

2003

**STATE HIGHWAY
MOTOR CARRIER
CRASH RATE
TABLES**

Published by

Transportation Data Section
Crash Analysis and Reporting Unit
In cooperation with the
Motor Carrier Transportation Division

April 2005



2003 OREGON MOTOR CARRIER CRASH RATE TABLES

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April 2005

The Crash Analysis and Reporting Unit compiles data for reported motor vehicle traffic crashes occurring on city streets, county roads and state highways. The data supports various local, county and state traffic safety programs, engineering and planning projects, legislative concepts, and law enforcement services.

Legally reportable motor vehicle traffic crashes are those involving death, bodily injury, or damage to personal property in excess of \$500 (for crashes that occurred prior to 9/01/1997) or \$1,000 (for crashes that occurred between 9/01/1997 and 12/31/2003). As of 01/01/2004, drivers are required to submit a DMV Accident Report Form if there is more than \$1,500 damage to the driver's vehicle; if there is more than \$1,500 damage to property other than a vehicle; if someone is injured (no matter how minor the injury); if someone is killed; or if any vehicle is towed due to damage resulting from the accident.

The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit cannot guarantee that all qualifying crashes are represented; nor can assurances be made that all details pertaining to a single crash are accurate.

Database expansion and refinement implemented in 2002 may result in slight differences between data reported in this publication and similar information reported in prior years.

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INTRODUCTION

The State Highway Motor Carrier Crash Rate Tables is a publication in four parts. Its purpose is to assist readers in computing Motor Carrier crash rates for specific sections of State Highways. This report differs from the State Highway Crash Rate Tables in that it contains data on motor carrier crashes only, and does not include mileage, ADT or crash data for highway spurs and the “non-add” segments of highway couplets.

Part I, **Results of Analysis**, contains comparative tables and rates as follows:

- Table I compares the crash rates for Total and Truck At-Fault crashes on the State Highway System, by Interstate and Non-Interstate Highway, and by Rural and Urban subgroups.
- Table II provides a five-year monthly comparison that counts crashes, injuries and deaths.
- Table III presents total highway crash summaries and rates. It includes volumes for all roadways; not only those limited to the State Highway System. Table III also contains Triples mileage and crash rates.
- Table IV is a crash summary by highway type for the last five years.
- Table V is a five-year summary of crash rates on selected major highways.
- Table VI gives a summary of Truck At-Fault crashes with a ranked listing of major causes, first for 2003, and then for a combined five-year ranking.
- Table VII gives a summary of Hazardous Material crashes by hazard class that includes hazardous spill information for the years 1994 to 2003, with the most current year’s data presented first.
- Table VIII estimates the societal costs of truck crashes in Oregon.

Part II, **State Highway System References**, contains cross-reference lists of state highways by highway number, name, and corresponding route numbers; and a map of the Oregon State Highway System with an enlargement of the Portland area.

Part III, **Crash Rate Data**, presents three years of data for each state highway. The highways are separated into urban and rural subsections as they occur from the beginning of the highway to the end. Crash rates are calculated within these subsections using the number of crashes that occurred within a given milepoint range, and the average truck daily traffic for that stretch of highway. Data provided for each subsection includes current crash rates, current truck at-fault crash rates, and the total Truck and Truck At-Fault crash rates for the previous two years. The most current year’s data is summarized for each highway.

Part IV, **Glossary** presents definitions of the terms and abbreviations used in this book.

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PART I
RESULTS OF ANALYSIS

TABLE I. 2003 STATE HIGHWAY MOTOR CARRIER CRASH RATE SUMMARY

Table I reports state highway system crash rates by federally defined urban and rural areas and functional classification. Interstate freeways are categorized separately from non-interstate freeways. Non-freeways are presented both separately and combined, for comparison purposes.

