**PROPOSED CORE CURRICULUM**

[**Facilitator’s Note: The topic headings in the document below were agreed upon in the Core Curriculum WG conference call on April 2, 2015. The descriptors have been added by Carl Spatocco (CVTA) since that call to clarify and explain the topic heading. The descriptors have not yet been vetted or approved by the Core Curriculum WG.]**

**THEORY**

**BASIC OPERATION**

The units in this section must cover the interaction between the driver and the commercial motor vehicle (CMV). The student will receive instruction in the Federal Motor Carrier Safety Regulations (FMCSRs) and will be introduced to the basic CMV instruments and controls. The units in this section must also teach entry-level CDL driver-trainees how to properly perform vehicle inspections, control the motion of CMVs under various road and traffic conditions, shifting and backing techniques, and how to properly couple and uncouple tractor-trailers. During the off-street driving exercises required by this section, entry-level CDL driver-trainees must first familiarize themselves with the basic operating characteristics of a CMV. Then, students must be able to perform the skills in each unit to a level of proficiency required to permit safe transition to on‑street driving.

Orientation

This unit must introduce students to the tractor-trailer driver training curriculum and the components of a tractor-trailer. The student will learn the safety fundamentals, essential regulatory requirements (i.e., overview of FMCSRs/hazardous materials (HM) regulations), and driver responsibilities not directly related to driving. This unit must also include an overview of the applicability of State and local laws relating to the safe operation of the CMV.

Control Systems/Dashboard

This unit must introduce students to vehicle instruments and controls. The student will learn to read gauges and instruments correctly and learn proper use of vehicle safety components, including safety belts and mirrors. The student will also learn to identify, locate, and explain the function of each of the primary and secondary controls including those required for steering, accelerating, shifting, braking, and parking.

Pre and Post-Trip Inspections

This unit must stress to students the importance of vehicle inspections and help them develop the skills necessary for conducting pre-trip, en-route, and post trip inspections.

Basic Control

This unit must introduce basic vehicular control and handling as it applies to tractor-trailers. This must include instruction addressing basic tractor-trailer controls in areas such as executing sharp left and right turns, centering the vehicle, and maneuvering in restricted areas.

Shifting/Operating Transmissions

This unit must introduce shifting patterns and procedures to the students so that they can proficiently perform basic shifting maneuvers. This must include training each student to execute up and down shifting techniques on multi-speed dual range transmissions.

Backing and Docking

This unit must prepare students to back and dock the tractor-trailer safely.

Coupling and Uncoupling

This unit must provide instruction for the student to develop the skills necessary to conduct the procedures for safe coupling and uncoupling of tractor-trailer units.

**SAFE OPERATING PROCEDURES**

The units in this section teach the practices required for safe operation of the tractor-trailer on the highway. Entry-level CDL driver-trainees must be taught how to apply their basic operating skills in a way that ensures their safety and that of other road users under various road, weather, and traffic conditions.

Visual Search

The purpose of this unit is to enable students to visually search the road for potential hazards and critical objects.

Vehicle Communications

The purpose of this unit is to enable students to communicate their intentions to other road users (e.g., proper signaling). Students will learn techniques for different types of communication on the road.

Speed Management

The purpose of this unit is to enable students to manage speed effectively in response to various road, weather, and traffic conditions. Emphasis must be placed upon maintaining safe vehicular speed.

Space Management

The purpose of this unit is to enable students to manage the space required for safe vehicle operation. Emphasis must be placed upon maintaining appropriate space surrounding the vehicle under various traffic and road conditions.

Night Operation

Students will learn how to operate safely at night. Emphasis must be placed upon the factors affecting operation of CMVs at night. Night driving presents specific factors that require special attention on the part of the driver. Changes in vehicle safety inspection, vision, communications, speed, and space management are needed to deal with the special problems night driving presents.

Extreme Driving Conditions

This unit must provide instruction addressing the driving of CMVs under extreme driving conditions. Emphasis must be placed upon the factors affecting the operation of CMVs in cold, hot, and inclement weather and on steep grades and sharp curves. Changes in basic driving habits are needed to deal with the specific problems presented by these extreme driving conditions. Students will also learn proper tire chaining procedures in this unit.

**ADVANCED OPERATING PRACTICES**

The units in this section must introduce higher-level skills that can be acquired only after the more fundamental skills and knowledge taught in the prior two sections have been mastered. Qualified driver-instructors must teach the perceptual skills necessary to recognize potential hazards and must demonstrate the procedures needed to handle a CMV when faced with a hazard.

