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DEPT. OF TRANSPORTATION
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BEFORE THE

**U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION**

Petition for Approval of Pilot Program

I. INTRODUCTION

The Truckload Carriers Association ("TCA" or "Association") formally petitions the Federal Motor Carrier Safety Administration for approval of a pilot program, as provided at Title 49 CFR Section 381.400 et seq., in order to allow carefully screened, selected, trained, and monitored individuals who are 18, 19, and 20 years of age, to operate commercial motor vehicles in interstate commerce.

TCA desires to utilize the pilot program to demonstrate that it is possible to safely expand the driver pool by lowering the driver's minimum age limit below that otherwise prescribed in Title 49 CFR Section 391.11(b)(1). The proposed pilot program will also improve the image of truck driving as a profession while safeguarding the public through a comprehensive school-to-work program in which a properly - chosen younger driver candidate, with specially-developed training, is placed with a carefully-selected motor carrier for the introductory years of the driver's career.

In other words, TCA does not seek to make the program available to everyone. Rather, it seeks to limit participation to only the best – the best younger driver students, the best schools, and the best carriers -- all of which must meet the stringent eligibility and performance criteria described in this Petition.

Because we anticipate that there will be much interest from the trucking industry, public and private truck driving schools, insurers, safety organizations, the media, and the general public regarding the proposed pilot program, we have also attached to this Petition a set of questions and answers addressing the key elements of the program and the important safeguards that are built into it (Attachment A).

II. THE PETITIONER

TCA is a national trade association representing the irregular route truckload segment of the motor carrier industry. The association represents more than 900 member firms, including dry van, refrigerated, flatbed, and dump trailer carriers, domiciled in the 48 contiguous states and serving those states, Alaska, Mexico, and Canada, as an integral part of the national and international economy. The truckload segment of the motor carrier industry operates more than 200,000 truck tractors and more than 400,000 trailers on the public highways throughout North America.

The Association is applying for approval of a pilot program on behalf of its member companies, who are willing to abide by the strict standards required under the program. These carriers have also agreed to incur the expense of providing opportunities for driver finishing training and for close supervision and monitoring of the safety progress of the younger drivers enrolled in the program. TCA does not object to the participation of non-TCA member motor carriers in the younger driver pilot program, provided they can meet all of the eligibility, training, monitoring, and performance requirements of the program.

III. BASIS OF THE PETITION

The trucking industry is vast and diversified. It is made up of more than 200,000 business firms that produce over 700,000 million ton-miles of transport

service each year -- about 5% of the nation's gross domestic product.

Representing 80% of all freight revenues, the trucking industry is the predominant mover of goods in this nation and has experienced consistent growth since its founding in the early part of the 20th century. The trucking industry, through its purchase of vehicles, fuel, and services, and as a major employer of this country's citizens, is a significant factor in the economic prosperity of the nation.

The trucking industry has suffered from a long-standing and chronic shortage of drivers, which in turn has led to significant competition among trucking employers and "job-hopping" between companies. This is the principal reason why driver turnover is so high. Consequently, many trucking companies find themselves with equipment that lies unused because there are not enough safe drivers to operate it. To combat this situation, the industry has employed financial and incentive strategies to recruit new hires; to address the shortfall resulting from the loss of drivers to other occupations or retirements; and to meet the expanding need of the nation for motor carrier services.

According to the well-respected Gallup Organization, the industry will need to find 80,000 new drivers each year to keep up with the unprecedented demand for truck transportation services – much of it generated by the new e-commerce economy. In addition, the new hours-of-service rules just proposed by the U.S. Department of Transportation could require the industry to hire an additional 39,000 drivers a year, and some industry experts believe that figure is very low. Only by expanding the pool of eligible drivers can the industry possibly hope to meet the challenge to find – and keep – at least 129,000 new professional truck drivers every year. The driver shortage is expected to continue well into this decade and beyond.

The conventional means of attracting and retaining commercial vehicle drivers through commercial vehicle driver schools, and the utilization of federal and state employment agencies, have not fulfilled the need for additional drivers. This failure is due in part to the fact that bright, intelligent high school graduates that choose not to go to college are entering the employment market in economic

activities that do not present any age barriers. Thus, the federal regulation mandating a minimum age of 21 for interstate drivers, which is ostensibly based on public safety considerations, is a bar to the employment of young men and women in an occupation that offers steady employment and is economically rewarding. The usual three-year wait after high-school graduation to enter the commercial driver employment ranks is sufficient to allow these potential employees to settle into retailing, other service industries, or other economic activities, to the detriment of the trucking industry.

TCA has developed a concept and program outline that will implement a strategy to tap this valuable pool of potential drivers and help meet the needs of the industry and the country without sacrificing safety. If the requested pilot program is approved, TCA proposes to apply its concept and program in order to collect data on an alternative to requiring interstate drivers to be at least 21 years of age. As is explained in this Petition, TCA's comprehensive pilot program will ensure that the safety performance goal of the minimum age regulation is not compromised. Redundant oversight systems have been incorporated into the pilot program so that the students are continuously evaluated for program eligibility, corrective action can be immediately implemented, and safety – for both the travelling public and the students -- is given the highest priority. Finally, TCA believes that the only waiver from existing federal motor carrier safety regulations that should be permitted under the pilot program is the waiver from the current minimum age regulation.

IV. THE PILOT PROGRAM

The pilot program envisioned by TCA members is one that addresses the issue through a consortium of organizations and businesses that will cooperate in achieving a solution to this critical industry issue by attracting and retaining younger qualified drivers. The consortium is necessary because none of the participants individually or groups of participants can operate this pilot program

without the support and participation of the others. Moreover, no truck driver training program has ever been undertaken with this holistic approach as the basis for achieving this desired goal.

It is anticipated that about 1,000 drivers who are under the current federal minimum age of 21 years will participate in this pilot program. These individuals will directly benefit from the temporary exemption that inheres in the pilot program. The actual number of younger student drivers will depend on the number of drivers needed to produce a statistically valid measurement, but we believe there will be no shortage of willing participants.

As explained above, a consortium of cooperating schools and motor carriers will help prepare under-21 drivers to ensure safety and compliance with otherwise-applicable regulations. This partnership of interested groups is unprecedented in any transportation training program. The number of schools actually participating will depend upon those which meet the established criteria and are willing to significantly expand their existing courses of instruction – typically 6-8 weeks in length - to almost six months of training. Several schools with courses certified by the Professional Truck Driver Institute (“PTDI”) have already expressed a strong desire to participate in the pilot program; have stated their willingness to seek any necessary changes from their state accrediting bodies; and have assisted in developing the programming necessary to ensure a successful infrastructure for the pilot project. The number of participating schools is expected to be about ten, and expressions of desire to participate have already been received from American Institute of Technology in Phoenix, AZ; John Wood Community College in Quincy, IL; National Tractor-Trailer School in Liverpool and Buffalo, NY; Allstate Career School in Lester, PA; Houston Community College in Houston, TX; Bates Technical Institute in Tacoma, WA; and Fox Valley Technical College in Appleton, WI. The foregoing schools represent a desirable mixture of public and private educational institutions. In addition, Arkansas State University in Newport, AR, and Delta Technical Institute in Marked Tree, AR, have submitted applications to have their driver training

courses certified by PTDI so that they may qualify to participate in the pilot program, and one other training school in Arkansas is in the process of submitting its application so that it also may qualify to participate in the pilot program.

The number of participating carriers will similarly depend on those which meet the criteria, can make the financial commitment for almost six months of ongoing training, and are willing to conduct the necessary follow-up monitoring, which is described below. Twenty carriers or less are expected to participate in the pilot program, and expressions of interest in participating have been received from Maverick Transportation in Little Rock, AR; P.A.M. Transport in Tontitown, AR; Ronnie Dowdy, Inc., in Batesville, AR; Southern Transit in Fort Smith, AR; USA Truck in Van Buren, AR; Willis Shaw Express in Elm Springs, AR; PGT Trucking in Monaca, PA; and US Xpress Enterprises in Chattanooga, TN, Schneider National Carrier, Inc., Green Bay, WI; Werner Enterprises, Omaha, NE; D.M. Bowman, Williamsport, MD; and CRST, Cedar Rapids, IA. All of these carriers have outstanding safety records, are in immediate need of drivers, and are capable of complying with the stringent requirements of the pilot program.

Anticipating favorable and timely action on this Petition, significant time and effort has already been devoted to the development of the skills, curriculum, and course standards that are at the heart of the pilot program. These standards were developed by the Professional Truck Driver Training Institute, the only national, independent, not-for-profit organization that evaluates and certifies training courses for truck drivers. It is important to stress that PTDI developed these course standards solely for the younger driver pilot program and with the experience, needs and challenges of the 18 to 20-year-old driver in mind. The process used in developing the course standards underscores the significant time and attention that has been devoted to ensuring that the pilot program has the best possible chance for success.

The multi-step process of developing an appropriate curriculum for younger drivers commenced with the convening of a National Younger Driver

Standards Forum in Washington, D.C. on March 8 and 9, 2000, which brought together stakeholders from interested motor carriers, truck driver training schools and insurance companies. During the 2-day meeting, the participants used the PTDI Standards and Requirements for Entry-Level Tractor-Trailer Courses and the Certification Standards and Requirements for Tractor-Trailer Driver Finishing Programs as a baseline for the development of the Younger Driver Program Standards. These stakeholders – all experts in truck driver training and safety -- critically analyzed the set of skills, curricula, and course standards for younger drivers and participated in an intensive month-long process to develop a final product that could be submitted to the PTDI Board of Directors for approval. The stakeholders concluded that the standards adequately address the skills, knowledge, abilities, and judgments that will be needed by younger drivers who are undertaking such a responsible position as a commercial vehicle operator. Moreover, they were particularly concerned with the type of performance measures, monitoring, and evaluation systems that would need to be in place to ensure highway safety and also concluded that sufficient safeguards had been built into the program.

On May 3, 2000, the PTDI Board of Directors voted unanimously to approve the skill, curriculum and course standards for the younger driver pilot program. The approved standards are attached to this amended Petition (Attachment B). An application to identify qualifying schools and carriers is now in the process of being developed, together with a self-evaluation report to help in the initial school and carrier selection process. Final standards and an application will be sent to interested schools and carriers in sufficient time for them to adopt any necessary changes before the pilot program is fully operational. An evaluation manual for schools and carriers participating in the younger driver pilot program will also be finalized. TCA will be deeply involved in developing materials (e.g., recordkeeping; instructor training) to assist interested schools and carriers based upon their needs as identified in follow-up conversations. If the pilot program is approved, we would expect that by June 2001, the first student

would actually begin the specially-designed younger driver training course at a qualified school. By this time as well, an exhaustive and comprehensive infrastructure, upon which the industry and FMCSA agrees, will be in place to ensure the proper selection of participants, the proper education of younger drivers, and the proper oversight and monitoring of program components. By May 2002, the first specially-trained younger drivers are expected to be employed with one of the program's participating motor carriers and begin safely operating commercial motor vehicles under highly supervised and controlled conditions.

Each of the following participants will contribute in this coordinated effort to advance the goals of the pilot program:

Truckload Carriers Association ("TCA") will promote the program, develop the materials needed to recruit the best students, select the carriers and the schools that are qualified to deliver the necessary training and oversight, and support the curriculum and standards development.

The Professional Truck Driver Institute ("PTDI") will be responsible for certifying the courses of training at the schools that younger driver applicants attend and certifying the carriers' driver finishing programs.

State trucking associations will work with State and local government employment agencies in identifying potential students and assist in securing funding for training for those individuals. It would be particularly gratifying to secure the interest of disadvantaged and at-risk younger people who have been identified in the President's New Markets Initiative, since the driving jobs they will be training for offer steady and secure employment and above-average wages for their age group.

Schools will develop their training courses to meet the requirements of the younger driver pilot program, obtain certification of their training courses by PTDI or its equivalent, assist in the development of a marketing/recruitment plan, and recruit students for the younger driver program.

Carriers will develop their driver finishing programs to meet the requirements of the younger driver pilot program, obtain certification of their

finishing programs by PTDI or its equivalent, assist in the development of a marketing/recruitment plan, recruit and conditionally hire pre-qualified students, and establish monitoring programs.

- (1) Federal Motor Carrier Safety Administration (“FMCSA”) will be asked to grant an exemption from the age requirement for the pilot program for participating drivers under the age of 21. TCA understands the FMCSA will procure independent monitoring and evaluation support to:
 - (2) Validate the pilot program design;
 - (3) Monitor outcomes from schools, carriers, and drivers;
 - (4) Produce interim evaluation reports, and
 - (5) Produce a final evaluation report.

The pilot program is designed to determine whether, as is predicted, the right student with the right training, and working for the right employer, will be a safe driver and stay with the employing company beyond the training years. TCA does not seek to make the program available to everyone; rather, it seeks to limit participation to only the best – the best younger driver students, the best schools, and the best carriers -- all of which must meet the stringent eligibility criteria described below:

The Right Student. In order to be eligible to participate, young people must have already demonstrated their understanding that a driver’s license is a privilege and not a right. Only students that have acted responsibly while holding an unrestricted automobile license for at least one year would be eligible. In other words, in addition to being in the 18- to 20-year-old age range and meeting minimum DOT, state, federal and/or local laws and regulations related to physical requirements for truck drivers (students will not be eligible for waivers from these requirements until they reach the age of 21); and passing a drug screening test administered by the school, the right student would possess a driving record with no chargeable accidents (excluding minor accidents with damage only to property), no DOT-reportable accidents, no speeding tickets (i.e., 15 miles above

the posted limit), and no citations or convictions in connection with accidents or traffic violations, such as reckless driving or driving under the influence of drugs or alcohol (“DUI”). Violations of these eligibility requirements while the student is in any phase of the program will lead to automatic expulsion.

In addition, the right student must be a high school graduate, hold a GED, or have a demonstrated “ability to benefit,” which requires passage of a standardized test administered by the United States Department of Education.

A cooperating pilot program carrier would need to express a belief that the student can succeed as a truck driver and be pre-qualified and conditionally hired by the carrier. Finally, the potential right student would need to pass an appropriate screening test, administered by a third party, that would inquire into a potential driver candidate’s behavior, aptitude, attitude, strengths and weaknesses, and job expectations.

The Right School. Not all truck driver training schools will be eligible to participate. Only those that already have a training course certified by PTDI or its equivalent will be eligible. In addition, the school must be accredited as a Title IV school (or its equivalent) so that younger driver students are eligible for federal funds. Schools would need to secure a second certification from PTDI or an equivalent certifying body for a new course that is designed especially for this pilot program. In addition to a fundamental curriculum design geared toward younger drivers, the new course would incorporate instruction material that teaches life skills, over-the-road management, financial management, and family management, as well as advanced truck driving knowledge and skills. Trainees would also receive instruction in the U.S. Department of Transportation’s “No-Zone” program, which provides information on the location of the truck’s blind spots and other valuable information about how to share the road with other highway users. The course will last a minimum of 22 weeks (or 460 hours), and include 14 weeks (or 280 hours) of classroom instruction as well as 8 weeks (or 160 hours) of instruction actually in the truck. The student must spend at least 88 hours of the 160 total hours behind-the-wheel (“BTW”), with an additional 72

hours spent either BTW or observing the operation of the truck by another student or the course instructor. Observation time is highly structured, and trainees will be required to take notes, ask questions, and actively participate. They will also be evaluated on this critical element of the course.

The Right Trucking Company. Only the safest trucking companies will be eligible to participate in the pilot program. The company would have to possess a satisfactory safety rating – the highest possible safety rating assigned by the U.S. Department of Transportation (“DOT”) - and an accident rate that is below the industry average, according to DOT statistics. It must have an insurance company willing to underwrite younger drivers on a selective basis. It must be willing to gear the trucks operated by younger drivers to no more than 68 miles per hour and participate in a “1-800 How’s My Driving,” or comparable, program that allows motorists to report any unsafe driving behavior to the company through a toll-free telephone number. The right carrier would not allow younger drivers to operate any commercial motor vehicle which would require any type of commercial driver’s license endorsement (i.e., hazardous materials, double/triple trailers, tank vehicles, passengers) while in the program.

The right carrier will also establish a program of monitoring younger drivers that contains three components made up of the following safeguards:

1. **Finishing Program (Externship).** Like the participating schools, the trucking companies’ driver finishing program would have to be certified by PTDI or an equivalent certifying body. It is expected that a carrier’s finishing program will include at least 8 weeks (or 460 hours) of training with a carefully screened, professional driver-trainer. The carrier must have a mentoring program that will assign a mentor to the younger driver from the first day of employment until the younger driver turns 21. In order to be a qualified mentoring program, mentors must receive special training; interaction between the mentor and the younger driver must occur regularly; and the mentors must be outside the direct

supervisory and appraisal loop of the trainee. During the driver-finishing portion, the carrier would pay the student a fixed salary -- not a mileage-, percentage-, or per-load-based compensation rate. The driver trainer must be at least 25 years old, have at least one year of experience as a licensed commercial driver, and during the previous 12 months, have no DOT-reportable accidents, no chargeable accidents, no driver out-of-service violations, and no convictions for any violations listed in the commercial driver's license regulations (49 CFR 383.5 and 383.51). In addition, the driver trainer must satisfy all state regulatory requirements and any additional requirements under the carrier's safety policies; meet all federal or provincial motor carrier safety regulations or other federal or state requirements that relate to the operation of a commercial motor vehicle. Finally, the driver trainer must be experienced in all four seasons of driving operations; must have completed a 3-day program on coaching and communications skills; and must have satisfied company management, through examination or otherwise, that he or she is qualified to be a driver trainer in the younger driver pilot program. During the driver finishing program, the carrier will regularly communicate with the school regarding the student's progress through the program.

2. Team Operations. After completion of the finishing program and after the school and carrier agree that a student exhibits the necessary and desirable skills and judgment, he or she will graduate to a team operation for a minimum of 18 weeks (or 720 hours). The lead team driver must have the following qualifications: 25 years of age or older; no chargeable (excluding minor damage to property only) or DOT-reportable accidents in the previous 12 months; no convictions for any violations listed in the commercial driver's license regulations (49 CFR 383.5 and

383.51) in the previous 12 months; and at least one year of experience as an over-the-road driver in solo operations.

3. Solo Ready. After the student is 19 years old and the school and carrier agree, the student would be eligible to drive solo. During this time, the company will continue to monitor the student's performance. At regular intervals, the young solo driver would receive safety training every 3 months until he or she is 21 years old. During the solo phase, students could change driving jobs, but only if they go to work for other carriers participating in the program. If they drop out, the provisional license issued under this program would be revoked and the student would not be eligible to drive interstate until he or she reaches the current minimum age of 21.
4. Monitoring and Evaluation. Each carrier participating in the program must provide monitoring of each younger driver from the day the driver begins team driving operations until the driver's 21st birthday. To satisfy the requirements of this program, monitoring must, at minimum, include: face-to-face meetings with the younger driver every 3 months; monthly reviews of the younger driver's hours-of-service logs; regular analysis of maintenance records for the truck operated by the younger driver; and immediate temporary or permanent suspension from driving in the event of any accidents, moving violations, or out-of-service violations. Carriers would follow a prescribed program to ensure, on a continuing basis, that the younger driver possesses and exhibits the skills and judgment necessary to operate a commercial motor vehicle safely. Younger drivers would obviously need to comply with all of the Federal Motor Carrier Safety Regulations, and specific attention would be paid to hours of service compliance; out-of-service violations; accidents; and moving

violations. Disqualification criteria would be developed and enforced. TCA anticipates that a younger driver would be temporarily removed from the pilot program if he or she receives any citation, in a commercial or private vehicle, for speeding, driving under the influence, or reckless driving, and permanently removed from the pilot program if convicted. Any at-fault accident on public roads or highways would similarly bar a younger driver from continued participation in the pilot program. Any other violation or demonstrated instance of poor judgment would require the younger driver, if he or she desires to remain in the program, to submit to carrier- or school-sponsored counselling to evaluate the driver's attitude, behavior, judgment, and understanding of applicable regulations.

V. SAFETY ANALYSIS

Historically, the trucking industry has supported the regulation specifying a minimum age of 21 for interstate drivers. But this nation and this industry no longer enjoys the rural to urban migration that provided a major source of those young persons at or over age 21 to enter the trucking industry as drivers of commercial vehicles.

TCA notes that DOT's "Truck and Bus Crash Fact Book" indicates commercial vehicle drivers under 25 years of age were involved in 6.3 percent of crashes, while auto drivers in this same age group were involved in 31 percent of the crashes. However, there is no crash data for commercial drivers under age 21, even though they are allowed to operate in intrastate commerce in all but two states. Even so, TCA believes that this data is not relevant to this proposal. No study has ever been done which links training and licensing to accidents. That is because training has never before been a precondition for commercial licensing. However, TCA believes that the stringent eligibility and participation standards

built into the proposed younger driver pilot program provides important and effective safeguards that will ensure the safest possible conditions for studying the impact of training on driver performance.

It is believed that the national accident rate for all motor carriers is about 1.5 accidents per million miles of operation. Considering the three years covered by the proposed pilot program, the specially-designed program of training by selected schools and carriers, the close supervision and monitoring of younger drivers, and the immediate removal from the program of any driver involved in a preventable accident or other disqualifying offense, the accident rate can reasonably be expected to be the same or to improve. TCA proposes that a process like that employed by FMCSA for SafeStat in the accident safety evaluation area (“SEA”) which compares a carrier's accident performance against others of similar size, class, annual mileage and area of operation, will be utilized.

This pilot program has the potential to meet multiple societal goals of satisfying demand for goods and services in an expanding economy; contributing to more safety-conscious driving principles during and after a lengthy training period; and creating employment opportunities for steady jobs that pay up to \$32,000 a year for entry-level drivers.

Training has never been a precondition for licensing or employment in any state that allows under-21-year-olds to drive commercial motor vehicles. No studies have ever compared the accident experiences of trained and untrained younger drivers. It is interesting to note that an 18-year old in Texas can drive a commercial vehicle from Houston to Abilene in intrastate commerce, a distance of 419 miles, but not from Texarkana, Texas to Texarkana, Arkansas, an adjoining city separated only by a state line. Certainly in the larger states, where state authorities have already authorized the use of drivers under the age of 21, there are runs that are of comparable length to allow comparison to typical interstate long hauls.

TCA believes that careful screening and selection, lengthy training, placement with a company with an excellent safety record, and follow-up

finishing and monitoring of 18 to 21-year-old drivers will produce a more qualified driver than is produced under the current system -- where any 21-year old with only a few days of training, if any, can secure a valid commercial drivers license.

The approval of this pilot program and coextensive waiver of the minimum age requirement will allow testing of this concept as a means of increasing the pool of safe qualified drivers for an industry that continues to experience a shortage of qualified drivers.

VI. CONCLUSION

TCA and its member companies believe it is possible to structure a program of careful screening, selection, training, oversight, and monitoring that will allow persons 18 - 20 years of age to become qualified and safe commercial motor vehicle operators. It is known that the U. S. military, through a program of careful selection, training and monitoring, can safety entrust persons under age 21 to operate military helicopters and small aircraft – positions that similarly demand unflagging attention and responsibility. We believe that concept can be successfully transferred to civilian endeavors.

TCA believes it has met the criteria prescribed in 49 CFR Section 381 to obtain approval for a pilot program. TCA believes the safeguards incorporated in its proposed pilot program will ensure a level of safety that is equal to or greater than the level of safety that would otherwise be achieved without specialized selection, training, and monitoring of those individuals age 21 or older. TCA believes that no practical alternative exists that would effectively solve the industry's driver shortage problems and ameliorate the societal concerns identified herein. Moreover, the pilot program sought herein has been carefully tailored to the minimum necessary to allow the desired pilot program to be tested under the safest possible conditions.

For the foregoing reasons, the Association respectfully requests that DOT approve the pilot program in order to facilitate the pursuit of an effective alternative to the minimum driver age regulation, and to allow the collection of research data that will support the development of a notice of proposed rulemaking to change the regulation.

TCA further requests that the petition be assigned expedited review and consideration by the Federal Motor Carrier Safety Administration, so that the expected benefits will more quickly be realized by younger drivers, the trucking industry, and the general public.

