Why 16?

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ABSTRACT

The age at which a teenager may obtain a license to drive is reasonably uniform across North America — most jurisdictions license at age 16. However, there has been a recent trend toward modifying the age of full licensure with the adoption of a new system called graduated licensing, which involves a phased entry to full licensure. This trend raises the question of why minimum licensing ages were introduced in the first place and, perhaps more importantly, why particular ages were selected. This study examines the origins of, and rationale for, minimum driver licensing age laws.

Findings suggest that the introduction of age restrictions at the beginning of the 20th century was motivated largely by efforts to protect the public from young drivers, who increasingly were being recognized as a problem on the highways, as well as to protect adolescents and prepare them for adulthood. However, there was no consensus regarding the optimum age for licensing. Age determination in driver licensing essentially was arbitrary; some states selected 16, while others selected 18. By the mid-to-late 1920s, the need for uniformity in the control and regulation of drivers emerged as a critical issue in the United States, and 16 became the recommended legal age. Since then, a minimum licensing age of 16 has become the norm in the United States.

INTRODUCTION

Laws prescribing the age at which a teenager first may obtain a license to drive a motor vehicle exist in all jurisdictions in Western industrialized countries. This minimum age is reasonably uniform across North America; most jurisdictions license at age 16, although some allow licensing as early as 14 and some not before age 17. In Europe and Australia, the licensing age generally is a year or two older than in North America, beginning at age 17 or 18.

Historically, the licensing age has not been a major road safety issue, even though it has been well established that teenagers, especially those first licensed at age 16 in North America and age 17 and 18 elsewhere, have the highest crash rates of any age group (Mayhew and Simpson, 1996; Twisk, 1996; Williams, 1996). Although an obvious solution to this problem is to raise the licensing age, which would have a net safety benefit (Williams, 1983), jurisdictions have been extremely reluctant to prohibit 16 and 17 year-olds from driving.

In recent years, an alternative strategy that indirectly affects the minimum licensing age has become popular. In North America and Australia, there has been an increasing trend toward the adoption of a new system called graduated licensing, which involves a phased entry to full licensure. It requires novices to complete two stages before they are eligible for a full-privilege license: an extended mandatory learner's period of supervised driving, followed by an intermediate license period during which limitations are imposed on where, when, with whom, and/or under what conditions driving may be done.

Graduated licensing has been viewed by some as a compromise to raising the licensing age. The system does not prohibit young people from driving, but it does limit the conditions under which they can drive for several years, thereby providing protection against several of the major risks they would encounter if fully licensed. This effectively raises the minimum age for full unrestricted driving without necessarily altering the age at which teenagers may enter the licensing process.

This recent trend toward modifying the age for full licensure raises the question of why minimum licensing ages were introduced in the first place and, perhaps more importantly, why particular ages were selected — i.e., how was it determined that the minimum licensing age would be 16 or 18? This decision has had a significant and unfortunately negative impact on road safety in terms of premature death and injury among 16 and 17 year-olds in North America for many decades.

This study examines the origins of, and rationale for, minimum licensing age laws. It relies on information obtained from several sources: (a) a questionnaire-based mail survey of licensing authorities in all jurisdictions in the United States, Canada, Australia, and New Zealand, as well as selected countries in Western Europe — France, Germany, the United Kingdom, Denmark, Sweden, and Norway; (b) phone

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interviews with a select group of individuals, principally in the United States, who are acknowledged experts in the field of driver licensing and young drivers; and (c) a review of relevant literature on this topic, including court decisions that describe the legal intent of minimum age requirements.

These information sources reveal that the issue of a minimum licensing age has not been given much attention over the years, and historical records documenting the rationale for such laws are scarce. Licensing authorities and road safety experts often do not know why a minimum licensing age was introduced or why a specific age was selected. This is perhaps not surprising given that such laws, in many jurisdictions, date back to the beginning of the 20th century. Most of the historical records available are the original public acts or motor vehicle acts, which do indicate the age restriction being applied and under what conditions, but provide little or no information of why this particular restriction was selected. Similarly, key documents such as the Uniform Vehicle Code, first published in 1926, provide guidelines for minimum age requirements but do not discuss the rationale for these laws. Thus the key question — why 16? — has not been addressed adequately by the historical records. On a more helpful note, court decisions that relate to minimum age laws address the issue of legislative intent and, consequently, do provide some insights into the rationale underlying these laws.

The absence of a rich body of literature on this topic is both unfortunate and surprising considering the attention that has been directed at other, related traffic safety issues such as minimum drinking age laws. Indeed, the legal drinking age has been the subject of considerable political and academic debate over the decades, producing reasonably extensive literature (e.g., U.S. General Accounting Office, 1987; Wagenaar, 1983; Wechsler, 1980; Williams, 1986). Even though changes in the licensing age could have even more profound effects on road safety than changes in the drinking age, most of the historical debate has focused on the latter.

Still, it is possible to identify some of the major factors underlying the adoption of minimum licensing age laws. To begin this historical review, the following section discusses the reasons driver's licenses were adopted in the first place and when these laws came into effect. The next section considers the extent to which these early laws included minimum ages and when the age provisions were adopted. This is followed by a section that considers the basis on which a minimum licensing age has been prescribed, principally in the United States. Then there is a discussion of why minimum licensing ages in other parts of the world differ from those in the United States. The final section summarizes the findings and discusses their implications.

ORIGINS OF THE DRIVER'S LICENSE

Since the advent of the motor vehicle at the beginning of the 20th century, driver's licenses were issued principally as sources of revenue and means to identify drivers who could be held responsible for

damages inflicted by their motor vehicles on other people and/or property. The first driver's license is believed to have been issued in 1899 in Chicago, Illinois, to operate a steam-propelled vehicle (Smith, personal communication).

