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3M Transportation Safety Division

# **Yellow Carpet – A Safer and More Visible Way to Keep Kids Safe**

**Korea Case Study**



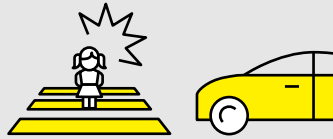
## Creating A Safer School Zone

### Traffic accidents involving children in school zones



Children make up **44%** of fatalities in car accidents in Korea

**81%** are related to crosswalks



More than **60%** of accidents occurred when crossing roads



Children from lower grades in elementary school account for **80%** of casualties

Source from: KoRoad & Korea National University of Transportation

## Ensuring Kids Get Home Safely

Despite numerous efforts by both the government and corporate sectors to install safety facilities in school zones, traffic accidents did not decrease.



Existing safety facilities include **signs** and **colour paving** on the roads.

The Yellow Carpet initiative was tested in 13 schools across Seoul, with a vision to create a safer, more visible environment in school zones with two objectives:

1. **Have a nudge effect:** Encourage kids to stay on the Yellow Carpet zone using a bright colour to attract their attention.
2. **Get drivers' attention:** They can easily see where the kids are as yellow is highly visible, compared to other colours.

## Collaboration between parents and NGOs for greater awareness

When this program began, we collaborated with NGOs to encourage more participation by both parents and kids in the installation of the zones. This helped spread the news nationwide and increased public awareness.

## Material Specification from Ministry of Interior and Safety (MOIS)



- Highly visible a with uniform surface
- Meets the minimum reflectivity of 150 mcd/m<sup>2</sup>/lx under dry conditions, and 70 mcd/m<sup>2</sup>/lx under wet conditions
- Minimum requirement for skid resistance: 40 BPN



6251 Graphic Pavement Film

LPM5001 Polyurea Paint

## Products Used

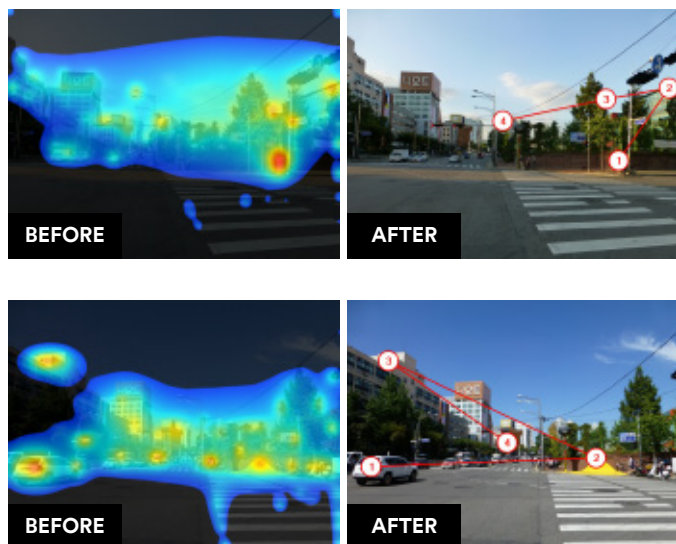
Paint type material

- Durability: 6251 (1~2 years), LPM5000 (Permanent)
- Skid resistance (BPN, British pendulum number) : over 45 (All)
- Reflectivity (mcd/m<sup>2</sup>/lx): Wet (200), Dry (500) – LPM5000 with CR AWE
- Eco-friendly (All)
- Dries quickly, within 2~3 minutes (LPM5000)

## Results

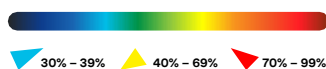
### Analysis of Yellow Carpet Effect

A study of the Yellow Carpet initiative showed that prior to installation, the driver's attention would first be drawn to elements like trees. But after the installation, the Yellow Carpet would draw the driver's attention, giving him more time to respond to an unexpected situation at that particular zone.



#### Heat map

Red reflects the degree of attention an element receives from a driver.

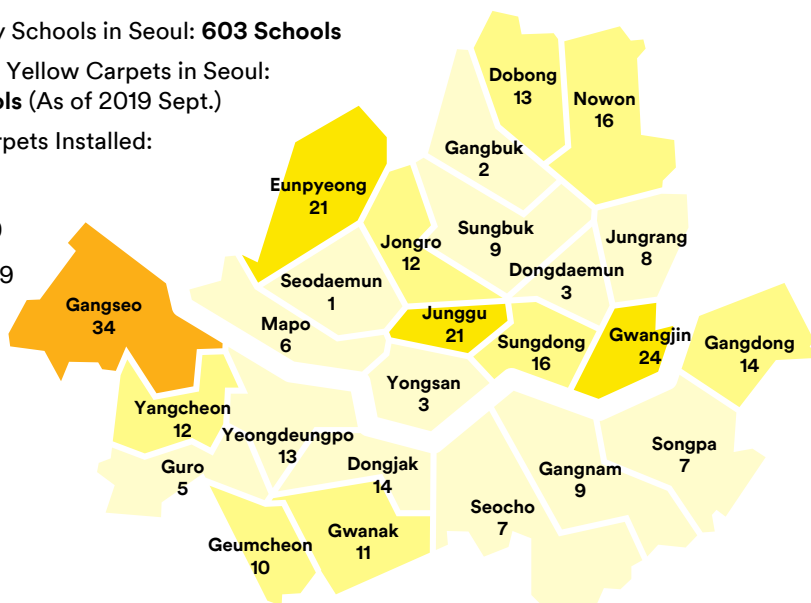
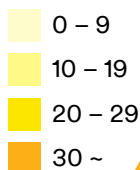


## Current status of Yellow Carpet Installation in Seoul

Elementary Schools in Seoul: **603 Schools**

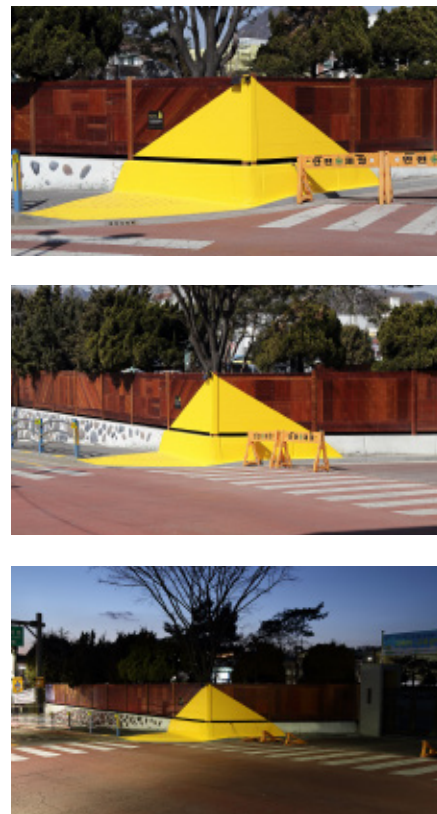
Number of Yellow Carpets in Seoul: **280 Schools** (As of 2019 Sept.)

Yellow Carpets Installed:



## Case Study Snapshots

Examples of Yellow Carpet safety zone during the day and night.



## Yellow Carpet's impact on driver visibility:

Kwanghee Elementary School  
— From 34% to 85%



Bonglae Elementary School  
— From 34% to 95%



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Learn more about product specifications, the solutions that meet your requirements, or about getting involved in the safe school zones.

**CONTACT OUR EXPERTS**