Respectfully submitted,



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ATTACHMENT A

YOUNGER DRIVER PILOT PROGRAM: QUESTIONS AND ANSWERS

1. Q: Who is the Truckload Carriers Association (“TCA”)?

A: Based in Alexandria, Virginia, TCA is the only national trade association whose collective focus is the truckload, or long-haul, segment of the trucking industry. The Association represents dry van, refrigerated, flatbed, and intermodal container carriers operating in the 48 contiguous states, as well as Alaska, Mexico and Canada. More information about TCA can be found on its website, www.truckload.org.

2. Q: Why is the Younger Driver Pilot Program necessary?

A: With record low unemployment in the U.S. and a critical driver shortage facing the industry, TCA believes the Pilot Program will demonstrate that the pool of eligible interstate truck drivers can be expanded to include young Americans between the ages of 18 and 20. Current government regulations prescribe a minimum age of 21 for interstate commercial truck drivers. Unfortunately, by the time a young person reaches the age of 21, he or she has most likely already chosen another career. TCA believes the program will work - 40 states already allow truck drivers under the age of 21 to drive *intrastate* and none of these states have mandatory training requirements. In addition, the U.S. military allows 18-20-year olds to operate heavy trucks interstate.

3. Q: How serious is the U.S. driver shortage?

A: Very. According to the well-respected Gallup Organization, the industry will need to find 80,000 new drivers each year to keep up with the increasing demand for surface freight transportation. Some of that demand has been generated by the new e-commerce, with Internet companies relying on the trucking industry to deliver products to their customers. In addition, according to the Federal Motor Carrier Safety Administration, the government’s proposed new hours-of-service rules will require the industry to hire an additional 49,000 drivers a year - and some industry experts believe that figure is very low. Only by expanding the eligible pool of drivers can the industry possibly hope to meet the challenge to find - and keep - at least 129,000 new truck drivers every year.

4. Q: Why has TCA petitioned the Federal Motor Carrier Administration for approval of the Younger Driver Pilot Program at this time?
- A: TCA has filed the petition under a new statutory waiver provision contained in the 1998 Transportation Equity Act for the 21st Century (“TEA-21”). Because current government regulations prescribe a minimum age of 21 for interstate commercial truck drivers, the Pilot Program requires a waiver from the Federal Motor Carrier Safety Administration. TEA-21 encouraged the trucking industry to find innovative solutions to improving safety and efficiency in motor freight transportation. TCA believes the Younger Driver Pilot Program satisfies both of these important public policy objectives.
5. Q: What are the major features of the Younger Driver Pilot Program?
- A: The program involves a minimum of 48 weeks of intensive classroom and behind-the-wheel instruction and supervision that leads to full-time employment as an interstate commercial driver in the trucking industry. The program involves a minimum of 22 weeks in an approved truck driver training school (*see* Question 9, *below*); 8 weeks in a motor carrier’s driver finishing program; and 18 weeks team-driving with an older, more experienced driver. Only if the student satisfactorily passes the stringent performance standards of the entire 48-week program, and has reached the age of 19, can the student “graduate” to driving solo.
6. Q: How does the Younger Driver Pilot Program compare with the “average” truck driver training program for students 21 and older?
- A: The Younger Driver Pilot Program is nearly 4 times the length of the average entry-level truck driver training course for students age 21 and older: the PTDI-approved entry-level course lasts between 6-8 weeks – the Pilot Program requires 22 weeks of instruction; the driver finishing phase for current entry-level training programs typically last 4-6 weeks -- driver finishing under the Pilot Program lasts 8 weeks; and once the finishing phase is complete, entry-level training for those 21 and older is complete and the driver can operate solo in interstate commerce--the Pilot Program adds an additional “team-driving” requirement for 18 weeks before the 18 to 20-year-old is cleared to drive solo.
7. Q: Did TCA develop the course standards for the Younger Driver Pilot Program?
- A: No. The course standards were developed by the Professional Truck Driver Institute (“PTDI”), the only national, not-for-profit organization that certifies courses for truck driver training schools. PTDI developed these course standards exclusively for the Younger Driver Pilot Program, taking into account the special needs and challenges of the 18-20 year-old age group.

8. Q: How will the students for the Younger Driver Pilot Program be selected?
- A: To be eligible for the program, the student must: be at least 18 years old; have a high school degree, a GED, or meet the U.S. Department of Education's "ability to benefit" standards; have held an unrestricted driver's license for at least 1 year; meet all DOT physical requirements; pass a drug screen; have no citations or convictions in connection with accidents or traffic violations such as reckless driving and driving under the influence; have no chargeable accidents (excluding minor accidents involving only property); have no speeding tickets (more than 15 miles above the posted limit); and possess sufficient maturity, responsibility, and judgment to succeed in the program.
9. Q: How will the schools involved in the Younger Driver Pilot Program be selected?
- A: In order to participate in the Program, the school must offer the PTDI-approved younger driver training curriculum and must also have the course certified by PTD. In addition, the school itself must be accredited and eligible for federal funding. Finally, the school must provide a minimum of 22 weeks of training, with 14 weeks of classroom instruction and 8 weeks in a truck (behind-the-wheel or engaged in active observation). Both public and private schools have already expressed an interest in participating in the Pilot Program.
10. Q: How will motor carriers be selected to participate in the Pilot Program?
- A: In order to be eligible to participate in the Pilot Program, a motor carrier must: have a satisfactory safety rating (the highest possible rating) assigned by the U.S. Department of Transportation ("DOT"); have a DOT-reportable accident rate below the national average; govern trucks to operate at speeds no greater than 68 miles per hour; participate in a "1-800-How's My Driving?" or comparable program; agree to conditionally hire younger drivers who successfully complete the 22-week school portion of the program; have an insurance carrier willing to underwrite the younger drivers participating in the program; operate a PTDI-certified "driver finishing" program that is a minimum of 8 weeks in length (*see* Question 11, *below*); allow the younger driver to haul safe loads; i.e., no placarded loads or those containing hazardous materials; and have a mentoring program that will assign a more senior driver to coach and counsel the younger driver until he or she is 21.
11. Q: What is a "driver finishing program"?
- A: A driver finishing program is a course of instruction and on-the-job training offered by motor carriers. Driver finishing programs are also certified by the Professional Truck Driver Institute. TCA believes that the truck driver training schools do an excellent job of teaching the basics of operating and controlling a

commercial motor vehicle. It is in the finishing program, however, that a student has the opportunity to further develop and master the basic skills, as well as develop greater maturity and judgment, under the daily direction and guidance of an experienced and seasoned driver who is also a qualified trainer. Thus, a PTDI-certified driver finishing program, lasting a minimum of 8 weeks, is a critically important component of the Pilot Program.

12. Q: Will the students be charged to participate in the Pilot Program?

A: Tuition for the school-portion of the Pilot Program is expected to range from \$4,500-\$10,000 per student. There are federal loan programs available to defray all or a portion of the tuition costs. In some cases, the student's parents will be able to help subsidize the costs of tuition, housing, meals and other expenses that may be associated with participating in the school portion of the Pilot Program.

13. Q: When will the younger drivers begin earning income under the Pilot Program:

A: Once the student is in the driver finishing portion of the program, he or she will earn a "trainee" wage that will be set by the individual motor carriers participating in the program. During the team-driving phase of the program, the younger driver will earn a salary that is well above the minimum wage.

14. Q: Have any insurance companies agreed to participate in the Pilot Program?

A: Yes. Great West Casualty Company, based in Sioux Falls, South Dakota, has endorsed the curriculum for the Younger Driver Pilot Program and has already agreed to participate in it. Once the Pilot Program is approved by FMCSA, we expect additional insurance companies will agree to participate. Of course, to be eligible for the program all participating motor carriers must have an insurer willing to provide insurance coverage for the younger drivers that are participating in the Pilot Program.

15. Q: How many students will participate in the Pilot Program?

A: TCA expects that approximately 1,000 students will participate in the Pilot Program. The number has to be sufficiently large to provide an adequate statistical sample to measure the effectiveness of the Program.

16. Q: Where will the students come from?

A: Because the motor carriers that will participate in the Pilot Program recruit drivers nationwide, there are no geographical restrictions placed on the 18 to 20-year-olds who can apply for the Program. Applicants must, however, meet the stringent

eligibility requirements of the Pilot Program (*see* Question # 8, *above*), including evidence of U.S. citizenship.

17. Q: When will the first students begin entering the Pilot Program?
- A: If the Pilot Program is approved, TCA expects that by June 2001, the first student would actually begin the specially-designed, PTDI-certified younger driver training course at a participating school.
18. Q: When will the first students complete the Pilot Program and begin driving solo?
- A: Assuming the program begins in June 2001, the first specially-trained younger drivers would begin solo-driving for one of the participating motor carriers in May 2002 (assuming the drivers have reached their 19th birthdays by this time – *see* Question #20, *below*).
19. Q: What would happen if a younger driver participating in the Pilot Program receives a ticket for excessive speeding, violates traffic laws or is cited in an accident?
- A: The student would be immediately suspended from driving pending an investigation, or, depending on the circumstances, immediately expelled from the Pilot Program. Once the Petition is approved, TCA will develop stringent disqualification criteria, which must be enforced by all participating students, schools, and motor carriers.
20. Q: Under the Pilot Program, what is the minimum age for driving solo in interstate operations?
- A: A younger driver who has successfully completed the school, driver finishing, and team driving phases of the Pilot Program must have reached his or her 19th birthday before he or she can drive solo in interstate commerce. Thus, a 19-year-old who completes the Pilot Program will most likely have far greater training and driving experience than a 21-year-old who is trained and licensed under the average entry-level training course and current regulations.
21. Q: Who will evaluate the success or failure of the Younger Driver Pilot Program?
- A: Throughout the 3-year period of the Pilot Program, the Federal Motor Carrier Safety Administration will continually monitor and evaluate the Program. At the end of the 3-year period, FMCSA will present its findings in a report to Congress. FMCSA will also develop objective evaluation criteria that will likely include, at minimum, the number of students who successfully completed the program and the safety performance of program graduates compared with drivers age 21 and older.

The Younger Driver Program

Program Standards

**Skill Standards for the
Professional Solo Tractor-Trailer Driver**

Curriculum Standards

May, 2000



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THE YOUNGER DRIVER PROGRAM STANDARDS

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PART I:
Program Standards

PROFESSIONAL TRUCK DRIVER INSTITUTE

VOLUNTARY CERTIFICATION: POLICIES AND PROCEDURES FOR THE YOUNGER DRIVER TRAINING PROGRAM

PURPOSE

The PTDI works to advance tractor-trailer driver training, proficiency, safety, and professionalism by promoting high-quality truck driver training programs and by verifying and publicly attesting to their quality.

Voluntary certification is the PTDI process that grants public recognition to institutions such as schools and trucking firms whose programs for training and finishing tractor-trailer drivers meet or exceed established qualifications and criteria, as determined through initial and periodic evaluation by the PTDI. Certification is voluntary in that organizations request evaluation of their programs for PTDI certification.

The purposes of the certification process are to provide a professional judgment of program quality, to encourage continuing program improvement, and to increase industry use of tractor-trailer driver training and tractor-trailer younger driver programs.

PTDI certification of tractor-trailer Younger Driver Training Programs is intended to do the following:

- Verify quality
- Promote improvement
- Assure employers, potential enrollees/employees, governmental agencies and offices, the trucking industry, insurance providers, safety advocates, official bodies, and the public of the quality of *specific* training programs.

The skill standards are the product of the collective wisdom of more than 250 motor carrier safety personnel, drivers, and educators teaching in the field of tractor-trailer operating, curriculum, and safety. The standards represent the touchstones that a tractor-trailer driver finishing program should contain and against which any such program may be judged. The absence of any particular performance element(s) and/or criterion (criteria) from a finishing program should not signify a deficiency in that program, as each program of instruction must be considered individually.

The standards and requirements of program certification that may be attached hereto have been adopted as the official policy of PTDI and serve as the criteria by which PTDI evaluates the driver finishing programs of organizations seeking certification. The standards specified in this document must be met before PTDI approves of and issues its certification to a tractor-trailer driver finishing program.

The contents of this publication do not represent official policy of any government or quasi-governmental agency. PTDI expressly disclaims any and all liability for the content, use, and application of these skill and program certification standards and makes no representation or warranty as to the fitness of any individual who has been trained in accordance with the standards or procedures detailed herein.

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DEFINITIONS OF TERMS

Behind the Wheel (BTW)

Behind-the-wheel (BTW) time is supervised time when the trainee has actual control of the power unit during the driving lesson that is being conducted on the range or on the street or road.

Breaks

Training schedules should contain reasonable breaks for both the trainees and the instructors. A fifteen-minute break in the morning, a half-hour to one-hour lunch period, and at least a fifteen-minute break in the afternoon would correspond with the normal workday and is considered reasonable. Breaks are not PTDI-certifiable time.

Classroom Instruction

Instruction that occurs in a non-vehicle, non-laboratory environment and is accompanied by instructional aids that facilitate large numbers of students at one time. Note that trainees are under direct supervision of an instructor who is not otherwise engaged.

Course

All the operations are designed to provide qualified trainees with a course of instruction in the safe and responsible operation of tractor-trailer vehicles. Each course is evaluated and certified separately.

Course of Instruction

The curriculum—instructional intent, content, methods, and materials.

Discretionary Hours

The 34 (38) hours in addition to the hours prescribed for the five PTDI curriculum units to complete the 280 required classroom/lab hours. These hours may consist of additional hours in those five PTDI curriculum units or additional topics such as: additional DOT regulations; First Aid/CPR; CDL written preparation; a defensive driving course; or information about the job search. However, these hours may not substitute for driving hours.

Independent Study

An alternative method of guiding student learning, in addition to traditional classroom instruction. It must meet the same objectives with regard to content, time on task, and mastery of materials. It is not the same as homework, which merely reinforces materials covered in class. Time waivers may be used for independent study for up to one-third (33 percent) of classroom instruction, with sufficient documentation. Visual, auditory, simulator, computer-assisted materials, and problem solving activities are appropriate independent study.

Instructional Hours

The hours in which actual training occurs. Training hours are expressed in two ways and in the following order: 60 minute-hours (60 minutes of actual instruction) and 50-minute hours (shown in parenthesis) in which only 50 minutes of actual instruction takes place within the hour. The total program consists of a 22 week, school-based course of instruction (at least 14 weeks and 280 in classroom and laboratories, at least 88 hours BTW and another 72 hours of BTW and in-cab instruction); an 8 week Driving Finishing Program with a minimum average of 36 hours a week BTW; and an 18 week Team Operation Program, all completed over a time frame of 48 weeks.

Laboratory Instruction

Instruction occurring outside a classroom that does not involve actual operation of the vehicle and its components. Examples of laboratory instruction would include pre-trip, diagnosing and reporting malfunctions, and handling cargo. Note that trainees are under the direct supervision of an instructor who is not otherwise engaged. Instruction that takes places on the range that is not BTW is considered lab time. Note that lab time is calculated with classroom time.

Observation Time

Time spent observing while other trainees perform range and street BTW activities. It is a structured time for instruction. Trainees use time productively, take notes on activities, ask questions and remain engaged. Structured observation time is PTDI-certifiable training time in the Younger Driver Training Program.

Range Instruction (BTW)

Instruction that normally occurs in a protected area or “driving range” where trainees may make use of tractor-trailers without hazard to/from other road users. Note that students are under the direct supervision of an instructor who is not otherwise engaged. Range instruction means BTW time. Instruction that occurs on the range that is not BTW is considered lab time. At least 24 (28) of the required 88 hours BTW time per student must be on the range.

Street Instruction (BTW)

Instruction that normally occurs on public streets and highways. During the street instruction, the vehicle travels over a pre-planned route or a designated area that is known to provide the road and traffic conditions needed to satisfy the instructional objectives of the street lesson being taught. Note that students are under direct supervision of an instructor who is not otherwise engaged. At least 24 (28) of the required BTW time per student must be on the street or road.

Trainee: Vehicle Ratio (SVR)—Range

The number of trainees you would normally assign to a vehicle or truck during range (BTW) training activities.

Trainees: Vehicle Ratio (SVR)—Street or Road

The number of trainees you would normally have in the cab of the tractor-trailer, along with the instructor, during the street or road training portion of your program.

Time Waiver

The form and documentation required to request that up to 34 hours of normal classroom time be used for independent study.

The Younger Driver Training Program is defined as all the operations designed to provide qualified entry-level 18 to 20 year old, entry level drivers with a program of instruction in the safe and responsible operation of tractor-trailer vehicles that enables them to advance to solo drivers. Each program is evaluated and certified separately.

Tractor-trailer younger driver training should be capably and responsibly managed; offer a well-organized and up-to-date training program; be conducted by qualified instructional personnel; use effective instructional materials, equipment, and methods requiring active involvement of learners; and use a well-defined system for (1) assessing outcomes and achievements of stated objectives and (2) improving instruction.

Organization refers to any entity that provides a program of training and testing for training and finishing younger drivers.

Program of Instruction refers to a training program/instructional intent, content, methods, and materials, and includes classroom, laboratory, range, and over-the-road settings.

Certification is the process of initially confirming that the minimum standards of the PTDI have been met or exceeded.

Recertification is the PTDI process of officially reconfirming that the minimum standards of the PTDI have been met or exceeded.

The PTDI certifies tractor-trailer driver training programs, younger driver programs, and driver finisher programs of study throughout the United States, Canada, and Mexico, and may certify programs in other countries. Organizations are eligible for program certification without regard to their organizational form, sources of financial support, size of enrollment, or percentage of total effort dedicated to truck driver training.

Younger Driver refers to youth who are teenagers (18 to 20 year olds) and, therefore, ineligible to work as interstate over-the-road tractor-trailer drivers, who participate in tractor-trailer training that enables them to become solo drivers.

Supervised Team Operation is the process whereby the Younger Driver is teamed with an experienced driver in a freight operation that not only moves freight, but also provides additional training and experience for the younger driver.

Driver Finishing Program is the instructional process in which the younger driver is paired with a driver trainer who demonstrates, coaches, teaches, and refines the working conditions. It is a structured, learning experience.

ELIGIBILITY

To qualify as an applicant for PTDI certification, an organization and its program or programs of instruction must comply with the following:

1. Have successfully operated tractor-trailer driver training and/or driver finishing training programs for at least one uninterrupted year immediately prior to the date of application for certification.
2. Express the amount of training offered in hours and other clearly defined quantitative units of measurement that can be converted easily to hours.
3. Express expected driver trainee outcomes as competency-based performance criteria.
4. Use an identified staff of individuals who are actively involved in training.
5. Have a satisfactory safety rating (carrier requirement) from the Department of Transportation or its Canadian/Mexican equivalent.
6. Provide—directly and/or through linkages—a complete program of study including classroom/lab, range, and street instruction as well as a driver finishing program.
7. Accept only trainees who meet the requirements for the program as defined in the standard on trainee eligibility.
8. Have program partners whose driver training activities have achieved PTDI certification.
9. Have program partners who meet or exceed those standards for eligible schools and for eligible carriers, as defined in the program standards.

GENERAL PROGRAM POLICY

1. The periods of certification and recertification are graduated with initial certification lasting for two years; the Commission will determine the period of renewal thereafter.
2. A brief annual report is required during both the certification and recertification periods. The report must address modifications to the program including items such as changes in program content and hours, enrollment numbers, safety rating, changes in staffing, and changes in partnership agreements.
3. Each program is evaluated within its own context and not in comparison with other programs.
4. Each site that conducts a program is considered an individual entity, and the fee schedule applies. Program control functions such as records, supervision, and staff development activities define a "site." Programs conducted at separate locations or branches are separate entities and are inspected and charged separately, depending on the resolution of program control functions.
5. The certification process on-site evaluation uses peer review. The on-site team consists of a team leader, and a PTDI staff person.
6. All records and documents used in the application must be available to the site-visit team. Program administrators, some trainers, and some trainees also must be available.
7. The application process and records review is conducted by the PTDI Certification Commission. The Commission meets three times a year, or as needed, to deal with program applications and certification program policy.
8. Certification includes factors as expressed in the accompanying standards.
9. The review process involves analysis of program, content, length, records, and policies.
10. The burden of proof lies with the applicant to provide documentation and information. Information within documents must be consistent across the standards.
11. Programs denied certification by the PTDI Certification Commission have the right to request reconsideration of the Commission's decision. The process is explained elsewhere in these materials.
12. Initial certification and recertification involve a self-evaluation process and documentation prior to a site visit. The self-study consists of questions that can be answered by narratives and/or existing documentation. Applicants are expected to answer the questions, indicate the sources of documentation, and provide all the information to the on-site evaluation team.
13. All master documentation should be compiled in one location and in a categorized way for the on-site evaluation team to use.
14. Certification can be withdrawn at any time when the PTDI Certification Commission has reason to believe, based on site review, complaints (with PTDI follow-up verification of authenticity), or other information, that a school, carrier, or partnership is not in compliance with one or more of the certification requirements of PTDI.

**ESTIMATED COST FOR PTDI INITIAL
TRACTOR-TRAILER YOUNGER DRIVER
PROGRAM CERTIFICATION AND RECERTIFICATION**

INITIAL CERTIFICATION

Initial Application Fee

Initial Certification Fee

(Note: If upon initial review, the application is determined to be ineligible for consideration, the certification fee will be refunded)

Certification Materials

On-Site Evaluation Materials

Honorarium for Team Leader and (\$150/day)

PTDI Staff Expenses

Estimated Travel Expenses for Team (airfare, hotel, food)

TOTAL Initial Certification

RECERTIFICATION

Recertification Application Fee

Recertification Materials

On-Site Evaluation Materials

Honorarium for Team Leader (\$150/day)

PTDI Staff Expenses

Estimated Travel Expenses for Team (airfare, hotel, food)

TOTAL Recertification

Application and certification fees are due with the application form. Other costs will be billed after the onsite evaluation visit.

STEPS IN THE PTDI CERTIFICATION AND RECERTIFICATION PROCESS

1. Organization requests application package.
2. PTDI sends Organization:
 - Confirmation form
 - Application for certification
 - Verification of eligibility form
 - Steps in PTDI certification and recertification process
 - Fee schedule
 - Standards, if organization has not previously received them.
3. Upon receipt of above completed forms and fees from the applicant organization, PTDI sends the applicant:
 - Instructions for completing Self-Evaluation Report (SER)
 - Blank copy of the SER form
4. The applicant program forms a committee that will conduct the self-evaluation of the tractor-trailer Younger Driver Program based on PTDI standards.
5. After completing the SER according to the “Instructions for Completing Self-Evaluation Report (SER),” the applicant organization submits five sets of the materials in tabbed binders to PTDI.
6. PTDI reviews the self-evaluation and supplemental materials to determine whether the program qualifies for the on-site evaluation. PTDI may request clarification or additional materials.
7. The on-site evaluation is conducted by a Team Leader and PTDI staff. The program is reviewed for compliance with the standards as expressed in this document. If the program does not meet the minimum standards, the applicant organization will be notified of recommended improvements.
8. Results of the on-site evaluation are reviewed by the Certification Commission, which meets three times a year, or as needed. The Commission reviews results of the on-site visit and documented corrections. The Commission’s options are to certify, deny, or defer certification.
9. If the program meets the requirements, the program is certified for two years. The Commission will determine the period for renewal thereafter.

ON-SITE EVALUATION AND INITIAL CERTIFICATION

In its review, the on-site evaluation team for the **initial certification** will review the identical items as indicated on the tractor-trailer driver program SER.

It is essential that the team members have access to all the information and reference materials necessary to complete the evaluation of each standard. **It is highly recommended that reference materials be organized and labeled according to each standard.** When documentation for a particular standard also applies to another, it may be cross-referenced; e.g., the documentation might be under Standard 2.1, then “documentation” for Standard 3.3 might say “See Standard 2.1.”

The on-site evaluation should be conducted while training is occurring. Team members will tour classrooms as well as talk to trainers and trainees. They will need to evaluate the lesson plans, instructional materials, and equipment. The on-site team will make every effort to conduct its evaluation with as little disruption as possible. However, several trainers and younger driver trainees must be available during the site visit.

Upon completion of the on-site evaluation, the team will share its impressions of general strengths and recommendations for improvement with the applicant. The team will not be able to indicate whether or not the program will be certified. The PTDI office will notify program officials after all evaluation materials have been reviewed and the PTDI Certification Commission has made a determination regarding certification.

