Safety Measurement System (SMS) Methodology:

Behavior Analysis and Safety Improvement Category (BASIC) Prioritization Status

Compliance ★ Safety ★ Accountability

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Federal Motor Carrier Safety Administration

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List of Abbreviations

ATRI	American Transportation Research Institute
BASIC	Behavior Analysis and Safety Improvement Category
CDL	Commercial Driver's License
CMV	Commercial Motor Vehicle
CRWG	Compliance Review Work Group
CSA	Compliance, Safety, Accountability
DIR	Driver Information Resource
DSMS	Driver Safety Measurement System
EOBR	Electronic Onboard Recorder
FAST Act	Fixing America's Surface Transportation Act
FMCSA	Federal Motor Carrier Safety Administration
FMCSRs	Federal Motor Carrier Safety Regulations
HM	Hazardous Materials
HMRs	Hazardous Materials Regulations
HMSP	Hazardous Materials Safety Permit
HOS	Hours-of-Service
IEP	Intermodal Equipment Provider
L&I	Licensing and Insurance
MCMIS	Motor Carrier Management Information System
MCSAP	Motor Carrier Safety Assistance Program
OOS	Out-of-Service
OP-Model Test	Operational Model Test
PPOB	Principal Place of Business
PU	Power Unit
RDR	Request for Data Review
SAFER	Safety and Fitness Electronic Records System
SafeStat	Motor Carrier Safety Status Measurement System

SI	Safety Investigator
SMS	Safety Measurement System
UMTRI	University of Michigan Transportation Research Institute
U.S. DOT	U.S. Department of Transportation
VMT	Vehicle Miles Travelled

1. Introduction

The Federal Motor Carrier Safety Administration's (FMCSA) core mission is to prevent crashes, injuries, and fatalities related to large trucks and buses on our Nation's roads. An important step in achieving the mission is to identify unsafe motor carriers and prioritize FMCSA enforcement resources on those that pose the greatest safety risk. The Safety Measurement System (SMS) is FMCSA's workload prioritization tool. FMCSA uses the SMS to identify carriers with potential safety problems for interventions[1] as part of the Agency's safety compliance and enforcement program called Compliance, Safety, Accountability (CSA).

The SMS is designed to incorporate the safety-based regulations related to motor carrier operations. The SMS assesses compliance and prioritizes carriers for interventions based on their on-road performance and investigation results. On-road performance includes data collected from roadside inspections and crash reports; investigation results include violations discovered within the previous 12 months.

The SMS assesses motor carrier on-road performance and compliance by organizing data into seven Behavior Analysis and Safety Improvement Categories (BASICs): Unsafe Driving, Crash Indicator, Hours-of-Service Compliance, Vehicle Maintenance, Controlled Substances/Alcohol, Hazardous Materials Compliance (HM), and Driver Fitness.

In each BASIC, the SMS calculates a quantifiable measure of a motor carrier's performance. The SMS groups carriers by BASIC with other carriers that have a similar number of safety events (e.g., crashes, inspections, or violations). The SMS then ranks these carriers based on their BASIC measure, assigning them a percentile from 0−100 (the higher the percentile, the worse the safety performance).

The SMS also prioritizes carriers for interventions using a set of violations known as Acute and Critical Violations. This set of violations is defined in the current Safety Fitness Procedures (49 CFR 385 Appendix B). If a carrier has been found with one or more Acute and/or Critical Violations within the past 12 months during an investigation, the carrier will receive an "Alert" in the corresponding BASICs. The SMS uses both the BASIC percentiles and Acute and Critical Violations to highlight safety performance issues within each BASIC and prioritize carriers for interventions.

Various studies have shown that the SMS is effective in helping the Agency identify high crash-risk carriers for interventions.

- FMCSA's 2014 SMS Effectiveness Test found that six of the seven BASICs identify carriers

[1] An intervention is an action used by FMCSA to encourage or enforce compliance with Federal regulations. Types of interventions include warning letters, roadside inspections, and investigations.

with a higher future crash rate than the national average for interventions and in all BASICs in the for-hire combination carrier segment.[2] The report also found that carriers with one or more BASICs prioritized for interventions have a 79% higher future crash rate compared to active carriers with no BASICs prioritized for interventions.

- A 2012 American Transportation Research Institute (ATRI) report analyzed the five publicly available BASICs.[3] The report showed that carriers with an "Alert" demonstrated higher crash rates than those without "Alerts" in four BASICs.[4] In addition, the report showed that crash risk increases as the number of "Alerts" increases.
- The 2011 independent evaluation of the CSA Operational Model Test found that five of the seven SMS BASICs demonstrated a strong relationship to crash risk.[5]

1.1 Purpose of this Document

The purpose of this document is to explain how motor carriers' safety performance and compliance status in the SMS BASICs causes them to be identified and prioritized for FMCSA interventions. Motor carriers highlighted with a ⚠ (i.e., "Alert") symbol in the corresponding BASIC are prioritized for interventions or further monitoring. This BASIC prioritization status information is currently displayed on the SMS Website.[6]

This revised version of the SMS Methodology document incorporates and consolidates information on how investigation results impact a carrier's prioritization status in each BASIC. These revisions to the SMS Methodology document are intended to make information regarding the SMS methodology easier to access and understand, but do not alter the methodology itself. A brief summary of each section of the document appears below.

Section 2. Design of the SMS BASIC Prioritization Status: describes the seven BASICs, the data sources, and how on-road performance and/or Acute and Critical Violations from prior investigations are used to determine BASIC prioritization status.

Section 3. SMS BASIC Prioritization Status Methodology: explains the methodology used to determine percentiles and how the percentiles and/or investigation results for each BASIC affect

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[2] *FMCSA, The Carrier Safety Measurement System (CSMS) Effectiveness Test by Behavior Analysis and Safety Improvement Categories (BASICs),* January 2014. The full report is available at: https://csa.fmcsa.dot.gov/Documents/CSMS_Effectiveness_Test_Final_Report.pdf.

[3] ATRI, *Compliance, Safety, Accountability: Analyzing the Relationship of Scores to Crash Risk*, October 2012, http://atri-online.org.

[4] FMCSA prioritizes carriers with "Alerts" for interventions.

[5] University of Michigan Transportation Research Institute (UMTRI), *Evaluation of the CSA 2010 Operational Model Test,* August 2011. https://csa.fmcsa.dot.gov/Documents/Evaluation-of-the-CSA-Op-Model-Test.pdf.

[6] The SMS Website is available at: https://ai.fmcsa.dot.gov/sms/. Pursuant to the Fixing America's Surface Transportation (FAST) Act of 2015, the information previously available on the SMS Website related to property carrier's compliance and safety performance is no longer available for public display. FMCSA is working to restore the data that is allowed to remain publicly available. At this time, FMCSA has restored the publicly available inspection and crash data for property carriers to the public SMS Website. Property carriers must log in to view their complete SMS results.

the carrier's BASIC prioritization status.

Section 4. SMS Improvement Process: outlines the Agency's improvement process for the SMS.

Appendix A: contains tables listing all of the violations used in the SMS by BASIC, along with the corresponding Federal Motor Carrier Safety Regulations (FMCSRs) or Hazardous Materials Regulations (HMRs).

Appendix B: provides a history of the changes made to the SMS methodology to date.

2. Design of the SMS BASIC Prioritization Status

The Safety Measurement System (SMS) is the Federal Motor Carrier Safety Administration's (FMCSA) workload prioritization tool. FMCSA uses the SMS to assess noncompliance by analyzing on-road performance data collected from inspections, crash reports, and Acute and Critical Violations discovered during prior investigations. The SMS uses this safety data to assess carriers in the seven Behavior Analysis and Safety Improvement Categories (BASICs). The BASICs are: Unsafe Driving, Crash Indicator, Hours-of-Service (HOS) Compliance, Vehicle Maintenance, Controlled Substances/Alcohol, Hazardous Materials (HM) Compliance, and Driver Fitness.

Since its inception, the SMS has provided the motor carrier industry and other safety stakeholders with more comprehensive, informative, and regularly updated safety performance data.[7] Findings from the SMS allow the evaluated carriers to identify safety areas where they need to improve. In turn, this information empowers motor carriers and other stakeholders involved with the motor carrier industry to make safety-based business decisions using all available sources of information, including safety fitness determinations (ratings) in FMCSA's Safety and Fitness Electronic Records (SAFER) system, and authority and insurance status in FMCSA's Licensing and Insurance (L&I) system. Access to all of this information was centralized in the August 2014 revisions to the SMS public display.

2.1 Description of the BASICs

The BASICs incorporate violations of the Federal Motor Carrier Safety Regulations (FMCSRs) and the Hazardous Materials Regulations (HMRs), and are organized to focus on behaviors that may cause or increase the severity of crashes. The BASICs are defined as follows:

- Unsafe Driving BASIC—Operation of commercial motor vehicles (CMVs) in a dangerous or careless manner. *Example violations include: speeding, reckless driving, improper lane change, texting while operating a CMV, not wearing safety belts.*
- Crash Indicator BASIC (not publicly available)—Historical pattern of crash involvement, including frequency and severity. This BASIC is based on information from State-reported crashes that meet reportable crash standards. All reportable crashes are used regardless of the carrier's or driver's role in the crash. This BASIC uses crash history that is not specifically a behavior but instead the consequence of a behavior or a set of behaviors.
- HOS Compliance BASIC—Operation of CMVs by drivers who are ill, fatigued, or in noncompliance with the HOS regulations. This BASIC includes violations of regulations pertaining to records of duty status (RODS) as they relate to HOS requirements and the

[7] *See* 75 Fed. Reg. 18256 (Apr. 9, 2010).

management of CMV driver fatigue. *Example violations include: operating a CMV while ill or fatigued, requiring or permitting a property-carrying CMV driver to drive more than 11 hours, failing to preserve RODS for 6 months/failing to preserve supporting documents.*

- Vehicle Maintenance BASIC—Failure to properly maintain a CMV and prevent shifting loads, spilled or dropped cargo, and overloading of a CMV. *Example violations include: inoperative brakes, lights, and other mechanical defects, improper load securement, failure to make required repairs.*
- Controlled Substances/Alcohol BASIC—Operation of CMVs by drivers who are impaired due to alcohol, illegal drugs, and misuse of prescription or over-the-counter medications. *Example violations include: use or possession of controlled substances or alcohol, failing to implement an alcohol and/or controlled substance testing program.*
- HM Compliance BASIC (not publicly available)—Unsafe handling of HM on a CMV. *Example violations include: failing to mark, label, or placard in accordance with the regulations, not properly securing a package containing HM, leaking containers, failing to conduct a test or inspection on a cargo tank when required by the United States Department of Transportation (U.S. DOT).*
- Driver Fitness BASIC—Operation of CMVs by drivers who are unfit to operate a CMV due to lack of training, experience, or medical qualifications. *Example violations include: failing to have a valid and appropriate commercial driver's license (CDL), being medically unqualified to operate a CMV, failing to maintain driver qualification files.*

In addition to the seven BASICs, there is an Insurance/Other Indicator used for prioritization that incorporates violations found during investigations. The Insurance/Other Indicator is defined as follows:

- Insurance/Other Indicator (not publicly available)—Failure to comply with registration, insurance, or other reporting requirements. *Example violations include: operating a CMV without the minimum level of financial responsibility, failing to maintain copies of crash reports.*

2.2 Data Sources

The SMS assesses an individual carrier's performance by BASIC calculated from information collected from roadside inspections, State-reported CMV crash records, and Acute and Critical Violations from investigations. These data are recorded in the Motor Carrier Management Information System (MCMIS). In addition, motor carrier Census data, also recorded in MCMIS, are used for the identification and normalization of safety event group data. Below are more detailed descriptions of each data source.

- Roadside Inspections are examinations that a certified Motor Carrier Safety Assistance Program (MCSAP) inspector (usually State or local law enforcement personnel) conducts on individual CMVs and drivers to determine if they are in compliance with the FMCSRs and/or HMRs.
    - Violations are recorded during inspections and entered into the MCMIS database. A subset of these violations may result in a driver or vehicle being placed out-of-

service (OOS). The OOS violations must be corrected before the affected driver or vehicle is allowed to return to service. The SMS assessments are based on the safety violations listed in Appendix A. These assessments, however, do not include those violations that are: (1) a result of a crash[8]; (2) assigned exclusively to another entity such as a shipper or Intermodal Equipment Provider (IEP); or (3) indicated as "dismissed/not guilty" based on the adjudicated citation process.

Note: Some roadside inspections are performed following a traffic enforcement stop for a moving violation. Violations reported on the inspection form during such stops do not always result in the issuance of a citation to the driver, but are used in the SMS whether or not a citation is issued.

- Investigations are examinations that a certified Safety Investigator (SI) conducts on individual motor carriers to evaluate their compliance with the FMCSRs and/or HMRs. There are two types of investigations: Offsite Investigations and Onsite Investigations. Offsite Investigations address emerging safety problems and do not occur at the carrier's principal place of business (PPOB). During an Offsite Investigation, an SI works with the carrier remotely to identify safety problems using documentation that the carrier provides related to each BASIC. Onsite Investigations occur at the carrier's PPOB, and may focus on specific safety problems (Onsite Focused Investigation) or the carrier's entire operations (Onsite Comprehensive Investigation).
  - Violations are recorded during investigations and entered into the MCMIS database. Acute and Critical Violations are a subset of these violations. This subset of violations is defined in the current Safety Fitness Procedures (49 CFR 385 Appendix B). An Acute Violation, also known as a one-time occurrence violation, is triggered by noncompliance so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is triggered by a pattern of noncompliance related to the carrier's management or operational controls that is found during an investigation. For more information on each type of violation, see section 2.4.
- State-Reported Commercial Vehicle Crash Data are taken from MCMIS and provide information on crashes as reported by State and local law enforcement officials. All reportable crashes are used regardless of the carrier's or driver's role in the crash. A reportable crash is defined in 49 CFR 390.5 as a crash that involves a CMV operating on a public roadway, which results in a fatality, an injury, and/or a tow-away.
- Motor Carrier Census Data are first collected when a carrier obtains a U.S. DOT number. The Census data are primarily collected from: (1) Form MCS-150, filled out by the carrier, and (2) Form MCS-151, filled out by law enforcement as part of an investigation. The SMS uses

[8] Only pre-existing violations from post-crash inspections are used in the SMS. Violations recorded in MCMIS as being attributed to the crash are not used.

Census data for identification and normalization of safety-related data. Examples of Census data include U.S. DOT number, carrier name, number and type of Power Units (PUs), annualized Vehicle Miles Travelled (VMT), physical location, current status, and types of cargo hauled (e.g., household goods, produce, chemicals, grain, metal, etc.).

2.3 On-Road Design Features

The SMS analyzes a carrier's on-road performance by converting the carrier's inspection and crash data into BASIC measures and percentiles. This conversion involves the application of several SMS design features, as discussed below.

Violation Severity

All roadside inspection violations that pertain to a BASIC are assigned a severity weight that reflects its association with crash occurrence and crash consequences. The severity weights help differentiate the levels of crash risk associated with the various violations attributed to each BASIC.

The violation severity weights in the tables in Appendix A have been converted to a scale from 1 to 10 for each BASIC, where 1 represents the lowest crash risk and 10 represents the highest crash risk relative to the other violations in the BASIC. Since these severity weights are BASIC-specific, two weights that appear identical but are in different BASICs do not represent the same crash risk. For example, a 5 in one BASIC is not equivalent to a 5 in another BASIC. Instead, the 5 represents the midpoint between a crash risk of 1 and 10 within a BASIC. Severity weights from one BASIC should not be added, subtracted, equated, or otherwise combined with the severity weight of a violation from any other BASIC.

Within certain BASICs, additional severity weight is applied to violations that resulted in driver or vehicle OOS Orders. This additional severity weight for OOS conditions, as with the severity weight assigned to each violation, is based on analysis that quantified the extent of these associations between violation and crash risk, as well as input from enforcement subject matter experts. Appendix A describes the severity weights' derivation and provides the specific weights assigned to each roadside inspection violation used in the SMS.

Adjudicated Citations

States may issue a citation (i.e., ticket) associated with a violation noted in the roadside inspection. Such citations may be subsequently adjudicated in a due process system. FMCSA has implemented an adjudicated citations policy that impacts the use of roadside inspection violations in the SMS. Under this policy, violations can be removed or set to a severity weight of 1 in the SMS if the adjudicated citations associated with those violations result in certain outcomes, as indicated in Table 2–1 below.

Table 2–1. Impact of Adjudicated Citation Result on Violation in SMS

Citation Result for a Violation	Violation in SMS
Dismissed/Not guilty	Remove violation (as stated in Section 2.2)
Convicted of a different charge	Severity weight set to 1 and not subject to OOS weight

For violations to be considered for removal or set to a lower severity weight in the SMS, drivers or carriers must submit certified documentation of the judicial proceeding results through a Request for Data Review (RDR) in FMCSA's DataQs system to initiate this process. The results of the process will determine if the violation is removed, set to a severity weight of 1, or retained for use in the SMS. This process only applies to inspections conducted on or after August 23, 2014, and is not retroactive.[9]

Crash Severity

Crashes are assigned severity weights according to their impact. Greater weight is attributed to crashes involving injuries, fatalities, and/or crashes involving the release of HM than to crashes resulting only in a vehicle being towed away from the scene of the crash.

Time Weights

All on-road safety events are assigned a time weight. The time weight of an event decreases with time. This decline results in more recent events having a greater impact on a carrier's BASIC measures than older events. Safety events older than 24 months are no longer used to assess a carrier's safety posture in the SMS.

Normalization

BASIC measures are normalized to reflect differences in on-road exposure among carriers. The SMS normalizes for the number of driver inspections with driver-related BASICs, and vehicle inspections are used for normalization within vehicle-related BASICs. Therefore, the number of driver inspections normalizes the HOS Compliance, Controlled Substances/Alcohol, and Driver Fitness measures, while the number of vehicle inspections normalizes the Vehicle Maintenance and HM Compliance BASIC measures. The HM Compliance BASIC measure is further qualified to use only vehicle inspections where the carrier was noted as transporting placardable quantities of HM.

While violations of the above BASICs are discovered during an inspection, a distinction is made for behaviors that usually prompt an inspection. For this reason, the SMS also normalizes the Unsafe Driving

[9] As outlined in the Federal Register Notice published on June 5, 2014 (http://www.fmcsa.dot.gov/regulations/rulemaking/2014-13022).

BASIC measure by carrier size (i.e., a hybrid PU and VMT measure), as this BASIC largely comprises violations such as speeding that initiate an inspection being conducted. Similarly, the Crash Indicator BASIC is also normalized by carrier size.

Segmentation

The Unsafe Driving and Crash Indicator BASICs account for carrier differences by segmenting the carrier population into two groups based on the types of vehicles operated. This segmentation ensures that carriers with fundamentally different types of vehicles/operations are not compared to each other. The two segments are: (1) "Combination" or combination trucks/motor coach buses when these vehicle types constitute 70% or more of the total PU types in a motor carrier's fleet, and (2) "Straight" or straight trucks/other vehicles when these vehicle types constitute more than 30% of the total PUs in a motor carrier's fleet.

Safety Event Groups

To further account for the differences among carriers when assessing their on-road performance, the SMS places carriers in safety event groups based on the number of safety events (e.g., inspections, violations, crashes) in which they have been involved. This tiered approach accounts for the inherently greater variability in rates based on small samples or limited levels of exposure and the stronger level of confidence in measures based on higher exposure. The safety event grouping also allows the SMS to handle the widely diverse motor carrier population while ensuring that similarly situated carriers are treated with the same standards.

Data Sufficiency

The SMS employs data sufficiency standards to ensure that there are enough inspections or crashes to produce meaningful measures of on-road safety performance for carriers. In instances where the safety performance of a carrier can potentially lead to FMCSA interventions, additional data sufficiency tests are employed. These tests ensure that a carrier has a "critical mass" of poor performance data or a pattern of violations, such as having a minimum number of inspections with BASIC-related violations, before adverse action is taken.

Percentile Rank

The SMS uses on-road measures to assign a percentile ranking to each BASIC. Each measure is a quantifiable determination of safety behavior. Percentile ranking allows the safety behavior of a carrier to be compared with the safety behavior of carriers with similar numbers of safety events. Within each safety event group, a percentile is computed on a 0–100 scale for each carrier that receives a non-zero measure, with 100 indicating the worst performance.

Percentiles are generated from measures of U.S.-domiciled interstate and HM carriers. The remaining carriers—intrastate non-HM and non-U.S.-domiciled—are assigned percentiles afterwards based on the equivalent measures-to-percentile relationship of the U.S.-domiciled carriers. Carriers with percentiles above a certain set threshold that meet minimum data sufficiency requirements in a BASIC will be

identified for potential FMCSA interventions.

2.4 Investigation Features

SMS assessments in each BASIC consider both percentiles and Acute and Critical Violations related to that BASIC. If a carrier is found with one or more Acute and/or Critical Violations within the past 12 months during an investigation, the carrier will receive a ⚠ symbol in the corresponding BASIC. This ⚠ symbol denotes that the carrier may be prioritized for interventions or further monitoring. The details of the violation will be displayed on the SMS Website in the carrier's investigation results related to that BASIC.

Acute and Critical Violations

Acute and Critical Violations are recorded during Onsite and Offsite Investigations. These violations are defined in the current Safety Fitness Procedures (49 CFR 385 Appendix B). An Acute Violation, also known as a one-time occurrence violation, is triggered by noncompliance discovered during an investigation that is so severe that immediate corrective action is required. Examples of Acute Violations are using a disqualified driver and using a driver known to have tested positive for a controlled substance.

A Critical Violation, also known as a pattern of occurrence violation, is triggered by a pattern of noncompliance related to the carrier's management or operational controls that is found during an investigation. A carrier must meet the following criteria for a Critical Violation to affect the BASIC prioritization status:

- Violations are discovered in at least 10% of the carrier's records checked during an investigation; and
- Out of these records, a pattern of violations (i.e., more than one occurrence) is found.

Examples of Critical Violations are false reports of RODS and failing to maintain a driver qualification file on each driver employed. A complete list of Acute and Critical Violations can be found in Appendix A.

2.5 BASIC Prioritization Status

A carrier's BASIC prioritization status is based on its on-road safety performance percentile and/or any Acute and Critical Violations from an investigation(s) related to that BASIC. FMCSA prioritizes carriers for interventions based on the number of percentiles a carrier has at or above the established BASIC Intervention Thresholds and/or if the carrier has been found with one or more Acute and/or Critical Violations within the past 12 months during an investigation. If a carrier receives a ⚠ symbol in a BASIC, the carrier may be prioritized for interventions such as warning letters and investigations, or may be subject to further monitoring.

BASIC Intervention Thresholds

The Intervention Thresholds for each BASIC listed in Table 2–2 below show that these thresholds are set at various BASIC percentiles. Because higher percentiles represent worse safety performance, a lower BASIC Intervention Threshold percentile represents a more stringent safety criterion. FMCSA's analysis has shown that the Unsafe Driving, Crash Indicator, and HOS Compliance BASICs have the strongest associations to crash risk.[10] Therefore, the BASICs with stronger associations to future crash involvement have a lower Intervention Threshold than the other BASICs. Similarly, passenger and HM carriers have lower Intervention Thresholds because when they are involved in crashes the consequences are often greater.

Table 2–2. BASIC Intervention Thresholds

BASIC	Intervention Thresholds		
	Passenger Carrier	**HM**	**General**
Unsafe Driving, Crash Indicator, HOS Compliance	50%	60%	65%
Vehicle Maintenance, Controlled Substances/Alcohol, Driver Fitness	65%	75%	80%
HM Compliance	80%	80%	80%

Intervention Threshold Definitions by Carrier Type

A carrier is subject to one of the three Intervention Thresholds based on its carrier type: passenger carrier, HM, or general. The general Intervention Threshold applies to most carriers except for those that meet the passenger carrier or HM Intervention Thresholds. Definitions of the passenger carrier and the HM Intervention Thresholds are provided in Table 2–3 and Table 2–4 below.

[10] FMCSA, The Carrier Safety Measurement System (CSMS) Effectiveness Test by Behavior Analysis and Safety Improvement Categories (BASICs), January 2014. The full report is available at: https://csa.fmcsa.dot.gov/Documents/CSMS_Effectiveness_Test_Final_Report.pdf.

Table 2–3. Passenger Carrier Intervention Threshold Definition

Passenger Carrier Intervention Threshold Definition
1) Carrier Meets Passenger Authority Criteria a. Carrier has "active" passenger authority in L&I AND b. At least 2% of the carrier's PUs are 9+ passenger capacity vehicles
2) OR Carrier Meets For-Hire Criteria a. Carrier has selected a "for-hire" operation type on the MCS-150 AND b. One of the following: i. At least 2% of the carrier's PUs are 9+ passenger capacity vehicles ii. The carrier has registered no PUs on the MCS-150 and has selected "passengers" as a type of cargo they carry
3) OR Carrier Meets Private Passenger Criteria a. Carrier has selected a "private passenger" operation type on the MCS-150 AND b. At least 2% of the carrier's PUs are 16+ passenger capacity vehicles

Table 2–4. HM Intervention Threshold Definition

HM Intervention Threshold Definition
1) Carrier Meets All Three of the HM Inspection Criteria Listed Below a. At least 2 HM placardable vehicle inspections in the past 24 months AND b. At least 1 HM placardable vehicle inspections in the past 12 months AND c. At least 5% of vehicle inspections are HM placardable inspections
2) OR Has a Hazardous Materials Safety Permit (HMSP)

3. SMS BASIC Prioritization Status Methodology

The Safety Measurement System (SMS) determines a carrier's prioritization status (i.e., prioritized or not prioritized) in each Behavior Analysis and Safety Improvement Category (BASIC) based on the carrier's on-road performance and/or investigation results. A carrier's relative on-road performance is indicated by its BASIC percentile. Investigation results reflect if any Acute and Critical Violations are found in a given BASIC during investigations. A carrier can be prioritized for interventions because its percentile is at or above the Intervention Threshold and/or it has one or more Acute and/or Critical Violations related a particular BASIC. The following sections describe the SMS methodology used to determine a carrier's prioritization status in each BASIC.