Hazard Perception

The purpose of this unit is to enable students to recognize potential dangers in the driving environment and to take appropriate defensive action(s) before the dangers develop into emergency situations. The unit must provide instruction addressing the principles of recognizing hazards in sufficient time to reduce the severity of the hazard and neutralize possible emergency situations. Students must identify road conditions and other road users that are a potential threat to the safety of the tractor-trailer and suggest appropriate adjustments. Emphasis must be placed upon hazard recognition, visual search, adequate surveillance, and response to possible emergency-producing situations encountered by CMV drivers in various traffic situations. Included in this unit should be a discussion of driver distraction issues, including cell phone use, texting, and use of in-cab technology.

Emergency Maneuvers/Skid Avoidance

The purpose of this unit is to enable students to carry out appropriate responses when faced with CMV emergencies. These must include evasive steering, emergency braking, off-road recovery, brake failures, tire blowouts, hydroplaning, skidding, jackknifing, and the rollover phenomenon. The discussion must include a review of unsafe acts and the role they play in producing hazardous situations.

Skid Control and Recovery

The purpose of this unit is to teach the causes of skidding and jackknifing and techniques for avoiding and recovering from them. The student must be able to maintain directional control and bring the CMV to a stop in the shortest possible distance while operating over a slippery surface.

Passive Non-Signaled Railroad Crossings

Students will learn to recognize potential dangers and appropriate safety procedures to utilize at railroad (RR) grade crossings.

Compliance, Safety, Accountability (CSA)

Students will learn to the basics and implications of the FMCSA’s CSA system.

**VEHICLE SYSTEMS AND REPORTING MALFUNCTIONS**

This section is intended to provide entry-level CDL driver-trainees with sufficient knowledge of the tractor-trailer and its systems and subsystems to ensure that they understand and respect their role in vehicle inspection, operation, and maintenance and the impact of those factors upon highway safety and operational efficiency.

Identification of Malfunctions, Including Out-of-Service (OOS) Violations

The purpose of this unit is to teach students to identify major tractor/trailer systems. The goal is to explain their function and how to check all key vehicle systems, e.g., engine, engine exhaust auxiliary systems, brakes, drive train, coupling systems, and suspension. The student will be provided with a detailed description of each system, its importance to safe and efficient operation, and what is needed to keep the system in good operating condition. The student will further learn what vehicle and driver violations are classified as OOS violations.

Maintenance

The purpose of this unit is to introduce students to the basic servicing and checking procedures for various engine and vehicle components and to help develop their ability to perform preventive maintenance and simple emergency repairs.

Diagnosing and Reporting Malfunctions

The purpose of this unit is to enable the students to diagnose vehicle malfunctions and to perform emergency maintenance procedures correctly.

**NON-VEHICLE ACTIVITIES**

The units in this section are designed to prepare entry-level CDL driver-trainees to handle those responsibilities of a tractor-trailer driver that do not involve operating the CMV. The units in this section must ensure these activities are performed in a manner that ensures the safety of the driver, vehicle, cargo, and other road users.

Handling and Documenting Cargo

The purpose of this unit is to enable students to understand the basic theory of cargo weight distribution, cargo securement on the vehicle, cargo covering, and techniques for safe and efficient loading/unloading in the classroom followed by practical demonstration and practice. Basic information regarding the proper handling and documentation of HM cargo will also be covered in this unit.

Environmental Compliance Issues

Student will learn to recognize environmental hazards and issues related to the CMV and load, and take action to meet city, county, state/provincial, and federal requirements.

Hours of Service (HOS) Requirements

The purpose of this unit is to enable students to understand the basic concepts and requirements of the FMCSRs (Part 395, HOS of Drivers) and to develop the ability to complete a Driver’s Daily Log and logbook recap.

Accident Procedures

The purpose of this unit is to teach students how to follow safe and legal procedures at a crash scene.

Fatigue and Wellness Awareness

The issues of driver fatigue and staying alert will be covered in this unit. The student will also learn about driver wellness, sleep apnea, and basic health maintenance, including diet and exercise.

Interpersonal Communications

Student will learn effective interpersonal communication techniques and interpersonal skills when interacting with the company, customers, and the general public.

Trip Planning

This unit must address the importance of and requirements for planning routes and trips. This instruction must address the importance of planning the safest route, including planning for rest stops, heavy traffic areas, rail‑highway grade crossing safe clearance, etc. Unit must include information on the importance of and requirements for planning trips, Federal and State requirements on the need for permits, and vehicle size and weight limitations.

Whistleblower

The right of an employee to question the safety practices of an employer without incurring the risk of losing a job or being subject to reprisals simply for stating a safety concern is included in this unit. The student will become familiar with the whistleblower protection regulations in 29 CFR part 1978.