RECERTIFICATION PROCESS

The recertification process uses a general process of self-evaluation and site visit similar to the original certification process. The self-evaluation then can deal with changes that have occurred during the period of the initial certification.

In addition, the on-site evaluation team will conduct a survey of program completers. Please prepare a list of individuals who have completed the program (within the last two years) and who might be contacted for a brief conversation.

PROFESSIONAL TRUCK DRIVER INSTITUTE TRACTOR-TRAILER YOUNGER DRIVER PROGRAM CERTIFICATION STANDARDS

STANDARD 1 – ADMINISTRATION

Standard 1.1

Eligibility for Schools

Schools participating in the Younger Driver Program must meet the following criteria: operate a PTDI-certified course; be accredited Title IV schools or equivalent; be eligible for Federal funding; provide a minimum of 22 weeks of training; must include skills plus materials on life skills, over-the-road management, financial management, and family management; offer at least 14 weeks (at least 280 hours) of classroom/laboratory instruction and eight weeks (at least 160 hours) of in-truck instruction.

Standard 1.2

Eligibility for Company or Carrier

Carriers participating in the Younger Driver Program must meet the following criteria: have a satisfactory safety record by DOT definition; have an accident rate below the industry standard, as defined as DOT reportable; use truck speeds in the program governed below 68 mph; participate in a driver monitoring program such as 1-800-How's My Driver or a comparable program to report unsafe driver activities; have insurance carrier willing to underwrite younger drivers; operate a PTDI-certified driver finishing program; allow no placarded loads in the Program; employ mentoring as part of the Younger Driver Program; and do not permit Younger Drivers Program participants to work for carriers other than those participating in the pilot project during the project.

Standard 1.3

Truth in Recruiting and Promotional Materials

The younger driver training program is accurately and clearly defined and explained in promotional materials including catalogs, brochures, and ads. Information accurately reflects the way the program operates, costs/benefits, and the outcomes it produces. Obligations are well defined.

Standard 1.4

Chain of Command

The organizational framework of each organization, as it relates to the tractor-trailer Younger Driver Program, is clearly defined. A current organizational chart clearly shows responsibility for instruction and administration as well as coordination with other departments in the organizations that conduct the program.

Standard 1.5

Formal Relationship

The relationship of each participating organization—school and company—is specified in a signed agreement that describes the program and responsibilities of each party.

Standard 1.6

Administrative Institutional Support

Helpful support from top levels of management should be demonstrated. Indicators of support include but are not limited to the following: staff in-service training and policy to enable its use; provision of appropriate instructional facilities; up-to-date equipment and training materials; support of driver finishing trainer decisions; appropriate buffers to business side of the operation; and a driver liaison to help deal with problems.

Standard 1.7

Program Goals

The program is guided by corporate policies as outlined in the organizational goals and mission statements of the organizations.

Standard 1.8

Administrative Qualifications

The tractor-trailer younger driver program is planned, administered, and directed by persons with appropriate administrative skills and especially tractor-trailer driver training program experience. Professional and support personnel possess a combination of education and/or experience that qualifies them for their assignments.

Standard 1.9

Driver Trainee Eligibility

Tractor-trailer younger driver programs should have clearly-written hiring and program eligibility requirements that are followed. To qualify for enrollment, an applicant must: meet minimum DOT, state, federal and/or local law and regulations related to his or her physical condition; pass a drug screening test; be in the 18 to 20 year old age range; have no chargeable accidents, excluding minor property damage accidents; have no serious speeding tickets (more than 15 mph above posted limits) in the last three years; have no tickets while in the training program; have no citations and/or convictions in connection with accidents or violations, such as reckless driving or driving under the influence (DUI); have a GED, high school education, or "ability to benefit;" achieve a pre-qualified conditional pre-hire by the carrier; and succeed in an appropriate pre-screening assessment. Violation of these eligibility requirements while in the program will lead to disqualification.

Standard 1.10

Written Policies

Written policies are in place for governing the tractor-trailer younger driver program. Policies regarding trainee safety, liability, and rules; coordination with operations; each department's responsibilities; evaluation; and pay, benefits, and a grievance procedure (employee policies) should be written, followed, and provided to younger drivers, trainers, recruiters, and organizations that produce candidates for the program.

STANDARD 2 - TRAINERS

Standard 2.1

School-Based Instructor Qualifications

Instructional personnel possess a combination of education and experiences that clearly qualify them for their assignments. At least the following elements are included:

- Instructors, where truck-driving competency is required, should have a minimum of three (3) years experience as a licensed, successful tractor-trailer driver with a good driving record, meet state requirements, school policy and Part #391 of the Federal Motor Carrier Safety Regulations and other federal (or state) requirements;
- Instructors should have earned a high school diploma or its equivalent;
- Instructors should have evidence of teacher/ and/or instructional skills, such as formal training, in-service education and teaching experience; and
- Have a state license and other permit, if applicable.

Standard 2.2

Driver Training Trainer Qualifications

Driver finishing instructional personnel possess education and/or experiences that clearly qualify them for their assignments. At a minimum, driver trainers who work in the Younger Driver Program must have the following qualifications:

- Meet minimum hiring criteria for drivers and trainers for the organization
- Know and comply with organizational procedures for operations, safety, and training
- Have credibility, good reputation within company
- Where truck driving competency is required, have a minimum of one (1) year experience as a licensed, successful tractor-trailer driver with a good driving record; no chargeable accidents in the last 12 months; no out-of-service violations in the last 12 months; no serious speeding tickets (15 miles over the zone) in the last 12 months; have experience in all four seasons of operation; meet state requirements, carrier and/or company policy; meet all federal or provincial motor carrier safety regulations, safety code, and other federal (or state) requirements.
- Have evidence of having completed a meaningful train-the-trainer program of at least 24 hours to master skills such as coaching and communication skills
- Have a state or provincial license and other permit, if applicable
- Have passed any appropriate trainer exams
- Be at least 25 years old

Standard 2.3

Lead Team Driver Qualifications

Lead team drivers possess the experience and education that clearly qualify them for their assignments. At a minimum, the team leader must have the following qualifications:

- Team driver has an excellent safety record.
- Must be 25 years of age or older
- No DOT chargeable/reportable accidents in the last 12 months (nothing more than one minor property damage event)
- No serious speeding tickets in last 12 months, e.g., 15 miles over the zone
- No out-of-service in last 12 months
- Have at least 1 year of over-the-road driving experience as a solo driver

Standard 2.4

Trainer/Instructional Staff Development and Supervision

All trainers, including driver trainers, participate in a regular staff development program or activities and are recertified or requalified at least every two years; further, there is a written policy to ensure use of staff development activities. Trainers are carefully supervised and systematically evaluated during each training cycle (or other appropriate program-specific unit of time) to ensure high-quality training.

STANDARD 3 - TRAINING VEHICLES

Standard 3.1

Condition of Vehicles

All vehicles (a) are in good mechanical condition; (b) meet safety requirements—all applicable federal, provincial, and state regulations; (c) are equipped with occupant restraint systems for all occupants; (d) contain operational emergency equipment including safety devices in bunks; and (e) are appropriate to the use made of the vehicle (for example, sleeping).

Standard 3.2

Industry Standard for Vehicles

Training vehicles are comparable in size and power to vehicles in use by motor carriers in the area and/or those of the companies for whom trainees are trained.

STANDARD 4 - TRAINING CONTENT AND PRACTICE

Standard 4.1

Instructional Content

Instruction must be divided into driving and non-driving aspects. Classroom instruction occurs in a non-vehicle environment and is composed of non-driving units of instruction that cover information about the trucking industry, specific company and operating a solo tractor-trailer safely and properly as a first seat driver. Instruction covers the subject areas identified by the PTDI professional tractor-trailer driver skill standards and PTDI curriculum standards. Classroom instruction is supported by appropriate visual and instructional aids such as slides, films, videotapes, displays, textbooks and written instructional materials, models, charts, and mock-ups. Road instruction is supported with appropriate written materials. Simulators and computer-assisted instruction activities are welcome as long as they are not used in place of road instruction, coaching, and driving.

Standard 4.2

Program Outline and Objectives

A general program outline clearly identifies units of instruction including their broad purpose and general content. It is provided to all participants and is available to other interested parties. The program is composed of units of instruction within the overall outline that cover the knowledge and skills required to operate a tractor-trailer safely and properly as a first-seat driver. Units are designed around a combination of performance, knowledge, and skill objectives, although not every unit necessarily will have some of each.

Performance objectives specify what driver trainees can do at the conclusion of instruction and are tied directly to the PTDI skill standards.

Knowledge objectives describe what driver trainees know at the conclusion of instruction and are tied directly to the PTDI skill standards.

Skill objectives describe the level of performance driver trainees must master and demonstrate at the conclusion of instruction and are tied directly to the PTDI skill standards.

Standard 4.3

Instructional Time

The total hours of school-based classroom and lab instruction received by each driver trainee is a minimum of 22 weeks with at least 14 weeks (at least 280 hours) in the classroom and another eight weeks (at least 160 hours) in trucks. At least 88 of the 160 hours in trucks must be behind-the-wheel (BTW) time with the additional 72 hours allowed as either observation or BTW time.

The instructional time in the driver finishing portion of the program with a carrier is a minimum of eight weeks (460 hours). Of this number, 288 hours will be BTW hours with a trained driver in a 1:1 ratio. The minimum number of hours is an average of 36 hours per week over the eight weeks of training, and in strict compliance with the hours of service requirements. The additional 172 hours may be observational or driving time, still at the 1:1 ratio. (Note: A portion of the 172 hours – up to 30 hours – may be used for classroom/orientation.)

The time for team operations is 18 weeks (minimum 720 hours of BTW hours) after completion of the driver finishing program.

Standard 4.4

Print Materials

Printed training materials are appropriate to their intended use during instruction or preparation for training; fit conditions of use (e.g., classroom or in vehicle); are appropriate to the ability level of driver trainees; are provided to each driver trainee; and contain information in use in the industry today; and cover critical subjects and topics.

Standard 4.5

Multimedia Materials

Materials are up to date and accurate, and they fit into instruction.

Standard 4.6

Classroom Conditions

The classroom learning environment is safe, sanitary, and comfortable, with adequate furnishings, light, temperature, ventilation, and space. The young-driver-trainee-to-trainer ratio during classroom and laboratory instruction averages one trainer for not more than each group of 30 trainees (30:1) over the year and never exceeds one trainer for 36 trainees (36:1).

Standard 4.7

Classroom, Lab and Range Lesson Plans

Trainers follow modular lesson plans for class, lab, and range to ensure quality, consistency, and uniformity of instruction. Specific outlines or plans are used to guide each session. They should include content, key points, objectives, evaluation activities, and opportunities to practice or use information.

Standard 4.8

Road Instruction

Behind-the-wheel (BTW) instruction is conducted under various roadway, traffic, and weather conditions that satisfy objectives. Night-driving principles must be taught and used. Trailer loads must reflect those typically moved by the carrier.

Standard 4.9

Road Lesson Plans

Driver trainers conducting road or street instruction use BTW lesson outlines or guides that list specific responsibilities for conducting street instruction. The guides must at least indicate content to be taught, how the trainer will ensure mastery of information, and any relevant materials that will be used in instruction.

Standard 4.10

Life-on-the-Road Content

The over-the-road management content topics like managing fatigue, controlling diet, getting exercise, staying in touch with families, and dealing with emergencies are built into task sheets and taught as regular and intentional topics of instruction. As a result, trainee will correctly identify problems and strategies that deal effectively with personal resources by addressing, demonstrating, and matching problems and solutions. Trainee will manage finances on the road including budgeting and dealing with financial obligations.

Standard 4.11

Trainee-to-Instructor-and-Truck Ratio

Trainee to instructor ratio during classroom and laboratory instruction averages one instructor for not more than each group of 30 trainees (30:1) over the year and never exceeds one instructor for 36 trainees (36:1). Range ratios may not exceed one instructor to three trucks. Driving ratios for the school-based portion of training are one instructor per one vehicle and one instructor to four trainees maximum with one instructor to three trainees strongly recommended. Note that case-by-case exceptions to the trainee-to-instructor 4:1 ratio may be granted for certain in-truck orientation and driving activities, if for the remainder of the course, the trainee to instructor ratio for BTW time is reduced to 1:1 or 2:1 for continuing instruction. The driver trainer to younger driver truck ratio for the driver finishing portion of the program is 1:1.

Standard 4.12

Range Conditions

Range instruction is provided on a safe, controlled (protected) off-street driving range or yard where trainees operate tractor trailers without exposure to hazards from other road users. (Instruction may be conducted on lightly-traveled streets or other locations such as parking lots, where potential hazards from other traffic are carefully controlled). The driving range is free of obstruction, and the surface enables novice drivers to maneuver without loss of control and without interference among vehicles. Adequate sight lines are available to instructors and trainees.

Standard 4.13

Independent Study (for school-based portion of training only)

Independent study is an alternative method of guiding trainee learning in addition to traditional classroom instruction and must meet the same objectives with regard to content, time on task, and mastery of material. It requires independent consideration and mastery of a designated body of knowledge and is therefore differentiated from homework which merely reinforces materials covered in class. Independent study should include the following key elements for each unit:

- Number and title of PTDI curriculum classroom unit for which it is proposed independent study be substituted (e.g., Unit 1, Unit 2)
- Classroom hours required for that unit, including both classroom contact hours and independent study
- Total number of hours being submitted with independent study
- Performance objectives
- Independent study materials to be used
- Estimated time to complete independent study materials
- Procedure used to determine whether the trainee did in fact achieve the objectives
- Evaluation instruments and other documentation indicating successful completion of independent study

Time waivers may be used for independent study for up to 34 hours of the classroom instruction, with sufficient documentation and quality materials. Courses must explain how the option is used and complete and file the required form available from PTDI.

If independent study is used, it should be cited in the school catalogs, brochures, and other documents where it is legal to do so.

Standard 4.14

Length of Day

The total time for a typical instructional day in school shall not exceed ten hours average, including direct contact instructional hours and independent study, if used. Driver finishing and team operations follow the Hours of Service rules.

Standard 4.15

Driver Finishing Program Supplemental Rules

Trainees are paid a weekly salary by the carrier during the driver finishing process. If a trainee experiences content problems (skills or knowledge), he/she will receive remediation. Trainees are evaluated against the solo "1" seat driver skills. Both the school and the carrier must sign off that the trainee is ready for team operations. Schools may sign-off on school-based portion of skills (for administrative purposes) at conclusion of school-based training; however, the guarantee of skills training by either school or carrier (as per individual memos of understanding), should remedial training be necessary, must be provided.

Standard 4.16

Team Operations

Team operations will occur for 18 weeks (or 720 hours) after completion of the program. The carrier will pay the trainee driver by the mile for team operations. At the end of the period, the carrier and the school sign off that the trainee is ready to become a solo driver.

Standard 4.17

Solo Driver Minimum Qualifications

To achieve solo driver status, a younger driver must have achieved at least all the following criteria: have successfully completed the 48 weeks of training; have earned a full CDL; have reached at least his/her 19th birthday; participate and succeed in a regular mentoring program as described in these standards; and only work interstate freight for carriers who participate in the pilot project.

Standard 4.18

Mentoring Component

Programs will have a mentoring component with the following criteria: every younger driver is matched to a mentor from day one to age 21 in carrier; mentors are trained; interaction occurs regularly; mentors are available; if problems arise, new mentors are provided; mentors are outside the direct appraisal loop for the trainee.

Standard 4.19

Observational Time

Trainees involved in observation time during driver training in school will use the time productively, taking notes on activities, asking questions, and remaining engaged. The driver trainer will include their participation in their written evaluations and testing.

STANDARD 5 - EVALUATION AND TESTING

Standard 5.1

Classroom/Lab Tests

Written tests and/or performance assessments are used to test a sample of knowledge objectives for each unit of instruction. Test questions are phrased so that younger drivers possessing the information can answer correctly.

Standard 5.2

Range Tests

Range tests assess trainee proficiency in fundamental vehicle control skills and routine driving procedures for which range instruction is provided. A skill test against PTDI standards is required.

Standard 5.3

Road Tests and Driver Evaluation

Road and on-the-street tests are used, and they are based upon and assess the objectives of this part of the training. They use routes and conditions that permit a broad range of observation. Results are recorded on an examination checklist. Weekly evaluations are used and provided. Results are discussed with the younger driver trainee; written evaluations are provided and signed by trainer and trainee; and documentation of having performed the evaluations and having provided direct feedback is maintained and available.

Standard 5.4

Monitoring

Each program, from the beginning of the Team Driving through the younger driver's 21st birthday, will have a viable monitoring component for each participant. It will include at least: a face-to-face visit with the trainee every three months; reviews of logs; tracking of accidents, moving violations, maintenance records; and out-of-service issues.

Standard 5.5

Tractor-Trailer Younger Driver Program Evaluation

Younger driver trainees' critiques of the program and of their trainer will be collected, analyzed, and used in program planning. Evaluations should be collected and processed after the school portion, the driver finisher portion, and the team portion of the program.

Standard 5.6

Completion

Completion criteria include successful completion of the full 48 week course of instruction (PTDI content and hours), including tests and road tests. CDL test batteries are acceptable as part of the testing requirement. Individual CDLs and containing employment with a carrier in the program also must be secured before graduation is conferred.

STANDARD 6 - RECORDS

Standard 6.1

In-Training Data

An "in-training" file is maintained for each driver trainee. The file must contain, but is not limited to, training records, test results, unit completion, and progress information such as achievement of objectives. Records are updated regularly and kept secure.

Standard 6.2

Permanent Records

Records of completers are kept for three years and securely maintained and protected against fire and other perils.

Standard 6.3

Behind-the-Wheel (BTW) Time

Each driver trainee keeps a "driver duty status record" or other appropriate document of time acknowledged by both the driver trainee and driver finishing trainer during the program. The record must denote separately drive time and supervised drive time as well as on-duty non-driving time.

Standard 6.4

DAC or Comparable System Reporting

Where appropriate, the carrier will enter new entry level drivers into the DAC or a comparable system at time of hire and remove them at time of departure.

STANDARD 7 - OUTCOMES AND PLANNING

Standard 7.1

Program Follow-Up

A follow-up system is used to determine how well the younger drivers perform as first-seat drivers at work. The follow-up system should produce data on and ensure useful information about needed additions and deletions to instruction and equipment. The information also should note reasons for non-employment. The follow-up system also should produce data on outcomes (graduation rate, CDL pass rate, employment rate, etc.) and assure useful information about needed additions and deletions to the curriculum and equipment. The information also should note reasons for non-employment.

Standard 7.2

Program Monitoring and Evaluation

Each carrier and school will collect and provide program evaluation information as required in the PTDI review protocol. Data include information from younger drivers and a sample of older new-entry drivers.

Program Standards Appendices

**APPENDIX A: PTDI APPLICATION FOR
INITIAL CERTIFICATION OR RECERTIFICATION**

Date _____
Organizational Name (as to be shown on lists, etc.) _____
Mailing Address _____
City _____ State _____ Zip _____
Physical Address (& Zip) _____

Younger Driver Program Director (Mr./Ms.) _____
Contact Person (during certification process) _____
Title _____
Telephone _____ Fax _____
President/C.E.O (Mr./Ms.) _____
Title _____

Additional Information for President/CEO if different from organizational addresses:

Full Address _____
Phone _____
Fax _____

NOTE: Program Evaluation Report (PER) will be sent to program director with copy to president/CEO.

Applicant is applying for:

Initial certification _____
Recertification _____

Questions:

Date carrier was established: _____
Date school was established: _____
Date younger driver training was initiated: _____ Date first class or group completed: _____
Number of driver trainees currently involved in total Younger Driver Program: _____
Number of driver trainees currently involved in Younger Driver Program being submitted? _____
Total length of Younger Driver Program being submitted? Hours _____ Weeks _____
Total number of classroom instruction hours excluding breaks? _____
Number of behind-the-wheel hours on the road of the program being submitted? _____
Number of driver trainee behind-the-wheel hours on the road with driver finishing trainer in the
second seat? _____
Number of driver trainees who completed the program in the last 12 months from the program(s)
submitted: _____

(continued)

Our program is currently licensed, authorized, or approved by (if applicable):

Government agency _____
Phone _____ Effective date _____ Expiration date _____

Our program is currently accredited or certified by (if applicable):

Agency or Institution Accreditation/Certification Date of Expiration
(list one)

* * * * *

In applying for certification, we understand a \$250 application fee and a \$500 certification fee must accompany the application. (NOTE: The \$500 is waived for recertifications.) Further, if the application is not accepted, it is understood the \$500 certification fee will be refunded but the application fee of \$250 will be used by PTDI to cover administrative costs of application review and processing. If reapplication is made within 12 months, however, our initial \$250 fee will be credited for the purpose of reapplication.

This application is made in full understanding and agreement with the various financial requirements upon applicants for certification as contained in the Estimated Cost for PTDI Certification and Recertification schedule attached.

The information contained in this application is correct to the best of our knowledge. We agree to make no promotional use of our application prior to granting of certification by the PTDI.

In signing this application, we specifically authorize the PTDI to publish information indicating that our program(s) has been certified. If the program(s) is not certified, we hereby authorize PTDI to state, only upon inquiry, that the organization applied for certification of its program(s), that certification was not granted, and the date of decision. PTDI may not disclose any other information regarding our organization.

PRESIDENT/CEO _____
Title _____
Signature _____

RETURN TO: Professional Truck Driver Institute
2200 Mill Road
Alexandria, VA 22314

FOR ADDITIONAL INFORMATION, CALL (703) 838-8842.

APPENDIX B: PROFESSIONAL TRUCK DRIVER INSTITUTE VERIFICATION OF ELIGIBILITY

I hereby certify that the (name of training organization)

(address) _____

meets the eligibility requirements for PTDI certification as indicated below:

1. Have successfully operated tractor-trailer driver training and/or driver finishing training programs for at least one uninterrupted year immediately prior to the date of application for certification.
2. Express the amount of training offered in hours and other clearly defined quantitative units of measurement that can be converted easily to hours.
3. Express expected driver trainee outcomes as competency-based performance criteria.
4. Use an identified staff of individuals who are actively involved in training.
5. Have a satisfactory safety rating (carrier requirement) from the Department of Transportation or its Canadian/Mexican equivalent.
6. Provide—directly and/or through linkages—a complete program of study including classroom/lab, range, and street instruction as well as a driver finishing program.
7. Accept only trainees who meet the requirements for the program as defined in the standard on trainee eligibility.
8. Have program partners whose driver training activities have achieved PTDI certification.
9. Have program partners who meet or exceed those standards for eligible schools and for eligible carriers, as defined in Program Standards.

ORGANIZATIONAL OFFICIAL:

Print or Type Name

Title

Signature

Date

TO: PTDI
2200 Mill Rd.
Alexandria, VA 22314

Telephone: 703-838-8842; Fax 703-836-6610

PART II:

Skill Standards for the Professional Solo Tractor-Trailer Driver

INTRODUCTION TO SKILL STANDARDS

Skill standards describe in detail the work and quality of work that truckers perform. The standards position our industry to continue to improve safety and be profitable into the next century, and they provide a basis for many of the materials and processes that we use in training and in performance assessment for workers in the industry.

Skill standards enable at least the following:

- Enable training providers to better plan and develop curriculum, assessment, and instructional materials.
- Encourage individual workers to set goals and to assess their progress toward those goals in terms of the things they know how to do as truck drivers.
- Allow employers to differentiate and market their product with confidence that the work done by their employees is of the best possible quality, uses the safest procedures, and the most productive available.
- Help the industry achieve international recognition for quality and indicate that the jobs performed by truck drivers are significant and well performed.
- Are the statements of what drivers must actually know and do on the job, as reported by the drivers themselves. Skill standards and curriculum standards are not the same thing. Skill standards are a “role map” of content for driver training programs to use as they develop curriculum and instructional exercises. Curriculum standards are what and how the schools teach their selected course content. Each has a role in ensuring mastery of the necessary skills and knowledge.

OVERVIEW

A set of standards for first-seat or solo professional tractor-trailer drivers follows. The standards describe the skill and knowledge base as well as the performance criteria critical for success as a **first-seat, solo driver**. The standards are based on information collected from high-performance drivers, as nominated by their companies throughout North America. The skills address issues ranging from managing life on the road to backing a tractor-trailer in traffic. The materials form a baseline from which to develop curriculum, instructional materials, exercises, and assessment routines in training.

