The Republic of Korea’s Campaign to Bring Road Crashes to Zero: Making Roads Near Populated Areas More Pedestrian Friendly, 2015–18

Executive Summary

The Republic of Korea has long had a notoriously high number of pedestrian fatalities from road crashes. Part of the reason was high speed limits. The speed limit on national highways of four lanes or more was 80 kilometers per hour—even in areas where highways passed through towns or villages. After launching a plan to drastically reduce road deaths in 2015, Korea held a public contest for road safety ideas. The winning idea—dubbed “the village zone”—proposed reducing speed limits and putting in place special road signs and markings on sections of high-speed roads near population centers.

The Ministry of Land, Infrastructure, and Transport adopted the idea and delegated the project to the Korea Transport Institute (KOTI), a government research institute. Implementing village zones—known formally as “Protection Sections for Villagers”—required KOTI to build public support for reduced speed limits and win cooperation from local governments, the police, and other authorities. For a pilot project, KOTI and its partners installed 10 village zones in four regions by November 2015. During the next six months, road crashes in those zones fell by 42 percent. The pilot’s success helped KOTI build wide public and government support for the initiative, and by July 2018, KOTI had established 64 village zones in 23 regions.
Introduction

In the second half of the twentieth century, Korea prioritized economic development ahead of almost everything else—sometimes even ahead of the safety of its citizens. During that period, the government viewed roads as a tool for economic development. The more quickly people and resources could move around the country, the more business could be done each day and the faster the country’s economy could grow. The government built more and more roads as Korea’s economy boomed (figure 1). On the roads, policies were geared toward ensuring that vehicles could travel fast and efficiently, with little importance placed on pedestrian safety.

Safety was not a top consideration in road construction, either. During the building of the 416-kilometer Gyeongbu Expressway, the most heavily traveled expressway in Korea, 77 workers lost their lives in the rushed construction. A memorial plaque stated that the victims were “industrial warriors on the national march for modernization.” Such sentiment of putting economic efficiency over safety persisted for decades. To build highways quickly, the government expanded on existing roads that often passed through rural villages. Speed limits were high, even in residential areas.

Although the safety of Korean roads improved after the mid-1990s (see figure 2), the country’s pedestrian road crash fatality rate (the number of deaths per 100,000 people per year) remained stubbornly high. In 2014, the crash fatality rate for pedestrians was 3.8—the second highest of all countries in the Organisation for Economic Co-operation and Development (OECD), and more than triple the 1.2 average of the OECD’s 34 member countries. The situation was particularly bad for the elderly: Korea’s road crash fatality rate was 4.8 times higher than the OECD average for people over age 65 (KoROAD 2016).

How the public perceived road crashes changed over time. Instead of viewing road crashes as accidents, citizens increasingly saw them as structural failures that could be prevented with better policies. In response to citizen demand, the government began to shift the transport management paradigm from vehicle centered to people centered. (For example, in 2011 it designated low speed zones near care centers for people with disabilities.)
In 2013, the National Assembly endorsed the Resolution on Bringing Road Crashes to Zero, an ambitious plan to radically improve the safety of Korean roads. Although the National Assembly recognized that road crashes could not be completely eliminated, the resolution called for a series of new measures to bring the number of crashes as close to zero as possible. Among those measures were the revision of traffic safety laws, the allocation of a budget for traffic safety projects, and the establishment of an institute for traffic safety.

The Korea Transport Institute (KOTI), a government research center affiliated with the Ministry of Land, Infrastructure, and Transport, supported the Resolution on Bringing Road Crashes to Zero with a series of transport safety initiatives. In 2014, KOTI launched one of those initiatives: a public contest for ideas that would help reduce the number of road crashes. The winning idea was submitted by Sooil Lee, a transport expert at a research center affiliated with a major insurance company (Lee and Park 2014). Lee’s idea was to introduce reduced speed zones near residential areas on national highways and other high-speed roads. (For the definition of national highways and other types of roads in Korea, see box 1.) The proposal consisted of two components: (a) speed limit reduction to shorten braking distance, and (b) installation of road signs and markings to notify drivers before they enter the residential area. The residential areas targeted for reduced speed limits were dubbed “village zones.”