3.1 Unsafe Driving BASIC Prioritization Status Assessment

The sections below describe how a carrier's Unsafe Driving percentile and investigation results are determined and how they both affect the carrier's prioritization status. The Unsafe Driving BASIC is defined as:

- Operation of commercial motor vehicles (CMVs) in a dangerous or careless manner. *Example violations include: speeding, reckless driving, improper lane change, texting while operating a CMV, not wearing safety belts.*

On-Road Performance

The SMS assesses the Unsafe Driving BASIC using applicable violations recorded during roadside inspections to calculate a measure for motor carriers. Individual carriers' BASIC measures also incorporate carrier size in terms of Power Units (PUs) and annual Vehicle Miles Travelled (VMT). These measures are used to generate percentile ranks that reflect each carrier's safety posture relative to carriers with similar numbers of inspections with applicable violations.

Calculation of BASIC Measure

The measures for the Unsafe Driving BASIC are calculated as the sum of severity- and time-weighted applicable violations divided by carrier average PUs multiplied by a Utilization Factor, as follows:

$$BASIC\ Measure = \frac{Total\ of\ \ time\ and\ severity\ \ weighted\ applicable\ violations}{Average\ \ PUs\ x\ Utilization\ \ Factor}$$

Equation 3–1

In this equation, the terms are defined as follows:

An Applicable Violation is a violation recorded in any Driver Inspection (Level 1, 2, 3, or 6) that matches the Federal Motor Carrier Safety Regulations (FMCSRs) and Hazardous Materials Regulations (HMRs) cites listed in Table A–1: SMS Unsafe Driving BASIC Violations during the

past 24 months. In cases of multiple counts of the same violation, the SMS uses each violation cite only once per inspection.

Note: Some roadside inspections are performed following a traffic enforcement stop for a moving violation. Violations reported on the inspection form during such stops do not always result in issuing a citation/ticket to the driver, but are used in the SMS whether or not a citation/ticket is issued.

A Severity Weight from 1 (less severe) to 10 (most severe) is assigned to each applicable violation. See Table A–1 for the severity weights corresponding to each violation. The severity weighting of each violation cite accounts for the level of crash risk relative to the other violation cites used in the BASIC measurement. [11] The sum of all violation severity weights for any one inspection in any one BASIC is capped at a maximum of 30. This cap of 30 is applied before the severity weights are multiplied by the time weight. Out-of-service (OOS) weights are not assigned for Unsafe Driving violations as most violations in this category are not considered OOS violations.

Note: The severity weights of violations outside of the BASIC being calculated **do not** count towards the violation cap.

A Time Weight of 1, 2, or 3 is assigned to each applicable violation based on how long ago it was recorded. Violations recorded in the past six months receive a time weight of 3. Violations recorded over six months and up to 12 months ago receive a time weight of 2. All violations recorded earlier (older than 12 months but within the past 24 months) receive a time weight of 1. This time-weighting places more emphasis on recent violations relative to older violations.

A Time and Severity Weighted Violation is a violation's severity weight multiplied by its time weight.

Average PUs are used in part to account for each carrier's level of exposure when calculating the BASIC measure. The number of owned, term-leased, and trip-leased PUs (trucks, tractors, HM tank trucks, motor coaches, and school buses) contained in the Census data are used to calculate the PU totals. The average PUs for each carrier are calculated using (i) the carrier's current number of PUs, (ii) the number of PUs the carrier had six months ago, and (iii) the number of PUs the carrier had 18 months ago. The average PU calculation is shown below:

[11] Violations with an adjudicated citation result of "convicted of a different charge" are set to a severity weight of 1.

$$AveragePU = \frac{PU_{Current} + PU_{6Months} + PU_{18Months}}{3}$$

Equation 3–2

The Utilization Factor is a multiplier that adjusts the average PU values based on the utilization in terms of VMT per average PU where VMT data in the past 24 months are available. The primary sources of VMT information in the Census are: (1) Form MCS-150, filled out by the carrier, and (2) Form MCS-151, filled out by law enforcement as part of an investigation. Carriers are required to update their MCS-150 information biennially.[12] In cases where the VMT data have been obtained multiple times over the past 24 months for the same carrier, the most current positive VMT figure is used. The Utilization Factor is calculated by the following three steps:

i. Carrier Segment

There are two segments into which each motor carrier can be categorized:

- "Combination"—Combination trucks/motorcoaches make up 70% or more of the total PUs in the motor carrier's fleet
- "Straight"—Straight trucks/other vehicles constitute more than 30% of the total PUs in the motor carrier's fleet

ii. VMT per Average PU

The VMT per average PU is derived by taking most recent positive VMT data and dividing it by the average PUs (defined above).

iii. Utilization Factor

Given the information in (i) and (ii), the Utilization Factor is determined from the following tables:

[12] As outlined in the Federal Register Notice published on August 23, 2013 (http://www.gpo.gov/fdsys/pkg/FR-2013-08-23/pdf/2013-20446.pdf).

Table 3–1. VMT per Average PU for Combination Segment

Combination Segment	
VMT per Average PU	**Utilization Factor**
< 80,000	1
80,000-160,000	$1 + \frac{(VMT\ per\ Average\ PU - 80{,}000)}{133{,}333}$ [13]
160,000-200,000	1.6
> 200,000	1
No Recent VMT Information	1

Table 3–2. VMT per Average PU for Straight Segment

Straight Segment	
VMT per Average PU	**Utilization Factor**
< 20,000	1
20,000-60,000	VMT per Average PU/20,000
60,000-200,000	3
> 200,000	1
No Recent VMT Information	1

Calculation of BASIC Percentile Rank

Based on the Unsafe Driving BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate percentile ranks for the Unsafe Driving BASIC are outlined below.

A. Determine the carrier's segment – either "Combination" or "Straight", as explained above.

- "Combination"—Combination trucks/motor coach buses constituting 70% or more of the total PU
- "Straight"—Straight trucks/other vehicles constituting more than 30% of the total PU

B. Determine the number of inspections with at least one BASIC violation and remove carriers with less than three such inspections with violations. For the remaining carriers, place each carrier into one of ten groups based on the carrier segment and the number of inspections with an Unsafe

[13] This Utilization Factor equation is a simplified version of the same mathematical equation shown in prior versions of the methodology. The Utilization Factor calculation remains unchanged.

Driving violation. These groups are presented in Table 3–3 and Table 3–4.

Table 3–3. Safety Event Groups for Unsafe Driving BASIC: Combination Segment

Unsafe Driving BASIC: Combination Segment	
Safety Event Group	**Number of Inspections with Unsafe Driving Violations**
Combination 1	3-8
Combination 2	9-21
Combination 3	22-57
Combination 4	58-149
Combination 5	150+

Table 3–4. Safety Event Groups for Unsafe Driving BASIC: Straight Segment

Unsafe Driving BASIC: Straight Segment	
Safety Event Group	**Number of Inspections with Unsafe Driving Violations**
Straight 1	3-4
Straight 2	5-8
Straight 3	9-18
Straight 4	19-49
Straight 5	50+

C. Within each group, rank all the carriers' BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Eliminate carriers whose violations in the BASIC are all older than 12 months; remaining carriers retain the previously calculated percentile.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold in the Unsafe Driving BASIC will receive a ⚠ symbol in this BASIC. The Intervention Thresholds for the Unsafe Driving BASIC are defined in Table 3–5 below.

Table 3–5. Intervention Thresholds for the Unsafe Driving BASIC

Intervention Thresholds for the Unsafe Driving BASIC		
Passenger Carrier	HM	General
50%	60%	65%

Investigation Results

SMS assessments in the Unsafe Driving BASIC also consider Acute and Critical Violations that are found within the past 12 months during an investigation. See Table A–2: SMS Unsafe Driving BASIC Acute and Critical Violations for a complete list of Acute and Critical Violations related to this BASIC.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this BASIC because it has one or more Acute and/or Critical Violations related to this BASIC and/or its BASIC percentile is at or above the Intervention Threshold.

3.2 Crash Indicator BASIC Prioritization Status Assessment – Not Publicly Available

The sections below describe how a carrier's Crash Indicator BASIC percentile is determined and how it affects the carrier's prioritization status. The Crash Indicator BASIC is defined as:

- Historical pattern of crash involvement, including frequency and severity. This BASIC is based on information from State-reported crashes that meet reportable crash standards. All reportable crashes are used regardless of the carrier's or driver's role in the crash. This BASIC uses crash history that is not specifically a behavior but instead the consequence of a behavior or a set of behaviors.

On-Road Performance

The SMS assesses the Crash Indicator BASIC using relevant State-reported crash data recorded in the Motor Carrier Management Information System (MCMIS). Individual carriers' Crash Indicator BASIC measures also incorporate carrier size in terms of PUs and annual VMT. These measures are used to generate percentile ranks that reflect each carrier's safety posture relative to carriers in the same segment with similar numbers of crashes.

Calculation of BASIC Measure

The measure for the Crash Indicator BASIC is calculated as the sum of severity- and time-weighted crashes divided by carrier average PUs multiplied by a Utilization Factor, as follows:

$$Crash\ Indicator\ Measure = \frac{Total\ of\ time\ and\ severity\ \ weighted\ \ applicable\ crashes}{Average\ \ PUs\ x\ Utilization\ \ Factor}$$

Equation 3–3

In this equation, the terms are defined as follows:

An Applicable Crash is a State-reported crash that meets the reportable crash standard during the past 24 months. A reportable crash is one that results in at least one fatality; one injury where the injured person is taken to a medical facility for immediate medical attention; or one vehicle having been towed from the scene as a result of disabling damage caused by the crash (i.e., tow-away).

Note: All reportable crashes are used regardless of the carrier's or driver's role in the crash.

A Crash Severity Weight places more weight on crashes with more severe consequences. For example, a crash involving an injury or fatality is weighted more heavily than a crash where only a tow-away occurred. An HM release also increases the weighting of a crash, as shown in Table 3–6.

Table 3–6. Crash Severity Weights for Crash Indicator BASIC

Crash Type	Crash Severity Weight
Involves tow-away but no injury or fatality	1
Involves injury or fatality	2
Involves an HM release	Crash Severity Weight (from above) + 1

A Time Weight of 1, 2, or 3 is assigned to each applicable crash based on the time elapsed since the crash occurred. Crashes that occurred within six months of the measurement date receive a time weight of 3. Crashes that occurred over six months and up to 12 months prior to the measurement date receive a time weight of 2. All crashes that happened later (older than 12 months but within the past 24 months of the measurement date) receive a time weight of 1. This time-weighting places more emphasis on recent crashes relative to older crashes.

A Time- and Severity-Weighted Crash is a crash's severity weight multiplied by its time weight.

Average Power Units (PUs) are used in part to account for each carrier's level of exposure when calculating the BASIC measure. The number of owned, term-leased, and trip-leased PUs (trucks, tractors, HM tank trucks, motorcoaches, and school buses) contained in the Census data are used to calculate the PU totals. The average PUs for each carrier are calculated using (i) the carrier's current number of PUs, (ii) the number of PUs the carrier had six months ago, and (iii) the number of PUs the carrier had 18 months ago. The average PU calculation is shown below:

$$AveragePU = \frac{PU_{Current} + PU_{6Months} + PU_{18Months}}{3}$$

Equation 3–4

The Utilization Factor is a multiplier that adjusts the average PU values based on the utilization in terms of VMT per average PU where VMT data in the past 24 months are available. The primary sources of VMT information in the Census are: (1) Form MCS–150, filled out by the carrier, and (2) Form MCS-151, filled out by law enforcement as part of an investigation. Carriers are required to update their MCS-150 information biennially. In cases where the VMT data have been obtained multiple times over the past 24 months for the same carrier, the most current positive VMT figure is used. The Utilization Factor is calculated by the following three steps:

i. Carrier Segment

There are two segments into which each motor carrier is categorized:

- "Combination"—Combination trucks/motor coach buses constituting 70% or more of the total PU
- "Straight"—Straight trucks/other vehicles constituting more than 30% of the total PU

ii. VMT per Average PU

The VMT per average PU is derived by taking the most recent positive VMT data and dividing it by the average PUs (defined above).

iii. Utilization Factor

Given the information in (i) and (ii), the Utilization Factor is determined from Table 3–7 and Table 3–8 below.

Table 3–7. VMT per Average PU for Combination Segment

Combination Segment	
VMT per Average PU	**Utilization Factor**
< 80,000	1
80,000-160,000	$1 + \frac{(VMT\ per\ Average\ PU - 80{,}000)}{133{,}333}$ [14]
160,000-200,000	1.6
> 200,000	1
No Recent VMT Information	1

Table 3–8. VMT per Average PU for Straight Segment

Straight Segment	
VMT per Average PU	**Utilization Factor**
< 20,000	1
20,000-60,000	VMT per Average PU/20,000
60,000-200,000	3
> 200,000	1
No Recent VMT Information	1

[14] This Utilization Factor equation is a simplified version of the same mathematical equation shown in prior versions of the methodology. The Utilization Factor calculation remains unchanged.

Calculation of BASIC Percentile Rank

Based on the Crash Indicator BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate percentile ranks for the Crash Indicator BASIC are outlined below.

A. Determine the carrier's segment, as previously described.

- "Combination"—Combination trucks/motor coach buses constituting 70% or more of the total PU
- "Straight"—Straight trucks/other vehicles constituting more than 30% of the total PU

B. For carriers with two or more applicable crashes, place each carrier into one of ten groups based on the carrier segment and number of crashes. These groups are presented in Table 3–9 and Table 3–10.

Table 3–9. Safety Event Groups for the Crash Indicator BASIC: Combination Segment

Crash Indicator BASIC: Combination Segment	
Safety Event Group	**Number of Crashes**
Combination 1	2-3
Combination 2	4-6
Combination 3	7-16
Combination 4	17-45
Combination 5	46+

Table 3–10. Safety Event Groups for the Crash Indicator BASIC: Straight Segment

Crash Indicator BASIC: Straight Segment	
Safety Event Group	**Number of Crashes**
Straight 1	2
Straight 2	3-4
Straight 3	5-8
Straight 4	9-26
Straight 5	27+

C. Within each group, rank all the carriers' Crash Indicator BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Remove carriers that did not have a crash recorded in the previous 12 months. Carriers that remain retain the previously calculated percentile.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold in the Crash Indicator BASIC will receive a ⚠ symbol in this BASIC. The Intervention Thresholds for the Crash Indicator BASIC are defined in Table 3–11 below.

Table 3–11. Intervention Thresholds for the Crash Indicator BASIC

Intervention Thresholds for the Crash Indicator BASIC		
Passenger Carrier	HM	General
50%	60%	65%

3.3 HOS Compliance BASIC Prioritization Status Assessment

The sections below describe how a carrier's Hours-of-Service (HOS) Compliance BASIC percentile and investigation results are determined and how they both affect the carrier's prioritization status. The HOS Compliance BASIC is defined as:

- Operation of CMVs by drivers who are ill, fatigued, or in noncompliance with the HOS regulations. This BASIC includes violations of regulations pertaining to records of duty status (RODS) as they relate to HOS requirements and the management of CMV driver fatigue. *Example violations include: operating a CMV while ill or fatigued, requiring or permitting a property-carrying CMV driver to drive more than 11 hours, failing to preserve RODS for 6 months/failing to preserve supporting documents.*

On-Road Performance

The SMS assesses the HOS Compliance BASIC using applicable violations recorded during roadside inspections to calculate a measure for motor carriers. These measures are used to generate percentile ranks that reflect each carrier's safety posture relative to carriers with similar numbers of relevant inspections.

Calculation of BASIC Measure

The equation for calculating HOS Compliance BASIC measures is defined below.

$$BASIC\ Measure = \frac{Total\ of\ \ time\ and\ \ severity\ \ weighted\ applicable\ violations}{Total\ \ time\ \ weight\ of\ \ relevant\ \ inspections}$$

Equation 3–5

In this equation, the terms are defined as follows:

An Applicable Violation is a violation recorded in any Driver Inspection (Level 1, 2, 3, or 6) that matches the FMCSRs listed in Table A–3: SMS HOS Compliance BASIC Violations during the past 24 months. The SMS uses each violation cite only once per inspection in cases of multiple counts of the same violation.

A Relevant Inspection is any Driver Inspection (Level 1, 2, 3, or 6), including those that do not

result in a violation in the BASIC.

A Severity Weight is assigned to each applicable violation, with a value dependent on two parts: (i) the level of crash risk relative to the other violations comprising the BASIC measurement, and (ii) whether or not the violation resulted in an OOS condition.

i. The level of crash risk is assigned to each applicable violation ranging from 1 (less severe) to 10 (most severe); see Table A–3 for the violations' corresponding severity weights.
ii. OOS violations receive an additional severity weight of 2. In cases where there are multiple occurrences of the same violation, this weight applies to any of those violations that meet the OOS conditions.[15]

The sum of all violation severity weights for any one inspection in any one BASIC is capped at a maximum of 30. This cap of 30 is applied before the severity weights are multiplied by the time weight.

Note: The severity weights of violations outside of the BASIC being calculated **do not** count towards the violation cap.

A Time Weight of 1, 2, or 3 is assigned to each applicable violation and each relevant inspection based on its age. Violations/inspections recorded in the past six months receive a time weight of 3. Violations/inspections recorded over six months and up to 12 months ago receive a time weight of 2. All violations/inspections recorded earlier (older than 12 months but within the past 24 months) receive a time weight of 1. This time-weighting places more emphasis on results of recent inspections relative to older inspections.

Note: The time weight is applied to all relevant inspections, including those that do not result in a violation in the BASIC.

A Time- and Severity-Weighted Violation is a violation's severity weight multiplied by its time weight.

Calculation of BASIC Percentile Rank

Based on the HOS Compliance BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate percentile ranks for the HOS Compliance BASIC are outlined below.

A. Determine the number of relevant inspections and the number of inspections with at least one BASIC violation. For the HOS Compliance BASIC, remove carriers with (1) less than three

[15] Violations with an adjudicated citation result of "convicted of a different charge" are set to a severity weight of 1 and are not subject to additional OOS severity weights of 2.

relevant driver inspections, or (2) no inspections resulting in at least one BASIC violation. For the remaining carriers, place each carrier into one of five groups based on the number of relevant inspections. The groups are presented in Table 3–12.

Table 3–12. Safety Event Groups for the HOS Compliance BASIC

Safety Event Group	Number of Relevant Inspections
1	3-10
2	11-20
3	21-100
4	101-500
5	501+

B. Within each group, rank all the carriers' BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Eliminate carriers that meet both of the following criteria: (1) no violation was recorded in the BASIC during the previous 12 months, and (2) no violation in the BASIC was recorded during the latest relevant inspection. For the remaining carriers with three or more relevant inspections resulting in an HOS Compliance BASIC violation, assign the percentile values to each carrier's BASIC.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold in the HOS Compliance BASIC will receive a ⚠ symbol in this BASIC. The Intervention Thresholds for the HOS Compliance BASIC are defined in Table 3–13 below.

Table 3–13. Intervention Thresholds for the HOS Compliance BASIC

Intervention Thresholds for the HOS Compliance BASIC		
Passenger Carrier	HM	General
50%	60%	65%

Investigation Results

SMS assessments in the HOS Compliance BASIC also consider Acute and Critical Violations that are found within the past 12 months during investigations. See Table A–4: SMS HOS Compliance BASIC Acute and Critical Violations for a complete list of Acute and Critical Violations related to this BASIC.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this BASIC because it has one or more Acute and/or Critical Violations related to this BASIC and/or its BASIC percentile is at or above the Intervention Threshold.

3.4 Vehicle Maintenance BASIC Prioritization Status Assessment

The sections below describe how a carrier's Vehicle Maintenance BASIC percentile and investigation results are determined and how they both affect the carrier's prioritization status. The Vehicle Maintenance BASIC is defined as:

- Failure to properly maintain a CMV and prevent shifting loads, spilled or dropped cargo, and overloading of a CMV. *Example violations include: inoperative brakes, lights, and other mechanical defects, improper load securement, failure to make required repairs.*

On-Road Performance

The SMS assesses the Vehicle Maintenance BASIC using applicable violations recorded during roadside inspections to calculate a measure for motor carriers. These measures are used to generate percentile ranks that reflect each carrier's safety posture relative to carriers with similar numbers of relevant inspections.

Calculation of BASIC Measure

The equation for calculating Vehicle Maintenance BASIC measures is defined below.

$$BASIC\ Measure = \frac{Total\ of\ \ time\ and\ severity\ \ weighted\ applicable\ violations}{Total\ \ time\ \ weight\ of\ \ relevant\ inspections}$$

Equation 3–6

In this equation, the terms are defined as follows:

An Applicable Violation is defined as a violation recorded in any Vehicle Inspection (Level 1, 2, 5, or 6) that matches the FMCSR cites listed in Table A–5: SMS Vehicle Maintenance BASIC Violations during the past 24 months. In cases of multiple counts of the same violation, the SMS uses each violation cite only once per inspection.

A Relevant Inspection is any Vehicle Inspection (Level 1, 2, 5, or 6), including those that do not result in a violation in the BASIC.

A Severity Weight is assigned to each applicable violation with a value dependent on two parts: (i) the level of crash risk relative to the other violation cites used in the BASIC measurement, and (ii) whether or not the violation resulted in an OOS condition.

i. The level of crash risk is assigned to each applicable violation ranging from 1 (less severe) to 10 (most severe); see Table A–5 for the corresponding severity weights of each violation cite.
ii. OOS violations receive an additional severity weight of 2. In cases where there are multiple occurrences of the same violation, this weight applies to any of those violations

that meet the OOS conditions.[16]

The sum of all violation severity weights for any one inspection in any one BASIC is capped at a maximum of 30. This cap of 30 is applied before the severity weights are multiplied by the time weight.

Note: The severity weights of violations outside of the BASIC being calculated **do not** count towards the violation cap.

A Time Weight of 1, 2, or 3 is assigned to each applicable violation and each relevant inspection based on its age. Violations/inspections recorded in the past six months receive a time weight of 3. Violations/inspections recorded over six months and up to 12 months ago receive a time weight of 2. All violations/inspections recorded earlier (older than 12 months but within the past 24 months) receive a time weight of 1. This time-weighting places more emphasis on results of recent inspections relative to older inspections.

Note: The time weight is applied to all relevant inspections, including those that do not result in a violation in the BASIC.

A Time- and Severity-Weighted Violation is a violation's severity weight multiplied by its time weight.

Calculation of BASIC Percentile Rank

Based on the Vehicle Maintenance BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate the percentile ranks for the Vehicle Maintenance BASIC are outlined below.

A. Determine the number of relevant vehicle inspections and the number of inspections with at least one BASIC violation. Remove carriers with (1) less than five relevant inspections, or (2) no inspections resulting in at least one BASIC violation. For the remaining carriers, place each carrier into one of five groups based on the number of relevant inspections. The groups are presented in Table 3–14.

[16] Violations with an adjudicated citation result of "convicted of a different charge" are set to a severity weight of 1 and are not subject to additional OOS severity weights of 2.

Table 3–14. Safety Event Groups for the Vehicle Maintenance BASIC

Safety Event Group	Number of Relevant Inspections
1	5-10
2	11-20
3	21-100
4	101-500
5	501+

B. Within each group, rank all the carriers' BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Eliminate carriers that meet both of the following criteria: (1) no violation was recorded in the BASIC during the previous 12 months, and (2) no violation in the BASIC was recorded during the latest relevant inspection. For the remaining carriers with five or more relevant inspections resulting in a Vehicle Maintenance BASIC violation, assign the percentile values to each carrier's BASIC.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold in the Vehicle Maintenance BASIC will receive a ⚠ symbol in this BASIC. The Intervention Thresholds for the Vehicle Maintenance BASIC are defined in Table 3–15 below.

Table 3–15. Intervention Thresholds for the Vehicle Maintenance BASIC

Intervention Thresholds for the Vehicle Maintenance BASIC		
Passenger Carrier	HM	General
65%	75%	80%

Investigation Results

SMS assessments in the Vehicle Maintenance BASIC also consider Acute and Critical Violations that are found within the past 12 months during investigations. See Table A–6: SMS Vehicle Maintenance BASIC Acute and Critical Violations for a complete list of Acute and Critical Violations related to this BASIC.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this BASIC because it has one or more Acute and/or Critical Violations related to this BASIC and/or its BASIC percentile is at or above the Intervention Threshold.

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3.5 Controlled Substances/Alcohol BASIC Prioritization Status Assessment

The section below describes how a carrier's Controlled Substances/Alcohol BASIC percentile and investigation results are determined and how they both affect the carrier's prioritization status. The Controlled Substances/Alcohol BASIC is defined as:

- Operation of CMVs by drivers who are impaired due to alcohol, illegal drugs, and misuse of prescription or over-the-counter medications. *Example violations include: use or possession of controlled substances or alcohol, failing to implement an alcohol and/or controlled substance testing program.*

On-Road Performance

The SMS assesses the Controlled Substances/Alcohol BASIC using applicable violations of FMCSRs recorded during roadside inspections and reported in MCMIS. Individual carriers' BASIC measures also incorporate a quantity of relevant roadside inspections. These measures are used to generate percentile ranks that reflect each carrier's driver safety posture relative to carriers with similar numbers of inspections with violations.

Calculation of BASIC Measure

The BASIC measure for the Controlled Substances/Alcohol BASIC is calculated as the sum of severity- and time-weighted applicable violations divided by time-weighted relevant inspections, as follows:

$$BASIC\ Measure = \frac{Total\ of\ \ time\ and\ severity\ \ weighted\ applicable\ violations}{Total\ \ time\ \ weight\ of\ \ relevant\ inspections}$$

Equation 3–7

In this equation, the terms are defined as follows:

An Applicable Violation is defined as a violation recorded in any Driver Inspection (Level 1, 2, 3, or 6) that matches the FMCSR cites listed in Table A–7: SMS Controlled Substances/Alcohol BASIC Violations and during the past 24 months. In cases of multiple counts of the same violation, the SMS uses each violation cite only once per inspection.

Note: Some roadside inspections are performed following a traffic enforcement stop for a moving violation. Violations reported on the inspection form during such stops do not always result in the issuance of a citation/ticket to the driver, but are used in the SMS whether or not a citation/ticket is issued.

A Relevant Inspection is any Driver Inspection (Level 1, 2, 3, or 6), including those that do not result in a violation in the BASIC, or any other inspection resulting in an applicable BASIC violation.

