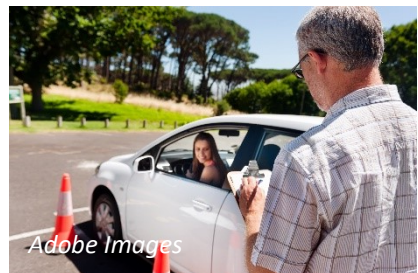
*Other Considerations Before Implementing*

1. Balance the backlog of BTW lessons with the need to keep business running and employees working.
2. Calculate the breakeven point for BTW, where the number of teacher/instructor hours exactly covers the number of student hours needed.
3. Identify how to mitigate risk factors for driver education teachers/instructors and students to deploy appropriate strategies that can eliminate or drastically reduce delays in completing or cancelling BTW lessons at the last minute.

## Subsection 4: Completing Required In-Car Student Observation Time

*Background*

Some States or programs require students to complete in-car observation time. In-car observation time allows the opportunity for students to observe and learn from other student drivers during the instruction process. Requiring students to complete observation time may add to backlogs during a pandemic or an emergency. If BTW cannot be conducted, neither can in-car student observations. During the current pandemic, physical/social distancing limitations/protocols have not allowed students to share BTW learning opportunities, creating an additional set of backlogs. In these instances, further stopgap measures for dealing with these backlogs need to be considered.

*Suggestions for Implementing*

In a pandemic or an emergency, the State could:

1. Allow for and consider amending laws, rules, policies and standards, if required, to grant permission to schools (public and private/commercial) to exercise the option to utilize any of the options listed below to meet required in-car student observation time.
   a. Provide students with a worksheet as an assignment to complete while the student is observing their parent or guardian driving (e.g. speed, complete stops, commentary driving, etc.)

   
   NHTSA Images

   b. Provide students with a worksheet as an assignment to complete while the student is observing the teacher/instructor driving when only one student is allowed in the vehicle (e.g. speed, complete stops, commentary driving, etc.).
   c. Provide students with a video-recorded driving route driven by the teacher/instructor and have the student complete a worksheet as an assignment related to the video recording.
   d. Allow the utilization of pre-recorded driving scenarios during a virtual session (with multiple students) that gives them the opportunity to observe teachable moments in driving lessons. These virtual sessions should utilize teaching and learning theories covered in the ANSTSE Teacher Training Materials Part I Fundamental Concepts

of Teaching and Learning Course and Part III Behind-the-Wheel Teaching and Learning Theories Course.

      i. Techniques to utilize may include but not limited to questioning techniques (verbal and Q&A features), chat, student and teacher/instructor commentary driving, activities (e.g. BINGO activity sheet), coaching, assessments and evaluation.

      ii. Pre-recorded driving scenarios should be based on BTW lesson environments and objectives and taught in the same sequence as existing driving lessons.

(See ANSTSE recording on Conducting Observation Time in a Virtual Setting at [www.anstse.info](www.anstse.info).)

  e. Allow the utilization of perception-based technology, designed to develop and improve visual search skills in a virtual format to complete in-car observation time.

*Other Considerations Before Implementing*

1. Allow for each extra hour of BTW instruction to count for a designated number of hours of the observation time (e.g. 1-hour of BTW above the State required number of BTW hours equals 2-hours of in-car observation time).
2. Examine other opportunities for students to complete home assignments, observing and taking note of appropriate driving habits and techniques.

## Summary of Section 1

This section provided possible stopgap measures to assist in completing BTW instruction during a pandemic or an emergency, which should be included in a States or providers Risk Management plan. BTW on-road instruction is a critical element of the driver education process. Some of these measures may allow for a portion of BTW instruction to be completed (substitution ratios) through other delivery methods.

## Section 2: Stopgap Measures for End-of-Course Knowledge Testing and Driving Performance Assessment in Driver Education During a Pandemic or an Emergency

This section addresses stopgap measures to assist with end-of-course knowledge testing/assessments in driver education during a pandemic or an emergency. State testing methodologies identified as possible stopgap issues needing resolution included:

- assessments,
- end-of-course testing (classroom and BTW),
- verification, and
- third-party driver education provider license testing.