However, laws governing driver's licenses did not emerge for another five years. The first states to introduce such laws were Massachusetts and Missouri in 1903. Several other states introduced licensing laws during the next few years — New Hampshire and Vermont in 1905, New Jersey in 1906, Connecticut in 1907, Rhode Island in 1908, and Delaware and Pennsylvania in 1909. Despite these very early laws, it took five decades for licensing laws to be adopted in all jurisdictions (Table 1). South Dakota was the last to do so in 1954.

Even in the early years of licensing laws, when revenue and driver identification were the principal focus, state authorities recognized that licenses could be used to ensure public safety. Indeed, the 1899 law in Chicago required "the Chief Health Officer to determine the applicant's ability to operate in a safe manner the vehicle amongst horse drawn vehicles on city streets" (Smith, personal communication). With rapid increases in motorization, concern about the mounting number of traffic crashes led to the realization that licensing procedures could be used to control drivers and, presumably, promote road safety. This perspective is reflected in very early state laws. For example, as early as 1906, in *Emerson Troy Granite Co. v. Pearson*, the Supreme Court of New Hampshire concluded that "The vehicles referred to in this chapter have recently come into use, and have introduced a new and serious peril to travelers upon highways ... Registration of them is required to enable persons to readily discover their character, and who owns or has control of them, so that in case any wrong is done in their use the responsibility for it can be easily ascertained. But registration is not full compliance with the statute; the person who operates a vehicle must be licensed. The object of the license is to furnish a further guaranty that proper use of the vehicle will be made, and that it will be operated in compliance with the law" (*Emerson Troy Granite Co. v. Pearson*, 1906).

Since these early days, the protection of the public has continued to be a major rationale for driver's licenses; obtaining one requires a driver to meet certain minimum standards. At the same time, the emphasis on public safety has provided the authority for states to set the standards and regulations inherent in licensing: "In the interest of public safety and welfare the state, in the proper exercise of its police power, may make and enforce regulations reasonably calculated to promote proper care on the part of those who use the highways. This includes the power to require drivers of motor vehicles to be licensed and to prescribe the conditions under which the driving privilege may be granted and retained" (Donigan and Fisher, 1965a, p. 21). Thus, driver licensing laws generally are upheld as a valid exercise of the police power of the state in the interest of traffic safety.

Table 1 License Requirement and Minimum Age by Year

Year	License Requirement and Minimum Age by Year						
	Jurisdiction						
1903	Missouri (16 in 1937); Massachusetts (16, 6 mo., date unknown)						
1904	New Hampshire (original minimum age and date of minimum age unknown); Vermont (46, date unknown)						
1905	New Hampshire (original minimum age and date of minimum age unknown); Vermont (16, date unknown)						
1906	New Jersey (17, date unknown)						
1907	Connecticut (18 in 1911) Phodo Island (16 in 1959)						
1908	Rhode Island (16 in 1950)						
1909 1910	Delaware (16, date unknown); Pennsylvania (18) Maryland (16, date unknown)						
1910	ivial ylanu (10, date unknown)						
1911							
1912	California (14 in 1923)						
1913	Camornia (14 iii 1923)						
1915	Hawaii (original minimum age and date of minimum age unknown)						
1916	Trawaii (original minimum age and date of minimum age anatown)						
1917	West Virginia (16, date unknown)						
1918	Troot riigiila (10, dato diintorii)						
1919	Michigan (16 in 1937)						
1920	Oregon (16)						
1921	Washington (15)						
1922							
1923							
1924	New York* (18 in 1910)						
1925	District of Columbia (16, date unknown)						
1926							
1927	Arizona (16); New Mexico (15, date unknown)						
1928							
1929	Indiana (16, 1 mo., date unknown); Nebraska (16, date unknown); Wisconsin (16, date unknown)						
1930	South Carolina (original minimum age and date of minimum age unknown)						
1931	Colorado* (15 in 1921); Iowa (15); Kansas (16, date unknown)						
1932	Virginia (16, date unknown)						
1933	Minnesota (16, date unknown); Utah (16, date unknown)						
1934	Kentucky (16, date unknown)						
1935	Alabama (16); Arkansas (16 in 1937); Idaho (16); Montana (16 in 1947); Nevada** (16 in 1940); North Carolina (16); North Dakota (14 in 1968)						
1936	Ohio (16 in 1941); Texas* (14 in 1935)						
1937	Georgia (16 in 1937); Maine* (16 in 1911); Oklahoma (16, date unknown); Tennessee (original minimum						
4000	age and date of minimum age unknown)						
1938	Mississippi (15, date unknown)						
1939	Florida (16, date unknown); Illinois* (15 in 1919)						
1940 1941	Alaska (16 in 1050)						
1941	Alaska (16 in 1959)						
1942							
1943							
1944							
1946	Louisiana (15, date unknown)						
1947	Wyoming (16 in 1957)						
1948	·· <i>y-</i> ·······················/						
1949							
1950							
1951							
1952							
1953							
1954	South Dakota (14 in 1959)						

^{*}These states enacted minimum age laws for driving before licensing requirements. Unless otherwise indicated, the year the minimum age law was enacted is the year the driver's license law was enacted.

