

KOR

ROAD ACCIDENTS IN KOREA

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1. INTRODUCTION

The purposes of this paper are to describe the changes in road traffic conditions and the tendency of road traffic accidents, and to discuss several noticeable features in road traffic accidents over the ten-year period from 1996 to 2005 in (South) Korea. Similar analysis and discussion for earlier years (1965-1985, 1990-1995) can be referred to in the previous paper published in this journal (Cho*, Lee**). Moreover, this paper indicates some valid issues for standardization of statistics related to road traffic accidents and conditions.

2. CHANGES IN TRAFFIC CONDITIONS

Korea is a peninsula lying off the east coast of Asia. (South) Korea's land area is estimated at about 99,601 sq km. As shown in Table 1, Korea had a population of 48,294,000 in 2005. The major part of Korea's roads is accounted for by the national and prefectural highways which have a combined total length of 102 thousand km in 2005.

Motor transportation has increased year by year. As shown in Table 1, in 2005 there were 15.4 million registered motor vehicles (passenger cars accounted for 72.2%

of the total, trucks for 19.7%, and buses for 7.0%) in the country. The number of driving license holders increased greatly over the same decade (1996-2005). In comparison with the statistics of 1996, the number of registered vehicles and license holders increased to about 1.6 and 1.3 times, respectively in 2005.

In short, the traffic conditions in Korea after 1996 (the past decade: 1996-2005) can be characterized as a relatively slow increase in population and the total road length, but a rapid increase in the number of vehicles and licensed drivers. As a consequence, various traffic problems such as traffic congestion, high accident rates, traffic pollution, and energy problems, etc. have been brought about.

3. TENDENCY OF TRAFFIC ACCIDENTS

As shown in Table 2 and Figure 1, despite the rapid increases both in the number of vehicles and of licensed drivers, (according to National Police Agency) the number of accidents and injuries slowly decreased, on the other hand the number of fatalities decreased greatly. For example, the number of traffic accidents in 2005 was 214,171 incidents; the number of fatalities involved in these accidents was 6,376 persons; and the number of the injured

Table 1 Trends of road traffic conditions in Korea, 1996-2005

Year	Population (thousand)	Driver's License Holders (thousand)			Road Length (km)	Vehicle Registration (thousand)				Two-wheeled vehicles (thousand)
		Total	Male	Female		Total	Commercial	Public	Private	
1996	45,525	17,721	13,418	4,303	82,342	9,553	481	47	9,026	2,438
1997	45,954	18,532	13,867	4,665	84,968	10,413	503	50	9,860	2,552
1998	46,287	19,549	14,585	4,964	86,990	10,470	511	50	9,909	2,613
1999	46,617	17,419	12,078	5,341	87,534	11,164	564	50	10,550	1,894
2000	47,008	18,697	12,702	5,995	88,775	12,059	620	50	11,389	1,829
2001	47,343	19,884	13,204	6,680	91,396	12,914	669	52	12,194	1,701
2002	47,640	21,223	13,832	7,391	96,037	13,949	723	53	13,173	1,709
2003	47,925	22,063	14,112	7,951	97,253	14,587	751	55	13,781	1,730
2004	48,199	22,735	14,362	8,373	100,278	14,934	767	57	14,111	1,729
2005	48,294	23,498	14,745	8,753	102,293	15,397	784	58	14,555	1,727

Notes: 1) Road traffic conditions statistics in the table were presented by the National Police Agency & the Ministry of Land Transport and Maritime Affairs.

2) The numbers of actual driver's license holders (excluding overlaps) since 1999 are shown, irrespective of classification.

3) Vehicle Registrations shown in the table are exclusive of two-wheeled vehicles.

4) Two-wheeled vehicles are included when their engines are larger than 50cc.

* CHO, T.K. Road Accidents in Korea (1965-1985). "IATSS Research" 12-2: pp.78-79. (1988).