**Delivery Challenges**

The village zone proposal attracted the attention of the contest judges for two main reasons: village zones could be implemented without major changes in the existing traffic system, and the cost was relatively low. However, there were still several implementation challenges.

**Coordination and Engagement**

The first challenge was coordination between government ministries, the police, and the legislature. The Ministry of Land, Infrastructure, and Transport was in charge of
installing relevant road markings and road signs, whereas the police were in charge of adjusting speed limits on certain road sections. Allocating an additional budget for the village zone plan required cooperation from the Ministry of Economy and Finance, and any legislative action to permanently enact the new policy required support from the National Assembly.

After those organizations came to an agreement on enacting the policy and arranging funding, KOTI had to coordinate implementation with local government offices. Each road section designated as a village zone required approval and cooperation for the zoning and installation of relevant road signs and markings from local offices of the police and the Ministry of Land, Infrastructure, and Transport, as well as the local governments. Local governments and offices better understood the characteristics of local roads, so they were in a better position to advise and assist in the installation of the village zones.

**Opposition or Lack of Consensus**

Although local residents who would benefit from pedestrian-friendly roads generally welcomed the village zones, the wider public was resistant to reduced speed limits. The initial proposal was to reduce the speed limit in the village zone to as low as 50 kilometers per hour. Frequent users of national highways, such as truck drivers, preferred uniform and high-speed-limit national highways and were reluctant to accept lower speed limits.

Given that passing legislation was a lengthy process, the Ministry of Land, Infrastructure, and Transport expected to begin pilot village zones before any new policy was officially enacted. Without legislative backing, road users could file petitions against the pilot zones and pressure the police department and the transport ministry to drop the project. The most powerful deterrence against that kind of backlash would be to increase road safety awareness and build public support for reduced-speed zones.

**Project Finance**

Although the village zone proposal was a low-cost initiative, there were two major obstacles in terms of project financing. First, the Ministry of Land, Infrastructure, and Transport's budget for safety projects was small. Only about 15 percent of the total ministry budget was safety related, and adding a new project could strain existing safety initiatives.

Second, seeking new funding through the formal budgetary procedure was a long and complex process that required deliberations with both the Ministry of Economy and Finance and the National Assembly. Getting the finance ministry on board would not be an easy task, because the ministry generally preferred to fund road construction rather than safety projects. The finance ministry also expected a cost and benefit analysis for a new project, which took time and budget by itself. Only after the budget was approved by the finance ministry could the National Assembly begin its consideration of the project. If the transport ministry waited until the full deliberation process was complete, it would have to push back implementation for at least one year.

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**BOX 1. TYPES OF ROADS AND ROAD MANAGEMENT AUTHORITIES IN KOREA**

In Korea's Road Act, roads are largely divided into three categories: national expressways, national highways, and local roads. Local roads are further subcategorized into regional units, including special or metropolitan city roads, provincial roads, si roads, gun roads, and gu roads. National expressways are highways inaccessible to pedestrians, with speed limits of 100 to 110 kilometers per hour. National highways allow traffic signals and crossings for pedestrians, and the speed limit is 80 kilometers per hour. National expressways and national highways are governed by the Ministry of Land, Infrastructure, and Transport except in areas where the highways pass through cities or self-governing provinces. Local roads are governed by regional governments, and speed limits are between 60 and 80 kilometers per hour, determined by the number of lanes. State-funded local highways are also overseen by regional governments (Road Act 2016).

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a. For more details on the types of roads in Korea, see the Korea Road Act 2016. [https://elaw.kall.re.kr/ko_service/laeView.do?hseq=46249&lang=ENG.](https://elaw.kall.re.kr/ko_service/laeView.do?hseq=46249&lang=ENG)
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Tracing the Implementation Process

Refining the Village Zone Proposal

In November 2014, a month after the contest, KOTI presented Lee’s proposal to the Road Policy Deliberation Committee, a high-level decision-making committee within the Ministry of Land, Infrastructure, and Transport. Ilpyeong Kim, the ministry’s director general of roads, said the idea was simple, intuitive, and low-cost—both financially and administratively. Kim decided to immediately test the idea with a small-scale pilot.

