



# Graduated Driver Licensing Provisions: An Analysis of State Policies and What Works

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## Background

The rate of crash per mile driven for teen drivers is 4 times as high as that for drivers age 20 and older. The CDC recommends that teen drivers be covered by comprehensive graduated driver license (GDL) systems at the state level to safeguard all road users. GDL policies help young new drivers gain experience under low-risk conditions by granting driving privileges in stages. States vary with regard to the comprehensiveness and strength of different GDL components. The purpose of this study was to:

- compare and contrast how specific GDL policy components have been implemented in different states;
- explore how the policies currently in place have affected state-level teen crash and mortality outcomes.

## Methods

This study design involved a policy analysis using methodology set forth by Teitelbaum and Wilensky (2007). Eight study states were selected; one pair from 4 different regions in the U.S. Comparison pairs were chosen that had dramatically different GDL policy scores, as well as comparable state-level crash data available. Teen fatality and crash rates in 2010 and 8 specific GDL components were the variables used for analysis. Analysis variables were assessed among the study states and then entered into a decision matrix to facilitate comparison.

**Table 1. Un-weighted Analysis Variables for State GDL Policies**

	East		Midwest		South		West	
	MD	VT	IN	SD	GA	MS	NV	AZ
2010 Fatality Rates from Motor Vehicle Crashes per 100,000 (ages 15-19)	8.9	10.9	17.5	29.5	15.6	23.6	8.2	9.5
Drivers ages 15-19 Involved in a Fatal Crash (rate per 100,000)								
2010	32.9	18.7	45.9	42.3	51.3	57.6	30.0	29.3
2006-2010	45.1	41.2	52.4	46.0	60.6	78.8	62.6	64.7
2010 Crash Rates of Drivers Ages 16-20* (per 100 Licensed Drivers)	7.1	9.1	14.8	8.9	12.6	27.4 <sup>a</sup>	11.4	10.6
2005 Costs of Deaths from Crashes (ages 15-19):								
Medical Costs & Work Loss Costs per capita	\$187	\$437	\$301	\$503	\$335	\$650	\$225	\$312
2010 GDL Components: (System for Rating Modified from IIHS, 2009)								
Minimum Permit Age	15, 9 months	15	15, 6 months	14	15	15	15, 6 months	15, 6 months
Permit Holding Period	9 months	12 months	6 months	6 months	12 months	12 months	6 months	6 months
Required Practice Hours	60	40	50	None	40	None	50	30
Minimum License Age	16, 6 months	16	16, 6 months	14, 6 months	16	16	16	16
Restriction on Night Driving	Midnight-5 am	None	10 pm-5 am	10 pm-6 am	Midnight-6 am	10 pm-6 am (Sun-Thurs); 11:30 pm-6 am (Fri-Sat)	10 pm-5 am	Midnight-5 am
Minimum Age Night Driving Restriction May Be Lifted	18	None	18	16	18	16, 6 months	18	16, 6 months
Restriction on Underage Passengers	0 passengers for the 1 <sup>st</sup> 5 months	0 passengers for the 1 <sup>st</sup> 6 months	0 passengers for the 1 <sup>st</sup> 6 months	None	0 passengers for the 1 <sup>st</sup> 6 months	None	0 passengers for the 1 <sup>st</sup> 6 months	No more than 1 passenger for the 1 <sup>st</sup> 6 months

Note. States with the stronger GDL policy are listed first in each region.  
<sup>a</sup>2010 crash data was not available for Mississippi, so 2009 data was used for that state.



Raw data scores were subsequently weighted to reflect the comparative impact of each variable.

- For rates, the difference from the national mean was calculated and measured across the variables. (Larger weighted numbers reflected a more favorable outcome).