APPROACH

The skill standards have been developed through a collaborative effort of schools, truck drivers, trucking firms, and trucking associations throughout the industry. The information builds from data originally created by the U.S. Department of Transportation and the Professional Truck Driver Institute (PTDI) about the tasks, skills, and duties necessary to be a successful truck driver. The process of updating that information involved performing an extended search of the literature; conducting extensive structured interviews with high-performing truck drivers; and involving truckers, trucking firm representatives, and driver/trainers in a survey and structured group interviews to document the importance and frequency of the skills, tasks, and knowledge suggested through the extended search and the initial structured group interviews.

The information then was compiled into a role map for truckers, which experts from trucking firms and schools reviewed and refined, and this was used as the basis of developing the skill standards. The standards then were reviewed and elaborated upon by owners and trainers from trucking firms, as well as teachers and school administrators from trucking schools.

The result is a set of standards that should be useful to guide the training and performance of first-seat, solo professional tractor-trailer drivers.

BENEFITS

The benefits arising from skill standards include specific outcomes useful to each of the major stakeholders in the industry. That is, there are benefits for employers, education and training providers, and individual workers. Each of those is expressed below.

For employers, skill standards will provide the following:

- Improve employee recruitment and retention by more clearly identifying skill requirements
- Encourage improved responsiveness and performance of education and training providers
- Enlarge the pool of skilled workers
- Focus attention on the importance of the training investment

For education and training providers, skill standards will provide the following:

- Provide information on changes in the modern workplace for all major industries and occupations
- Contribute to program and curriculum development by providing an inventory of critical work performances
- Strengthen the relationship between education and training providers and the trucking industry
- Help them communicate with students and workers to improve career planning

For trainees and workers, skill standards will provide the following:

- Help them make better decisions about careers and the training necessary to obtain well-paying jobs
- Allow them to communicate more effectively to an employer what they know and can do
- Allow them to work more effectively with employers in career development and skill upgrading

FORMAT

The following standards are for professional, first-seat solo tractor-trailer drivers. Standards are presented for each of the major duties or functions of truckers, as defined by the role map. Each standard contains a statement of the duty competency, a performance criterion, and a list of necessary elements for the duty. Knowledge required to perform the duty, attitude statements (if applicable), and the skill matrix are included in the appendices.

PRIMARY FUNCTIONS OR DUTIES: PROFESSIONAL TRACTOR-TRAILER DRIVER

A professional tractor-trailer driver should be able to perform the following functions:

1. Read and interpret control systems
2. Perform vehicle inspections
3. Exercise basic control
4. Execute shifting
5. Back and dock tractor-trailer
6. Couple trailer
7. Uncouple trailer
8. Perform visual search
9. Manage and adjust vehicle speed
10. Manage and adjust vehicle space relations
11. Check and maintain vehicle systems and components
12. Diagnose and report malfunctions
13. Identify potential driving hazards and perform emergency maneuvers
14. Identify and adjust to difficult and extreme driving conditions
15. Handle and document cargo
16. Deal with accident scenes and reporting procedures
17. Deal with environmental issues
18. Plan trips and make appropriate decisions
19. Use effective communication and public relations skills
20. Manage personal resources and deal with life on the road
21. Record and maintain Hours of Service requirements

SKILL STANDARDS

PERFORMANCE SKILL: READ AND INTERPRET CONTROL SYSTEMS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given the cab instrumentation and control panels of a typical truck tractor that the driver will operate,

Statement of Work to Be Performed:

The driver will identify, locate, read, and correctly interpret the typical vehicle instruments and controls of a tractor-trailer rig.

Performance Criteria:

- Identify and locate each of the vehicular driving controls and the various monitoring devices (gauges, alarms, lights, etc.) required to operate the vehicle safely and efficiently.
- Read instrument and gauge accurately within ± 1 unit of measure correctly each time.
- Operate control and switch correctly each time.
- Supplement gauge and control information with other data.
- Make appropriate adjustments for all types of company-specific equipment and operations.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA

1. Identify, locate, and read and operate each of the primary controls including those required for steering, accelerating, shifting, braking, and parking.
2. Identify, locate, and read and operate each of the secondary controls including those required for control of lights, signals, windshield wipers and washers, interior climate, engine starting and shutdown, suspension, and coupling.
3. Identify, locate, read and operate, and indicate the acceptable reading range of the various instruments required to monitor vehicle and engine speed as well as the status of fuel, oil, air, cooling, exhaust, and electrical systems.
4. Augment with displayed information from other sources, given that instruments may malfunction or not be entirely accurate.
5. Make appropriate adjustments for company-specific equipment, especially for various transmissions, engines, types of trailers, types of loads, and other factors.
6. Identify typical problem points in equipment specific to an individual carrier's operation.

PERFORMANCE SKILL: PERFORM VEHICLE INSPECTIONS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer truck and a trip,

Statement of Work to Be Performed:

The driver will conduct pre-trip, en route, and post-trip inspections of all types and correctly complete required reports.

Performance Criteria:

- Inspect and make a correct determination of the condition of various critical vehicle components, including instruments and controls; engine and drive train; chassis and suspension; steering system, braking system; tires; wheels and rims; lighting and signaling system; emergency equipment; and cargo securement device(s).
- Perform pre-trip inspections in a regular, systematic sequence that is legal, accurate, uniform, and time efficient.
- Perform en route inspections by checking mirrors for signs of trouble; checking connections, hoses, and gauges; and monitoring instruments and looking, listening, and feeling for indications of malfunctions.
- Make periodic roadside stop inspections of critical items, and meet en route requirements for transporting various cargoes.
- Perform post-trip inspections by making accurate notes of actual and suspected component abnormalities or malfunctions that occurred during the trip using a Vehicle Condition Report (VCR) or Vehicle Inspection Report (VIR).
- Refuse to operate a vehicle found to be in unsafe (for vehicle, drivers, and other road users) operating condition, either prior to a trip or en route.
- Deal with issues such as vehicle registration, permits, tags, road-based inspections, border crossings, scaling, and other situations.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Perform each type of inspection according to rules and policy and as adjusted for specific equipment or cargo.
2. Inspect and determine the condition of critical vehicle components, including the instrument and controls, engine and drive train, chassis and suspension, steering system, braking system, coupling system, emergency equipment, and cargo securement devices.
3. Perform pre-trip inspections in a regular, systematic sequence that is legal, accurate, uniform, and time efficient.

4. Perform en route inspections by checking mirrors for signs of trouble, monitoring instruments and looking, listening, and feeling for malfunctions, making periodic roadside inspections of critical components, and meeting en route requirements for transporting all types of cargo.
5. Perform post-trip inspections by making accurate notes of actual and suspected component abnormalities or malfunctions, accurately complete required reports in a timely fashion.
6. Deal effectively with all types of external inspections such as road-based inspections and border crossings, as well as issues such as permits, tags, vehicle registration, and so forth.

PERFORMANCE SKILL: EXERCISE BASIC CONTROL

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer rig, loaded or unloaded, a typical road surface, and a trip to make,

Statement of Work to Be Performed:

the driver will start, move (drive), and steer the tractor-trailer effectively and efficiently.

Performance Criteria:

- Start and drive tractor-trailer such that he/she scores acceptable proficiency rating on an operational checklist for basic controls in areas such as executing sharp left and right turns, centering the vehicle, and maneuvering in restricted areas.
- Keep tractor-trailer in center of traffic lane.
- Avoid obstacles on both sides, front, and back.
- Achieve smooth and effective acceleration and stopping.
- Position tractor-trailer to begin and complete turns in lane.
- Perform all necessary adjustments for equipment, cargo, and conditions.
- Demonstrate safe operating procedures.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Get into cab, adjust seat, and fasten seat belt.
2. Start, warm up, cool down, and shut off engine.
3. Make correct adjustments for company and cargo-specific equipment.
4. Monitor controls, mirrors, instruments, and gauges.
5. Get out and check position for obstructions, position, and paths or use appropriate spotters with clearly understood signals.
6. Judge path and clearances of trailer.
7. Activate warning flashers prior to moving into reverse gear. Tap horn periodically if tractor does not have a back-up alarm. (Keep window open and radio off.)
8. Position vehicle correctly before beginning a backing/docking maneuver.
9. Execute reverse steering of an articulated vehicle.
10. Back slowly (using idle speed) in straight and curved lines.
11. Check constantly on both sides and to the rear when backing—look in mirrors; watch for things that could tilt trailer; watch for overhead obstructions; watch behind tractor tires.
12. Pull up and start over when necessary.
13. Park trailer in jackknife and parallel positions.
14. Parallel park rig.
15. Use and adjust for sliding tandems on trailers.
16. Demonstrate correct use of speed control and engine brakes.
17. Demonstrate safe operating procedures for driving in all types of situations.
18. Demonstrate appropriate driving behavior for all types of high-risk areas, in various conditions, in different climates, and in unfamiliar surroundings.
19. Demonstrate company-appropriate and safe use of communication devices.

PERFORMANCE SKILL: EXECUTE SHIFTING

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a multi-speed, dual range transmission and any number of driving conditions (traffic, terrain, speed, and highway conditions),

Statement of Work to Be Performed:

The driver will execute proper, smooth, and efficient up and down shifting technique, matched to engine needs and safe operations for road and traffic conditions.

Performance Criteria:

- Match shifting to engine needs and safe operations for road conditions.
- Shift smoothly to protect equipment and to control vehicle while shifting.
- Shift to maximize fuel efficiency.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Shift up and down through all gears of multi-speed, dual range transmissions.
2. Double clutch and time shift for smooth and fuel-efficient performance.
3. Select proper gear for speed, terrain, turns, and highway conditions.
4. Avoid riding the clutch.
5. Demonstrate progressive shifting technique.
6. Demonstrate and explain skip shifting.
7. Demonstrate proper gear recovery.
8. Demonstrate how to stop in any gear.
9. Make appropriate adjustments for the typical company-specific equipment the driver will be operating.

PERFORMANCE SKILL: BACK AND DOCK TRACTOR-TRAILER

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer the driver operates in a specific carrier, a load, a route, or direction to back, and a place to park the rig,

Statement of Work to Be Performed:

The driver will back and dock the tractor-trailer safely and efficiently.

Performance Criteria:

- Back trailer on performance test to acceptable criteria with at least three 100' backs to within 6 inches of the dock.
- Back and park in restricted area within appropriate tolerances.
- Back in straight and curved lines within appropriate tolerances.
- Park at alley docks, in jackknife and parallel positions.
- Safely execute "blind-side" backing.
- Pull away from dock safely and efficiently.
- Execute backing and docking maneuvers in a reasonable amount of time.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Get out and check dock area for obstructions, position, and paths.
2. Judge path and clearances of trailer.
3. Activate warning flashers prior to moving into reverse gear. Tap horn periodically if tractor does not have a back-up alarm. (Keep window open and radio off.)
4. Position vehicle correctly before beginning a backing/docking maneuver.
5. Use appropriate spotter with clear signals, as necessary.
6. Avoid blind-side backing where/when possible; where blind-side backing must be done, get out and look at situation.
7. Execute reverse steering of an articulated vehicle.
8. Back slowly (using idle speed) in straight and curved lines.
9. Perform serpentine backing slowly and using idle speed.
10. Back into restricted space.
11. Constantly check when backing—look in mirrors; watch for things that could tilt trailer; watch for overhead obstructions; watch behind tractor tires.
12. Pull up and start over when necessary.
13. Park trailer in jackknife and parallel positions.
14. Parallel park rig.
15. Adjust to differences at a given customer location.
16. Follow audio and visual directions, as necessary, for authorized personnel.
17. Execute backing and docking maneuvers in a reasonable amount of time.

PERFORMANCE SKILL: COUPLE TRAILER

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given verbal or written instructions to connect to a specific trailer, given the trailer and the time for pick-up,

Statement of Work to Be Performed:

The driver will demonstrate safe coupling of typical tractor-trailer units.

Performance Criteria:

- Couple tractor-trailer units within a reasonable amount of time, often 8 to 10 minutes.
- Complete coupling in accord with safety requirements and approved practices.
- Complete coupling with secure connections, including air lines and electrical cables.
- Make specific adjustments to deal with company equipment, cargo needs, or rules/regulations.
- Check trailer and connections for correct load, connections, and conformance to regulations.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Check and adjust mirrors.
2. Check trailer numbers to ensure match of specific trailer to paperwork.
3. Align tractor and trailer units and back to position where fifth wheel plate just touches apron of trailer. Get out and check height of fifth wheel.
4. Secure trailer against movement and recheck trailer height.
5. Connect and check air lines.
6. Connect and check electrical cable.
7. Back tractor slowly and straight into trailer kingpin at right level and with appropriate force, check coupling and pin engagement.
8. Visually check kingpin to ensure connection has been made and locked in; also tug on trailer to check connection.
9. Check connection for security by pulling tractor forward gently. If it is okay, release brake; if not, secure connection.
10. Check for symptoms of improper/incomplete connections and make necessary adjustments.
11. Set in-cab air brake controls, retract and secure landing gear, and adjust mirrors and remove chocks (if used).
12. Deal with tandems, as necessary.
13. Make any necessary adjustments for company-specific equipment, state/provincial regulations, and/or for cargo to deal with weight distribution and axle limits, for example.

PERFORMANCE SKILL: UNCOUPLE TRAILER

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given verbal or written instructions about where and when to leave a trailer, and a trailer of any size attached to a tractor,

Statement of Work to Be Performed:

The driver will demonstrate safe uncoupling of typical tractor-trailer units.

Performance Criteria:

- Make any necessary adjustments for company-specific equipment, cargo, or location.
- Uncouple tractor-trailer units within a reasonable amount of time, often 5 to 7 minutes and in accordance with approved procedures.
- Complete uncoupling in accord with safety requirements and approved practices.
- Secure trailer from movement.
- Follow correct sequence for disconnecting electric lines and air hoses.
- Pull away safely and efficiently.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Spot trailer on surface capable of supporting weight, adjust for surface conditions, and secure vehicle against movement.
2. Set in-cab air brake controls and trailer brakes.
3. Lower gear to raise trailer to correct height and check support.
4. Let tension off the fifth wheel so it is easier to uncouple.
5. Uncouple trailer and disconnect dolly.
6. Disconnect and secure air and electrical units prior to uncoupling.
7. Pull tractor partially clear of trailer.
8. Secure tractor, check trailer supports and brakes/chocks.
9. Pull tractor completely clear of trailer.
10. Complete paperwork, as necessary.

PERFORMANCE SKILL: PERFORM VISUAL SEARCH

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer and a driving situation,

Statement of Work to Be Performed:

The driver will efficiently, effectively, and continually conduct a systematic visual search of the road for potential hazards and critical objects.

Performance Criteria:

- Demonstrate adequate, appropriate, and effective visual search technique by pointing out important obstacles in various types of traffic, as scored on the performance test, using the “commentary driving” technique.
- Demonstrate appropriate visual behavior by time (frequency) and locations checked.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Correctly adjust any type of rear view mirror to appropriate specifications.
2. Correctly calculate speed and distance to maintain a minimum 12 to 15 second eye lead time.
3. Scan both sides of the road using quick glances to observe roadside activity and vehicles nearby.
4. Check mirrors for hazards every few seconds, and always before changing speed or direction.
5. Check instrument panel frequently.
6. Look ahead as far as possible during turns and on curves.
7. Check to the side before turning or changing lanes.
8. Monitor overtaking traffic in order to be aware of vehicles behind and in blind spots.
9. Avoid diverting attention from the path ahead.
10. Maintain a straight-line path whenever necessary to divert attention/eyes from the path ahead.
11. Check all intersections and crossings using proper technique.
12. Recognize and adjust for blind spots and no-see zones.

PERFORMANCE SKILL: MANAGE AND ADJUST VEHICLE SPEED

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a tractor-trailer, a trip, and a route with varying conditions,

Statement of Work to Be Performed:

The driver will read/identify conditions, adjust speed, and manage speed effectively in response to various road, terrain, weather, and traffic conditions.

Performance Criteria:

- Adjust speed correctly to the configuration and condition of the roadway; terrain, weather, and visibility conditions; traffic conditions; and vehicle, cargo, and driver conditions.
- Maintain ramp speed 10 mph or more below posted speed, under ideal conditions; reduce ramp speed to 50 percent of posted speed for top-heavy loads.
- Obey the legal speed limit.
- Drive at speeds appropriate to road condition, traffic, and necessary stopping distances.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Judge maximum safe speed at which a curve and on/off ramps can be entered and adjust speed to under maximum.
2. Obey speed limit.
3. Maintain proper speed to manage the space around the truck from other vehicles.
4. Judge maximum safe speed that traction will permit and adjust speed accordingly.
5. Recognize and interpret all types of driving conditions and road surfaces.
6. Adjust speed appropriately and effectively to various conditions and load.
7. Judge and adjust maximum safe speed at which vehicle control can be maintained under traffic conditions, crosswinds, road conditions, weather conditions, and limited visibility.

PERFORMANCE SKILL: MANAGE AND ADJUST VEHICLE SPACE RELATIONS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer, a road, a route of travel, and traffic,

Statement of Work to Be Performed:

The driver will properly manage the space required for safe vehicle operation.

Performance Criteria:

- Select a lane offering the best mobility and least traffic interruption, in accordance with the law, to cause minimum interference to other vehicles.
- Ensure a safe gap before changing lanes, passing other vehicles, merging, and crossing or entering traffic; position vehicle correctly in the lane and relative to crosswalks so as to minimize hazards to other road users.
- Position tractor-trailer appropriately before initiating and completing a turn so as to prevent other vehicles from passing on the wrong side and to minimize encroachment on other lanes
- Maintain a following distance appropriate to traffic, road surface, visibility, and vehicle weight; maximize separation from traffic when vehicle is disabled.
- Avoid structures having inadequate overhead clearance.
- Demonstrate safe following distance guideline.
- Manage space in relationship to speed and speed in relationship to safe distance.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Explain basic formula for determining safe following distance.
2. Demonstrate capacity to use formula for safe following distances such as one second of following distance for each 10 feet of vehicle length plus one second for speeds above 40 mph.
3. Adjust following distances for loads, road conditions, environmental factors, and traffic density.
4. Judge adequacy of gaps in traffic for passing, crossing traffic, entering traffic, changing lanes, and dealing with vehicles moving at different speeds.
5. Use proper visual search techniques to determine and achieve appropriate space.
6. Properly position vehicle for making all driving moves and avoiding getting other drivers or pedestrians in the wrong spot.
7. Judge clearances on all sides of truck in motion, especially above the trailer.

PERFORMANCE SKILL: CHECK AND MAINTAIN VEHICLE SYSTEMS AND COMPONENTS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer rig, a trip, and a basic tool kit,

Statement of Work to Be Performed:

The driver will check each system function, correctly note indications of problems for various systems, and fix those within his/her jurisdiction. Systems to check include engine, steering, cooling, electrical, tires, fuel, air intake and exhaust systems, brakes, drive train, coupling systems, and suspension.

Performance Criteria:

- Explain proper range of function for all key vehicle systems.
- Check each component and vehicle system.
- Correct problems within jurisdiction.
- Explain company policy on maintenance.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Check and service engine, fuel, oil, coolant, power steering fluid, battery, and filters.
2. Perform simple emergency repairs to enable a vehicle to reach a maintenance facility.
3. Check tire air pressure.
4. Check for proper tire and wheel mounting. Report problem.
5. Drain moisture from air brake supply reservoirs and fuel system.
6. Check brakes. Report problems or adjust according to regulation, certification, and company policy.
7. Clean and replace light bulbs and lenses.
8. Change fuses and reset circuit breakers.
9. Differentiate among company policy for driver-controlled maintenance items, shop maintenance, and vendor maintenance.

PERFORMANCE SKILL: DIAGNOSE AND REPORT MALFUNCTIONS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer rig and either a description of problem symptoms or actual symptoms of poor performance ,

Statement of Work to Be Performed:

The driver will troubleshoot symptoms, identify vehicle malfunctions, and report problem.

Performance Criteria:

- Identify symptom and vehicle systems and match symptom to likely problem.
- Troubleshoot/identify problem, and/or identify if a problem exists.
- Report problem accurately and according to guidelines.
- Fix problems within jurisdiction of driver, as described by company policy and regulation.
- Follow company policy on repairs and reporting.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Know and recognize the types of issues or typical breakdowns for the company-specific equipment operated by the driver.
2. Check each component and vehicle system. Identify vehicle systems or components that are functioning properly, are in imminent danger of failing, or are functioning improperly.
3. Identify and interpret symptoms of malfunction.
4. Match symptom to possible list of problems.
5. Describe symptoms of improper operation completely and accurately to maintenance personnel.
6. Correct problems within jurisdiction.
7. Avoid attempting to perform maintenance for which driver is unqualified.
8. Follow company procedure for arranging for other repairs.
9. Properly report breakdowns occurring en route within company policy.
10. Properly complete a Vehicle Condition Report (VCR)/Vehicle Inspection Report (VIR).

PERFORMANCE SKILL: IDENTIFY POTENTIAL DRIVING HAZARDS AND PERFORM EMERGENCY MANEUVERS
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PERFORMANCE SKILL STANDARD**Conditions of Performance:**

Given a typical tractor-trailer rig, a trip, and any number of potential problems,

Statement of Work to Be Performed:

the driver will recognize the potential dangers in the driving environment and take appropriate action(s) before the dangers develop into emergency situations, or will respond appropriately to an emergency.

Performance Criteria:

- Identify road conditions and other road users that are a potential threat to the safety of the tractor-trailer.
- Suggest appropriate adjustments, as indicated by passing a written test on the topic or demonstrating skill.
- Explain causes of and techniques to avoid skids and jackknives.
- Explain how to safely manage a skid.
- Demonstrate through proper speed and space management and proper acceleration and braking techniques that he/she should be able to avoid a skid.
- Explain how to perform emergency evasive maneuvers.
- Explain what to do in case of a front axle blowout.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Perceive immediately a potential threat from visible characteristics and actions of other road users, road conditions, and the environment.
2. Match and initiate prompt defensive or evasive action.
3. Use proper evasive steering techniques.
4. Practice good visual search techniques.
5. Identify and explain situations where skids and jackknives are likely.
6. Use brakes in a manner that will stop the vehicle in the shortest possible distance while maintaining directional control.
7. Oversteer and countersteer out of a skid in a way that will regain directional control and not produce another skid.
8. Operate brakes properly to provide maximum braking without loss of control.
9. Judge maximum safe speed for slippery surface conditions.
10. Deal with blowout with proper steering and stopping.
11. Maintain control.

PERFORMANCE SKILL: IDENTIFY AND ADJUST TO DIFFICULT AND EXTREME DRIVING CONDITIONS

PERFORMANCE SKILL STANDARD**Conditions of Performance:**

Given a typical tractor-trailer rig, a load, a route, and a set of difficult or extreme driving conditions,

Statement of Work to Be Performed:

The driver will identify the conditions and make the appropriate defensive adjustments before the dangers develop into emergency situations.

Performance Criteria:

- Explain and demonstrate correct defensive adjustments for at least the following conditions:
 - * night operations
 - * cold weather operation
 - * hot weather operation
 - * mountainous terrain
 - * wet conditions
 - * windy conditions
 - * foggy conditions

- Check for weather information before and during trip.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:**Night Operations**

1. Judge and adjust speed, distances, and separation under nighttime conditions so as to operate safely and not overrun headlights/outdrive visibility.
2. Demonstrate improved scanning technique.
3. Use high beams legally; dim headlights in accord with law and safety.
4. Respond safely to glare of other vehicles.
5. Manage driver's fatigue.
6. Use proper signaling techniques.
7. Make appropriate physical adjustments for night operation such as cleaning mirrors and lights, removing glasses, taking frequent breaks, and so forth.

Cold Weather

8. Prepare for operation in cold weather, including removing snow and ice from windows, mirrors, brakes, lights, and hand holds.
9. Inspect for cold weather operation by paying special attention to coolant level and mixture, heater, defrosters, wipers, washers, tire tread, brakes, lights, reflectors, wiring system, hoses, fuel, exhaust system, and fifth wheel.
10. Make sure that moisture is expelled from the air tanks after each trip.
11. Check weather information before and during trips and adjust plan accordingly.
12. Check for ice accumulation (and remove it) on brakes, air hoses, electrical wiring, and radiator shutters during operation.
13. Adjust operation of vehicle to weather conditions and ice, including speed selection, braking, direction changes, and following distance to maintain control and avoid jackknifing.
14. Ensure safe operation of brakes after driving through deep water.

