

Inspection Selection System (ISS) for Compliance Safety Accountability (CSA)

ISS-CSA Algorithm Description



This document describes the Inspection Selection System (ISS) for the Compliance, Safety, Accountability (CSA) algorithm (ISS-CSA), including the Federal Motor Carrier Safety Administration’s (FMCSA) rationale for prioritizing carriers as it does. Appendix A describes, in detail, the calculations that result in ISS-CSA inspection values. In June 2012, ISS-CSA replaced ISS-2010, which currently generates inspection recommendations and values in the ISS application used by roadside inspectors to identify and select carriers for inspection. This document has been updated to reflect the December 2012 release of Safety Measurement System changes; however the ISS-CSA has not changed. In the future, FMCSA will continue to update the ISS algorithm to reflect the Agency’s priorities.

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Introduction

The Federal Motor Carrier Safety Administration’s (FMCSA) Inspection Selection System (ISS) is used at roadside inspection stations to help inspectors identify and prioritize motor carriers for safety inspections. In a further effort to improve large truck and bus safety, and ultimately reduce commercial motor vehicle (CMV) crashes as part of the Compliance, Safety, Accountability (CSA) Initiative, FMCSA is updating the current algorithm that ISS employs to select motor carriers for inspection, called ISS-CSA, to be aligned with the current Safety Measurement System (SMS) Version 3.0. ISS-CSA assigns an inspection recommendation of ‘Inspect’, ‘Pass’ or ‘Optional’ and an ISS inspection value from one (1) to 100 for every entity registered in the FMCSA’s Motor Carrier Management Information System (MCMIS).

Figure 1. ISS-CSA Inspection Recommendation and Inspection Value

Recommendation	ISS Inspection Value
Inspect (inspection warranted – top priority)	75-100
Optional (inspection warranted – next level priority)	50-74
Pass (inspection not warranted)	1-49

ISS-CSA prioritizes carriers by assigning inspection recommendations and inspection values based, in part, on a carrier’s Behavior Analysis and Safety Improvement Categories (BASICS) percentile values from the FMCSA’s CSA SMS.

Because ISS-CSA uses BASIC percentiles from the SMS, that system is described briefly here: the SMS uses a motor carrier’s data from roadside inspections and State-reported crashes in the last 24 months along with the Federal motor carrier census data to quantify safety performance in the following BASICS:

- Unsafe Driving – Parts 392 and 397 of the Federal Motor Carrier Safety Regulations (FMCSRs)
- Hours-of-Service (HOS) Compliance (FMCSR Parts 392 and 395)
- Driver Fitness (FMCSR Parts 383 and 391)
- Controlled Substances and Alcohol (FMCSR Parts 382 and 392)
- Vehicle Maintenance (FMCSR Parts 392, 393, and 396)
- Hazardous Materials (HM) Compliance (FMCSR Part 397 and Hazardous Materials Regulations (HMRs) 171, 172, 173, 177, 178, 179, and, 180)

- Crash Indicator – Histories or patterns of high crash involvement, including frequency and severity, based on information from State-reported crashes.

After a carrier's percentile ranking is determined in each BASIC, the carrier is placed in a safety event group (e.g., with other carriers having similar numbers of inspections). Percentile ranking from 0 to 100 in each BASIC is determined by comparing the BASIC measurements of the carrier to the measurements of other carriers in the safety event group. A percentile of 100 indicates the worst performance. Percentiles are assigned only to a BASIC when the carrier has met data sufficiency standards as outlined in the methodology document referenced below, which describes the BASIC calculations in detail:

<http://csa.fmcsa.dot.gov/Documents/SMSMethodology.pdf>

ISS-CSA has two parts: a **Safety Algorithm** and an **Insufficient Data Algorithm**.