A Severity Weight from 1 (less severe) to 10 (most severe) is assigned to each applicable violation. See Table A–7 in Appendix A for the severity weights corresponding to each violation. The severity weighting of each violation cite accounts for the level of crash risk relative to the

other violation cites used in the BASIC measurement.[17] The sum of all violation severity weights for any one inspection in any one BASIC is capped at a maximum of 30. This cap of 30 is applied before the severity weights are multiplied by the time weight. OOS weights are not assigned for Controlled Substance/Alcohol violations, as most violations in this category are considered OOS violations.

Note: The severity weights of violations outside of the BASIC being calculated **do not** count towards the violation cap.

A Time Weight of 1, 2, or 3 is assigned to each applicable violation and each relevant inspection based on its age. Violations/inspections recorded in the past six months receive a time weight of 3. Violations/inspections recorded over six months and up to 12 months ago receive a time weight of 2. All violations/inspections recorded earlier (older than 12 months but within the past 24 months) receive a time weight of 1. This time-weighting places more emphasis on results of recent inspections relative to older inspections.

Note: The time weight is applied to all relevant inspections, including those that **do not** result in a violation in the BASIC.

A Time- and Severity-Weighted Violation is a violation's severity weight multiplied by its time weight.

Calculation of BASIC Percentile Rank

Based on Controlled Substances/Alcohol BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate percentile ranks for the Controlled Substances/Alcohol BASIC are outlined below.

A. Remove carriers with no violations in this BASIC. For the remaining carriers, place each carrier into one of four groups based on the number of carrier inspections with applicable violations. The groups are presented in Table 3–16.

Table 3–16. Safety Event Groups for Controlled Substances/Alcohol BASIC

Safety Event Group	Number of Inspections with Controlled Substance/Alcohol Violations
1	1
2	2
3	3
4	4+

[17] Violations with an adjudicated citation result of "convicted of a different charge" are set to a severity weight of 1.

B. Within each group, rank all the carriers' BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Eliminate carriers whose violations in the BASIC are all older than 12 months. Remaining carriers retain the previously calculated percentile.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold for the Controlled Substances/Alcohol BASIC will receive a ⚠ symbol in this BASIC. The Intervention Thresholds for the Controlled Substances/Alcohol BASIC are defined in Table 3–17 below.

Table 3–17. Intervention Thresholds for the Controlled Substances/Alcohol BASIC

Intervention Thresholds for the Controlled Substances/Alcohol BASIC		
Passenger Carrier	HM	General
65%	75%	80%

Investigation Results

SMS assessments in the Controlled Substances/Alcohol BASIC also consider Acute and Critical Violations that are found within the past 12 months during investigations. See Table A–8: SMS Controlled Substances/Alcohol BASIC Acute and Critical Violations for a complete list of Acute and Critical Violations related to this BASIC.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this BASIC because it has one or more Acute and/or Critical Violations related to this BASIC and/or its BASIC percentile is at or above the Intervention Threshold.

3.6 HM Compliance BASIC Prioritization Status Assessment – Not Publicly Available

The section below describes how a carrier's HM Compliance BASIC percentile and investigation results are determined and how they both affect the carrier's prioritization status. The HM Compliance BASIC is defined as:

- Unsafe handling of HM on a CMV. *Example violations include: failing to mark, label, or placard in accordance with the regulations, not properly securing a package containing HM, leaking containers, failing to conduct a test or inspection on a cargo tank when required by the U.S. DOT.*

On-Road Performance

The SMS assesses the HM Compliance BASIC using applicable violations recorded during roadside inspections where placardable quantities of HM are being transported to calculate a measure of each BASIC for individual motor carriers. These measures are used to generate percentile ranks that reflect

each carrier's safety posture relative to carriers with similar numbers of relevant inspections.

Calculation of BASIC Measure

The equation for calculating the HM Compliance BASIC measure is defined below.

$$BASIC\ Measure = \frac{Total\ of\ \ time\ and\ severity\ \ weighted\ applicable\ violations}{Total\ \ time\ \ weight\ of\ \ relevant\ \ inspections}$$

Equation 3–8

In this equation, the terms are defined as follows:

An Applicable Violation is defined as a violation recorded in any Vehicle Inspection (Level 1, 2, 5, or 6), where placardable quantities of HM are being transported, that matches the FMCSR and HMR cites listed in Table A–9: SMS HM Compliance BASIC Violations during the past 24 months. In cases of multiple counts of the same violation, the SMS uses each violation cite only once per inspection.

A Relevant Inspection is any Vehicle Inspection (Level 1, 2, 5, or 6), where placardable quantities of HM are being transported.

A Severity Weight is assigned to each applicable violation with a value dependent on two parts: (i) the level of crash risk relative to the other violation cites used in the BASIC measurement, and (ii) whether or not the violation resulted in an OOS condition.

i. The level of crash risk is assigned to each applicable violation ranging from 1 (less severe) to 10 (most severe); see Table A–9 for the corresponding severity weights of each violation cite.
ii. OOS violations receive an additional severity weight of 2. In cases where there are multiple occurrences of the same violation, this weight applies to any of those violations that meet the OOS conditions.[18]

The sum of all violation severity weights for any one inspection in any one BASIC is capped at a maximum of 30. This cap of 30 is applied before the severity weights are multiplied by the time weight.

Note: The severity weights of violations outside of the BASIC being calculated **do not** count towards the violation cap.

A Time Weight of 1, 2, or 3 is assigned to each applicable violation and each relevant inspection based on its age. Violations/inspections recorded in the past six months receive a time weight of 3. Violations/inspections recorded over six months and up to 12 months ago receive a time

[18] Violations with an adjudicated citation result of "convicted of a different charge" are set to a severity weight of 1 and are not subject to additional OOS severity weights of 2.

weight of 2. All violations/inspections recorded earlier (older than 12 months but within the past 24 months) receive a time weight of 1. This time-weighting places more emphasis on results of recent inspections relative to older inspections.

Note: The time weight is applied to all relevant inspections, including those that **do not** result in a violation in the BASIC.

A Time- and Severity-Weighted Violation is a violation's severity weight multiplied by its time weight.

Calculation of BASIC Percentile Rank

Based on the HM Compliance BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate percentile ranks for the HM Compliance BASIC are outlined below.

A. Determine the number of relevant inspections and the number of inspections with at least one BASIC violation. Remove carriers with (1) less than five relevant inspections, or (2) no inspections resulting in at least one BASIC violation. For the remaining carriers, place each carrier into one of five groups based on the number of relevant inspections. These groups are presented in Table 3–18.

Table 3–18. Safety Event Groups for the HM Compliance BASIC

Safety Event Group	Number of Relevant Inspections
1	5-10
2	11-15
3	16-40
4	41-100
5	101+

B. Within each group, rank all the carriers' BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Eliminate carriers that meet both of the following criteria: (1) no violation was recorded in the BASIC during the previous 12 months, and (2) no violation in the BASIC was recorded during the latest relevant inspection. For the remaining carriers with five or more relevant inspections resulting in an HM Compliance BASIC violation, assign the percentile values to each carrier's BASIC.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold for the HM Compliance BASIC will receive a ⚠ symbol in this BASIC .The Intervention Thresholds for the HM Compliance BASIC are

defined in Table 3–19 below.

Table 3–19. Intervention Thresholds for the HM Compliance BASIC

Intervention Thresholds for the HM Compliance BASIC		
Passenger Carrier	HM	General
80%	80%	80%

Investigation Results

SMS assessments in the HM Compliance BASIC also consider Acute and Critical Violations that are found within the past 12 months during investigations. See Table A–10: SMS HM Compliance BASIC Acute and Critical Violations for a complete list of Acute and Critical Violations related to this BASIC.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this BASIC because it has one or more Acute and/or Critical Violations related to this BASIC and/or its BASIC percentile is at or above the Intervention Threshold.

3.7 Driver Fitness BASIC Prioritization Status Assessment

The section below describes how a carrier's Driver Fitness BASIC percentile and investigation results are determined and how they both affect the carrier's prioritization status. The Driver Fitness BASIC is defined as:

- Operation of CMVs by drivers who are unfit to operate a CMV due to lack of training, experience, or medical qualifications. *Example violations include: failing to have a valid and appropriate commercial driver's license (CDL), being medically unqualified to operate a CMV, failing to maintain driver qualification files.*

On-Road Performance

The SMS assesses the Driver Fitness BASIC using applicable violations recorded during roadside inspections to calculate a measure for individual motor carriers. These measures are used to generate percentile ranks that reflect each carrier's driver safety posture relative to carriers with similar numbers of relevant inspections.

Calculation of BASIC Measure

The equation for calculating the Driver Fitness BASIC measure is defined below.

$$BASIC\ Measure = \frac{Total\ of\ \ time\ and\ \ severity\ \ weighted\ applicable\ violations}{Total\ \ time\ \ weight\ of\ \ relevant\ inspections}$$

Equation 3–9

In this equation, the terms are defined as follows:

An Applicable Violation is a violation recorded in any Driver Inspection (Level 1, 2, 3, or 6) that matches the FMCSRs and HMRs listed in Table A–11: SMS Driver Fitness BASIC Violations during

the past 24 months. The SMS uses each violation cite only once per inspection in cases of multiple counts of the same violation.

A Relevant Inspection is any Driver Inspection (Level 1, 2, 3, or 6), including those that do not result in a violation in the BASIC.

A Severity Weight is assigned to each applicable violation, with a value dependent on two parts: (i) the level of crash risk relative to the other violations comprising the BASIC measurement, and (ii) whether or not the violation resulted in an OOS condition.

i. The level of crash risk is assigned to each applicable violation ranging from 1 (less severe) to 10 (most severe); see Table A–11 for the violations' corresponding severity weights.
ii. OOS violations receive an additional severity weight of 2. In cases where there are multiple occurrences of the same violation, this weight applies to any of those violations that meet the OOS conditions.[19]

The sum of all violation severity weights for any one inspection in any one BASIC is capped at a maximum of 30. This cap of 30 is applied before the severity weights are multiplied by the time weight.

Note: The severity weights of violations outside of the BASIC being calculated **do not** count towards the violation cap.

A Time Weight of 1, 2, or 3 is assigned to each applicable violation and each relevant inspection based on its age. Violations/inspections recorded in the past six months receive a time weight of 3. Violations/inspections recorded over six months and up to 12 months ago receive a time weight of 2. All violations/inspections recorded earlier (older than 12 months but within the past 24 months) receive a time weight of 1. This time-weighting places more emphasis on results of recent inspections relative to older inspections.

Note: The time weight is applied to all relevant inspections, including those that **do not** result in a violation in the BASIC.

A Time- and Severity-Weighted Violation is a violation's severity weight multiplied by its time weight.

Calculation of BASIC Percentile Rank

Based on the Driver Fitness BASIC measure, the SMS applies data sufficiency standards and safety event grouping to assign a percentile rank to carriers. The steps used to calculate percentile ranks for the Driver Fitness BASIC are outlined below.

[19] Violations with an adjudicated citation result of "convicted of a different charge" are set to a severity weight of 1 and are not subject to additional OOS severity weights of 2.

A. Determine the number of relevant inspections and the number of inspections with at least one BASIC violation. For the Driver Fitness BASIC, remove carriers with (1) less than five relevant driver inspections, or (2) no inspections resulting in at least one BASIC violation. For the remaining carriers, place each carrier into one of five groups based on the number of relevant inspections. These groups are presented in Table 3–20.

Table 3–20. Safety Event Groups for the Driver Fitness BASIC

Safety Event Group	Number of Relevant Inspections
1	5-10
2	11-20
3	21-100
4	101-500
5	501+

B. Within each group, rank all the carriers' BASIC measures in ascending order. Transform the ranked values into percentiles from 0 (representing the lowest BASIC measure) to 100 (representing the highest BASIC measure). Higher percentiles indicate worse performance. Eliminate carriers that meet both of the following criteria: (1) no violation was recorded in the BASIC during the previous 12 months, and (2) no violation in the BASIC was recorded during the latest relevant inspection. For the remaining carriers with five or more relevant inspections resulting in a Driver Fitness BASIC violation, assign the percentile values to each carrier's BASIC.

Intervention Thresholds

A carrier with a percentile that is at or above the Intervention Threshold for the Driver Fitness BASIC will receive a ⚠ symbol in this BASIC. The Intervention Thresholds for the Driver Fitness BASIC are defined in Table 3–21 below.

Table 3–21. Intervention Thresholds for the Driver Fitness BASIC

Intervention Thresholds for the Driver Fitness BASIC		
Passenger Carrier	HM	General
65%	75%	80%

Investigation Results

SMS assessments in the Driver Fitness BASIC also consider Acute and Critical Violations that are found within the past 12 months during investigations. See Table A–12: SMS Driver Fitness BASIC Acute and Critical Violations for a complete list of Acute and Critical Violations related to this BASIC.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this BASIC because it has one or more Acute and/or Critical Violations related to this BASIC and/or its BASIC percentile is at or above the Intervention Threshold.

3.8 Insurance/Other Indicator Prioritization Status Assessment – Not Publicly Available

In addition to the BASICs, the SMS determines a carrier's prioritization status in the Insurance/Other Indicator based solely on investigation results. The section below describes how a carrier's investigation results for this Indicator are determined and how they affect the carrier's prioritization status. The Insurance/Other Indicator is defined as:

- Failure to comply with registration, insurance, or other reporting requirements. *Example violations include: operating a CMV without the minimum level of financial responsibility, failing to maintain copies of crash reports.*

Investigation Results

Acute and Critical Violations related to the Insurance/Other Indicator that are found within the past 12 months during investigations affect the carrier's prioritization status in this Indicator. See Table A–13: SMS Insurance/Other Indicator Acute and Critical Violations for a complete list of Acute and Critical Violations related to this Indicator.

A carrier is prioritized for interventions by receiving a ⚠ symbol in this Indicator because it has one or more Acute and/or Critical Violations related to this Indicator.

4. SMS Improvement Process

As part of the Federal Motor Carrier Safety Administration's (FMCSA) commitment to transparency, the Agency has taken a systematic approach to making major improvements to the Safety Measurement System (SMS). This approach includes prioritizing and releasing changes as needed, announcing the proposed changes in a Federal Register Notice, and providing a preview period for law enforcement, motor carriers, and other safety stakeholders prior to implementation. The preview period gives stakeholders the opportunity to see the proposed changes to the SMS in advance and provide feedback. The Agency may refine the changes prior to implementation based on feedback from the preview. Finally, the SMS will be enhanced periodically as future research reveals new and useful knowledge about crash causation and about the relationship between crash risk and regulatory compliance.

Appendix A

Overview

The tables in this appendix contain all violations used in the Safety Measurement System (SMS), along with the corresponding Federal Motor Carrier Safety Regulations (FMCSRs) or Hazardous Materials Regulations (HMRs) section. Each Behavior Analysis and Safety Improvement Category (BASIC) is represented by two tables. The first table lists the BASIC violations and the second table lists Acute and Critical Violations related to this BASIC.

Each BASIC violation is assigned a severity weight that reflects its relevance to crash risk. Crash risk is defined as the risk of crashes occurring and the consequences of the crash after it occurs. Within each BASIC, the violations are grouped based on their attributes so that similar violations can be assigned the same severity weights. Severity weights, discussed in more detail below, only reflect relative crash risk within a BASIC and are not comparable across the BASICs.

Interpretation of the Severity Weights

The violation severity weights in the tables that follow have been converted into a scale from 1 to 10, where 1 represents the lowest crash risk and 10 represents the highest crash risk relative to the other violations in the BASIC. Because the weights reflect the relative importance of each violation only within each particular BASIC, they cannot be compared meaningfully across the various BASICs. Therefore, a 5 in one BASIC is not equivalent to a 5 in another BASIC, but the 5 does represent the approximate midpoint between a crash risk of 1 and 10 within the same BASIC. The "Violation Group" column in each table identifies the group to which each violation has been assigned. Each violation within a violation group is assigned the same severity weight.

Violations in the tables that follow are used by SMS at the specified severity weight unless the citation result associated with the violation is adjudicated and documented as "dismissed/ not guilty." Additionally, when the citation result for a violation is documented as "convicted of a different charge," then the severity weight is set to 1 and it is not subject to an additional out-of-service (OOS) severity weight of 2.

In order for an adjudicated citation result to be documented for a violation (and subsequently impact SMS), drivers or carriers must submit certified documentation of the judicial proceeding results through a Request for Data Review (RDR) in the Federal Motor Carrier Safety Administration's (FMCSA) DataQs system to initiate this process. This process only applies to inspections conducted on or after August 23, 2014.

Derivation of the Severity Weights

In order to determine the severity weights crash involvement and crash consequence, the following five-

step process[20] was invoked:

1. BASIC Mapping—All roadside safety-related violations were mapped to an appropriate BASIC so that the severity weight analysis could be conducted on each BASIC.

2. Violation Grouping—All violations in each BASIC were placed into groups of similar violations based on the judgment of enforcement subject matter experts. These groups, listed in the "Violation Group" column in each table, make it possible to incorporate otherwise rarely discovered violations into the robust statistical analysis used to derive the severity weights. The violation grouping also ensured that similar types of violations received the same severity weight.

3. Crash Occurrence Analysis—Statistical analysis was performed to quantify the extent of the relationship between crash involvement on the one hand and violation rates in each violation group, within each BASIC, on the other hand. A driver approach was used in this analysis. This approach was taken due to strong demonstrable relationships between driver crashes and violations documented in prior research by the Volpe National Transportation Systems Center. The earlier research was conducted in support of FMCSA's Compliance Review Work Group (CRWG), the CSA program's predecessor.

Based on the conclusions from the earlier research, the Volpe Center developed a Driver Information Resource (DIR) for FMCSA. The DIR uses individual crash and inspection reports from all States to construct multi-year driver safety histories for individual commercial drivers. Multivariate negative binomial regression models were used to quantify the strength of relationships between driver violation rates in individual violation groups and crash involvement.

4. Crash Consequences Analysis—While the statistical modeling described in Step 3 provides an empirical basis for associating violations and crash occurrence, it does not address the violations relationship to crash consequence. To factor in the risk associated with crash consequence enforcement subject matter experts representing State and Federal field staff provided input for modifying preliminary severity weight defined in step 3. This approach helped balance the violation risk associated with crash involvement (occurrence) and crash consequence.

5. SMS Effectiveness Test—Various severity weighting schemes developed in steps 1 through 4 were applied to the Safety Measurement System (SMS) to provide an empirical evaluation of the weighting schemes. This empirical evaluation, or "SMS Effectiveness Test," was modeled after the SafeStat Effectiveness Test.[21] The SMS Effectiveness Test was accomplished through the

[20] Carrier Safety Measurement System (CSMS) Violation Severity Weights (Revised November 2009). Prepared for FMCSA by John A. Volpe National Transportation Systems Center (http://www.regulations.gov/#!documentDetail;D=FMCSA-2004-18898-0161).

[21] SafeStat Motor Carrier Safety Status Measurement System Methodology: Version 8.6 (January 2004). Prepared for FMCSA by John A. Volpe National Transportation Systems Center. Chapter 7: SafeStat Evaluation (http://www.regulations.gov/#!documentDetail;D=FMCSA-2004-18898-0223).

following steps: (1) performing a simulated SMS run that calculates carrier percentile ranks for each BASIC using historical data; (2) examining each carrier's crash involvement over the immediate 18 months after the simulated SMS timeframe; and (3) observing the relationship between the percentile ranks in each BASIC and the subsequent post-SMS carrier crash rates. The SMS Effectiveness Test provides an environment to evaluate various severity weighting schemes in terms of their impact in identifying high-risk carriers. It also provides a means of testing other weight schemes, such as the out-of-service (OOS) weight, to help optimize SMS's effectiveness.

Severity Weight Tables 1 through 6 list all of the violations in the SMS, with the first two columns of each table identifying each violation by regulatory part and its associated definition. The third column in each table identifies the violation group to which each violation is assigned, followed by the violation groups' severity weights in the fourth column. The fifth column "Violation in the DSMS (Y/N)" indicates whether or not the violation is used in the Driver Safety Measurement System (DSMS). The methodology for DSMS can be found at: https://csa.fmcsa.dot.gov/Documents/Driver_SMSMethodology.pdf

Table A–1. SMS Unsafe Driving BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
177.800(d)	Unnecessary delay in HM transportation to destination	HM Related	1	Y
177.804B	Failure to comply with 49 CFR Section 392.80 Texting While Operating a CMV When Transporting Select Agents or Toxins or HM Requiring Placarding	Texting	10	Y
177.804C	Failure to comply with 49 CFR Section 392.82 Using a Handheld Mobile Phone While Operating a CMV When Transporting Select Agents or Toxins or HM Requiring Placard	Phone Call	10	Y
390.17DT	Operating a CMV while texting	Texting	10	Y
390.33-XSΨ	Operating a Motor Coach or other Passenger Carrying vehicle with seating, secured or unsecured, in excess of the manufacturer's (manufacturer, remanufacturer, or final stage manufacturer) designed seating capacity	Other Driver Violations	1	Y
392.2C	Failure to obey traffic control device	Dangerous Driving	5	Y
392.2DH	Headlamps - Failing to dim when required	Misc Violations	3	Y
392.2FC	Following too close	Dangerous Driving	5	Y
392.2-INATʊ	Inattentive Driving	Dangerous Driving	5	Y
392.2LC	Improper lane change	Dangerous Driving	5	Y
392.2LV	Lane Restriction violation	Misc Violations	3	Y
392.2-MLʊ	Failure to Maintain Lane	Dangerous Driving	5	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

Ψ This violation took effect in the SMS as of August 28, 2015.

ʊ This violation took effect in the SMS as of September 25, 2015.

Table A–1. SMS Unsafe Driving BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
392.2P	Improper passing	Dangerous Driving	5	Y
392.2PK	Unlawfully parking and/or leaving vehicle in the roadway	Other Driver Violations	1	Y
392.2R	Reckless driving	Reckless Driving	10	Y
392.2RR	Railroad Grade Crossing violation	Dangerous Driving	5	Y
392.2S	Speeding	Speeding Related	1+	Y
392.2-SLLS2	State/Local Laws - Speeding 6-10 miles per hour over the speed limit.	Speeding 2	4	Y
392.2-SLLS3	State/Local Laws - Speeding 11-14 miles per hour over the speed limit.	Speeding 3	7	Y
392.2-SLLS4	State/Local Laws - Speeding 15 or more miles per hour over the speed limit.	Speeding 4	10	Y
392.2-SLLSWZ	State/Local Laws - Speeding work/construction zone.	Speeding 4	10	Y
392.2-SLLT	State/Local Laws - Operating a CMV while texting	Texting	10	Y
392.2T	Improper turns	Dangerous Driving	5	Y
392.2Y	Failure to yield right of way	Dangerous Driving	5	Y
392.6	Scheduling a run which would necessitate the vehicle being operated at speeds in excess of the prescribed	Speeding Related	5	N
392.10(a)(1)	Failure to stop at railroad crossing - Bus transporting passengers	Dangerous Driving	5	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

+ 392.2S violations from January 1, 2011 or later will be weighted at 1. The rest are weighted 5.

Table A–1. SMS Unsafe Driving BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
392.10(a)(2)	Failure to stop at railroad crossing - CMV transporting Division 2.3 Chlorine	Dangerous Driving	5	Y
392.10(a)(3)	Failure to stop at railroad crossing - CMV requiring display of HM placards	Dangerous Driving	5	Y
392.10(a)(4)	Failure to stop at railroad crossing - HM Cargo Tank vehicle	Dangerous Driving	5	Y
392.11	Commercial Vehicle failing to slow down approaching a railroad crossing.	Dangerous Driving	5	Y
392.14	Failed to use caution for hazardous condition	Dangerous Driving	5	Y
392.16	Failing to use seat belt while operating a CMV	Seat Belt	7	Y
392.16B$^{\Delta}$	Operating a property-carrying commercial motor vehicle while all other occupants are not properly restrained.	Seat Belt	7	Y
392.22(a)	Failing to use hazard warning flashers	Other Driver Violations	1	Y
392.60(a)	Unauthorized passenger on board CMV	Other Driver Violations	1	Y
392.62	Unsafe bus operations	Other Driver Violations	1	Y
392.62(a)	All standees on a bus are to be rearward of the white standee line	Other Driver Violations	1	Y
392.71(a)	Using or equipping a CMV with radar detector	Speeding Related	5	Y
392.80(a)	Driving a commercial motor vehicle while Texting	Texting	10	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

$^{\Delta}$ This violation was applied retroactively in the SMS with the July 28, 2017 snapshot.

Table A–1. SMS Unsafe Driving BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
392.82(a)(1)	Using a hand-held mobile telephone while operating a CMV	Phone Call	10	Y
392.82(a)(2)	Allowing or requiring a driver to use a hand-held mobile telephone while operating a CMV	Phone Call	10	Y
397.3	State/local laws ordinances regulations	HM Related	1	Y
397.13	Smoking within 25 ft of HM vehicle	HM Related	1	Y
398.4	Driving of vehicles - Transportation of Migrant Workers	Other Driver Violations	1	Y

Table A–2. SMS Unsafe Driving BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
392.2	Operating a commercial motor vehicle not in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated - Unsafe Driving	Critical Violation
392.6	Scheduling a run which would necessitate the vehicle being operated at speeds in excess of those prescribed	Critical Violation

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–2. SMS Unsafe Driving BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type[‡]
397.13(a)	Permitting a person to smoke or carry a lighted cigarette, cigar, or pipe within 25 feet of a motor vehicle containing Class 1 materials, Class 5 materials, or flammable materials classified as Division 2.1, Class 3, and Divisions 4.1 and 4.2	Critical Violation
397.5(a)	Failing to ensure a motor vehicle containing a Division 1.1, 1.2, or 1.3 (explosive) material is attended at all times by its driver or a qualified representative	Acute Violation
397.7(a)(1)	Parking a motor vehicle containing Division 1.1, 1.2, or 1.3 materials within 5 feet of traveled portion of highway or street	Critical Violation
397.7(b)	Parking a motor vehicle containing Hazardous Material(s) other than Division 1.1, 1.2, or 1.3 materials within 5 feet of traveled portion of highway or street	Critical Violation

[‡] An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–3. SMS HOS Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
392.2H	State/Local Hours of Service	Hours	7	Y
392.3	Operating a CMV while ill or fatigued	Jumping OOS/Driving Fatigued	10	Y
392.3-FPASS	Fatigue - Operate a passenger-carrying CMV while impaired by fatigue.	Jumping OOS/Driving Fatigued	10	Y
392.3-FPROP	Fatigue - Operate a property-carrying CMV while impaired by fatigue.	Jumping OOS/Driving Fatigued	10	Y
392.3-I	Illness - Operate a CMV while impaired by illness or other cause.	Jumping OOS/Driving Fatigued	10	Y
395.1(h)(1)	Violation of 15, 20, 70/80 Hours of Service rules for Alaska drivers of Property	Hours	7	Y
395.1(h)(2)	Violation of 15, 20, 70/80 Hours of Service rules for Alaska drivers of Passengers	Hours	7	Y
395.1(h)(3)	Adverse driving conditions violations (Alaska)	Hours	7	Y
395.1(o)	16 hour rule violation (Property)	Hours	7	Y
395.3(a)(1)	Requiring or permitting driver to drive more than 11 hours	Hours	7	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–3. SMS HOS Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
395.3A1R	11 hour rule violation (Property)	Hours	7	Y
395.3A2R	14 hour rule violation (Property)	Hours	7	Y
395.3A2-PROP	Driving beyond 14 hour duty period (Property carrying vehicle)	Hours	7	Y
395.3A2-PROPNΨ	Driving beyond 14 hour duty period (Property carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.3A3-PROP	Driving beyond 11 hour driving limit in a 14 hour period. (Property Carrying Vehicle)	Hours	7	Y
395.3A3-PROPNΨ	Driving beyond 11 hour driving limit in a 14 hour period. (Property carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.3(a)(3)(ii)**	Driving beyond 8 hour limit since the end of the last off duty or sleeper period of at least 30 minutes	Hours	7	Y
395.3B1-PROP	Driving after 60 hours on duty in a 7 day period. (Property carrying vehicle)	Hours	7	Y
395.3B1-PROPNΨ	Driving after 60 hours on duty in a 7 day period. (Property carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

** Violation added to the SMS as of July 1, 2013. Instances of this violation before, July 1, 2013 will not be included in the SMS.