In addition to reviewing State practices, information was gathered on distance-learning end-of-course knowledge testing and in-car assessment processes. Subsections 1 through 3 provide possible stopgap measures for implementation and consideration in planning for future emergencies.

### Subsection 1: End-of-Course Knowledge Testing

#### Distance-Learning End-of-Course Knowledge Testing

*Background*

Driver education providers, where permitted by State regulations, substituted distance-learning (e.g. virtual) for traditional face-to-face classroom sessions. Distance-learning end-of-course driver education knowledge testing can provide students with the opportunity to complete an end-of-course knowledge test without reporting to a physical location. One concern with the distance-learning classrooms is how end-of-course knowledge testing can be accomplished. Some challenges include difficulty in verifying student identity, connectivity issues and current limitations of State statutes and rules. Knowledge should be measured throughout the entire driver education course and not only during the end-of-course test.

*As more distance-learning driver education courses are offered, knowledge testing practices should be reviewed periodically to enhance the process.*

The stopgap measures for distance-learning knowledge testing should not be more stringent than what is currently practiced in traditional driver education classroom sessions.

*Suggestions for Implementing*

In a pandemic or an emergency, the driver education provider could:
1. Contact local resources to identify successful, proven approaches for distance-learning testing:
    a. Colleges and universities
    b. School districts

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    c. Driver education providers using distance-learning and testing practices
2. Consider partnering with one of these local resources to develop a distance-learning testing system and program.
3. Research and evaluate methods used by national testing organizations.
4. Review current State laws, rules, policies or standards regarding distance-learning and testing.
5. Seek guidance and assistance from professional driver education associations.
6. Incorporate a variety of formal and informal methods to evaluate the students' knowledge throughout the course. Methods discussed include:
    a. On-line polling questions
    b. Written and verbal chats
    c. Verbal questions to be answered in the Q&A section
    d. Email contact and feedback
    e. Calling on students to answer questions verbally
    f. Providing opportunities for students to reflect on the information and then apply it in driving situations
    g. Small group discussion to address potential driving situations or scenarios
7. Identify additional methods to improve processes for verifying the student's identity.
8. Follow rules and regulations related to student privacy.

The following methods were identified as promising practices for distance-learning testing:

1. Periodic camera "check-in" by the test monitor.
2. Administer multiple tests covering the same content areas for each course with randomized questions and multiple-choice alternatives.
3. Set time limits for answering questions to reduce the potential for searching for answers; but allow students to go back at the end of the test to those questions they chose to pass over so they may answer them later.
4. Display one question at a time and provide immediate feedback with reference information so the test enhances the learning experience.
5. Encourage a student's "honor code" to discourage "cheating."
6. Restrict the use of multiple electronic devices during testing sessions.

*While most of the other stopgap measures provided in this document are temporary solutions, distance-learning end-of-course knowledge testing practices and procedures may likely be a permanent solution States may choose to adopt.*

*Other Considerations for the State Before Implementing*
1. Collect information from providers, to identify how distance-learning knowledge testing will be executed.
2. Create a means for sharing contact information and other local resources that can assist providers in developing distance-learning knowledge testing options.

3. Review existing laws, rules, policies or standards to determine if distance-learning or end-of-course knowledge testing is permitted or if changes or amendments are needed.
4. Distribute information on how to implement realistic and effective guidelines for distance-learning knowledge testing.
5. Develop a plan to evaluate the implemented distance-learning test processes to collect information on how to improve distance-learning testing methods.

> Knowledge testing should be a learning experience and not a criterion for completing a course. Online testing tools can be useful online teaching and assessment resources that can be leveraged to improve teaching and may also be used as tools to assess students' knowledge during and at the end of the course. Some examples include:

- Google Forms
- Kahoot
- Socrative
- Pear Deck
- Quizlet
- Quizizz


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## In-Person End-of-Course Knowledge Testing

*Background*

In some instances, in-person end-of-course knowledge testing may be needed. This could be attributed to any variety of reasons such as lack of internet connectivity, availability of computers or to address individual student needs or disabilities.


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*Suggestions for Implementing*

In a pandemic or an emergency, the driver education provider could:
1. Bring students into the classroom one at a time to complete the knowledge test.
2. Bring in a few students at a time meeting social distancing requirements in the classroom to complete the knowledge test.
3. Have students take the knowledge test in an outdoor area.