JURISDICTION AND FUNCTIONAL CLASSIFICATION	MILES*	MOTOR CARRIER VMT *	TRUCK CRASHES		TRUCK AT-FAULT	
			CRASHES*	RATE**	CRASHES*	RATE**
TOTAL STATE HWY SYSTEM	7,483.78	3,000,416,907	1,177	0.39	673	0.22
Interstate Freeways	729.56	1,867,317,939	557	0.30	294	0.16
Other Fwys/Expressways	49.81	74,468,362	20	0.27	12	0.16
Non-Freeways (Combined)	6,704.41	1,058,630,605	600	0.57	367	0.35
<i>Other Principal Arterials</i>	3,273.07	827,057,690	480	0.58	283	0.34
<i>Minor Arterials</i>	1,966.63	189,638,593	106	0.56	76	0.40
<i>Urban Collectors</i>	4.38	928,622	0	0.00	0	0.00
<i>Rural Major Collectors</i>	1,410.31	40,731,647	14	0.34	8	0.20
<i>Rural Minor Collectors</i>	34.71	203,130	0	0.00	0	0.00
<i>Rural Local</i>	15.31	70,923	0	0.00	0	0.00
URBAN HWY SYSTEM	713.46	875,727,385	454	0.52	261	0.30
Interstate Freeways	146.89	583,619,199	278	0.48	154	0.26
Other Fwys/Expressways	49.81	74,468,362	20	0.27	12	0.16
Non-Freeways (Combined)	516.76	217,639,824	156	0.72	95	0.44
<i>Other Principal Arterials</i>	454.97	204,295,220	148	0.72	92	0.45
<i>Minor Arterials</i>	57.41	12,415,982	8	0.64	3	0.24
<i>Urban Collectors</i>	4.38	928,622	0	0.00	0	0.00
Urban Cities	558.50	714,700,641	391	0.55	231	0.32
Interstate Freeways	115.65	488,549,036	247	0.51	139	0.28
Other Fwys/Expressways	45.68	67,729,984	17	0.25	9	0.13
Non-Freeways (Combined)	397.17	158,421,621	127	0.80	83	0.52
<i>Other Principal Arterials</i>	356.44	149,200,831	123	0.82	81	0.54
<i>Minor Arterials</i>	37.94	8,979,668	4	0.45	2	0.22
<i>Urban Collectors</i>	2.79	241,123	0	0.00	0	0.00
Suburban Areas	154.96	161,026,744	63	0.39	30	0.19
Interstate Freeways	31.24	95,070,163	31	0.33	15	0.16
Other Fwys/Expressways	4.13	6,738,378	3	0.45	3	0.45
Non-Freeways (Combined)	119.59	59,218,202	29	0.49	12	0.20
<i>Other Principal Arterials</i>	98.53	55,094,389	25	0.45	11	0.20
<i>Minor Arterials</i>	19.47	3,436,314	4	1.16	1	0.29
<i>Urban Collectors</i>	1.59	687,499	0	0.00	0	0.00
RURAL HWY SYSTEM	6,770.32	2,124,689,522	723	0.34	412	0.19
Interstate Freeways	582.67	1,283,698,740	279	0.22	140	0.11
Non-Freeways (Combined)	6,187.65	840,990,781	444	0.53	272	0.32
<i>Other Principal Arterials</i>	2,818.10	622,762,470	332	0.53	191	0.31
<i>Minor Arterials</i>	1,909.22	177,222,611	98	0.55	73	0.41
<i>Rural Major Collectors</i>	1,410.31	40,731,647	14	0.34	8	0.20
<i>Rural Minor Collectors</i>	34.71	203,130	0	0.00	0	0.00
<i>Rural Local</i>	15.31	70,923	0	0.00	0	0.00
Rural Cities	273.63	111,902,719	33	0.29	20	0.18
Interstate Freeways	22.95	51,938,233	3	0.06	2	0.04
Non-Freeways (Combined)	250.68	59,964,485	30	0.50	18	0.30
<i>Other Principal Arterials</i>	140.20	43,220,376	22	0.51	13	0.30
<i>Minor Arterials</i>	62.87	12,420,910	5	0.40	4	0.32
<i>Rural Major Collectors</i>	47.36	4,317,085	3	0.69	1	0.23
<i>Rural Minor Collectors</i>	0.25	6,114	0	0.00	0	0.00
Rural Areas	6,496.69	2,012,786,803	690	0.34	392	0.19
Interstate Freeways	559.72	1,231,760,507	276	0.22	138	0.11
Non-Freeways (Combined)	5,936.97	781,026,296	414	0.53	254	0.33
<i>Other Principal Arterials</i>	2,677.90	579,542,094	310	0.53	178	0.31
<i>Minor Arterials</i>	1,846.35	164,801,701	93	0.56	69	0.42
<i>Rural Major Collectors</i>	1,362.95	36,414,562	11	0.30	7	0.19
<i>Rural Minor Collectors</i>	34.46	197,016	0	0.00	0	0.00
<i>Rural Local</i>	15.31	70,923	0	0.00	0	0.00

* Couplet and Roadway 3 data are included. Frontage road and connection data are excluded.

