

## **DATA ANALYSIS AND RESEARCH FINDINGS**

### **SUMMARY OF MOTOR VEHICLE JURISDICTION RESPONSES TO ADOT REQUEST FOR INFORMATION**

Of the 52 jurisdictions contacted, 37 provided at least their primary driver license manual. A few jurisdictions also provided one or more specialty manuals and/or other related public information materials. In an effort to obtain the primary driver license manual for non-responsive jurisdictions, their websites were explored for an online manual that could be reviewed and/or downloaded. An additional 13 publications were obtained electronically for a preliminary total of 50; Mississippi and Puerto Rico neither sent a hard copy of their manuals nor offer an online version. Two of the downloaded publications – those of Michigan and Washington, D.C. – had to be excluded from the analysis because they were study guides for the licensing exam rather than driver license manuals; neither jurisdiction offers an online version of its actual driver manual. Consequently, the final total was 48 jurisdictional manuals used in the analysis.

Response rate among the jurisdictions was significantly higher for completion of the survey than for providing driver manuals. Only five jurisdictions – Alaska, Massachusetts, Puerto Rico, South Carolina, and Tennessee – failed to return the survey, for a response rate of 90 percent. The project records provided by the previous researcher show that several follow-up attempts were made to obtain completed surveys from these five jurisdictions. Those efforts were apparently unsuccessful, as no survey from any of the five was included in the project materials provided to the current researcher.

Addressees were also offered a copy of the final report and asked to confirm their mailing address when they returned their completed survey; 12 of the 47 jurisdictions who returned the survey also requested a copy of the final report.

This information is presented in Table 1 on the following page.

**Table 1. Jurisdiction Responses to ADOT Request**

<b>JURISDICTION</b>	<b>MANUAL RECEIVED</b>	<b>SURVEY RECEIVED</b>	<b>SEND FINAL REPORT</b>
Alabama	X	X	
Alaska	Downloaded	—	
Arizona	X	X	
Arkansas	X	X	X
California	X	X	
Colorado	X	X	
Connecticut	X	X	
Delaware	X	X	
District of Columbia	Study Guide	X	
Florida	X	X	
Georgia	X	X	
Hawaii	X	X	
Idaho	X	X	X
Illinois	Downloaded	X	
Indiana	X	X	
Iowa	X	X	
Kansas	X	X	
Kentucky	X	X	
Louisiana	X	X	X
Maine	X	X	
Maryland	X	X	X
Massachusetts	Downloaded	—	
Michigan	Study Guide	X	
Minnesota	Downloaded	X	
Mississippi	—	X	
Missouri	X	X	
Montana	Downloaded	X	
Nebraska	X	X	
Nevada	X	X	X
New Hampshire	Downloaded	X	
New Jersey	X	X	
New Mexico	X	X	X
New York	X	X	
North Carolina	Downloaded	X	
North Dakota	X	X	
Ohio	X	X	X
Oklahoma	X	X	X
Oregon	X	X	X
Pennsylvania	X	X	X

**Table 1. Jurisdiction Responses to ADOT Request (cont'd)**

<b>JURISDICTION</b>	<b>MANUAL RECEIVED</b>	<b>SURVEY RECEIVED</b>	<b>SEND FINAL REPORT</b>
Puerto Rico	—	—	
Rhode Island	Downloaded	X	
South Carolina	X	—	
South Dakota	X	X	X
Tennessee	X	—	
Texas	X	X	
Utah	X	X	
Vermont	X	X	
Virginia	X	X	X
Washington	Downloaded	X	
West Virginia	Downloaded	X	
Wisconsin	X	X	
Wyoming	Downloaded	X	

**ANALYSIS AND DISCUSSION OF JURISDICTIONAL DRIVER MANUALS – SUBJECT MATTER**

According to the *AAMVA Guidelines for Knowledge and Skill Testing*, “research has shown that a license testing program directed at critical knowledge requirements is capable of reducing the likelihood that drivers would be involved in accidents for which they are responsible” (AAMVA 1999, 2). Based on input from licensing agencies throughout the United States and Canada, AAMVA developed a comprehensive list of knowledge requirements. That list served as the basis for comparison and evaluation of the subject matter content of the 48 jurisdictions’ driver license manuals included in this study.

In the *Guidelines*, AAMVA refers to the overall list both as “knowledge requirements” and “knowledge categories” (AAMVA 1999, 2). Although the list items are organized in a hierarchical structure, AAMVA does not assign terms to the levels, or groupings. For purposes of clarity in analyzing and discussing the findings, this study identified the hierarchical levels of the AAMVA list as discussed below.

The knowledge requirements are organized into ten broad categories. Each of the ten categories contains several topics appropriate to that category, for a total of 48 topics. A list of the ten categories, and examples of topics included in each, follows.

1. Pre-/post-driving – e.g., adjusting seat & mirrors, checking operation of signals and lights.
2. Vehicle control – e.g., starting vehicle, steering, regulating speed.
3. Rules of the road – e.g., traffic controls, lanes, right-of-way.
4. Visual search – e.g., maintaining attention ahead and side-to-side, use of mirrors, headlights.
5. Communication – e.g., signaling intentions to turn or stop, communicating presence.
6. Adjusting speed – e.g., complying with limits, adjusting for weather, traffic, visibility, hazards.
7. Positioning vehicle – e.g., following, passing, crossing/entering intersection, stopping at side of road.
8. Handling emergencies – e.g., vehicle failures, avoiding collisions, accident procedures.
9. Driver preparation – e.g., physical fitness, emotional state, use of alcohol/drugs, trip planning.
10. Vehicle readiness – e.g., vehicle and engine size, drive train, safety equipment, maintenance.

Likewise, most of the topics contain driver tasks and/or concepts relevant to that topic, for a total of 164 different tasks and concepts. Both the 48 topics and the 164 specific driver tasks and concepts were used as the basis for reviewing and documenting content of the jurisdictional driver license manuals – that is, each of the forty-eight manuals was examined on the basis of 212 individual knowledge requirements. A chart showing the hierarchy of category and topic for all 164 driver tasks/concepts – and which jurisdictional manuals include each item – is provided as Appendix B. Summary data is provided in Table 2.

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals**

Items denoted with one asterisk (\*) in the Percent column are addressed by 51% to 74% of the manuals reviewed in this study. Items denoted with two asterisks (\*\*) are addressed by 75% to 100% of the manuals.