*Other Considerations for the State Before Implementing*
1. Collect information from providers to identify how in-person end-of-course knowledge testing will be executed.

2. Create a means for sharing contact information and other local resources that can assist providers in developing in-person end-of-course knowledge testing options.
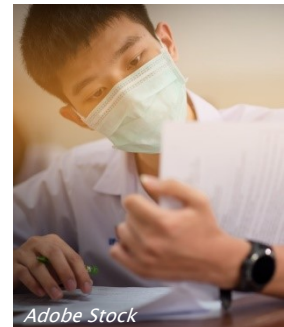
## Subsection 2. In-Car Behind-the-Wheel Assessments

### Computer-Based BTW Assessments

*Background*

The current pandemic created a challenge for behind-the-wheel (BTW) instruction and assessments. Driver education teachers/instructors were not able to conduct BTW instruction or conduct skills assessments during the COVID-19 shut down. Accommodations had to be made for health and safety reasons and providers who have adapted are now conducting in-car sessions and performance BTW assessments. It is unlikely there will be an alternative to an in-car performance assessment in the near future.

Proven computer-based driving simulation may provide promise to assist in a comprehensive BTW assessment in conjunction with in-car on-road assessments; however, at this time nothing can fully replace an in-car assessment by a driver education teacher/instructor. For more information on simulation, see Subsection 1: Assisting with BTW Instruction: Simulation, Computer-Based Training Programs and Virtual Reality (VR).

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*Suggestions for Implementing*

In a pandemic or an emergency, the driver education provider could:
1. Consider what is best for the driver education program. There is wide variability in in-car BTW assessment practices.
2. Review the American Association of Motor Vehicle Administrator's (AAMVA) 2014 Guidelines for Knowledge and Skills Test Development at www.anstse.info under Resource Library/Driver Testing and GDL.
3. Require providers to follow the State driver education agency laws, rules, policies or standards for in-car BTW assessments.

*Other Considerations by the State Before Implementing*

1. Consider if professional development is necessary to assist teachers/instructors if new or alternate processes for in-car assessments are established (e.g. computer-based simulation).

*Examples of Computer-Based BTW Assessments*

In recent years, there has been some interest in using simulator assessments as a replacement for on-road testing. There are a variety of computer-based driving simulation products available including some on-line applications. Some provide good distance-learning driving experiences and some can score the user's performance. These on-line driving experiences can supplement the learning and may be good predictors for a student's driving behavior.

- The Children's Hospital of Philadelphia (CHOP) and the University of Pennsylvania have demonstrated the feasibility of incorporating a virtual driving assessment system

into the driver's licensing process in Ohio through a study with the Ohio State University, the Ohio Department of Public Safety and the Ohio Bureau of Motor Vehicles. This virtual assessment has demonstrated validity in identifying new drivers who are likely to fail the road test and may have specific driving skill deficits (Walshe et al, 2020)[4]. More information regarding this project can be found in the report: *Ohio Portable Driver Simulator System Pilot, Implementation of a Virtual Driving Test Within Ohio's Driver Licensing Workflow* at https://injury.research.chop.edu/sites/default/files/documents/ohio_pdss_research_brief_final.pdf and *Virtual Driving Assessment Shows Feasibility, Validity and Efficiency as Part of Licensing Process* https://www.chop.edu/news/virtual-driving-assessment-shows-feasibility-validity-and-efficiency-part-licensing-process.

- Distance-learning testing may also lend itself to computer-based hazard perception and crash avoidance assessments. Hazard perception involves searching for and recognizing potential and actual hazards to manage the risk associated in driving to avoid a crash. A hazard perception test developed and implemented in Victoria, Australia was shown to have predictive crash probability (Congdon 1999)[5]. Research has also shown that those passing a hazard perception test on the first try have fewer subsequent crashes than those who do not (Senserrick and Williams, 2014)[6]. When using hazard perception and crash avoidance computer-based assessments, it is important to provide feedback to the student and their parents or guardians. Feedback can assist in planning supervised practice driving sessions. For additional information visit: https://www.gov.uk/theory-test/hazard-perception-test. Additional references to research on simulation, CBT and VR as training and assessment tools for young drivers is in Appendix A.