** Crash Rate Formula: (crashes*1,000,000)/VMT; Fatality Rate Formula: (deaths*100,000,000)/VMT

**TABLE II. MOTOR CARRIER CRASHES, INJURIES AND DEATHS BY MONTH
1999 - 2003**

MONTH	CRASHES				
	1999	2000	2001	2002	2003
January	157	216	189	196	144
February	175	190	148	137	128
March	166	124	134	148	126
April	152	140	139	130	162
May	146	125	127	133	153
June	111	149	116	122	153
July	155	152	145	134	203
August	134	170	184	137	141
September	148	154	144	160	182
October	145	180	154	167	172
November	156	153	156	145	147
December	148	181	197	179	215
Totals	1,793	1,934	1,833	1,788	1,926

MONTH	INJURIES				
	1999	2000	2001	2002	2003
January	42	82	36	64	41
February	60	44	31	42	39
March	38	47	31	35	30
April	41	33	44	36	38
May	43	36	42	43	19
June	67	36	25	38	39
July	76	48	35	62	73
August	47	66	60	37	49
September	62	44	46	48	50
October	57	40	48	33	40
November	46	45	40	43	32
December	51	47	58	41	58
Totals	630	568	496	522	508

MONTH	DEATHS				
	1999	2000	2001	2002	2003
January	7	5	11	3	3
February	1	4	4	5	4
March	4	3	5	3	5
April	3	1	4	3	6
May	3	4	10	6	0
June	6	6	2	10	2
July	15	3	6	5	11
August	4	7	6	4	13
September	8	6	8	3	6
October	1	3	2	7	2
November	3	9	5	3	5
December	1	4	5	5	10
Totals	56	55	68	57	67

**TABLE III. MOTOR CARRIER CRASHES AND RATES
2001 - 2003**

MOTOR CARRIER CRASH SUMMARY	2001	2002	2003
Crashes	1,833	1,788	1,926
Deaths	68	57	67
Injuries	496	522	508
Fatal Crashes	55	46	50

TRUCK-AT-FAULT CRASH SUMMARY	2001	2002	2003
Truck At-Fault Crashes	1,091	1,065	1,172
Truck Driver At-Fault Crashes	1,047	1,020	1,117
Truck Mechanical Crashes	44	45	55

MOTOR CARRIER MILES TRAVELED & CRASH RATES	2001	2002	2003
Motor Carrier Miles Traveled (in millions)	1,760	1,665	1,742
All Motor Carrier Crash Rate (per million VMT)	1.041	1.074	1.106
Truck At-Fault Crash Rate (per million VMT)	0.620	0.640	0.673
Fatal Motor Carrier Crash Rate (per million VMT)	0.031	0.028	0.029

TRIPLES CRASHES, MILES TRAVELED & CRASH RATES	2001	2002	2003
Triples Crashes by Year	16	14	17
Triples Mileage by Year (in millions)	21.2	23.1	23.1
Triples Crash Rate (per million VMT)	0.76	0.61	0.74

Note: Motor Carrier Miles Traveled from Highway Use Tax Reports provided by Motor Carrier Transportation Division records.

**TABLE IV. MOTOR CARRIER CRASHES BY HIGHWAY TYPE
1999 - 2003**

MOTOR CARRIER CRASHES BY HIGHWAY TYPE 1999 - 2003

Highway Type	1999	2000	2001	2002	2003	Total
Interstate	535	557	543	561	564	2,760
City Streets	380	494	447	403	433	2,157
State Highways	401	365	340	323	336	1,765
US Highways	307	311	321	306	319	1,564
County Roads	144	165	149	166	227	851
Private Property	19	33	25	24	35	136
Forest Service	7	9	7	5	10	38
Total	1,793	1,934	1,832	1,788	1,924	9,271

TRUCK AT-FAULT CRASHES BY HIGHWAY TYPE 1999 - 2003

Highway Type	1999	2000	2001	2002	2003	Total
Interstate	311	318	316	297	298	1,540
City Streets	250	304	282	258	283	1,377
State Highways	226	213	200	205	218	1,062
US Highways	174	185	184	177	188	908
County Roads	88	100	86	104	148	526
Private Property	15	18	19	21	29	102
Forest Service	5	6	3	3	6	23
Total	1,069	1,144	1,090	1,065	1,170	5,538

**TABLE V. MOTOR CARRIER CRASH RATES ON MAJOR HIGHWAYS
1999 - 2003**

Interstate 5 (Hwy 1) Rate Comparison			
State Hwy 1	Interstate 5	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.30	0.17
	2000	0.30	0.16
	2001	0.28	0.15
	2002	0.33	0.17
	2003	0.30	0.15

I-84/US 730 (Hwy 2) Rate Comparison			
State Hwy 2	Interstate 84	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.15	0.08
	2000	0.21	0.11
	2001	0.25	0.14
	2002	0.13	0.05
	2003	0.12	0.05

