

**DEFECTS PETITION DP14-003: SECTION 3.5, CALCULATION OF CRASHES PER YEAR**

As background, to put ODI complaints of low-speed surging during brake application in context, separate research conducted for NHTSA by the Highway Safety Research Center to examine the prevalence of crashes caused by pedal application errors found that they occur more frequently than is generally known and exhibit many of the same characteristics as the SA complaints received by ODI, although in much greater numbers. The study included a review of North Carolina state crash database records, which identified 2,411 self-reported pedal misapplication crashes between 2004 and 2008, an average of approximately 480 per year.<sup>1</sup>

Projected nationally, the North Carolina data predict over 16,000 pedal error crashes per year, or about 44 incidents per day. These pedal error crash counts are likely conservative, since they are limited to self-reported incidents that were documented in law enforcement accident reports. The total number of pedal error incidents, including those in which the driver is not aware of the error (such as the petitioner’s incident) are unknown and there is no systematic process or database in the United States for tracking such events. An April 2012 summary of the study notes that 57 percent of pedal error crashes identified in the study occurred in parking lots or driveways, which projects to over 9,000 incidents per year in those driving environments nationwide.<sup>2</sup>

REGION	GENDER	DATA	NOTES	AGE GROUP														(7)	(8)	(9)	(10)	
				19 AND UNDER	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 AND OVER	TOTAL	20-64	65 AND OVER	YOUNGEST & OLDEST (≤19 & ≥65)
North Carolina	Female	Average annual police report crashes, 2004-2008	(1)	41	27	19	22	16	17	16	17	14	12	14	21	20	24	12	293	160	92	133
		Average annual licensed drivers, 2004-2008	(2)	104,881	259,634	294,872	306,194	319,333	324,345	320,554	294,973	263,963	207,746	154,572	121,203	95,731	62,859	34,793	3,165,653	2,591,615	469,157	574,038
		Annual incident rate per 100,000 drivers	(3)	39.5	10.4	6.4	7.3	5.0	5.3	4.9	5.8	5.2	5.8	8.9	17.5	21.3	38.8	34.5	9.3	6.2	19.6	23.2
	Male	Average annual police report crashes, 2004-2008	(1)	27	17	20	10	9	9	7	5	8	7	8	10	9	11	12	170	92	51	78
		Average annual licensed drivers, 2004-2008	(2)	109,390	286,591	320,835	323,573	324,802	319,430	306,633	276,773	247,635	196,843	144,563	110,956	84,254	53,505	29,796	3,135,580	2,603,116	423,074	532,464
		Annual incident rate per 100,000 drivers	(3)	24.7	5.9	6.2	3.0	2.7	2.8	2.4	2.0	3.1	3.6	5.8	9.4	10.9	20.6	41.6	5.4	3.5	12.1	14.7
	Total	Average annual police report crashes, 2004-2008	(1)	69	44	39	32	25	26	23	22	19	22	32	30	35	24	465	252	144	212	
		Average annual licensed drivers, 2004-2008	(2)	214,271	546,225	615,708	629,768	644,135	643,775	627,187	571,746	511,598	404,589	299,135	232,158	179,985	116,363	64,589	6,301,233	5,194,731	892,231	1,106,502
		Annual incident rate per 100,000 drivers	(3)	32.0	8.1	6.3	5.1	3.9	4.0	3.7	3.9	4.3	4.7	7.5	13.8	16.4	30.4	37.8	7.4	4.9	16.1	19.2
United States	Female	Average annual licensed drivers, 2004-2008	(2)	4,714,962	8,457,990	8,891,439	8,911,513	9,600,090	10,246,056	10,553,294	9,728,115	8,487,379	6,562,422	4,899,857	3,837,545	3,181,009	2,265,338	1,520,561	101,857,570	81,438,298	15,704,310	20,419,272
		Annual incident rate per 100,000 drivers (based on NC data)	(4)	39.5	10.4	6.4	7.3	5.0	5.3	4.9	5.8	5.2	5.8	8.9	17.5	21.3	38.8	34.5	9.9	6.2	20.3	24.7
		Projected annual crashes	(5)	1,861	880	573	652	481	543	520	561	444	379	437	671	678	879	524	10,084	5,032	3,190	5,051
	Male	Average annual licensed drivers, 2004-2008	(2)	4,939,439	8,628,765	8,971,501	9,071,869	9,779,244	10,336,319	10,518,179	9,632,635	8,388,546	6,495,091	4,805,359	3,692,537	2,912,971	1,962,826	1,269,303	101,404,583	81,822,148	14,642,997	19,582,435
		Annual incident rate per 100,000 drivers (based on NC data)	(4)	24.7	5.9	6.2	3.0	2.7	2.8	2.4	2.0	3.1	3.6	5.8	9.4	10.9	20.6	41.6	5.8	3.5	12.8	15.8
		Projected annual crashes	(5)	1,219	506	559	275	265	285	254	188	264	231	279	346	318	404	528	5,921	2,827	1,875	3,094
	Total	Average annual licensed drivers, 2004-2008	(2)	9,654,400	17,086,755	17,862,940	17,983,382	19,379,334	20,582,375	21,071,473	19,360,750	16,875,925	13,057,513	9,705,216	7,530,082	6,093,980	4,228,164	2,789,865	203,262,154	163,260,446	30,347,307	40,001,707
		Annual incident rate per 100,000 drivers (based on NC data)	(4)	32.0	8.1	6.3	5.1	3.9	4.0	3.7	3.9	4.3	4.7	7.5	13.8	16.4	30.4	37.8	7.9	4.8	16.8	20.5
		Projected annual crashes	(5)	3,091	1,376	1,131	919	746	831	779	759	719	613	727	1,038	1,002	1,286	1,054	16,073	7,875	5,107	8,198
		North Carolina % of U.S. licensed drivers, female	(6)	2.22%	3.07%	3.32%	3.44%	3.33%	3.17%	3.04%	3.03%	3.11%	3.17%	3.15%	3.16%	3.01%	2.77%	2.29%	3.11%	3.18%	2.99%	2.81%
		North Carolina % of U.S. licensed drivers, male	(6)	2.21%	3.32%	3.58%	3.57%	3.32%	3.09%	2.92%	2.87%	2.95%	3.03%	3.01%	3.00%	2.89%	2.73%	2.35%	3.09%	3.18%	2.89%	2.72%
		North Carolina % of U.S. licensed drivers, total	(6)	2.22%	3.20%	3.45%	3.50%	3.32%	3.13%	2.98%	2.95%	3.03%	3.10%	3.08%	3.08%	2.95%	2.75%	2.32%	3.10%	3.18%	2.94%	2.77%