By law, the ministry had to open a public bid for any research project with a budget of more than ₩ 50 million (approximately US$42,000). KOTI was the sole bidder and signed a one-year contract with the ministry in April 2015. The contract put KOTI in charge of writing zoning standards and guidelines for the village zone and installing village zones around the country.

KOTI defined the village zone as a reduced-speed section of road, near a population center, that was designated for pedestrian safety. Although the area was named “village” zone, the population centers that were targeted ranged in size from small villages to large towns (KOTI 2015). Village zones were to start 100 meters before a road entered a residential area and finish 100 meters after the road exited the residential area.

The initial village zone proposal from the contest had a very simple design: signs to mark the beginning and end points, road markings, warning signs, and unmanned speed cameras linked to an automated ticketing system. KOTI made two changes to the design. First, KOTI adjusted road signs and markings to match existing protection areas for the mobility impaired (adding pedestrian crossings and colored pavements, for example). Second, KOTI devised three different types of village zones: “Type A” for national highways, “Type B” for provincial roads, and “Type C” for county roads. Each type had a slightly different design, so that faster and wider roads were equipped with more road safety devices (see annex 2).

KOTI established a speed limit of 60 kilometers per hour for village zones on roads with four or more lanes (which usually had speed limits of 80 kilometers per hour) and 50 kilometers per hour for two-lane roads (which usually had speed limits of 60 kilometers per hour). KOTI considered lower speed limits for the village zone but decided against that in most sections because it would complicate police cooperation and because a large, sudden drop in speed could risk more highway crashes. In extremely crash-prone road sections and in commercial or residential areas, KOTI did set lower speed limits (see table 1).

KOTI initially proposed that the village zone have the formal title of “Protection Area for Villagers,” following the pattern of preexisting reduced-speed zones. Legislators had established protection areas for children (in 1995), for older persons (in 2007), and for persons with disabilities (in 2011). KOTI reviewed existing laws and prepared a draft law for the village zone. However, getting the law passed would be difficult because of (a) a lack of political will from the National Police Agency and the Ministry of Land, Infrastructure, and Transport, and (b) a highly partisan National Assembly.

Table 1. Speed Limits in the Village Zone

<table>
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<tr>
<th>Road type</th>
<th>Regular sections</th>
<th>Protection sections</th>
<th>Extremely crash-prone sections within a protection section</th>
<th>Commercial and residential centers within a protection section</th>
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<tr>
<td>Double-lane</td>
<td>60 kph</td>
<td>50 kph</td>
<td>40 kph</td>
<td>30 kph</td>
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<tr>
<td>Four-lane or more</td>
<td>80 kph</td>
<td>60 kph</td>
<td>(70 kph in some places)</td>
<td>30 kph</td>
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</table>

Source: KOTI 2018a.

Note: kph = kilometers per hour.

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1 Author interview with Ilpyeong Kim, Gwangmyeong, November 6, 2019.
Because reducing speed limits and installing road safety devices did not require new legislation, KOTI decided to pursue the village zone pilot in tandem with lobbying legislators to adopt the law. If the pilot reduced road crashes, KOTI would have a more persuasive argument. Figure 3 shows road safety equipment, and figure 4 shows how signs were placed.

Selecting Roads for the Pilot Project

Although KOTI developed standards for three different types of village zones, it focused on just Type A village zones on national highways, which were under the jurisdiction of the transport ministry. Implementing Types B and C village zones on provincial and county roads would have been more complicated for the pilot because those roads are under the jurisdiction of local administrative authorities. Budget was another consideration. Focusing on one type meant efficient use of the limited budget for the pilot. Also, national highways generally had more road crashes than provincial roads, so village zones on national highways were likely to have a larger effect.

Choosing the right sites for pilot village zones was critical to the policy’s long-term success. The transport ministry planned to closely monitor the pilot zones and use them as a benchmark for a cost-benefit analysis. The success or failure of the first village zones would determine whether the ministry expanded village zones or discontinued the project.

To gauge local governments’ interest in the village zone proposal and find potential sites for the pilot, KOTI and the Ministry of Land, Infrastructure, and Transport held an information session for local governments. More than 50 local government officials attended the information session, and 28 local governments applied for the village zone pilot.

