



Signs for
SMASH THE GATE

Presentation to
Expert Group on Road Signs and Signals

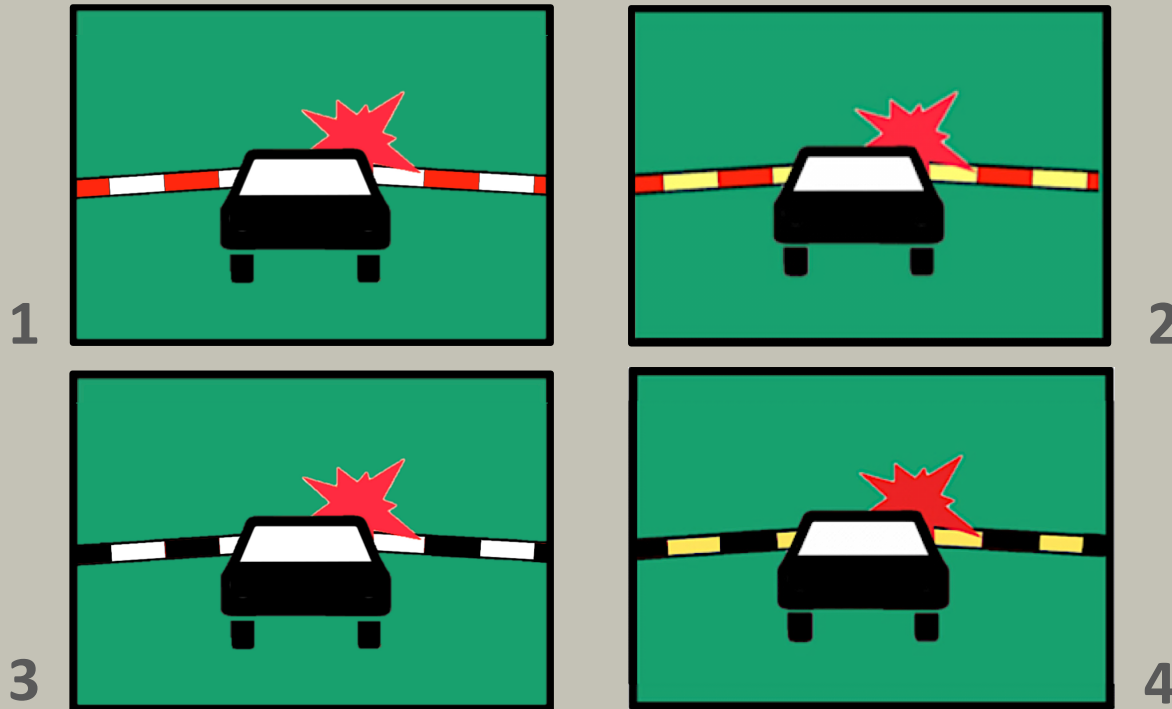
M. Pronin

4-5 September 2018

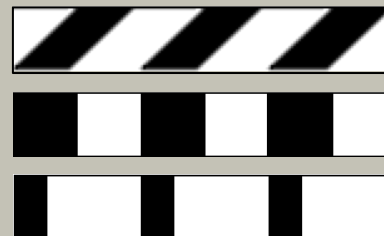
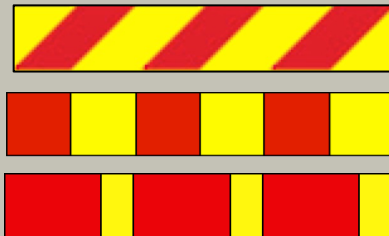
Geneva

COLOR OF GATE SYMBOL

From 2016, my designs with gate color changes
Should the gate symbol color match or not match the real gate colors?



The Convention's 4 color choices for gate arms; stripe style may vary



COLOR OF GATE SYMBOL

One color for gate symbol according to style of Convention signs

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Inscription may be on sign or on an additional panel

As I stated in 2016, bilingual text would increase comprehension.

