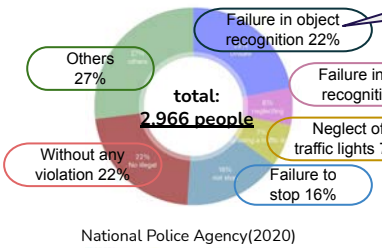
Let's Reduce Traffic Accidents by 3D Lines

W201905 Shizuoka Prefectural Mishima Kita SHS: Culture Shocker

Present situation

The Number of cyclists killed or seriously injured in traffic accidents due to law violation by cyclists.



National Police Agency(2020)

Problem of people's mind

We have risky places near our school as well!

Students don't know that danger is just around them.

Ignorance of zones

: near our school

People who don't care the walk zone.

Cyclists cannot go through the bike zone.

If a speeding bike goes by, it's dangerous!!

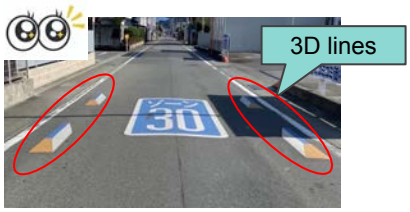
in Vietnam

Drivers' ignorance of driving lanes

Heavy traffic jams and more accidents

Our Goal : Distinguishing zones between **cyclists** and **walkers**.
⇨ Reducing traffic accidents by 3D lines.

Hypothesis / Experiment



in Mishima

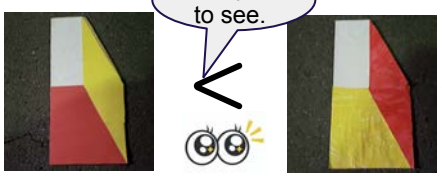
Purpose : dividing the **drivers'** zone and the **walkers'** zone

Could be applied to **cyclists** and **walkers**.

What is the 3D lines?

When appropriately put, the 3D lines appear to be rising from the surface, but the angle matters.

[From our past experiments]



Experiment

1 Draw lines (white / two types of 3D) at the entrance of the school.
2 Count the number of walkers and bicycles that have stepped on the different types of lines.
3 Survey to find out students' intentions and impressions.

Drawing 3D lines

Counting

Google Forms

Survey

Result

① ② ③

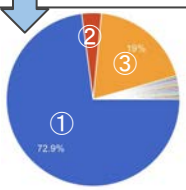
Observed cases of stepping on lines

	Stepping cases / total passing cases	% of steppping
①	32 / 396	8%
②	131 / 392	33%
③	52 / 399	13%

(for 30 mins)

Intentions of avoidnace

- Type ① = avoided most intentionally
- Type ② = avoided least intentionally
- Type ③ = about 60% less avoided than ①
- Reasons for avoidance
  - Unusual / unfamiliar
  - Afraid of having chalk powder on the shoes



Which of the lines did you avoid?

Consideration

- The 3D lines (① / ③) had greater impacts than ordinary white lines (②).
- As days go by in the experiment period, the effect declined, even in 3D lines.
- Drawn signs do not hurt walkers nor bicycles, unlike conventional solid blocks.

The 3D lines will be effective enough to distinguish zones between cyclists and walkers. Drawn lines have more flexibility in redesigning, when the novelty is lost. It is also economical.

Prospect

Possible improvements of 3D lines

1.Obtaining a long-term effect

Applying paint that changes its color depending on the temperature.
⇨ Looking different on different days.
⇨ Providing fresh impression.

2.Responding to various situations

Applying different color combinations such as fluorescent colors.
⇨ Standing out even in dark scenes.
⇨ Making it recognizable for those with impaired vision.

Reference

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