15. Use windshield wipers, washers, and defrosters to maintain visibility.
16. Start engine in cold weather.
17. Observe road surface for changes in conditions.
18. Continually check for changing road conditions and adjust rate of change in speed and direction to road conditions to avoid skidding.
19. Coordinate acceleration and shifting to overcome the resistance of snow, sand, and mud.
20. Carry additional food, water, and clothing to deal with “stop” situations.
21. Deal with fuel mixtures and additive for extreme cold weather.

Hot Weather

22. Check tires, lubrication, levels and operation of cooling system, fan belts, fans, and hoses and check the radiator for debris.
23. Carry an ample supply of drinking water.
24. Inspect tires frequently.
25. Avoid leaving the vehicle if it is disabled in the desert.

Mountains

26. Check brake adjustment prior to mountain driving.
27. Use right lane or special truck lane going up grades.
28. Place transmission in appropriate gear for engine braking before starting downgrade.
29. Use proper braking technique and maintain proper engine braking before starting downgrades.
30. Use special speed reduction devices properly; e.g., engine brakes.
31. Use truck escape ramp, if available, when brakes fail on a downgrade.
32. Observe temperature gauge frequently when pulling heavy loads up long grades.
33. Use four-way flashers.

Fog

34. Use lights appropriately.
35. Adjust speed and distance for safe operations.
36. Do not drive on another driver’s lights; if unable to see safe following distance, stop.

PERFORMANCE SKILL: HANDLE AND DOCUMENT CARGO

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical trailer, a typical load, and a “bill of lading” or cargo list,

Statement of Work to Be Performed:

The driver will perform all cargo handling safely and complete documentation procedures accurately.

Performance Criteria:

- Verify nature, amount, and condition of cargo on both pick-up and delivery.
- Verify load is distributed and tied down correctly to meet legal and safety requirements.
- Verify information on “bill of lading” and properly record and report discrepancies and damage to the cargo.
- Obtain appropriate signatures on delivery receipts and other required forms.
- Properly prepare a manifest.
- Move heavy loads safely, as verified by a performance test.
- Obtain hazardous materials endorsement prior to carrying hazardous materials.
- Follow company procedure on handling cargo.
- Ensure safe and secure locations to park and/or drop trailer.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Prepare manifest, as required.
2. Verify cargo types, nature, amount, and condition on pick-up and delivery.
3. Verify seals, if used.
4. Cover cargo, as necessary.
5. Obtain appropriate signatures.
6. Verify information on “bill of lading” and properly record/report discrepancies and damage.
7. Adjust/verify that load distribution on trailer fits within regulations.
8. Adjust/verify that labels and placards match load paperwork to meet regulations; correct placards, as necessary.
9. Safely operate common types of cargo handling equipment; demonstrate correct use of cargo handling equipment such as a non-powered pallet jack.
10. Select proper sizes of chain, cable, nylon webbing, steel strapping, or rope.
11. Secure load with chains, cables, webbing, or strapping and correctly use the binding system.
12. Block and brace cargo properly.
13. Stop to inspect cargo, according to regulations.
14. Demonstrate knowledge of proper lifting techniques required to safely load and unload cargo.
15. Adjust controls or elements of tractor and/or trailer for cargo and load.
16. Ensure safe and secure locations to park and/or drop cargo.
17. Open, close, and secure doors safely and appropriately.
18. Choose routes and stops to avoid theft risk.

PERFORMANCE SKILL: DEAL WITH ACCIDENT SCENES AND REPORTING PROCEDURES
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PERFORMANCE SKILL STANDARD**Conditions of Performance:**

Given an accident on the road,

Statement of Work to Be Performed:

The driver will follow safe and legal procedures at an accident scene and properly report accidents, all according to company procedure.

Performance Criteria:

- Pass a written or oral test on procedures, achieving a score of at least 80 percent correct on accident procedures. Among the topics to include are guarding the scene of an accident to prevent further injury or damage and obtain assistance; obtaining all information needed for accident reports to law enforcement, the employer, and the insurance company; rendering assistance to any injured parties, including providing first aid, provided he/she has had proper training; extinguishing fire including cargo, engine, electrical, and tire fires; and discussing liability only with law enforcement, the company, or the company's representative.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Stop and park truck in safe location.
2. Notify police; call for assistance; call company; place warning devices.
3. Apply first aid and CPR procedures as necessary, especially in relation to shock, resuscitation, and stopping bleeding.
4. Protect injured persons from others, except from trained emergency personnel.
5. Choose and operate fire extinguishers correctly.
6. Protect self from blood-borne pathogens.
7. Direct traffic, as necessary.
8. Obtain information for accident reporting, including photographs.
9. Discuss accident details only with appropriate officials.
10. Make sure any truck cargo that is spilled is cleaned up. Arrange for cleanup as necessary. If hazardous materials are involved, call appropriate authorities.
11. Stay at scene until law enforcement and company say it is okay to leave.
12. Follow company policy on issues involving accidents.

PERFORMANCE SKILL: DEAL WITH ENVIRONMENTAL ISSUES

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a typical tractor-trailer rig and a trip,

Statement of Work to Be Performed:

The driver will recognize environmental hazards/issues and obligations and act to meet responsibilities.

Performance Criteria:

- Identify hazard and match correct response with problems as written on a situational test.
- Indicate idle requirements and demonstrate how to monitor and adjust to them.
- Follow company policy and regulations on environmental issues.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Check hoses, couplings, and other components that may contribute to environmental issues.
2. Monitor idle time and make appropriate adjustments.
3. Check regularly for signs of leaks.
4. Fuel carefully to avoid spills.
5. Recognize and report spills en route.
6. Make appropriate adjustments in operation, especially idle, as indicated in state/provincial regulations.
7. Act to mitigate spill as indicated by company policy and the Emergency Response Guide.

PERFORMANCE SKILL: PLAN TRIPS AND MAKE APPROPRIATE DECISIONS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given proposed trip orders, loads, and resources

Statement of Work to Be Performed:

the driver will lay out and plan trips attending to breaks, sleep, permits, regulations, money, fuel, weather, time of arrival, and other issues, as necessary.

Performance Criteria:

- Follow regulations.
- Correctly identify necessary/required permits.
- Estimate time of arrival to within 30 minutes.
- Identify fuel stops.
- Calculate and budget money correctly to within \$10.
- Choose most effective route for time, budget, load, and conditions.
- Identify and prepare for all adjustments such as bridge regulations, anticipated traffic conditions, weather, scales, and so forth.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Plan a route from one point to another that is optimal in terms of travel time; fuel costs; potential hazards; and federal, state, and local travel restrictions.
2. Arrange to secure permits required by the nature of the vehicle, its cargo, and route to be traveled.
3. Arrange a secure place for vehicle on layovers, especially when transporting hazardous materials.
4. Use math to calculate miles, fuel use, and expenses.
5. Interpret maps and regulations.
6. Estimate travel time and plan rest stops and layovers to ensure adequate rest.
7. Estimate fuel consumption and plan fuel stops.
8. Estimate needed expense money and obtain funds and/or company credit cards.
9. Accurately document expenses according to policy and regulation.
10. Scale loads and properly adjust fifth wheel and tandems as required.
11. Properly use a truckers atlas.

PERFORMANCE SKILL: USE EFFECTIVE COMMUNICATION AND PUBLIC RELATIONS SKILLS

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a trip order, a truck, and a route,

Statement of Work to Be Performed:

the driver will communicate effectively with all those around him/her as well as those with whom the driver must communicate to complete his/her work.

Performance Criteria:

- Convey clear intentions so message receiver knows intention.
- Deal effectively with dispatch; receive and send clear messages from/to dispatcher with on-board devices.
- Present a good public image.
- Follow company policy when communicating/using communication equipment.
- Demonstrate good "customer service skills."

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Signal intentions such as lane changes, hazards, and backing up.
2. Use horn, headlights, and other lights appropriately.
3. Establish and use eye contact with drivers and pedestrians as a warning.
4. Avoid making decisions only on basis of another's signal.
5. Interact tactfully with customers and general public, family, and company.
6. Use effective and appropriate conversation with customers, company personnel, and family.
7. Use on-board communication devices. To extent possible, operate devices when vehicle is not moving. Follow company policy around this issue.
8. Ask effective questions, including clarifying questions.
9. Avoid directing traffic while operating vehicle.
10. Use conflict resolution techniques to help resolve issues with others.
11. Demonstrate good customer service skills.

**PERFORMANCE SKILL: MANAGE PERSONAL RESOURCES AND
DEAL WITH LIFE ON THE ROAD**

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a trip over the road that requires days and nights away from home,

Statement of Work to Be Performed:

the driver will actively manage own life and resources so as to take care of self and job, as well as meet responsibilities.

Performance Criteria:

- Correctly identify problems and strategies that deal effectively with personal resources by describing, demonstrating, and matching problems and solutions for issues such as
 - * fatigue
 - * diet
 - * exercise
 - * personal hygiene
 - * stress
 - * financial issues
 - * free time/entertainment
 - * your family

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Employ fatigue-reducing strategies.
2. Use stress-reducing techniques, as needed.
3. Exercise restraint with diet and recreation while on the road.
4. Get exercise while on the road.
5. Make good decisions about where to stop and stay; remain always aware of surroundings.
6. Practice good personal hygiene.
7. Practice good communication skills with family.
8. Manage financial resources prudently, both those of self and of company.
9. Actively work to resolve conflict with company or within family.
10. Find effective ways to stay connected to family or significant others and to company.
11. Manage rest time, given the circumstances, so that loads can be picked up and delivered in compliance with federal motor carrier rules.
12. Establish support group for family when driver is on road.

**PERFORMANCE SKILL: RECORD AND MAINTAIN HOURS OF SERVICE
REQUIREMENTS**

PERFORMANCE SKILL STANDARD

Conditions of Performance:

Given a trip and a tractor-trailer,

Statement of Work to Be Performed:

The driver will adhere to the legal requirements of the "Hours of Service Regulations" and complete a driver's daily log and logbook recap.

Performance Criteria:

- Comply with Hours of Service requirements.
- Maintain a complete, neat, and accurate driver's daily log and logbook recap.
- Perform all necessary calculations correct to the closest quarter (1/4) hour.

PERFORMANCE ELEMENTS AND ASSESSMENT CRITERIA:

1. Interpret Hours of Service regulations correctly.
2. Use and follow Hours of Service regulations correctly.
3. Keep time accurately.
4. Perform arithmetic calculations necessary to recap and apply totals to the Hours of Service regulations.
5. Determine driving hours remaining on a particular day or tour of duty.
6. Keep pick-up and delivery record.

Skills Standards Appendices

APPENDIX A: SKILL MATRIX

Read and Interpret Control Systems

1. Identify, locate, and read and operate each of the primary controls including those required for steering, accelerating, shifting, braking, and parking.
2. Identify, locate, and read and operate each of the secondary controls including those required for control of lights, signals, windshield wipers and washers, interior climate, engine starting and shutdown, suspension, and coupling.
3. Identify, locate, read and operate, and indicate the acceptable reading range of the various instruments required to monitor vehicle and engine speed as well as the status of—fuel, oil, air, cooling, exhaust, and electrical systems.
4. Augment with displayed information from other sources, given that instruments may malfunction or not be entirely accurate.
5. Make appropriate adjustments for company-specific equipment, especially for various transmissions, engines, types of trailers, types of loads, and other factors.
6. Identify typical problem points in equipment specific to an individual carrier's operation.

Perform Vehicle Inspections

1. Perform each type of inspection according to rules and policy and as adjusted for specific equipment or cargo.
2. Inspect and determine the condition of critical vehicle components, including the instrument and controls, engine and drive train, chassis and suspension, steering system, braking system, coupling system, emergency equipment, and cargo securement devices.
3. Perform pre-trip inspections in a regular, systematic sequence that is legal, accurate, uniform, and time efficient.
4. Perform en route inspections by checking mirrors for signs of trouble, monitoring instruments and looking, listening, and feeling for malfunctions, making periodic roadside inspections of critical components, and meeting en route requirements for transporting all types of cargo.
5. Perform post-trip inspections by making accurate notes of actual and suspected component abnormalities or malfunctions, accurately complete required reports in a timely fashion.
6. Deal effectively with all types of external inspections such as road-based inspections and border crossings, as well as issues such as permits, tags, vehicle registration, and so forth.

Exercise Basic Control

1. Get into cab, adjust seat, and fasten seat belt.
2. Start, warm up, cool down, and shut off engine.
3. Get out and check position for obstructions, position, and paths or use appropriate spotters with clearly understood signals.
4. Make correct adjustments for company and cargo-specific equipment.
5. Monitor controls, mirrors, instruments, and gauges.
6. Judge path and clearances of trailer.
7. Activate warning flashers prior to moving into reverse gear. Tap horn periodically if tractor does not have a back-up alarm. (Keep window open and radio off.)
8. Position vehicle correctly before beginning a backing/docking maneuver.
9. Execute reverse steering of an articulated vehicle.
10. Back slowly (using idle speed) in straight and curved lines.
11. Check constantly on both sides and to the rear when backing—look in mirrors; watch for things that could tilt trailer; watch for overhead obstructions; watch behind tractor tires.
12. Pull up and start over when necessary.
13. Park trailer in jackknife and parallel positions.
14. Parallel park rig.
15. Use and adjust for sliding tandems on trailers.
16. Demonstrate correct use of speed control and engine brakes.
17. Demonstrate safe operating procedures for driving in all types of situations.
18. Demonstrate appropriate driving behavior for all types of high-risk areas, in various conditions, in different climates, and in unfamiliar surroundings.
19. Demonstrate company-appropriate and safe use of communication devices.

Execute Shifting

1. Shift up and down through all gears of multi-speed, dual range transmissions.
2. Double clutch and time shift for smooth and fuel-efficient performance.
3. Select proper gear for speed, terrain, turns, and highway conditions.
4. Avoid riding the clutch.
5. Demonstrate progressive shifting technique.
6. Demonstrate and explain skip shifting and deep clutching.
7. Demonstrate proper gear recovery.
8. Demonstrate how to stop in any gear.
9. Make appropriate adjustments for the typical company-specific equipment the driver will be operating.

Back and Dock Trailer

1. Get out and check dock area for obstructions, position, and paths.
2. Judge path and clearances of trailer.
3. Activate warning flashers prior to moving into reverse gear. Tap horn periodically if tractor does not have a back-up alarm. (Keep window open and radio off.)
4. Position vehicle correctly before beginning a backing/docking maneuver.
5. Position spotter properly and agree on appropriate hand signals.
6. Avoid blind-side backing where/when possible; where blind-side backing must be done, get out and look at situation.
7. Execute reverse steering of an articulated vehicle.
8. Back slowly (using idle speed) in straight and curved lines.
9. Perform serpentine backing slowly and using idle speed.
10. Back into restricted space.
11. Constantly check when backing—look in mirrors; watch for things that could tilt trailer; watch for overhead obstructions; watch behind tractor tires.
12. Pull up and start over when necessary.
13. Park trailer in jackknife and parallel positions.
14. Parallel park rig.
15. Adjust to differences at a given customer location.
16. Follow audio and visual directions, as necessary, from authorized personnel.
17. Execute backing and docking maneuvers in a reasonable amount of time.

Couple Trailer

1. Check and adjust mirrors.
2. Check trailer numbers to ensure match of specific trailer to paperwork.
3. Align tractor and trailer units and back to position where fifth wheel plate just touches apron of trailer. Get out and check height of trailer in relationship to fifth wheel.
4. Secure trailer against movement and recheck trailer height.
5. Connect and check air lines.
6. Connect and check electrical cable.
7. Back tractor slowly and straight into trailer kingpin at right level and with appropriate force, check coupling and pin engagement.
8. Visually check kingpin to ensure connection has been made and locked in; also tug on trailer to check connection.
9. Check connection for security by pulling tractor forward gently. If it is okay, release brake; if not, secure connection.
10. Check for symptoms of improper/incomplete connections and make necessary adjustments.
11. Set in-cab air brake controls, retract and secure landing gear, and adjust mirrors and remove chocks (if used).
12. Deal with tandems, as necessary.
13. Make any necessary adjustments for company-specific equipment, state/provincial regulations, and/or for cargo to deal with weight distribution and axle limits, for example.
14. Check trailer lights, brakes, security and load before entering road.

Uncouple Trailer

1. Spot trailer on surface capable of supporting weight, adjust for surface conditions, and secure vehicle against movement.
2. Set in-cab air brake controls and trailer brakes.
3. Lower gear to raise trailer to correct height; check support and make sure both legs come down.
4. Let tension off the fifth wheel so it is easier to uncouple; pull the safety latch.
5. Uncouple trailer and remove/disconnect dolly.
6. Disconnect and secure air and electrical lines to back of cab prior to uncoupling.
7. Pull tractor partially clear of trailer.
8. Secure tractor, check trailer supports and brakes/chocks.
9. Pull tractor completely clear of trailer.
10. Complete paperwork, as necessary.

Perform Visual Search

11. Correctly adjust any type of rear view mirror to appropriate specifications.
12. Correctly calculate speed and distance to maintain a minimum 12 to 15 second eye lead time.
13. Scan both sides of the road using quick glances to observe roadside activity and vehicles nearby.
14. Let tension off the fifth wheel so it is easier to uncouple.
15. Check mirrors for hazards every few seconds, and always before changing speed or direction.
16. Check instrument panel frequently.
17. Look ahead as far as possible during turns and on curves.
18. Check to the side before turning or changing lanes.
19. Monitor overtaking traffic in order to be aware of vehicles behind and in blind spots.
20. Avoid diverting attention from the path ahead.
21. Maintain a straight-line path whenever necessary to divert attention/eyes from the path ahead.
22. Check all intersections and crossings using proper technique.
23. Recognize and adjust for blind spots and no-see zones.

Manage and Adjust Vehicle Speed

1. Judge maximum safe speed at which a curve and on/off ramps can be entered and adjust speed to under maximum.
2. Obey speed limit.
3. Maintain proper speed to manage the space around the truck from other vehicles.
4. Judge maximum safe speed that traction will permit and adjust speed accordingly.
5. Recognize and interpret all types of driving conditions and road surfaces.
6. Adjust speed appropriately and effectively to various conditions and load.
7. Judge and adjust maximum safe speed at which vehicle control can be maintained under traffic conditions, crosswinds, road conditions, weather conditions, and limited visibility.

Manage and Adjust Vehicle Space Relations

1. Explain basic formula for determining safe following distance.
2. Demonstrate capacity to use formula for safe following distances such as one second of following distance for each 10 feet of vehicle length plus one additional second for speeds above 40 mph.
3. Adjust following distances for loads, road conditions, environmental factors, and traffic density.

4. Judge adequacy of gaps in traffic for passing, crossing traffic, entering traffic, changing lanes, and dealing with vehicles moving at different speeds.
5. Use proper visual search techniques to determine and achieve appropriate space.
6. Properly position vehicle for making all driving moves and avoiding getting other drivers or pedestrians in the wrong spot.
7. Judge clearances on all sides of truck in motion, especially above the trailer.

Check and Maintain Vehicle Systems and Components

1. Check and service engine, fuel, oil, coolant, power steering fluid, battery, and filters.
2. Perform simple emergency repairs to enable a vehicle to reach a maintenance facility.
3. Check tire air pressure.
4. Check for proper tire and wheel mounting. Report problem.
5. Drain moisture from air brake supply reservoirs and fuel system.
6. Check brakes. Report problems or adjust according to regulation, certification, and company policy.
7. Clean and replace light bulbs and lenses.
8. Change fuses and reset circuit breakers.
9. Differentiate among company policy for driver-controlled maintenance items, shop maintenance, and vendor maintenance.

Diagnose and Report Malfunctions

1. Know and recognize the types of issues or typical breakdowns for the company-specific equipment operated by the driver.
2. Check each component and vehicle system. Identify vehicle systems or components that are functioning properly, are in imminent danger of failing, or are functioning improperly.
3. Identify and interpret symptoms of malfunction.
4. Match symptom to possible list of problems.
5. Describe symptoms of improper operation completely and accurately to maintenance personnel.
6. Correct problems within jurisdiction.
7. Avoid attempting to perform maintenance for which driver is unqualified.
8. Follow company procedure for arranging for other repairs.
9. Properly report breakdowns occurring en route.
10. Properly complete a Vehicle Condition Report (VCR)/Vehicle Inspection Report (VIR).

Identify Potential Driving Hazards and Perform Emergency Maneuvers

1. Perceive immediately a potential threat from visible characteristics and actions of other road users, road conditions, and the environment.
2. Match and initiate prompt defensive or evasive action.
3. Use proper evasive steering techniques.
4. Practice good visual search techniques.
5. Identify and explain situations where skids and jackknifes are likely.
6. Use brakes in a manner that will stop the vehicle in the shortest possible distance while maintaining directional control.
7. Oversteer and countersteer out of a skid in a way that will regain directional control and not produce another skid.
8. Operate brakes properly to provide maximum braking without loss of control.
9. Judge maximum safe speed for slippery surface conditions.
10. Deal with blowout with proper steering and stopping.

11. Maintain control.

Identify and Adjust to Difficult and Extreme Driving Conditions

Night Operations

1. Judge and adjust speed, distances, and separation under nighttime conditions so as to operate safely and not overrun headlights/outdrive visibility.
2. Demonstrate improved scanning technique.
3. Use high beams legally; dim headlights in accord with law and safety.
4. Respond safely to glare of other vehicles.
5. Manage driver's fatigue.
6. Use proper signaling techniques.
7. Make appropriate physical adjustments for night operation such as cleaning mirrors and lights, removing glasses, taking frequent breaks, and so forth.

Cold Weather

8. Prepare for operation in cold weather, including removing snow and ice from windows, mirrors, brakes, lights, and hand holds.
9. Inspect for cold weather operation by paying special attention to coolant level and mixture, heater, defrosters, wipers, washers, tire tread, brakes, lights, reflectors, wiring system, hoses, fuel, exhaust system, and fifth wheel.
10. Make sure that moisture is expelled from the air tanks after each trip.
11. Check weather information before and during trips and adjust plan accordingly.
12. Check for ice accumulation (and remove it) on brakes, air hoses, electrical wiring, and radiator shutters during operation.
13. Adjust operation of vehicle to weather conditions and ice, including speed selection, braking, direction changes, and following distance to maintain control and avoid jackknifing.
14. Ensure safe operation of brakes after driving through deep water.
15. Use windshield wipers, washers, and defrosters to maintain visibility.
16. Start engine in cold weather.
17. Observe road surface for changes in conditions.
18. Continually check for changing road conditions and adjust rate of change in speed and direction to road conditions to avoid skidding.
19. Coordinate acceleration and shifting to overcome the resistance of snow, sand, and mud.
20. Carry additional food, and clothing to deal with "stop" situations.
21. Deal with fuel mixtures and additive for extreme cold weather.

Hot Weather

22. Check tires, lubrication, levels and operation of cooling system, fan belts, fans, and hoses and check the radiator for debris.
23. Carry an ample supply of drinking water.
24. Inspect tires frequently.
25. Avoid leaving the vehicle if it is disabled in the desert.

Mountains

26. Check brake adjustment prior to mountain driving.
27. Use right lane or special truck lane going up grades.
28. Place transmission in appropriate gear for engine braking before starting downgrade.
29. Use proper braking technique and maintain proper engine braking before starting downgrades.
30. Use special speed reduction devices properly; (e.g., engine brakes).
31. Use truck escape ramp, if available, when brakes fail on a downgrade.
32. Observe temperature gauge frequently when pulling heavy loads up long grades.
33. Use four-way flashers.

Fog

34. Use lights appropriately.

35. Adjust speed and distance for safe operations.
36. Do not drive on another driver's lights; if unable to see safe following distance, stop.