Drug/Alcohol

The prohibition of drug and alcohol use – and the violations for such - must be covered in this unit. The importance of avoiding excessive use of drugs/alcohol must be covered in this unit.

Medical Requirements

In this unit, students will learn the Federal rules on medical certification, medical examination procedures, general qualifications, responsibilities, and disqualifications based on various offenses, orders, and loss of driving privileges (49 CFR part 391, subparts B and E).

**RANGE**

VEHICLE MANEUVERS/SKILLS

Vehicle Inspection Pre-Trip/En-route/post-trip

The purpose of this unit is to determine whether the student/driver is able to properly perform pre-trip and post-trip inspections making accurate notes of actual and suspected component abnormalities or malfunctions using a Driver Vehicle Inspection Report (DVIR) in accordance with the FMCSRs.

Straight Line Backing

The purpose of this unit is to determine whether the student/driver is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances various straight line backing maneuvers.

45 & 90 Degree Alley Dock Backing

The purpose of this unit is to determine whether the student/driver is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances 45-90 degree alley dock maneuvers.

Off-set Backing

The purpose of this unit is to determine whether the student/driver is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances off-set backing maneuvers.

Parallel Parking Blind Side

The purpose of this unit is to determine whether the student/driver is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances parallel parking blind side positions/maneuvers.

Parallel Parking Sight Side

The purpose of this unit is to determine whether the student/driver is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances parallel parking sight side positions/maneuvers.

Coupling and Uncoupling

The purpose of this unit is to determine whether the student/driver is able to properly couple and uncouple tractor-trailer units, in accordance with safety requirements and approved practices.

**ROAD**

Vehicle Controls including: Left Turn, Right Turns, Lane Changes, High Speed curves

The purpose of this unit is for the student/driver to effectively initiate vehicle movement, correctly perform various vehicle maneuvers, and stop the vehicle in a controlled manner.

Shifting/Transmission

The purpose of this unit is for the student/driver to properly learn/perform all required shifting techniques, and making any necessary adjustments in the process.

Communications/Signaling

The purpose of this unit is for the student/driver to learn to use the correct procedures to signal intentions and effectively communicate with other drivers.

Hazard Perception\*

The purpose of this unit is to enable students to recognize potential dangers in the driving environment and to take appropriate defensive action(s) before the dangers develop into emergency situations. The unit must provide instruction addressing the principles of recognizing hazards in sufficient time to reduce the severity of the hazard and neutralize possible emergency situations. Students must identify road conditions and other road users that are a potential threat to the safety of the tractor-trailer and suggest appropriate adjustments.

Railroad Crossing\*

The student/driver will learn to recognize potential dangers and appropriate safety procedures to utilize at railroad (RR) grade crossings.

Night Operations \*

Students will learn how to operate safely at night. Emphasis must be placed upon the factors affecting operation of CMVs at night. Night driving presents specific factors that require special attention on the part of the driver. Changes in vehicle safety inspection, vision, communications, speed, and space management are needed to deal with the special problems night driving presents.

Extreme Driving Conditions \*

This unit must provide instruction addressing the driving of CMVs under extreme driving conditions. Emphasis must be placed upon the factors affecting the operation of CMVs in cold, hot, and inclement weather and on steep grades and sharp curves. Changes in basic driving habits are needed to deal with the specific problems presented by these extreme driving conditions.

Emergency Maneuvers/Skid Avoidance \*

The purpose of this unit is to enable students to carry out appropriate responses when faced with CMV emergencies. These must include evasive steering, emergency braking, off-road recovery, brake failures, tire blowouts, hydroplaning, skidding, jackknifing, and the rollover phenomenon.

Skid Control and Recovery \*

The purpose of this unit is to teach the causes of skidding and jackknifing and techniques for avoiding and recovering from them. The student must be able to maintain directional control and bring the CMV to a stop in the shortest possible distance while operating over a slippery surface.

Visual Search/Smith System

The purpose of this unit is to enable the student/driver to visually search the road for potential hazards and critical objects.

Speed Management and Space Management

The purpose of this unit is for the student/driver to learn and appropriately adjust and maintain vehicle speed, taking into consideration various factors such as traffic and road conditions. This unit will include instructing the student in maintaining proper speed to manage the space around the CMV from other vehicles.

Safe Driver Behavior\*

The purpose of this unit is to enable the student/driver to demonstrate the safe driver behavior of the operation of the CMV.

Hours of Service

The purpose of this unit is to enable students to understand the basic concepts and requirements of the FMCSRs (Part 395, Hours of Service of Drivers); and to develop the ability to complete a Driver’s Daily Log and logbook recap.

\*Indicates concepts that are discussed during road training or simulated but not necessarily performed.