**From 1935 to 1941, counties issued Nevada licenses; in 1941, the state took over the license function.

ORIGINS OF AGE REQUIREMENTS

The earliest legislation determining who could and could not drive did not include both licensing and minimum age requirements. For example, the first operator's certificate for a person desiring to use a motor vehicle as a mechanic, employee, or for hire was introduced in New York State in 1903, but it was not until the Callan Law in 1910 that an age restriction was introduced. This law required that drivers be 18 or older or be accompanied by a licensed driver or owner of the vehicle.

Age restrictions also were absent in the 1903 law introduced in the Commonwealth of Pennsylvania to regulate the operation of motor vehicles. The first mention of an age restriction appears in Pennsylvania's 1909 licensing laws, which state, "No person under 18 years of age, whether the owner of a motor-vehicle or not, shall operate any motor-vehicle, without first obtaining from the State Highway Department a special license to do so. Such licenses shall be granted only when the State Highway Commissioner is satisfied, after such tests or information as he may see fit to require, that the applicant is competent to operate a motor vehicle, and the granting or refusing of such an application shall be entirely within the discretion of the said Highway Commissioner" (no. 174, p. 266-67). The 1909 law also specified that a person desiring to operate a motor vehicle as a chauffeur or paid operator must obtain a driver's license and that the applicant had to be 18 or older and qualified to operate a motor vehicle.

To this day, 18 is the minimum age at which a person can get a driver's license without parental permission in virtually every state. The provisions allowing unrestricted and unsupervised driving by people younger than 18 appear in separate code sections describing licensing procedures for minors.

Although Connecticut introduced a driver licensing law in 1907, the first reference to an age restriction in this state appears in the public acts of 1911, which note, "No person shall operate a motor vehicle upon the public highways of this state until he shall have obtained from the secretary a license for that purpose, but no such license shall be issued until said secretary is satisfied that the applicant is over 18 years of age and is a proper person to receive it" (ch. 85, 5, p. 1337).

Thus, the very earliest driver licensing laws did not include age restrictions, and some of the early age restrictions were passed by states that had not yet enacted laws requiring all drivers to be licensed. Between 1910 and 1935, five states (Colorado, Illinois, Maine, New York, and Texas) passed minimum age laws before passing mandatory licensing laws for noncommercial drivers. When minimum age laws first were introduced, it is noteworthy that some restricted driving to people 18 and older unless they were accompanied by a licensed driver or owner of the vehicle (in New York) or obtained a special license to drive (in Pennsylvania).

These age requirements were not changed for more than a decade; the licensing age remained 18 from about 1910 until the early 1920s in Connecticut and the late 1920s in New York. Connecticut modified its laws in 1921 to allow any person 16 or older to obtain a license and drive while under the

instruction of, and accompanied by, a licensed operator. And in 1929 New York State introduced a law that gave "junior operator" status to 16 and 17 years-olds, allowing them to drive to and from school or work but not in New York City. The Connecticut and New York provisions, however, did not allow full licensure at age 16. The Connecticut requirement that 16- and 17-year-old drivers be supervised at all times is not unlike a modern learner's permit. The New York law authorized only limited driving by 16 and 17 year-olds.

As other jurisdictions introduced a minimum age for obtaining a license, most selected 16 and not 18. This is indicated in Table 2, which lists the first learner's permit age and driver's license age selected in each jurisdiction and the dates the minimum ages were introduced. A few states — South Dakota in 1959 and North Dakota in 1968 — selected an even younger age of 14 as the minimum for obtaining a license.

The states that passed the earliest licensing age laws chose 18 as the minimum age, and these were Northeastern states (Connecticut, New York, and Pennsylvania). From 1919 to 1937, 15 states, none of them urbanized, passed minimum licensing age laws; among these, 9 permitted driving at age 16, 4 at age 15, and 2 at age 14. It is possible that predominantly rural states would choose a younger minimum licensing age than more urbanized states. The pattern suggested by Table 2 supports this hypothesis, as does the desire to accommodate the needs of agricultural communities, which was reflected in exceptions for agricultural work in child labor laws. This practice is discussed in the next section.

It also may be that minimum licensing age laws followed a pattern that has been observed with regard to other motor vehicle laws (e.g., child restraint and seat belt use laws). Frequently, before such laws are passed throughout the states a very few states begin the trend; a second wave of laws is passed by several states, often different from the first laws. Typically, the majority of states did not use the first laws as models, but instead chose provisions common to the second group of laws.

RATIONALE FOR MINIMUM LICENSING AGE LAWS

Although concern for public welfare was a major factor in the adoption of minimum licensing age requirements, so was concern for the welfare of adolescents. Such concern emerged from a change in social attitudes toward childhood and adolescence around the beginning of the 20th century. As observed by Marks (1975), "social upheaval that accompanied the burgeoning industrialization of the time gave rise to profound changes in the way in which children were seen in reference to both their parents and the world" (p. 85). This trend at the time was best exemplified by the implementation of three major institutional changes: the juvenile court system, the prohibition of child labor, and compulsory education. As a consequence of this trend, many activities became regulated by age, arguably the most important of which was the age at which children could begin working.