Handle and Document Cargo

1. Prepare manifest, as required.
2. Verify cargo types, nature, amount, and condition on pick-up and delivery.
3. Verify seals, if used.
4. Cover cargo, as necessary.
5. Obtain appropriate signatures.
6. Verify information on "bill of lading" and properly record and report discrepancies and damage.
7. Adjust and verify that load distribution on trailer fits within regulations.
8. Adjust and verify that labels and placards match load paperwork to meet regulations; correct placards, as necessary.
9. Safely operate common types of cargo handling equipment; demonstrate correct use of cargo handling equipment such as a non-powered pallet jack.
10. Select proper sizes of chain, cable, nylon webbing, steel strapping, or rope.
11. Secure load with chains, cables, webbing, or strapping and correctly use the binding system.
12. Block and brace cargo properly.
13. Stop to inspect cargo, according to regulations.
14. Demonstrate knowledge of proper lifting techniques required to safely load and unload cargo.
15. Adjust controls or elements of tractor and/or trailer for cargo and load.
16. Ensure safe and secure locations to park and/or drop cargo.
17. Open, close, and secure doors safely and appropriately.
18. Choose routes and stops to avoid theft risk.

Deal with Accident Scenes and Reporting Procedures

1. Stop and park truck in safe location.
2. Notify police; call for assistance; call company; place warning devices.
3. Apply first aid and CPR procedures as necessary, especially in relation to shock, resuscitation, and stopping bleeding.
4. Protect injured persons from others, except from trained emergency personnel.
5. Choose and operate fire extinguishers correctly.
6. Protect self from blood-borne pathogens.
7. Direct traffic, as necessary.
8. Obtain information for accident reporting, including photographs.
9. Discuss accident details only with appropriate officials.
10. Make sure any truck cargo that is spilled is cleaned up. Arrange for cleanup as necessary. If hazardous materials are involved, call appropriate authorities.
11. Stay at scene until law enforcement and company say it is okay to leave.
12. Follow company policy on issues involving accidents.

Deal with Environmental Issues

1. Check hoses, couplings, and other components that may contribute to environmental issues.
2. Monitor idle time and make appropriate adjustments.
3. Check regularly for signs of leaks.
4. Fuel carefully to avoid spills.
5. Recognize and report spills en route.
6. Make appropriate adjustments in operation, especially idle, as indicated in state/provincial regulations.
7. Act to mitigate/control spill as indicated by company policy and the Emergency Response Guide.

Plan Trips and Make Appropriate Decisions

1. Plan a route from one point to another that is optimal in terms of travel time; fuel costs; potential hazards; and federal, state, and local travel restrictions.
2. Arrange to secure permits required by the nature of the vehicle, its cargo, and route to be traveled.
3. Arrange a secure place for vehicle on layovers, especially when transporting hazardous materials.
4. Use math to calculate miles, fuel use, and expenses.
5. Interpret maps.
6. Estimate travel time and plan rest stops and layovers to ensure adequate rest.
7. Estimate fuel consumption and plan fuel stops.
8. Estimate needed expense money and obtain funds and/or company credit cards.
9. Accurately document expenses according to policy and regulation.
10. Scale loads and properly adjust fifth wheel and tandems as required.
11. Properly use truckers atlas.

Use Effective Communication and Public Relations Skills

1. Signal intentions such as lane changes, hazards, and backing up.
2. Use horn, headlights, and other lights appropriately.
3. Establish and use eye contact with drivers and pedestrians as a warning.
4. Avoid making decisions only on basis of another's signal.
5. Interact tactfully with customers and general public, family, and company.
6. Use effective and appropriate conversation with customers, company personnel, and family.
7. Use on-board communication devices. To extent possible, operate devices when vehicle is not moving. Follow company policy around this issue.
8. Ask effective questions, including clarifying questions.
9. Avoid directing traffic while operating vehicle.
10. Use conflict resolution techniques to help resolve issues with others.
11. Demonstrate good customer service skills.

Manage Personal Resources and Deal with Life on the Road

1. Employ fatigue-reducing strategies.
2. Use stress-reducing techniques, as needed.
3. Exercise restraint with diet and recreation while on the road.
4. Get exercise while on the road.
5. Make good decisions about where to stop and stay; remain always aware of surroundings.
6. Practice good personal hygiene.
7. Practice good communication skills with family.
8. Manage financial resources prudently, both those of self and of company.
9. Actively work to resolve conflict with company or within family.
10. Find effective ways to stay connected to family/significant others and to company.
11. Manage rest time, given the circumstances, so that loads can be picked up and delivered in compliance with federal motor carrier rules.
12. Establish support group for family when driver is on road.

Record and Maintain Hours of Service Requirements

1. Interpret Hours of Service regulations correctly.
2. Use and follow Hours of Service regulations correctly.
3. Keep time accurately.
4. Perform arithmetic calculations necessary to recap and apply totals to the Hours of Service regulations.
5. Determine driving hours remaining on a particular day or tour of duty.

6. Keep pick-up and delivery record.

APPENDIX B: RELATED SKILLS AND KNOWLEDGE

Duty

Read and Interpret Control Systems

Knowledge

Identify, locate, and explain function of each of the primary controls including those required for steering, accelerating, shifting, braking, and parking.

Identify, locate, and explain function of each of the secondary controls including those required for control of lights, signals, windshield wipers and washers, interior climate, engine starting and shutdown, suspension, and coupling.

Identify, locate, explain, and indicate the acceptable reading range of the various instruments required to monitor vehicle and engine speed as well as the status of fuel, oil, air, cooling, exhaust, and electrical systems.

Realize and be willing to read and use gauge information in making ongoing decisions.

Realize that instruments malfunction so that displayed information must be augmented from other sources.

Make appropriate adjustments for company-specific equipment, especially for various transmissions, engines, types of trailers/loads, and types of loads.

Identify typical problem points in equipment specific to an individual carrier's operation.

Perform Vehicle Inspections

Explain systematic procedure to ensure quick and complete inspection.

Suggest the effect of undiscovered malfunctions upon safety, effectiveness, and economy.

Know federal, state, and other rules and regulations governing inspection, including special regulations for hazardous cargo.

Know procedures for post-trip inspection.

Know out-of-service Commercial Vehicle Safety Alliance (CVSA) criteria for drivers and vehicles.

Know responsibilities including ensuring vehicles are in safe operating condition before taking them on the road.

Know how to report malfunctions and problems.

Know location and tolerances for all components and systems.

Know consequences of vehicle out-of-service orders at roadside inspections and recognize negative impact on driver, company, shipper, and entire industry.

Know that time spent on inspections saves lives and down time later.

Know how to manage with road-based inspections and violations.

Know how to deal with border crossings.

Know how to plan for and acquire permits, registration, and other documents.

Exercise Basic Control

Know clearance requirements of rig for all dimensions.

Know starting, warm-up, and shut-down procedures according to manufacturer's specifications.

Know modulation procedure for air brakes.

Know steering techniques to track vehicle in lane and drive a straight line.

Illustrate proper position from which to begin a turn and how to "set up," execute, and recover from a turn.

Know the purpose and use of engine retarders and the consequences of using them.

Know space requirements for at least 48-foot and 53-foot trailers.

Describe consequences of excessive idling.

Understand split axle and dump valve.

Know proper hand placement on wheel.

State how to apply ABS and non-ABS brakes.

Accept that "Safety is an Attitude," an ongoing one that allows for continuing learning.

Know how to use engine brakes on vehicles driver will operate.

Know rules for all types of railroad crossings and other high-risk areas.

Explain do's and don'ts for using cruise controls.

Know requirements and rules for restricted and permitted routes, based on equipment, cargo, and other factors.

Know and use appropriate adjustments for all types of company-specific equipment such as refrigerated units, for example.

Know company policy for use of communication devices.

Know how to identify high-risk areas and situations.

Know the causes and circumstances of each type of crash and driver responsibilities associated with each.

Execute Shifting

Know shifting procedures and patterns for different transmissions.

Read instruments and controls necessary to shift gears.

Recognize common shifting errors and their consequences.

Know gears that most likely will be the best choice under certain traffic, turns, highway, and terrain conditions.

Know outcomes of proper shifting in terms of improved fuel mileage, reduced operating costs, and other benefits.

Know the importance of matching RPM and MPH for down shifting.

Know specific requirements for types of company equipment— manual, automatic, hybrid—the driver will operate.

Understand and demonstrate how to control vehicle while shifting.

Back and Dock Trailer

Know proper mirror adjustment and use.

Know rules and procedures for backing in and across traffic.

Know procedures for backing, “jack and chase,” parallel, and jackknife parking.

Identify and explain hazards of backing and specific dangers and problems in various situations.

Explain how to stop traffic and warn of backing process.

Explain principles of reverse steering.

Know how to use checks, locks, and cones in operation.

Explain hazards associated with backing.

Know that the best backing is finding a way not to back.

Know idiosyncrasies of specific customers, shippers, and receivers concerning backing, docking, and leaving.

Know idiosyncrasies of company-specific equipment.

Know and describe how to “set up” to back into typical types of spaces.

Couple Trailer

Know how to confirm trailer number.

Know and use chocking procedures, if necessary.

Know components and function of fifth wheel, trailer apron, and kingpin.

Know coupling test procedures.

Know position, components, and function of air and electrical lines.

Know connection procedures.

Know signs of improper and/or incomplete connections.

Know air pressure requirements.

Know how to adjust mirrors for optimal vision field.

Know importance of and how to inspect trailer before driving.

Know what optimal vision field is and how to recognize it.

Know techniques of chassis vs. trailer.

Know how to add trailer number to logbook.

Know how to adjust tandems.

Know how to match tandem and fifth wheel adjustments to accomplish weight distribution and meet axle limits.

Uncouple Trailer

Know surface conditions and characteristics necessary to support weight; know how to identify/characterize surfaces.

Know air pressure system and controls.

Know procedure for uncoupling.

Know position, components, and function of air and electrical lines.

Perform Visual Search

Know the correct adjustments and specifications for various types of mirrors.

Recognize the differences in images presented by flat and convex mirrors.

Know the importance of making all visual checks to the sides and rear of the vehicle quickly to limit the amount of time eyes are off the road ahead.

Know the relationship between speed and sight distance.

Know the search patterns appropriate for straight driving, changing speed or direction, and entering or crossing traffic.

Recognize that effective visual searches will reduce fatigue.

Recognize the importance of visual searches as critical techniques for monitoring changing road and traffic conditions.

Know and effectively use concepts of blind spots and “no-zones.”

Manage and Adjust Vehicle Speed

Know the relationship of speed to stopping distance, hydroplaning, crash severity, ability to maneuver, and fuel economy.

Know the proper use of cruise control and engine brakes.

Know the effect on maximum safe speed of vehicle weight, center of gravity, loss of stability, available sight distance, and road surface conditions.

Know the consequences of speeding violations.

Know the effect of all types of environmental conditions on speed management.

Manage and Adjust Vehicle Space Relations

Know the appropriate following distances for various conditions.

Know the importance of maintaining maximum separation from other vehicles to ensure room to maneuver when responding to errors of other drivers.

Know the importance of checking positions of one's own vehicle and other road users by mirrors.

Know the dangers of trailer overhang.

Know the dangers created by overhead obstructions.

State the regulations concerning commercial vehicle following distances, lane use, changing lanes, and passing other vehicles.

Know the techniques to determine space according to speed.

Recognize potential hazards and subtle danger signs in traffic such as increases in density.

Check and Maintain Vehicle Systems and Components

Know the location, function, operation, and common failures of the following vehicle components: frames, suspension, and axles; engines; fuel systems, air intake, and exhaust systems; lubrication systems; cooling systems; electrical systems; drive trains; brake systems; wheels, bearings, rims, and tires; steering systems; and coupling systems.

Describe simple emergency repairs to enable a vehicle to reach a maintenance facility.

Know the procedure for performing inspections and authorized maintenance and repairs.

Know the importance of periodic inspections and authorized maintenance and repairs.

Know to avoid attempting repairs for which they are unqualified.

Recognize the importance of periodic inspections and repair to prevent enroute breakdowns, longevity of parts, safety, and economy of operation.

Know the inspection, repair, and maintenance regulations of the Federal Motor Carrier Safety Regulations.

Know company procedure for driver-controlled maintenance items, shop maintenance, and vendor maintenance.

Diagnose and Report Malfunctions

Know the procedures for starting vehicles with dead batteries or without air pressure (if equipped with air starters).

Recognize the symptoms of improper operation revealed through instruments, vehicle operation characteristics, sight, sound, feel, and smell.

Know company-specific methods for contacting company, arranging for repairs, and moving disabled vehicles.

Know company codes for various issues and problems.

Know and recognize the types of issues or typical breakdowns for company-specific equipment operated by the driver.

Identify Potential Hazards and Deal with Emergency Maneuvers

Know the visible characteristics of road conditions that present a hazard to safe operations including slippery, soft, sloping, or uneven surfaces; dangerous curves; obstructions to visibility; and locations where there are likely to be strong crosswinds.

Know the characteristics of other road users (drivers or pedestrians) that make them potentially dangerous, including obstructed vision, distractions, confusion, impatience, impairment, and low speed.

Know activities of other road users (drivers and pedestrians) that provide clues to potential danger, including head and body movement, vehicle movement, and conflict situations.

Know the consequences of using the engine brakes or trailer brake on slippery roads.

Know that the vehicle can be turned more quickly than it can be stopped.

Know that in an impending head-on collision, it is generally safer to leave the roadway to the right than to strike another vehicle.

Know procedures for quick stops, quick turns, and evasive turns off the roadway.

Know the procedures for handling brake failure and blowouts.

Know that trailer brakes are not to be used for skid recovery.

Know the role of skid control in preventing crashes.

Know skid dynamics, including friction, wheel load, and force.

Know the causes of skidding—power and braking.

Know the characteristics of a tractor jackknife, trailer jackknife, front wheel skids, and all wheel skids.

Know skid recovery procedures—focus on where you want to go, power off, clutch in.

Know counter-steer operation.

Know the difference between ABS and non ABS brakes and how each affects skid control and recovery.

Know how to maintain directional control while operating over a slippery surface.

Know how to bring tractor-trailer to a stop in the shortest possible distance while maintaining directional control when operating on a slippery surface.

Know the importance of seat belts in emergency maneuvers.

Know how to keep the truck in gear to maintain control.

Know that skids can occur at any speed.

Know how to maintain directional control while operating over a slippery surface.

Know that only the driver can be willing to stop, report conditions, and stand firm.

**Identify and Adjust to Difficult
and Extreme Driving
Conditions**

Night Operation

Know the proper use of cruise control at night.

Know the effect of level of illumination on ability to see.

Know the value of high beams to nighttime visibility.

Know state laws covering use of headlights and auxiliary lights.

Know the symptoms and danger of fatigue.

Know the effect of headlight glare on visibility of others and its implications for the safety of both drivers.

Know the general factors affecting night vision, including interior illumination and use of sunglasses during daytime.

Know about increased wildlife movement at night.

Know physical adjustments to make for night driving.

Cold and Adverse Weather

Know the conditions that produce low traction, including initial rainfall, ice, snow, and mud.

Identify the effects of rain, snow, and ice upon the ability to maneuver and stop the vehicle.

Explain causes and procedures for avoiding skidding and jackknifing.

Know about fuel mixes and add-mixtures.

Recognize the nature of hydroplaning and the road and vehicle conditions that produce it.

Know the effect of ice, snow, water, mud, and debris on the operation of the brakes. Recognize the need to make sure all wheels are free to turn.

Know how to mount and dismount tire chains. Explain how to extricate the vehicle from snow, sand, and mud by maneuvering or towing.

Know company policy on chain use.

Hot Weather

Know the procedures for hot weather driving.

Know the hazards of hot weather driving.

Know the effect of hot weather upon vehicle operation.

Know the effect of hot weather upon tire pressure and tire life.

Know about food and liquid needs.

Mountains

Know the effect of vehicle weight and speed upon braking and shifting ability on long downgrades.

Identify the function and value of escape ramps.

Understand the meaning and use of percent of grade signs.

Recognize that the weight of the truck poses hazards on long downgrades unless the truck is put into proper gear.

Know that attempting to downshift on steep declines is too dangerous to attempt.

Fog

Know how to use lights effectively.

Know how to determine safe operating distances.

All

Know how to stop, report in, and stand firm.

Handle and Document Cargo

Know the company-specific procedures for proper completion of freight bill, cargo manifest, “bill of lading,” and other required forms.

Know that it is the driver’s responsibility to ensure paperwork is properly filled out.

Explain the possible consequences and penalties of improperly completed documentation.

Know the rules and regulations for Hazmat.

Know the proper lifting techniques.

Know the proper way to prepare “bill of lading” for types of load.

Know the procedures for loading and unloading.

Know the procedures for securing cargo—including methods of blocking, bracing, packing, and stacking, and use of straps, rope, cable, chains, and chain binders for tie down to prevent damage and accidents.

Know the nature, function, and operation of common cargo handling equipment specific to equipment typically used, including pallets, jacks, dollies, hand trucks, forklift trucks, nets, slings, rug poles, Johnson bars, and other equipment.

Know federal and state regulations on loading, weight limits, and distribution of cargo, bridge law, and the special concerns of a 53-foot trailer.

Know the rules about various categories of cargo.

Know how to install the various types of seals and record the seal number on the paperwork.

Know weight distribution allowances and how to deal with them.

Know and follow the Occupational Safety and Health Administration (OSHA) standards and/or the Canadian equivalents.

Know how to use pallet jack safely and effectively, if applicable.

Know company-specific cargo handling policy.

Know company policy on theft/risk avoidance.

Know how to find and use safe routes and places to stop or park.

Deal with Accident Scenes and Reporting Procedures

- Know state laws and company-specific requirements dealing with stopping and rendering assistance at the scene of an accident.
- Explain the procedures for protecting the scene of an accident and federal and state requirements for same.
- Identify federal, state, insurance company, and employer requirements regarding accident reporting.
- Suggest proper first aid procedures for the types of injuries most likely to be sustained in highway accidents.
- Know the procedures for extinguishing cargo, engine, electrical, and tire fires.
- Explain where to stop vehicle in the event of a fire.
- Know how to gather information at the scene.
- Know how to complete Accident Reporting Kit.
- Know the importance of carrying a camera.
- Know and follow company procedures regarding accidents.
- Know how to use the Emergency Response Guide.
- Know how to deal with law enforcement officials.
- Know how to deal with media.
- Know how to deal with and help manage the general public, such as crowds, individuals, and motor traffic.

Deal with Environmental Issues

- Know how to check fluids of all types.
- Know the environmental regulations that affect the profession.
- Recognize symptoms of problems.
- Know how to contain spills.
- Know how to report and document problems.
- Know state and federal regulations about environmental issues.
- Know what actions to take at the scene of a spill or problem by referring to the Emergency Response Guide (ERG).
- Know accepted safe practices.
- Know the environmental impact of excessive idle time.

**Plan Trips and Make
Appropriate Decisions**

Know the types of vehicles, cargoes, and routes requiring special permits.

Know and use state regulations and the procedures for obtaining special permits.

Identify common map symbols.

Learn methods for good record keeping.

Know the procedures for route planning, including preparing paperwork, route selection, and estimating time, fuel, money, and personal needs.

Know state and local law restrictions on vehicle size and weight.

Know how to use road atlases.

Know how permit system operates.

Know that failure to obtain necessary permits can result in extensive delay and fines.

Know how to document expenses.

Know how to scale loads.

Know bridge laws and regulations.

**Use Effective Communication
and Public Relations Skills**

Know universally accepted signals.

Know the laws and regulations concerning traffic signals.

Know the relationship of signals to intent and that signals do not convey the “right” to execute maneuver.

Know and use procedures for handling complaints.

Know how to listen and respond effectively.

Read and respond to on-board or verbal messages.

Know the procedures for using (receiving and sending messages) on-board devices.

Know how to take and/or deal with dispatch—both sending and receiving communications.

Know how and when to use company communication methods and procedure such as qualcom, phone, call-in, etc.

Know techniques for resolving conflict.

**Manage Personal Resources
and Deal with Life on the Road**

Recognize signs of fatigue.

Know symptoms of stress and match personal techniques of how to deal with the problem.

Know strategies for dealing effectively with fatigue.

Know how to exercise and use free time on the road.

Know the elements of a good diet.

Understand the pay process as well as advances.

Identify good exercise program for life on the road.

Know personal sleep requirements and individual biorhythms or patterns.

Identify safe and quiet truck stops.

Know rules of truck-stop safety.

Know the effects of drugs and alcohol.

Discuss stress caused by life on the road and being away from home.

Know how to manage finances while on the road.

Know dynamics of industry and the role and importance of the driver.

Know how life on the road affects family life.

Know how to stay connected to family while on the road.

Understand issues of personal and company money management on the road.

Know rules of truck-stop safety.

Know how to maintain family contact while on the road.

Record and Maintain Hours of Service Requirements

Know all the requirements and rules of laws and regulations covering Hours of Service, where applicable.

Understand how to comply with the Hours of Service Regulations and know the procedures for completing the driver's daily log.

Know the procedures for using logbook recap.

Explain the consequences of failure to comply with Hours of Service Regulations.

Know en route inspection requirements.

Know electronic methods of double-checking documentation and records, according to company policy.

Explain how to use logbooks in planning a trip/meeting schedules.

Identify and recognize the potential pressures in the industry to exceed Hours of Service units and know strategies for dealing with them.

APPENDIX C: ATTITUDES/APTITUDES/PSYCHOMOTOR SKILLS

Duty	Attitude/Aptitude
Read and Interpret Control Systems	Be willing to read and use gauge information in making ongoing decisions while driving.
Perform Vehicle Inspections	Believe that the time spent on inspections saves lives and downtime later.
Exercise Basic Control	Accept that "Safety is an Attitude."
Execute Shifting	Coordinate hand and feet movement, eyesight, and hearing to execute safe, smooth, and efficient operation.
Back and Dock Trailer	Be willing to get out and look. Be willing to stop process and begin again.
Couple Trailer	Believe that accidents caused by improper coupling are preventable. Possess the strength to raise landing gear and deal with chocks (if used).
Uncouple Trailer	Believe that accidents caused by improper uncoupling are preventable.
Perform Visual Search	Value visual searches as critical techniques for monitoring changing road and traffic conditions.
Manage and Adjust Vehicle Speed	Believe that only through proper speed management can a driver acquire the space to safely maneuver the truck.
Manage and Adjust Vehicle Space Relations	Believe that space management is critical to the safe operation of the truck.

Duty	Attitude/Aptitude
Identify Potential Hazards and Perform Emergency Maneuvers	Be willing to stop, report conditions, and stand firm. Believe that good judgment is essential for skid avoidance.
Identify and Adjust to Difficult and Extreme Driving Conditions	Understand that night driving has additional requirements for driving safely and requires additional attributes and skills. Acknowledge that adverse weather conditions require special driving techniques and that bad weather accidents and jackknifing can be prevented by proper driving techniques.
Handle and Document Cargo	Be willing to exercise care with paperwork, securing loads, and reporting damage.
Deal with Accident Scenes and Reporting	Be able to maintain self-control and be a professional. Be willing to offer assistance.
Deal with Environmental Issues	Obey the rules for states and nation. Recognize that environmental issues are everyone's concern.
Use Effective Communication	Be willing to demonstrate self-control when communicating. Be willing to use proper signaling techniques. Recognize that signals do not convey the "right" to execute a maneuver.
Manage Personal Resources and Deal with Life on the Road	Become a professional driver and accept the responsibility of being one. Recognize need for strong support group at home.
Record and Maintain Hours of Service Requirement	Accept responsibility of keeping an accurate, legal, and current logbook at all times.

PART III:
Curriculum Standards

INTRODUCTION TO CURRICULUM STANDARDS

Formal training is the most reliable way to learn the many special skills required for entry-level tractor-trailer driving. The more skills learned in supervised training, the fewer that must be mastered on the job. Formal, supervised training is available from private truck driver training schools, public institutions, and in-house motor carrier training programs. Because of their important role in truck safety, these training organizations are guided by minimum standards against which the quality of their training courses can be measured. It is with these standards in mind that the Professional Truck Driver Institute offers the Tractor-Trailer Driver Curriculum Standards.

The curriculum standards are based on the skills, knowledge, tasks, and duties of entry-level truckers, as explained and rated by truckers. They also incorporate the curricular recommendations of the *Proposed Minimum Standards for Training Tractor-Trailer Drivers*, issued by the U.S. Department of Transportation's Federal Highway Administration's Office of Motor Carriers (formerly BMCS) in 1985. The USDOT recommended curriculum was adapted by the PTDI to meet the minimum criteria and requirements of the PTDI course certification program.