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 1 – PRE/POST DRIVING</i></b>		
<b>Topic 1 – Adjustments</b>	<b>29</b>	<b>60% *</b>
Seat position	27	56% *
Mirrors	28	58% *
<b>Topic 2 – Occupant Protection</b>	<b>47</b>	<b>98% **</b>
Restraint use	48	100% **
Locked doors	11	23%
<b>Topic 3 – Inspection</b>	<b>25</b>	<b>52% *</b>
Signals	17	35%
Lights	22	46%
Tires	19	40%
Loose objects	15	31%
Behind vehicle (outside, before backing up)	34	71% *
<b>Topic 4– Cleaning</b>	<b>28</b>	<b>58% *</b>
Windshield	26	54% *
Lights	20	42%
<b>Topic 5 –Securing Vehicle</b>	<b>10</b>	<b>21%</b>

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals (cont'd)**

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 2 – VEHICLE CONTROL</i></b>		
<b>Topic 6 – Starting</b>	<b>18</b>	<b>38%</b>
Starting procedure	15	31%
Limited warm-up	3	6%
<b>Topic 7 - Accelerating</b>	<b>12</b>	<b>25%</b>
On the flat	0	0%
On upgrades	2	4%
On slippery surfaces	7	15%
<b>Topic 8 – Upshifting (Manual Transmission)</b>	<b>10</b>	<b>21%</b>
Shift at proper speed/rpm	3	6%
Coordinating clutch/acceleration	10	21%
<b>Topic 9 – Lane Keeping</b>	<b>21</b>	<b>44%</b>
Grasping wheel (should ref position of hands w/airbag)	20	42%
Adjusting wheel to speed and position	6	13%
Fixate well ahead	9	19%
<b>Topic 10 – Turning</b>	<b>32</b>	<b>67% *</b>
Positioning for turn	29	60% *
Adjusting speed for turn	22	46%
Turning wheel in relation to speed and path	7	15%
Straightening wheel	8	17%
<b>Topic 11 – Regulating Speed</b>	<b>15</b>	<b>31%</b>
Regulating accelerator to maintain speed	1	2%
Observing speedometer	10	21%
Keeping transmission in gear (no coasting)	6	13%
<b>Topic 12 – Slowing/Stopping</b>	<b>24</b>	<b>50%</b>
Anticipating stops	25	52% *
Applying brake	13	27%
Easing brake at stop speed	4	8%
Maintaining brake pressure when stopped	0	0%
<b>Topic 13 – Backing</b>	<b>36</b>	<b>75% **</b>
Assuming proper body position	24	50%
Observing through rear window	38	79% **
Coordinating clutch and accelerator	0	0%
Turning wheel in relation to speed and path	4	8%
Braking to a stop	4	8%

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals (cont'd)**

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 3 – RULES OF THE ROAD</i></b>		
<b>Topic 14 – Traffic Controls</b>	<b>48</b>	<b>100% **</b>
Traffic lights	48	100% **
Stop signs	47	98% **
Yield signs	48	100% **
No-turn signs	46	96% **
No enter signs	45	94% **
Crosswalks	45	94% **
Railroad crossing signs/lights	47	98% **
Human controls (enforcement/highway personnel)	44	92% **
<b>Topic 15 – Lane Control</b>	<b>48</b>	<b>100% **</b>
Basic lane use	47	98% **
Passing	47	98% **
Reversible lanes	24	50%
Reserved lanes (e.g., HOV)	24	50%
Shared left-turn lanes	36	75% **
(No) Backing	14	29%
(No) Stopping	22	46%
One-way	18	38%
Lane drops, merges	18	38%
<b>Topic 16 – Turns</b>	<b>44</b>	<b>92% **</b>
General rules	42	88% **
Turn control signs	32	67% *
Traffic circles	11	23%
<b>Topic 17 – Right-of-Way</b>	<b>48</b>	<b>100% **</b>
Yielding right-of-way	45	94% **
Intersections	44	92% **
Traffic circles	17	35%
Pedestrians	47	98% **
Emergency vehicles	48	100% **
School buses	45	94% **
<b>Topic 18 – Vehicle Restrictions (max. height/width)</b>	<b>8</b>	<b>17%</b>
<b>Topic 19 – Parking Restrictions</b>	<b>32</b>	<b>67% *</b>

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals (cont'd)**

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 4 – VISUAL SEARCH</i></b>		
<b>Topic 20 – Maintaining Attention</b>	<b>45</b>	<b>94% **</b>
Maintaining general surveillance	40	83% **
Avoiding distraction	22	46%
<b>Topic 21 – Search Ahead</b>	<b>34</b>	<b>71% *</b>
Distance	28	58% *
Side-to-side	33	69% *
<b>Topic 22 – To the Side</b>	<b>29</b>	<b>60% *</b>
Intersections	29	60% *
Crosswalks	22	46%
Railroad crossings	31	65% *
Roadside activity	19	40%
Sight obstructions	15	31%
Merges/on-ramps	8	17%
<b>Topic 23 – Over-the-Shoulder</b>	<b>41</b>	<b>85% **</b>
Lane changing	40	83% **
Merging	23	48%
<b>Topic 24 – Mirrors</b>	<b>44</b>	<b>92% **</b>
Periodic scanning	30	63% *
When slowing	15	31%
Changing lanes	41	85% **
Merging	18	38%
Overtaken on downgrades	13	27%
<b>Topic 25 – Headlight Use</b>	<b>47</b>	<b>98% **</b>
Use of high beams	30	63% *
Dimming for vehicles	47	98% **
Low beams for fog and rain	39	81% **
Not retaliating	17	35%

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals (cont'd)**

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 5 – COMMUNICATION</i></b>		
<b>Topic 26 – Signaling Intentions</b>	<b>48</b>	<b>100% **</b>
Signaling turns	47	98% **
Nature	40	83% **
Timing	44	92% **
Canceling signal	24	50%
Signaling slow/stop	33	69% *
Uses hand signals when appropriate	29	60% *
<b>Topic 27 – Communicating Presence</b>	<b>37</b>	<b>77% **</b>
Headlights	24	50%
Horn	27	56% *
Emergency flashers	34	71% *
Signals (reflectors, flares)	23	48%
<b><i>CATEGORY 6 – ADJUSTING SPEED</i></b>		
<b>Topic 28 – Compliance with Limits</b>	<b>48</b>	<b>100% **</b>
<b>Topic 29 – Adjusting to Traction</b>	<b>45</b>	<b>94% **</b>
Slick surfaces	42	88% **
Curves	27	56% *
Hydroplaning	37	77% **
<b>Topic 30 – Adjusting to Visibility</b>	<b>45</b>	<b>94% **</b>
Intersections	25	52% *
Hills, curves	35	73% *
Vehicles	22	46%
Weather	45	94% **
Darkness/Night driving	43	89% **
Fog	39	81% **
<b>Topic 31 – Adjusting to Traffic</b>	<b>44</b>	<b>92% **</b>
Prevailing speed	38	79% **
Entering traffic	43	89% **
Leaving traffic	41	85% **
Pulls over when required	27	56% *
Emergency vehicles	48	100% **
<b>Topic 32 – Specific Hazards</b>	<b>44</b>	<b>92% **</b>
Maneuver limitations	24	50%
Roadside activity	23	48%
Path threats	14	29%
Pedestrian traffic	31	65% *
Shopping areas	18	38%
Wildlife	15	31%