CHOICES

2 National languages

National language + English

National language + other language

6



Yellow may be more visible than white

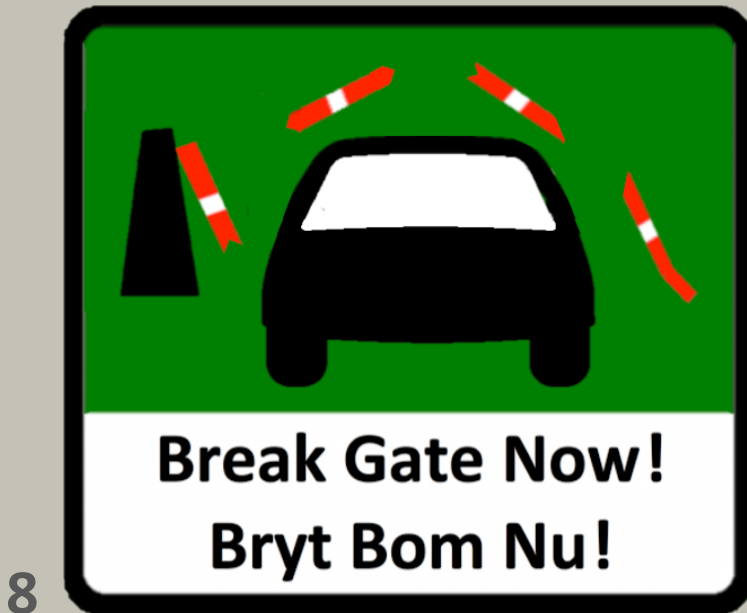
7



Arrow is optional.
If arrow is included, broken gate must be below the car.

COLOR OF GATE SYMBOL

Most prevalent gate colors
in terms of number of countries using this color



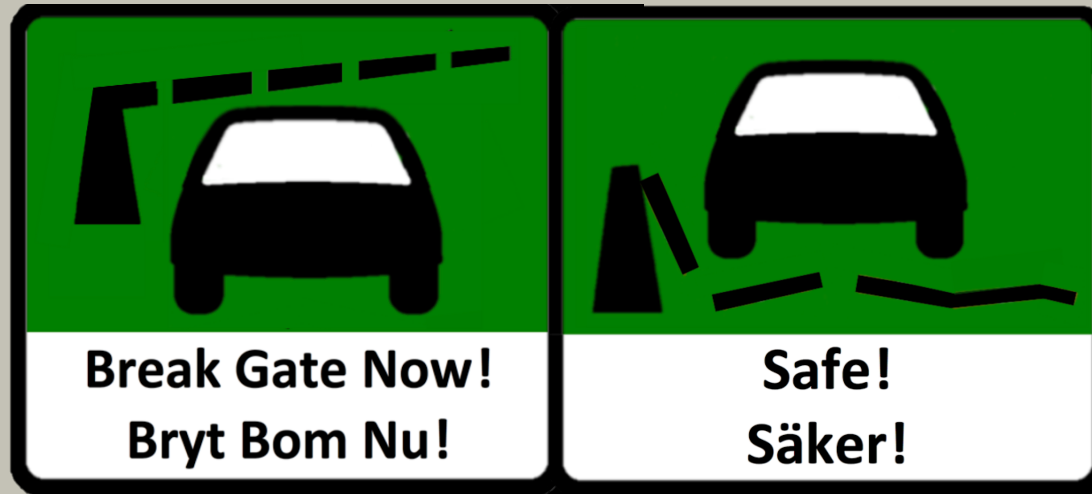
Color patterns appear more compelling than solid black.
However, if a Convention color pattern is preferred,
all 4 color pattern options should be offered.

DOUBLE SIGN

There is enough time to absorb a double message.

