



Safety Analysis of Interstate Carriers with UCR, IFTA or IRP Violations, 2017

The FMCSA Innovative Technology Deployment (ITD) Grant Program is a key component of FMCSA's drive to improve commercial motor vehicle (CMV) safety. The ITD Program supports this safety mission by providing grant funds to States for:

- Improving safety and productivity of motor carriers, CMVs, and their drivers.
- Improving efficiency and effectiveness of CMV safety programs through targeted enforcement.
- Improving CMV data sharing among States and between States and FMCSA.
- Reducing Federal, State, and industry regulatory and administrative costs.

States and Canadian jurisdictions have issued registration and fuel tax credentials to commercial vehicles and carriers for decades through the International Registration Plan (IRP) and International Fuel Tax Agreement (IFTA). More recently, States have issued a Unified Carrier Registration (UCR) required of all operators of commercial vehicles engaged in interstate commerce.

Commercial vehicle enforcement officers and Agency administrators have long debated that there was a direct correlation between a carrier's safety history within FMCSA's Motor Carrier Management Information System (MCMIS) and compliance with maintaining a current credential issued by the States. There was a belief that a carrier with a suspended or revoked credential should warrant a roadside inspection since it is likely there are other regulatory compliance issues that would directly impact the safety of the motoring public.

FMCSA's Office of Analysis, Research, and Technology evaluated data within Agency information systems to assess whether negative compliance with certain credentials issued by States are related to a carrier's safety performance. This analysis found that carriers with an IFTA, UCR or IRP violation were more likely to be involved in crashes, and likely to have other violation types.

In 2017:

- 46,431 IFTA, IRP, and UCR violations were issued.
- Carriers were 40.5 percent more likely to be involved in a crash if they had at least one IFTA, IRP, or UCR violation.
- Carriers with vehicles weighing at least 26,001 pounds being operated interstate were 38.3 percent more likely to be involved in crashes if they had at least one IFTA, IRP, or UCR violation.

Table 1 lists the number of carriers that received at least one violation each month by violation type. For example, in January 2017, 875 carriers received an IFTA violation, 1,383 received an IRP violation, and 2,408 received a UCR violation.

Looking first at IFTA violations (392.2FT) in Table 1, the majority of the violations occurred between March and October, with the largest proportion occurring in March (3,307 violations). States issue IFTA credentials on a calendar year basis with renewals happening during the same timeframe annually. Enforcement of IFTA compliance is commonly impacted within the first 60 days of a calendar year to allow carriers to send IFTA licenses and fuel decals to their entire fleet.



Often, States communicate to the law enforcement community to not enforce the IFTA requirements during this time period to allow carriers sufficient time to distribute decals, which is why we see low numbers in January and February in Table 1. Additionally, violations tend to trend downward as the year progresses due to the heavy push when the enforcement period begins in March, with violations less likely toward the end of the calendar year.

Table 1. Carriers with violations by type, 2017.

Month	392.2FT violations	392.2IRP violations	392.2UCR violations
January	875	1,383	2,408
February	813	1,236	1,204
March	3,037	1,537	953
April	1,518	1,434	699
May	1,440	1,494	704
June	1,284	1,527	625
July	1,035	1,346	515
August	1,172	1,572	548
September	1,013	1,347	415
October	1,035	1,284	471
November	908	1,230	352
December	810	1,099	346
2017 Total	12,353	12,999	8,111

Note: Monthly counts do not add to total as 2017 total is for *unique* carrier counts for the year. The same carrier can be present in more than one month when looking at monthly totals, so to prevent double counting, the unique carrier count is included here.
Source: MCMIS; September 28, 2018 snapshot.

The IRP violations (392.2IRP) listed in Table 1 trend differently within the calendar year. IRP registrations are renewed on a rolling basis throughout the year based on the expiration date. Therefore, they are enforced evenly throughout the year without any holds or downward enforcement trends.

Similar to IFTA, States issue UCR credentials on a calendar year basis with all renewals happening during the same timeframe annually. In Table 1, we see that UCR violations (392.2UCR) are more likely to occur in January and February with violations less likely to occur toward the end of the year when compliance is less likely to be an issue.