- ISS-CSA Safety Algorithm prioritizes carriers by assigning an inspection recommendation and value to carriers with sufficient data to receive a percentile ranking in the FMCSA's SMS. Additionally, the Safety Algorithm assigns an inspection recommendation and value to carriers where a Safety Investigator has found a Serious Violation during an investigation in the preceding 12 months. The Safety Algorithm assigns inspection recommendations of 'Inspect', 'Optional' or 'Pass.'
- ISS-CSA Insufficient Data Algorithm assesses all other carriers that were not assessed by the aforementioned Safety Algorithm. The Insufficient Data Algorithm assigns inspection recommendations of 'Inspect' or 'Optional.'
- ISS-CSA Out-of-Service (OOS) Indicator assigns the highest priority to carriers currently under Out-of-Service Orders (OOSO) by setting the ISS value to 100 whether or not they would fall into the Safety or Insufficient Data Algorithm.

The ISS-CSA Safety and Insufficient Data Algorithms are described in more detail below. A description of the underlying calculations is attached in Appendix A.

ISS-CSA Safety Algorithm

The ISS-CSA Safety Algorithm uses the results of FMCSA's SMS and the presence of "Serious Violations" found in investigations to assign an inspection recommendation and calculate an ISS inspection value. More specifically, the ISS-CSA Safety Algorithm looks at the SMS BASICS that are prioritized for interventions as defined by 1) SMS percentile value above FMCSA's threshold for identifying carriers that may merit intervention or 2) the presence of a Serious Violation found in an investigation, including a traditional Compliance Review or CSA Onsite or Offsite Investigation, within the last 12 months.

These Serious Violations include:

- *Violations where noncompliance is so severe that they require immediate corrective action regardless of a carrier's overall safety performance. (A one-time occurrence, for example, failing to implement an alcohol or controlled substance policy.)*
- *Violations that relate directly to a carrier's management or operational controls and indicate a breakdown in a carrier's management controls. (A pattern of violations, for example, false reports of records of duty status.)*

By including carriers with Serious Violations, ISS-CSA alerts the roadside inspection community to serious compliance problems and enables the Agency to monitor improvement. For a complete list of all Serious Violations, go to the CSA Website:

<http://csa.fmcsa.dot.gov/faqs.aspx?faqid=30903>

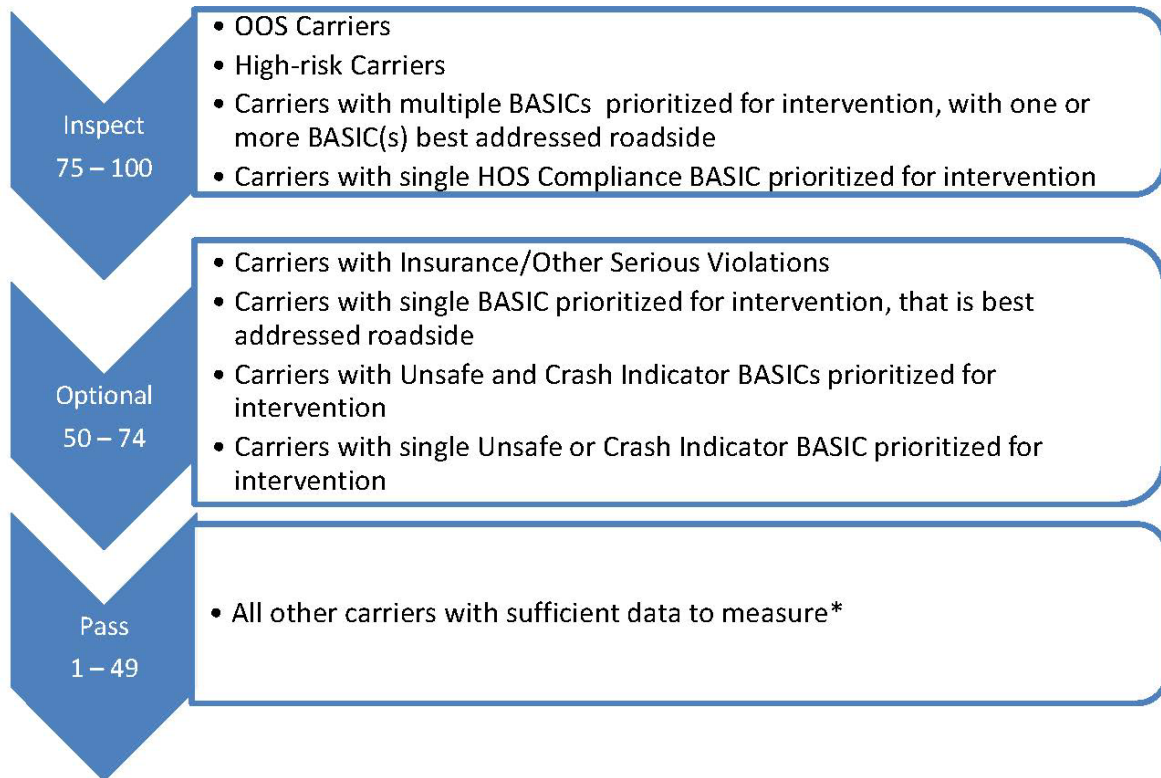
The ISS-CSA Safety Algorithm raises the priority for inspection (the ISS-CSA value) those carriers whose compliance problems can be addressed roadside. Law enforcement subject matter experts (officers who conduct roadside inspections) have deemed 5 of the 7 BASICs as best addressed during roadside inspections not associated with traffic enforcement activities. These BASICs are prioritized by the ISS-CSA Safety Algorithm and indicated in Table 1 below.