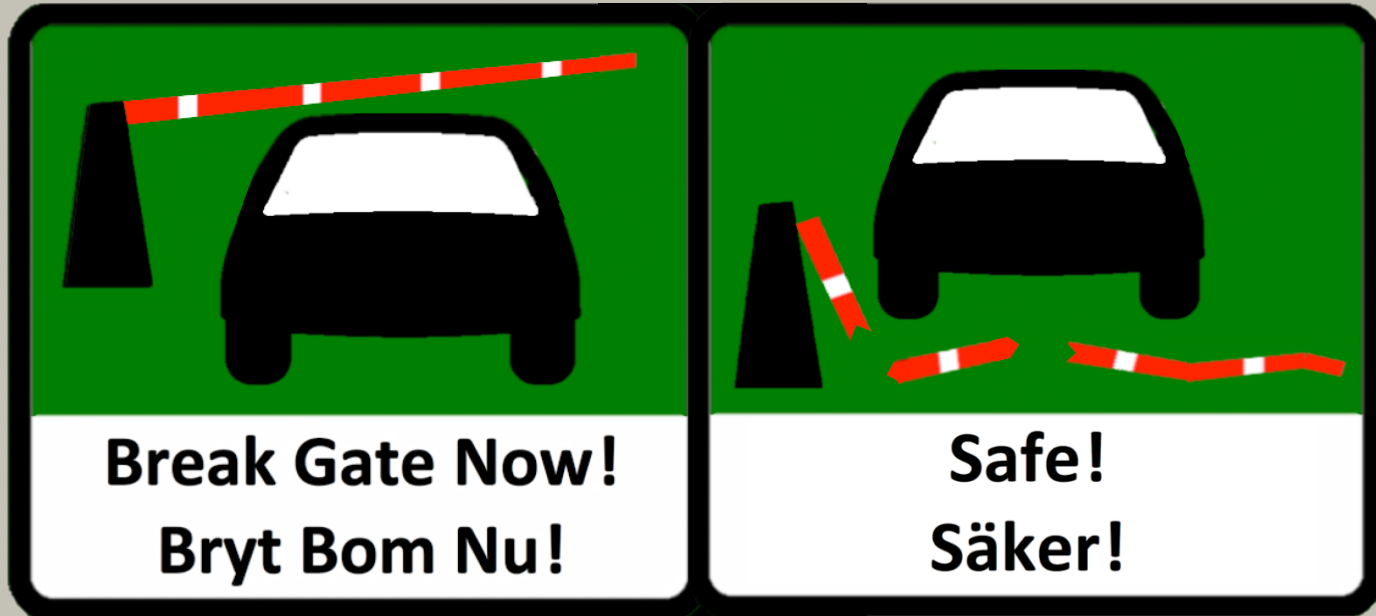
A double message may increase comprehension.

10



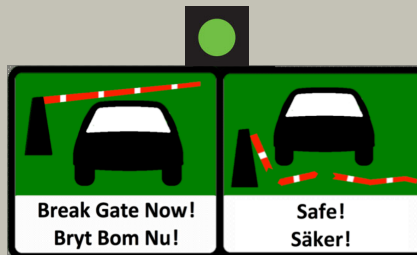
As seen in the G category, the Convention permits signs to have more than one panel.

DOUBLE SIGN



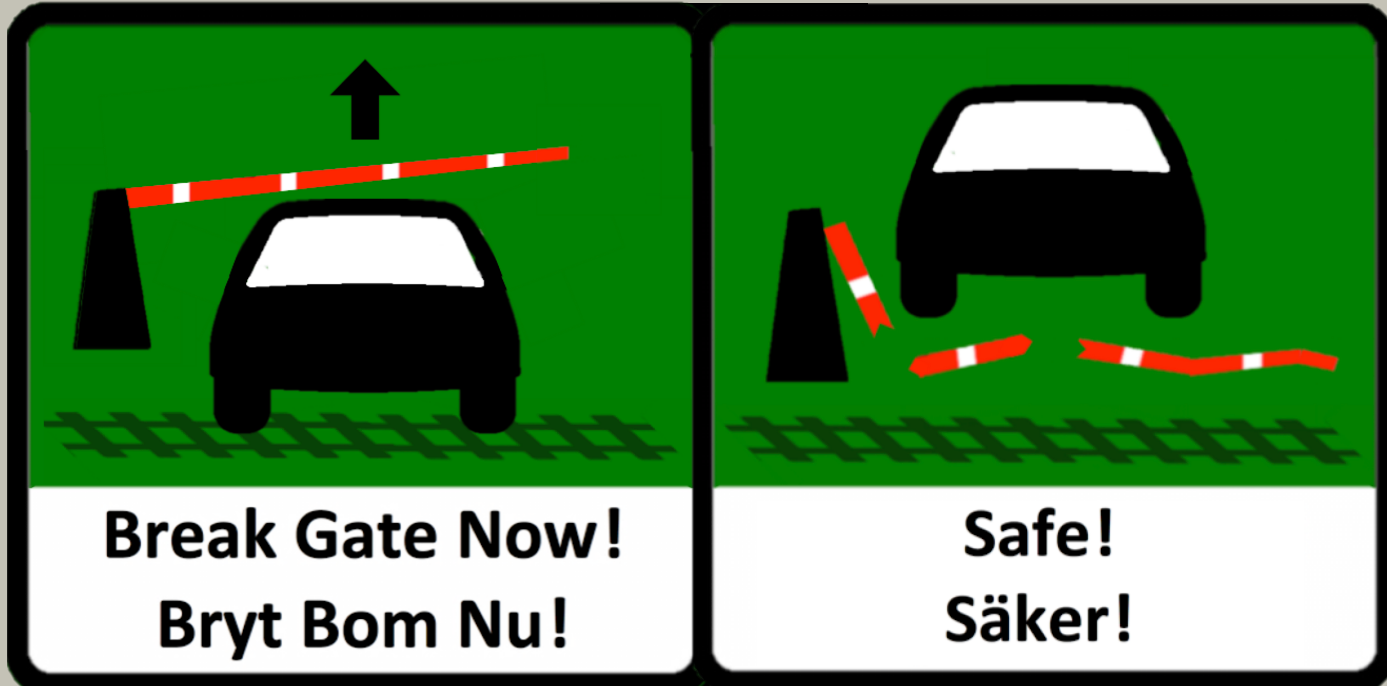
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Add light atop sign for conspicuity