Table 2 highlights the total number of violations by type and month in 2017, as numerous carriers received multiple violations. As carriers have multiple vehicles and drivers, they can get numerous violations each month. In 2017, there were 16,654 IFTA violations, 18,934 IRP violations and 10,943 UCR violations. Comparing this to the unique carrier counts, looking at January 2017, there were 970 IFTA violations attributed to 875 unique carriers. For IRP violations, there were 1,577 attributed to 1,383 carriers and 2,880 UCR violations attributed to 2,408 carriers.

Table 2. Total violations by type, 2017.

Month	392.2FT violations	392.2IRP violations	392.2UCR violations
January	970	1,577	2,880
February	888	1,410	1,388
March	3,718	1,809	1,107
April	1,689	1,682	797
May	1,597	1,744	828
June	1,391	1,719	699
July	1,122	1,573	601
August	1,262	1,802	646
September	1,072	1,540	464
October	1,111	1,447	627
November	967	1,389	456
December	867	1,242	450
2017 Total	16,654	18,934	10,943

Source: MCMIS; September 28, 2018 snapshot.

As we saw in Table 2, carriers can receive multiple violations for each violation type, and they are able to receive violations in all three groups (IFTA, IRP, and UCR). The following tables rank carriers with DOT numbers that had multiple violations in 2017. The red values in Table 4, Table 5, and Table 6 correspond to carriers that are not included in Table 3, which sorts them by the total number of violations received in 2017 (e.g., sum of IFTA, IRP, and UCR violations). There are many violations with no DOT number assigned (top row of each table). It is our assumption that these correspond to intrastate non-hazmat carriers, who are not regulated by FMCSA. As a result, any further analysis focuses only on those carriers with a DOT number assigned. In Table 4, there are two carriers (3706 and 75806) which show up when we rank



carriers by the total number of IFTA violations in 2017. In Table 5, one additional carrier makes the Top 10 when ranked by IRP violations (105234), but notice that this carrier has a low number of IFTA violations and no UCR violations. As shown in Table 6, when ranking the carriers by the number of UCR violations, all carriers are unique to this table and do not show up when ranked by total violations, IRP, or IFTA. Ranking by violation type shows a unique pattern, specifically that carriers that receive UCR violations are unlikely to have either a IFTA or IRP violation; and those with IFTA or IRP violations are unlikely to receive UCR violations.

Table 3. Carriers with the most violations (ranked by total), 2017.

DOT#	392.2FT	392.2IRP	392.2UCR	Total
No DOT#	170	115	655	940
54283	84	165	2	251
264184	63	90	0	153
80806	52	96	0	148
303024	27	84	0	111
53467	49	44	0	93
511412	37	55	0	92
165420	33	33	0	66
38111	35	24	0	59
53773	14	41	0	55
28406	16	38	0	54
Total	580	785	657	2,022
Total with DOT#s	410	670	2	1,082

Source: MCMIS; September 28, 2018 snapshot.

Table 4. Carriers with the most violations (ranked by 392.2FT violations), 2017.

DOT#	392.2FT	392.2IRP	392.2UCR	Total
No DOT#	170	115	655	940
54283	84	165	2	251
264184	63	90	0	153
80806	52	96	0	148
53467	49	44	0	93
511412	37	55	0	92
38111	35	24	0	59
165420	33	33	0	66
303024	27	84	0	111
3706	26	22	1	49
75806	24	11	0	35
Total	600	739	658	1,997
Total with DOT#	430	624	3	1,057

Source: MCMIS; September 28, 2018 snapshot.

Table 5. Carriers with the most violations (ranked by 392.2IRP violations), 2017.

DOT#	392.2FT	392.2IRP	392.2UCR	Total
No DOT#	170	115	655	940
54283	84	165	2	251
80806	52	96	0	148
264184	63	90	0	153
303024	27	84	0	111
511412	37	55	0	92
53467	49	44	0	93
53773	14	41	0	55
28406	16	38	0	54
105234	9	37	0	46
165420	33	33	0	66
Total	554	798	657	2,009
Total with DOT#	384	683	2	1,069

Source: MCMIS; September 28, 2018 snapshot.

