

This Case Study is part of the Safe System Approach for Speed Management Report: [Click here to read the full report here.](#)

Case Study A.10. Speed Limit Reduction on Urban Roads—Republic of Korea

Key Successes

The speed limit reductions on urban roads in Korea resulted in the following safety outcomes:

- A 1.1 percent reduction in total crashes
- A 19.3 percent reduction in fatalities
- A 9.2 percent reduction in injuries
- A 4.8 percent equivalent property damage only (EPDO) reduction
- An 18.4 percent reduction in fatalities per 100 crashes

The Safe System Approach Highlights

- **Death/serious injury is unacceptable:** Reducing road fatalities is the main goal of speed limit reductions in Korea
- **Humans make mistakes/humans are vulnerable:** Speed limit reductions focused on pedestrian safety

Background

Information in this case study is summarized from a joint research project conducted by the Korea Transport Institute (KOTI) and the World Bank (Mitra, Job, Han, and Eom 2021).

In April 2016, the National Police Agency in Korea established the Transportation Infrastructure Construction Basic Plan. For the first time, the Safe Speed 5030 policy was adopted to improve urban pedestrian safety. Following this, the 5030 Council was formed; this included the Ministry of Land, Infrastructure, and Transport as well as several other relevant agencies. In the same year, the 8th National Road Safety Basic Plan was presented.

Implementation

Three years after presentation of the 8th National Road Safety Basic Plan, the Approved Code of Practice of the Road Traffic Act was amended. This set the maximum urban speed limit at 31 mph. However, the country's National Policy Agency has gone further, changing the speed limit of many urban roads to 19 mph.

To assess the safety benefits of lower speed limits on urban roads and to inform future policy development on speed limits in urban areas, the Korea Transport Institute (KOTI) and the World Bank conducted a joint research project. Specifically, this study analyzed how changes in the speed limit affected safety performance and operational performance. **Table 12** shows the extent of the speed limit reductions that were implemented across cities in Korea.

Table 12. Korea case study – current status of lowering speeds across Korea.

Local government	Number of reduction sections	Official data release date	Other
Seoul City	2,534	08/31/2016	Speed limit reductions tend to be 19 mph reduction sections due to designation as protection zones
Daegu City	865	09/2017	-
Daejeon City	168	08/22/2016	-
Chungcheongbuk-do Province	253	08/30/2011	-
Jeollanam-do Province	754	09/19/2016	-
Gyeongsangbuk-do Province	313	08/31/2016	-
Jeju-do Province	162	04/2019	-

- = No data.

Source: Mitra, S., Job, S., Han, S., Eom, K. (2021). *Do Speed Limits Reductions Help Road Safety? Lessons from the Republic of Korea's Recent Move to Lower Speed Limit on Urban Road*. Washington, DC: World Bank. <http://hdl.handle.net/10986/36109>.

Outcomes

After speed limit reduction in Korea, the joint research project conducted by KOTI and the World Bank evaluated the following:

- 1 The effectiveness of the reduced speed limits in terms of crash reduction through a before- after study.
- 2 If speed limit change had different effects across different crash types, user types, and crash severities.
- 3 The impact of speed limit change on transit speed through a before-after assessment.

To evaluate the effectiveness of speed limit reductions, the study team used an observational before-after study with a control group. The team obtained counts of crashes before and after in both the treatment site and comparison groups. Several different comparison analyses were conducted to check the impact of speed limit reductions. The following crash types were evaluated in the analysis:

- 1 Total crashes
- 2 Vehicle-to-vehicle crashes
- 3 Pedestrian crashes

Table 13 shows the overall results of the analysis. The results showed good alignment in moving towards the Safe System principles of accepting that crashes are inevitable, but they shouldn't result in death or serious injury. This is shown by the relatively insignificant decrease in total crashes but a significant decrease in the number of people being injured or killed. Fatalities on roads where speed limits were changed were reduced by 19.3 percent compared to a 6.8 percent decrease in the control group.

Table 13. Korea case study – results of speed limit changes.

	Crashes	Fatalities	Injuries	Equivalent Property Damage Only Crashes (EPDO)	Fatalities per 100 Crashes
Before change in speed limit	8,891	114	3,142	19,869	1.28
After change in speed limit	8,794	92	2,852	18,906	1.05
Percent reduction	1.1%	19.3%	9.2%	4.8%	18.4%
Sections with unchanged speed limit, percent reduction	-3.0%	6.8%	11.8%	3.0%	9.6%

Note: A negative (-) sign before the percent change indicates an increase.

Source: Mitra, S., Job, S., Han, S., Eom, K. (2021). Do Speed Limits Reductions Help Road Safety? Lessons from the Republic of Korea's Recent Move to Lower Speed Limit on Urban Road. Washington, DC: World Bank. <http://hdl.handle.net/10986/36109>.