Table 1. BASICs Addressed Roadside

BASIC	Best addressed roadside?
Unsafe Driving	No
HOS Compliance	Yes
Driver Fitness	Yes
Controlled Substances and Alcohol	Yes
Vehicle Maintenance	Yes
HM Compliance	Yes
Crash Indicator	No

Figure 2 summarizes how the ISS Safety Algorithm prioritizes carriers. Each category, Inspect, Optional, and Pass, will be discussed below:

Figure 2. ISS-CSA Safety Algorithm Prioritization



*Carriers without sufficient data to measure in the SMS or a Serious Violation are prioritized using the Insufficient Data Algorithm

Inspect

As depicted above, the ISS Safety Algorithm recommends ‘Inspect’, an ISS value from 75 to 100, for the following types of carriers and prioritizes within the inspect group in the order listed below:

- OOS Carriers
- High-risk Carriers
- Carriers with multiple BASICs prioritized for intervention, with one or more BASIC(s) best addressed roadside
- Carriers with single HOS Compliance BASIC prioritized for intervention

The ISS Safety Algorithm also ranks carriers within each subgroup by the sum of their BASIC percentiles, where the presence of a Serious Violation in a BASIC sets the percentile to 100, with the highest sum having the highest position. A brief description of each subgroup and the rationale for its place in the ISS-CSA prioritization scheme follows.

OOS Carriers

The ISS-CSA Safety Algorithm places any carrier with an OOSO at the top of the 'Inspect' category, and assigns these carriers an ISS value of 100.

High-risk Carriers

The FMCSA has identified a class of carriers as "high-risk" to fulfill its Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) mandate to "ensure that compliance reviews are completed on motor carriers that have demonstrated through performance data that they pose the highest safety risk (Section 4138)." FMCSA developed a new way of identifying high-risk carriers as part of CSA; high-risk carriers have the following characteristics that are based on the roadside SMS performance only:

- Four or more BASICs exceeding the threshold ; or
- Both of the following: A) two or more total BASICs exceeding the threshold and B) one of those BASICs exceeding the threshold is in Unsafe Driving, HOS Compliance , or Crash Indicator with BASIC percentile ≥ 85 .

The ISS-CSA Safety Algorithm recommends 'Inspect' for high- risk carriers. In doing so, ISS-CSA fosters consistent prioritization of carriers in both the roadside inspection and enforcement programs, and helps the FMCSA and its State Partners fulfill this important Congressional mandate.

