

How should signs warn of ruts?

Information for
UNECE Expert Group
on Road Signs and Signals
M. Pronin, 31 May-1 June '18, Geneva



Longitudinal ruts on paved and unpaved roads are a hazard requiring a warning to road users.

- ✧ When it rains, one wet rut and one dry rut may propel a vehicle out of its lane.
- ✧ When both ruts fill with water, vehicles may hydroplane (total loss of traction leading to loss of vehicle control).
- ✧ On wet rutted roads, turning and changing lanes are especially unsafe.
- ✧ Rut length varies from a few hundred meters to hundreds of kilometers.

Water-filled Ruts – Danger of Hydroplaning



Courtesy of © M.M. Minderhoud. N57 Motorway, Netherlands. "Spoorvorming." 2007.

Some Contracting Parties use 1 of 4 Convention signs to warn of ruts.



A, 7a



A, 7c



A, 9



A, 32

- ✧ A, 7a suggests an irregular grooved pattern, potholes, or one or more natural humps.
- ✧ A, 7c suggests a lateral depression in the road.
- ✧ A, 9 does not indicate that the road's surface is irregular.
- ✧ CPs that do not consider A, 7a, A, 7c, or A, 9 to be specific enough use A, 32 with an additional panel.

These road surfaces are uneven, but each in different ways.



Bumpy road



Lateral depression



Longitudinal rut or ruts

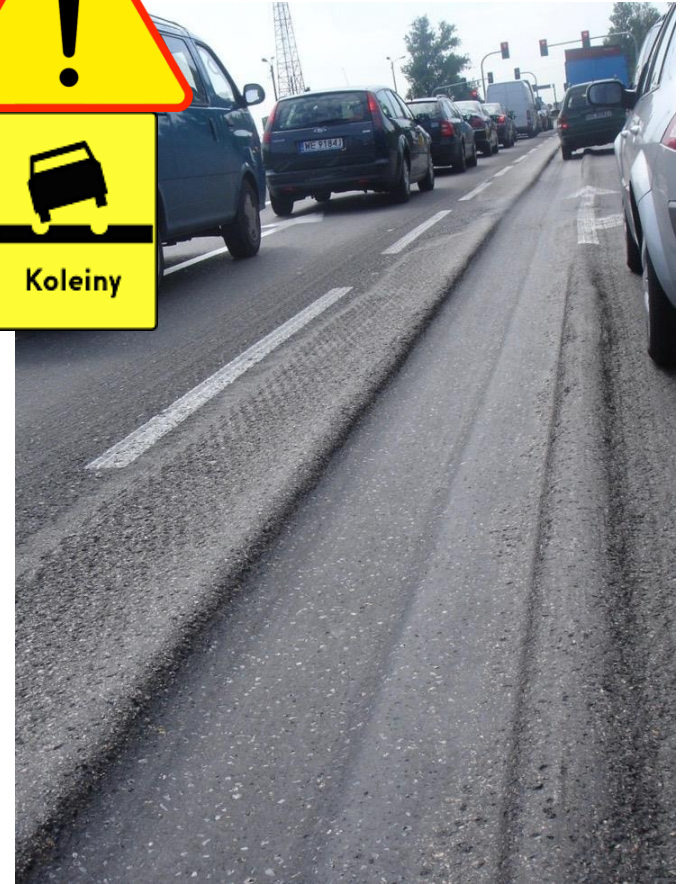


How Poland interprets uneven road vs. ruts.

On left: rough road surface, potholes, and/or natural humps. On right: lengthy longitudinal depressions.



Courtesy of © Olsztyński District. Jezioran, Poland, 2017. Photo cropped.



Courtesy of © Burda. Rutted track on road in Poland. Poczesnej, 2007. Photo cropped.

Several CPs created new signs, resulting in various ways to deliver the same message.

Type 1



Estonia



Lithuania



Croatia

Type 2



Poland



Hungary

Type 3



Austria, Bosnia & Herzegovina,
Croatia, Czech Republic,
Macedonia, Serbia, Slovenia



(same 7 as above)

Type 4



Germany, Austria,
Belgium, France,
Luxembourg



Germany

Additional Panels

Ruts Symbol with Inscription



Austria

not in national code



Bosnia & Herzegovina,
Croatia



Macedonia



Serbia,
Slovenia



Serbia



Czech Republic

Inscription Only

ORNIERES

Belgium

not in national code



Germany



Luxembourg

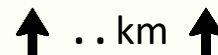
not in national code

ORNIERAGE

France

not in national code

Fahrbahnschäden / Spurrinnen



Austria

(inscription on sign board)

not in national code

Bosnia & Herzegovina and Poland



Courtesy of © B. Chaplin. Bosnia & Herzegovina, 2010.