** LEE, J.S. Road Accidents in Korea (1990-1995). "IATSS Research" 22-2: pp.124-125. (1998).

was 342,233 persons. In comparison with the statistics of 1996, the number of accidents, fatalities, and injuries due to traffic accidents decreased to 0.81, 0.50, and 0.96 times, respectively in 2005.

As shown in Table 2, the year 2005 had death rates of 13.2 deaths per 100,000 population, 3.7 deaths per 10,000 vehicles, and 2.7 deaths per 10,000 licensees. In comparison with the statistics of 1996, death rates decreased to 0.48, 0.28, and 0.38 times, respectively in 2005.

3.1 Trends of fatalities by types of road use

As shown in Table 3, one of the most noticeable statistics of road traffic accidents is that the number of accidents as well as casualties involving pedestrians are very high. In spite of the high ratio of pedestrian accidents to the total number of accidents, the absolute number of pedestrian accidents has decreased since 1996 (the past decade: 1996-2005).

Table 2 Trends of road traffic accidents in Korea, 1996-2005

Year	Road Traffic Accidents				Fatalities (persons)				Injuries (persons)			
	Total	Per 100,000 Population	Per 10,000 Vehicles	Per 10,000 Licensee	Total	Per 100,000 Population	Per 10,000 Vehicles	Per 10,000 Licensee	Total	Per 100,000 Population	Per 10,000 Vehicles	Per 10,000 Licensee
1996	265,052	536	277	150	12,653	27.3	13.2	7.1	355,962	769	373	201
1997	246,452	518	237	133	11,603	24.9	11.1	6.3	343,159	735	330	185
1998	239,721	592	229	123	9,057	19.3	8.7	4.6	340,564	725	325	174
1999	275,938	618	247	158	9,353	19.8	8.4	5.4	402,967	851	361	231
2000	290,481	550	209	155	10,236	21.4	7.4	5.5	426,984	895	307	228
2001	260,579	485	178	131	8,097	16.9	5.5	4.1	386,539	805	265	194
2002	231,026	503	148	109	7,222	15.2	4.6	3.4	348,149	731	222	164
2003	240,832	503	148	109	7,212	15.0	4.4	3.3	376,503	786	224	171
2004	220,755	458	133	97	6,563	13.6	3.9	2.9	346,987	720	208	153
2005	214,171	443	125	31	6,376	13.2	3.7	2.7	342,233	709	200	146

- Notes: 1) Road traffic accident statistics in the table were provided by the National Police Agency & the Ministry of Land Transport and Maritime Affairs.
 2) "Fatalities" in the table represents the number of persons who died within 30 days as a result of accident since 2000 (72 hours until 1999).
 3) Two-wheeled vehicles are included since 2000.