Carriers with Multiple BASICs Prioritized for Intervention, with One or More BASIC(s) Best Addressed Roadside

The ISS-CSA Safety Algorithm also recommends 'Inspect' for carriers that do not meet the "high-risk" definition, but that have two or three BASICs prioritized for intervention, with one or more best addressed roadside. By doing so, ISS-CSA alerts roadside inspectors to carriers with broad, demonstrated compliance problems.

Carriers Prioritized for Intervention for an HOS Compliance BASIC Only

Finally, the ISS-CSA Safety Algorithm identifies carriers with a single HOS Compliance BASIC prioritized for intervention as 'Inspect.' This BASIC is described below:

- *HOS Compliance* - includes operation of CMVs by drivers who are ill, fatigued, or in noncompliance with the HOS regulations. (FMCSR Parts 392 and 395)

Violations of FMCSA's hours-of-service regulation correlate highly with crash occurrence. By identifying these carriers as 'Inspect,' ISS-CSA enables roadside inspectors to take immediate action to prevent a potentially fatigued driver from continuing to operate.

Optional

As depicted above, the ISS Safety Algorithm recommends 'Optional', an ISS value from 50 to 74, for the following types of carriers and prioritizes within the inspect group in the order listed below:

- Carriers with Insurance/Other Serious Violations
- Carriers with single BASIC prioritized for intervention, best addressed roadside
- Carriers with Unsafe and Crash BASICs prioritized for intervention
- Carriers with single Unsafe or Crash BASIC prioritized for intervention

Again, carriers are ranked within each subgroup by the sum of their BASIC percentiles, where the presence of a "Serious Violation" in a BASIC sets the percentile to 100, with the highest sum having the highest position. It is important to remember that 'Optional' carriers are merely at a lower place on the priority list for inspection than 'Inspect' carriers. If resources are available to complete an inspection, these carriers possess demonstrated compliance issues based on roadside inspection results or higher than average crash involvement.

Carriers with Insurance/Other Serious Violations

The ISS-CSA Safety Algorithm places any carrier with Insurance/Other Serious Violations found in an investigation, including a traditional Compliance Review or CSA Onsite or Offsite Investigation within the last 12 months, at the top of the 'Optional' category. Example Insurance/Other Serious Violations include: operating a commercial motor vehicle without the minimum level of financial responsibility (one-time occurrence) and failing to maintain copies of accident reports (pattern of violations).

Carriers with Single BASIC Prioritized for Intervention Best Addressed Roadside

The ISS-CSA Safety Algorithm places carriers with a single BASIC prioritized for intervention that is best addressed roadside in the 'Optional' category. These BASICs are described below:

- *Driver Fitness* – Operating CMVs while being unfit due to lack of training, experience, or medical qualifications. (FMCSR Parts 383 and 391)
- *Controlled Substances and Alcohol* – Operating CMVs while being impaired due to alcohol, illegal drugs, or misuse of prescription or over-the-counter medications. (FMCSR Parts 382 and 392)
- *Vehicle Maintenance* – Failure to properly maintain a CMV. (FMCSR Parts 392, 393 and 396)
- *HM Compliance* – Unsafe handling of HM on a CMV. (FMCSR Part, 397 and HMRs Parts 171, 172, 173, 177, 178, 179 and 180)

Carriers with Unsafe and/or Crash BASICs Prioritized for Intervention

The ISS-CSA Safety Algorithm places carriers with Unsafe Driving BASIC and/or Crash Indicator prioritized for intervention in the 'Optional' category as well; this BASIC and indicator possess a strong correlation with crashes based on analyses conducted when developing SMS. A high-level description of this BASIC and indicator follows:

- *Unsafe Driving* – Operation of CMVs by drivers in a dangerous or careless manner. Parts 392 and 397 of the Federal Motor Carrier Safety Regulations (FMCSR)
- *Crash Indicator* – Histories or patterns of high crash involvement, including frequency and severity, based on information from State-reported crashes.