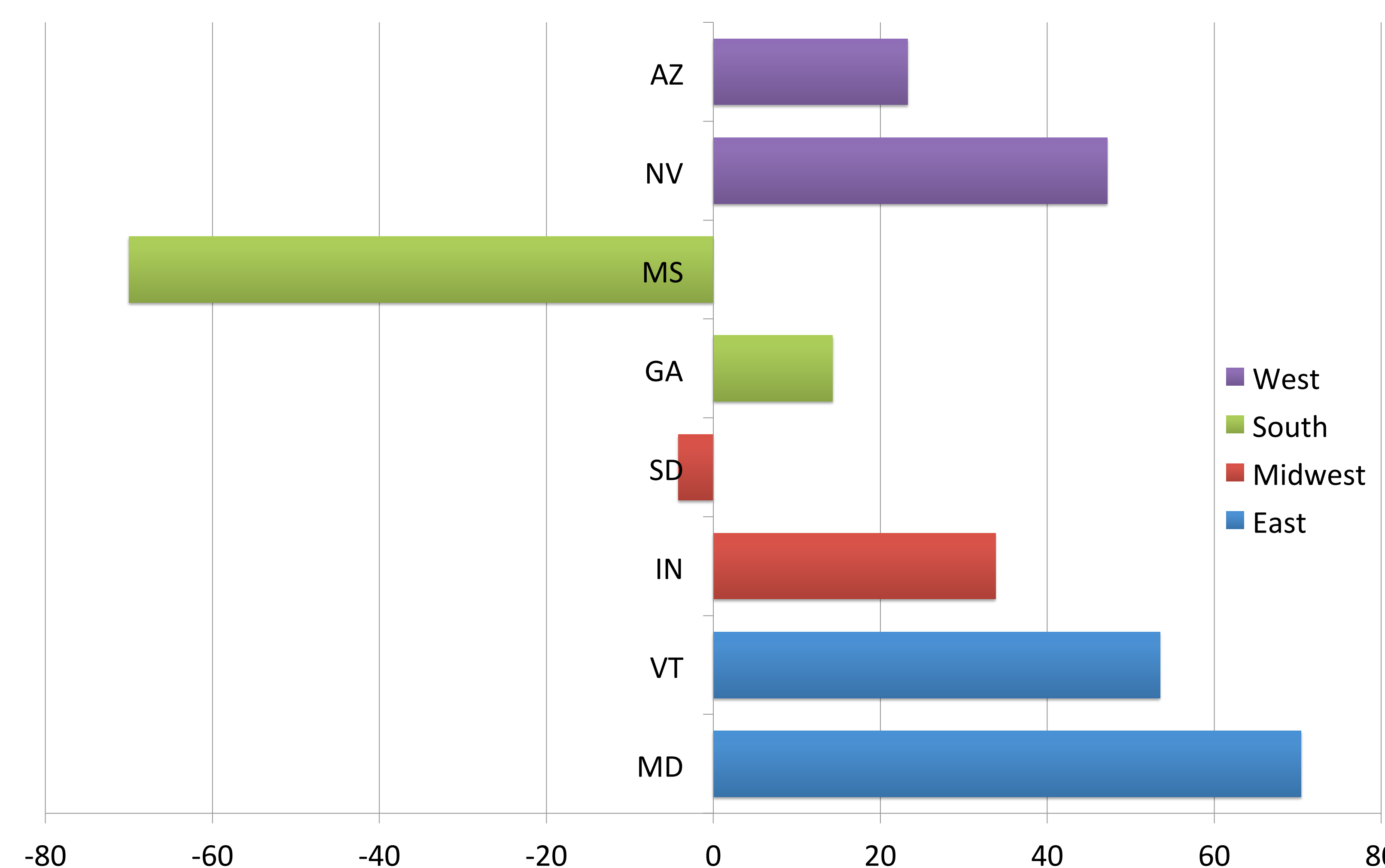
- Each state's cost per capita for teen motor-vehicle fatalities was subtracted from the U.S. mean and weighted on a scale from -10 to 10, with 0 representing the mean.
- Weights for the 8 GDL components were calculated to reflect evidence-based research from the Highway Loss Data Institute as to which components have the greatest impact on teen motor-vehicle crashes.

