

# A New GDL Framework: **Evidence Base to Integrate** Novice Driver Strategies

## EXECUTIVE SUMMARY



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Traffic Injury Research Foundation  
171 Nepean Street, Suite 200  
Ottawa, Ontario K2P 0B4  
Ph: (613) 238-5235  
Fax: (613) 238-5292  
Email: [tirf@tirf.ca](mailto:tirf@tirf.ca)  
Website: [www.tirf.ca](http://www.tirf.ca)

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# A NEW GDL FRAMEWORK: **EVIDENCE BASE TO INTEGRATE NOVICE DRIVER STRATEGIES**

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*Dan Mayhew<sup>1</sup>, Allan Williams<sup>2</sup>, and Charlotte Pashley<sup>1</sup>*

<sup>1</sup> Traffic Injury Research Foundation  
171 Nepean St. Suite 200  
Ottawa, ON K2P 0B4

<sup>2</sup> Allan F. Williams, LLC.







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The opinions, findings, and conclusions expressed in this report are those of the authors.

The mention of commercial training programs or in-vehicle monitoring technologies and companies that develop and/or market them was necessitated by the focus of this research and should not be construed as an endorsement of these specific products or companies in any way.







## Purpose

This report describes a comprehensive Graduated Driver Licensing (GDL) framework that has been developed to better address the elevated crash risk of young and new drivers. This new GDL framework is unique in that it proposes that driver education, licensing and testing requirements, as well as in-vehicle monitoring technology be integrated into an enhanced GDL program.

The discussion is focused on the U.S. situation, but this GDL framework is intended to be applicable and adaptable to GDL programs worldwide. The goal of the present project is to identify internationally, current approaches and research on GDL, driver education, license testing/assessment, and in-vehicle monitoring technologies that have the potential to increase the safety outcomes of young and novice drivers. These best practices are consolidated into a new comprehensive framework in which all of these safety initiatives are better integrated to reinforce an optimal GDL program. As well, this GDL framework is presented as a formalized representation of best practices that have the potential to be efficiently and effectively incorporated into existing GDL programs worldwide.

## Method

The major tasks of this project include:

- > a literature review of academic journals and published materials from various traffic safety organizations and resources of research related to the effectiveness and implementation of GDL, driver education, license testing/assessment, and, in-vehicle monitoring technology for young and novice drivers across the globe;
- > an environmental scan of contacts in relevant agencies in North America and internationally to identify the most recent advancements in young and novice driver programs throughout the world that may not have otherwise been captured through a literature review alone;
- > a 1½ day international expert panel discussion to describe, discuss, and augment a proposed GDL framework; and,
- > the application of the information obtained from these sources to develop and refine the final comprehensive GDL framework contained in this report.

## GDL framework

The review of the scientific evidence, the environmental scan of current and best practices, and the international expert panel discussion provided guidance regarding ways to enhance GDL and better integrate safety measures for young and novice drivers, including driver education and training, license testing, and in-vehicle monitoring technologies, within a comprehensive GDL framework. The GDL framework described below comprises evidence-based initiatives along with those that are largely unproven but make sense on logical grounds and are supported by expert opinion. This is similar to the situation several decades ago when the concept of GDL was initially developed and promoted. At that time, there was limited or no research on the safety effects of GDL and most of its components, with the exception of a night driving restriction which early studies had shown to have safety benefits. However, the concept of a GDL system that introduced

beginners into the traffic environment while protecting them as they gained experience made sense on logical grounds. As jurisdictions implemented GDL and evaluated it, GDL emerged as a popular and successful policy with proven safety benefits.

The description of the GDL framework is followed by an illustration of it. Since the strength of the evidence in support of a specific component being recommended varies from strong to lesser or insufficient evidence, the illustration uses a gold star to denote components with a strong empirical base. Other components are based on expert opinion having a solid logical basis for consideration. Although these lack strong empirical evidence they are recommended as part of the GDL framework since they may reinforce GDL principles and operation but further research is needed to determine their safety effectiveness and/or the extent to which they contribute to the overall benefits of GDL.

In the framework, young and novice drivers move through two restricted phases of licensing, including a learner and intermediate stage, before progressing to full licensure. The specific components of each of these license stages are detailed below.

## Learner Stage

**Eligibility age.** GDL should apply to all beginners, regardless of age, although some rules could be relaxed for adult learners and novices.

**Minimum entry age.** The minimum entry age should be no younger than 16.

**Minimum length in learner stage.** The minimum length required to remain in the learner stage should be no less than 12 months.

**Entry requirements.** To obtain a learner license, applicants must pass knowledge and vision tests, which should include items relating to GDL requirements.

**Supervised driving.** The minimum number of supervised driving hours that should be a requirement to progress through GDL should be greater than 50 hours, optimally 80-120, and should span all seasons of driving. Log books should be required to increase knowledge and promote compliance with the required number of supervised hours. Also, log books could provide evidence of requirement fulfillment. In-vehicle monitoring could be used as a method to more accurately monitor practice driving hours.

**Restrictions.** Seatbelt use should be required for drivers and passengers. Supervisors should be restricted to a low or zero BAC. Phone/electronic device use by learners should be prohibited. Vehicle decals, designed to help police enforce GDL and encourage compliance with GDL restrictions, should be required for all drivers in this stage. Although not shown in the framework illustration, if GDL is extended to older novice drivers, a zero alcohol limit should be applied.