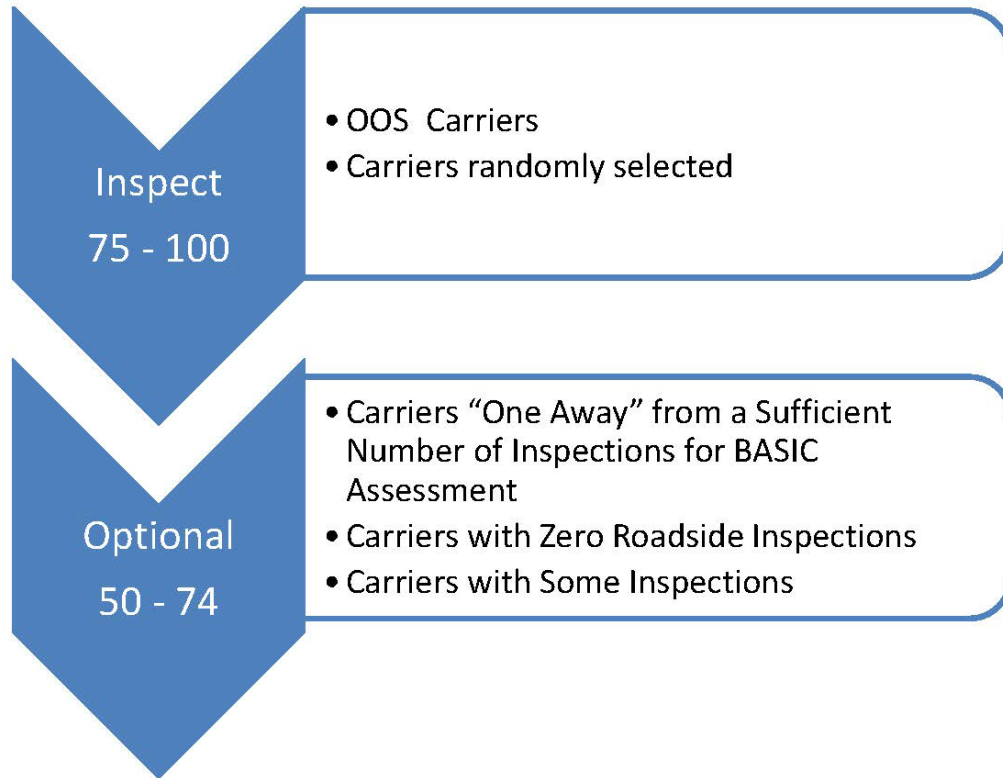
Pass

The ISS-CSA Safety Algorithm recommends 'Pass' for each remaining carrier that meets the data sufficiency conditions - number of inspections or crashes in a BASIC - but that shows no BASICs prioritized for intervention . These carriers are given a percentile rank in HOS Compliance, Driver Fitness, Controlled Substances and Alcohol, Vehicle Maintenance, and HM Compliance BASICs based on Pass carriers. The carriers are then ranked based on the sum of the BASIC percentiles. The highest sum is assigned an ISS value of 49, and the lowest is assigned a one.

ISS-CSA Insufficient Data Algorithm

The ISS Insufficient Data Algorithm prioritizes carriers by determining the inspection recommendation and value for the remaining carriers not assigned an inspection recommendation or value by the ISS-CSA Safety Algorithm. The underlying concept is to encourage inspections when there is little or no recent inspection or crash activity. Also, for carriers that are one inspection away from meeting the data sufficiency requirement for the SMS, ISS-CSA Insufficient Data Algorithm assigns a higher inspection value, with the highest inspection values assigned to carriers with the highest violation rates. All carriers are given an 'Optional' recommendation, except for a certain number that are randomly selected for an 'Inspect' recommendation. Figure 3 depicts how the ISS-CSA Insufficient Data Algorithm prioritizes carriers.

Figure 3. ISS-CSA Insufficient Data Algorithm Prioritization



Inspect

OOS Carriers

The ISS-CSA Safety Algorithm places any carrier with an OOSO at the top of the ‘Inspect’ category, and assigns these carriers an ISS value of 100.