In introducing the proposal, KOTI assured local officials that the village zones would not impose any financial burden. Because the Ministry of Land, Infrastructure, and Transport was paying for installation and maintenance costs, many local governments saw the village zones as an easy way to improve transport safety in their area at no cost to them. Local politicians generally welcomed village zones, because the zones were a visible way to demonstrate the politicians’ commitment to safety, a stance that could help them win reelection.

KOTI prioritized applications from counties with particularly dangerous roads that agreed to consider using some of their own funding for road signs and markings.

It also took regional balance into account. Following those selection criteria, KOTI selected five pilot counties: Gapyeong of Gyeonggi Province, Hongseong of South Chungcheong Province, Yeongam of South Jeolla province, Chilgok of North Gyeongsang Province, and Ulju of Ulsan city (see map 1).

The next step was to select where to implement village zones within the five pilot counties. KOTI studied the safety of different road sections using statistics provided by the Road Traffic Authority (KoROAD), the national organization for road safety education and technical research affiliated with the National Police Agency.

On the basis of its research, KOTI selected 14 road sections on national highways for the pilot village zones: three road sections from Gapyeong, two from Yeongam, two from Hongseong, three from Chilgok, and four from Ulju. All the sections had a history of road crashes in the previous three years, ranging from 7 to 49 incidents. Local government, regional construction management offices of the Ministry of Land, Infrastructure, and Transport, local police offices, and local residents reviewed the selected road sections before KOTI finalized its decisions.

Coordination with the Police and Local Construction Management Offices

In parallel with preparing the pilot sites, KOTI sought cooperation from the police, local governments, and local offices of the transport ministry. Because the village zone proposal had no legal backing, building local support was essential.

KOTI first sought backing from the National Police Agency, the central office of the police, before trying to persuade local police. Local police officers had to deal with citizen complaints about low speed limits, and police were unlikely to support the initiative until the national agency indicated its support. After the central agency was on board, it could send official letters requesting the cooperation of local offices, saving KOTI from persuading local police individually. KOTI experts and officials from the Ministry of Land, Infrastructure, and Transport together visited the National Police Agency. “The presence of ministry-level officials added weight to
FIGURE 3. MAJOR ROAD SAFETY DEVICES, TYPE A ROADS

Note: A multisign is a road sign that includes multiple traffic information, such as speed limit and zoning. m = meters.

FIGURE 4. LOCATION OF ROAD SIGNS AND MARKINGS, TYPE A ROADS

Note: A multisign is a road sign that includes multiple traffic information, such as speed limit and zoning. m = meters.
the visit, since the position of the National Police Agency in the government hierarchy was below the ministry level,” said Jaehoon Sul, the KOTI expert who led the village zone project.  

The police endorsed the idea of the village zone but raised concerns that the formal title that KOTI proposed, the “Protection Area for Villagers,” could be confused with the three preexisting protection areas that were part of the Road and Traffic Act. To address the concern, the transport ministry renamed the village zone as the “Protection Section for Villagers” to differentiate it from the protection areas that already had legal backing.

Gaining support from other government officials at the local level was more of a formality than a challenge. Regional construction management offices of the Ministry of Land, Infrastructure, and Transport were in charge of the installation and management of roads under the transport ministry’s jurisdiction. The village zone was a transport ministry project, so its regional offices were generally cooperative.

Implementing the First Village Zones

Given that its one-year contract started in April 2015, KOTI had to install village zones by October 2015 to allow time to evaluate the pilot. Because KOTI was a research institution, not an implementation body, it outsourced part of the implementation to external experts. In mid-2014, KOTI opened public bidding for potential contractors and devised guidelines for the contractors to follow in designing the pilot village zones (KOTI 2016a). The guidelines listed detailed standards for target road sections, including range, management plans, and installation of road safety devices, speed limit signs, pedestrian sidewalks, and unmanned speed cameras linked to an automated ticketing system, as well as standard procedures within the protection section (KOTI 2015). Following those guidelines, the transport engineering firms who won the contracts drew up basic plans for village zone sections. With the basic design, KOTI and the contracted firms consulted again with the regional police agencies, local police offices, local governments, and regional construction management offices of the Ministry of Land, Infrastructure, and Transport. These organizations reviewed the basic design, cross-checked it with their own internal plans, and ensured that the village zones aligned with local development plans, such as road expansion and management plans.