Table A–3. SMS HOS Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
395.3B2	Driving after 70 hours on duty in a 8 day period. (Property carrying vehicle)	Hours	7	Y
395.3B2-NOMΨ	Driving after 70 hours on duty in a 8 day period. (Property carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.3BR	60/70 - hour rule violation (Property)	Hours	7	Y
395.5(a)(1)	10 - hour rule violation (Passenger)	Hours	7	Y
395.5A1-PASS	Driving after 10 hour driving limit (Passenger carrying vehicle)	Hours	7	Y
395.5A1-PASSNΨ	Driving after 10 hour driving limit (Passenger carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.5(a)(2)	15 - hour rule violation (Passenger)	Hours	7	Y
395.5A2-PASS	Driving after 15 hours on duty (Passenger carrying vehicle)	Hours	7	Y
395.5A2-PASSNΨ	Driving after 15 hour driving limit (Passenger carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.5(b)	60/70 - hour rule violation (Passenger)	Hours	7	Y
395.5B1-PASS	Driving after 60 hours on duty in a 7 day period. (Passenger carrying vehicle)	Hours	7	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–3. SMS HOS Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
395.5B1-PASSNΨ	Driving after 60 hours on duty in a 7 day period. (Passenger carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.5B2-PASS	Driving after 70 hours on duty in a 8 day period. (Passenger carrying vehicle)	Hours	7	Y
395.5B2-PASSNΨ	Driving after 70 hours on duty in a 8 day period. (Passenger carrying vehicle) - Nominal Violation	Hours, Nominal	1	Y
395.8	Record of Duty Status violation (general/form and manner)	Other Log/Form & Manner	1	Y
395.8(a)	No drivers record of duty status when one is required	Incomplete/Wrong Log	5	Y
395.8(e)	False report of drivers record of duty status	False Log	7	Y
395.8(f)(1)	Driver's record of duty status not current	Incomplete/Wrong Log	5	Y
395.8(k)(2)	Driver failing to retain previous 7 days records of duty status	Incomplete/Wrong Log	5	Y
395.13(d)	Driving after being declared out-of-service for HOS violation(s)	Jumping OOS/Driving Fatigued	10	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–3. SMS HOS Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
395.15(a)(2)Ψ	Driver failed to use automatic on-board recording device when required by the motor carrier.	Incomplete/Wrong Log	5	Y
395.15(b)	Onboard recording device information requirements not met	Incomplete/Wrong Log	5	Y
395.15(b)(2)Ψ	Automatic on-board recording device failed to provide means to immediately check drivers hours of service as required.	EOBR Related	1	Y
395.15(c)	Onboard recording device improper form and manner	Other Log/Form & Manner	1	Y
39.15(d)(2)Ψ	Driver failed to produce location identifier codes for AOBRD as required.	Other Log/Form & Manner	1	Y
395.15(f)	Onboard recording device failure: Driver failed to reconstruct info	Incomplete/Wrong Log	5	Y
395.15(g)	Onboard recording device info not available	EOBR Related	1	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–3. SMS HOS Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
395.15G01Ψ	Driver failed to have instructions on-board CMV for installed automatic on-board recording device	EOBR Related	1	Y
395.15G02Ψ	Driver failed to have on-board a CMV a sufficient supply of blank records of duty status graph-grids	EOBR Related	1	Y
395.15(i)(5)	Onboard recording device does not display required information	Other Log/Form & Manner	1	N
395.15(i)(9)Ψ	Driver not adequately trained in the operation of the automatic on-board recording device	EOBR Related	1	Y
395.8F01Ψ	Drivers record of duty status not current	Incomplete/Wrong Log	5	Y
398.6	Violation of Hours of Service regulations for Transportation of Migrant Workers	Hours	7	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–4. SMS HOS Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
390.35	False reports of records of duty status	Acute Violation
390.35	Fraudulent or intentional alteration of a supporting document	Acute Violation
392.2	Operating a commercial motor vehicle not in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated - HOS Compliance	Critical Violation
395.1(h)(1)(i)++	Requiring or permitting a driver to drive more than 15 hours (Driving in Alaska)	Critical Violation
395.1(h)(1)(ii)++	Requiring or permitting a driver to drive after having been on duty 20 hours (Driving in Alaska)	Critical Violation
395.1(h)(1)(iii)++	Requiring or permitting driver to drive after having been on duty more than 70 hours in 7 consecutive days (Driving in Alaska)	Critical Violation
395.1(h)(1)(iv)++	Requiring or permitting driver to drive after having been on duty more than 80 hours in 8 consecutive days (Driving in Alaska)	Critical Violation
395.1(h)(2)(i)	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive more than 15 hours (Driving in Alaska)	Critical Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–4. SMS HOS Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type ‡
395.1(h)(2)(ii)	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 20 hours (Driving in Alaska)	Critical Violation
395.1(h)(2)(iii)	Requiring or permitting driver of passenger-carrying commercial motor vehicle to drive after having been on duty for 70 hours in any period of 7 consecutive days (Driving in Alaska)	Critical Violation
395.1(h)(2)(iv)	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty for 80 hours in any period of 8 consecutive days (Driving in Alaska)	Critical Violation
395.1(o)	Requiring or permitting a short-haul property-carrying commercial motor vehicle driver to drive after having been on duty 16 consecutive hours	Critical Violation
395.3(a)(1)++	Requiring or permitting driver to drive more than 10 hours	Critical Violation
395.3(a)(2)++	Requiring or permitting driver to drive after having been on duty 15 hours	Critical Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–4. SMS HOS Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
395.3(a)(3)(i)‡‡	Requiring or permitting a property-carrying commercial motor vehicle driver to drive more than 11 hours	Critical Violation
395.3(a)(3)(ii))‡‡	Requiring or permitting a property-carrying commercial motor vehicle driver to drive if more than 8 hours have passed since the end of the driver's last off-duty or sleeper-berth period of at least 30 minutes	Critical Violation
395.3(b)(1)++	Requiring or permitting driver to drive after having been on duty more than 60 hours in 7 consecutive days	Critical Violation
395.3(b)(2)++	Requiring or permitting driver to drive after having been on duty more than 70 hours in 8 consecutive days	Critical Violation
395.5(a)(1)++	Requiring or permitting a passenger -carrying commercial motor vehicle driver to drive more than 10 hours	Critical Violation
395.5(a)(2)++	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 15 hours	Critical Violation

‡ An Acute Violation, also a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

‡‡ This violation took effect in the SMS as of February 1, 2015.

++ Multiple violation descriptions are associated with this citation.

Table A–4. SMS HOS Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
395.5(a)(2)++	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 15 hours	Critical Violation
395.5(b)(1)++	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 60 hours in 7 consecutive days	Critical Violation
395.5(b)(2)++	Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 70 hours in 8 consecutive days	Critical Violation
395.8(a)	Failing to require driver to make a record of duty status	Critical Violation
395.8(e)++	False report of driver's record of duty status	Critical Violation
395.8(i)++	Failing to require driver to forward within 13 days of completion, the original of the record of duty status	Critical Violation
395.8(k)(1)++	Failing to preserve driver's record of duty status for 6 months	Critical Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
385.103(c)	Failure to display a current CVSA decal: Mexico-domiciled carrier with Provisional Operating Authority	Inspection Reports	4	N
392.2WC	Wheel (Mud) Flaps missing or defective	Windshield/ Glass/ Markings	1	Y
392.7	No pre-trip inspection	Inspection Reports	4	Y
392.7(a)	Driver failing to conduct pre-trip inspection	Inspection Reports	4	Y
392.7(b)	Driver failing to conduct a pre-trip inspection of intermodal equipment	Inspection Reports	4	Y
392.8	Failing to inspect/use emergency equipment	Emergency Equipment	2	Y
392.9	Driver may not operate a CMV without proper load securement	General Securement	1	Y
392.9(a)	Failing to secure load	General Securement	1	Y
392.9(a)(1)	Failing to secure cargo as specified in 49 CFR 393.100 through 393.142	General Securement	1	Y
392.9(a)(2)	Failing to secure vehicle equipment	General Securement	1	Y
392.9(a)(3)	Drivers view and/or movement is obstructed	General Securement	1	Y
392.22(b)	Failure to place or improper placement of warning devices on the road surface	Cab, Body, Frame	2	Y
392.33	Operating CMV with lamps/reflectors obscured	Lighting	6	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
392.62(c)(1)	Bus - baggage/freight restricts driver operation	General Securement	1	Y
392.62(c)(2)	Bus - Exit(s) obstructed by baggage/freight	General Securement	1	Y
392.62(c)(3)	Passengers not protected from falling baggage	General Securement	1	Y
392.63	Pushing/towing a loaded bus	Towing Loaded Bus	10	Y
393.9	Inoperable Required Lamp	Clearance Identification Lamps/Other	2	Y
393.9H	Inoperable head lamps	Lighting	6	Y
393.9T	Inoperable tail lamp	Lighting	6	Y
393.9TS	Inoperative turn signal	Lighting	6	Y
393.11	No or defective lighting devices or reflective material as required	Reflective Sheeting	3	Y
393.11LR	No Lower rear retroreflective sheeting or reflex reflective materials as required for vehicles manufactured after December 1993	Reflective Sheeting	3	Y
393.11N	No retroreflective sheeting or reflex reflective materials as required for vehicles manufactured after December 1993	Reflective Sheeting	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.11RT	Retroreflective material not affixed as required for trailers manufactured after December 1993	Reflective Sheeting	3	Y
393.11S	Side retroreflective sheeting or reflex reflector requirements for vehicles manufactured after December 1993	Reflective Sheeting	3	Y
393.11TL	Truck-Tractor lower rear mud flaps retroreflective sheeting / reflex reflective material requirements for vehicles manufactured after July 1997	Reflective Sheeting	3	Y
393.11TT	Truck-Tractor with No retroreflective sheeting or reflex reflective material on vehicle manufactured after July 1997	Reflective Sheeting	3	Y
393.11TU	Truck-Tractor upper body corner requirements for retroreflective sheeting or reflex reflective material for vehicles manufactured after July 1997	Reflective Sheeting	3	Y
393.11UR	Upper Rear retroreflective sheeting or reflex reflecting material requirements for vehicles manufactured after December 1993	Reflective Sheeting	3	Y
393.13(a)	Retroreflective tape not affixed as required for Trailers manufactured prior to December 1993	Reflective Sheeting	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.13(b)	No retroreflective sheeting or reflex reflective material as required for vehicles manufactured before December 1993	Reflective Sheeting	3	Y
393.13(c)(1)	No Side retroreflective sheeting or reflex reflective material as required for vehicles manufactured before December 1993	Reflective Sheeting	3	Y
393.13(c)(2)	No Lower Rear retroreflective sheeting or reflex reflective material as required for vehicles manufactured before December 1993	Reflective Sheeting	3	Y
393.13(c)(3)	No Upper Rear retroreflective sheeting or reflex reflective material as required for vehicles manufactured before December 1993	Reflective Sheeting	3	Y
393.13(d)(1)	Improper Side Placement of retroreflective sheeting or reflex reflective material as required for vehicles manufactured before December 1993	Reflective Sheeting	3	Y
393.13(d)(2)	Improper Lower Rear Placement of retroreflective sheeting or reflex reflective material requirements for vehicles manufactured before December 1993	Reflective Sheeting	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.13(d)(3)	Upper rear retroreflective sheeting or reflex reflective material as required for vehicles manufactured on or after 12/1/1993	Reflective Sheeting	3	Y
393.17	No/defective lamp/reflector-towaway operation	Lighting	6	Y
393.17(a)	No/defective lamps-towing unit-towaway operation	Lighting	6	Y
393.17(b)	No/defective towaway lamps on rear unit	Lighting	6	Y
393.19	Inoperative/defective hazard warning lamp	Lighting	6	Y
393.23	Required lamp not powered by vehicle electric	Clearance Identification Lamps/Other	2	Y
393.23PTΨ	All required lamps on towed vehicle inoperative due to no electrical connection	Clearance Identification Lamps/Other	2	Y
393.24(a)	Non-compliance with headlamp requirements	Lighting	6	Y
393.24(b)	Noncompliant fog/driving lamps	Lighting	6	Y
393.24BR	Non-compliant fog or driving lamps	Lighting	6	Y
393.24(c)	Improper headlamp mounting	Lighting	6	N
393.24(d)	Improper head / auxiliary / fog lamp aiming	Lighting	6	N

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Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.25(a)	Improper lamp mounting	Lighting	6	N
393.25(b)	Lamps are not visible as required	Lighting	6	Y
393.25(e)	Lamp not steady burning	Lighting	6	Y
393.25(f)	Stop lamp violations	Lighting	6	Y
393.26	Requirements for reflectors	Reflective Sheeting	3	Y
393.28	Improper or no wiring protection as required	Other Vehicle Defect	3	Y
393.30	Improper battery installation	Other Vehicle Defect	3	Y
393.40	Inadequate brake system on a CMV	Brakes, All Others	4	Y
393.41	No or defective parking brake system on CMV	Brakes, All Others	4	Y
393.42	No brakes as required - Explain:	Brakes, All Others	4	Y
393.42A-BM	Brake - Missing required brake.	Brakes, All Others	4	Y
393.42A-BMAW	Brake - All wheels not equipped with brakes as required.	Brakes, All Others	4	Y
393.42A-BM-TSA	Brake - Missing on a trailer steering axle.	Brakes, All Others	4	Y
393.43	No/improper breakaway or emergency braking	Brakes, All Others	4	Y
393.43(a)	No/improper tractor protection valve	Brakes, All Others	4	Y
393.43(d)	No or defective automatic trailer brake	Brakes, All Others	4	Y
393.44	No or defective bus front brake line protection	Brakes, All Others	4	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight §	Violation in the DSMS (Y/N)
393.45	Brake tubing and hose adequacy	Brakes, All Others	4	N
393.45A-HJSΨ	Hydraulic Brake tubing improperly joined or spliced	Brakes, All Others	4	N
393.45PC	Brake Tubing and Hose Adequacy - Connections to Power Unit	Brakes, All Others	4	N
393.45UV	Brake Tubing and Hose Adequacy Under Vehicle	Brakes, All Others	4	N
393.45(a)(4)	Failing to secure brake hose/tubing against mechanical damage	Brakes, All Others	4	N
393.45(b)(2)	Brake hose or tubing chafing and/or kinking	Brakes, All Others	4	Y
393.45B2PC	Brake Hose or Tubing Chafing and/or Kinking - Connection to Power Unit	Brakes, All Others	4	Y
393.45B2UV	Brake Hose or Tubing Chafing and/or Kinking Under Vehicle	Brakes, All Others	4	N
393.45(b)(3)	Brake hose or tubing contacting exhaust system	Brakes, All Others	4	N
393.45(d)	Brake connections with leaks or constrictions	Brakes, All Others	4	N
393.45DCPC	Brake Connections with Constrictions - Connection to Power Unit	Brakes, All Others	4	Y
393.45DCUV	Brake Connections with Constrictions Under Vehicle	Brakes, All Others	4	N

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Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.45DLPC	Brake Connections with Leaks - Connection to Power Unit	Brakes, All Others	4	Y
393.45DLUV	Brake Connections with Leaks Under Vehicle	Brakes, All Others	4	Y
393.47(a)	Inadequate brakes for safe stopping	Brakes, All Others	4	Y
393.47(b)	Mis-matched brake chambers on same axle	Brakes, All Others	4	Y
393.47(c)	Mis-matched slack adjuster effective length	Brakes, All Others	4	Y
393.47(d)	Insufficient brake linings	Brakes, All Others	4	Y
393.47(e)	Clamp or Roto type brake out-of-adjustment	Brakes Out of Adjustment	4	Y
393.47(f)	Wedge type brake(s) out-of-adjustment	Brakes Out of Adjustment	4	Y
393.47(g)	Insufficient Brake Drum or Rotor thickness	Brakes, All Others	4	Y
393.48(a)	Inoperative/defective brakes	Brakes, All Others	4	Y
393.48A-BCM	Brakes - Hydraulic Brake Caliper movement exceeds 1/8" (0.125") (3.175 mm)	Brakes, All Others	4	N

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§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight §	Violation in the DSMS (Y/N)
393.48A-BMBC Ω	Brakes - Missing or Broken Components including Pad Retaining Components and loose or missing caliper mounting bolt(s)	Brakes, All Others	4	N
393.48A-BRMMC	Brakes - Rotor (disc) metal-to-metal contact	Brakes, All Others	4	N
393.48A-BSRFS	Brakes - Severe rusting of brake rotor (disc)	Brakes, All Others	4	N
393.48(b)(1)	Defective brake limiting device	Brakes, All Others	4	Y
393.50	Inadequate reservoir for air/vacuum brakes	Brakes, All Others	4	N
393.50(a)	Failing to have sufficient air/vacuum reserve	Brakes, All Others	4	N
393.50(b)	Failing to equip vehicle air brake system with adequate reserve capacity or reservoir	Brakes, All Others	4	N
393.50(c)	No means to ensure operable check valve	Brakes, All Others	4	N
393.50(d)	No/Defective air reservoir drain valve	Brakes, All Others	4	Y
393.51	No or defective brake warning device	Brakes, All Others	4	Y
393.52(a)(1)	Insufficient Braking Force as a Percentage of Gross Vehicle Weight or Gross Combination Weight	Brakes, All Others	4	Y

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§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation

Ω This update to a violation description took effect in the SMS as of August 28, 2015.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.53(a)	No Automatic Brake Adjuster for Hydraulic Brake Systems for vehicle manufactured on or after 10/20/1993	Brakes, All Others	4	Y
393.53(b)	CMV manufactured after 10/19/94 has an automatic airbrake adjustment system that fails to compensate for wear	Brakes, All Others	4	Y
393.53BMANΨ	CMV manufactured after 10/20/1994 is not equipped with automatic air brake adjusters.	Brakes, All Others	4	Y
393.53(c)	No or Defective Brake Adjustment Indicator on Air Brake System for vehicle manufactured after 10/19/1994	Brakes, All Others	4	Y
393.55(a)	ABS required on all CMVs with hydraulic brakes manufactured after February 1999	Brakes, All Others	4	N
393.55(b)	ABS malfunction indicators for hydr brake sys	Brakes, All Others	4	N
393.55(c)(1)	Truck Tractor manufactured on or after March 1, 1997 not equipped with an antilock brake system.	Brakes, All Others	4	N

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Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.55(c)(2)	CMV other than truck-tractor manufactured on or after March 1, 1998 not equipped with an antilock brake system.	Brakes, All Others	4	N
393.55(d)(1)	CMV not equipped with ABS malfunction circuit or signal (Truck-Tractor mfg on/after 3/1/1997; Straight Truck mfg on/after 3/1/1998)	Brakes, All Others	4	N
393.55(d)(2)	CMV manufactured on/after 3/1/2001 not equipped with ABS malfunction circuit / lamp from towed vehicle in cab	Brakes, All Others	4	N
393.55(d)(3)	No or Defective ABS Malfunction Indicator for towed vehicles on vehicles manufactured after February 2001	Brakes, All Others	4	N
393.55(e)	No or Defective ABS Malfunction Indicator Lamp for trailer manufactured after 03/01/1998	Brakes, All Others	4	Y
393.60EWS	Windshield - Obstructed	Windshield/ Glass/ Markings	1	Y
393.60(b)	Each bus and truck shall be equipped with a windshield	Windshield/ Glass/ Markings	1	Y
393.60(c)	Damaged or discolored windshield	Windshield/ Glass/ Markings	1	Y
393.60(d)	Glazing permits < 70% of light	Windshield/ Glass/ Markings	1	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.61	Inadequate or missing truck side windows	Windshield/ Glass/ Markings	1	Y
393.61(a)	Inadequate or missing truck side windows	Windshield/ Glass/ Markings	1	Y
393.62(a)	No or Defective bus emergency exits	Windshield/ Glass/ Markings	1	Y
393.62(b)	No or defective bus emergency exits, manufactured on or after 9/1/1973 but before 9/1/1994	Windshield/ Glass/ Markings	1	Y
393.62(c)	No or Defective bus emergency exit windows	Windshield/ Glass/ Markings	1	Y
393.62(d)	No or Defective Safety glass and/or push-out window	Windshield/ Glass/ Markings	1	Y
393.62(e)	No or inadequate bus emergency exit marking	Windshield/ Glass/ Markings	1	Y
393.65	Fuel system requirements	Fuel Systems	1	N
393.65(b)	Improper location of fuel system	Fuel Systems	1	Y
393.65(c)	Improper securement of fuel tank	Fuel Systems	1	Y
393.65(f)	Improper fuel line protection	Fuel Systems	1	Y
393.67	Fuel tank requirement violations	Fuel Systems	1	N
393.67(c)(7)	Fuel tank fill pipe cap missing	Fuel Systems	1	Y
393.67(c)(8)	Improper fuel tank safety vent	Fuel Systems	1	N

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§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight §	Violation in the DSMS (Y/N)
393.68	CNG Fuel Container does not conform to regulations	Other Vehicle Defect	3	Y
393.70	Fifth wheel	Coupling Devices	3	N
393.70(a)	Defective coupling device-improper tracking	Coupling Devices	3	N
393.70(b)	Defective/improper fifth wheel assemblies	Coupling Devices	3	Y
393.70B1I Ψ	Defective latching fasteners fasteners on either side of the vehicle are missing or ineffective per current OOS Criteria	Coupling Devices	3	Y
393.70B1I-C Ψ	Fifth wheel cracked or a gap caused by corrosion 1/8 inch (3.2 mm) or more in width.	Coupling Devices	3	Y
393.70B1I-MPC Ψ	Crack in the mounting plate or pivot bracket (parent metal) extending more than 20 percent of the distance across the metal in the direction of the crack.	Coupling Devices	3	Y
393.70B1I-RW Ψ	Fifth Wheel repair weld is cracked	Coupling Devices	3	Y
393.70B1I-SC Ψ	Slide curl broken, cracked or repaired by welding	Coupling Devices	3	Y

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Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight §	Violation in the DSMS (Y/N)
393.70B1I-W Ψ	Fifth wheel more than 20 percent of the total length of all the original welds are cracked on either side of the vehicle.	Coupling Devices	3	Y
393.70B1II	Defective / Improper fifth wheel assembly upper half	Coupling Devices	3	Y
393.70B1II-FWUC Ψ	Upper coupler assembly parent metal cracked, extending more than 20 percent of the distance across the metal in the direction of the crack.	Coupling Devices	3	Y
393.70B1II-FWUCG Ψ	Upper coupler assembly crack or gap caused by corrosion more than 1/8 inch (3.2 mm) or more in width.	Coupling Devices	3	Y
393.70B1II-FWUCW Ψ	Upper coupler assembly welds are crack on either side, front or back of the upper coupler, more than 20 percent of the total length of all original welds.	Coupling Devices	3	Y
393.70B1II-FWURW Ψ	Upper coupler assembly repair weld cracked	Coupling Devices	3	Y
393.70(b)(2)	Defective fifth wheel locking mechanism	Coupling Devices	3	Y
393.70(c)	Defective coupling devices for full trailer	Coupling Devices	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.70(d)	No or improper safety chains or cables for full trailer	Coupling Devices	3	Y
393.70(d)(8)	Improper safety chain attachment	Coupling Devices	3	Y
393.71	Improper coupling driveaway/towaway operation	Coupling Devices	3	Y
393.71(g)	Prohibited towing connection / device	Coupling Devices	3	Y
393.71(h)	Towbar requirement violations	Coupling Devices	3	Y
393.71(h)(10)	No or Improper safety chains for towbar	Coupling Devices	3	Y
393.75	Tires/tubes (general)	Tires	8	Y
393.75(a)	Flat tire or fabric exposed	Tires	8	Y
393.75(a)(1)	Tire-ply or belt material exposed	Tires	8	Y
393.75(a)(2)	Tire-tread and/or sidewall separation	Tires	8	Y
393.75(a)(3)	Tire-flat and/or audible air leak	Tires	8	Y
393.75(a)(4)	Tire-cut exposing ply and/or belt material	Tires	8	Y
393.75(b)	Tire-front tread depth less than 4/32 of inch on a major tread groove	Tires	8	Y
393.75B-OOS$^{\Delta}$	Tire-front tread depth less than 2/32 of inch on a major tread groove	Tires	8	Y
393.75(c)	Tire-other tread depth less than 2/32 of inch measured in 2 adjacent major tread grooves	Tires	8	Y