## Parent/Guardian In-Car Assessments

*Background*

Tasking parents or guardians to complete driving assessments as part of driver education or the licensing process was considered. There is support for parent or guardian involvement and recognition of the value of parent or guardian supervised practice driving sessions. However, parent or guardian in-car assessments of their teen drivers as part of a driver education course or for license testing is not practical. Parents or guardians are not trained driver education professionals and may not be able to objectively assess their teen's performance. Parents or guardians should focus on providing quality supervised practice driving experiences.

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[4] Walshe et al, "A Novel Health-Transportation Partnership Paves the Road for Young Driver Safety Through Virtual Assessment." Health Affairs, online October 5, 2020. https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2020.00802.

[5] Congdon, P. (1999). VicRoads Hazard Perception Test, Can it Predict Accidents? Camberwell, Australia: Australian Council for Educational Research.

[6] Senserrick, T. M., and Williams, A. F. (2014). Summary of Literature on the Effective Components of Graduated Licensing Schemes for Car Drivers. Austroads Project SS1707. Draft final report to Austroads, under review, Sydney, NSW. The University of New South Wales.

The State and driver education providers should do more to engage the parent or guardian during the learning to drive process, especially during these times. To assist the parents or guardians, in preparing their teen for the test, the State and driver education providers could:


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1. Increase communication with parents or guardians on the value of supervised practice driving.
2. Provide information on how to conduct supervised practice driving sessions.
3. Provide feedback to the parents or guardians on their teen's performance in the classroom and in-car sessions.
4. Identify possible driving deficits that should be performed during supervised practice driving sessions.
5. Provide guidance on how to evaluate their teen's driving performance during the supervised practice driving.

## Subsection 3. Third-Party Driver Education Provider License Testing

*Background*

This section includes information on noncommercial vehicle third-party driver education provider license testing. Third-party provider license knowledge and/or road testing could assist to reduce the backlogs at State driver licensing offices.

Driver education provider testing allows approved driver education providers to administer the State's licensing knowledge and/or road tests to individuals completing their driver education courses. These testing programs can provide convenience to the students (including parents/guardians) and assist the State with reducing backlogs. Several States currently utilize this testing process.


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*Suggestions for Implementing*

In a pandemic or an emergency, the State could:

1. Contact the American Association of Motor Vehicle Administers (AAMVA) and professional associations for third-party contractor skills testing information.
2. Collaborate with the State licensing authority and providers.
3. Contract with and certify driver education providers and teacher/instructors to administer part or all the required licensing tests.
4. Require providers to follow the licensing authority's laws, rules, policies and standards for license skills testing.
5. Ensure provider skills testing supports the State's Graduated Driver License (GDL) stages and program requirements.
6. Require providers to comply with the State's conflict of interest and ethics rules.
7. Include providers in the licensing authority's quality assurance program.
8. Require providers to submit knowledge and/or road test results in a timely, efficient and secure manner.
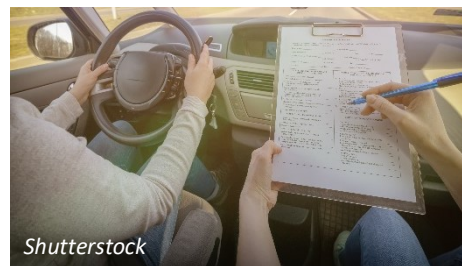
9. Implement a process to continuously evaluate the provider skills testing program to ensure the validity, reliability and integrity of the licensing tests.

*Other Considerations for States or Providers Before Implementing*

1. Work with the State licensing authority and driver education providers to identify temporary or emergency road testing processes that could be used during a pandemic or emergency.
2. Develop a process for monitoring and evaluating third-party road-testing.
3. Consider utilizing independent contractor testers who may or may not be affiliated with a driver education provider. The State's driver licensing authority contracts with these organizations to administer some or all the required licensing tests to all qualified applicants.

*While most of the other stopgap measures provided in this document are temporary solutions, third-party driver education provider license testing may likely be a permanent solution States may choose to adopt.*

## Summary of Section 2

This section provided possible stopgap measures to assist in completing testing and assessments during a pandemic or an emergency, which should be included in a States or providers Risk Management plan. End-of-course knowledge testing and driving performance assessment is a critical element of the driver education process.