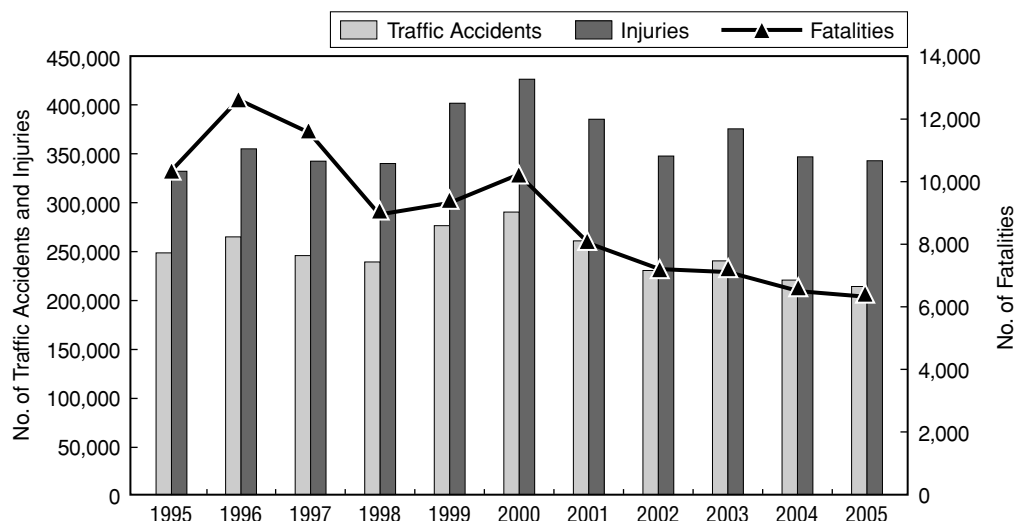


Fig. 1 Trends of road traffic accidents

3.2 Trends of road traffic accidents by types of commercial vs. private vehicles

As shown in Tables 1 and 4, despite the rapid increases both in the number of vehicles and in licensed drivers, the number of accidents by private vehicles decreased slowly; on the other hand, the number of accidents by commercial vehicles increased slowly.

3.3 Trends of road traffic accidents and driving under the influence of alcohol

Not only because of its high probability of involvement in a traffic accident, but also of its high fatality rate, has driving under the influence of alcohol become a greater concern recently.

Table 3 Trends of fatalities by types of road use

Year	Total	Types of Vehicle Riding			While Walking	Others
		4-Wheel	2-Wheel	Bicycle		
1996	12,653	5,644	1,395	278	4,788	548
1997	11,603	5,096	1,545	257	4,262	443
1998	9,057	3,719	1,248	255	3,369	466
1999	9,353	3,891	1,158	263	3,550	491
2000	10,236	4,373	1,221	317	3,764	561
2001	8,097	3,196	984	293	3,137	487
2002	7,222	2,629	837	250	3,108	398
2003	7,212	2,637	906	256	2,896	517
2004	6,563	2,315	847	263	2,581	557
2005	6,376	2,176	577	299	2,548	776

Table 4 Trends of accidents by types of commercial vehicle and private vehicles

Year	Total	Commercial	Private	2-wheeled	Others
1996	265,052	42,366	200,384	14,974	7,328
1997	246,452	42,735	182,295	14,211	7,211
1998	239,721	44,860	173,968	13,680	7,213
1999	275,938	52,294	201,698	14,258	7,688
2000	290,481	51,467	216,568	14,403	8,043
2001	260,579	49,147	191,815	12,006	7,611
2002	231,026	45,756	169,300	9,686	6,284
2003	240,832	53,359	170,701	9,971	6,801
2004	220,755	52,395	151,311	10,269	6,780
2005	214,171	52,119	144,886	12,161	5,005
Ratio	-1.5	2.0	-2.4	-2.4	-3.1

Note: Ratio is an increasing average rate in the past decade (1996-2005) (%).

Table 5 summarizes the important measures of alcohol-related traffic accidents, fatalities, and injuries during the period of 1996-2005.

As shown in Table 6, in terms of age group, the group of drivers over the age of 41 years showed a tendency of increased drinking-related accidents during this period.

3.4 Female drivers and accidents

Both the numbers of females obtaining driver's licenses and the rate of accidents by female drivers increased greatly over the past decade (1996-2005). For example, as shown in Table 1, the number of licensed male drivers has increased over the years from 13,418 in 1996 to 14,745 in 2005. On the other hand, the number

Table 5 Trends of road traffic accidents due to alcohol consumption

Year	Accidents		Fatalities		Injuries	
	Total	Ratio	Persons	Ratio	Persons	Ratio
1996	25,764	9.7	979	7.7	38,897	10.9
1997	22,892	9.3	1,004	8.7	36,023	10.5
1998	25,269	10.5	1,113	12.3	40,489	11.9
1999	23,718	8.6	998	10.7	39,282	9.8
2000	28,074	9.7	1,217	11.9	47,155	11.0
2001	24,994	9.6	1,004	12.4	42,165	10.9
2002	24,983	10.8	907	12.6	42,316	12.2
2003	31,227	13.0	1,113	22.7	55,230	14.7
2004	25,150	11.4	875	13.3	44,522	12.8
2005	26,460	12.4	910	14.3	48,153	14.1

Notes: 1) The blood alcohol level is 0.5mg/ml.
2) Ratio of each index is to the total measures (%).