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals (cont'd)**

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 7 – POSITIONING VEHICLE</i></b>		
<b>Topic 33 – When Following</b>	<b>46</b>	<b>96% **</b>
Vehicles in general	45	94% **
Specific vehicles	37	77% **
Limited visibility	29	60% *
Avoiding blind spot	42	88% **
Slippery surfaces	27	56% *
When carrying/towing heavy loads	18	38%
When followed (closely)	27	56% *
<b>Topic 34 – Passing Vehicles</b>	<b>32</b>	<b>67% *</b>
Gap acceptance (2-3 lane)	31	65% *
Lateral separation (cars on either side)	25	52% *
<b>Topic 35 – Crossing/Entering</b>	<b>31</b>	<b>65% *</b>
Accepting proper gap	29	60% *
Assuring clearance ahead	21	44%
Responding to turn signals (not trusting)	13	27%
Vision obstructed	8	17%
<b>Topic 36 – When Stopping/Parking</b>	<b>48</b>	<b>100% **</b>
Selecting locations	46	96% **
Vehicle orientation	45	94% **
Keeping clearance	43	89% **
Observes restrictions	48	100% **
<b><i>CATEGORY 8 – HANDLING EMERGENCIES</i></b>		
<b>Topic 37 – Vehicle Failures</b>	<b>39</b>	<b>81% **</b>
Brake	36	75% **
Tire	39	81% **
Headlight	26	54% *
<b>Topic 38 – Collision Avoidance</b>	<b>43</b>	<b>89% **</b>
Quick stop	20	42%
Manual and Anti-Locking Brake Systems (ABS)	28	58% *
Quick turns	22	46%
Skid recovery	37	77% **
Escape paths (swerve to RIGHT or speed up)	14	29%
<b>Topic 39 – Accident Procedures</b>	<b>42</b>	<b>88% **</b>
Scene control	36	75% **
First aid	39	81% **
Summoning help	42	88% **

**Table 2. Summary Data: Coverage of AAMVA-Recommended Knowledge Requirements in Jurisdictional Driver Manuals (cont'd)**

AAMVA CATEGORIES (10), TOPICS (48), AND DRIVER TASKS/CONCEPTS (164)	JURISDICTIONAL MANUALS ADDRESSING TOPIC (n = 48)	
	Number	Percent
<b><i>CATEGORY 9 – DRIVER PREPARATION</i></b>		
<b>Topic 40 – Physical Fitness</b>	<b>42</b>	<b>88% **</b>
Vision checks	19	40%
Hearing checks	19	40%
General physical checks	6	13%
Treatment for illness/disability	25	52% *
Eating	1	2%
General	4	8%
During trips	7	15%
Exercise	4	8%
Fatigue prevention	35	73% *
<b>Topic 41 – Use of Alcohol and Other Drugs</b>	<b>48</b>	<b>100% **</b>
Limiting consumption	14	29%
Limit of driving	45	94% **
Avoiding mixing	39	81% **
<b>Topic 42 – Trip Planning</b>	<b>29</b>	<b>60% *</b>
<b>Topic 43 – Alternatives to Driving</b>	<b>22</b>	<b>46%</b>
<b><i>CATEGORY 10 – VEHICLE READINESS</i></b>		
<b>Topic 44 – Characteristics</b>	<b>0</b>	<b>0%</b>
Vehicle size	6	13%
Engine size	0	0%
<b>Topic 45 – Drive Train Configuration</b>	<b>0</b>	<b>0%</b>
Displays (legibility)	0	0%
Controls (ease of reach, operation)	0	0%
Seats	0	0%
Trailers and towing	5	10%
<b>Topic 46 – Safety Equipment</b>	<b>27</b>	<b>56% *</b>
Passive restraints / Airbags	19	40%
Mirrors	2	4%
Anti-lock brakes	10	21%
CB radio	4	8%
<b>Topic 47 – Inspection/Maintenance (and/or What Equipment a Vehicle Must Have)</b>	<b>38</b>	<b>79% **</b>
<b>Topic 48 – Servicing</b>	<b>16</b>	<b>33%</b>

## Scoring Method Utilized

Referencing Table 2, the “scoring” of a manual as having addressed a topic means that it addressed at least one of the driver tasks/concepts for that area, or that it addressed some other aspect of the topic. Scoring on a task or concept means that the manual addressed that particular item. Therefore, the number of manuals addressing a topic may be greater than the number addressing any of that topic’s associated driver tasks. This is clearly illustrated in the very first topic on the chart, *Adjustments*. That topic was addressed in 29 (60 percent) of the manuals, 27 of which specifically mentioned adjusting the driver’s seat and 28 of which specifically referred to adjustment of the mirrors. In those few instances when no specific driver task was mentioned, the manuals contained a general statement about the topic along the lines of, “Be sure to make any necessary adjustments before you begin driving.”

The reverse situation can also be seen in Table 2. For example, only 25 (52 percent) of the manuals addressed Topic 3, *Inspection*, as something that should generally be undertaken prior to driving. However, the specific task of looking behind one’s vehicle (outside) before backing up was recommended in 34 (71 percent) of the manuals. The task was scored this way because many of the manuals addressed it in contexts unrelated to general inspection of one’s vehicle prior to driving. In some manuals it was contained within a section on backing up; in others, it was covered within the context of parking the vehicle and/or exiting a parking space.

## Discussion of Findings

The breadth of the knowledge requirements recommended in the *AAMVA Guidelines for Knowledge and Skill Testing* reflects current thinking about the types of knowledge that driver license applicants should be expected to have. “Knowledge requirements include, in addition to laws and regulations, driving procedures, principles, facts, and concepts, including both those that *enable* drivers to operate their vehicles properly and those that *motivate* them to do so” (AAMVA 1999, 2).