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$^{\Delta}$ This violation was applied retroactively in the SMS with the July 28, 2017 snapshot.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight §	Violation in the DSMS (Y/N)
393.75C-OOS Δ	Tire-other tread depth less than 1/32 of inch measured in 2 adjacent major tread grooves	Tires	8	Y
393.75(d)	Regrooved or recapped tire on front wheel of bus	Tires	8	Y
393.75(e)	Regrooved Tire on front of truck or truck-tractor	Tire vs. Load	3	Y
393.75(f)	Tire — exceeding weight rating of tire	Tire vs. Load	3	Y
393.75F-SPEED Δ	Operating a CMV at speeds exceeding the speed-restriction label of the tire.	Tires	8	Y
393.75(f)(1)	Weight carried exceeds tire load limit	Tire vs. Load	3	Y
393.75(f)(2)	Tire underinflated	Tire vs. Load	3	Y
393.75G-LOAD Δ	Weight carried exceeds tire load limit	Tire vs. Load	3	Y
393.75(h)	Tire underinflated	Tire vs. Load	3	Y
393.75I1 Δ	Operating a CMV while weight carried exceeds tire rating due to under-inflation	Tire vs. Load	3	Y
393.76	Sleeper berth requirement violations	Other Vehicle Defect	3	Y
393.77	Defective and/or prohibited heaters	Other Vehicle Defect	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.77(b)(11)	Bus heater fuel tank location	Other Vehicle Defect	3	Y
393.77(b)(5)	Protection of operating controls from tampering	Other Vehicle Defect	3	Y
393.78	Windshield wipers inoperative/defective	Windshield/ Glass/ Markings	1	Y
393.79	Defroster / Defogger inoperative	Windshield/ Glass/ Markings	1	Y
393.80	No or defective rear-vision mirror	Other Vehicle Defect	3	Y
393.81	Horn inoperative	Other Vehicle Defect	3	Y
393.82	Speedometer inoperative / inadequate	Other Vehicle Defect	3	Y
393.83(a)	Exhaust system location	Exhaust Discharge	1	Y
393.83(b)	Exhaust discharge fuel tank/filler tube	Exhaust Discharge	1	Y
393.83(c)	Improper exhaust-bus (gasoline)	Exhaust Discharge	1	Y
393.83(d)	Improper exhaust-bus (diesel)	Exhaust Discharge	1	Y
393.83(e)	Improper exhaust discharge (not rear of cab)	Exhaust Discharge	1	Y
393.83(f)	Improper exhaust system repair (patch/wrap)	Exhaust Discharge	1	Y
393.83(g)	Exhaust leak under truck cab and/or sleeper	Exhaust Discharge	1	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

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393.83(h)	Exhaust system not securely fastened	Exhaust Discharge	1	Y
393.84	Inadequate floor condition	Cab, Body, Frame	2	Y
393.86	No or improper rearend protection	Cab, Body, Frame	2	Y
393.86(a)(1)	Rear Impact Guards Required - trailer manufactured on or after January 26, 1998	Cab, Body, Frame	2	N
393.86(a)(2)	Rear Impact Guard having improper width - trailer manufactured on or after January 26, 1998	Cab, Body, Frame	2	N
393.86(a)(3)	Rear Impact Guard having improper height - trailer manufactured on or after January 26, 1998	Cab, Body, Frame	2	N
393.86(a)(4)	Rear Impact Guard not within 12 in of rear of vehicle at 22 in above the ground	Cab, Body, Frame	2	N
393.86(a)(5)	Rear Impact Guard Cross-section vertical height insufficient for trailer manufactured on or after January 26, 1998	Cab, Body, Frame	2	N
393.86(b)(1)	Rear Impact Guard Required - motor vehicle manufactured after 12/31/1952 (see exceptions)	Cab, Body, Frame	2	Y
393.87	Warning flag required on projecting load	Warning Flags	1	Y
393.87(a)	Warning flag required on projecting load	Warning Flags	1	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

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393.87(b)	Improper warning flag placement	Warning Flags	1	Y
393.88	Improperly located tv receiver	Cab, Body, Frame	2	Y
393.89	Bus driveshaft not properly protected	Cab, Body, Frame	2	Y
393.90	Bus-no or obscure standee line	Cab, Body, Frame	2	Y
393.91	Bus - improper aisle seats	Cab, Body, Frame	2	Y
393.91-FS Ψ	Motor Coach or other Passenger carrying vehicle equipped with prohibited non-automatically folding seats in the aisle	Cab, Body, Frame	2	Y
393.91-SNS Ψ	Motor Coach or other Passenger Carrying vehicle operating with seating, occupied or not, not secured in a workmanlike manner	Cab, Body, Frame	2	Y
393.93(a)	Failure to equip bus with seat belts	Cab, Body, Frame	2	Y
393.93(a)(3)	Seats not secured in conformance with FMVSS	Cab, Body, Frame	2	N
393.93(b)	Failure to equip truck with seatbelts	Cab, Body, Frame	2	Y
393.95(a)	No/discharged/unsecured fire extinguisher	Emergency Equipment	2	Y
393.95(a)(1)(i)	Failure to equip hazardous material vehicle with a fire extinguisher with a minimum UL rating of 10 B:C	Emergency Equipment	2	Y
393.95(b)	No spare fuses as required	Emergency Equipment	2	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.95(f)	No / insufficient warning devices	Emergency Equipment	2	Y
393.95(g)	HM-restricted emergency warning device	Emergency Equipment	2	Y
393.100	Failure to prevent cargo shifting	General Securement	1	Y
393.100(a)	No or improper load securement	General Securement	1	Y
393.100(b)	Leaking/spilling/blowing/falling cargo	Improper Load Securement	7	Y
393.100(c)	Failure to prevent cargo shifting	General Securement	1	Y
393.102(a)	Improper securement system (tiedown assemblies)	Tiedown	3	Y
393.102(a)(1)	Insufficient means to prevent forward movement	Failure to Prevent Movement	3	Y
393.102(a)(1)(i)	Insufficient means to prevent forward movement	Failure to Prevent Movement	3	Y
393.102(a)(1)(ii)	Insufficient means to prevent rearward movement	Failure to Prevent Movement	3	Y
393.102(a)(1)(iii)	Insufficient means to prevent lateral movement	Failure to Prevent Movement	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight §	Violation in the DSMS (Y/N)
393.102(b)	Insufficient means to prevent vertical movement	Failure to Prevent Movement	3	Y
393.102(c)	Exceeding working load limit for tiedowns	Improper Load Securement	7	Y
393.104(a)	Inadequate/damaged securement device/system	Securement Device	1	Y
393.104(b)	Damaged securement system/tiedowns	Securement Device	1	Y
393.104(c)	Damaged vehicle structures/anchor points	Securement Device	1	Y
393.104(d)	Damaged dunnage, chocks, cradles, shoring bars, blocking and bracing	Securement Device	1	Y
393.104(f)(1)	Knotted tiedown	Tiedown	3	Y
393.104(f)(2)	Use of tiedown with improper repair.	Tiedown	3	Y
393.104(f)(3)	Loose or unfastened tiedown.	Tiedown	3	Y
393.104F4R	No edge protection for tiedowns	Tiedown	3	Y
393.106(a)	No/improper front end structure/headerboard	Securement Device	1	Y
393.106(b)	Cargo not immobilized or secured	Failure to Prevent Movement	3	Y
393.106(c)(1)	No means to prevent cargo from rolling	Failure to Prevent Movement	3	Y
393.106(c)(2)	Cargo without direct contact not prevented from shifting while in transit	Failure to Prevent Movement	3	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.106(d)	Insufficient aggregate working load limit	Tiedown	3	Y
393.110	Failing to meet minimum tiedown requirements	General Securement	1	Y
393.110(b)	Insufficient tiedowns to prevent forward movement for load not blocked by headerboard, bulkhead, or other cargo	Tiedown	3	Y
393.110(c)	Insufficient tiedowns for an article blocked with a headerboard, bulkhead, or other cargo	Tiedown	3	Y
393.110(d)	Large or odd-shaped cargo not adequately secured	Failure to Prevent Movement	3	Y
393.112	Tiedown not adjustable by driver	Securement Device	1	Y
393.114	No/improper front end structure	General Securement	1	Y
393.114(b)(1)	Insufficient height for front-end structure	Securement Device	1	Y
393.114(b)(2)	Insufficient width for front-end structure	Securement Device	1	Y
393.114(d)	Front-end structure insufficient to prevent cargo to pass through it	Securement Device	1	Y
393.116	No/improper securement of logs	General Securement	1	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.116(d)(1)	Shortwood log extends more than 1/3 of logs total length beyond supporting structure of vehicle	Improper Load Securement	7	Y
393.116(d)(2)	Insufficient tiedowns for shortwood loaded crosswise	Improper Load Securement	7	Y
393.116(d)(3)	Tiedowns improperly positioned on load of shortwood	Improper Load Securement	7	Y
393.116(d)(4)	No center stakes and/or high log not secured on shortwood vehicles more than 10m (33ft) long	Improper Load Securement	7	Y
393.116(e)	Improper Securement of shortwood logs loaded lengthwise	Improper Load Securement	7	Y
393.118	No/improper lumber/building materials securement	General Securement	1	Y
393.118(b)	Improper placement of bundles	Improper Load Securement	7	Y
393.118(d)	Insufficient protection against lateral movement of lumber or building materials	Failure to Prevent Movement	3	Y
393.118(d)(3)	Insufficient or improper arrangement of tiedowns for lumber or building materials	Tiedown	3	Y
393.120	No or improper securement of metal coils	General Securement	1	Y
393.120(b)(1)	Improper securement of metal coils transported vertically	Improper Load Securement	7	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.120(b)(2)	Improper securement of metal coils transported in rows with the eyes vertical	Improper Load Securement	7	Y
393.120(c)(1)	Improper securement of metal coils transported with eyes crosswise	Improper Load Securement	7	Y
393.120(c)(2)	Prohibited load securement - crossing tie-downs in a X pattern through the eye of a metal coil transported crosswise	Improper Load Securement	7	Y
393.120(d)(1)	Improper securement of metal coil transported with eye lengthwise	Improper Load Securement	7	Y
393.120(d)(4)	Improper securement of metal coils transported in rows, eyes lengthwise to the vehicle	Improper Load Securement	7	Y
393.120(e)	No protection against shifting or tipping of metal coils transported in sided vehicle or intermodal container without anchor points	Failure to Prevent Movement	3	Y
393.122	No/improper securement of paper rolls	General Securement	1	Y
393.122(b)	Improper securement of paper rolls transported with eyes vertical in a sided vehicle	Improper Load Securement	7	Y
393.122(c)	Improper securement of split loads of paper rolls transported with the eyes vertical in a sided vehicle	Improper Load Securement	7	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.122(d)	Improper securement of stacked loads of paper rolls transported with the eyes vertical in a sided vehicle	Improper Load Securement	7	Y
393.122(e)	Improper securement of paper rolls transported with the eyes crosswise in a sided vehicle	Improper Load Securement	7	Y
393.122(f)	Rolls crosswise/stacked load - improperly secured	Improper Load Securement	7	Y
393.122(g)	Improper securement of paper rolls transported with the eyes lengthwise in a sided vehicle	Improper Load Securement	7	Y
393.122(h)	Rolls lengthwise/stacked - improper securement	Improper Load Securement	7	Y
393.122(i)	Improper securement of paper rolls transported on a flatbed vehicle or in a curtain-sided vehicle	Improper Load Securement	7	Y
393.124	No or improper securement of concrete pipe	General Securement	1	Y
393.124(b)	Insufficient working load limits for tiedowns on a group of concrete pipes	Tiedown	3	Y
393.124(c)	Improper blocking of concrete pipe	Improper Load Securement	7	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.124(d)	Improper arrangement of concrete pipe	Improper Load Securement	7	Y
393.124(e)	Improper securement of concrete pipe with an inside diameter up to 45 inches (1143 mm)	Improper Load Securement	7	Y
393.124(f)	Improper securement of concrete pipe with an inside diameter greater than 45 inches (1143 mm)	Improper Load Securement	7	Y
393.126	Failure to ensure intermodal container securement	General Securement	1	Y
393.126(b)	Damaged or Missing tiedown or securement device for intermodal containers transported on container chassis vehicle	Securement Device	1	Y
393.126(c)(1)	Lower corners of loaded intermodal container not resting on surface of transporting vehicle (non container chassis)	Securement Device	1	Y
393.126(c)(2)	All corners of loaded intermodal container not secured when transported on vehicle other than container chassis vehicle	Improper Load Securement	7	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.126(c)(3)	Front and rear of loaded intermodal container not secured independently when transported on vehicle other than container chassis	Improper Load Securement	7	Y
393.126(d)(1)	Empty intermodal container not properly positioned when transported on vehicle other than container chassis vehicle	Improper Load Securement	7	Y
393.126(d)(2)	Empty intermodal container with more than 5 ft overhang when transported on vehicle other than container chassis vehicle	Improper Load Securement	7	Y
393.126(d)(4)	Empty intermodal container not properly secured to prevent shifting when transported on vehicle other than container chassis vehicle	Improper Load Securement	7	Y
393.128	No/improper securement of vehicles	General Securement	1	Y
393.128(b)(1)	Vehicle not secured, front and rear	Improper Load Securement	7	Y
393.128(b)(2)	Tiedown(s) not affixed to mounting points.	Improper Load Securement	7	Y
393.128(b)(3)	Tiedown(s) not over/around wheels.	Improper Load Securement	7	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.130	No/improper heavy vehicle/machine securement	General Securement	1	Y
393.130(b)	Item not properly prepared for transport	Improper Load Securement	7	Y
393.130(c)	Improper restraint/securement of item	Improper Load Securement	7	Y
393.132	No/improper securement of crushed vehicles	General Securement	1	Y
393.132(b)	Prohibited use of synthetic webbing.	Securement Device	1	Y
393.132(c)	Insufficient tiedowns per vehicle stack of crushed cars	Tiedown	3	Y
393.132(c)(5)	Insufficient means to retain loose parts or leaking liquids from crushed cars	Improper Load Securement	7	Y
393.134	No/improper securement of roll/hook container	General Securement	1	Y
393.134(b)(1)	No blocking against forward movement	Failure to Prevent Movement	3	Y
393.134(b)(2)	Container not secured to front of vehicle	Improper Load Securement	7	Y
393.134(b)(3)	Rear of container not properly secured	Improper Load Securement	7	Y
393.136	No/improper securement of large boulders	General Securement	1	Y
393.136(b)	Improper placement/positioning for boulder	Improper Load Securement	7	Y

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Table A–5. SMS Vehicle Maintenance BASIC Violations*

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393.136(c)(1)	Use of synthetic webbing to secure boulder	Improper Load Securement	7	Y
393.136(d)	Improper secure; cubic boulder	Improper Load Securement	7	Y
393.136(e)	Improper secure; non-cubic boulder w/base	Improper Load Securement	7	Y
393.136(f)	Improper secure; non-cubic boulder w/o base	Improper Load Securement	7	Y
393.201(a)	Frame cracked / loose / sagging / broken	Cab, Body, Frame	2	Y
393.201(b)	Bolts securing cab broken/loose/missing	Cab, Body, Frame	2	N
393.201(c)	Frame rail flange improperly bent/cut/notched other than by vehicle manufacturer	Cab, Body, Frame	2	N
393.201(d)	Frame accessories improperly attached	Cab, Body, Frame	2	N
393.201(e)	Prohibited holes drilled in frame rail flange	Cab, Body, Frame	2	N
393.203	Cab/body parts requirements violations	Cab, Body, Frame	2	Y
393.203(a)	Cab door missing/broken	Cab, Body, Frame	2	Y
393.203(b)	Cab/body improperly secured to frame	Cab, Body, Frame	2	Y
393.203(c)	Hood not securely fastened	Cab, Body, Frame	2	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.203(d)	Cab seats not securely mounted	Cab, Body, Frame	2	Y
393.203(e)	Cab front bumper missing/unsecured/protrude	Cab, Body, Frame	2	Y
393.205(a)	Wheel/rim cracked or broken	Wheels, Studs, Clamps, Etc.	2	Y
393.205(b)	Stud/bolt holes elongated on wheels	Wheels, Studs, Clamps, Etc.	2	Y
393.205(c)	Wheel fasteners loose and/or missing	Wheels, Studs, Clamps, Etc.	2	Y
393.207(a)	Axle positioning parts defective/missing	Suspension	7	Y
393.207(b)	Adjustable axle locking pins missing or not engaged	Suspension	7	Y
393.207(c)	Leaf spring assembly defective/missing	Suspension	7	Y
393.207(d)	Coil spring cracked and/or broken	Suspension	7	Y
393.207(e)	Torsion bar cracked and/or broken	Suspension	7	Y
393.207(f)	Air suspension pressure loss	Suspension	7	Y
393.207(g)	No / defective air suspension exhaust control	Suspension	7	N
393.209(a)	Steering wheel not secured/broken	Steering Mechanism	6	Y
393.209(b)	Excessive steering wheel lash	Steering Mechanism	6	Y
393.209(c)	Loose steering column	Steering Mechanism	6	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
393.209(d)	Steering system components worn, welded, or missing	Steering Mechanism	6	Y
393.209(e)	Power steering violations	Steering Mechanism	6	Y
396.1	Must have knowledge of and comply with the Federal Motor Carrier Safety Regulations	Inspection Reports	4	Y
396.3(a)(1)	Inspection, repair and maintenance of parts & accessories	Wheels, Studs, Clamps, Etc.	2	Y
396.3A1B	Brakes (general) Explain:	Brakes, All Others	4	Y
396.3A1BA	Bolt-type or DD-3 -type Brake Out of Adjustment	Brakes Out of Adjustment	4	N
396.3A1BC	Brake-air compressor violation	Brakes, All Others	4	N
396.3A1BD	Brake-defective brake drum	Brakes, All Others	4	N
396.3A1BL	Brake system pressure loss	Brakes, All Others	4	N
396.3A1BOS∫	BRAKES OUT OF SERVICE: The number of defective brakes is equal to or greater than 20% of the service brakes on the vehicle or combination	Brakes, All Others	0 + 2 (OOS)	N
396.3A1DSCB	Center Bearing (Carrier Bearing) Cracked / Loose / Broken / Missing	Other Vehicle Defect	3	Y
396.3A1DSDT	Drive Shaft Tube Cracked or Twisted	Other Vehicle Defect	3	Y
396.3A1DSUJ	Universal Joint Loose / Broken / Missing Component	Other Vehicle Defect	3	Y

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§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

∫ This violation took effect in the SMS as of April 1, 2017.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
396.3A1DSYE	Drive Shaft Yoke Ends Cracked / Loose / Broken / Missing	Other Vehicle Defect	3	Y
396.3A1-FWPCΨ	Crack in the fifth wheel plate (parent metal) extending more than 20 percent of the distance across the metal in the direction of the crack	Coupling Devices	3	Y
396.3A1-FWPGΨ	A crack or gap caused by corrosion that is 1/8 inch (3.2 mm) or more in width in fifth wheel plate	Coupling Devices	3	Y
396.3A1-FWPRWΨ	Repair weld cracked on fifth wheel plate	Coupling Devices	3	Y
396.3A1-GDRVPΨ	Vehicle with a dripping liquid that vaporizes in the air from a LNG fuel system	Other Vehicle Defect	3	Y
396.3A1-GLEAKΨ	Vehicle with fuel leakage from a CNG, LNG or LPG system verified by bubble test or gas detection meter	Other Vehicle Defect	3	Y
396.3A1-GVAPORΨ	Vehicle with a cloud of vapor from a LNG fuel system	Other Vehicle Defect	3	Y
396.3A1-LLEAKΨ	A liquid fuel system with a dripping leak at any point	Other Vehicle Defect	3	Y
396.3A1T	Tires (general)	Tires	8	Y
396.5	Excessive oil leaks	Other Vehicle Defect	3	N
396.5(a)	Failing to ensure that vehicle is properly lubricated	Other Vehicle Defect	3	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–5. SMS Vehicle Maintenance BASIC Violations *

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
396.5A-HNLIW	Hubs - No visible or measurable lubricant showing in the hub - inner wheel	Wheels, Studs, Clamps, Etc.	2	N
396.5A-HNLOW	Hubs - No visible or measurable lubricant showing in the hub - outer wheel	Wheels, Studs, Clamps, Etc.	2	Y
396.5(b)	Oil and/or grease leak	Other Vehicle Defect	3	N
396.5B-HLIW	Hubs - Oil and/or Grease Leaking from hub - inner wheel	Wheels, Studs, Clamps, Etc.	2	N
396.5B-HLOW	Hubs - oil and/or Grease Leaking from hub - outer wheel	Wheels, Studs, Clamps, Etc.	2	Y
396.5B-HWSLIW	Hubs - Wheel seal leaking - inner wheel	Wheels, Studs, Clamps, Etc.	2	N
396.5B-HWSLOW	Hubs - Wheel seal leaking - outer wheel	Wheels, Studs, Clamps, Etc.	2	Y
396.7	Unsafe operations forbidden	Other Vehicle Defect	3	Y
396.9(c)(2)	Operating an out-of-service vehicle	Vehicle Jumping OOS	10	Y
396.9(d)(2)	Failure to correct defects noted on previous inspection report	Inspection Reports	4	N
396.11	No or inadequate driver vehicle inspection report	Inspection Reports	4	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–5. SMS Vehicle Maintenance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
396.13(c)	No reviewing driver signature on DVIR	Inspection Reports	4	Y
396.17(c)	Operating a CMV without periodic inspection	Inspection Reports	4	N
398.5	Failure to maintain vehicle for safe operation - Transportation of Migrant Workers	Other Vehicle Defect	3	Y
398.7	Inspection and Maintenance of motor vehicles used for Transportation of Migrant Workers	Inspection Reports	4	N
399.207	Vehicle access requirements violations	Cab, Body, Frame	2	N
399.211	Inadequate maintenance of driver access	Cab, Body, Frame	2	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–6. SMS Vehicle Maintenance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type ‡
390.35	Making or causing to make fraudulent or intentionally false entry on an annual periodic inspection form	Acute Violation
390.35	Making or causing to make fraudulent or intentionally false weight tickets and/or reproducing fraudulent weight tickets	Acute Violation
390.35	Making or causing to make fraudulent or intentionally false entry on a driver vehicle inspection report	Acute Violation
390.35	Making fraudulent entry on annual periodic inspection form	Acute Violation
390.35	Making fraudulent or intentionally false entry on inspection and vehicle maintenance record	Acute Violation
390.35	Making or causing to make a fraudulent or intentionally false certification on a driver/vehicle examination report that all violations have been corrected	Acute Violation
392.2	Operating a commercial motor vehicle not in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated - Vehicle Maintenance	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–6. SMS Vehicle Maintenance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
392.9(a)(1)	Requiring or permitting a driver to drive without the vehicle's cargo being properly distributed and adequately secured	Critical Violation
396.11(a)++	Failing to require driver to prepare driver vehicle inspection report	Critical Violation
396.11(c)	Failing to correct out-of-service defects listed by driver in a driver vehicle inspection report before the vehicle is operated again	Acute Violation
396.17(a)++	Using a commercial motor vehicle not periodically inspected	Critical Violation
396.17(g)	Failing to promptly repair parts and accessories in accordance as set forth in Appendix G of Part 396	Acute Violation
396.3(b)	Failing to keep minimum records of inspection and vehicle maintenance	Critical Violation
396.9(c)(2)++	Requiring or permitting the operation of a motor vehicle declared “out-of-service” before repairs are were made	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as pattern of occurrence violation, is indicative of noncompliance related to the carrier’s management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–7. SMS Controlled Substances/Alcohol BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
392.4(a)	Driver uses or is in possession of drugs	Drugs	10	Y
392.4A-POS$^{\Delta}$	Driver on duty and in possession of a narcotic drug / amphetamine	Drugs	10	Y
392.4A-UI$^{\Delta}$	Driver on duty and under the influence of, or using a narcotic drug / amphetamine, which renders the driver incapable of safe operation.	Drugs	10	Y
392.5(a)	Driver consuming an intoxicating beverage within 4 hours before operating a motor vehicle	Alcohol	5	Y
392.5A2-DETECT$^{\Delta}$	Driver having any measured alcohol concentration, or any detected presence of alcohol while on duty, or operating, or in physical control of a CMV	Alcohol	5	Y
392.5A2-POS$^{\Delta}$	Driver having possession of alcohol while on duty, or operating, or in physical control of a CMV	Alcohol Possession	3	Y
392.5A2-UI$^{\Delta}$	Operating a CMV while under the influence of an intoxicating beverage regardless of its alcohol content.	Alcohol	5	Y
392.5(a)(3)**	Driver in possession of intoxicating beverage while on duty or driving.	Alcohol Possession	3	Y
392.5(c)(2)	Violating OOS order pursuant to 392.5(a)/(b)	Alcohol Jumping OOS	10	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

$^{\Delta}$ This violation was applied retroactively in the SMS with the July 28, 2017 snapshot.

** Violation added to the SMS as of July 1, 2013. Instances of this violation before, July 1, 2013 will not be included in the SMS.