DOUBLE SIGN

Additional symbols for comprehension

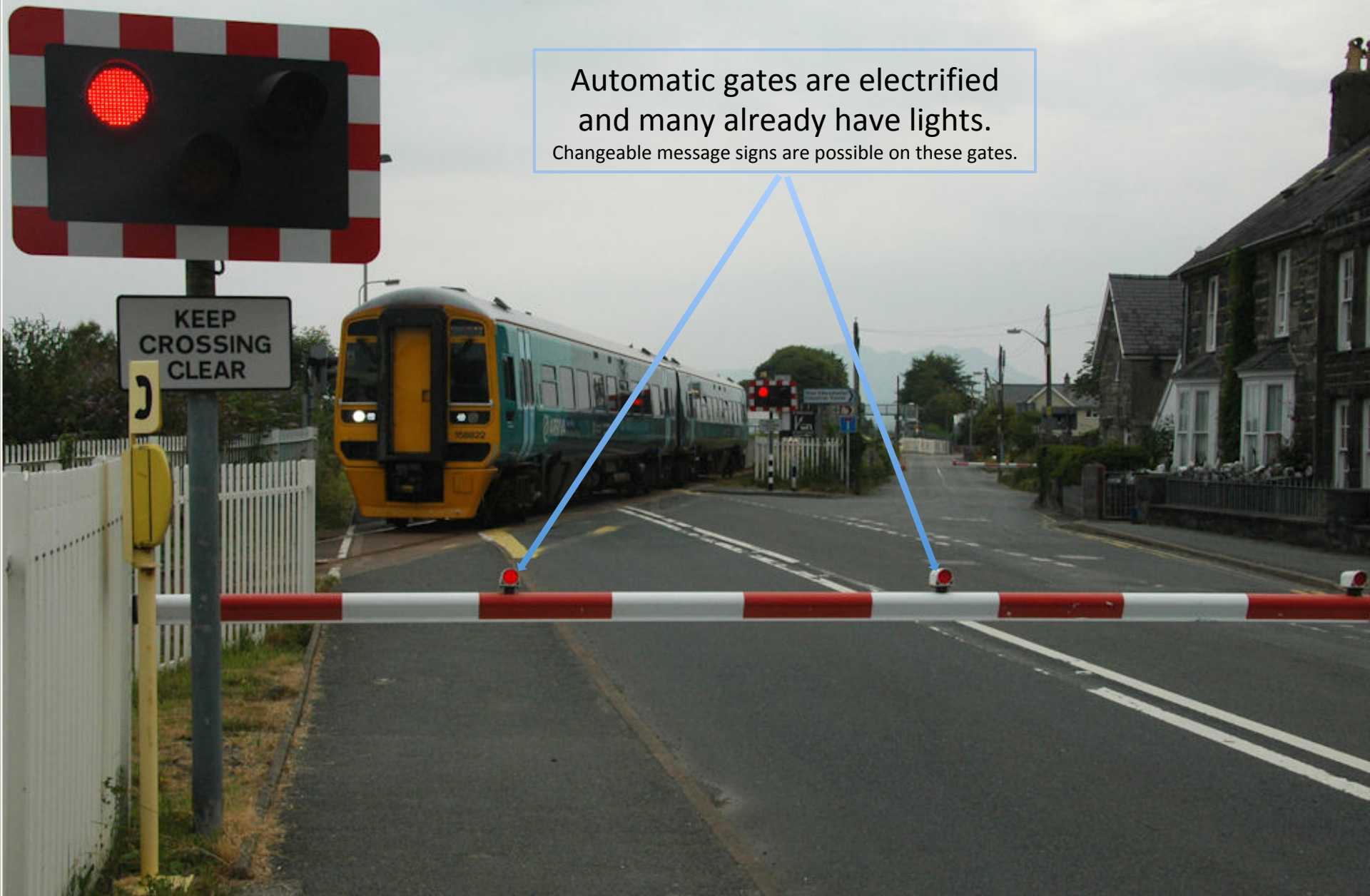


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Arrow and tracks are optional

This sign may be slightly more comprehensible than the sign on the previous slide, but would additional symbols slow reaction time?

Automatic gates are electrified and many already have lights. Changeable message signs are possible on these gates.



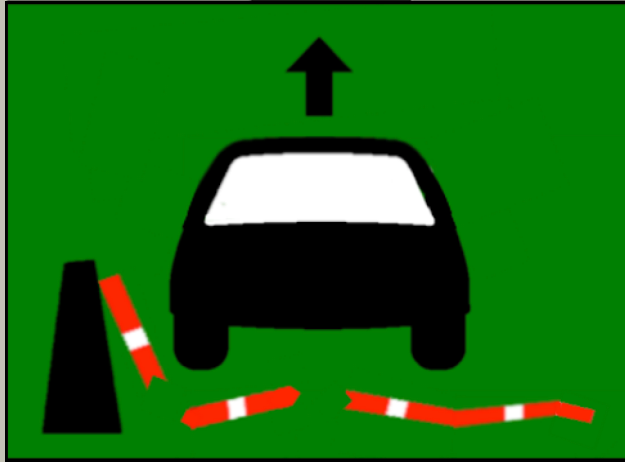
Courtesy of © T. Times, Diagonal Guarded Level Crossing at Harlech, Gwynedd, Wales, UK, 2013.

CHANGEABLE MESSAGES



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Impractical today. but progress begins with the impractical.
A sensor to trigger the sign when a vehicle is trapped would be needed.



**Break Gate
Now !**

**Bryt Bom
Nu !**

This is not a video screen or electronic VMS. The messages rotate on non-glare plastic.

This is the only sign screen.
All images appear on this one sign.
Control box may be on the ground.

ADVANTAGES

- Repetition of messages
- Reprogrammable
- High conspicuity
- Legibility: glare should not be an issue

CONCERNS

- More costly than static signs
- More maintenance required
- Must be lightweight
- Must be theft-proof
- Speed: can message change quickly enough?



Alternative lighting style

AUDIO

Supplement sign with speaker

Audio may provide more detailed instruction in more than 2 languages and the commands may be repeated.

Ideally, audio would be activated only when a trapped vehicle is detected. A talking gate when open or tracks are clear is not an optimal solution.

*If you are trapped on the tracks,
the barrier is easy to break.
Drive through the barrier!
¡Rompe la barrera! ¡Ahora!
Brisez la barrière! Maintenant!*



**Break Gate Now!
Bryt Bom Nu!**

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Audio would not benefit all drivers due to loud music in vehicle, hearing impairment, or level crossings with warning bells.