## Results

After weighting scores (Table 2) Maryland had the highest overall score at 70.4 points while Mississippi scored the lowest overall at -70.0. In every case, the state with the stronger GDL policy scored higher than the state with the weaker GDL policy. However, there was variation when comparing the group of "strong" states with the group of "weak" states. Scores in the strong states ranged from 14.3 to 70.4, while scores in the weak states ranged from -70.0 to 53.5.

Eastern states scored the best overall at 123.9; Western states scored 70.5 overall; Midwest region scored 29.6; and the Southern states scored the poorest at -55.7 on the weighted scale. In all regions except the South, the margin of difference between the weak state and strong state was 18 to 38 points. The difference in overall score between Georgia and Mississippi was 84.3.

**Figure 1. Weighted Overall Score of Analysis Variables for State GDL Policies**



**Table 2: Weighted Analysis Variables for State GDL Policies**

	East		Midwest		South		West	
	MD	VT	IN	SD	GA	MS	NV	AZ
2010 Fatality Rates from Motor Vehicle Crashes per 100,000 (ages 15-19) <sup>a</sup>	4.2	2.2	-4.4	-16.4	-2.5	-10.5	4.9	3.6
Drivers ages 15-19 Involved in a Fatal Crash (rate per 100,000) <sup>b</sup>								
2010	3.8	18.0	-9.2	-5.6	-14.6	-20.9	6.7	7.4
2006-2010	1.8	5.7	-5.5	0.0	-13.7	-31.9	-15.7	-17.8
2010 Crash Rates of Drivers Ages 16-20* (per 100 Licensed Drivers) <sup>c</sup>	5.6	3.6	-2.1	3.8	0.1	-14.7 <sup>d</sup>	1.3	2.1
2005 Costs of Deaths from Crashes (ages 15-19):								
Medical Costs & Work Loss Costs per capita	2	-3	0	-4	-1	-7	1	-1
2010 GDL Components: (System for Rating Modified from IIHS, 2009)								
Minimum Permit Age	1	1	1	0	1	1	1	1
Permit Holding Period	1	2	1	1	2	2	1	1
Required Practice Hours	17	11	17	0	11	0	17	11
Minimum License Age	7	1	7	0	1	1	1	1
Restriction on Night Driving	9	0	11	11	9	11	11	9
Duration of Night Driving Restriction	6	0	6	6	6	0	6	0
Restriction on Underage Passengers	12	12	12	0	12	0	12	6
Duration of Passenger Restriction	0	0	0	0	4	0	0	0
<b>Total GDL Score<sup>e</sup></b>	<b>53</b>	<b>27</b>	<b>55</b>	<b>18</b>	<b>46</b>	<b>15</b>	<b>49</b>	<b>29</b>
<b>Score for Rates and Cost</b>	<b>17.4</b>	<b>26.5</b>	<b>-21.2</b>	<b>-22.2</b>	<b>-31.7</b>	<b>-85.0</b>	<b>-1.8</b>	<b>-5.7</b>
<b>Overall Score</b>	<b>70.4</b>	<b>53.5</b>	<b>33.8</b>	<b>-4.2</b>	<b>14.3</b>	<b>-70.0</b>	<b>47.2</b>	<b>23.3</b>

Note. States with the stronger GDL policy are listed first in each region. Weighted rates were scored by calculating the difference from the US mean.  
<sup>a</sup>US mean= 13.1 per 100,000  
<sup>b</sup>US mean= 36.7 per 100,000 (2010) and 46.9 per 100,000 (2006-2010)  
<sup>c</sup>Mean of study states= 12.7 per 100  
<sup>d</sup>2010 crash data was not available for Mississippi, so 2009 data was used.  
<sup>e</sup>Maximum weighted GDL score possible was 61.

## Conclusions

Study states that had stronger GDL components and implementation had lower rates of fatalities and injuries, lower medical costs, and lower work loss costs per capita. Policy makers should consider that strong GDL policies can lead to improved teen health and safety outcomes, and act to further strengthen state GDL policies. This study indicates 3 areas of priority:

- increasing required practice hours to 50+ in the initial (learner) stage;
- restricting all teen passengers in the intermediate stage;
- increasing the duration of night driving restrictions in the intermediate stage to last 12+ months.

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