Table A–8. SMS Controlled Substances/Alcohol BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
382.115(a)	Failing to implement an alcohol and/or controlled substances testing program on the date the employer begins commercial motor vehicle operations	Acute Violation
382.115(b)++	Failing to implement an alcohol and/or controlled substance testing program	Acute Violation
382.201++	Using a driver known to have an alcohol concentration of 0.04 or greater	Acute Violation
382.211++	Using a driver who has refused to submit to an alcohol or controlled substances test required under Part 382	Acute Violation
382.213(b)	Using a driver known to have used a controlled substance	Acute Violation
382.215++	Using a driver known to have tested positive for a controlled substance	Acute Violation
382.301(a)	Using a driver before the motor carrier has received a negative pre-employment controlled substance test result	Critical Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–8. SMS Controlled Substances/Alcohol BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
382.303(a)++	Failing to conduct post accident alcohol testing on driver following a recordable crash	Critical Violation
382.303(b)++	Failing to conduct post accident testing on driver for controlled substances	Critical Violation
382.305++	Failing to implement a random controlled substance and/or an alcohol testing program	Acute Violation
382.305(b)(1)	Failing to conduct random alcohol testing at an annual rate of not less than the applicable annual rate of the average number of driver positions	Critical Violation
382.305(b)(2)	Failing to conduct random controlled substances testing at an annual rate of not less than the applicable annual rate of the average number of driver positions	Critical Violation
382.309(a)	Using a driver who has not undergone a return-to-duty alcohol test with a result indicating an alcohol concentration of less than 0.02	Acute Violation
382.309(b)	Using a driver who has not undergone a return-to-duty controlled substances test with a result indicating a verified negative result for controlled substances	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–8. SMS Controlled Substances/Alcohol BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
382.503	Driver performed a safety sensitive function, after engaging in conduct prohibited by Subpart B, without completing the return to duty process	Critical Violation
382.505(a)++	Using a driver within 24 hours after being found to have an alcohol concentration of 0.02 or greater but less than 0.04	Acute Violation
382.605(c)(1)	Using a driver who has not undergone a return-to-duty alcohol test with a result indicating an alcohol concentration of less than .02 or with verified negative test result, after engaging in conduct prohibited by Part 382 Subpart B	Acute Violation
382.605(c)(2)(ii)	Failing to subject a driver who has been identified as needing assistance to at least six unannounced follow-up alcohol and/or controlled substance tests in the first 12 months following the driver's return to duty	Critical Violation
390.35	Fraudulently or intentionally participating in a false drug and alcohol consortium	Acute Violation
390.35	D&A (false pre-employment signature)	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–8. SMS Controlled Substances/Alcohol BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
392.2	Operating a commercial motor vehicle not in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated - Controlled Substances/Alcohol	Critical Violation
392.4(b)	Requiring or permitting a driver to drive while possessing, being under the influence of, or using a narcotic drug, amphetamine, or any other substance which renders the driver incapable of safely operating a motor vehicle	Acute Violation
392.5(b)(1)	Requiring or permitting a driver to be on duty, operate a commercial motor vehicle, or be in physical control of a commercial motor vehicle while using, being under the influence of, or in possession of alcohol	Acute Violation
392.5(b)(2)	Requiring or permitting to operate a motor vehicle a driver who, by the driver's appearance or conduct or by other evidence, appears to have used alcohol within 4 hours	Acute Violation

‡ A one-time occurrence violation is a violation where noncompliance is so severe that immediate corrective action is required. A pattern of occurrence violation is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
171.2(a)	Failure to comply with Hazardous Materials regulations	HM Other	2	Y
171.2(b)	Failure to comply with the requirements for HM transportation (including labeling and handling)	HM Other	2	Y
171.2(c)	Failing to comply with Hazardous Materials regulations	Markings - HM	5	N
171.2(f)	Transporting Hazardous Materials not in accordance with this part	Package Integrity - HM	8	Y
171.2(g)	Cargo tank does not comply with Hazardous Materials Regulations	Package Integrity - HM	8	N
171.2(k)	Representing vehicle with Hazardous Materials with none present	Markings - HM	5	Y
171.23Ω	US Requirements for IMDG shipment.	HM Other	2	N
171.26Ω	US Requirements for IAEA shipments	HM Other	2	N
172.200(a)	No shipping paper provided by offeror	Documentation - HM	3	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ω This update to a violation description took effect in the SMS as of August 28, 2015.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.201(a)(1)	Hazardous Materials not distinguished from non-Hazardous Materials	Documentation - HM	3	N
172.201(a)(2)	Hazardous Materials description not printed legibly in English	Documentation - HM	3	N
172.201(a)(3)	Hazardous Materials description contains abbreviation or code	Documentation - HM	3	N
172.201(a)(4)	Additional information not after Hazardous Materials basic description	Documentation - HM	3	N
172.201(c)	Failure to list page number of pages	Documentation - HM	3	N
172.201(d)	ER phone number not listed	Documentation - HM	3	N
172.202(a)(1)	No or improper Identification Number	Documentation - HM	3	N
172.202(a)(2)	No or improper Shipping Name	Documentation - HM	3	N
172.202(a)(3)	No or improper Hazard Class or Division number	Documentation - HM	3	N
172.202(a)(4)	No or improper Packing Group listed	Documentation - HM	3	N
172.202(a)(5)	No or improper Total Quantity listed	Documentation - HM	3	N
172.202(b)	Basic description not in proper sequence	Documentation - HM	3	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.202(c)	Total quantity improper location	Documentation - HM	3	N
172.202(e)	Non Hazardous Material entered with class or ID#	Documentation - HM	3	N
172.203(a)	DOT-SP or special permit number not entered on shipping paper	Documentation - HM	3	N
172.203(b)	Limited quantity not shown	Documentation - HM	3	N
172.203(c)(1)	Hazardous substance entry missing	Documentation - HM	3	N
172.203(c)(2)	RQ not on shipping paper	Documentation - HM	3	N
172.203(d)(1)	Radionuclide name not on shipping paper	Documentation - HM	3	N
172.203(d)(10)	No indication for Highway Route Controlled Quantity of Class 7 "HRCQ" on shipping paper	Documentation - HM	3	N
172.203(d)(2)	No RAM physical or chemical form	Documentation - HM	3	N
172.203(d)(3)	No RAM activity	Documentation - HM	3	N
172.203(d)(4)	No RAM label category	Documentation - HM	3	N
172.203(d)(5)	No RAM transport index	Documentation - HM	3	N
172.203(d)(6)	No fissile radioactive entry	Documentation - HM	3	N

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§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.203(d)(7)	No DOE/NRC package approval notation	Documentation - HM	3	N
172.203(d)(8)	Export package or foreign made package not marked with IAEA Certificate	Documentation - HM	3	N
172.203(d)(9)	No Exclusive Use notation	Documentation - HM	3	N
172.203(e)	No empty packaging noted	Documentation - HM	3	N
172.203(h)(1)	No "0.2 PERCENT WATER" for anhydrous ammonia	Documentation - HM	3	N
172.203(h)(2)	No "CORROSIVE/NONCORROSIVE" for Liquefied Petroleum Gas	Documentation - HM	3	N
172.203(k)	No technical name for nos entry	Documentation - HM	3	N
172.203(l)Ψ	No "Marine Pollutant" entry	Documentation - HM	3	N
172.203(m)	No Poison Inhalation Hazard and / or Hazard Zone	Documentation - HM	3	N
172.203(n)	No "hot" on shipping paper	Documentation - HM	3	N
172.203(o)	No temperature controls noted for Class 4.1 or Class 5.2	Documentation - HM	3	N
172.203(p)Ψ	No "Non-odorized" entry for LPG	Documentation - HM	3	N

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§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.205	Hazardous waste manifest not as required	Documentation - HM	3	N
172.301	Non-bulk package marking - general	Markings - HM	5	N
172.301(a)	No ID number on side/ends of non-bulk package - large quantity of single HM	Markings - HM	5	N
172.301(a)(1)	No proper shipping name and/or ID# marking on non-bulk package	Markings - HM	5	N
172.301(a)(1)-SZΨ	Non-bulk package marking is incorrect size	Documentation - HM	3	N
172.301(b)	No technical name on non-bulk	Documentation - HM	3	N
172.301(c)	No special permit number on non-bulk package	Documentation - HM	3	N
172.301(d)	No consignee/consignor on non-bulk	Documentation - HM	3	N
172.301(f)Ψ	No "Non-odorized" entry for LPG cylinders	Documentation - HM	3	N
172.302	Marking requirements bulk packagings	Markings - HM	5	N
172.302(a)	No ID# (portable & cargo tank)	Markings - HM	5	Y
172.302(b)	Bulk package marking incorrect size	Markings - HM	5	N
172.302(c)	No special permit number on bulk package	Documentation - HM	3	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.303(a)	Prohibited HM marking on package	Markings - HM	5	N
172.304(a)(1)	Package marking not durable, english or print	Markings - HM	5	N
172.304(a)(2)	Marking not on sharply contrasting color	Markings - HM	5	N
172.304(a)(3)	Marking obscured by label or attachments	Markings - HM	5	N
172.304(a)(4)	Marking not away from other marking	Markings - HM	5	N
172.308(a)	Package marked with unauthorized abbreviation	Markings - HM	5	N
172.310(a)	No gross weight on radioactive materials package greater than 50 KG	Markings - HM	5	N
172.310(b)	Radioactive materials package not marked "Type A or B"	Markings - HM	5	N
172.312(a)(2)	No package orientation arrows	Cargo Protection - HM	4	N
172.312(b)	Prohibited use of orientation arrows	Cargo Protection - HM	4	N
172.313(a)	No "inhalation hazard" on package	Markings - HM	5	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.313(b)	No "poison" on non-bulk plastic package	Markings - HM	5	N
172.316(a)	ORM non-bulk package not marked	Markings - HM	5	N
172.320(a)	Class 1 package not marked with ex-number	Markings - HM	5	N
172.322(b)	No MARPOL marking on bulk packaging	Markings - HM	5	N
172.324	Non-bulk hazardous substance not marked	Markings - HM	5	N
172.325	No "hot" marking for bulk elevated temperature	Markings - HM	5	N
172.325(a)	Elevated temperature material not marked "Hot"	Markings - HM	5	N
172.325(b)	Improperly marked molten aluminum or molten sulfur	Markings - HM	5	N
172.326(a)	Portable tank not marked with proper shipping name or ID#	Markings - HM	5	N
172.326(b)	Portable tank not marked with owner or lessee name	Markings - HM	5	N
172.326(c)(1)	No ID# marking on vehicle carrying portable tank	Markings - HM	5	N
172.326(c)(2)	Shipper failed to provide ID# to carrier	Markings - HM	5	N
172.328(a)	Shipper failed to provide or affix ID# for cargo tank	Markings - HM	5	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.328(b)	Cargo tank not marked with proper shipping name for gases	Markings - HM	5	N
172.328(c)	Not marked with "QT" or "NQT" on MC330 or MC331 cargo tank	Markings - HM	5	N
172.328(d)	Fail to mark manual remote shutoff device	Markings - HM	5	N
172.330(a)(2)	Tank car tank (non cylinder) not marked as required	Markings - HM	5	N
172.330(b)	Motor vehicle with tank not marked	Markings - HM	5	N
172.331	Markings for other bulk packages	Markings - HM	5	N
172.331(a)Ψ	Offeror fail to provide ID Numbers to motor carrier for other bulk packages	Markings - HM	5	N
172.331(b)Ψ	Offeror fail to affix ID Numbers on other bulk packages	Markings - HM	5	N
172.331(c)Ψ	Transport other bulk packages without proper ID Numbers	Markings - HM	5	N
172.332	Required ID markings displayed	Markings - HM	5	N
172.332(a)Ψ	Failure to display ID Numbers when required	Markings - HM	5	N
172.332(b)Ψ	Orange panel does not meet specifications	Markings - HM	5	N

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Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.332(c)Ψ	ID Number on placard does not meet specifications	Markings - HM	5	N
172.334	Prohibited ID number marking	Markings - HM	5	N
172.334(a)	ID Number displayed on Class 7, Class 1, Dangerous, or Subsidiary placard	Markings - HM	5	N
172.336(b)	ID Numbers not properly displayed other than on placards	Markings - HM	5	N
172.336(c)Ψ	Failing to display ID numbers according to provisions in table of 172.336(c)	Markings - HM	5	N
172.336(c)(1)	Failing to display ID numbers on compartment cargo tank in sequence	Markings - HM	5	N
172.338	Carrier failed to replace missing ID number	Markings - HM	5	N
172.400(a)	Package or containment device not labeled as required	Markings - HM	5	Y
172.401	Prohibited labeling	Markings - HM	5	N
172.402(a)	No label for subsidiary hazard	Markings - HM	5	N
172.402(b)	Display of class number on label	Markings - HM	5	N
172.402(d)	Subsidiary labeling for RAM	Markings - HM	5	N
172.402(e)	Subsidiary labeling for class 1 (explosive) materials	Markings - HM	5	N
172.402(f)Ψ	Subsidiary labeling for Division 2.2 materials	Markings - HM	5	N
172.403(a)	No RAM label	Markings - HM	5	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.403(b)Ψ	Wrong category RAM label	Markings - HM	5	N
172.403(e)Ψ	Failing to have complete information on Fissile label	Markings - HM	5	N
172.403(f)	RAM package 2 labels on opposite sides	Markings - HM	5	N
172.403(g)	Failed to label RAM properly	Markings - HM	5	N
172.403(g)(2)	Class 7 label : no activity or activity not in SI units	Markings - HM	5	N
172.403(h)Ψ	RAM label overpack requirements	Markings - HM	5	N
172.404(a)	Mixed package not properly labeled	Markings - HM	5	N
172.404(b)	Failed to properly label consolidated package	Markings - HM	5	N
172.406(a)(1)	Label placement not as required	Markings - HM	5	N
172.406(c)	Multiple label placement not as required	Markings - HM	5	N
172.406(d)	Label not on contrasting background or no border	Markings - HM	5	N
172.406(e)	Failed to display duplicate label as required	Markings - HM	5	N
172.406(f)	Label obscured by marking or attachment	Markings - HM	5	N
172.502(a)(1)	Prohibited placarding	Markings - HM	5	N
172.502(a)(2)	Sign or device could be confused with HM placard	Markings - HM	5	N
172.504(a)	Vehicle not placarded as required	Markings - HM	5	Y

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
172.504(b)	Dangerous placard violation	Markings - HM	5	N
172.505(a)	Not placarded for subsidiary poison inhalation hazard	Markings - HM	5	N
172.505(b)	Not placarded for subsidiary corrosive	Markings - HM	5	N
172.505(c)	Not placarded for subsidiary dangerous when wet	Markings - HM	5	N
172.506(a)	Offeror failed to provide placards	Markings - HM	5	N
172.506(a)(1)	Placards not affixed to vehicle	Markings - HM	5	Y
172.507	Not placarded for RAM highway route controlled quantity	Markings - HM	5	N
172.512(a)	Freight container not placarded	Markings - HM	5	N
172.514(a)	Offering a bulk package that is not properly placarded	Markings - HM	5	N
172.514(b)	Bulk package with residue of HM not properly placarded	Markings - HM	5	N
172.516(a)	Placard not visible from direction it faces	Markings - HM	5	Y
172.516(c)(1)	Placard not securely affixed or attached	Markings - HM	5	Y
172.516(c)(2)	Placard not clear of appurtenance	Markings - HM	5	Y
172.516(c)(4)	Placard improper location	Markings - HM	5	Y
172.516(c)(5)	Placard not reading horizontally	Markings - HM	5	Y
172.516(c)(6)	Placard damaged, deteriorated, or obscured	Markings - HM	5	Y

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Table A–9. SMS HM Compliance BASIC Violations*

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172.516(c)(7)	Placard not on contrasting background or border	Markings - HM	5	Y
172.519	Placard does not meet specifications	Markings - HM	5	N
172.600(c)	Offer or transport without emergency response information	Documentation - HM	3	Y
172.602(a)	Emergency Response information not complete	Documentation - HM	3	Y
172.602(b)	Form and manner of emergency response information	Documentation - HM	3	Y
172.602(c)(1)	Maintenance/accessibility of emergency response information	Documentation - HM	3	Y
172.604(a)	Failing to provide an emergency response phone number	Documentation - HM	3	N
173.9Ψ	Fumigant marking requirements	Markings - HM	5	N
173.24(a)(c)	Non-bulk package mixed contents requirements	Cargo Protection - HM	4	N
173.24(b)	Failed to meet general package requirements	Load Securement - HM	10	N
173.24((b))(1)	Release of Hazardous Materials from package	Load Securement - HM	10	N
173.24(b)(a)	Bulk package outage or filling limit requirements	Load Securement - HM	10	N
173.24(b)(d)(2)	Exceeding the maximum weight of bulk package rating as shown on specification plate	Load Securement - HM	10	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
173.24(c)	Unauthorized packaging	Load Securement - HM	10	N
173.24(f)(1)	Closures for packagings must not be open or leaking	Load Securement - HM	10	N
173.25(a)	Failed to meet overpack conditions	Markings - HM	5	N
173.25(c)	Failure to label and package poison properly, when transported with edible material	Markings - HM	5	Y
173.29(a)	Empty package improper transportation	Cargo Protection - HM	4	N
173.30	No or Improper HM Loading by Shipper	Cargo Protection - HM	4	Y
173.32(a)(2)Ψ	Portable tank periodic testing	Package Testing - HM	7	N
173.32(g)(1)Ψ	Portable tank extending outside transport vehicle	Load Securement - HM	10	N
173.32(h)(3)	IM101/102 bottom outlets prohibited	Fire Hazard - HM	6	N
173.33(a)	Cargo tank general requirements	Cargo Protection - HM	4	Y
173.33(b)	Cargo tank loading requirements	Cargo Protection - HM	4	Y
173.33(c)(2)	Cargo tank not marked with design or MAWP	Cargo Protection - HM	4	N
173.35(a)	Intermediate bulk container requirements	Package Integrity - HM	8	Y

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
173.35(d)	Liquid filled IBC with Ullage over 98%	Load Securement - HM	10	N
173.35(f)(2)	IBC not secured to or within vehicle	Load Securement - HM	10	Y
173.35(l)Ψ	IBC filled in excess of maximum gross mass marked on the container	Cargo Protection - HM	4	N
173.36Ψ	Large bulk packages general requirements	Package Integrity - HM	8	N
173.37Ψ	Flexible bulk packages general requirements	Package Integrity - HM	8	N
173.40	General requirements Poison Inhalation Hazard Zone A or B in cylinders	HM Other	2	N
173.54	Transporting or Offering for Transportation forbidden explosives	Fire Hazard - HM	6	N
173.60	General packaging requirements explosives	HM Other	2	N
173.312Ψ	MEGCs general requirements	Package Integrity - HM	8	N
173.315(a)	Fail to comply with Cargo or portable tank Class 2 General requirements	Load Securement - HM	10	N
173.315(j)(1)Ψ	Residential LPG tank under 5%	Cargo Protection - HM	4	N
173.315(j)(2)Ψ	Residential LPG tank over 5%	Cargo Protection - HM	4	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
173.315(j)(3)	Residential gas tank not secure in transport	Fire Hazard - HM	6	Y
173.315(m)(2)Ψ	Anhydrous ammonia nurse tank with no test markings when required	Cargo Protection - HM	4	N
173.315(n)(2)Ψ	No emergency discharge control, other than metered delivery	Cargo Protection - HM	4	N
173.315(n)(3)Ψ	No emergency discharge control, metered delivery	Cargo Protection - HM	4	N
173.318Ψ	Cryogenic liquids in cargo tanks general requirements	Package Integrity - HM	8	N
173.318(b)(10)	Fail to mark inlet, outlet, pressure relief device, or pressure control valve of cryogenic tanks	Package Integrity - HM	8	N
173.318(g)	No or Improper One Way Travel Time (OWTT) marking on cryogenic cargo tank	Markings - HM	5	N
173.421(a)	Transporting limited quantity-radioactive material exceeds 0.5 millirem/hour	Cargo Protection - HM	4	N
173.427(a)(6)(iv)	No instructions for exclusive use packaging-low specific activity	Cargo Protection - HM	4	Y
173.427(a)(6)(vi)	Exclusive use low specific activity (LSA) radioactive material not marked "Radioactive-LSA"	Markings - HM	5	Y
173.431	Exceeded activity limits Type A or Type B package	Load Securement - HM	10	N

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
173.441(a)	Exceeding radiation level limitations allowed for transport	Cargo Protection - HM	4	N
173.441(b)	Exceeding radiation level allowed for transport of RAM under exclusive use provisions	Load Securement - HM	10	N
173.442(b)(1)	External temperature of package exceeds 50 degrees Celcius (122 degrees F)	Cargo Protection - HM	4	N
173.442(b)(2)	External temperature of package exceeds 85 degrees C (185 degrees F) in an exclusive use shipment	Cargo Protection - HM	4	N
173.443(a)	Radioactive contamination exceeds limits	Load Securement - HM	10	N
173.448	General RAM transport requirements	Cargo Protection - HM	4	N
177.801	Accepting or Transporting Hazardous Materials not prepared in accordance with regulations	HM Other	2	N
177.801-TRNΨ	Transporting a forbidden material	Load Securement - HM	10	N
177.804	Failure to comply with FMCSR 49 CFR part 383 and 49 CFR parts 390 through 397	HM Other	2	Y
177.817	Shipping papers required	Documentation - HM	3	N

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Table A–9. SMS HM Compliance BASIC Violations*

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177.817(a)	No or improper shipping papers (carrier)	Documentation - HM	3	Y
177.817(b)	Shipper certification missing (when required)	Documentation - HM	3	N
177.817(e)	Shipping paper accessibility	Documentation - HM	3	Y
177.823(a)	No placards/markings when required	Markings - HM	5	N
177.834(a)	Package not secure in vehicle	Load Securement - HM	10	Y
177.834(b)	Package not loaded according to orientation marks	Cargo Protection - HM	4	N
177.834(c)	Smoking while loading or unloading Class 1, Class 3, Class 4, Class 5, or Division 2.1 hazardous material	Fire Hazard - HM	6	Y
177.834(i)	Violation of attendance requirements of cargo tank during loading or unloading	Cargo Protection - HM	4	Y
177.834(j)	Manholes and valves not closed or leak free	Cargo Protection - HM	4	Y
177.834(m)(1)	Improper securement of specification 106A or 110A tanks	Cargo Protection - HM	4	N
177.834(n)	Improper loading of specification 56, 57, IM 101, and/or IM 102 portable tanks	Fire Hazard - HM	6	N
177.835	Improper transportation of explosives (Class 1)	Fire Hazard - HM	6	Y

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Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
177.835(c)	Transporting Class 1 in combination vehicles	Fire Hazard - HM	6	N
177.837	Improper transporting of Class 3 hazardous materials	Fire Hazard - HM	6	Y
177.837(c)	Cargo tank improper bonding or grounding	Cargo Protection - HM	4	N
177.837(d)	Combustible liquid unloading violation	Cargo Protection - HM	4	N
177.838	Improper transportation of Class 4, Class 5 or Division 4.2	Fire Hazard - HM	6	N
177.839	Improper transportation of Class 8 hazardous materials	Cargo Protection - HM	4	Y
177.840	Improper transportation of Class 2 hazardous materials	Fire Hazard - HM	6	N
177.840(g)	Discharge valve not closed during transportation of Class 2 hazardous materials	Cargo Protection - HM	4	Y
177.840(o)	Fail to test off-truck remote shutoff device	Cargo Protection - HM	4	Y
177.840(s)	Fail to possess remote shutoff when unloading	Cargo Protection - HM	4	Y
177.841	Improper transportation of Division 6.1 or Division 2.3 hazardous materials	Fire Hazard - HM	6	Y
177.841(e)	Package labeled Poison loaded with foodstuffs, feed or edible material	HM Other	2	Y

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Table A–9. SMS HM Compliance BASIC Violations*

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177.842(a)	Total transport index exceeds 50-non-exclusive use	HM Other	2	N
177.842(b)	Distance from package to person-radioactive material	HM Other	2	N
177.842(d)	Blocking and bracing of RAM packages	HM Other	2	Y
177.848(d)	Prohibited loading, transportation, or storage combination of hazardous materials	Fire Hazard - HM	6	N
177.848(f)	Violation of Class 1 hazardous materials load separation or segregation requirements	HM Other	2	N
178.245-4	DOT51 integrity and securement	Package Integrity - HM	8	N
178.245-5	DOT51 valve protection	Package Integrity - HM	8	N
178.245-6(a)	DOT51 name plate markings	Package Integrity - HM	8	N
178.245-6(b)	Tank outlets not marked	Package Integrity - HM	8	N
178.251-4	DOT 56/57 integrity and securement	Package Integrity - HM	8	N
178.251-7(b)	DOT 56/57 spec Markings - HM	Package Integrity - HM	8	N
178.255-14	DOT 60 ID plate	Package Integrity - HM	8	N

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Table A–9. SMS HM Compliance BASIC Violations*

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178.255-4	DOT 60 manhole	Package Integrity - HM	8	N
178.255-7	DOT60 valve protection	Package Integrity - HM	8	N
178.270-1	IM 101/102 general design	Package Integrity - HM	8	N
178.270-11(d)(1)	IM101/102 pressure relief	Package Integrity - HM	8	N
178.270-14	IM101/102 spec plate	Package Integrity - HM	8	N
178.270-4	IM 101/102 Structural integrity	Package Integrity - HM	8	N
178.270-6	IM 101/102 frames	Package Integrity - HM	8	N
178.270-8	IM 101/102 valve protection	Package Integrity - HM	8	N
178.270-9	IM101/102 manholes	Package Integrity - HM	8	N
178.336-10ς	MC330 Protecting of fittings	Package Integrity - HM	8	N
178.336-13	MC330 Anchoring of tank	Package Integrity - HM	8	N
178.336-17	MC330 Metal ID plate marking	Package Integrity - HM	8	N
178.336-17(a)	Certification plate MC330	Package Integrity - HM	8	N

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ς The update to this violation code took effect in the SMS as of August 28, 2015.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
178.336-9(a)	Safety relief devices MC330	Package Integrity - HM	8	N
178.336-9(c)	Marking of inlets/outlets MC330	Package Integrity - HM	8	N
178.337-10Ψ	MC331 Accident damage protection	Package Integrity - HM	8	N
178.337-10(a)	MC331 Protection of fittings	Package Integrity - HM	8	N
178.337-11(a)(2)	Internal valve MC331	Package Integrity - HM	8	N
178.337-13	MC331 supports and anchoring	Package Integrity - HM	8	N
178.337-17(a)	MC331 Metal identification plate missing	Package Integrity - HM	8	N
178.337-8(a)	MC331 Outlets general requirements	Package Integrity - HM	8	N
178.337-8(a)(2)	MC331 Outlets	Package Integrity - HM	8	N
178.337-8(a)(3)	MC331 Internal or back flow valve	Package Integrity - HM	8	N
178.337-8(a)(4)(i)	MC331 Remote closure device >3500 gal	Package Integrity - HM	8	Y
178.337-8(a)(4)(ii)	MC331 Remote closure device <3500 gal	Package Integrity - HM	8	Y
178.337-9	MC331 Pressure relief devices	Package Integrity - HM	8	N

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Table A–9. SMS HM Compliance BASIC Violations*