According to the *AAMVA Guidelines*, this represents a significant change in our expectations of driver applicants, which in turn has broadened our information objectives for the driver manual itself. In the past, subject matter content of driver manuals and knowledge tests was limited to laws and regulations concerning motor vehicle operation. This reflected the position that drivers could only be held accountable for knowing what law imposed upon them. However, it is now generally accepted that applicants can – and should – be held responsible for any knowledge that contributes to public safety and mobility, so long as that information is made available to them through the driver manual, a study guide, or similar material.

The *Guidelines* recommend that “the subject matter of the driver manual should encompass, **at the minimum** (emphasis added), all of the knowledge requirements” discussed earlier (AAMVA 1999, 6). To assist licensing agencies in accomplishing this, AAMVA has produced a model driver manual and knowledge test based on the guidelines and distributed both items to AAMVA member jurisdictions. The model

manual is not available on the AAMVA website, so its contents could not be examined for this study. However, a number of the manuals reviewed were nearly alike in both content and organization, indicating that they were created in accordance with a model manual – probably the one produced by AAMVA. Additionally, the subsequent review and compilation of the survey responses found comments from several jurisdictions noting that their manual was based on the AAMVA model. Those manuals typically included more of the AAMVA knowledge requirements than other manuals, but **none addressed all 212 items or even all of the 164 driver tasks and concepts.**

It is likely that jurisdictions' selection of items to be included reflects such pragmatic considerations as the size of the manual and the associated production cost. Manuals addressing the majority of the AAMVA knowledge items are significantly larger than average, with some numbering more than 100 pages in an 8 ½ x 11" format. (A discussion of various formats used for driver manuals is presented later in this report.) To produce a manual that is economical for the jurisdiction as well as manageable for the driver, jurisdictions have to determine which of the AAMVA-recommended items to include and which to omit.

The summary data contained in Table 2 reveals those AAMVA-recommended topics, driver tasks, and general concepts that jurisdictions consider more important than others in terms of the decision to include them in their manuals. For example, looking at Category 2, Vehicle Control, only two of the topics and three of the driver tasks in that category are addressed by a majority of the manuals, making it one of the least covered AAMVA categories. We can assume that jurisdictions judge the category to be one of the least important with respect to inclusion in the driver manual – perhaps because the overall category crosses somewhat into the domain of physical driving *technique* rather than cognitive awareness and knowledge. The two topics in this category that were the exception were included by a solid majority of the jurisdictions: *Backing* (Topic 13), addressed by 75 percent of the manuals, and *Turning* (Topic 10), addressed by 67 percent.

The determination of best practices in subject matter content of driver manuals was based on the above-described analysis of jurisdictional driver manuals as well as suggested curricula for driver education programs and traffic safety topics receiving the greatest emphasis in the literature.

## **FINDINGS FROM THE LITERATURE REVIEW**

One of the three project objectives – and the original focus of the literature review – was to document the safety implications of having a good driver manual. As discussed earlier, however, the review showed that the last research study on use of the driver manual as an education tool appeared in the literature five years ago. Interestingly, while further research on the role of the manual in driver education has disappeared from the literature, the focus of that last study – pedestrian safety at intersections – has become a nationwide safety issue and is discussed below with other nationwide issues in “Traffic and Driving Safety Issues.”

Due to the absence of research on use of the driver license manual in education, the literature review was directed toward an examination of general issues associated with driver education and driver safety to identify additional topics that should be addressed in driver manuals. It was determined that several traffic and driving safety issues have been the focus of numerous research studies and have been identified as critical areas for improvement nationwide. Recommended strategies for addressing these issues often include the implementation of public information campaigns at the state level, and the state driver license manual would be one of the logical communication pieces to be used. Whether these recommendations are the direct cause is unknown, but nearly all the topics are addressed in one form or another – for example, within the text or featured as ads – in most of the jurisdictional driver manuals reviewed. Because of their national prominence, these safety issues should be included among best practices in subject matter content of driver manuals and are discussed below in “Traffic and Driving Safety Issues.”

Finally, one of the predominant driving-related issues appearing in the research literature as well as popular media during the past few years has been the high accident risk, or crash risk, among teenage drivers (professionals in the driving and safety fields favor the term *crash* over *accident*, contending that because so many of these incidents are preventable, they are not truly accidents). Revamping traditional driver education and licensure practices – including implementing graduated licensing programs and increasing parental involvement – are the two most recently identified means of addressing the problem. While developments related to teenage driving and driving education have little impact on the content of the general driver license manual, they present an opportunity for jurisdictions to develop specialized materials directed at this critical segment of the driver population. Consequently, the topic is discussed below in “Driver Education and Other Methods for Improving Performance by Teen/Novice Drivers.”

### **The Driver Manual as an Education Tool**

As noted earlier, the literature contains very few studies on the use of jurisdictional driver manuals in driver education. The most recent study appearing in the literature suggested that manuals can play a key role in educating drivers about the vulnerability of pedestrians at intersections (Sarkar, Van Houten, and Moffatt 1999). The researchers had developed a set of criteria that they judged as necessary to effectively communicate intersection hazards – such as providing statistical information on pedestrian-vehicle conflicts at intersections – and then reviewed driver manuals to determine how well they met the criteria. They concluded that most driver manuals did not address the topic of intersection safety to the degree necessary. However, the study’s recommendations and conclusions appeared to be more intuitive than analytical, in that no evidence was offered on the validity of the criteria as factors in increasing driver awareness or improving driver performance.

Regardless of any methodological flaws that may have existed in this study, the fact is that intersection safety – with regard to multi-car as well as car-pedestrian conflicts – has been acknowledged as a nationwide problem that needs to be addressed. As such, it

deserves attention as a possible topic for inclusion in driver license manuals and is discussed below.

### **Traffic and Driving Safety Issues**

The literature review helped identify numerous traffic and driving safety issues that have emerged in recent years. As such issues move to the forefront of national attention, they frequently lead to widespread public education and information programs. These programs are typically implemented at the state level, with the state licensing and/or transportation agency responsible for communicating and promoting the program, and it is evident that jurisdictions perceive the driver manual to be an appropriate vehicle for communicating these issues to the driving public. Most of the manuals reviewed in this study address those topics that have received national attention, as well as other topics that do not appear in the *AAMVA Guidelines* but are deemed important by individual jurisdictions. These topics should be included for consideration in an identification of best practices in subject matter content of driver manuals. Following is a summary of the major traffic and safety issues addressed in the literature in recent years and their effect, if any, on the subject matter content of jurisdictional driver manuals.

#### Intersection Safety

The Federal Highway Administration (FHWA) reports that more than 2.7 million intersection crashes occur each year, representing more than 45 percent of all reported crashes and accounting for nearly one-fourth (23 percent) of all traffic fatalities (more than one every hour).