Carriers Randomly Selected

The ISS-CSA Insufficient Data Algorithm randomly selects one (1) percent of all carriers that do not receive an ISS-CSA Safety Value, and assigns these carriers an ISS value of 99. With each monthly SMS run, a new set of random carriers is selected.

Optional

Carriers “One Away” from a Sufficient Number of Inspections for BASIC Assessment

The ISS-CSA Insufficient Data Algorithm places carriers that are one inspection away from the minimum number of inspections to receive a BASIC percentile value at the top of the ‘Optional’

category and prioritizes them based on the violation rate of their previous inspections. Higher violation rates yield higher priority.

Carriers with Zero Roadside Inspections

The ISS-CSA Insufficient Data Algorithm also recommends 'Optional' for carriers with no roadside inspections and prioritizes them based on their relative lack of exposure – carriers with more power units or drivers are prioritized above carriers with fewer.

Carriers with Some Inspections (But Not “One Away”)

Finally, the ISS-CSA Insufficient Data Algorithm recommends 'Optional' for carriers with some inspections. These carriers are prioritized based on their average carrier and driver inspection rate over the past two years with lower inspection rates receiving higher priority for inspection.

ISS-CSA generates inspection recommendations and values based on the SMS. The description above should help clarify in non-technical language how and why the algorithm prioritizes carriers as it does. The attached Appendix A describes these calculations in more detail and should serve to clarify the algorithm for individuals responsible for making changes to information systems that incorporate ISS-CSA.

Appendix A - Inspection Selection System (ISS)-Compliance, Safety, Accountability (CSA) Algorithm Calculations

The ISS is a decision-aid for commercial vehicle/driver safety inspections which guides safety inspectors in selecting vehicles for inspection. The ISS provides a three tiered recommendation as follows:

Recommendation	ISS Inspection Value
Inspect (inspection warranted – top priority)	75-100
Optional (inspection warranted – next level priority)	50-74
Pass (inspection not warranted)	1-49

Note that the above recommendations are simply guidelines. The ISS value is on a continuous 1 to 100 scale, so for example, a carrier with a value of 98 would be recommended for inspection over a carrier with a value of 97, etc.

For carriers with a sufficient amount of data, the underlying ISS inspection value is based on data analysis of the motor carrier's safety performance record using information from the Federal Motor Carrier Safety Administration's Motor Carrier Management Information System (MCMIS). This **Safety Algorithm** for assigning the inspection value is described in the next pages. It is based on the CSA Safety Measurement System (SMS) and the discovery of a Serious Violation in the preceding 12 months. The SMS utilizes the previous two years of roadside violation and crash data and provides an assessment in seven safety behavior areas, called BASICs (Behavioral Analysis and Safety Improvement Categories).¹

In the case of motor carriers for which there is not a sufficient amount of data, the ISS determines the inspection value by weighing the carrier size and number of past inspections in the past two years. This is called the **Insufficient Data Algorithm** and is also explained in detail in the following pages. The underlying concept is to encourage inspections when there is little carrier history or past inspections. In addition, when a carrier is one (1) inspection away from

¹ For a full description of the SMS, refer to the CSA Website at: <http://csa.fmcsa.dot.gov/>

meeting the data sufficiency requirement for the SMS, they receive higher inspection values, with the highest values assigned to carriers with 100% violation rates. Except for this case, as the inspection data increases, the inspection value decreases. Eventually the carrier will receive enough inspections to be monitored via safety performance.

Finally, if a carrier is issued an Out-of-Service Order (OOSO), the ISS-CSA value is set to 100.

In ISS, all active motor carriers have an inspection value. When the inspection value is displayed, either in the ISS software application or in Query Central, there is an accompanying message that states whether the inspection value is based on safety data or lack of safety performance data.

As an application, ISS also provides a great deal of current carrier specific information which is easily accessed by United States Department of Transportation (USDOT) number, Operating Authority (MC/MX number), State number, or carrier legal or Doing-Business-As (DBA) name. ISS also works with intrastate carriers who have been assigned a USDOT number or if States supply the carrier data.