Table 2 First Minimum Licensing Age Requirements

	Minimum Age for Driver's License	Year		
Jurisdiction	Learner's Permit (yr., mo.)	Year Introduced	(yr., mo.)	ntroduced
Alaska	14		16	1959
Alabama	15	1935	16	1935
Arizona	15,7	1927	16	1927
Arkansas	14	1937	16	1937
California	14		14	1923
Colorado	15,9	 1963	15	1923
Connecticut	16	1921	18	1911
Delaware	16	1921	16	1911
District of Columbia	16	_	16	_
Florida	14	_	16	_
Georgia	15	 1937	16	1937
Hawaii		1937		1937 —
Idaho	— 14	— 1938	— 16	 1935
	15		15	
Illinois	15 15	1939		1919
Indiana	15 14	<u> </u>	16,1	 1021
lowa		1932	15	1931
Kansas	14	_	16	
Kentucky	16	_	16	_
Louisiana	15		15	
Maine	15	1955	16	1911
Maryland	15	_	16	_
Massachusetts	16	1964	16,6	1964
Michigan	14	1937	16	1937
Minnesota	15	_	16	_
Mississippi	15	_	15	_
Missouri	16	_	16	1937
Montana	14,6	1947	16	1947
Nebraska	15	1955	16	_
Nevada	15,6	1940	16	1940
New Hampshire	_	_	_	_
New Jersey	17	_	17	_
New Mexico	15	_	15	_
New York	16	1925	18	1910
North Carolina	16	1953	16	1935
North Dakota	14	_	14	1968
Ohio	16	1941	16	1941
Oklahoma	15,6	_	16	_
Oregon	15	1920	16	1920
Pennsylvania	_	_	18	1909
Rhode Island	16	1950	16	1950
South Carolina	14	_	_	_
South Dakota	14	1959	14	1959
Tennessee	_	_	_	_
Texas	15	1967	14	1935
Utah	16	_	16	_
Vermont	15	_	16	_
Virginia	15,8	_	16	_
Washington	16	1961	15	1921
West Virginia	16	_	16	
Wisconsin	15,6	_	16	
Wyoming	15	1957	16	1957

— unknown

Child labor laws were enacted during this period and undoubtedly influenced other social legislation, including licensing age, that affected minors. State child labor laws predated the child labor provisions of the Fair Labor Standards Act, 29 U.S.C. 212, the federal law enacted in 1938. For example, child labor laws in New Jersey, Missouri, New Hampshire, and Delaware were passed in 1904, 1907, 1911, and 1915, respectively. Such laws served two primary objectives: protecting children by prohibiting them from working in particularly dangerous occupations, like mining, and allowing them to attend school. For example, New Hampshire passed a law in 1911 prohibiting children from working while school was in session (Section 2, C. 162 Laws of New Hampshire 1911). A Missouri industrial inspection law, enacted in 1891, prohibited minors younger than 16 from being required to work between the moving parts of power equipment (Inspection Act of 1891, Laws 1891, p. 159, cited in *Stricklen v. Combe Printing Co.*, 1913).

Child labor laws also commonly regulated employment-related driving, establishing 16 as the minimum age at which workers could operate trucks and other vehicles. For example, Colorado's child labor law stated that "it shall be unlawful for any person, firm or corporation to take, receive, hire or employ any child or children under 16 years of age ... nor shall they be employed in operating automobiles" (Legislative Council, 1921). Early licensing laws also established a minimum age for a chauffeur's license.

Child labor laws established minimum ages for children to work, typically providing that children younger than 14 may not work, and when and in what businesses children ages 14-16 and 16-18 may work. There are, however, numerous exceptions; the most noteworthy for this study is the exception for agricultural work. The federal child labor law contains a major exemption (29 U.S.C. 213(c)(1),(2)), reflecting a congressional intent to give farmers much more freedom than others to employ children. An earlier federal child labor law enacted in 1916 addressed only mines and factories; it did not regulate child labor in agriculture (Act Sept. 1, 1916, 39 Stat. 675, c. 432 (Comp. St. 1916)).

Although lawmakers recognized the need to safeguard the welfare of adolescents, in the early years of driver licensing laws a consensus failed to emerge as to the optimum age for licensing. As observed by Coppin (1977), "age determination in driver licensing is essentially arbitrary." To a large extent, the lack of consensus regarding the most suitable age reflects a difference in opinion regarding the age at which a young person is mature enough to assume responsibility for such things as operating a motor vehicle. At issue in these early years was whether a specific age — e.g., 16 or 18 — was a "reasonable" choice for a minimum licensing age.

By the mid-to-late 1920s, however, the need for uniformity in the control and regulation of drivers emerged as a critical issue in the United States. In this regard, the first Uniform Vehicle Code in 1926 recommended that the minimum age for an operator's license be set at 16. This guideline, and the

fact that some states already had a minimum licensing age of 16, influenced other states to follow suit. Some degree of uniformity was achieved, but the choice of 16 appears to reflect a compromise between safety and mobility. It is not a surprising compromise, given that child labor laws permitted employment at age 16 often in hazardous occupations, that agricultural work was permitted by children of virtually any age, and that farming necessitated the use of heavy equipment and trucks.

Even though licensing authorities maintained that people younger than a prescribed age were, as a class, immature and lacking in judgment and therefore a threat to public welfare, many felt there were reasons to allow teenagers to drive. This was especially the case in rural, agricultural states that allowed adolescents as young as 14 to operate motor vehicles. An older minimum licensing age would have been unacceptable where adolescents were expected to work on farms.

However, because people younger than 16 are minors in most states, several safeguards have been introduced to ensure that immature and unqualified adolescents are not allowed the same access to licenses as adults. For example, parents are required to sign for their 16 and 17 year-olds, thereby assuming financial responsibility in the event of a crash. Parents also can revoke their permission, thus suspending or canceling the teenager's license. Other measures that were introduced include a learner's period to allow young people an opportunity to practice driving under supervision, driver education and training as a prerequisite to obtaining a license before age 18, and a road test to assess young people's driving skills prior to granting them licenses. Each of the factors that appear to have engendered minimum licensing age laws are discussed in more detail in the following sections.