Interstate 84 (Hwy 6) Rate Comparison			
State Hwy 6	Interstate 84	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.45	0.29
	2000	0.45	0.26
	2001	0.39	0.26
	2002	0.34	0.22
	2003	0.34	0.20

Oregon Hwy 58 (Hwy 18) Rate Comparison			
State Hwy 18	ORE-58	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.75	0.41
	2000	0.68	0.45
	2001	0.36	0.26
	2002	0.62	0.41
	2003	0.84	0.65

US-97 (Hwy 4) Rate Comparison			
State Hwy 4	US Hwy 97	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.72	0.40
	2000	0.62	0.29
	2001	0.70	0.41
	2002	0.60	0.36
	2003	0.73	0.33

Interstate 205 (Hwy 64) Rate Comparison			
State Hwy 64	Interstate 205	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.42	0.23
	2000	0.43	0.26
	2001	0.29	0.16
	2002	0.34	0.17
	2003	0.68	0.41

US-101 (Hwy 9) Rate Comparison			
State Hwy 9	US Hwy 101	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.41	0.22
	2000	0.43	0.26
	2001	0.44	0.16
	2002	0.44	0.29
	2003	0.41	0.20

US-30 (Hwy 92) Lower Columbia River Hwy Rate Comparison			
State Hwy 92	US Hwy 30	Truck Crash Rate	Truck At-Fault Crash Rate
Year	1999	0.40	0.25
	2000	0.59	0.34
	2001	0.45	0.25
	2002	0.43	0.25
	2003	0.59	0.40

TABLE VI. TRUCK AT-FAULT SUMMARY RANKINGS BY CAUSE

**A. MOTOR CARRIER TRUCK AT-FAULT CRASHES RANKED BY MAJOR CAUSE
2003**

RANK	CAUSE	TOTAL
1	SPEED	172
2	FOL TOO CLSE	95
3	FAIL REMAIN LN	61
4	SLEEP/FATIGUE	35
5	FAIL YLD RW	34
6	IMPROPER LN CHG	30
7	IMPROPER TURN	26
8	DISREGARD SIGN	19
9	IMP LD SECURE	18
10	INATTENTION	15
11	IMPROPER BACKING	13
12	COUPLING	10
12	DRIVER ILL	10
14	TIRE FAILURE	9
15	BRAKES	8
16	DRIVER ERROR	5
16	WHEELS	5
18	IMPROPER PASS	3
18	OTHER MECH	3
20	CELL PHONE USE	2
20	DRIVER ENCUMBERED	2
20	IMPROPER PARK	2
20	STEERING	2
24	DR INEXPERIENCE	1
24	DRINKING-ALCOHOL	1
24	LOG BUNK/STRAP	1
24	OTHER	1
24	SUSPENSION	1
24	VISION OBSURED	1
	TOTAL	585

**B. MOTOR CARRIER TRUCK AT-FAULT CRASHES RANKED BY MAJOR CAUSE
1999 - 2003**

RANK	CAUSE	1999	2000	2001	2002	2003	TOTAL
1	SPEED	222	220	206	176	172	1569
2	FOL TOO CLSE	102	78	83	100	95	736
3	FAIL REMAIN LN	24	27	37	42	61	310
4	IMPROPER LN CHG	37	31	45	30	30	267
5	IMPROPER TURN	39	45	27	30	26	254
6	FAIL YLD RW	23	30	25	37	34	241
7	SLEEP/FATIGUE	24	23	23	22	35	216
8	DISREGARD SIGN	19	20	21	15	19	141
9	INATTENTION	23	15	17	15	15	130
10	IMP LD SECURE	16	22	9	10	18	112
11	IMPROPER BACKING	16	14	16	8	13	110
12	BRAKES	14	9	5	9	8	80
13	COUPLING	5	4	6	11	10	46
14	IMPROPER PASS	5	10	6	9	3	45
14	TIRE FAILURE	4	4	10	9	9	45
16	DRIVER ILL	7	3	5	5	10	44
17	OTHER MECH	7	3	8	6	3	40
18	DRINKING-ALCOHOL	4	3	4	6	1	34
19	WHEELS	4		3	1	5	28
20	DRIVER ERROR	1	1	4	2	5	21
21	IMPROPER PARK	4	4	2	3	2	19
22	DUII-DRUGS	1	1	1	4		15
22	SUSPENSION	2	6	2	2	1	15
24	OVERDIMENSION	5	1	2	1		10
24	STEERING	1	3	1		2	10
26	DRIVER ENCUMBERED		1		2	2	8
26	LOG BUNK/STRAP	1	1			1	8
28	DR INEXPERIENCE	2	2			1	5
29	CELL PHONE USE					2	4
30	INTENTIONAL ACTION		1		2		3
30	OTHER					1	3
32	VISION OBSURED		1			1	2
33	DR INCAPICATED						1
33	FAIL MNTN CNTRL		1				1
	TOTAL	612	581	568	555	581	4,559

