# UNDERSTANDING FMCSA'S SMS

SAFETY MEASUREMENT SYSTEM · CSA & BASIC SCORES

**SMS is FMCSA's workload prioritization tool**, part of the Agency's Compliance, Safety, Accountability (CSA) enforcement program. Its purpose is to assess noncompliance by analyzing on-road performance data collected from **roadside inspections**, **crash reports**, and **Acute and Critical Violations** discovered during prior investigations.

## EVERY MOTOR CARRIER IS SCORED ACROSS SEVEN CATEGORIES (BASICS)

| | | |
|---|---|---|
| **Unsafe Driving** | **Crash Indicator** | **HOS Compliance** |
| **Vehicle Maintenance** | **Controlled Subs / Alcohol** | **Driver Fitness** |
| **Hazmat (HM) Compliance** | | |

## EXPOSURE NORMALIZATION & PERCENTILE RANKING

FMCSA recognizes that many different types of motor carrier operations fall under its purview. To make comparisons fairer, SMS adjusts scores for exposure through an **exposure normalization** process — ensuring a 500-truck fleet is not penalized simply because it operates more vehicles than a 5-truck fleet, and vice versa.

After exposure is normalized, carriers are grouped with peers of similar size or inspection volume, ranked within that peer group, and assigned a percentile score from **0–100**.

- **Lower percentiles** indicate better performance relative to similar carriers
- **Higher percentiles** indicate worse performance relative to peers and may increase the likelihood of FMCSA attention

## INTERVENTION THRESHOLDS

Carriers with good safety practices that stay under intervention thresholds reduce the likelihood of FMCSA scrutiny. Carriers whose percentiles **meet or exceed the threshold** in a BASIC category may be flagged for intervention, because their data shows a stronger likelihood of being an unsafe carrier. Additionally, carriers found with **Acute or Critical Violations** during an FMCSA investigation in the past 12 months can trigger a flag **regardless of percentile scores**. Stricter thresholds apply to passenger and hazmat carriers, since crashes involving these carriers tend to carry higher consequences.

| BASIC | 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%** |

FMCSA's analysis has shown that the **Unsafe Driving, Crash Indicator, and HOS Compliance** BASICs have the strongest associations to crash risk — which is why the thresholds are lower for those categories.

## THE BASICS BEFORE THE BASICS

### AVERAGE POWER UNITS (APU)

The number of owned, term-leased, and trip-leased power units operating under your authority.

$$\text{APU} = \frac{\text{Current PU + PU 6 Months Ago + PU 18 Months Ago}}{3}$$

### UTILIZATION FACTOR (UF)

A multiplier that adjusts APU values based on utilization in terms of vehicle miles traveled (VMT). How it's assigned:

i. **Carrier segment** — either Combination or Straight

ii. **VMT data divided by APU**

iii. The information from i & ii determines which Utilization Factor is assigned

## COMBINATION SEGMENT

| VMT PER AVERAGE PU | UTILIZATION FACTOR |
|---|---|
| < 80,000 | 1 |
| 80,000–160,000 | 1 + (VMT per Avg PU − 80,000) ÷ 133,333 |
| 160,000–200,000 | 1.6 |
| > 200,000 | 1 |
| No recent VMT information | 1 |

## STRAIGHT SEGMENT

| VMT PER AVERAGE PU | UTILIZATION FACTOR |
|---|---|
| < 20,000 | 1 |
| 20,000–60,000 | VMT per Avg PU ÷ 20,000 |
| 60,000–200,000 | 3 |
| > 200,000 | 1 |
| No recent VMT information | 1 |

## SAFETY EVENT GROUP (SEG)

Another component of SMS's tiered approach, accounting for the inherently greater variability in how a carrier operates. Each BASIC category has its own table of Safety Event Groups by segment — each carrier is grouped within its appropriate SEG before being ranked.

## WHAT EACH BASIC MEASURES

### UNSAFE DRIVING

Operation of a CMV in a dangerous or careless manner.

### CRASH INDICATOR

Pattern of reportable crash involvement, including frequency and severity. Crashes ruled "not preventable" through FMCSA's DataQs program are excluded. This information is not publicly available.

### VEHICLE MAINTENANCE

Failure to properly maintain a CMV — including issues with the load and cargo.

### HOURS OF SERVICE

Violations of regulations pertaining to records of duty status.

### CONTROLLED SUBSTANCES / ALCOHOL

Violations involving CMV drivers who operate while impaired by, or in possession of, alcohol, illegal drugs, or misused prescription or over-the-counter medications.

### DRIVER FITNESS

Operation of CMVs by drivers who are unfit to operate a CMV due to lack of training, experience, or medical qualifications.

### HM COMPLIANCE

Unsafe handling of hazardous materials on a CMV.

## WHAT ALL BASIC CALCULATIONS HAVE IN COMMON

- ☐ Violations are weighted **1–10 by severity**
- ☐ Violations in the last 6 months count **3x**; 6–12 months, **2x**; 12–24 months, **1x**
- ☐ Each carrier is grouped within its appropriate **Safety Event Group** before being ranked
- ☐ Final score is a **percentile (0–100)** — higher means worse relative performance

## UNSAFE DRIVING & CRASH INDICATOR — CALCULATION

These BASICs incorporate carrier size in terms of Power Units (PUs) and annual Vehicle Miles Traveled (VMT), generating percentile ranks that reflect where each carrier stands relative to carriers with similar numbers of inspections with applicable violations.

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

## VEHICLE MAINTENANCE, DRIVER FITNESS, CONTROLLED SUBSTANCES, HOS & HM COMPLIANCE — CALCULATION

These BASICs are calculated using applicable violations found during roadside inspections. Measures generate percentile ranks reflecting where each carrier stands relative to carriers with similar numbers of inspections with applicable violations.

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

**Why this matters to your insurance:** underwriters review your SMS profile on every submission and renewal. Clean BASICs directly support better pricing — share every inspection with MIG so we can tell your safety story accurately.

*For general guidance only — not legal advice. Thresholds and methodology current as of September 2026.*