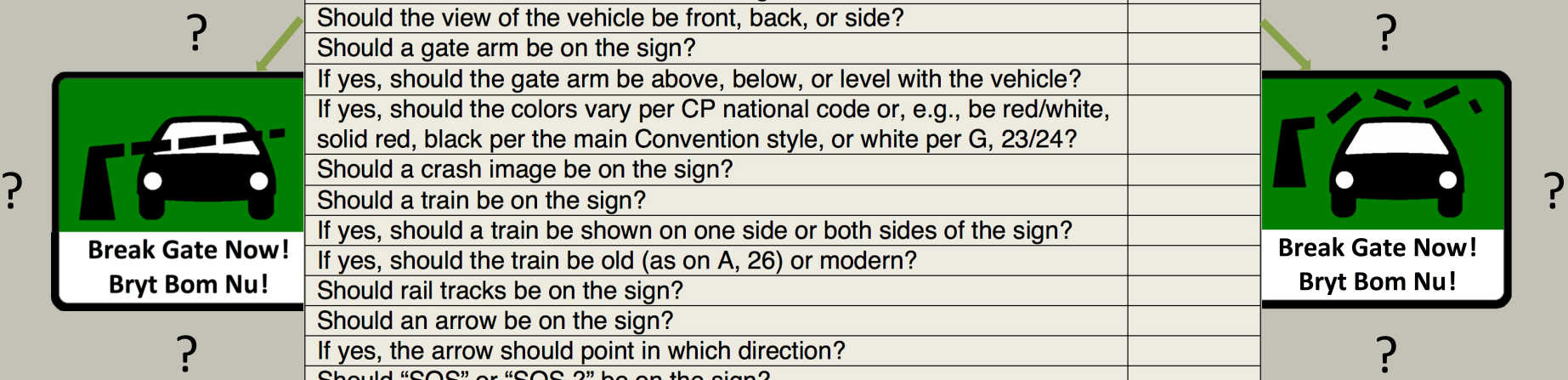
For driving on right-hand side of road

SIGN DESIGN

How should a Smash Gate sign be chosen?

Based on test results for comprehension and reaction time in a “realistic” simulated environment

Questions to consider when choosing the signs for testing



THE ISSUE	ANSWER
Should the sign have a border or rim?	
Which motor vehicle should be on the sign?	
Should the view of the vehicle be front, back, or side?	
Should a gate arm be on the sign?	
If yes, should the gate arm be above, below, or level with the vehicle?	
If yes, should the colors vary per CP national code or, e.g., be red/white, solid red, black per the main Convention style, or white per G, 23/24?	
Should a crash image be on the sign?	
Should a train be on the sign?	
If yes, should a train be shown on one side or both sides of the sign?	
If yes, should the train be old (as on A, 26) or modern?	
Should rail tracks be on the sign?	
Should an arrow be on the sign?	
If yes, the arrow should point in which direction?	
Should “SOS” or “SOS ?” be on the sign?	
Are double panel signs acceptable or even preferable?	
Is an inscription necessary?	
If yes, should an inscription be on the sign or on an additional panel?	
If yes, should an inscription be bilingual?	
If yes, which 2 languages should be chosen?	
If yes, should the inscription be below or beside the sign?	
What colors should the chosen elements be – sign border/rim and ground, vehicle, crash image, train, tracks, arrow, SOS, inscription, additional panel border/rim and ground?	

SOS

“SOS” does not belong on the Smash Gate sign.

SOS is a distress signal, a call for help, for others to rescue you. It means you cannot help yourself. If trapped at a level crossing, you do not wait for rescue. You must help yourself.

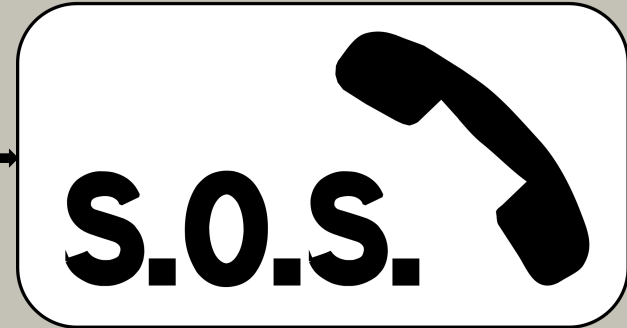
SOS has several other meanings, including Save Our Souls, and it is the name of a brand of soap pads popular in 26 countries.



Per the Convention, CP signage associates **SOS** with *receiving* help.
Be passive, patient, wait.



Call for help



Help yourself

Call for help

Help yourself



Courtesy of RailEngineer, UK, 2018.