**TABLE VII. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES
1994 - 2003**

A. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 2003

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	18	4	0
Flammable Gas	4	1	0
Corrosive	4	0	0
Non-Flammable Gas	3	0	0
ORM	2	0	0
Oxidizer	1	0	0
TOTAL	32	5	0

B. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 2002

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	32	8	0
Non-Flammable Gas	5	0	0
Corrosive	4	1	0
Flammable Gas	2	0	0
Combustible	1	0	0
Oxidizer	1	0	0
Poison B	1	0	0
ORM	1	0	0
Hazardous Waste	1	0	0
Empty Cargo Tank with Residual	1	0	0
TOTAL	49	9	0

C. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 2001

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	23	1	0
Empty Cargo Tank w/ Residual	5	0	0
Corrosive	4	0	0
Flammable Gas	2	0	0
Nonflammable Gas	1	0	0
Poison B	1	0	0
Explosives A	1	0	0
Elevated Temperature Material	1	0	0
TOTAL	38	1	0

D. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 2000

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	18	3	0
Corrosive	12	5	0
Nonflammable Gas	5	0	0
Combustible Liquid	3	0	0
Hazardous Waste	2	2	0
Empty Cargo Tank w/ Residual	2	0	0
Oxidizer	2	0	0
Flammable Gas	1	0	0
ORM	1	0	0
TOTAL	46	10	0

E. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 1999

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	36	4	0
Corrosive Materials	10	1	0
Non-Flammable Gas	5	0	0
Explosives C	1	1	0
Poison B	1	1	0
Empty Cargo Tank w/ Residual	1	0	0
Explosives A	1	0	0
Flammable Gas	1	0	0
Organic Peroxide	1	0	0
Other Regulated Material	1	0	0
TOTAL	58	7	0

F. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 1998

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	32	3	3
Corrosive Materials	5	0	0
Combustible Liquid	4	0	0
Non-Flammable Gas	4	0	0
Oxidizer	2	2	0
Flammable Gas	2	0	1
Other Regulated Material	1	1	0
Organic Peroxide	1	1	0
Empty Cargo Tank w/ Residual	1	0	0
Explosives A	1	0	0
TOTAL	53	7	4

G. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 1997

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	28	2	2
Corrosive Materials	5	1	0
Combustible Liquid	4	1	0
Empty Cargo Tank w/ Residual	4	0	0
Oxidizer	2	1	0
Non-Flammable Gas	2	0	0
Other Regulated Material	1	1	0
Flammable Gas	1	0	0
Other Hazardous Material	1	0	0
Organic Peroxide	1	0	0
Poison A	1	0	0
Radioactive	1	0	0
TOTAL	51	6	2

H. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 1996

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	27	7	0
Empty Cargo Tank w/ Residual	6	0	1
Non-Flammable Gas	6	0	1
Combustible Liquid	4	1	0
Flammable Gas	4	0	0
Corrosive Materials	3	1	0
Explosives B	1	0	0
Hazardous Waste	1	0	0
Other Hazardous Material	1	0	0
Oxidizer	1	0	0
TOTAL	54	9	2

I. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 1995

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	15	4	2
Combustible Liquid	7	3	0
Empty Cargo Tank w/ Residual	7	1	1
Corrosive Materials	4	0	1
Flammable Gas	3	0	0
Other Regulated Material	2	0	0
Hazardous Waste	1	1	0
Dangerous	1	0	0
Non-Flammable Gas	1	0	0
Oxidizer	1	0	0
Poison A	1	0	0
TOTAL	43	9	4

J. MOTOR CARRIER HAZARDOUS MATERIAL CRASHES FOR 1994

HAZARD CLASS	NUMBER of CRASHES	SPILL or RELEASE	FIRE
Flammable Liquid	15	1	2
Combustible Liquid	5	0	0
Corrosive Materials	4	1	0
Non-Flammable Gas	3	1	0
Empty Cargo Tank w/ Residual	3	0	0
Poison A	1	1	0
Poison B	1	1	0
Explosives C	1	0	0
Flammable Gas	1	0	0
Other Regulated Material	1	0	0
Radioactive	1	0	0
TOTAL	36	5	2