The ISS-CSA Safety Algorithm

The **Safety Algorithm** for ISS-CSA is calculated as follows.

If during an intervention in the prior 12 months the carrier was found to have a Serious Violation, then the associated BASIC value for that violation is set to 100 before continuing the below calculations. If there is no associated BASIC for the violation, then the final ISS-CSA inspection value is set to 74.

Identify if the carrier meets any of the following criteria. Note that each carrier with enough safety performance data will fall into one unique group [1-13].

If a carrier has an OOSO, the final ISS-CSA Value is set to 100.

1. High-risk
2. Multiple BASICs prioritized for intervention – 3+ BASICs that are best addressed roadside
3. Multiple BASICs prioritized for intervention – 2 BASICs that are best addressed roadside
4. Multiple BASICs prioritized for intervention – 1 BASICs that are best addressed roadside
5. HOS Compliance BASIC exceeding the threshold
6. Carriers with only an Insurance / other Serious Violation
7. Vehicle Maintenance BASIC prioritized for intervention
8. HM Compliance BASIC
9. Driver Fitness BASIC prioritized for intervention
10. Controlled Substances and Alcohol BASIC prioritized for intervention

11. Unsafe Driving and Crash BASIC prioritized for intervention
12. Single Crash or Unsafe Driving BASIC prioritized for intervention
13. One or more BASIC percentiles, but none exceeding the threshold OR the minimum number of applicable inspections for a measure [e.g., five (5) vehicle inspections (Level I, II, V, or VI); or three (3) driver inspections (Level I, II, III, or VI)]

For carriers in groups 1 through 5, sum their BASIC percentiles, rank this sum, and assign quantile values from 75 to 99. Note that carriers in group 1 are ranked higher than carriers in group 2, and carriers in group 2 are ranked higher than carriers in group 3, etc.

For carriers in groups 6 through 12, sum their BASIC percentiles, rank this sum, and assign quantile values from 50 to 74. Note that carriers in group 6 are ranked higher than carriers in group 7, etc.

For carriers in group 13:

- If the carrier has 3 or more driver inspections, use the HOS Compliance BASIC measure²
- If the carrier has 5 or more driver inspections, use the Driver Fitness BASIC measure
- If the carrier has 3 or more driver inspections, use the Controlled Substances and Alcohol measure
- If the carrier has 5 or more vehicle inspections, use the Vehicle Maintenance BASIC measure
- If the carrier has five (5) or more vehicle inspections, use the HM Compliance BASIC measure

Rank each of the 5 applicable measures above by the associated safety event group for that measure, and assign percentiles to the ranks (1 to 100).

Sum the applicable measure percentiles for each carrier.

Note that values in the Unsafe Driving measure and/or the Crash Involvement measure are not included in this group as any value in these measures indicates a negative event occurred (e.g., carriers with values in these measures are always “less safe” than carriers with no values in these measures).

Rank the sums, and assign quantiles to the ranks of 1 to 49.

The quantile values above then become the ISS-CSA Safety inspection values. Carriers in groups 1 through 5 receive values from 75 to 99; carriers in groups 6 through 12 receive values from 50 to 74; and carriers in group 13 receive values from 1 to 49.

² For a full description of these measures, refer to the CSA Website at: <http://csa.fmcsa.dot.gov/>

The ISS-CSA Insufficient Data Algorithm

The **Insufficient Data** Algorithm for ISS-CSA is calculated as follows.

For every carrier that does not receive an ISS-CSA Safety Value, they receive an ISS-CSA Insufficient Data Value based on the following algorithm. Except for the OOS condition and for the “Random” carriers referenced below, these values will range from 50 to 74.

If a carrier has an OOSO, the final ISS-CSA Value is set to 100.

One percent of insufficient data carriers (approximately 10,000 carriers) are randomly selected and the final ISS-CSA Value for these carriers is set to 99.