**NOTES:**

- (1) Average annual crashes identified in 2004-2008 North Carolina police report analysis ("North Carolina Pedal Application Error Crash Study")
- (2) Average licensed drivers 2004-2008 from FHWA data
- (3) Annual incident rate per 100,000 drivers based on NC incident & licensed driver data
- (4) NC incident rates projected to U.S. for each demographic group
- (5) Projected U.S. incidents calculated based on licensed drivers (2) and calculated NC rates (4)
- (6) NC drivers percentage of U.S. drivers by demographic group
- (7) Summed totals of incident drivers and licensed drivers, and resulting rates, for all ages
- (8) Summed totals of incident drivers and licensed drivers, and resulting rates, for ages 20-64
- (9) Summed totals of incident drivers and licensed drivers, and resulting rates, for ages 65 and over
- (10) Summed totals of incident drivers and licensed drivers, and resulting rates, for youngest and oldest drivers

<sup>1</sup> Lococo, K., Staplin, L., Martell, C., and Sifrit, K. 2012. *Pedal Application Errors*. Report DOT-HS-811-597. TransAnalytics, LLC and Highway Safety Research Center, U.S. Department of Transportation. [www.nhtsa.gov/staticfiles/nti/pdf/811597.pdf](http://www.nhtsa.gov/staticfiles/nti/pdf/811597.pdf).

<sup>2</sup> NHTSA. 2012. *Pedal Error Crashes*. Report DOT-HS-811-605. Traffic Tech. U.S. Department of Transportation. (1). [www.nhtsa.gov/staticfiles/traffic\\_tech/811605.pdf](http://www.nhtsa.gov/staticfiles/traffic_tech/811605.pdf)