The Public Welfare

As the use of motor vehicles became popular in the early 1900s, public authorities began to recognize the need to control the emerging problem of traffic collisions and congestion. This is not surprising considering that the number of motor vehicles was rapidly increasing at that time — from only 8,000 registered vehicles in 1900 to 468,500 in 1910 and more than 9 million by 1920 (Fisher and Reeder, 1974).

Coincident with the rise in motorization was an increase in the number of crashes, injuries, and deaths. For example, deaths numbered only 400 in 1907, compared with 1,900 in 1910 and 12,500 in 1920 (National Safety Council, 1997). Unfortunately, the rapid proliferation of the automobile as a popular means of transportation and the accompanying rise in crashes left lawmakers far behind (Fisher and Reeder, 1974).

The driver's license and, more importantly, the licensing process was seen as a means to control the operation of motor vehicles and to protect the public welfare. Not surprisingly, as the disproportionate involvement of young people in road crashes came to the public's attention, lawmakers began legislating age requirements.

Indeed, the safety objectives of driver licensing and, more specifically, age requirements have long been recognized by the courts. In a personal injury case caused by an unlicensed 16 year-old, a New York court noted: "The object and purpose of the [licensing] statute is to promote the safety of those traveling the public highways. While a motor vehicle is not, in and of itself, to be deemed a dangerous machine, nevertheless it becomes such in the hands of a careless and inexperienced person. The statute has, in effect, so declared when it forbids its operation by persons under the age of 18. It ... declares that such persons do not possess the requisite care and judgment to run motor vehicles on the public highways without endangering the lives and limbs of others" (*Schulz v. Morrison*, 1915). Protection of the public from the immaturity and inexperience of young drivers also was identified as a key reason for the adoption of a minimum age by many of the licensing authorities and road safety experts surveyed in the present study.

It is, however, puzzling that it took several decades for some jurisdictions to recognize the threat posed by young drivers and then take appropriate action. For example, it is unlikely that a problem existed with young drivers in New York State, one of the first jurisdictions to adopt a minimum age in the early 1900s, but not South Dakota, where an age requirement was delayed until the 1960s. Indeed, most studies have demonstrated that crashes involving young drivers are a universal problem. The most likely explanation is the greater need for teenagers to drive in rural areas and in furtherance of farm business. Albeit speculative, it is possible that the lack of a collision data system made it difficult to evaluate the cost of having no minimum age in increased crashes.

Another possibility is that the pace of motorization differed dramatically among jurisdictions, so the crash problem in general and, more specifically, crashes involving young drivers emerged sooner and in greater magnitude in the more populated and urban jurisdictions. If this were the case, it is perhaps not surprising that some jurisdictions delayed adoption of driver licensing and minimum age laws until motor vehicles began to pose a serious problem for them. Unfortunately, no literature relevant to this hypothesis has been identified.

Although no documentation was found indicating that liability concerns prompted the establishment of licensing requirements and minimum licensing age laws, it is clear that their existence was a benefit for courts. As vehicles became commonplace and young people started driving, liability issues inevitably arose. In the absence of a legislative determination of minimum age, it would be left to the courts to decide, on a case-by-case basis, the age at which people are presumed to be too young to drive and therefore the age at which it would be negligent to allow them to drive. Minimum licensing age laws relieved courts of this burden and established statewide consistency on the issue. Several of the early cases in which the legislative intent of minimum age laws was addressed were personal injury cases. The opinions made it clear that the question of a minimum licensing age was best left to the legislature, not the courts.

The Law

Licensing laws have always specified the class of people who are eligible to apply for licenses, and a minimum age is a typical eligibility requirement for professional and other licenses that predated driver's licenses. "Incompetent" is the legal term used to describe the class of people who do not meet the eligibility requirements to apply for a license. Legal incompetence and lack of skill or ability are not the same. A skilled driver who is younger than the minimum age is legally incompetent to apply for a license, whereas an adult with minimal or no driving skills can apply. Legal classifications determining eligibility for privileges like driving must be based on rational criteria. This is where skill and judgment are relevant.

Clearly, allowing very young children to drive would be irrational. As observed by Skolnick (1975), the legal system "presumes that children are incomplete beings who are not fully competent to determine and safeguard their interests" (p. 38). Establishing 21 as the minimum licensing age would have been politically unacceptable and arguably irrational given that the law permitted younger people to work, join the military, and get married. Adolescents are between these extremes, and lawmakers had to decide at what age adolescents would be eligible to apply for licenses. Those younger than the minimum age would be, according to Donigan and Fisher (1965c), "conclusively presumed incompetent to drive motor vehicles on the streets and highways" (p. 18).

When minimum ages were questioned, courts reviewed the statutory minimum ages to see if the ages the legislatures chose were rationally based. Courts sustained minimum licensing ages as a rational response to a common understanding that children would make poor drivers. For example, according to the Supreme Court of New Hampshire, "A minor, in the absence of evidence to the contrary, is universally considered to be lacking in judgement. His normal condition is one of recognized incompetency" (*Charbonneau v. MacRury*, 1931, p. 462). According to this decision, adolescents lack judgement and are therefore by statute incompetent. Other reasons have been identified by the courts to justify legislative determinations that people younger than a particular age are incompetent. The rationale for such determinations is that people younger than a certain age are immature and inexperienced (*Plunkett v. Heath*, 1938).