KOTI held information sessions for local officials and residents who lived near the pilot village zones to explain the purpose of the village zone and to build support for the initiative. The village zone was presented as a free road safety project funded by the Ministry of Land, Infrastructure, and Transport, with local stakeholders not bearing any responsibility for installation or maintenance. Despite some initial doubts from citizens and local politicians, KOTI encountered no major opposition to the pilot village zones.

Following the information sessions, KOTI updated individual village zone designs to reflect feedback from local residents, then sent the proposals to be reviewed by local police and the regional construction management offices of the transport ministry. The regional construction management offices reviewed upcoming roadwork plans to ensure the village zone proposals did not conflict with...
existing plans, then finalized the design and budget of the village zones to be installed. In September and October 2015, the regional construction management offices opened bids for the installation of the village zones through the government’s procurement website.

Building Public Support

By boosting public awareness, KOTI hoped to increase citizen support for the village zone, win road user compliance with the lower speed limit, and catalyze cooperation from local policy makers. As the pilot village zones got under way, KOTI and the transport ministry promoted the village zone through press releases, events, and videos. An October press release was widely covered by local media and major national news media, and news articles described the speed limit changes, the pilot locations, the rationale behind village zone installation, the expected reduction in road casualties, and the penalties for violating the speed limit.4

Several regions held events to promote the launch of the village zones in their area. In Chilgok, for example, the local police office held a “Commemoration Seminar for the First Village Zone” in October 2015. Sixty participants from civic transport safety organizations such as the Best Drivers’ Association and the Green Mothers’ Association5 participated along with KOTI, the county office of Chilgok, and the regional construction management office of Daegu.6 KOTI and the Ministry of Land, Infrastructure, and Transport also created promotional videos for the village zone and released them on the video-sharing website YouTube.7

Expanding Village Zones

After the pilot period ended, the Ministry of Land, Infrastructure, and Transport contracted KOTI for another year to expand on the pilot. The second-year contract was not automatically renewed, but KOTI participated in an open competition as a sole bidder again. Under the second contract, which began in June 2016, KOTI oversaw the installation of 20 village zone sections in eight regions.8

In the second year, KOTI maintained the same village zone selection criteria drafted for the pilot. Interest grew because of the success of the pilot village zones, and some citizens adopted innovative approaches to attract the transport ministry’s attention. For example, one citizen in Chuncheon submitted a general petition to the Anti-corruption and Civil Rights Commission, requesting a village zone in the Chuncheon area. The commission transferred the petition to the transport ministry, and KOTI went on to install a village zone in Chuncheon.

KOTI then made changes based on lessons learned from the pilot and updated the installation standards. For example, KOTI enlarged road signs to increase their

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5 The Green Mothers’ Association was founded in 1969 to protect children in primary school from road crashes near school areas. It was a corporation affiliated with the National Police Agency and it had become a national association. As of 2018, 860,000 members were volunteering to secure 4,000 elementary schools in 17 cities. http://gmothers.kr/.


8 There was a two-month gap between the pilot contract ending and the new contract beginning because of administrative issues such as changes in personnel at the Ministry of Land, Infrastructure, and Transport.
An example of a media interview is G. Nah, “Elderly Drivers in Danger,” have delayed implementation, so from the outset the funding through the formal budget process would could be covered by the ministry’s budget. Securing village zones only on national highways, so that the cost was still burdensome for local governments. Because village zones did not have legal backing, local authorities had to pay for their installation and management, and there was no legal mechanism for support from the central government. Although the budget to install village zones was relatively small for a road budget, it was still burdensome for local governments.11

Because of these funding challenges, KOTI installed village zones only on national highways, so that the cost could be covered by the ministry’s budget. Securing funding through the formal budget process would have delayed implementation, so from the outset the ministry’s director general of roads allocated some of the ministry’s road safety budget for installation of village zones. One section of a village zone cost roughly W200 million on average (approximately US$166,000), a cost that did not strain the ministry’s budget.12 Once installed, the transport ministry funded maintenance of the village zones as part of its general national highway maintenance.