Note that the curriculum standards do not address every skill, knowledge, task, duty or ability suggested by drivers as necessary for entry-level drivers to possess and use. Schools appropriately teach many of the skills and knowledge, and those are included in these curriculum standards. Some items listed as skill standards should not be taught by schools due to liability issues, excessive costs, or the desire by employers to teach these duties to their own specifications. Therefore, some tasks, skills and knowledge are more appropriately taught by the employing trucking company during drive finishing and team operations portions of the program. Still other skills must be self-taught and mastered by the individual driver.

GENERAL CURRICULUM STANDARDS, CRITERIA AND HOURS

The curriculum standards outline the **minimum** curriculum content necessary for mastering the skills for the entry-level tractor-trailer driver; that is, the minimum training required to become a second-seat driver who will continue on-the-job training with a trucking firm upon completion of this course in a teaching institution.

A "**second seat**" driver is an individual who has the knowledge and skill to operate a commercial vehicle safely, but, without supervision, lacks the experience to perform as a solo driver. Driver finishing program coupled with team operations will prepare the student to be a solo driver. A "**solo**" driver is an individual who has the knowledge, skills, and experience to operate a commercial vehicle safely from the point of origin to the ultimate destination without supervision. This individual can, within regulation, achieve the outcome of moving freight efficiently.

This perspective mirrors the DOT model curriculum which indicates that the BMCS Standards are *minimum* standards. Therefore, this curriculum is to be considered a basic or "**core type**" curriculum. Graduates of this curriculum cannot be considered fully-trained, "ready-to-solo" type drivers until they have completed the entire 48 week Younger Driver Program.

The basic program combines competency (proficiency) with a minimum of hours of training necessary to achieve **basic skills**. Most lessons involve both classroom and lab instruction and some practical application behind the wheel, either on the range or on the road.

Training hours are expressed in two ways and in the following order—60-minute hours and 50-minute hours (in parentheses). Note that the total minutes are the same. The minimum total hours of instruction is 14 weeks (280 hours) of classroom time, plus eight weeks (160 hours) in trucks, at least 88 hours of which must be behind the wheel. Observation time is in addition to the 88 hours. To determine the programmatic hours of any particular teaching program, one would need to use the ratio of students per truck that the program employs in order to multiply the number of behind-the-wheel (BTW) hours to calculate a total program time.

In addition to the school-based instruction, trainees also experience a driver finishing program described elsewhere in their materials. Additionally, they also participate in team operation.

Other criteria within the curriculum standard include all of the following.

- " Recommended **classroom and laboratory time** has been combined into a single category called Classroom and Lab. It is the training institution's discretion about how time will be allocated between those two functions.
- " **Every trainee** is expected to be provided with a complete set of **written materials** dealing with the content of the course.
- " The **training vehicles** used in the program must be appropriate to the numbers of students and must represent the type and size of equipment—both tractor and trailer—used in the industry. Each student within a vehicle must have a permanently-mounted seat with required seat belts.

- " Programs are expected to use **sound instructional techniques** during teaching. This means that the classroom materials should include visuals as well as print materials, and should emphasize learning by doing as well as demonstrations.
- " There are **required hours for each unit of instruction** within the curriculum. The hours relate both to classroom and laboratory hours as well as to BTW hours. The training institution has the prerogative of arranging and allocating those hours within each unit to best suit the needs of the students and carriers that the specific training institution serves. (Exhibit 2)
- " On a case-by-case basis, up to 15 percent of the required classroom/lab training hours may be adjusted among the units of instruction at the discretion of the training institution. However, the 88 hours behind the wheel at the school may not be reduced.
- " In addition to the prescribed hours for classroom/lab topics, there are an additional **discretionary classroom hours** that the individual training institution may allocate as it wishes across the various units; however, these hours may not substitute for driving hours. Each institution is responsible for providing discretionary hour information and explanation in its record keeping to PTDI.
- " Formal **defensive driving** content may be used as part of the material associated with units on Hazard Perception, Visual Search, and Space Management.
- " The 88 (106) hours of **behind-the-wheel (BTW) time** means actual driving time; the 72 hours of **observation time** is in addition to these driving hours. The observation time must be structured, instructional time where trainees ask questions, take notes, observe situations, and are actively involved.
- " Instructional time may be calculated as either **60- or 50-minute hours**, as long as the total minutes are equal to the requirements.
- " **Appropriate facilities** are required within the training institution. This means classroom facilities sufficient to enable learning and adequate for space, lighting, ventilation, furniture, and environmental concerns. In addition, appropriate range facilities are required, including obstruction-free surfaced areas to maneuver vehicles. In addition, street routes must allow for the broadest possible range of traffic situations.
- The maximum number of **trainees per truck** is 4:1 for the in-school portion of the program only. However, the recommended number of trainees per truck is 3:1. Case-by-case exceptions to the 4:1 ratio may be granted for certain orientation activities if the course reduces the ratio to 1:1 or 1:2 for continuing instruction.
- The trainer-trainee ratio per truck for the driver finishing part of the program is 1:1.
- The maximum number of **trucks per instructor on the driving range** is three trucks to one instructor.

- The maximum number of **trucks per instructor on the street** is one truck to one instructor.
- The **classroom ratio of students to instructors** is expected to average 30 trainees over a one-year period, never to exceed 36 trainees to one instructor in any class.
- Some of the **BTW time** is expected to occur **at night** in areas without illumination. Two hours can be spent on the range and one hour can be spent on the street. The standard recognizes that some locations may be precluded from meeting this standard due to geographic considerations.
- Some in school time may be waived for independent study. Independent study may be used for up to 34 of the classroom hours, on a course-by-course basis, with appropriate documentation and assessment.
- Course certification requirements expect that the trainee will **obtain a CDL license**.

CONTENT

The curriculum is outlined by units of instruction for preparing entry-level tractor-trailer drivers. Five broad sections of curriculum are suggested, each with a focus on its own particular information.

The outline provided is for presentation purposes only. The school's actual course of study does not necessarily have to be organized or taught according to the suggested sequence of units, but must deal with suggested content and hours of instruction.

Unit 1 deals with **Basic Operation**, and incorporates both classroom and range or street BTW training. These materials introduce trainees to the vehicle and provide an opportunity to understand how to control the vehicle when in motion. Among the many practical skills learned in this section are backing skills and shifting.

Unit 2 deals with **Safe Operating Practices** for basic operation. It includes units on the visual search, communication on the road, speed management, and space management. It includes some classroom instruction and a good bit of BTW training.

Unit 3 deals with **Advanced Operating Practices** and includes subjects on hazard perception, night operation, and extreme driving conditions. This section focuses on helping trainees identify and act proactively and reactively to deal with hazards.

Unit 4 deals with **Vehicle Systems and Reporting Malfunctions** and enables the trainee to understand the basic workings of the vehicle and how to cope with difficult situations that may occur on the road.

Unit 5 deals with **Non-Vehicle Activities**. It is a particularly important section, and contains many classroom hours. Among the many topics covered in this section are materials on managing life on the road, dealing with environmental hazards and regulations, and documenting a driver's Hours of Service.

Exhibit 1: Program Options in Hours. Use this as a basis for planning the total time for programs. In contrast, the hours associated with each unit are broken down by classroom and BTW, and are presented in **Exhibit 2: Minimum Hours for Training**. Note that this exhibit contains only the minimum time requirements for training.

ORGANIZATION OF THE STANDARDS

Each curriculum unit is presented as a standard. Within that unit, there usually is a statement of purpose that indicates why the unit is important. In addition, there is a statement of the performance criteria for the standard that expresses what the student must do and how well they must do it. Further, there are two sets of objectives: one set of objectives deals with the **skill objectives** that a trainee should master; the second relates to **knowledge objectives** that the student should learn.

EXHIBIT 1: PROGRAM OPTIONS IN HOURS

Required Minimum Hours of Training	Classroom	Road and Range Driving	
		1:1 Ratio	3:1 Ratio
208 (334)		88 (106)	264 (318)

EXHIBIT 2: MINIMUM HOURS FOR TRAINING SCHOOL-BASED PORTION

Unit	Classroom & Lab	BTW Range & Street*
1.0 Basic Operation		
1.1 Orientation #	48 (59)	48 (58)
1.2 Control Systems #		
1.3 Vehicle Inspections		
1.4 Basic Control		
1.5 Shifting		
1.6 Backing and Docking		
1.7 Coupling and Uncoupling		
2.0 Safe Operating Practices for Basic Operation	21 (27)	34 (40)
2.1 Visual Search		
2.2 Vehicle Communication		
2.3 Speed Management		
2.4 Space Management		
3.0 Advanced Operating Practices	37 (45)	6 (8)
3.1 Night Operation		
3.2 Extreme Driving Conditions		
3.3 Hazard Perception		
3.4 Emergency Maneuvers/Skid Avoidance		
3.5 Skid Control and Recovery		
4.0 Vehicle Systems and Reporting Malfunctions #	16 (18)	0 (0)
4.1 Identification and Maintenance		
4.2 Diagnosing and Reporting Malfunctions		
5.0 Non-Vehicle Activities #		
5.1 Handling and Documenting Cargo	124 (147)	0 (0)
5.2 Environmental Issues		
5.3 Hours of Service Requirements		
5.4 Accident Procedures		
5.5 Managing Life on the Road/Personal Resources		
5.6 Trip Planning		
5.7 Communication Skills		
5.8 Geography		
5.9 Professionalism, Personal Responsibility and Ethics		
5.10 Driver Wellness		
5.11 Introduction to Transportation		
5.12 Interpersonal Communication		
5.13 Transportation Computing		
5.14 Personal Safety		
Discretionary Hours+#	<u>34 (39)</u>	<u>0 (0)</u>
Driving time		+ 88 (106) BTW + 72 (86) Observation
TOTAL	280 (335)	160 (192)

*Total of range and street BTW must equal at least 88 (106) hours per student.
 • Hours are expressed as 60 and (50) minute hours.
 *Note: 15% of required classroom/lab hours may be adjusted among units.

+ Discretionary hours are discussed in this document.
 # Units are non-driving subjects so driving time is not awarded.

Unit 1 - Basic Operation
1.1 Orientation

Purpose: The orientation deals with introducing the student to both the trade of truck driving and to the tractor-trailer. It is intended as a time to better acquaint the student with the industry that they are about to enter.

Performance Criteria: Trainee will identify major components of the tractor-trailer and explain some of the importance of the industry to the broader economy.

Trainee Skills Objectives:

None.

Trainee Knowledge Objectives:

Identify major components of the tractor-trailer.

Discuss general operation of the trucking industry.

Discuss course objectives and rules for student conduct.

Discuss safety rules to be observed in class, in lab, on the range, and on the street.

Discuss methods of trainee evaluation.

Discuss minimum requirements for graduation.

1.2 Control Systems

Purpose: The trainee will be familiar with the vehicle instruments and controls.

Performance Criteria: Trainee will learn use and location of each control.

Trainee Skill Objectives:

Read gauges and instruments correctly after indicating use and acceptable range.

Demonstrate the purpose and use of control switches and pedals.

Demonstrate seat adjustment and safety belt use.

Trainee Knowledge Objectives:

Identify, locate, and explain function of each of the primary controls including those required for steering, accelerating, shifting, braking, and parking.

Identify, locate, and explain function of each of the secondary controls including those required for control of lights, signals, windshield wipers and washers, interior climate, engine starting and shutdown, suspension and coupling.

Identify, locate, explain, and indicate the acceptable reading range of the various instruments required to monitor vehicle and engine speed as well as the status of fuel, oil, air, cooling, exhaust, and electrical systems.

Realize and be willing to read and use gauge information in making on-going decisions.

Realize that instruments malfunction so that displayed information must be augmented from other sources.

1.3 Vehicle Inspections

Purpose: Teach trainee to conduct pre-trip, en route, and post-trip inspections.

Performance Criteria: Trainees must inspect and make a determination of the condition of various critical vehicle components, including instruments and controls; engine and drive train; chassis and suspension; steering system, braking system; tires; wheels and rims; lighting and signaling system; emergency equipment; and cargo securement device(s). Trainee must perform pre-trip inspections in a regular, systematic sequence that is accurate, uniform, and time efficient. Further, trainee must perform en route inspections by checking mirrors for signs of trouble; checking connections, hoses, and gauges; monitoring instruments and looking, listening and feeling for indications of malfunctions; making periodic roadside stop inspections of critical items; and meeting en route requirements for transporting various cargo. Trainees must perform post-trip inspections by making accurate notes of actual and suspected component abnormalities or malfunctions that occurred during the trip. Trainees must not operate a vehicle found to be in unsafe (for vehicle, drivers, and other road users) operating condition, either prior to a trip or enroute.

Trainee Skill Objectives:

Perform each type of inspection.

Complete Vehicle Condition Report (VCR).

Inspect and determine the condition of critical vehicle components, including the: instrument and controls; engine and drive train; chassis and suspension; steering system; braking system; coupling system; emergency equipment; and cargo securement devices.

Perform pre-trip inspections in a regular, systematic sequence that is accurate, uniform, and time efficient.

Perform enroute inspections by checking mirrors for signs of trouble; monitoring instruments and looking, listening, and feeling for malfunctions; making periodic roadside inspections of critical components; and meeting enroute requirements for transporting dangerous cargo.

Perform post-trip inspections by making accurate notes of actual and suspected component abnormalities or malfunctions.

Trainee Knowledge Objectives:

Explain systematic procedure to assure quick and complete inspection.

Suggest the effect of undiscovered malfunctions upon safety, effectiveness, and economy.

Know federal, state, and other regulations governing inspection, including special regulations for hazardous cargo.

Know procedures for post-trip inspection.

Know out-of-service CVSA criteria for drivers and vehicles.

Know their responsibilities include ensuring vehicles are in safe operating condition before taking them on the road.

Know how to report malfunctions and problems.

Know location and tolerances for all components and systems.

Know consequences of vehicle out-of-service orders at roadside inspections and recognize negative impact on CV driver, company, shipper, and entire industry.

Know that time spent on inspections saves lives and down time later.

1.4 Basic Control

Purpose: Trainee will learn to move (drive) and steer a tractor-trailer.

Performance Criteria: Trainee must drive tractor-trailer such that he/she scores acceptable proficiency rating on the operational checklist for basic controls in areas such as executing sharp left and right turns, centering the vehicle, and maneuvering in restricted areas.

Trainee Skill Objectives:

- Get into cab, adjust seat and mirrors, and fasten seatbelt.
- Start, warm up, and shut down engine according to specifications.
- Put vehicle in motion and achieve increasingly smooth motion and acceleration, then bring vehicle to a smooth stop.
- Monitor controls, mirrors, instruments, and gauges.
- Center vehicle in lane and drive straight line.
- Maintain appropriate vehicle and engine speed on upgrades and downgrades.
- Judge paths, negotiate left and right curves and sharp turns and track vehicle in road and alley for various trailer lengths.
- Judge clearances at rear, front, sides, and overhead. Recognize space requirement of overhang.
- Get out and check position for obstructions.
- Maneuver into restricted areas to rear, sides, and front in both a straight line and jackknife position.
- Back slowly, in idle speed, in straight line. Use reverse steering. Use warning flashers.

Trainee Knowledge Objectives:

- Know clearance requirements of rig for all dimensions.
- Know starting, warm-up, and shut down procedures according to manufacturer's specifications.
- Know modulation procedure for air brakes.
- Know steering techniques to track vehicle in lane and drive a straight line.
- Know the purpose and use of the PDL.
- Illustrate proper position from which to begin a turn and how to "set-up," execute, and recover from a turn.
- Know the purpose/use/consequences of engine retarders.
- Know space requirements for 48-foot and 53-foot trailers.
- Describe consequences of excessive idling.
- Understand split axle and dump valve.
- Know proper hand placement on wheel.
- State how to apply ABS and non-ABS brakes.
- Accept that "Safety is an Attitude."

1.5 Shifting

Purpose: Teach trainee to execute up and down shifting techniques on multi-speed dual range transmission.

Performance Criteria: Trainee must execute shifting in a variety of road and traffic conditions, and match shifting to engine needs and safe operations for road conditions.

Trainee Skill Objectives:

Shift up and down through all gears of multi-speed, dual range transmissions.

Double clutch and time shift for smooth and fuel-efficient performance.

Select proper gear for speed, traffic, terrain, turns, and highway conditions.

Avoid riding the clutch.

Demonstrate progressive shifting technique.

Demonstrate and explain skip shifting.

Demonstrate proper gear recovery.

Trainee Knowledge Objectives:

Know shifting procedures and patterns for different transmissions.

Read instruments and controls necessary to shift gears.

Recognize common shifting errors and their consequences.

Know gears that most likely will be the best choice under certain traffic, turns, highway, and terrain conditions.

Know outcomes of proper shifting in terms of improved fuel mileage, reduced operating costs, and other benefits.

Know the importance of matching RPM and MPH for down shifting.

Psychomotor Requirements: Coordinate hand and feet movement, eyesight, and hearing to execute safe, smooth, and efficient operation.

1.6 Backing and Docking

Purpose: The trainee will learn to back tractor-trailer safely.

Performance Criteria: Trainee must back trailer on performance test on range and street. Test must include parking and backing into restricted areas with appropriate tolerances; backing in straight and curved lines; and parking at docks, in jackknife and parallel positions.

Trainee Skill Objectives:

Check and adjust mirrors.

Get out and check dock area for obstructions, position, and paths.

Execute reverse steering of an articulated vehicle.

Position vehicle correctly before beginning a backing/docking maneuver.

Activate warning flashers prior to using reverse. Tap horn periodically if no back-up alarm is available.

Judge path and clearances of trailer.

Back in straight and curved lines, using idle speed.

Back into restricted space.

Park trailer in jackknife and parallel positions.

Parallel park rig.

Perform serpentine backing.

Judge side, rear, and overhead clearances and park trailer.

Trainee Knowledge Objectives:

Know proper mirror adjustment and use.

Know rules and procedures for backing in and across traffic.

Know procedures for backing, "jerk and chase," parallel, and jackknife parking.

Identify and explain hazards of backing and specific dangers and problems in various situations.

Explain how to stop traffic and warn of backing process.

Explain principles of reverse steering.

Explain hazards associated with backing.

Know that the "best" backing is finding a way *not* to back.

1.7 Coupling and Uncoupling

Purpose: The trainee will demonstrate safe coupling and uncoupling of a tractor-trailer unit.

Performance Criteria: Trainee must couple and uncouple tractor-trailer in accord with approved safe practices.

Trainee Skill Objectives:

Align tractor and trailer units in a straight line for coupling.

Secure trailer against movement, if applicable.

Connect and check air and electrical lines.

Back tractor into trailer kingpin if appropriate, at the right level, and with appropriate force; check coupling and make adjustments.

Set in-cab air brake controls.

Retract and secure landing gear handle.

Back at idle speed.

Spot trailer on a surface capable of supporting weight.

Lower gear to raise trailer to the correct height and check support.

Disconnect air and electrical units prior to uncoupling.

Trainee Knowledge Objectives:

Know about and use mirrors to achieve proper alignment and position.

Know the importance of confirming trailer number.

Know components and function of fifth wheel, trailer apron, kingpin, and safety lock.

Know coupling test procedures.

Know position, components, and function of air and electrical lines.

Know connection procedures.

Know the importance of a trailer inspection prior to driving.

Know signs of improper and incomplete connections.

Know coupling technique of a chassis vs. a trailer.

Know air pressure requirements.

Add a new trailer number to logbook.

(continued)

Trainee Skill Objectives:

Uncouple trailer(s) and disconnect dolly, if applicable.

Trainee Knowledge Objectives:

Know how to adjust mirrors for optimal vision field.

Know the effect on coupling a trailer with spring suspension vs. air ride suspension.

Know surface conditions and characteristics necessary to support weight.

Know air pressure system and controls.

Know position, components, and function of air and electrical lines.

Know that accidents caused by improper coupling are preventable.

Unit 2 - Safe Operating Practices for Basic Operations

2.1 Visual Search

Purpose: Upon completion, the trainee will know how to conduct a visual search of the road for potential hazards and critical objects.

Performance Criteria: Trainee will demonstrate proficient visual search technique in various types of traffic and locations, as scored on the performance test, using a running commentary.

Trainee Skill Objectives:

Maintain a minimum 12 to 15 second eye lead time.

Correctly adjust any type of rear view mirror.

Scan both side and rear mirrors every few seconds, and always before changing speed and direction.

Read and interpret the images presented by flat and convex mirrors.

Check the instrument panel frequently.

Demonstrate proper head and eye movement.

Maintain vehicle in a straight-line path whenever necessary to divert attention from the path ahead. Avoid diverting attention.

Demonstrate a necessary commentary for potential hazards.

Monitor overtaking traffic to be aware of vehicles in rear and side blind spots.

Look ahead as far as possible in turns.

Trainee Knowledge Objectives:

Know the correct adjustments for various types of mirrors.

Know the differences in images presented by flat and convex mirrors.

Know the importance of making all visual checks to the sides and rear of the vehicle quickly in order to limit the amount of time their eyes are off the road ahead.

Know the relationship between speed and sight distance.

Know the search patterns appropriate for straight driving, changing speed or direction, and entering or crossing traffic.

Recognize that effective visual searches will reduce fatigue.

Recognize importance of visual searches as critical techniques for monitoring changing road and traffic conditions.

2.2 Vehicle Communication

Purpose: Learn techniques for different types of communication on the road.

Performance Criteria: Trainee will demonstrate techniques of vehicle communication in practice behind the wheel.

Trainee Skill Objectives:

Signal intention to change position before pulling onto or off of the road or changing lanes.

Cancel turn signals after completing turns.

Time signals so that they are not confusing to other drivers.

Flash brake lights to warn following drivers that the tractor-trailer is slowing or stopping.

Use four-way flashers according to state laws and company policies.

Use headlights in daytime under conditions of low visibility.

Position vehicle where it can be seen by other drivers.

Make selective use of horn and lights to prevent collisions.

Limit use of CB radio to communications that will enhance safety and traffic flow.

Avoid hand and light signals to signal "all clear" to turn or pass.

Trainee Knowledge Objectives:

Know when to activate turn signals to provide adequate warning without creating confusion.

Know state traffic laws for turn signals.

Recognize importance of signaling to the prevention of accidents.

Know importance of not giving signals that lead to the assumption of liability (e.g., inviting others to pass).

Know importance of using horn solely to give warning.

Know conditions under which other drivers may give false signals.

Know that signaling intention is essential to safe operations.

2.3 Speed Management

Purpose: Trainee will learn to manage speed effectively in response to various road, weather, and traffic conditions.

Performance Criteria: Trainee must adjust speed to the configuration and condition of the roadway; weather and visibility conditions; traffic conditions; and vehicle, cargo, driving conditions, or operator conditions.

Trainee must obey the legal speed limit and/or drive at speeds appropriate to road and/or weather conditions.

Trainee Skill Objectives:

Obey speed limits.

Maintain proper speed to manage the space around the truck.

Judge and adjust maximum safe speed at which vehicle control can be maintained under traffic conditions, crosswinds, road conditions, and limited visibility.

Judge maximum safe speed that traction will permit.

Judge maximum safe speed at which a curve and on/off ramps can be entered.

Recognize and interpret all types of driving conditions and road surfaces.

Trainee Knowledge Objectives:

Know the relationship of speed to stopping distance, hydroplaning, crash severity, ability to maneuver, and fuel economy.

Know the proper use of cruise control.

Know the effect on maximum safe speed of vehicle weight, center of gravity, loss of stability, available sight distance, and road surface conditions.

Know the consequences of speeding violations.

2.4 Space Management

Purpose: Trainee will learn to properly manage the space required for safe vehicle operation.

Performance Criteria: Trainee must select a lane offering the best mobility and least traffic interruption, in accordance with the law, to cause minimum interference to other vehicles; assure a safe gap before changing lanes, passing other vehicles, merging, and crossing or entering traffic; position vehicle correctly in the lane and relative to crosswalks so as to minimize hazards to other road users; position tractor-trailer appropriately before initiating and completing a turn so as to prevent other vehicles from passing on the wrong side and to minimize encroachment on other lanes; maintain a following distance appropriate to traffic, road surface, visibility, and vehicle weight; maximize separation from traffic when vehicle is disabled; and avoid structures having inadequate overhead clearance.

Trainee Skill Objectives:

Judge adequacy of gaps in traffic for passing, crossing traffic and entering traffic, and changing lanes.

Use proper visual search techniques.