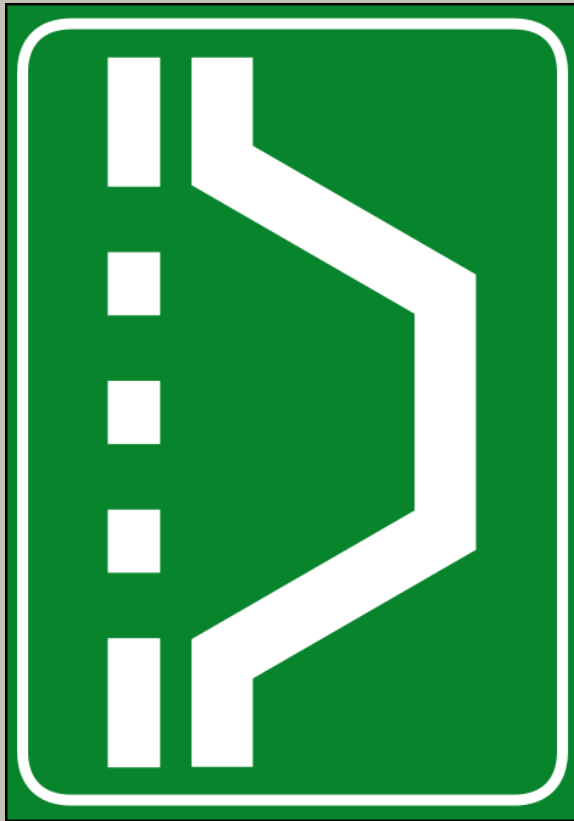
At level crossings

CALL FOR RESCUE

On motorways

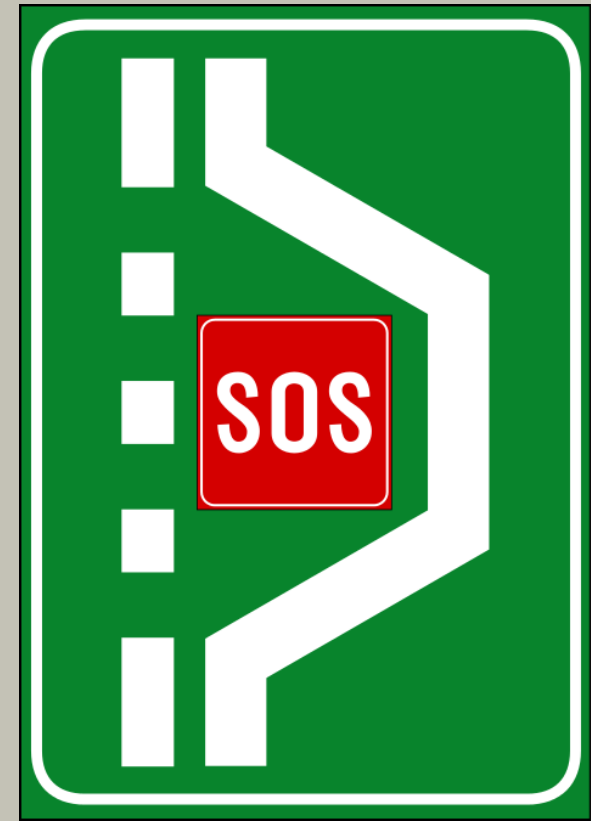


Courtesy of H.≈H. Georg, Highway in Germany, 2006.



A safe place

ITALY



A safe place to phone
for help or receive
direct assistance

Indica l'esistenza di una piazzola con
dispositivo di chiamata di soccorso
o di assistenza

OTHER THOUGHTS

DRIVER CONCERN

During a discussion I had with USA drivers about smashing gates, a surprising concern arose. The height of many gate arms is at the level of the windscreen of most cars.

Therefore, would driving into the gate break the windscreen and decapitate the driver? How many share this unrealistic fear? Such a belief would cause drivers to abandon their car on the tracks and flee on foot to safety.

PANIC

Not all trapped drivers panic. Some wait in the vehicle and expect the train to stop.

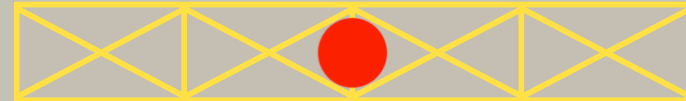
HEAVY BARRIERS

Some CPs have old unbreakable steel gate arms. Other countries are automating rather than replacing old manual gates.



Courtesy of © Lambert, Fiskerton, UK, 2008. Photo cropped.

The Convention's 2 color choices for fence-type gates are solid white and solid yellow plus a large red center disc; variation in gate styles are permitted.



Can all cars at low speed easily break this type of gate?
Should the Convention continue including such barriers?

Article 35, ¶1

Thank You