FHWA has cited intersection safety as one of four priority areas in its performance plan and is initiating a new research focus area for this topic. Intersection safety is also one of the emphasis areas in the American Association of State Highway and Transportation Officials (AASHTO) Strategic Highway Safety Plan. In November 2001, FHWA, AASHTO, and several other organizations sponsored a national workshop on intersection safety attended by nearly 200 transportation and safety professionals from around the country. The ultimate objective of the gathering was to develop a national agenda on intersection safety that provides a vision for its improvement.

The resulting *National Agenda for Intersection Safety* contains recommendations in 11 categories, most of which have no relevance to driver manual content – categories such as political support and engineering, for example. In the category of marketing and communications, however, the recommendations are directly relevant to agencies responsible for producing their state's driver's manual:

Intersection safety is not accepted nationally as a public health problem. The public is not getting the message. Participants recommended that a number of steps be taken to address this issue, including the allocation of resources to market intersection safety and . . . that a media campaign be developed to create and

sustain public awareness of intersection safety issues (Federal Highway Administration *National Agenda*).

Furthermore, it has been determined that the running of red lights and other traffic controls like stop and yield signs is the leading cause of urban crashes. According to the Insurance Institute for Highway Safety (IIHS), drivers who run red lights are responsible for an estimated 260,000 crashes each year, of which approximately 750 are fatal. On a national basis, fatal motor vehicle crashes at traffic signals increased 19 percent between 1992 and 1996, far outpacing the 6 percent rise in all other fatal crashes. In response to the growing problem, the FHWA developed the Stop Red Light Running Campaign, a comprehensive safety outreach program that combined public education with aggressive enforcement.

Despite the statistics regarding crashes related to intersections and to red light running, most of the driver manuals reviewed only lightly address the topic of intersection safety, typically within a broad discussion of making turns, yielding to pedestrians, watching for a sufficient gap in traffic, etc. Very few give the topic particular attention, and even fewer specifically address the problem of red light running.

#### Safely Sharing the Road with Trucks

In 1991, Congress directed the Federal Highway Administration (FHWA) to educate the driving public about how to safely share the road with trucks and buses. The project was subsequently moved to the Federal Motor Carrier Safety Administration (FMCSA), and in 1994 FMCSA introduced the No-Zone, or Share the Road, program.

The campaign is aimed at increasing motorist awareness of the “No-Zones” – the large blind spots surrounding commercial vehicles. When a car drives in one of these blind spots, it disappears from the view of the truck or bus driver. FCMA developed and distributed outreach materials, including graphics that can be used in publications. Nearly all the manuals reviewed include, at the least, a discussion of the No-Zones, and many also use one or more FMCSA graphics.

#### Road Rage and Aggressive Driving

In the late 1990s, concern over horrific road rage incidents swept the country. Although such incidents were still relatively infrequent, they appeared to be increasing. As a result, a number of research studies were undertaken to examine the issues of road rage and aggressive driving and identify strategies for reducing them. While both are dangerous behaviors, road rage and aggressive driving are not the same. A 1999 study conducted for the AAA Foundation for Traffic Safety defined road rage as “an incident in which an angry or impatient driver intentionally injures or kills another motorist.... Aggressive driving does not rise to the level of criminal behavior. [It] includes tailgating, abrupt lane changes, and speeding, alone or in combination.” (AAA Foundation for Traffic Safety 1999)

Early in 1999, the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA) cosponsored “Aggressive Driving and the Law,” a national symposium of public safety, legal, and justice system representatives. Participants examined the issue of aggressive driving from six perspectives, developing action steps for each: (1) statutory approaches, (2) applied technology, (3) charging decisions [re prosecution and law enforcement], (4) sentencing strategies, (5) community leadership, and (6) enforcement strategies.

With regard to statutory approaches, participants recommended that states look at their laws to determine their adequacy in dealing with both the misdemeanor and felony levels. It is noteworthy that the previous year, nine states had introduced into their legislatures a total of 26 aggressive driving bills; Arizona’s is one of the two that was enacted.

Recommendations concerning communication and education about the aggressive driving issue included making the message “clear and uniform, localized, personalized, and publicized” and identifying and involving stakeholder groups and community leaders to help educate the public and raise awareness throughout the community through innovative programs. The use of driver manuals was not mentioned in the symposium summary, nor was any specific recommendation made concerning inclusion of the topic in jurisdictional driver manuals. Nevertheless, approximately one-third of the manuals reviewed in this study do include a discussion of aggressive driving and/or road rage, and several jurisdictions noted that it would be included in their next revision.

### Driver Distraction

Although some forms of driver distraction have always existed – and, therefore, have always raised safety concerns – the sudden widespread proliferation of cell phone usage that began in the late 1990s launched the issue of distracted driving to national prominence. Numerous research studies were undertaken to determine the danger level of this new distraction. Among the largest were a two-phase study conducted by the University of North Carolina Highway Safety Research Center between 2001 and 2003 among North Carolina drivers, and a pair of surveys conducted by the Gallup Organization for the National Highway Transportation Safety Administration in spring of 2002 among a nationally representative sample of 4,010 drivers.

Both studies reported that most drivers occasionally engage in behaviors that draw some of their attention away from their driving task. Furthermore, both studies found that, despite the perception of cell phones as a leading cause of distraction-related accidents, in reality they are relatively low on the list of distractions.

The North Carolina study, which placed cameras in the vehicles of study participants, identified the top ten driver distractions as: 1. Things outside the car; 2. Adjusting radio, etc.; 3. Other occupants of car; 4. Moving objects in car; 5. Other objects in car; 6. Vehicle controls; 7. Eating, drinking; 8. Cell phones; 9. Smoking; 10. Other distractions.

In the Gallup study, drivers were asked how often they personally engaged in each of 12 potentially distracting behaviors while driving. The vast majority of drivers (81% and 66%, respectively) reported talking to other passengers and changing radio stations or looking for CDs or tapes while driving, while nearly half (49%) reported eating or drinking while driving. While it is estimated that more than a billion driving trips are made weekly by drivers engaging in each of these behaviors, fewer than one in four drivers perceived these particular activities as distracting or as making driving much more dangerous.

About one in four drivers reported using a cell phone while driving for either inbound (26%) or outbound calls (25%), while a similar proportion reported dealing with children in a back seat (24%). Close to one-half of drivers perceived these behaviors as making driving much more dangerous, although drivers who use cell phones were only half as likely as non-users to feel cell phone use is dangerous.

According to accident statistics, drivers talking on cell phones are nearly twice as likely as other drivers involved in crashes to have rear-end collisions. However, such crashes are less likely to result in fatalities or serious injuries.