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178.337-9(c)	MC331 Marking inlets/outlets	Package Integrity - HM	8	N
178.338-10(a)	MC338 Protection of fittings	Package Integrity - HM	8	N
178.338-10(c)	MC338 Rear end protection	Package Integrity - HM	8	N
178.338-11(b)	MC338 Manual shutoff valve	Package Integrity - HM	8	Y
178.338-12	Shear section MC338	Package Integrity - HM	8	N
178.338-13	MC338 Supports and anchoring	Package Integrity - HM	8	N
178.338-18(a)	MC338 Name plate and/or Specification plate missing	Package Integrity - HM	8	N
178.338-18(b)	Specification plate missing MC338	Package Integrity - HM	8	N
178.338-6	Manhole MC338	Package Integrity - HM	8	N
178.338-8	Pressure relief devices MC338	Package Integrity - HM	8	N
178.340-10(b)	MC306/307/312 metal certification plate missing	Package Integrity - HM	8	N
178.340-6	MC306/307/312 supports and anchoring	Package Integrity - HM	8	N
178.340-7(a)	MC306/307/312 ring stiffeners	Package Integrity - HM	8	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
178.340-7(c)	MC306/307/312 double bulkhead drain	Package Integrity - HM	8	N
178.340-7(d)(2)	MC306/307/312 ring stiffener drain hole	Package Integrity - HM	8	N
178.340-8(a)	MC306/307/312 appurtenances attachment	Package Integrity - HM	8	N
178.340-8(b)	MC306/307/312 rearend protection	Package Integrity - HM	8	N
178.340-8(c)	MC306/307/312 overturn protection	Package Integrity - HM	8	N
178.340-8(d)(1)	MC306/307/312 piping protection	Package Integrity - HM	8	N
178.340-8(d)(2)	MC306/307/312 minimum road clearance	Package Integrity - HM	8	N
178.341-3(a)	MC306 no manhole closure	Package Integrity - HM	8	N
178.341-4	MC306 venting	Package Integrity - HM	8	N
178.341-4(d)(1)	MC306 inadequate emergency venting	Package Integrity - HM	8	N
178.341-4(d)(2)	MC306 pressure activated vents	Package Integrity - HM	8	N
178.341-4(d)(3)	MC306 no fusible venting	Package Integrity - HM	8	N
178.341-5(a)	MC306 internal valves	Package Integrity - HM	8	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
178.341-5(a)(1)	MC306 heat actuated safety	Package Integrity - HM	8	N
178.341-5(a)(2)	MC306 remote control shutoff	Package Integrity - HM	8	Y
178.342-3	MC307 manhole closure	Package Integrity - HM	8	Y
178.342-4	MC307 venting	Package Integrity - HM	8	N
178.342-4(b)	Inadequate venting capacity	Package Integrity - HM	8	N
178.342-5(a)	MC307 internal valve	Package Integrity - HM	8	N
178.342-5(a)(1)	MC307 heat actuated safety	Package Integrity - HM	8	N
178.342-5(a)(2)	MC307 remote control shutoff	Package Integrity - HM	8	Y
178.343-3	Manhole closure MC312	Package Integrity - HM	8	N
178.343-4	Venting MC312 (show calculations)	Package Integrity - HM	8	N
178.343-5(a)	MC 312 top outlet and valve	Package Integrity - HM	8	N
178.343-5(b)(1)	MC312 bottom valve/piping protection	Package Integrity - HM	8	N
178.345-10	DOT406/407/412 Pressure Relief	Package Integrity - HM	8	N
178.345-11(b)	DOT406/407/412 tank valves	Package Integrity - HM	8	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
178.343-5(b)(1)	MC312 bottom valve/piping protection	Package Integrity - HM	8	N
178.345-14(b)	DOT406/407/412 name plate	Package Integrity - HM	8	N
178.345-14(c)	DOT406/407/412 specification plate	Package Integrity - HM	8	N
178.345-1(i)(2)	DOT406/407/412 Double bulkhead drain	Package Integrity - HM	8	N
178.345-5(d)	DOT406/407/412 manhole securement	Package Integrity - HM	8	N
178.345-5(e)	DOT406/407/412 manhole marking	Package Integrity - HM	8	N
178.345-6	DOT406/407/412 supports & anchoring	Package Integrity - HM	8	N
178.345-7(d)(4)	DOT406/407/412 ring stiffener drain	Package Integrity - HM	8	N
178.345-8(a)	DOT406/407/412 accident protection	Package Integrity - HM	8	N
178.345-8(a)(5)	DOT406/407/412 minimum road clearance	Package Integrity - HM	8	N
178.345-8(b)	DOT406/407/412 bottom damage protection	Package Integrity - HM	8	N
178.345-8(c)	DOT406/407/412 rollover damage protection	Package Integrity - HM	8	N
178.345-8(d)	DOT406/407/412 rear end protection	Package Integrity - HM	8	N
178.703(a)	IBC manufacturer markings	Package Integrity - HM	8	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
178.703(b)	IBC additional markings	Package Integrity - HM	8	N
178.704(e)	IBC bottom discharge valve protection	Package Integrity - HM	8	N
179.300-12	DOT106/110aw protection of fittings	Package Integrity - HM	8	N
179.300-13	DOT106/110aw venting and valves	Package Integrity - HM	8	N
179.300-15	DOT106/110aw safety relief devices	Package Integrity - HM	8	N
179.300-18	DOT106/110aw stamping of tanks	Package Integrity - HM	8	N
180.3Δ	Represent a package as meeting a specification that does not meet a specification	Package Integrity - HM	8	N
180.205(c)	Periodic requalification of cylinders	Package Testing - HM	7	N
180.207(b)Ψ	Periodic inspection of UN cylinders	Package Testing - HM	7	N
180.213(d)	Requalification markings of cylinders	Package Testing - HM	7	N
180.217Ψ	MEGCs Periodic requalification	Package Testing - HM	7	N
180.352(b)	Rigid IBC retest date marking	Package Testing - HM	7	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Δ This violation was applied retroactively in SMS with the July 28, 2017 snapshot.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
180.352(c)Ψ	Flexible IBC retest date marking	Package Testing - HM	7	N
180.352(e)	IBC retest date marking	Package Testing - HM	7	N
180.405(b)	Cargo tank specifications	Package Testing - HM	7	N
180.405(j)	Cargo tank withdrawal certification	Package Testing - HM	7	N
180.405(k)Ψ	Failure to mark a specification cargo tank with a Maximum Allowable Working Pressure of at least 3 psi	Cargo Protection-HM	4	N
180.407(a)Ψ	Failure to test / inspection a specification cargo tank when due	Package Testing - HM	7	N
180.407(c)	Failing to periodically test and inspect cargo tank	Package Testing - HM	7	N
180.415(b)	Cargo tank test or inspection markings	Package Testing - HM	7	N
180.416(g)Ψ	Damaged liquid discharge hose	Package Testing - HM	7	N
180.519Ψ	Tank car tank retest date markings	Package Testing - HM	7	N
180.605	Periodic testing of portable tanks	Package Testing - HM	7	N
180.605(k)	Test date marking	Package Testing - HM	7	N

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
385.403	No HM Safety Permit	Documentation - HM	3	N
397.2	Must comply with rules in Parts 390-397 of the FMCSR when transporting Hazardous Materials	HM Other	2	Y
397.5(a)	Unattended explosives 1.1/1.2/1.3	Fire Hazard - HM	6	Y
397.5(c)	Unattended hazmat vehicle	Cargo Protection - HM	4	Y
397.7(a)	Improperly parked explosives vehicle	Fire Hazard - HM	6	Y
397.7(b)	Improperly parked hazmat vehicle	Fire Hazard - HM	6	Y
397.11(a)	Hazmat vehicle operated near open fire	Fire Hazard - HM	6	Y
397.11(b)	Hazmat vehicle parked within 300 ft. of fire	Fire Hazard - HM	6	Y
397.15	HM vehicle fueling violation	Fire Hazard - HM	6	Y
397.17	Failure to examine tires on hazmat vehicle before trip	HM Other	2	Y
397.19	Failure to furnish driver with instructions and documents for Division 1.1, 1.2, or 1.3 materials	Documentation - HM	3	Y
397.19(c)	Required documents or instructions not in drivers possession for Division 1.1, 1.2, or 1.3 hazardous materials	Documentation - HM	3	Y
397.67	HM vehicle routing violation (non RAM)	HM Route	1	N
397.101(b)	RAM vehicle not on preferred route	HM Route	1	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–9. SMS HM Compliance BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
397.101(d)	No or incomplete route plan for radioactive materials	HM Route	1	Y
397.101(e)(2)	Driver not in possession of training certificate	HM Route	1	Y
397.101(e)(3)	Driver not in possession of written route plan as required in 397.101(d) - RAM Shipments	HM Route	1	Y

Table A–10. SMS HM Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
171.15	Failing to provide proper telephonic or online notice of reportable HM incident within 12 hours	Critical Violation
171.16	Failing to properly make, submit, retain, or update a written report of Hazardous Material incident occurring during transportation	Critical Violation
172.313(a)	Failing to mark a package of Hazardous Material defined as poisonous by inhalation per 49 CFR 171.8 with "inhalation hazard" as required	Acute Violation

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–10. SMS HM Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type ‡
172.704(a)(4) ‡‡	Failing to provide security awareness training	Critical Violation
172.704(a)(5) ‡‡	Failing to provide in-depth security awareness training	Critical Violation
172.800(b) ++	Offering for transportation or transporting one or more Hazardous Materials listed without developing and adhering to a security plan that conforms to the requirements of 49 CFR Subpart I	Acute Violation
172.802(b)	Failing to make copies of security plan available to hazmat employees	Critical Violation
173.24(b)(1)	Offering or transporting Hazardous Materials in a package which has an identifiable release of Hazardous Materials to the environment	Acute Violation
173.421(a)	Accepting for transportation or transporting a Class 7 (radioactive) material described, marked, and packaged as a limited quantity when the radiation level on the surface of the package exceeds the limits of Table 4 in Section 173.425	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

‡‡ This violation took effect in the SMS as of February 1, 2015.

++ Multiple violation descriptions are associated with this citation.

Table A–10. SMS HM Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
173.431(a)	Offering (or accepting) for transportation in a Type A package a quantity greater than that authorized (radioactive materials)	Acute Violation
173.431(b)	Offering or transporting in a Type B package a quantity greater than that authorized (radioactive materials)	Acute Violation
173.441(a)	Accepting for transportation or transporting a package containing Class 7 (radioactive) material with external radiation exceeding 2 MSV/hour (200 MREM/hour), and the transport index exceeds 10	Acute Violation
173.442(b)	Accepting for transportation or transporting a package containing Class 7 (radioactive) material when the temperature of the accessible external surface of the loaded package exceeds 50 degrees C (122 degrees F) in other than an exclusive use shipment, or 85 degrees C (185 degrees F) in an exclusive use shipment	Acute Violation
173.443(a)	Offering or transporting a package of radioactive material with excess contamination levels on external surfaces	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–10. SMS HM Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
177.800(c)	Failing to train Hazardous Materials employees as required	Critical Violation
177.801++	Accepting for transportation or transporting a forbidden material	Acute Violation
177.817(a)++	Transporting a shipment of Hazardous Materials not accompanied by a properly prepared shipping paper	Critical Violation
177.817(e)	Failing to ensure proper accessibility of Hazardous Material shipping papers	Critical Violation
177.823(a)	Moving a transport vehicle containing Hazardous Material that is not properly marked or placarded	Critical Violation
177.835(a)	Loading or unloading a Class 1 (explosive) material from a motor vehicle with the engine running	Acute Violation
177.835(c)	Accepting for transportation or transporting Division 1.1, 1.2, or 1.3 (explosive) materials in a motor vehicle or combination of vehicles that is not permitted	Acute Violation
177.835(j)	Transferring Division 1.1, 1.2, or 1.3 (explosive) materials between containers or motor vehicles when not permitted	Acute Violation

‡ A one-time occurrence violation is a violation where noncompliance is so severe that immediate corrective action is required. A pattern of occurrence violation is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

++ Multiple violation descriptions are associated with this citation.

Table A–10. SMS HM Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
177.841(e)	Transporting a package bearing or required to bear a "poison" or "poison inhalation hazard" label or placard in the same motor vehicle with material marked as or known to be foodstuffs, feed, or edible material intended for consumption by humans or animals	Acute Violation
180.407(a)	Transporting a Hazardous Material in a DOT specification cargo tank for which a test or inspection specified in this section has become due in accordance with 180.407(c). May not be filled or offered for transportation until the test has successfully been completed	Critical Violation
180.407(c)	Failing to periodically test and inspect a cargo tank	Critical Violation
180.415	Failing to mark a cargo tank which passed an inspection or test required by Section 180.407(c) in the manner prescribed	Critical Violation

‡ A one-time occurrence violation is a violation where noncompliance is so severe that immediate corrective action is required. A pattern of occurrence violation is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–10. SMS HM Compliance BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
180.417(a)(1)	Failing to retain a cargo tank manufacturer's data report, certificate, and related papers, as required	Critical Violation
180.417(a)(2)	Failure of a motor carrier to retain a cargo tank manufacturer's data report, certificate, and related papers, as required	Critical Violation
397.101(d)	Failing to prepare a written route plan before requiring or permitting the operation of a motor vehicle containing highway route controlled quantity of Class 7 (radioactive) material	Critical Violation
397.19(a)	Failing to furnish driver of motor vehicle transporting Division 1.1, 1.2, or 1.3 (explosive) material with a copy of the rules of Part 397 and emergency response instructions	Critical Violation
397.67(d)	Failing to prepare a written route plan before requiring or permitting the operation of a motor vehicle containing explosives in Class 1, Divisions 1.1, 1.2, or 1.3	Critical Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–11. SMS Driver Fitness BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
177.816	Driver training requirements	General Driver Qualification	4	N
383.21	Operating a CMV with more than one driver's license	License-related: High	8	Y
383.23(a)(2)	Operating a CMV without a CDL	License-related: High	8	Y
383.23(c)	Operating on learner's permit without CDL holder	License-related: High	8	Y
383.23(c)(1)	Operating on learner's permit without CDL holder	License-related: High	8	Y
383.23(c)(2)	Operating on learner's permit without valid driver's license	License-related: High	8	Y
383.25A1Ψ	Operating on learner permit without a CDL holder	License-related: High	8	Y
383.25A2Ψ	Operating on a CDL learners permit without a valid regular operators license	License-related: High	8	Y
383.51(a)	Driving a CMV while disqualified from holding a CDL	License-related: High	8	Y
383.51A-NSIN§§	Driving a CMV while CDL is suspended for a non-safety-related reason and in the state of driver's license issuance.	License-related: Medium	5	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ψ This violation took effect in the SMS as of August 28, 2015.

§§ Lower weights for license-related violations are only applicable to inspections occurring on or after 7/20/2012.

Table A–11. SMS Driver Fitness BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
383.51A-NSOUT§§	Driving a CMV while CDL is suspended for a non-safety-related reason and outside the state of driver's license issuance.	License-related: Low	1	Y
383.51A-SIN §§	Driving a CMV while CDL is suspended for a safety-related or unknown reason and in state of driver's license issuance	License-related: High	8	Y
383.51A-SOUT§§	Driving a CMV while CDL is suspended for safety-related or unknown reason and outside the state of driver's license issuance	License-related: Medium	5	Y
383.71H$^{\Psi}$	Failing to submit medical certification documentation as required.	Medical Certificate	1	Y
383.91(a)	Operating a CMV with improper CDL group	License-related: High	8	Y
383.93(b)(1)	No double or triple trailer endorsement on CDL	License-related: High	8	Y
383.93(b)(2)	No passenger vehicle endorsement on CDL	License-related: High	8	Y
383.93(b)(3)	No tank vehicle endorsement on CDL	License-related: High	8	Y
383.93(b)(4)	No hazardous materials endorsement on CDL	License-related: High	8	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

§§ Lower weights for license-related violations are only applicable to inspections occurring on or after 7/20/2012.

Table A–11. SMS Driver Fitness BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
383.93(b)(5)	Operating a School Bus without a school bus endorsement as described in 383.93(b)(5)	License-related: High	8	Y
383.95(a)	Violating airbrake restriction	License-related: High	8	Y
390.35B-MED	Operating a CMV while possessing a fraudulent medical certificate	Fraud	10	Y
391.11	Unqualified driver	License-related: High	8	Y
391.11(b)(1)	Driving a CMV in Interstate Commerce and driver is less than 21 years of age	General Driver Qualification	4	Y
391.11(b)(2)Ω	Driver cannot read or speak the English language sufficiently to respond to official inquiries	General Driver Qualification	4	Y
391.11B2S	Driver must be able to understand highway traffic signs and signals in the English language	General Driver Qualification	4	Y
391.11(b)(4)	Driver not physically qualified	Physical	2	Y
391.11(b)(5)	Using a driver without a currently valid commercial motor vehicle operator's license or permit	License-related: High	8	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Ω This update to a violation description took effect in the SMS as of August 28, 2015.

Table A–11. SMS Driver Fitness BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
391.11B5-DEN	Driver operating a CMV without proper endorsements or in violation of restrictions.	License-related: High	8	Y
391.11B5-DNL	Driver does not have a valid operator's license for the CMV being operated.	License-related: High	8	Y
391.11(b)(7)	Driver disqualified from operating CMV	License-related: High	8	Y
391.15(a)	Driving a CMV while disqualified	License-related: High	8	Y
391.15A-NSIN§§	Driving a CMV while disqualified. Suspended for non-safety-related reason and in the state of driver's license issuance.	License-related: Medium	5	Y
391.15A-NSOUT§§	Driving a CMV while disqualified. Suspended for a non-safety-related reason and outside the state of driver's license issuance.	License-related: Low	1	Y
391.15A-SIN	Driving a CMV while disqualified. Suspended for safety-related or unknown reason and in the state of drivers license issuance.	License-related: High	8	Y
391.15A-SOUT§§	Driving a CMV while disqualified. Suspended for a safety-related or unknown reason and outside the driver's license state of issuance	License-related: Medium	5	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

§§ Lower weights for license-related violations are only applicable to inspections occurring on or after 7/20/2012.

Table A–11. SMS Driver Fitness BASIC Violations*

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight§	Violation in the DSMS (Y/N)
391.41(a)	No medical certificate in driver's possession	Medical Certificate	1	Y
391.41A-F	Operating a property-carrying vehicle without possessing a valid medical certificate.	Medical Certificate	1	Y
391.41A-FPC	Operating a property-carrying vehicle without possessing a valid medical certificate. Previously Cited on [DATE]	Medical Certificate	1	Y
391.41A-P	Operating a passenger-carrying vehicle without possessing a valid medical certificate.	Medical Certificate	1	Y
391.43(h)	Improper medical examiner's certificate form	Medical Certificate	1	Y
391.45(b)	Expired medical examiner's certificate	Medical Certificate	1	Y
391.49(j)	No valid medical waiver in drivers possession	Medical Certificate	1	Y
398.3(b)	Driver Qualifications (Physical) for Transportation of Migrant Workers	Physical	2	Y
398.3(b)(8)	No doctors certificate of qualification in possession - drivers of Migrant Workers	Medical Certificate	1	Y

* Violation severity weights reflect the relative importance of each violation within each BASIC. These weights *cannot* be compared or added meaningfully across the BASICs.

§ In cases where a violation results in an Out-of-Service Order as defined in 49 CFR 390.5, an additional weight of 2 is added to arrive at a total severity weight for the violation.

Table A–12. SMS Driver Fitness BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type[‡]
383.23(a)[Σ]	Operating a commercial motor vehicle without a valid commercial driver's license	Critical Violation
383.37(a)	Knowingly allowing, requiring, permitting, or authorizing an employee to operate a CMV during any period in which the driver does not have a current CLP or CDL or does not have a CLP or CDL with the proper class or endorsements. An employer may not use a driver to operate a CMV who violates any restriction on the driver's CLP or CDL	Acute Violation
383.37(b)[++]	Knowingly allowing, requiring, permitting, or authorizing an employee to operate a CMV during any period in which the driver has a CLP or CDL disqualified by a state, has lost the right to operate a CMV in a state, or has been disqualified from operating a CMV	Acute Violation

[‡] An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

[Σ] This update to the classification of this violation took effect in the SMS as of August 28, 2015.

[++] Multiple violation descriptions are associated with this citation.

Table A–12. SMS Driver Fitness BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type ǂ
383.37(c) ǂǂ	Knowingly allowing, requiring, permitting, or authorizing an employee with more than one commercial driver's license to operate a commercial motor vehicle	Acute Violation
383.51(a)	Knowingly allowing, requiring, permitting, or authorizing a driver to drive who is disqualified to drive a commercial motor vehicle	Acute Violation
390.35	Fraudulently acquiring or falsifying a commercial driver's license	Acute Violation
390.35	Making or causing to make fraudulent or intentionally false entry on a required medical examiner's certificate	Acute Violation
390.35	Fraudulently or intentionally making a false entry on a required medical examiner's certificate	Acute Violation
390.35	Making or causing to make a fraudulent or intentionally false entry on a record in a driver qualification file on driver(s)	Acute Violation
391.11(b)(4)	Using a physically unqualified driver	Acute Violation
391.15(a)	Using a disqualified driver	Acute Violation
391.45(a)	Using a driver not medically examined and certified	Critical Violation

ǂ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

ǂǂ This violation took effect in the SMS as of February 1, 2015.

Table A–12. SMS Driver Fitness BASIC Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
391.45(b)(1)	Using a driver not medically examined and certified during the preceding 24 months	Critical Violation
391.51(a)	Failing to maintain driver qualification file on each driver employed	Critical Violation
391.51(b)(2)	Failing to maintain inquiries into driver's driving record in driver's qualification file	Critical Violation
391.51(b)(7)	Failing to maintain medical examiner's certificate in driver's qualification file	Critical Violation
392.2	Operating a commercial motor vehicle not in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated – Driver Fitness	Critical Violation

Table A–13. SMS Insurance/Other Indicator Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
387.31(a)	Operating a passenger carrying vehicle without having in effect the required minimum levels of financial responsibility	Acute Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Table A–13. SMS Insurance/Other Indicator Acute and Critical Violations

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type‡
387.31(d)	Failing to maintain at principal place of business required proof of financial responsibility for passenger vehicles	Critical Violation
387.7(a)	Operating a motor vehicle without having in effect the required minimum levels of financial responsibility coverage	Acute Violation
387.7(d)	Failing to maintain at principal place of business required proof of financial responsibility	Critical Violation
390.15(b)(2)	Failing to maintain copies of all accident reports required by state or other governmental entities or insurers	Critical Violation
390.35	Making or causing to make an intentionally false or fraudulent entry about a business related fact or transaction on a form in the OP-1 series	Acute Violation
390.35	False lease agreement	Acute Violation
390.35	Making or causing to make fraudulent or intentionally false entry on the MCS-150A, MCS-150B, or MCS-150C	Acute Violation
392.2	Operating a commercial motor vehicle not in accordance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated - Other	Critical Violation

‡ An Acute Violation, also known as a one-time occurrence violation, is a violation where noncompliance is so severe that immediate corrective action is required. A Critical Violation, also known as a pattern of occurrence violation, is indicative of noncompliance related to the carrier's management or operational controls. A pattern occurs when violations are discovered in at least 10% of the carrier's records examined and these records indicate that more than one occurrence of the same violation is found.

Appendix B

The Federal Motor Carrier Safety Administration (FMCSA) and its stakeholders share a commitment to safety, which has been underscored by strong participation in FMCSA's listening sessions on Compliance, Safety, Accountability (CSA), resulting in constructive input from organizations, enforcement personnel, industry, and motor carrier safety experts. During the Operational Model Test (Op-Model Test) period, FMCSA solicited feedback and suggestions from stakeholders including FMCSA staff, State Partners, industry, and safety advocates and, as a result, the Agency has made changes to enhance the Safety Measurement System (SMS) methodology. FMCSA has continued to make changes to the SMS methodology as part of its continuous improvement process and as part of using the most current set of violations being recorded from inspections. The following provides a history of the SMS methodology changes.

SMS Methodology Changes from Version 1.2 to 2.0 (Implemented August 2010)

1. Modifications to the measure of exposure for the Unsafe Driving Behavior Analysis and Safety Improvement Category (BASIC) and Crash Indicator
2. Refinements to the measurement approach for the Controlled Substances/Alcohol BASIC
3. Updates to the severity weights of roadside violations based on subject matter expert review; and
4. A more strategic approach to addressing motor carriers with a history of vehicle size and weight violations.

Below is detailed information regarding the feedback, analysis, and implementation approach for each of these four enhancements.

1. Modifications to the measure of exposure for the Unsafe Driving BASIC and Crash Indicator

a. Feedback Received: The sole use of number of Power Units (PUs) owned by a motor carrier underestimates the on-road exposure for motor carriers that more extensively utilize their PUs. The use of Vehicle Miles Travelled (VMT) should be considered as a means of assessing the Unsafe Driving BASIC and Crash Indicator that currently rely on PUs.

b. Analysis Conducted: FMCSA has conducted analysis and the results show that measuring exposure solely by PUs may overly identify high-utilization carriers (i.e., carriers with above-average VMT per PU) with high percentiles (which indicates poor performance), while the sole use of VMT overly identifies low-utilization carriers with high percentiles. In addition, complete and accurate data on all carriers' VMT is not currently available.

c. Solution: FMCSA has revised its approach to measure carriers' exposure on the road within the Unsafe Driving BASIC and the Crash Indicator. This new approach uses a combination of PUs and, when available and reliable, VMT data from FMCSA's Motor Carrier Census. Further, the Agency is currently exploring options to enhance the

completeness and accuracy of VMT data including confirming the validity of VMT information from other sources.

d. Implementation Approach:

i. Segmentation—The motor carrier population is segmented into two groups for the Unsafe Driving BASIC and Crash Indicator based on the types of vehicles operated so that companies operating fundamentally different types of vehicles are no longer compared to each other:

1. Segment 1—"Combination": Combination trucks/motor coach buses constituting 70% or more of the total PUs in a carrier's fleet.
2. Segment 2—"Straight": Straight trucks/other vehicles constituting more than 30% of the total PUs in a carrier's fleet.

ii. Utilization Factor—Carriers with above-average truck utilization will receive an adjustment to their PUs called the Utilization Factor, which will provide a safety-based adjustment to the Unsafe Driving BASIC and Crash Indicator percentiles. Only carriers with annualized VMT data reported in the past 24 months on the Motor Carrier Census (obtained via the VMT field on the MCS-150 Form or from a FMCSA investigation) will be eligible to receive an adjustment. Carriers without current VMT will not benefit from the Utilization Factor in their safety assessment calculations.

iii. Safety Event Grouping—The Unsafe Driving BASIC and Crash Indicator will change from using PUs as the basis for safety event grouping (formerly referred to as peer grouping) to using the number of inspections with an Unsafe-Driving-related violation for the Unsafe Driving BASIC and the number of crashes for the Crash Indicator. The safety event grouping allows the SMS to handle the diverse motor carrier population while ensuring similarly situated carriers are treated with the same standard.