Some regional governments, such as Gapyeong, installed village zones on local roads using their own budget. Gapyeong was one of the five pilot regions in which KOTI had installed three village zones on National Highway Route 46. After seeing the success of the pilot village zones on national highways, residents in Gapyeong filed a petition to install village zones on gun roads. In 2018, the Gapyeong government installed two village zones through its own budget.

**Financing the Installation and Maintenance of Village Zones**

Organizing funding for village zones on national highways (which were managed by the transport ministry) was much easier than for village zones on provincial, gun, or country roads (which were managed by administrative authorities or local governments). Because village zones did not have legal backing, local authorities had to pay for their installation and management, and there was no legal mechanism for support from the central government. Although the budget to install village zones was relatively small for a road budget, it was still burdensome for local governments.11

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**Outcomes**

Between 2015 and 2018, KOTI installed 64 village zones in 23 regions. The combined length of the 64 village zones was 88.24 kilometers, and together they cost W13.2 billion (approximately US$ 10.7 million) to install. All village zones were Type A, built on national highways. Type B (provincial roads) and Type C (county roads) village zones were never implemented by KOTI because those roads were not under the jurisdiction of the transport ministry and organizing funding for those roads was difficult without legal backing. As of 2019, legislators still had not added the village zone to the Road Act.

Road crash statistics in village zone areas declined sharply across the five pilot regions in the first six months after installation. The total number of crashes decreased by 37 percent compared with the three-year average of the same time period (November through April) (KOTI 2018a). Fatalities decreased 29 percent, and injuries decreased 42 percent. Traffic crashes, fatalities, and injuries were trending downward nationwide: between 2012 and 2016, there were 4 percent fewer crashes, 10 percent fewer fatalities, and 5 percent fewer injuries on national highways (KOTI 2018a). However, the rate of decline in the village zone was about nine times greater than the national average.

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11 The financial independence rate denotes the proportion of its budget covered by its own financing, such as local tax. Higher financial independence rate designates higher budget sufficiency. For the five pilot regions, financial independence rates were 25.18 percent for Gapyeong, 19.81 percent for Hongseong, 16.68 percent for Yeongam, 23.18 percent for Chilgok, and 50.37 percent for Ulju, which are all below the national average of 50.55 percent in 2015. Local Finance Integrated Open System, http://lofn.mois.go.kr/portal/emain.do.

12 For the pilot, 14 road sections installed in the national highways ranged between W100 million and W310.0 million (KOTI 2015).
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Increased traffic safety awareness was another outcome, though this shift reflected a number of government efforts, not just the village zone campaigns. KoROAD’s Transport Culture Index, which assessed driving standards, pedestrian behavior, and traffic safety, rose from 72.1 in 2007 to 83.2 in 2018 (see figure 5). This change indicated behavior changes such as fewer people violating traffic signals and speed limits, fewer people driving under the influence or using cell phones while driving, and more people fastening seat belts and using signal lights correctly (KoROAD 2019).

**FIGURE 5. TRANSPORT CULTURE INDEX, REPUBLIC OF KOREA, 2007–18**

![Transport Culture Index Chart](image)


*Note:* Index for 2018 was converted with the standards of 2017 to be consistent with other years, KoROAD 2019.

**Lessons Learned**

**Involving Top Officials and Making Practical Adaptations Helped Build Early Momentum**

In seeking inter-organizational cooperation and support, KOTI started by contacting top officials at head offices. KOTI approached high-level personnel at the Ministry of Land, Infrastructure, and Transport and the National Police Agency, as well as key decision makers at the local level. High-level officials in central offices focused more on the potential benefits of the policy and were less intimidated by administrative and practical difficulties. During this process, KOTI received feedback on the idea and made practical changes that helped it win cooperation at all levels.