As seen in Table 2, nearly half (46%) the driver manuals reviewed in the current study addressed the AAMVA-recommended topic of avoiding distractions. Specific distractions were not specified by AAMVA and therefore not included in the table, but a scan of the manuals indicated that the majority of those addressing the topic specifically referred to cell phone usage as an example.

### Renewed Emphasis on Seatbelt Usage

As the single most effective means of reducing crash-related deaths, seatbelt usage has been encouraged not only by means of public information campaigns but through legislation as well. Secondary seatbelt laws, which allow police to issue citations for seatbelt violation if they have stopped the motorist for a different violation, have been in effect in most states since the mid- to late-1980s. During the past decade, safety advocates have been lobbying for states to enact primary laws, which allow police to stop a motorist and issue a citation solely for driving unbelted. In April 1997, the U.S. Department of Transportation recommended that all states enact and actively enforce primary seatbelt laws. According to the Centers for Disease Control and Prevention (CDC), as of Dec. 2003, The District of Columbia, 20 states, and three U.S. territories had enacted primary laws, 29 states had secondary laws, and one state (New Hampshire) had no law mandating seatbelt use by adults (CDC 2004).

Potential barriers to enactment of primary seatbelt laws include concerns about the potential for discriminatory enforcement on the basis of race/ethnicity. Nevertheless, in a national survey conducted in 2000 by the National Highway Traffic Safety Administration, approximately 61 percent of U.S. residents supported primary laws, with a support rate of 70% in states that currently had primary laws and 53% in states that had only secondary laws (NHTSA 2004).

As seen in Table 2, 100 percent of the manuals reviewed in this study address the topic of restraint (seatbelt) use while driving, and many make use of graphics from “Buckle Up,” “Click It or Ticket,” and other national campaigns.

### Following Distance

Smith System, a company that has been providing fleet driver safety training for nearly 50 years, reports that the most common driver error observed in its more than 100,000 trainees to date is inadequate following distance.

Smith System’s trainers have determined that most drivers continue to maintain a following distance of only one to two seconds, as was originally recommended in the earliest days of driver education. The two-second recommendation was abandoned some time ago by the U.S. Department of Transportation and most state motor vehicle agencies in favor of a safer three- or four-second following distance.

The Smith System training recommends a four-second distance for today’s traffic, noting that the original two-second recommendation was derived from testing the stopping distance and reaction time of drivers under ideal road, vehicle, and driver conditions – conditions that rarely exist. Furthermore, the company website points out, the two-second recommendation never considered how such a limited following distance restricts the driver’s freedom to survey the complete traffic picture. “With two seconds or less, drivers can ill afford to take their eyes off the vehicle directly in front of them to identify risks further ahead, to the sides, or behind” (Smith System 2004).

As seen in Table 2 (Category 7, Topic 33), 46 (96 percent) of the driver manuals reviewed in this study address the topic of following distance. Nearly all recommend a distance of three or four seconds, but a few –including Arizona’s – continue to recommend the outdated two-second following distance.

### **Driver Education and Other Methods for Improving Performance by Teen/Novice Drivers**

Driver education programs – including curriculum design, content, and delivery – as well as other methods for improving driver performance are frequent topics in both research and popular literature. Much of the research in this area is focused on teenagers – first, because they comprise the vast majority of student drivers, and second, because they are highly overrepresented in crashes. Teen crash rates are higher than those of any other age group, including older novice drivers, and crashes are the leading cause of death and injury among teenagers 16 to 19.

Driver education programs have been under attack for their apparent inability to produce beginner drivers who crash less frequently than those who haven’t had driver education. In the late 1970s and early 1980s, the DeKalb County Driver Education Project was undertaken to evaluate the effectiveness of a comprehensive driver education program.

The study, widely recognized as comprehensive and well designed, determined that driver education was not associated with reliable or significant decreases in crash involvement. Because of the disappointing results, the data from the study have been scrutinized and re-analyzed by many researchers, but the findings have remained consistent. Subsequent research in the same area has provided little support for the safety benefits of formal driver education. Due in part to these findings, along with increasing financial constraints, school-sponsored driver education programs began to be eliminated throughout the country.

Consequently, research efforts turned to finding more effective ways to improve the risk factor among teenage drivers. Two resources have been identified as the most promising in helping achieve this objective: graduated driver licensing (GDL) programs and increased parental management of teen driving.

Graduated licensing has been steadily gaining in popularity nationwide due to the growing belief among safety experts – supported by national studies – that it is hours of behind-the-wheel practice, not driver education, that has a positive impact on crash reduction among teenage drivers. Furthermore, GDL addresses the paradox of how to enable teens to gain driving experience despite the fact that their driving leads to increased risk for crash and injury.

As GDL programs have begun to take hold, more has been learned about better ways to teach teens to drive, and technology developments such as driving simulators now offer alternative means of providing driving practice, the curricula of driver education programs have come under greater scrutiny. Additionally, communities around the country – with the support of local business organizations and/or associations – have taken steps to reinstate better-designed school-based driver education programs and/or revise existing programs to provide more driving practice time.

Concerns about the quality of all driver education programs being offered, whether private or school-based, and how to judge that quality have spurred a collaborative effort between the AAA Foundation for Traffic Safety and BMW of North America, Inc. The two recently announced their plan to co-sponsor the development of a set of guidelines for evaluating driver education programs.

With regard to the second resource, increased parental management of teen driving, experts in driving safety believe that it is highly powerful but equally highly underutilized. Parents have control over teens' access to the family vehicle, including frequency, time of day or night, and duration of that access, as well as the number of passengers permitted and other high-risk factors in teen driving. Parents can even delay their son's or daughter's licensure until they determine that the teen is ready.

The problem, experts say, is that parents too often give up and give over, yielding their control to the teen so as to avoid the “never-ending argument” that parents say would likely be evoked by such limitations. Others truly welcome their teen's driving status, perceiving immediate benefit to themselves in a reduction of their chauffeuring duties.

Modifying parental attitudes about increasing control over their teens' driving will require a broad-based and ongoing effort. Many driver education programs have already developed a parental component, such as a parent-teen contract stating the limitations associated with the teen's access to the family car, a prescribed number of hours of teen driving practice with the parent, with an accompanying log to be signed by the parent, and similar strategies that actively engage parents in their teens' driver education and driving time.

Rather than revising or expanding the general driver license manual to address topics of particular significance to teen drivers and their parents, approximately one-third of the jurisdictions have developed specialized materials for this purpose.