Table 6. Carriers with the most violations (ranked by 392.2UCR violations), 2017.

DOT#	392.2FT	392.2IRP	392.2UCR	Total
No DOT#	170	115	655	940
2548072	0	0	23	23
2297900	0	0	18	18
627564	0	0	16	16
2251248	5	2	14	21
1556800	0	0	14	14
643962	6	0	12	18
1766537	0	0	12	12
728630	9	9	11	29
2503013	0	0	10	10
1830071	0	2	9	11
Total	190	128	794	1,112
Total with DOT#	20	13	139	172

Source: MCMIS; September 28, 2018 snapshot.

To estimate the relative safety performance of these carriers, Table 7 and Table 8 look at the crash to power unit (C-P) ratios for carriers by size in 2017. To calculate these ratios, first the crash per power unit rates (crashes/power units) are computed for each carrier that received a violation (by type). These carrier rates are then added together before being divided by the total number of carriers to create the final C-P ratio for each violation group. Looking at the C-P ratios in Table 7 and Table 8, a higher C-P ratio is associated with a carrier group that is “less safe,” as they are more likely to be



involved in a crash than those with a lower C-P ratio. For example, when looking at vehicles that were 26,000 pounds or more being operated by interstate carriers (Table 7), carriers with *no* IFTA violations had a C-P ratio of 0.048; however, carriers with at least one IFTA violation's C-P ratio increased to 0.070, a 45.8 percent increase (compared to 63.2 percent of all carriers). The same trend is noticed for carriers with IRP and UCR violations, both in the group of vehicles that were 26,000 pounds or more and operated by interstate carriers (Table 7) as in all carriers (Table 8). Carriers with at least one IRP violation in 2017 were 57.9 percent more likely to be involved in a crash, and when looking at the carrier vehicles that were 26,001 pounds or more operating interstate, they were 47.9 percent more likely to be involved in a crash. Finally, looking at UCR violations for all carriers (Table 8), carriers with at least one UCR violation were 2.6 percent more likely to be involved in a crash, compared to 14.3 percent of vehicles 26,001 pounds or more operating interstate (Table 7).

Table 8. Crash to power unit (C-P) ratios for all carriers, 2017.

C-P* Ratio for Carriers (All Vehicles)	Carrier Count	Ratio
With NO FT violations in 2017	423,402	0.038
With at least 1 FT violation in 2017	18,129	0.062
With NO IRP violations in 2017	420,682	0.038
With at least 1 IRP violation in 2017	20,849	0.060
With NO UCR violations in 2017	423,347	0.039
With at least 1 UCR violation in 2017	18,184	0.040
With NO FT, IRP, OR UCR violations in 2017	394,149	0.037
With at least 1 FT, IRP, OR UCR violation in 2017	47,382	0.052
With at least 1 FT, IRP, AND UCR violation in 2017	1,065	0.054
With at least 1 FT AND IRP violation in 2017	6,180	0.064

*C-P ratios are the crashes per power units for carriers.
Source: MCMIS; September 28, 2018 snapshot

Table 7. Crash to power unit (C-P) ratios for vehicles 26,001 pounds or more operated by interstate carriers, 2017.

C-P* Ratio for Carriers with Interstate Vehicles 26,001 Pounds or More	Carrier Count	Ratio
With NO FT violations in 2017	207,671	0.048
With at least 1 FT violation in 2017	12,353	0.070
With NO IRP violations in 2017	207,025	0.048
With at least 1 IRP violation in 2017	12,999	0.071
With NO UCR violations in 2017	211,913	0.049
With at least 1 UCR violation in 2017	8,111	0.056
With NO FT, IRP, OR UCR violations in 2017	192,443	0.047
With at least 1 FT, IRP, OR UCR violation in 2017	27,581	0.065
With at least 1 FT, IRP, AND UCR violation in 2017	534	0.069
With at least 1 FT AND IRP violation in 2017	3,934	0.079

*C-P ratios are the crashes per power units for carriers.
Source: MCMIS; September 28, 2018 snapshot.