**Driver education.** Jurisdictions should regulate driver education to meet Novice Teen Driver Education and Training Administrative Standards (NTDETAS) in a multi-phased approach, including an initial phase of driver education (Phase 1), which would include in-vehicle and theoretical instruction that teaches basic vehicle handling skills and rules of the road to learners. Phase 1 driver education for young learners should: be teen-oriented; include a mandatory parent orientation course and encourage parental involvement throughout the GDL process; include GDL rationale and requirements in the curriculum; provide end of course reports/debriefings to parents that include recommendations for areas that need improvement; and, provide information about available in-vehicle technologies that can enhance the safety of young and novice drivers. The completion of driver education should not result in a reduced length of time spent in the learner stage. Driver education in-vehicle hours could be applied to reduce the mandatory minimum supervised driving hours if they are set at 120 hours or more.

## Intermediate Stage

**Minimum entry age.** The minimum entry age should be no younger than 17, and should not include exemptions for drivers who have completed driver education courses.

**Minimum length in intermediate stage.** The minimum length required to remain in the intermediate stage should be no less than 12 months, regardless of age at the time of entry. This ultimately means that the minimum possible age to progress to full licensure should be 18 years old.

**Entry requirements.** Requirements for obtaining an intermediate license should include passing an on-road, standardized entry-test. This test should include hazard perception skills. In-vehicle monitoring technology is encouraged as a means of objectively assessing driving skills and abilities. The completion of a second phase of driver education (Phase 2) which would involve advanced instruction to teach safe driving procedures including perceptual and decision-making skills (could include hazard perception training and incorporation of driving in high-risk situations, such as highway driving) should be jurisdiction-regulated and encouraged. Phase 2 driver education should be delivered just prior to the on-road test, or alternatively or in addition, in the first few months after the road test when teens are driving independently for the first time and experiencing their highest crash risk.

**Restrictions.** Unsupervised nighttime driving restrictions beginning at 9-10 pm and ending no earlier than 5 am should be required for all intermediate drivers. With the exception of a supervising driver and family members, intermediate license holders should be restricted to have no more than one teenage passenger in the vehicle at all times. Seatbelt use should be required for drivers and passengers. Phone/electronic device use by intermediate drivers should be prohibited. Vehicle decals, designed to help police enforce GDL laws and encourage compliance with GDL restrictions, should be required for all intermediate license holders. Although not shown in the framework illustration, if GDL is extended to older novice drivers, a zero alcohol limit should be applied.

**Exit requirements.** In order to progress to a full, unrestricted license, intermediate license holders should be required to pass an advanced on-road or computer-based exit test that includes measures of higher-order driving skills such as hazard perception, situational awareness, and decision-making. This test provides incentive for novice drivers to obtain additional driving instruction (in the form of Phase 3 driver education) and practice during the intermediate stage, in order to attempt the exit test and obtain a full license. In addition, or as an alternative to testing, graduating from this stage to a full license could be contingent on having a clean driver record.

**Additional features.** Technology, such as Smart Keys, in-vehicle feedback systems and other resources and tools, including on-line safety-oriented programs, should be promoted by licensing and insurance agencies, as well as driver education programs to help: enforce seat belt use; limit speeding; provide warnings of dangerous driving behaviors (e.g., lane deviation); and, reduce distractions (e.g., vehicle stereo volume) to novice drivers. As well, this stage should encourage continued parental involvement through in-vehicle monitoring technologies that automatically alert parents of risky driving behaviors. This could include a 'two-strike system', where teens are given the opportunity to correct an unsafe behavior before their parents are alerted.

To download the full report including references and participant list, please visit [www.tirf.ca](http://www.tirf.ca) or use <http://bit.ly/GDLframework>.

## GDL FRAMEWORK

★ Apply to all beginner drivers

### Learner Stage Supervised driving

#### Stage Components

##### Entry Requirements

- ★ Minimum 16 years old
- Pass vision test
- Pass knowledge test (includes GDL items)

##### Restrictions

- Seatbelt requirement
- Phone/electronic devices prohibited
- Decal required
- Zero BAC for supervising driver

#### Reinforcing Components

Phase 1 driver education with parental involvement; includes basic skills

Paper log books and in-vehicle monitoring technology to monitor accumulated hours and requirement fulfillment

##### Length

- ★ 12 months (no reduction in length for DE completion)

##### Supervised Hours

- ★ >50 mandatory supervised driving hours, optimally 80 to 120 hours

### Intermediate Stage Solo driving

##### Entry Requirements

- ★ Minimum 17 years old
- Pass enhanced on-road test

##### Restrictions

- ★ Nighttime restriction (9 or 10 pm-5 am)
- ★ Teenage passengers limited
- Seatbelt requirement
- Phone/electronic devices prohibited
- Decal required

Phase 2 driver education with parental involvement; includes higher-order skills, delivered just prior to, and/or just after, the on-road test

In-vehicle technology to monitor compliance and to assess skills

##### Length

- ★ 12 months

##### Exit Requirements

- ★ Minimum 18 years old
- Pass advanced on-road exit test(s) and/or maintain clean driving record

Phase 3 driver education encouraged as a means to pass exit test

### Full Stage Unrestricted driving

★ A gold star denotes a stage component with a "strong evidence base".