The selection of 16 or 18 as the age for determining incompetence and immaturity was not based on any definitive scientific evidence. Indeed, the courts have recognized that the stage at which someone reaches physical and mental maturity varies among individuals and that a variety of factors including "teaching and experience" account for these differences. As observed by the Supreme Court of New Hampshire, "it follows that the age at which maturity is in fact reached cannot be determined with mathematical accuracy. The necessities of society, however, require that some age should be considered as prima facie evidence of maturity" (*Charbonneau v. MacRury*, 1931, p. 463). Similarly, in an early Nebraska case the Supreme Court stated: "The question is whether the classification is reasonable. It is

quite possible that some persons under the age of 16 years are more apt ... than many adults, but the fact remains that, as a class, they have not, at that age, attained the discretion and judgment which would make it safe for them to operate motor vehicles upon the highway. The line must be drawn somewhere, and the only question is whether the Legislature acted arbitrarily or reasonably in drawing the line at 16 years of age" (*State ex rel. Oleson v. Graunke*, 1930).

Most states draw the line at 16 because they believe it is "reasonable" to assume persons younger than this age are, as a class, not mature enough to be given the responsibility of operating a motor vehicle. Other states have selected 14 or 18 as the age at which someone may drive.

Establishing A Uniform Minimum Age

The preceding discussion suggests that the selection of a particular licensing age has been somewhat arbitrary but not capricious; it was based on a reasonable assessment of the age at which someone is mature enough to drive. Certainly, this reflects practices during the early history of driver licensing laws.

By the mid-1920s, however, efforts were under way to encourage uniform and standard driver licensing practices throughout the United States. In this regard, the First National Conference for Street Highway Safety was convened in 1924, and two years later a Uniform Vehicle Code was adopted by the second national conference (Economos, 1969). The Uniform Vehicle Code is a model law for states to follow. The governing rules under which the code was drafted provided that a law had to first be enacted by at least one state before it could be included in the code. Consequently, the drafters of the Uniform Vehicle Code could have chosen to follow any state's prior enactment for their model law. The following appeared in the first edition of the Uniform Vehicle Code: "an operator's license shall not be issued to any person under the age of 16 years, and no chauffeur's license shall be issued to any person under the age of 18 years." Most states that introduced minimum age laws after 1926 selected age 16.

As observed by many licensing authorities in this study, minimum age laws were adopted after a review of practices in other states and a consideration of recommendations from official sources such as the Uniform Vehicle Code. Although a 1934 amendment to the Uniform Vehicle Code recognized that the desirable minimum age for drivers in a particular state may depend on many factors — e.g., crash records of minors, hazards on the highways, and other conditions in the state — most states have retained 16 as the optimal minimum age for operating a motor vehicle.

Balancing Safety and Mobility Needs

The age at which a jurisdiction allows young people to become licensed is not exclusively a road safety issue. The mobility needs of young people and their contributions to family mobility, especially in

rural areas, vary greatly throughout the United States. Any road safety benefits that may accrue from older licensing ages have to be balanced against the losses to the individual and society from reduced access to employment as well as educational and recreational activities. For example, New York State in 1929 made provisions for 16 and 17 year-olds to obtain junior permits allowing them to drive to and from work or school, while farm states either legislated exceptions to the minimum age for farm operations or established a younger minimum licensing age, 14 or 15 rather than 16, for all purposes. To a large extent, this is because the farming community has felt the need to have teenagers operate vehicles. They point out that family members already operate farm equipment at an early age in the fields and are driving farm equipment on roads to get from field to field. Thus, they have the skills necessary to drive motor vehicles on the highway. For these reasons, a few states including Colorado, New Mexico, North Dakota, South Dakota, and Texas initially licensed at age 14 or 15.

Safeguards to Overcome Youth Incompetence

Given that the trend in the United States has been to allow licensing before the legal age of majority, several safeguards have been put in place to address the potentially negative consequences of teenagers' inexperience and immaturity. Unfortunately, such measures, which are discussed briefly below, generally have failed to provide the anticipated benefits.

Financial responsibility of the parent: In most U.S. states, people younger than 18 are considered minors. Accordingly, although a person as young as 16 can obtain a driver's license, the application for the license must be signed and verified by the parent or guardian. Parental consent for a minor's license has been required by the Uniform Vehicle Code since the first edition in 1926, which states that "the Department shall not grant the application of any minor under the age of 18 years for an operator's license unless such application is signed by the father of the applicant."

According to Donigan and Fisher (1965c), "these statutes impose liability upon the parent, guardian, or other person so signing, for any negligence or willful misconduct of the minor when driving a motor vehicle upon the highway" (p. 19). The provisions recognize that many minors younger than 18 have the ability and judgment to operate motor vehicles and, for economic reasons, may need to drive motor vehicles. However, the courts also have recognized that "discretion and judgment are not youthful traits," so it is necessary that the application for a license to operate a motor vehicle "be signed by someone, having custody or charge of the minor, who might be supposed to have intimate knowledge of the applicant's characteristics, and who would be willing to assume liability for injuries caused by the minor's negligence" (*Bispham v. Mahoney*, 1936).

Parental consent and financial responsibility were introduced as safeguards to ensure that incompetent and immature minors were not allowed to drive and that parents would assume liability for

damages incurred by minors in motor vehicle crashes. Thus, minors are subject to strict parental control with respect to the decision to obtain a license and drive. In theory, these requirements should produce safety benefits because parents would not allow minors to drive until they are reasonably convinced that their teenagers have achieved an adequate level of maturity to drive safely.

In practice, however, parents do not appear to have played this role adequately. Historically and even today, 16 and 17 year-olds have the highest crash rates, and road crashes are the leading cause of death among these young people (Simpson, 1996). It also has been established recently, after having been suspected for decades, that young drivers are overrepresented in road crashes because they are inexperienced, lacking the necessary skills and capacities, and their attitudes and behaviors (lifestyle) result in risky driving and increased likelihood of crash involvement (Mayhew and Simpson, 1995). These findings suggest that parents too often allow inexperienced and immature youth to operate motor vehicles.