## **ANALYSIS OF SURVEY RESPONSES**

As noted earlier, a brief survey was sent to all jurisdictions and returned by 90 percent. The survey queried jurisdictions on such topics as: what types of specialty manuals they produce (if any); whether manuals are produced in languages other than English (and which languages); how manuals are made available to the public; and what methods are used to evaluate the manual's effectiveness. Two questions also investigated the jurisdiction's satisfaction level with its manual – one referencing the distribution system used and the other referencing the manual's content, usefulness, and value – and, if dissatisfied, asked what change would be required for the jurisdiction to be satisfied in each area.

Table 3 presents the summary data for the survey responses. For total respondents,  $n = 47$ , and percentages were calculated on that basis. However, some respondents did not answer every question, so the responses for a given question may total fewer than 47.

Key findings reflected in Table 3 include the following:

- ▶ The most frequently published specialty manual (36% of jurisdictions) is one directed at parents and/or teens. This is not surprising given the current trend toward greater parental involvement in teenage driver education, as discussed earlier.
- ▶ More than half the jurisdictions (57%) provide a Spanish version of the manual, but versions in other languages are rare.
- ▶ The most common distribution methods are motor vehicle test locations (98%), online (91%), schools and driver training organizations (78%), and via mail at the user's request (74%). Another 40% make them available through local law enforcement offices.
- ▶ More than half the jurisdictions (51%) review and update their manually annually or better, while another fourth of the jurisdictions (26%) update it as needed. Only one jurisdiction reported using inserts to update the manual; the rest reprint the entire manual.

- ▶ Most jurisdictions obtain information on the effectiveness of their manual from test administrators, test takers (drivers), driver training schools, and law enforcement officials, but the primary collection method is by means of complaints and comments submitted from these groups. Approximately 10 percent actively survey test administrators, while 8 percent survey test takers. However, a few jurisdictions report sending out the existing manual to these groups and soliciting comments prior to producing an updated version.
- ▶ A little more than half the jurisdictions track pass/fail ratios of test takers. Several jurisdictions commented that they were about to implement a web-based or automated testing system that would provide such tracking information.
- ▶ General comments made reference to the excessive time and cost involved in revising the manual on a regular basis. Several jurisdictions noted that they are currently considering the possibility of selling advertising space in the manual to public entities. The review of current manuals determined that a few jurisdictions already do this, although it is not always clear which of these ads might be included as a public service and which generate revenue for the agency producing the manual.

## **ANALYSIS OF JURISDICTIONAL DRIVER MANUALS – FORMAT**

The review of jurisdictional manuals included a size and page count comparison. Key findings were as follows:

- ▶ Jurisdictions clearly prefer a driver's manual that is smaller in size than the 8 ½ x 11" full sheet used for the Arizona manual. Of the 48 manuals reviewed:
  - 23 (48%) are approximately 5 ½ x 8 ½" in size
  - 5 (10%) are approximately 5 ¼ x 7 ½" in size
  - 3 (6%) are approximately 6 x 9" in size
  - 6 (13%) are each a different size, ranging from 3 ¾ x 8 ½" to 7 x 11" in size
  - 11 (23%) of the manuals, including Arizona's, are 8 ½ x 11" in size

Jurisdictions were not surveyed about the size of their manual or the reasons for the chosen size, so no quantitative data exists in this area. Possible reasons for the strong preference for a smaller format include lower printing costs, more convenient and/or economical storage, lower postage costs when mailed to members of the public, and/or other economic or convenience factors.

- ▶ As would be expected, the smaller manuals typically have higher page counts than the larger manuals. In manuals that are 8 ½ x 11", page counts range from a low of 34 to a high of 83 pages, with the median page count in the 51 to 70 range. For the manuals that are 5 ½ x 8 ½", page counts range from a low of 56 to an amazing high of 162 pages, with the median page count in the 71 to 90 range. It should also be noted that the high page counts are not necessarily attributable to size alone. Several of the manuals containing 100+ pages – such as the Texas manual, with 155 pages – contain sections on driving other vehicles such as commercial trucks or motorcycles.

**Table 3. Summary Data for Jurisdiction Survey Responses**

<b>1. Does your jurisdiction publish any specialty manuals as supplements to the standard driver license manual? (check all that apply)</b>		
<b>Type of Specialty Manual</b>	<b>Jurisdictions Producing</b>	
	<b>Number (n = 47)</b>	<b>Percent</b>
Parent/Teen	16 (+1 in process)	36%
Recreational vehicle	3 (+1 in process)	9%
Pedestrian/Bicycle	10	21%
Aging driver	7	15%
Other:	15	32%
▪ CDL	9	19%
▪ Motorcycle	10	21%
▪ School bus	1	2%
▪ ATV	1	2%
▪ Brochures ( <i>Aggressive Driving</i> and <i>Rookie Driver</i> , English and Spanish)	1	2%
▪ Brochure ( <i>What Every Driver Must Know</i> , English and Spanish)	1	2%
▪ Either the Dept. of Public Safety, Bureau of Motor Vehicles (BMV) or State Highway Patrol has brochures to accompany manuals	1	2%
Languages other than English*:		
Spanish	27	57%
Korean, Russian, Vietnamese,	3	6%
Bosnian, Chinese, Japanese	2	4%
Albanian, German, Polish, Tagalog	1	2%
*Several responses indicate that some or all foreign language versions are available only electronically, but data is unclear.		

**2. How are your driver license manuals made available to the public? (check all that apply)**

Distribution Method	Jurisdictions Using Method	
	Number	Percent
All motor vehicle test locations	46 (+1 distributing only motorcycle & CDL manuals)	98%
Mail, at user's request	35	74%
Schools and/or driver training organizations	37	78%
Local law enforcement offices	19	40%
Online via website In what format?	43 PDF – 34 HTML – 9	91%
Other:		
▪ Retail stores	1	2%
▪ Libraries	3	6%
▪ Audio tape for individuals with reading difficulties	1	2%
▪ Schools and driver ed organizations order directly from printer and pay for orders	1	2%
▪ Via DMV call centers (telephone, including Telecommunications Device for the Deaf (TDD or TTY))	1 1	2% 2%
▪ Order process	1	2%
▪ Messenger services		

**3. How satisfied are you with your current system for publishing and distributing your driver license manual? (rated on scale of 1 to 5 with 5 equal to “very satisfied” and 1 equal to “very dissatisfied”)**

15 jurisdictions rated their satisfaction level as 5 (32%)  
 23 jurisdictions rated their satisfaction level as 4 (49%)  
 7 jurisdictions rated their satisfaction level as 3 (15%)  
 2 jurisdictions rated their satisfaction level as 2 ( 4%)  
 0 jurisdictions rated their satisfaction level as 1