Table 6 Trends of accidents by drunken drivers' ages

Year	Under 20	21-30	31-40	41-50	51-60	Over 61
1996	702	9,173	9,931	4,580	1,221	157
1997	742	8,074	8,441	4,298	1,170	167
1998	824	8,239	9,177	5,217	1,516	296
1999	1,123	7,327	8,401	4,935	1,613	319
2000	1,065	8,778	9,569	6,246	1,981	435
2001	997	8,015	8,116	5,650	1,725	491
2002	854	7,881	7,878	6,090	1,810	470
2003	962	9,038	9,967	8,076	2,509	675
2004	641	6,742	7,901	6,931	2,233	702
2005	481	6,873	8,319	7,486	2,477	824

Table 7 Female drivers and accidents

Year	Accidents		Fatalities (persons)	Injuries (persons)
	Total	Ratio		
1996	16,362	6.1	497	21,586
1997	18,139	7.4	520	24,549
1998	20,222	8.4	456	27,973
1999	24,784	9.0	536	35,411
2000	28,728	9.9	648	41,462
2001	28,832	11.1	584	41,652
2002	28,936	12.5	547	42,498
2003	35,364	14.7	627	53,685
2004	33,341	15.1	609	51,013
2005	31,573	14.7	604	50,290

Note: Ratio of the accidents by female drivers to the total number of accidents (%).

of licensed female drivers has increased significantly over the years from 4,303 in 1996 to 8,753 in 2005.

Moreover, as shown in Table 7, the number of accidents, fatalities, and injuries by female drivers has increased greatly. For example, in comparison with the statistics of 1996, the number of accidents, fatalities, and injuries caused by female drivers increased to 1.9, 1.2, and 2.3 times, respectively in 2005.

4. ISSUE FOR STANDARDIZATION OF STATISTICS

In Korea, the problem is being intensified - differences in the traffic accident statistics between those by the National Police Agency and the record released by the Korea Insurance Development Institute are tremendous. For example, the number of the traffic accidents in the year 2005 was 214,171 according to the National Police Agency; on the other hand, 807,253 by Korea Insurance Development Institute. This discrepancy seems to result from the deficiency in the citizens' reports of the traffic accidents to the proper authority and in the statistics management (data related to road traffic accidents), etc. If statistics management bodies (subjects of the activities such as police or insurance, etc.) fail to display proper standardization for the improvement, the problem of the traffic accident would be aggravated.

The importance of traffic statistics standardization lies where various people whose relations to traffic problems differ from each other (the persons who are engaged

in the problem officially or unofficially) should have common recognition in the statistics of traffic accidents, so that the parties can cooperate efficiently and that they work towards the direction which assures the minimization of the loss due to the accidents.

5. CONCLUSION

As mentioned above, there has been some progress towards reducing the road toll in recent years; yet certain room for improvement exists when compared to the best performing countries in the world; more so compared to the countries of OECD (Organization for Economic Cooperation and Development). On the other hand, as solutions to problems in the standardization of traffic statistics, the IRTAD (International Road Traffic and Accidents Database) should consider the standardized system of OECD (based on the database managed by the police and insurance, etc.) for an improvement in the problem of traffic accident.

Furthermore, although surely the effective measures for reducing traffic accidents include an improvement of traffic environment and vehicles, etc., it is important that all people take safe actions simultaneously with the consciousness of traffic safety actively. In short, the present state is that the effect of any policy will be below what would be expected, without citizens' active participation in exercising traffic safety measures. In order to create a traffic-safe society, civic independent participation and voluntary traffic actions are required.

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