Obviously, this situation would not exist if more parents refused to consent to their teenagers obtaining driver's licenses. Part of the reason parents fail to do so may be that they believe two other safeguards — licensing tests and driver education — adequately prepare their teenagers to drive safely. Unfortunately, as discussed in the following sections, these safety measures also have proven ineffective in reducing young driver crashes.

Testing proficiency: Historically, to ensure that incompetent individuals were not allowed to drive, states have required an examination of every applicant for a driver's license. The purpose of the testing was principally to ensure an applicant's fitness to operate a motor vehicle safely on the highway. Such examinations typically included a test of the applicant's vision, ability to read and understand traffic control devices, knowledge of safe driving practices and traffic laws, and ability to exercise ordinary and reasonable control in the operation of a motor vehicle.

Thus, all novices, and even those younger than the age of legal majority, could apply for licenses, but they had to demonstrate their fitness to operate a motor vehicle and meet the minimum standards established for safe driving. Unfortunately, research has shown that traditional knowledge and performance skills tests generally have proven to be ineffective in screening those individuals who are at high risk of collision (Mayhew and Simpson, 1990).

Driver education: Formal driver education in North America can be traced to the beginning of the 20th century, when automobiles emerged as an increasingly popular mode of transportation. However, the field of driver education did not experience major growth until the 1930s and 1940s with efforts to standardize courses and establish a higher degree of professionalism within the instructional cadre.

In the 1950s, the potential value of formal driver instruction as a crash loss reduction measure was recognized by the private insurance industry, which offered discounts to students who completed a

driver education program. As a consequence of this discount, the demand for driver education increased, and high school driver education programs became available throughout the United States.

At the same time, the practice of using the successful completion of high school driver education as a condition for licensing minors was introduced (Butler, 1982). Michigan was the first state to introduce this practice. Over the years, many other states have followed suit and adopted similar provisions. According to Butler, "driver education did not lower the age requirement from what it was previously. Driver education became, in fact, an additional barrier to ensure that a reasonable amount of readiness and training had been acquired by applicants" (p. 19).

In this regard, the minimum licensing age was effectively raised from 16 to 18 unless an applicant was a graduate of driver education. Driver education was a safeguard to ensure that minors ages 16 and 17 were adequately prepared to drive motor vehicles safely — i.e., they could not obtain their licenses until age 18 unless they successfully completed driver education.

In the 1960s, the Highway Safety Act began providing matching federal funds for states that instituted specified safety initiatives, one of which was the requirement to offer driver education. As a consequence of federal funding, a tremendous expansion occurred in the availability of driver education courses, which were thought to be beneficial because early evaluation studies in the 1950s and 1960s showed positive safety effects. However, it has become clear that virtually all of these investigations suffered from methodological flaws that rendered their positive conclusions invalid. More recent well-controlled studies have been unable to confirm the positive benefits shown by the earlier research (Mayhew and Simpson, 1996). The value of driver education also has been questioned on the grounds that it produces unexpected negative consequences. For example, it has been suggested that the greater availability of driver education stimulates earlier licensure among teenagers, which in turn leads to more crashes and violations per capita (Robertson, 1980).

As a consequence of these disappointing research findings, driver education was dropped as a priority by the National Highway Traffic Safety Administration in 1982, and federal funding no longer is available. This change in priorities dramatically altered the availability of driver education. Still, several states retain it as a condition for obtaining a license prior to age 18. Belief in the safety benefits of driver education often has proven strong and persistent. Indeed, some have argued that this has been an obstacle to the implementation of effective, alternative measures such as raising the licensing age. For example, one of the key reasons Colorado chose not to raise the minimum age from 16 to 18 in the early 1960s was that "it would destroy driver education in the public schools" (Legislative Council, 1964).

Instructional permits: If by legal definition people younger than 18 are inexperienced and therefore incompetent and not qualified to drive, how do they gain experience to obtain a license? This question initially was addressed by provisions that allowed unlicensed drivers to operate vehicles under

supervision, a practice that dates back to the early 1900s. The rationale for this was articulated as early as 1911 by the Supreme Court of Massachusetts: "Evidently it was intended to provide an opportunity for persons to learn to use an automobile by running it under the supervision of a licensed person, and thus acquire skill by practice, without which one never could become skillful" (*Bourne v. Whitman*, 1911).

This concept eventually was incorporated into law in the form of an instructional or learner's permit. In this regard, the 1926 Uniform Vehicle Code recommended that a temporary instruction permit be issued to any person 16 or older to allow driving on the highway for a period of 60 days when accompanied by a licensed operator or chauffeur, provided there was no other person in the vehicle.

Since this initial recommendation, most states have adopted some form of instructional permit to allow novices to practice before applying for and obtaining full-privilege driver's licenses. These laws vary across states in terms of the specific age requirements and the requirements of the permit itself. As indicated in Table 2, for example, several states initially adopted 14 as the minimum age for a learner's permit, whereas others adopted age 15 or 16. States also differ on the length of time a permit should be held and, in many jurisdictions, learner's permits are optional. In these cases, the learner's permit does not constitute a necessary condition for obtaining a license. It can be bypassed, and the novice can apply immediately for a higher class license.

Even though variations exist in the characteristics of learner's permits, their adoption reflects the explicit recognition that beginners need the time and opportunity to develop driving skills under supervised conditions before obtaining driver's licenses. Thus, the learner's permit provides a safeguard against the incompetence and inexperience associated with youth. It is intended to provide the opportunity to gain experience under the direct supervision of a licensed driver.