**If dissatisfied, what would be necessary in order to be satisfied? (The state authoring each comment is shown in parentheses.)**

- We have lacked the funding to properly present and maintain the online version of the manual. The printing costs need to be reduced. (AZ)
- It is a tedious process. Linking each section to state law would make changes in state law easier to incorporate. (MI)
- Lower costs. (PA)
- We would like to reduce expense of manuals. (VA)

**4. What section of your department or agency is responsible for writing, updating and publishing the driver license manual?**

Answers not quantifiable; refer to individual surveys

**5. How often does your jurisdiction review and update its driver license manual?**

- Annually – 19 (40%)
- As needed – 12 (26%)
- Every 2 years – 6 (13%)
- Semiannual to annual – 5 (11%)
- Every 1 ½ years – 1 (2%)
- Review annually & update as needed with inserts – 1 (2%)

**6. What methods are used to gather and analyze information about the effectiveness of your driver license manuals in adequately preparing safe and responsible drivers? (complete all that apply) (The state authoring each comment is shown in parentheses.)**

Source of Information		Method of Collection
Users (test takers)	36 (75%)	Interview – 2 Survey – 4 Complaints/comments – 33
Administrators (test givers)	40 (83%)	Interview – 3 Survey – 5 Complaints/comments – 34
Law enforcement	32 (67%)	Interview – 2 Survey – 3 Complaints/comments – 28
Driver training schools	33 (69%)	Interview – 2 Survey – 2 Complaints/comments – 30
Insurance companies	13 (27%)	Interview – 0 Survey – 0 Complaints/comments – 12

Additional sources & comments: 12 (25%)

- Internal policy and financial areas (CA)
- We send out the manual to all of the above BEFORE publication. We make changes as we are notified. (DE)
- Driver training school work groups (GA)
- User survey is not specific to the manual, but we give customers opportunity to comment generally. We are represented at driver educators’ annual meeting. (IA)
- Administrators review current booklet. (LA)
- The MVA also gets information/comments from a survey form that is in the back of the Rookie Driver Skills Log. Both the parent(s) and young driver fill it out and turn it back in to the MVA. (MD)
- Written review by administrators during clearance process. Also internal interview and written review during clearance process through legal affairs, field operations, field investigations, program analysis (forms control), systems implementation and design (procedures development), vehicle safety (equipment requirements), driver safety services (driver testing requirements); external review through Dept. of Transportation (work zone safety and other highway concerns), Health Dept. (NY)
- Changes made in law by General Assembly (NC)
- Manual review process through administrators, law enforcement, driver training schools, Traffic Safety Division, Traffic Engineers (all regions), Office of Motor Carriers, TEAM Oregon (motorcycle program), Dept. of Education, and various safety groups such as 55 Alive. (OR)
- Analysis of crash statistics (PA)
- The Dept. of Education reviews the manual (RI)

- We use an AAMVA model (SD)
- Reviewed by Texas Education Agency (TX)
- Dept. of Transportation and Dept. of Education review manual before publication. (VA)
- Our guide is a customization of the AAMVA Model Guide. We meet yearly with the State Patrol, Dept. of Transportation, and other areas of our Dept. to seek input. We also get letters/calls from the public and other special interest groups. All are considered. (WA)
- Legislative bodies, special interest groups, other groups (WI)

**7. Does your jurisdiction track any of the following types of information? (check all that apply) (The state authoring each comment is shown in parentheses.)**

Pass/fail ratios, such as the number of test-takers that pass or fail the driver license test on the first, second, or third attempt – 27

Recurring problem questions, such as data indicating that a high percentage of test-takers fail the same question – 22

Other possible indicators that the driver license manual may be deficient – 4

Comments:

- Consumer complaints (ID)
- We tracked all of this information manually when the new tests were first used – do not have the resources to continue tracking. (NE)
- We are currently rolling out a web-based testing system. It will be several more months before this system is fielded statewide. Once this is completed, many of the testing statistics listed above will be available. (NM)
- Complaints from public re accuracy of information (OH)
- Comments from customers at driver license centers (PA)

**8. How satisfied are you with the content, usefulness, and value of your driver license manual and your current system for reviewing and updating the manual? (rated on scale of 1 to 5 with 5 equal to “very satisfied” and 1 equal to “very dissatisfied”) (The state authoring each comment is shown in parentheses.)**

9 jurisdictions rated their satisfaction level as 5 (19%)  
 23 jurisdictions rated their satisfaction level as 4 (48%)  
 12 jurisdictions rated their satisfaction level as 3 (25%)  
 3 jurisdictions rated their satisfaction level as 2 ( 6%)  
 0 jurisdictions rated their satisfaction level as 1

**If dissatisfied, what would be necessary in order to be satisfied?**

- Need staff to do this. (DE)
- THE MVA is currently in the final states of producing a new driver handbook, which updates the one currently in use.” (MD)
- In the course of the next few months, we will be addressing the layout of the text to make it more reader-friendly. (MN)
- Need an automated system to do so – too much to handle manually. (NE)
- Computerized testing [statewide in a few more months] will address our concerns. (NM)
- Would like more streamlined way to maintain the information. We update the same info in the driver manual, publications, procedures manuals, and online. Must be a simpler way. (VA)

**9. Has your jurisdiction done any studies or do you have any other information on the possible effects of your driver license manuals on safety? (If YES, please provide a copy.)**

No – 42

Yes – 1 (Missouri – 1999 study provided – focus groups of driver’s ed students and teachers)

**10. Other comments: (The state authoring each comment are shown in parentheses.)**

- The manual has been recognized nationally as a very user-friendly, informative document. But the updating process of going through the state’s graphics department can be very time consuming and tedious. (CO)
- The CDL coordinator and myself draft statutes, testify before the legislature, run the driver license shop, write regulations, support AAMVA, and write the manuals and test questions. No time left to determine its effectiveness. In most cases, it is not the manual: it is those who don’t read it and expect to pass. (DE)
- The driver handbook will be available on our website in the late spring of this year. Currently all of our rookie driver materials and other safety-related items are available on our website. (MD)
- The MN driver license manual is not intended as a primary text for driver’s ed. schools. However, it is the basis for the written exam. (MN)
- Will be going to automated testing in some stations by October and will be able to have statistics on pass/fail and questions that are missed most often. (MS)
- We have a computer automated testing system in our larger offices. (NC)
- We are looking at the possibility of advertising in the manual for public entities such as Army Guard, Turnpike Authority to offset the printing costs. (OK)
- We are now looking into putting advertisements in our driver’s manual – cost purposes. (PA)