2. Refinements to the measurement approach for the Controlled Substances/Alcohol BASIC

a. Feedback Received: Op-Model Test results and law enforcement experts indicated that violations within this BASIC are more likely to be found during an inspection rather than be the cause for an inspection and therefore measuring exposure in this BASIC by number of PUs does not accurately reflect motor carrier exposure.

b. Analysis Conducted: Analysis confirmed that these types of violations are more likely to result from an inspection than to be the cause of the inspection.

c. Solution: The Controlled Substance/Alcohol BASIC measure of exposure will now be based on the number of relevant inspections instead of the number of PUs as in the prior version of the SMS. This BASIC will change from using PUs as the basis for safety event grouping to using number of inspections with a Controlled Substance/Alcohol-related violation.

d. Implementation Approach: This measure is now calculated by the following formula:

$$BASIC\ Measure = \frac{Total\ of\ time\ and\ severity\ weighted\ applicable\ violations}{Total\ time\ weight\ of\ relevant\ inspections}$$

Note: Further information on time and severity weights is available in this SMS Methodology document.

3. Updates to the severity weights of roadside violations based on subject matter expert review

a. Feedback Received: Law enforcement personnel recommended that the violation used in the measurement system be updated to reflect the current set of roadside inspection safety violations. Enforcement personnel, along with the motor carrier industry, also suggested that the severity weights assigned to some violations be reassessed.

b. Analysis Conducted: Subject matter experts from FMCSA's field staff, including enforcement personnel and CSA development team members, examined severity weighting and submitted recommendations for changes to the Agency.

c. Solution: This version of SMS includes updated violations and severity weightings.

d. Implementation Approach: Appendix A in the SMS Methodology contains a complete listing of violations and severity weights.

4. A more strategic approach to addressing motor carriers with a history of size and weight violations

a. Feedback Received: Results from the Op-Model Test have demonstrated the difficulties of enforcing vehicle size and weight violations through CSA interventions conducted by FMCSA and State Safety Investigators (SIs).

b. Analysis Conducted: Alternative methods to address this safety issue are currently under development. These methods include a more refined collection of detailed size and weight violation data and warnings in systems used by roadside inspectors to identify carriers with patterns of prior size and weight violations.

c. Solution: Size and weight violations have been removed from the Cargo-Related BASIC. However, it is important to note that roadside inspectors will continue to cite these violations at the roadside and SIs will continue to address these violations, including potential enforcement actions if appropriate, through investigations.

SMS Methodology Changes from Version 2.0 to 2.1 (Implemented December 2010)

1. Recalibration of the Cargo-Related BASIC severity weights of roadside violations based on subject matter expert review; and
2. A new chapter that provides SMS example calculations.

Below is detailed information regarding the feedback, analysis, and implementation approach for each of these enhancements.

1. Recalibration of the Cargo-Related BASIC severity weights of roadside violations based on subject matter expert review

a. Feedback Received: The motor carrier industry as well as law enforcement personnel suggested that the severity weight of all the load securement violations in the Cargo-Related BASIC that were set to the maximum of 10 were too high.

b. Analysis Conducted: Subject matter experts from FMCSA's field staff and State Partners, including enforcement personnel and CSA development team members, examined severity weighting and submitted recommendations for changes to the Agency.

c. Solution: This version of CMS includes updated violations and severity weightings in the Cargo-Related BASIC.

d. Implementation Approach: Table 6 in Appendix A of the SMS Methodology contains a complete listing of violations and severity weights in the Cargo-Related BASIC.

2. A new chapter that provides SMS example calculations

a. Feedback Received: The motor carrier industry as well as law enforcement personnel suggested that the inclusion of example measurement calculations would help them understand how the SMS results were derived.

b. Analysis Conducted: Analysis confirmed that example calculations will aid users in learning the details behind the SMS.

c. Solution: This version of SMS includes a chapter detailing example measurement calculations.

d. Implementation Approach: Section 4 of the SMS Methodology contains the example calculations.

SMS Methodology Changes from Version 2.1 to 2. 2 (Implemented January 2012)

1. Adding four texting and cell phone use violations in the Unsafe Driving BASIC as shown below; and

Table B–1. Added SMS Unsafe Driving BASIC Violations

BASIC	Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight
Unsafe Driving	177.804(b)	Failure to comply with 49 CFR 392.80 - Texting while Oper a CMV - Placardable HM	Texting	10
Unsafe Driving	177.804(c)	Fail to comply with 392.82 - Using Mobile Phone while Oper a CMV - HM	Phone Call	10
Unsafe Driving	392.80(a)	Driving a commercial motor vehicle while Texting	Texting	10
Unsafe Driving	392.82(a)(1)	Using a hand-held mobile telephone while operating a CMV	Phone Call	10
Unsafe Driving	392.82(a)(2)	Allowing or requiring driver to use a hand-held mobile tel while operating a CMV	Phone Call	10

2. Breaking out six current Vehicle Maintenance violations into 22 that provide more descriptive and detailed information about compliance with existing brake, wheel, and coupling regulations. This change will ensure that SMS remains aligned with improvements recently made to roadside data collection systems. Those improvements are the results of a joint FMCSA and Commercial Vehicle Safety Alliance effort to increase data uniformity through improved processes and tools. This change will help to clarify who the responsible party is for the violations, either the motor carrier or the Intermodal Equipment Provider.

The changes are reflected in the violation tables in Appendix A.

SMS Methodology Changes from Version 2.2 to 2.2.1 (Implemented August 2012)

Refinements to driver disqualification violations in the Driver Fitness BASIC.

a. Feedback Received: Stakeholder feedback that indicated that some driver disqualification violations used in SMS are a result of license suspensions for non-safety related reasons, such as failing to pay a parking ticket. Also, feedback from industry indicated that motor carriers often cannot detect driver suspensions when doing required background or annual checks of a driver's driving record in cases where the states outside of the driver's license-issuing State had disqualified the driver.

b. Solution: The refinement to the roadside inspection reporting systems will collect more precise information about drivers operating CMVs while disqualified to improve the Agency's ability to identify noncompliant and unsafe motor carriers. Specifically, the enhancement will allow roadside inspectors to classify disqualified driver violations into different categories depending on whether the driver's license is:

i. Suspended by the driver's license-issuing State or another State; and
ii. Suspended for a safety-related (e.g., speeding or false logs violations) or non-safety related (e.g., failure to pay parking tickets) reason.

This additional information will strengthen the effectiveness and accuracy of the Driver Fitness BASIC. More importantly, it will hold motor carriers accountable for using a driver with a license that has been suspended for safety-related reasons by the driver's license-issuing State.

Table B-2 below shows the definitions and severity weights assigned to the updated violations in roadside inspection systems effective July 20, 2012. To ensure uniform implementation, these changes are not applied retroactively.

Table B–2. Added SMS Driver Fitness BASIC Violations

BASIC	Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight
Driver Fitness	383.51A-SIN	Driving a CMV while CDL is suspended for a safety-related or unknown reason and in the state of driver's license issuance.	License-related: High	8
Driver Fitness	383.51A-SOUT	Driving a CMV while CDL is suspended for safety-related or unknown reason and outside the driver's license state of issuance.	License-related: Medium	5
Driver Fitness	383.51A-NSIN	Driving a CMV while CDL is suspended for a non-safety-related reason and in the state of driver's license issuance.	License-related: Medium	5
Driver Fitness	383.51A-NSOUT	Driving a CMV while CDL is suspended for a non-safety-related reason and outside the state of driver's license issuance.	License-related: Low	1
Driver Fitness	391.15A-SIN	Driving a CMV while disqualified. Suspended for safety-related or unknown reason and in the state of driver’s license issuance.	License-related: High	8
Driver Fitness	391.15A-SOUT	Driving a CMV while disqualified. Suspended for a safety-related or unknown reason and outside the driver's license state of issuance.	License-related: Medium	5
Driver Fitness	391.15A-NSIN	Driving a CMV while disqualified. Suspended for non-safety-related reason and in the state of driver's license issuance.	License-related: Medium	5
Driver Fitness	391.15A-NSOUT	Driving a CMV while disqualified. Suspended for a non-safety-related reason and outside the state of driver's license issuance.	License-related: Low	1

SMS Methodology Changes from Version 2.2 to 3.0 (Implemented December 2012)

1. Moved load securement violations into the Vehicle Maintenance BASIC
2. Changed the Cargo-Related BASIC to the HM Compliance BASIC
3. Removed vehicle violations from driver-only inspections and driver violations from vehicle-only inspections
4. Better aligned the SMS with IEP regulations
5. Aligned Electronic Onboard Recorders (EOBRs) to paper equivalent
6. Modified the treatment of 1-5 speeding violations
7. Modified the treatment of generic speeding violations
8. Changed the name of the Fatigued Driving (HOS) BASIC to the HOS Compliance BASIC

Below is detailed information regarding the feedback, analysis, and implementation approach for each of these enhancements.

1. Moved load securement violations into the Vehicle Maintenance BASIC

a. Feedback Received: Industry and enforcement stakeholders have pointed out that carriers that predominantly haul open trailers (e.g., flatbeds) have excessively high Cargo-Related BASIC percentiles, as load securement issues for these types of carriers are more apparent.

b. Analysis Conducted: The analysis showed that this approach (1) identifies carriers with a higher crash risk for CSA interventions and (2) effectively addresses the bias associated with carriers that haul open trailers while still holding all carriers accountable for all cargo securement violations.

c. Solution: FMCSA moved the cargo/load securement violations from the Cargo-Related BASIC to the Vehicle Maintenance BASIC.

2. Changed the Cargo-Related BASIC to the Hazardous Materials (HM) Compliance BASIC to better identify HM-related safety problems.

a. Feedback Received: Stakeholders have asked FMCSA to review the SMS methodology to ensure HM safety problems are adequately identified and addressed. The specific concern was that because the Cargo-Related BASIC included HM violations and load securement violations, some HM safety issues could have been masked.

b. Analysis Conducted: FMCSA consulted subject matter experts to identify and apply severity weightings to the 239 HM violations contained in the Cargo-Related BASIC and 112 additional HM safety-based violations attributable to the motor carrier. The analysis found that the new BASIC identified carriers with more future violations and with higher violation rates than the current Cargo-Related BASIC.

c. Solution: The Agency created a new HM Compliance BASIC that includes only HM-related violations from inspections where placardable quantities of HM were being transported.

3. Removed vehicle violations from driver-only inspections and driver violations from vehicle-only inspections

a. Feedback Received: The SMS version 2.2 and earlier included driver-only (Level 3) inspections in the Vehicle Maintenance BASIC only when vehicle violations were noted on the inspection.

Industry and enforcement were concerned that many vehicle violations fall outside the scope of the inspection and could bias the Vehicle Maintenance BASIC data.

b. Analysis Conducted: Approximately 139,000 violations, or 2.6% of all vehicle violations used in the SMS, are vehicle violations cited during a driver-only inspection. While very few driver violations are ever documented in vehicle-only inspections, this change will also be made to ensure that only violations within the scope of a particular type of inspection are included in the SMS.

c. Solution: SMS removes vehicle violations found during driver-only inspections and driver violations found during vehicle-only inspections to align the SMS with existing CVSA policies regarding inspection levels.

4. Better aligned the SMS with IEP regulations

a. Feedback Received: Violations that should be found during the pre-trip inspection are the responsibility of the motor carrier and thus should be applied in the SMS.

b. Analysis Conducted: FMCSA conducted a collaborative effort between law enforcement officials and industry to identify the violations that can be found during a pre-trip inspection of an IEP trailer.

c. Solution: Violations that could be found from a carrier's driver performing a pre-trip inspection are now applied to the motor carrier SMS results.

5. Aligned EOBRs to paper equivalent

a. Feedback Received: In the previous SMS, Hours-of-Service form and manner violations have different weights for paper (weight of 2) and electronic form and manner logbook (weight of 1) violations.

b. Solution: Aligned EOBR violation to their paper equivalent by:

(1) Reducing the severity weight of the 'Other form and manner' group from 2 to 1, to match the EOBR equivalent violations

(2) Moving onboard recording form and manner violations to the 'Other form and manner' group with a weight of 1, and

(3) Increasing the severity of onboard recording device failures to a weight of 5 to match the 'Incomplete/Wrong log' paper equivalent.

A table of these changes is presented below.

Table B–3. Modified EOBR/Form and Manner Violation Group and Severity Weights

BASIC	Section	Violation Description	Old Violation Group	SMS 2.2 Severity Weight	New Violation Group	SMS 3.0 Severity Weight
HOS	395.8	Log violation (general/form and manner)	Other Log/ Form & Manner	2	Other Log/ Form & Manner	1
HOS	395.15(b)	Onboard recording device information requirements not met	EOBR Related	1	Incomplete/ Wrong Log	5
HOS	395.15(c)	Onboard recording device improper form and manner	EOBR Related	1	Other Log/ Form & Manner	1
HOS	395.15(f)	Onboard recording device failure and driver failure to reconstruct duty status	EOBR Related	1	Incomplete/ Wrong Log	5
HOS	395.15(g)	On-board recording device information not available	EOBR Related	1	EOBR Related	1
HOS	395.15(i)(5)	Onboard recording device does not display required information	EOBR Related	1	Other Log/ Form & Manner	1

6. Modified the treatment of 1-5 speeding violations

a. Feedback received: In version 2.2 and earlier of SMS, the Unsafe Driving BASIC used all speeding violations regardless of the range exceeding the speed limit even violations of 1 to 5 mph over the speed limit. Speedometer regulations (49 CFR 393.82), however, only require accuracy within 5 mph.

b. Solution: To better align SMS with the speedometer regulations, commercial motor vehicle speeding violations in the 1 to 5 mph over the speed limit range (392.2-SLLS1) were removed from the SMS, regardless of when the inspection occurred. This change applies to the prior 24 months of data used by the SMS and all the SMS data moving forward.

7. Modified the treatment of generic speeding violations

a. Feedback received: In version 2.2 and earlier of SMS, the Unsafe Driving BASIC applied a severity weight of 5 to general speeding violations (i.e., 392.2S) that did not specify the range exceeding the speed limit. By January 1, 2011 many of the inspectors had access to updated roadside inspection software, ASPEN, to record violations broken out by mph categories above the speed limit. It was possible to have a higher severity weight assigned to the

generic speeding violation of 5 for 392.2S, than if the inspector denoted a more specified speed violation such as 392.2-SLLS2 (speeding 6-10 miles per hour over the speed limit) with a severity weight of 4.

b. Solution: Therefore, the severity weight of all generic (392.2S) speeding violations from on or after January 1, 2011 has been decreased from 5 to 1. Generic speeding violations from before January 1, 2011 will still be treated with a weight of 5.

8. Changed the name of the Fatigued Driving (HOS) BASIC to the HOS Compliance BASIC

a. Feedback received: Version 2.2 and earlier of SMS had a Fatigued Driving (HOS) BASIC. This BASIC included violations such as "form and manner" and "logbook not current" that, by themselves, do not necessarily indicate fatigued driving or driving in excess of allowable hours.

b. Solution: The BASIC name was changed to Hours-of-Service (HOS) Compliance BASIC to more accurately indicate what behavior is being measured.

SMS Methodology Document Changes ONLY (Updated February 2013)

1. Modified language to clarify what type of inspections are used in the calculation of each BASIC.
2. Added notation to violations clarifying when lower severity weight went into effect.
3. Fixed pagination between sections.

SMS Methodology Document Changes (Updated April 2013)

Ten obsolete violations were removed as the referencing regulations no longer exist. Twelve violation descriptions were modified to more accurately reflect the safety problem. See the tab, "Violation Changes_04_2013" in Appendix A (https://csa.fmcsa.dot.gov/documents/SMS_AppendixA_ViolationList.xlsx), for the list of removed and modified violations.

SMS Methodology Changes from Version 3.0 to 3.0.1 (Implemented August 2013)

FMCSA has added two new violations to the SMS. One of the violations is based on the new Hours-of-Service (HOS) regulations and the other is based on a more detailed description of existing controlled substances and alcohol regulations. Both of these violations were implemented on July 1, 2013 and therefore will count in the SMS as of this date.

The table below includes descriptions of the new violations, the BASICs they relate to, and how they are weighted in the SMS.

Table B–4. BASIC Violations Added to the SMS

BASIC	Violation Code	Description	Severity Weight	Violation Group	Driver-Related (Y/N)
HOS Compliance	395.3(a)(3)(ii)	Driving beyond 8-hour limit since the end of the last off-duty or sleeper period of at least 30 minutes	7	Hours	Y
Controlled Substances /Alcohol	392.5(a)(3)	Driver in possession of intoxicating beverage while on duty or driving	3	Alcohol Possession	Y

The new violation related to the HOS Compliance BASIC reflects FMCSA's HOS regulation that requires drivers to take a 30-minute rest break during the first eight hours of a shift. This new regulation and guidance can be found at http://www.fmcsa.dot.gov/rules-regulations/topics/hos/index.htm.

The new violation related to the Controlled/Substances Alcohol BASIC was added based on industry and law enforcement feedback. The inclusion of this violation enables roadside inspectors to distinguish between alcohol possession and alcohol use. The distinction allows the SMS to assign a lower severity weight to alcohol possession.

SMS Methodology Changes from Version 3.0.1 to 3.0.2 (Implemented June 2014)

Several new violations were added to the roadside inspection collection software on April 1, 2014. These new violation codes provide a more detailed explanation of the conditions resulting in the violation. As of the May 2014 snapshot, these violations are being added to the SMS. The table below includes descriptions of the new violations, the BASICs they relate to, and how they are weighted in the SMS.

Table B–5. BASIC Violations Added to the SMS

BASIC	Violation Code	Description	Violation Group Description	Severity Weight	Driver-Related (Y/N)
Driver Fitness	390.35B-MED	Operating a CMV while possessing a fraudulent medical certificate	Fraud	10	Y
Unsafe Driving	392.11	Commercial Vehicle failing to slow down approaching a railroad crossing.	Dangerous Driving	5	Y
Vehicle Maintenance	396.3A1DSCB	Center Bearing (Carrier Bearing) Cracked / Loose / Broken / Missing	Other Vehicle Defect	3	N
Vehicle Maintenance	396.3A1DSDT	Drive Shaft Tube Cracked or Twisted	Other Vehicle Defect	3	N
Vehicle Maintenance	396.3A1DSUJ	Universal Joint Loose / Broken / Missing Component	Other Vehicle Defect	3	N
Vehicle Maintenance	396.3A1DSYE	Drive Shaft Yoke Ends Cracked / Loose / Broken / Missing	Other Vehicle Defect	3	N

In addition, 22 violation descriptions have been modified to accurately reflect the current descriptions in the roadside inspection collection software. These changes do not affect how carriers are being assessed in SMS.

SMS Methodology Changes from Version 3.0.2 to 3.0.3 (Implemented September 2014)

FMCSA updated SMS in Version 3.03 to accommodate FMCSA's Adjudicated Citations Policy, which became effective August 23, 2014, for inspections that occurred on or after that date. The changes impact the use of certain violations in SMS when States issue a citation (i.e., ticket) associated with a violation noted in the roadside inspection, and such citations is subsequently adjudicated in a due process system. With this policy, FMCSA is taking important steps toward improving the quality and uniformity of roadside inspection violation data in the Agency's data systems. The policy allows the States to reflect the results of adjudicated citations related to roadside inspection violation data collected in the Motor Carrier Management Information System (MCMIS).

Drivers or carriers must submit certified documentation of the judicial proceeding results through a Request for Data Review (RDR) in FMCSA's DataQs system to initiate this process. MCMIS has been modified to accept adjudication results showing that a citation was dismissed or resulted in a finding of not guilty; resulted in a conviction of a different charge; or, resulted in conviction of the original charge. The adjudication results will impact the use of roadside inspection violation data in other FMCSA data systems, including the SMS.

Table B–6. Impact of Adjudicated Citation Result on Violation in SMS

Citation Result for a Violation	Violation in SMS
Dismissed/Not guilty	Remove violation
Convicted of a different charge	Severity weight set to 1 and not subject to OOS weight

SMS Methodology Changes from Version 3.0.3 to 3.0.4 (Implemented August 2015)

FMCSA updated Version 3.0.4 of the SMS to improve the consistency of Serious Violation and roadside violation data in its data systems. This update includes:

- Removing 20 Serious Violations and changing the classification of one Serious Violation to align with the list of Serious Violations that includes violations of the Acute and Critical Regulations used in the Safety Fitness Procedures, as outlined in Appendix B of Part 385. Since SMS's inception, Serious Violations have been and continue to be factored into a carrier's prioritization status. This new methodology document simply centralizes the latest Serious Violation information that was previously available on multiple FMCSA Websites.
- Adding 81 roadside inspection violations and updating the descriptions of four violations to align with our roadside inspection collection software.

These violation updates took effect in the SMS with the August 28, 2015 snapshot. See the Appendix A spreadsheet for a complete list of these updates.

SMS Methodology Changes from Version 3.0.4 to 3.0.5 (Implemented September 2015)
FMCSA updated Version 3.0.5 of the SMS to include two roadside inspection violations related to the Unsafe Driving BASIC. The table below includes descriptions of the new violations and how they are weighted in the SMS. These violations can also be found in the Appendix A spreadsheet.

Table B–7. Unsafe Driving BASIC Violations Added to the SMS

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
392.2-INAT	Inattentive Driving	Dangerous Driving	5	Y
392.2-ML	Failure to Maintain Lane	Dangerous Driving	5	Y

These violations took effect in the SMS with the September 25, 2015 snapshot. This update aligns with recent changes the Agency's roadside inspection collection software and builds upon efforts to improve the consistency of data in its systems.

SMS Methodology Document Changes (Updated February 2016)
FMCSA updated the SMS Methodology document to align with the Acute and Critical Violation language used in its Federal regulations and IT systems. The Agency replaced references to Serious Violations with Acute and Critical Violations throughout the document. References to Serious Violations in Appendix B were maintained for historical accuracy.

SMS Methodology Changes from Version 3.0.6 to 3.0.7 (Implemented April 2017)
FMCSA updated the SMS Methodology document with the following improvements:

- Moving Critical Violation 177.800(c) from the Driver Fitness to the HM Compliance BASIC to more accurately identify safety problems related to HM training; and
- Updating violation descriptions in the SMS to better align with Aspen.

FMCSA also added a brakes OOS violation, also known as cite 396.3A1BOS, to the SMS. The brakes OOS violation differs from other violations in the SMS. The brakes OOS violation relates directly to underlying brake violations that are already used in the SMS. It signifies an OOS condition based on the underlying violations noted under other cites. When these underlying brake violations indicate that 20% or more of the total brakes are defective, 396.3A1BOS is cited and recorded as an OOS violation. The brakes OOS violation provides carriers and Safety Investigators with a clearer picture of the brake issues that lead to an OOS condition. The brakes OOS violation took effect in the SMS as of April 1, 2017 and was not implemented retroactively. Violations cited before April 1 are not used. The other changes listed above also took effect in the SMS with the April 27, 2017 snapshot. The tables below provide descriptions of the violations and how they are weighted in SMS. These violations can also be found in the Appendix A spreadsheet.

Table B–8. Vehicle Maintenance BASIC Violation Added to the SMS

Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
396.3A1BOS	BRAKES OUT OF SERVICE: The number of defective brakes is equal to or greater than 20% of the service brakes on the vehicle or combination	Brakes, All Others	0 + 2 (OOS)	N

Table B–9. Critical Violation Moved from Driver Fitness to HM Compliance BASIC

Section	Violation Description Shown on Investigation Report Given to Carrier after Investigation	Violation Type
177.800(c)	Failing to train Hazardous Materials employees as required	Critical Violation

SMS Methodology Changes from Version 3.0.7 to 3.0.8 (Implemented July 2017)

FMCSA updated Version 3.0.8 of the SMS to include 12 violations. This update aligns with recent changes to FMCSA's roadside inspection collection software and builds on efforts to improve the consistency of data in the Agency's systems. These violations were applied retroactively in SMS with the July 28, 2017 snapshot. However, prior SMS results will not be modified based on the addition of new violations.

The tables below provide descriptions of the violations and how they are weighted in SMS. These violations can also be found in the Appendix A spreadsheet.

Table B–10. BASIC Violations Added to the SMS

BASIC	Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
Unsafe Driving	392.16B	Operating a property-carrying commercial motor vehicle while all other occupants are not properly restrained.	Seat Belt	7	Y
Vehicle Maintenance	393.75B-OOS	Tire-front tread depth less than 2/32 of inch on a major tread groove	Tires	8	Y
Vehicle Maintenance	393.75C-OOS	Tire-other tread depth less than 1/32 of inch measured in 2 adjacent major tread grooves	Tires	8	Y
Vehicle Maintenance	393.75F-SPEED	Operating a CMV at speeds exceeding the speed-restriction label of the tire.	Tires	8	Y
Vehicle Maintenance	393.75G-LOAD	Weight carried exceeds tire load limit	Tire vs. Load	3	Y
Vehicle Maintenance	393.75I1	Operating a CMV while weight carried exceeds tire rating due to under-inflation	Tire vs. Load	3	Y

Table B–10. BASIC Violations Added to the SMS

BASIC	Section	Violation Description Shown on Driver/Vehicle Examination Report Given to CMV Driver after Roadside Inspection	Violation Group Description	Violation Severity Weight	Violation in the DSMS (Y/N)
Controlled Substances/Alcohol	392.4A-POS	Driver on duty and in possession of a narcotic drug / amphetamine	Drugs	10	Y
Controlled Substances/Alcohol	392.4A-UI	Driver on duty and under the influence of, or using a narcotic drug / amphetamine, which renders the driver incapable of safe operation.	Drugs	10	Y
Controlled Substances/Alcohol	392.5A2-DETECT	Driver having any measured alcohol concentration, or any detected presence of alcohol while on duty, or operating, or in physical control of a CMV	Alcohol	5	Y
Controlled Substances/Alcohol	392.5A2-POS	Driver having possession of alcohol while on duty, or operating, or in physical control of a CMV	Alcohol Possession	3	Y
Controlled Substances/Alcohol	392.5A2-UI	Operating a CMV while under the influence of an intoxicating beverage regardless of its alcohol content.	Alcohol	5	Y
HM Compliance	180.3	Represent a package as meeting a specification that does not meet a specification	Package Integrity – HM	8	N