## Possible Permanent and Temporary Solutions for Driver Education

The following table provides a summary of those stopgap measures that may prove themselves (e.g. through past or future research) as permanent solutions and those that are temporary measures that should not become permanent practices or policies.

| Permanent | Temporary |
|---|---|
| Substituting MCRs for some BTW hours | Allowances for one-on-one in-car BTW instruction |
| Substituting simulation/CBT/VR for some BTW hours | Utilizing emergency waivers for instructor training & recertification |
| Allowing for alternatives to face-to-face teacher/instructor training/certification for various segments (e.g. virtual) | Identifying alternatives and assisting currently certified/licensed individuals to maintain their certification |
| Utilizing virtual & online end-of-course knowledge testing | Conducting BTW teacher/instructor training or final BTW teacher/instructor assessments in-person in a 1:1 manner |
| Conducting computer-based BTW assessments in conjunction with in-car assessments | Increasing the number of hours an instructor may instruct per day/week |
| Examining teacher/instructor recruitment processes | Assigning teachers/instructors based on health comfort levels |
| Communicating with and providing resources for parents/guardians to assist with supervised driving practice | Developing and implementing a plan for BTW backlogs |
| Utilizing third-party driver education provider license testing | Completing observation time during a virtual setting |
| | Utilizing reduced in-person knowledge testing |

## Conclusion

During the continuation of the pandemic and other future emergencies, States, driver education providers and national organizations must have current plans in place for the continuation of driver education instructional programs, including BTW and testing/assessment. States and providers should prepare for and adapt to the pandemic and future pandemics or emergencies by implementing stopgap measures that are sound, realistic, safe and effective.

It is important to recognize these stopgap measures were developed based on expert opinion and promising practices, and due to the emergency and time-sensitive nature of the current pandemic, these stopgap measures have not been proven. Thus, at this time, these measures should be considered as temporary solutions. As time evolves, some of these stopgap measures may prove themselves as permanent solutions States may choose to adopt. For any future pandemics or emergencies, any stopgap measures should be formally studied and evaluated to ensure the value, validity, reliability and integrity of the measures. Once a pandemic or an emergency has subsided, the usual practices should be re-instated unless the necessary research is conducted showing the stopgap measures are valid and substantiated.

*The NTDETAS remain the minimum standards for excellence in driver education.*

## Appendix A Additional Research Papers/Articles on Computer-based, Virtual Reality, and Driving Simulation Training and Assessment for Young Drivers

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Bekiaris, E., et al. (2010). "Ambient intelligence in driving simulation for training young drivers." Road safety on four continents: 15th international conference, Abu Dhabi, United Arab Emirates, 28-30 March 2010. Paper: s 645-652.

Bruce, C. R., et al. (2017). "Hazard perception skills of young drivers with Attention Deficit Hyperactivity Disorder (ADHD) can be improved with computer-based driver training: An exploratory randomised controlled trial." *Accident Analysis Prevention* 109: 70-77.

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Kedves, M. (2008). "Reducing young drivers accident risk: graduate licensing program and hazard perception test." Transport Research Arena Europe, Ljubljana, Slovenia, April 21-24, 2008.

Krasnova, O., et al. (2016). "Understanding the effect of feedback on young drivers' speeding behavior." *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* 60(1): pp 1986-1990.

Kumfer, W., et al. (2017). "Development of a supplementary driver education tool for teenage drivers on rural roads." *Safety Science* 98: pp 136-144.

Lonero, L. P., et al. (2000). "Training to improve the decision making of young novice drivers, Volume II: Literature Review. Consistency not capacity: Cognitive, motivational, and developmental aspects of decision making in young novice drivers." Washington, DC: National Highway Traffic Safety Administration.

Mayhew, D. R., Simpson, H.M., Wood, K.M., Lonero, L., Clinton, K.M., & Johnson, A., G. (2011). "On-road and simulated driving: Concurrent and discriminant validation." *Journal of Safety Research*, 42 (4):267-275.

Mayhew, D. R., et al. (2016). "White paper: safety performance of teenSMART." Ottawa, Ontario: *Traffic Injury Research*, 172p.

McDonald, C. C., et al. (2015). "A review of hazard anticipation training programs for young drivers." *Journal of Adolescent Health* 57(1, Supplement): pp S15-S23.

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