Research has shown that this safeguard has proven to be effective. Indeed, recent studies report that few learners are involved in fatal crashes (Williams et al., 1997). The only difficulty is that, until recently, learner's permits have tended to be optional or in place for only a relatively short period of time. Given the limited application of learner's permits in most jurisdictions, their safety potential has not been fully realized.

EXPERIENCES OUTSIDE THE UNITED STATES

In Canada, the licensing age is 16 in most jurisdictions, and the origins and rationale for such a practice are very similar to those in the United States. In countries outside the United States and Canada, licensing ages generally are a year or two older — 17 or 18 rather than 16. Despite this difference, the underlying rationale for setting a minimum licensing age appears to be similar. Why a 16 year-old in Europe or Australia is considered too immature and irresponsible to drive but not so in the United States is likely related to cultural differences reflected in the arbitrary conventions of age restrictions, the earlier

proliferation of vehicles in the United States, and farming and other interests that militate for a younger minimum license age.

Other reasons for the differences may relate to differences in access to alternative modes of transportation, geographic size, and the urban/rural mix. Historically, Europe has had better public transportation, and riding bicycles has been a more acceptable mode of travel than in the United States, so the need to license earlier — i.e., at age 16 rather than 18 — may have been less compelling. Also, most European countries are highly urban, and there is less distance to travel from rural to urban centers. Thus, the mobility needs of 16 and 17 year-olds and the contribution of 16 and 17 year-olds to family mobility may have been adequately met by alternative modes of transportation. Accordingly, there has been little demand to reduce the licensing age from 18 to 17 or 16.

Indirect evidence to support this possibility is provided by France, where the minimum licensing age is 18. However, 16 and 17 year-olds also are allowed to drive if they participate in an "apprentissage" system of training, which involves a combination of both formal and private driving instruction. Even though this program has been in place for many years, most young people do not take advantage of it; they wait until 18 to apply for a license. Indeed, only about 10 percent take advantage of the opportunity to drive earlier (Lynam and Twisk, 1995). This situation suggests that unlike the United States and Canada, where the vast majority of youth obtain licenses as early as possible, 16 and 17 year-olds in France do not do so because they do not have a pressing need to drive. This may be because of an accessible and inexpensive public transportation system or because cars are relatively inaccessible to teenagers.

DISCUSSION

Almost since the advent of the motor vehicle at the beginning of the 20th century, young drivers have been recognized as a threat to road safety and the public welfare. Thus, the introduction of a minimum licensing age was motivated largely by efforts to protect the public from young drivers who increasingly were being recognized as problems on the highways.

The increasing popularity of the motor vehicle and the rise in crashes involving young drivers also occurred during a period when states were becoming more actively involved in family matters. During these years, laws were introduced to better define the roles and responsibilities of adults in relation to adolescents. These measures were taken largely to protect adolescents and prepare them for adulthood. As such, the adoption of minimum licensing age laws was intended to protect society from young people as well as young people from the heavy demands of adult life.

There was a movement at this time to protect children and to extend childhood through adolescence. People younger than a certain age generally were viewed as too immature and

inexperienced to operate motor vehicles. However, prior to the mid-1920s there was no consensus regarding the optimum age for licensing. Age determination in driver licensing essentially was arbitrary; some states selected 16, while others selected 18. To a large extent, the lack of consensus regarding the most suitable age reflects a difference in opinion regarding the age at which a young person is mature enough to assume responsibility for such things as operating a motor vehicle.

By the mid-to-late 1920s, the need for uniformity in the control and regulation of drivers emerged as a critical issue in the United States, and 16 became the recommended legal minimum age. Since then, a minimum licensing age of 16 has become the norm in the United States. Even though people younger than the legal age of majority of 18 generally are viewed as incompetent, some of them still need to drive, for example, for educational and work-related reasons. Accordingly, mobility needs also have to be taken into consideration in the selection of a minimum licensing age. This especially has been the case in rural, agricultural states that allow adolescents as young as 14 to operate motor vehicles.

Because people younger than 18 are minors in most states, several safeguards have been introduced to ensure that immature and unqualified adolescents are not allowed the same access to licensure as adults. These include parental consent and financial responsibility, testing requirements, driver education and learner's/instruction permits. Unfortunately, all of these measures have failed to adequately safeguard the public from the immaturity and inexperience of youth. Indeed, despite these measures, minors ages 16 and 17 continue to have the highest crash rates, and motor vehicle crashes remain their leading cause of death.

Historically, the problem of young driver crash involvement could have been addressed by raising the licensing age to 18 or 19 (Williams, 1983), but political and social pressures largely have prevented this. Jurisdictions in the United States and Canada now are embracing a compromise solution — a graduated driver's license that limits the conditions under which young people can drive for several years. This approach effectively raises the minimum licensing age without necessarily altering the age at which teenagers actually enter the licensing process. Such an approach should be encouraged, especially given that recent research has shown it to be effective in reducing young driver crashes (Boase and Tasca, 1998; Langley et al., 1996; Mayhew et al., 1999; Ulmer et al., 2000). In addition, the value of more traditional measures, such as testing requirements and driver education, needs to be reconsidered, and these measures need to be improved in the context of a graduated licensing system. Appropriate tests that more accurately assess the competencies of new drivers need to be developed and implemented. The content and format of driver education should be redesigned so that improved programs complement a graduated multiphased approach to licensing (Mayhew and Simpson, 1996).

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