Courtesy of © Michal MWR. Poland, 2008.

Poland



Courtesy of © Michal MWR. Poland, 2008.



© magazynauto. Poland, 2014. Photo cropped.



© Znaki drogowe. Poland, 2017. Photo cropped.

Germany



Courtesy of © ARCD (Auto- und Reiseclub Deutschland). Germany, 2016.

Germany



© MOR, On the state road to Eschenbach. Germany, 2016.

Germany



Courtesy of © J. Martens, *Neue OZ (Osnabrücker Zeitung)*, noz.de. Germany, 2011.

Luxembourg, Belgium, and France



Courtesy of © G. Pe. Luxembourg, 2013.



© A. Tignon, Belgium, 2014.



© Anon, Déjà un voyage. Mayenne, France, ~2015.

Austria



© Salzburger Nachrichten, Damaged road. [Warning sign points to kilometers of ruts.] Salzburg, Austria, 2016.

Austria



Courtesy of © ORF, Ruts: 50 km / h instead of repair. Annaberg-Lungötz, Austria, 2017. Photo cropped.

Austria



© Hartweger, *Kleine Zeitung*, B111 Gailtalstrasse. Austria, 2015.

Croatia



© x-type. Koprivnicu, Croatia, 2009.

Serbia



© Mojnovisad.com, Serbia, 2016.

Czech Republic



© M. Zoubek, Czech Republic, no year.



© Noviny VM.cz, Czech Republic, 2016. Photo cropped.

Switzerland and Slovenia



© Fotolia, Switzerland, no year.



© Cost 354.zag. Slovenia, no year.

Lithuania



R.T. 2010.05. E67 / A10. Pasvalys - LT/LV siena - Ryga

© Romas, Lithuania, 2010.

City in Russian Federation



Courtesy of © Tyumen Times, YAPLAKAL.COM. Russia, 2010.

✧ To prolong the life of the road, an experiment in 2010 advises drivers not to drive in the ruts.

✧ New signs, shown on the next slide, with an altered symbol, appear in 2015.

City in Russian Federation



© 2015. Majesti, car72.ru. Russia.

Village in Sweden



© P. Lissel. Kloster, Sweden, 2006.



TRANSLATION



Sweden



© Hyltebruks Skylt, Sweden, 2013.

not in national code



© Hyltebruks Skylt, Sweden, 2013.

not in national code

TRANSLATION



Mr. Egger's Symbol



© ~2015. S. Egger. Austria.

✧ Because rutted roads differ in number of ruts (one or more), width and depth of ruts, and presence or absence of longitudinal humps, one symbol cannot accurately depict the rut pattern for all roads.

Who Is Responsible for Dealing with Ruts?



You are!

Courtesy of WSDOT (Wisconsin State Department of Transportation), USA, 1990s. "Quieter Pavement Photos."

According to D. Shinar:

✧ Posting signs costs less than fixing ruts, but the signs pass accountability from the government to drivers.

The Problem

- ✧ CPs as a whole are adding, deleting, and revising signs faster than the Expert Group on Road Signs and Signals can review them.
- ✧ While doing so, the requirement of Convention Article 8, ¶2, has been forgotten or ignored for practical reasons. Not adhering to the requirement has become the norm.
- ✧ CPs ignore Article 8, ¶2, because WP.1 approval may take years and CPs cannot wait for years to introduce new signs aimed at improving road safety.

To Promote Harmonization

- ✧ The Convention does not require WP.1 to review CP sign proposals in a timely manner, nor do WP.1 members have the expertise and time to analyze and reach a decision on the proposals. Sign proposals are therefore held for years without a decision.
- ✧ WP.1 must set up a mechanism for timely review of sign proposals. This may or may not require funding.

To Promote Harmonization

- ✧ According to Article 8, ¶2, regional agreement is to be sought for new signs and symbols. It means notifying WP.1 of proposed new designs *before* they are finalized. Because this notification usually does not occur, as time passes, less rather than more harmonization of signage results.
- ✧ Including an item on every WP.1 meeting agenda that invites delegates to share new design proposals would ensure awareness of Article 8, ¶2, and should promote future harmonization if the sign review is timely.

To Promote Harmonization

✧ Redefine seeking “regional agreement” to include more changes to national sign codes – revision of sign definitions, revision of sign designs (symbol, color, shape), sign reclassification, and sign deletion. Changing signs creates as much disharmonization as not presenting proposals for new signs to WP.1. Redefining signs while retaining the symbols used in other countries may endanger cross-border road users on both sides of the border. The hazard is that foreign drivers may assume the symbol has the same meaning as it does in their country.