**Citizen Support Incentivized Local Decision Makers**

Despite concerns that citizens would complain about the reduced speed limits, local residents generally welcomed the lower speed because it would potentially reduce road crashes and keep them safe. The main complainants were long-distance drivers, who were not constituents of locally elected officials. As a result, local politicians generally supported the village zone in their area. The initiative also provided an opportunity for politicians to publicly showcase their support for road safety,
and reports in local newspapers on village zones often featured quotes or photos of local politicians.\textsuperscript{13}

\textbf{A Successful Pilot Provided Impetus to Scale Up}

KOTI’s strategy was to get a small pilot under way quickly, ensure the pilot succeeded in reducing road crashes, and use that success to build momentum to scale up the village zone idea. KOTI anticipated that prompt installation of pilot village zones would allow the institute time to monitor and analyze the changes in the crash statistics within its one-year contract period. The project’s relatively small budget facilitated a quick launch and helped it avoid administrative obstacles. To minimize opposition, KOTI targeted accident-prone areas where locals acknowledged the need to reduce road crashes and where it was easier to build citizen support. By starting small, KOTI was able to make changes to installation guidelines on the basis of its experience with the pilot. It was then less costly to make changes and achieve uniformity, because there were only a limited number of pilot village zones.

After seeing the improved road crash statistics from the pilot program, more regions sought to install village zones. Although administration and budget challenges made it difficult to expand the program beyond national highways, some local governments funded village zones on roads for which they were the road management authorities.

\textbf{Incorporating Citizens in the Policy Making Process Improved the Responsiveness of Government Policy}

The village zone initiative stemmed from a public call for ideas, building on a history of the public as the advocate for pedestrian rights in Korea. Government policies often lag behind the safety risks that pedestrians and road users experience. The Korean government was largely oblivious to pedestrian rights until the mid-1990s, when civil society began to discuss and push for legislation of protection areas for children, or school zones, as well as subsequent measures to increase pedestrian safety (KOTI 2018b). The village zone is another example of this tradition of citizens advocating for road safety policies.

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References


Republic of Korea. 2019. “Enforcement Rule of the Road and Traffic Act” [Korean]. http://www.law.go.kr/%EB%B2%95%EB%A0%B9/%EB%8F%84%EB%A1%9C%EA%B5%90%ED%86%B5%EB%B2%95%EC%8B%9C%ED%96%89%EA%B7%9C%EC%B9%99.

## Annex 1

### Road Crash Statistics Before and After the Installation of Village Zones in Five Pilot Regions

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<td>15</td>
<td>17</td>
<td>7</td>
<td>13</td>
<td>2</td>
<td>−85</td>
</tr>
<tr>
<td>Ulju</td>
<td>9</td>
<td>11</td>
<td>21</td>
<td>13.7</td>
<td>11</td>
<td>−20</td>
</tr>
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<td>0</td>
<td>3</td>
<td>2</td>
<td>1.7</td>
<td>2</td>
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</tr>
<tr>
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<td>11</td>
<td>13</td>
<td>11.3</td>
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<td>81</td>
<td>77</td>
<td>75</td>
<td>77.7</td>
<td>49</td>
<td>−37</td>
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<td>2</td>
<td>4</td>
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<td>5.7</td>
<td>4</td>
<td>−29</td>
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<tr>
<td></td>
<td>117</td>
<td>112</td>
<td>81</td>
<td>103.3</td>
<td>59</td>
<td>−43</td>
</tr>
</tbody>
</table>

Source: KOTI 2018a.

Note: "Change" compares the road crash statistics for the months of November and April before the village zone installation (2012–2015), and after the installation 2015–2016.)
## Annex 2

### Road Safety Devices for Village Zone by Type

<table>
<thead>
<tr>
<th>Road type</th>
<th>Road signs</th>
<th>Road markings</th>
<th>Red-colored pavement</th>
<th>Overhanging signs</th>
<th>End signs</th>
<th>Enforcement cameras</th>
<th>Pedestrian Crossings</th>
<th>Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A: National highways</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Antiskid pavements</td>
<td>100,000</td>
</tr>
<tr>
<td>Type B: Provincial roads</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>When necessary</td>
<td>Zigzag line</td>
<td>Below 100,000</td>
</tr>
<tr>
<td>Type C: Gun (County) roads</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Traffic island</td>
<td>Below 50,000</td>
</tr>
<tr>
<td>Source: KOTI 2015.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lighting</td>
<td></td>
</tr>
</tbody>
</table>