- 10% of these randomly selected carriers are from Case 1 below.
- 75% of these randomly selected carriers are from Case 2 below.
- 15% of these randomly selected carriers are from Case 3 below.

The carriers randomly selected remain with the final ISS-CSA Value set to 99 for the one-month period in between the SMS runs. With each new SMS run, a new set of random carriers is selected.

All data is based on the past 24 months.

Note that once a carrier meets the minimum number of applicable inspections for a measure (e.g., currently has 5 Level I, II, V, or VI inspections; or currently has 3 Level I, II, III, or VI inspections) their ISS-CSA Insufficient Data Value is set to 50.

Case 1: *For carriers who are “1 away” from meeting the minimum number of applicable inspections for a measure (e.g., currently have 4 Level I, II, V, or VI inspections; or currently have 2 Level I, II, III, or VI inspections)*

Calculate a violation rate for these carriers, dividing the total number of inspections with a violation by the number of inspections.

For carriers with 4 Level I, II, V, or VI inspections;

- if their violation rate is 100% then set their ISS-CSA Insufficient Data Values = 74
- if their violation rate is 75% then set their ISS-CSA Insufficient Data Values = 73
- if their violation rate is 50% then set their ISS-CSA Insufficient Data Values = 72
- if their violation rate is 25% then set their ISS-CSA Insufficient Data Values = 71
- if their violation rate is 0% then set their ISS-CSA Insufficient Data Values = 70

For carriers with 2 Level I, II, III, or VI inspections;

- if their violation rate is 100% then set their ISS-CSA Insufficient Data Values = 74
- if their violation rate is 50% then set their ISS-CSA Insufficient Data Values = 72
- if their violation rate is 0% then set their ISS-CSA Insufficient Data Values = 70

Case 2: If a carrier has 0 roadside inspections (Level I, II, III, or V, or VI), an ISS-CSA Insufficient Data Value is assigned based only on their size as follows:

Category				ISS-CSA Value
1001+ power units (PU)	OR	1001+ drivers	=	69
201-1000 PUs	OR	201-1000 drivers	=	68
64-200 PUs	OR	72-200 drivers	=	67
16-63 PUs	OR	16-71 drivers	=	66
7-15 PUs	OR	6-15 drivers	=	65
2-6 PUs	OR	2-5 drivers	=	64
1 PUs	OR	1 driver	=	63

- The carrier is assigned the *higher* of their values. For example, if a carrier has 75 PUs (ISS-CSA Value = 67) and 50 drivers (ISS-CSA Value = 66), they would receive a final ISS-CSA Value of 67.
- *If there is neither PU information nor driver information*, the carrier is assigned the midpoint ISS Value of 66.

Case 3: For carriers with one or more previous roadside inspections, but not enough to fall under Case 1, their Inspection per Power Unit Rate, their Inspection per Driver Rate, and subsequent Inspection Average Rate is determined as follows, ranked, and then given ISS-CSA Values from 50 to 69.

- The Inspection per Power Unit Rate is determined by dividing the number of Level I, II, V, and VI inspections the carrier has had in the previous 24 months by the number of PUs they have.
- The Inspection per Driver Rate is determined by dividing the number of Level I, II, III, and VI inspections the carrier has had in the previous 24 months by the number of drivers they have.
- The **Inspection Average Rate** is then the average of these two rates (the Inspection per Power Unit Rate and the Inspection per Driver Rate). *If one of the rates is unable to be determined (because of no PU or driver information – either it is missing / null or it is zero), the Inspection Average Rate is simply the rate which can be determined.*

Using these Inspection Average Rates, a ranking of 1 to 20 is calculated, and then added to 49, so that values of 50 to 69 are assigned to the carriers (the *lowest* Inspection Average Rates receive the highest rankings), which then becomes these carriers' ISS-CSA Values.

If there is no size information available to calculate the Inspection Average Rate (but, the carrier does have at least one inspection), the ISS-CSA Value is the midpoint ISS value, 66. Thus, all carriers have a Safety ISS-CSA value OR an Insufficient Data ISS-CSA value.