Properly position vehicle for making all driving moves.

Judge clearances on all sides of rig.

Adjust following distances for load and road conditions.

Trainee Knowledge Objectives:

Know the appropriate following distances for various conditions.

Know the importance of maintaining maximum separation from other vehicles to ensure room to maneuver when responding to errors of other drivers.

Know the importance of checking positions of one's own vehicle and other road users by mirrors.

Know the dangers of trailer overhang.

Know dangers created by overhead obstructions.

State the regulations concerning commercial vehicle following distances, lane use, changing lanes, and passing other vehicles.

Unit 3 - Advanced Operating Procedures

3.1 Night Operation

Purpose: The trainee will learn and demonstrate how to operate safely at night.

Performance Criteria: The trainee must adjust speed, following distance/separation, and gap selection to nighttime conditions; demonstrate improved scanning techniques; use high beams wherever legally permitted; dim headlights in accordance with state laws and to minimize interference with visibility of other drivers; respond safely to the glare of other vehicles by averting eyes and by not retaliating; and use any auxiliary lighting properly.

Trainee Skill Objectives:

Judge and adjust speed, distances/separation and gaps under nighttime conditions.

Demonstrate scanning technique appropriate to night operations.

Use high beams legally.

Respond safely to glare of other vehicles.

Trainee Knowledge Objectives:

Know the procedures for carrying out the performance objectives.

Know that use of cruise control at night is not recommended.

Know the effect of level of illumination on ability to see.

Know the value of high beams to nighttime visibility.

Know state laws covering use of headlights and auxiliary lights.

Know the symptoms and danger of fatigue.

Know the effect of headlight glare on visibility of others and its implications for the safety of both drivers.

Know the general factors affecting night vision, including interior illumination and use of sunglasses during daytime.

Know about increased wildlife movement at night.

Understand that night driving has additional requirements for driving safely and requires additional attributes and skills.

3.2 Extreme Driving Conditions

Purpose: Discuss adjustments for driving in cold and hot weather, stormy conditions, mountain, and desert driving. Trainee will learn how to put chains on a stuck vehicle.

Performance Criteria: Explain adjustments for various extreme-driving conditions.

Trainee Skill Objectives:

Adverse Weather

Prepare for operation in cold weather, including activating the front brake limiting valve; removing snow and ice from windows, mirrors, brakes, lights, and hand holds, etc.; and installing tire chains when necessary or calling for assistance.

Inspect for cold weather operation by paying special attention to coolant level and mixture, heater, defrosters, wipers, washers, tire tread, brakes, lights, reflectors, wiring system, hoses, fuel, exhaust system, and fifth wheel.

Make sure that moisture is expelled from the air tanks after each trip.

Check weather information before and during trips and adjust plan accordingly.

Check for ice accumulation on brakes, slack adjuster, air hoses, electrical wiring, and radiator shutters during operation.

Adjust operation of vehicle to weather conditions, including speed selection, braking, direction changes, and following distance to maintain control and avoid jackknifing.

Assure safe operation of brakes after driving through deep water.

Trainee Knowledge Objectives:

Adverse Weather

Know the conditions that produce low traction, including initial rainfall, ice, snow, and mud.

Identify the effects of rain, snow, and ice upon the ability to maneuver and stop the vehicle.

Explain causes and procedures for avoiding skidding and jackknifing.

Recognize the nature of hydroplaning and the road and vehicle conditions that produce it.

Know the effect of ice, snow, water, mud, and debris on the operation of the brakes.

Recognize the need to make sure all wheels are free to turn.

Know how to mount and dismount tire chains, if applicable to area and liability.

Explain how to extricate the vehicle from snow, sand, and mud by maneuvering or towing.

Explain the importance of proper clothing and surplus food.

Use windshield wipers, washers, and defrosters to maintain visibility.

Start engine in cold weather.

Observe road surface for changes in conditions.

Adjust rate of change in speed and direction to road conditions to avoid skidding.

Coordinate acceleration and shifting to overcome the resistance of snow, sand, and mud.

Hot Weather

Check tires, lubrication, levels and operation of cooling system, fan belts, fans and hoses, and check the radiator for debris.

Carry an ample supply of drinking water.

Inspect tires frequently.

Avoid leaving the vehicle if it is disabled in the desert.

Mountains

Check brake adjustment prior to mountain driving.

Use right lane or special truck lane going up grades.

Place transmission in appropriate gear for engine braking before starting downgrade.

Use proper braking technique and maintain proper engine braking before starting downgrades.

Observe temperature gauge frequently when pulling heavy loads up long grades.

Hot Weather

Know procedures for hot weather driving.

Know hazards of hot weather driving.

Know the effect of hot weather upon vehicle operation.

Know the effect of hot weather upon tire pressure and tire life.

Mountains

Know the effect of vehicle weight and speed upon braking and shifting ability on long downgrades.

Identify the function and value of escape ramps.

Understand the meaning and use of percent of grade signs.

Recognize that the weight of the truck poses hazards on long downgrades unless the truck is put into proper gear.

Know that attempting to downshift on steep declines is too dangerous to attempt.

Know proper use of special speed reduction devices properly such as engine exhaust brakes.

Know proper use of truck escape ramp, if available, when brakes fail on a downgrade.

Know that only the driver can make the decision to park the truck when necessary.

3.3 Hazard Perception

Purpose: Learn to (1) recognize the potential dangers in the driving environment and (2) take appropriate defensive action(s) before the dangers develop into emergency situations.

Performance Criteria: The trainee must identify road conditions and other road users that are a potential threat to the safety of the tractor-trailer and suggest appropriate adjustments, as indicated by use of “commentary driving” and passing a written test on the topic.

Trainee Skill Objectives:

Perceive immediately a potential threat from visible characteristics and actions of other road users; then be able to initiate prompt defensive or evasive action.

Demonstrate good visual search techniques.

Respond appropriately to temporary direction and speed signs for lane closure and so forth.

Practice good visual search techniques

Trainee Knowledge Objectives:

Know the visible characteristics of road conditions that present a hazard to safe operations including slippery, soft, sloping, or uneven surfaces; dangerous curves; obstructions to visibility; and locations where there are likely to be strong cross-winds.

Know the characteristics of other road users (drivers or pedestrians) that make them potentially dangerous, including obstructed vision; distractions; confusion; impatience; impairment; and low speed.

Know how to respond to emergency vehicles.

Know activities of other road users (drivers and pedestrians) that provide clues to potential danger, including head and body movement; vehicle movement; and conflict situations.

Know the consequences of using the engine retarder or trailer brake on slippery roads.

Know that only the driver can be willing to stop, report conditions, and stand firm.

3.4 Emergency Maneuvers and Skid Avoidance

Purpose: Trainee will learn appropriate responses when confronted with driving emergencies. Further, the trainee will learn the causes, preventive measures, and recovery techniques involved in skidding and jackknifing incidents.

Performance Criteria: Trainee must demonstrate through proper speed and space management, and proper acceleration and braking techniques he/she should be able to avoid a skid.

Trainee Skill Objectives:

Use brakes in a manner that will stop the vehicle in the shortest possible distance while maintaining directional control.

Operate brakes properly to provide maximum braking without loss of control.

Judge maximum safe speed for slippery surface conditions.

Perform evasive turn on dry surface.

Maintain control of vehicle and yourself.

Trainee Knowledge Objectives:

Know that the vehicle can be turned more quickly than it can be stopped.

Know that in an impending head-on collision, it is generally safer to leave the roadway to the right than to strike another vehicle.

Know procedures for quick stops, quick turns, and evasive turns off the roadway.

Know procedures for handling brake failure and blowouts.

Know that trailer brakes are not to be used for skid recovery.

Know the role of skid control in preventing crashes.

Know skid dynamics, including friction, wheel load, and force.

Know causes of skidding—power and braking.

Know the characteristics of a tractor jackknife, trailer jackknife, front wheel skids, and all wheel skids.

Know skid recovery procedures—focus on where you want to go, power off, and clutch in.

State how to apply ABS and non-ABS brakes.

Know the technique to countersteer out of a skid in a way that will regain directional control and not produce another skid.

3.5 Skid Control and Recovery

Purpose: Discuss causes of skidding and jackknifing and techniques for avoiding and recovering from skids and jackknifes.

Performance Criteria: Trainee will explain causes of and techniques to avoid skids and jackknifes.

Trainee Skill Objectives:

None.

Trainee Knowledge Objectives:

Know how to maintain directional control while operating over a slippery surface.

Know how to bring the tractor-trailer to a stop in the shortest possible distance while maintaining directional control when operating on a slippery surface.

Know how to recover from tractor or trailer skids induced by snow, ice, water, oil, sand, wet leaves, or other slippery surfaces.

Know the best prevention for skidding is to control driving, i.e., reduce speed.

Know the role of skid control in preventing accidents.

Know skid dynamics, including friction, wheel load, and force.

Know the causes of skidding.

Know the characteristics of a trailer jackknife, front wheel skids, and all wheel skids.

Know the procedures for handling brake failure and blowouts.

Know that skids may occur at any speed, and identify skid recovery procedure.

Unit 4 - Vehicle Systems and Reporting Malfunctions

4.1 Identification and Maintenance of Vehicle Systems

Purpose: Explain function and how to check all key vehicle systems, such as engine, engine exhaust auxiliary systems, brakes, drive train, coupling systems, and suspension. Provide detailed description of each system, its importance to safe and efficient operation, and what is needed to keep the system in good operating condition.

Performance Criteria: Trainee will explain system function and indications of problems for various systems.

Trainee Skill Objectives:

Check and service engine, fuel, oil, coolant, battery, and filters.

Check tire air pressure.

Check tires for excessive wear.

Check for proper tire and wheel mounting.

Drain moisture from air brake supply reservoirs and fuel system.

Check brakes. Adjust, if allowed, or report problem.

Clean and replace bulbs and lens.

Change fuses and reset circuit breakers.

Trainee Knowledge Objectives:

Know the location, function, operation, and common failures of the following vehicle components: frames, suspension, and axles; engines; fuel systems, air intake and exhaust systems; lubrication systems; cooling systems; electrical systems; drive trains; brake systems; wheels, bearings, rims and tires; steering systems; and coupling systems.

Describe simple emergency repairs to enable a vehicle to reach a maintenance facility.

Know the procedure for performing inspections and authorized maintenance and repairs.

Know the importance of periodic inspections and authorized maintenance and repairs.

Know to avoid attempting repairs for which he/she is unqualified.

Recognize the importance of periodic inspections and repair to prevent enroute breakdowns, longevity of parts, safety, and economy of operation.

Know the inspection, repair, and maintenance regulations of the Federal Motor Carrier Safety Regulations.

4.2 Diagnosing and Reporting Malfunctions

Purpose: Learn to identify vehicle malfunctions.

Performance Criteria: Trainee will identify if a problem is likely to exist, troubleshoot for problems, and report, as required, using a Vehicle Condition Report (VCR).

Trainee Skill Objectives:

Identify vehicle systems or components that are functioning properly, are in imminent danger of failing, or functioning improperly.

Describe symptoms of improper operation completely and accurately to maintenance personnel.

Avoid attempting to perform maintenance for which he/she is unqualified.

Properly report breakdowns occurring enroute.

Properly complete a Vehicle Condition Report (VCR).

Trainee Knowledge Objectives:

Know the procedures for starting vehicles with dead batteries or without air pressure (if equipped with air starters.)

Recognize the symptoms of improper operation revealed through instruments, vehicle operation characteristics, sight, sound, feel, and smell.

Unit 5 - Non-Vehicle Activities

5.1 Handling and Documenting Cargo

Purpose: Gain an understanding of the cargo documentation process, responsibilities of drivers in the preparation and handling of cargo documents, weight distribution guidelines, how to secure and cover cargo, and how to load and unload safely and efficiently.

Performance Criteria: Trainee will: verify nature, amount, and condition of cargo on both pick-up and delivery; verify load is placed and tied down correctly for weight; verify information on bill of lading and properly record and report discrepancies and damage to the cargo; obtain appropriate signatures on delivery receipts and other required forms; and properly prepare a manifest.

Trainee Skill Objectives:

- Prepare a manifest, as required.
- Verify cargo types.
- Verify load distribution.
- Verify placards.
- Safely operate common types of cargo handling equipment.
- Select proper sizes of chain, cable, nylon webbing, steel strapping, or rope.
- Secure chains, cables, webbing, strapping, or ropes using appropriate system to secure load.
- Block and brace cargo properly.
- Demonstrate how to move heavy loads.

Trainee Knowledge Objectives:

- Know how to complete freight bill, cargo manifest, bill of lading, and other forms.
- Know the rules and regulations for Hazmat.
- Know that it is the driver's responsibility for ensuring paperwork is properly filled out.
- Know what "driver count" means.
- Explain the possible consequences and penalties of improperly-completed documentation.
- Know proper lifting techniques.
- Know the procedures for loading and unloading.
- Know the procedures for securing cargo—blocking, bracing, packing, stacking; and use of straps, rope, cable, chains, and chain binders.
- Know the nature, function, and operation of common cargo handling equipment—including pallets, jacks, dollies, hand trucks, forklift trucks, nets, slings, rug poles, and Johnson bars.
- Know federal and state regulations on loading, weight limits, and distribution of cargo, bridge law, and the special concerns of a 53-foot trailer.
- Know rules about various categories of cargo.
- Know how to install the various types of seals, and record the seal number on the paperwork.

5.2 Environmental Issues

Purpose: Trainee will learn to recognize environmental hazards and obligations and act to take care of responsibilities.

Performance Criteria: Trainee will identify hazard and match correct response with problems as written on a situational test.

Trainee Skill Objectives:

Check hoses, couplings, and other components that may contribute to environmental issues.

Monitor idle and make appropriate adjustments.

Avoid spills while fueling and servicing.

Trainee Knowledge Objectives:

Know environmental regulations that affect the profession.

Recognize symptoms of problems.

Know how to contain the spill.

Know how to report and document problems.

Know state and federal regulations about environmental issues.

Know what actions to take at the scene of a spill or problem by referring to the Emergency Response Guide (ERG).

Know accepted safe practices.

Know environmental impact of excessive idle time.

5.3 Hours of Service Requirements

Purpose: Teach the basic concepts and requirements of the Federal Motor Carrier Safety Regulations Part 395 “Hours of Service Regulations” and complete a Driver’s Daily Log and logbook recap.

Performance Criteria: Trainee will comply with Hours of Service Requirements and maintain a complete, neat, and accurate driver’s daily log and logbook recap while in training.

Trainee Skill Objectives:

Interpret Hours of Service categories correctly.

Perform arithmetic calculations necessary to recap and apply totals to the Hours of Service Regulations.

Determine driving hours remaining on a particular day or tour of duty.

Keep pick-up and delivery record, if applicable.

Maintain a legal logbook in school.

Trainee Knowledge Objectives:

Know all the requirements and rules of Part 395 of The FMCSR covering Hours of Service...the 10-15-60-70 Rules.

Understand how to comply with the Hours of Service Regulations, and know the procedures for completing the driver’s daily log.

Know the procedures for using logbook recap.

Explain the consequences of failure to comply with Hours of Service Regulations.

Know en route inspection requirements.

Know electronic methods of double-checking documentation and records, according to company policy.

Explain how to use logbooks in planning a trip and meeting schedules.

Identify and recognize the potential pressures in the industry to exceed Hour of Service units, and know strategies for dealing with them.

5.4 Accident Procedures

Purpose: Learn how to follow safe and legal procedures at an accident scene, and to properly report accidents.

Performance Criteria: Trainee will pass a written test on accident procedures. Among the topics to include are: guarding the scene of an accident to prevent further injury or damage, and obtain assistance; obtaining all information needed for accident reports to law enforcement, the employer, and the insurance company; rendering assistance to any injured parties, including providing first aid, provided he/she has had proper training; extinguishing fire including cargo, engine, electrical, and tire fires; and discussing liability only with law enforcement, the company, or their representative.

Trainee Skill Objectives:

Obtain information (role playing) for completion of Accident Reporting Kit.

Trainee Knowledge Objectives:

Know state laws and company requirements dealing with stopping and rendering assistance at the scene of an accident.

Explain procedures for protecting the scene of an accident and federal and state requirements for same.

Identify federal, state, insurance company, and employer requirements regarding accident reporting.

Suggest proper first aid procedures for the types of injuries most likely to be sustained in highway accidents.

Distinguish types of fire extinguishers appropriate to each class of fire.

Know procedures for extinguishing cargo, engine, electrical, and tire fires.

Explain where to stop vehicle in the event of a fire.

Know how to gather information at the scene.

Know how to complete an Accident Reporting Kit.

Know the importance of carrying a camera.

Never admit guilt or say "I'm sorry."

Know how to use the Emergency Response Guide.

5.5 Managing Life on the Road and Personal Resources

Purpose: Learn to actively manage own life and resources so as to take care of self and job.

Performance Criteria: Trainee will correctly identify problems and strategies that deal effectively with personal resources by describing, demonstrating, and matching problems and solutions for issues.

Trainee Skill Objectives:

- Employ fatigue-reducing strategies.
- Use stress-reducing techniques, as needed.
- Exercise restraint with diet and recreation while on the road.
- Get exercise while on the road.
- Make good decisions about where to stop and stay.
- Practice good personal hygiene.
- Practice good communication skills with family.

Trainee Knowledge Objectives:

- Recognize signs of fatigue.
- Know symptoms of stress, and match personal techniques of how to deal with the problem.
- Know strategies for dealing effectively with fatigue.
- Know the elements of a good diet.
- Understand the pay process.
- Identify a good exercise program for life on the road.
- Know personal sleep requirements and individual biorhythms or patterns.
- Identify safe and quiet truck stops.
- Know the effects of drugs and alcohol.
- Discuss stress caused by life on the road and being away from home.
- Know dynamics of industry and the role and importance of the driver.

5.6 Trip Planning

Purpose: Discuss importance of and requirements for planning trips, Federal and State requirements on need for permits, vehicle size, and weight limitations.

Performance Criteria: Plan several overnight trips, including breaks, sleep, identification of permits, estimating time of arrival, fuel stops, use of money, and other issues.

Trainee Skill Objectives:

Plan a route from one point to another that is optimal in terms of travel time, fuel costs, potential hazards, and federal, state, and local travel restrictions.

Request permits required by the nature of the vehicle, its cargo, and route to be traveled.

Arrange a secure place for vehicle on layovers, especially when transporting hazardous materials.

Use math to calculate miles, fuel use, and expenses.

Interpret maps.

Estimate travel time and plan rest stops and layovers.

Estimate fuel consumption and plan fuel stops.

Estimate needed expense money and obtain funds and/or credit cards.

Trainee Knowledge Objectives:

Know the types of vehicles, cargoes, and routes requiring special permits.

Know and use state regulations and the procedures for obtaining special permits.

Identify common map symbols.

Learn methods for good record keeping.

Know procedures for route planning, including preparing paperwork, route selection, and estimating time, fuel, money, and personal needs.

Know state and local law restrictions on vehicle size and weight.

Know how to use the *Trucker's Atlas*.

Know how a permit system operates.

Know that failure to obtain necessary permits can result in extensive delay and fines.

Know how to document expenses.

5.7 Communication Skills

Purpose: Demonstrate effective communication techniques.

Performance Criteria: Trainee will demonstrate effective use of communication skills by achieving a passing score and will use techniques on the street.

Trainee Skill Objectives:

Signal intentions such as lane change, hazards, and backing up.

Use horn and headlights appropriately.

Establish and use eye contact with drivers and pedestrians as a warning.

Avoid making decisions *only* on basis of another's signal.

Interact tactfully with customers and the general public, family, and company.

Use effective and appropriate conversation with customers, company personnel, and family.

Use on-board communication devices. To the extent possible, operate devices when the vehicle is not moving.

Trainee Knowledge Objectives:

Know universally-accepted signals.

Know laws and regulations concerning traffic signals.

Know the relationship of signals to intent and that signals do not convey the "right" to execute maneuver.

Know and use company-specified procedures for handling complaints.

Know how to listen and respond effectively.

Read and respond to on-board messages.

Know procedures for using (receiving and sending messages) on-board devices.

5.8 Geography

Purpose: Geography sets the stage for map reading and trip planning. The unit is intended to orient the trainee to direction, topographical features; city and state location; populated density; and borders.

Performance Criteria: The trainee will identify locations and features on a map of North America.

Trainee Skill Objectives:

Locate places using index.

Trainee Knowledge Objectives:

Identify direction.

Identify borders.

Recognize and understand the significance of topographical features.

Know the general location of major states and cities.

5.9 Professionalism, Personal Responsibility, and Ethics

Purpose: The unit deals with professional image and reliability. It is intended to help improve the image of the overall industry.

Performance Criteria: Trainee will identify situations and behaviors where professionalism makes a real difference and suggest what the drivers most appropriate behaviors are.

Trainee Skill Objectives:

Match and demonstrate appropriate behaviors in typical situations.

Trainee Knowledge Objectives:

Understand effect of image and how you represent the trucking industry.

Recognize the norms and expectations of professional behavior.

Understand and describe work ethics such as honesty and keeping your word.

Identify how professionalism and ethics are critical to customer service and public image.

Identify typical situations and alternative behaviors that sometimes cause truckers problems—or that are opportunities for improvement.

5.10 Driver Wellness

Purpose: Driver wellness contributes to the quality of life on the road. The unit is intended as “preventative” medicine, to keep problems from occurring.

Performance Criteria: Trainee will match issues and good practices to prevent problems from occurring.

Trainee Skill Objectives:

None.

Trainee Knowledge Objectives:

Understand the role and preventative measures for fatigues.

Understand the role of and preventative medicine for weight gain.

Understand the role of and preventative medicine for sleeplessness.

Understand the role of and preventative medicine for various illnesses.

Understand the role of and preventative medicine for poor muscle tone.

Understand the role of and preventative medicine for back problems.

Understand the role of and preventative medicine for boredom.

Understand the role of and preventative medicine for loneliness.

5.11 Introduction to Transportation

Purpose: This section deals with the business of the industry. It is intended to help the trainee understand the range of opportunity in the industry.

Performance Criteria: Trainee will identify the structure and understand many of the dynamics of the industry.

Trainee Skill Objectives:

None.

Trainee Knowledge Objectives:

Understand the economics and the “business side” of trucking.

Recognize the complexity and structure of the industry and its logistics.

Identify the types of carriers.

Identify the terms of trade.

Know the regulatory bodies and their authority.

Understand the basics of insurance and risk management.

Understand at least part of the history, the present, and the future of the industry.

Identify the organizational structure of various stakeholders in the industry.

Recognize career paths in the industry.

Identify rewards and recognition in the industry.

5.12 Interpersonal Communication

Purpose: This unit deals with interpersonal skills outside the company. It is intended to enable the driver to manage his/her life effectively and positively.

Performance Criteria: Trainee will master a range of communication skills, useful with many audiences.

Trainee Skill Objectives:

Demonstrate writing skills.

Demonstrate conflict management techniques in typical situations.

Trainee Knowledge Objectives:

Know strategies for conflict management.

Develop writing skills for letters and memorandums.

Learn listening and responding skills.

Learn and match communication skills to audiences such as customers, media, law enforcement, and the public.

Express willingness to communicate using rules and standards.

Identify and recognize how to preserve family communication.

Know and use a chain-of-command to “smooth out” work.

Use communication to build teamwork.

Know, recognize, and use the impact of feelings and attitudes in communication.

5.13 Transportation Computing

Purpose: This unit deals with emerging technology. The trainee will master use of the computer as a driver.

Performance Criteria: Trainee will demonstrate effective internet, e-mail, word processing, and spreadsheet use.

Trainee Skill Objectives:

Demonstrate capacity to use a computer for all types of purposes.

Trainee Knowledge Objectives:

Recognize how to use computers to send and receive messages.

Recognize how to use computers to deal with spreadsheets, invoices, and other paperwork.

Know how to download, use, store, and send files.

Know how to use the internet for all types of purposes.

5.14 Personal Safety

Purpose: This unit deals with learning how to protect oneself on the road.

Performance Criteria: Trainee will match situations with types of danger and safety strategies.

Trainee Skill Objectives:

None.

Trainee Knowledge Objectives:

Identify the entire range of dangerous situations.

Know hazards associated with particular types of situations.

Recognize alternative sources of assistance and how to find the assistance.

Learn actions to take in various situations.