

Distr.: General
8 March 2022

Original: English

Economic Commission for Europe

Inland Transport Committee

Global Forum for Road Traffic Safety

Group of Experts on Road Signs and Signals

Second Informal session

Geneva, 14 March 2022

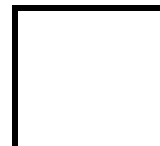
Item 2 of the provisional agenda

Submitted by S. Egger (FSV)

This document was prepared and submitted by Mr. S. Egger (FSV) as per paragraph 5 of report of the informal session of Group of Experts on Road Signs and Signals that took place on 4 February 2022.

Cycles in share roads

Date	2022-03-07
Autor:	Stefan Egger, Vienna, Austria stkegger@gmail.com
Version:	1.8



Content

0 INTRODUCTION.....	4
1 IMAGE CONTENT.....	4
1.1 Cycle road.....	4
1.1.1 Sign category	4
1.1.2 Colours.....	5
1.1.3 Use of sign C, 14 as a graphical component	5
1.1.4 Symbols	5
1.1.5 Recommendation	5
1.2 Share (space) road/zone.....	5
1.2.1 Sign category	5
1.2.2 Colours.....	6
1.2.3 Use of sign C, 14 as a graphical component	6
1.2.4 Symbols	6
1.2.5 Recommendation	6
1.3 Pedestrian road/zone.....	7
1.3.1 Sign category	7
1.3.2 Colours.....	7
1.3.3 Symbols	7
1.3.4 Recommendation	8
1.4 Residential area.....	8
1.4.1 Recommendation	9
1.5 Permission of additional vehicles/use.....	9
1.5.1 Recommendation	9
2 REGULATIONS.....	10
2.1 Cycle road.....	10
2.1.1 Analysis.....	10
2.2 Share road/zone	11
2.2.1 Analysis.....	11
2.3 Residential area.....	12
2.3.1 Analysis.....	12

2.4 Pedestrian road/zone 13
 2.4.1 Analysis..... 13

3 CONCLUSIONS..... 14

3.1 Proposed signs 14

3.2 On permission for other vehicles to use dedicated road space 14

3.3 On speed restriction signs used on other signs..... 15

3.4 On regulations..... 15

3.5 On ‘residential area’ 15

3.6 On “cycles in share roads” 16

4 ANNEX / EXAMINED SIGNS..... 16

Figures

Figure 1: Cycle road. Selected examples of examined variants

 4

Figure 2: Cycle road and cycle zone. Proposals

 5

Figure 3: Share zone. Selected examples of examined variants, compared to ‘residential area’

 6

Figure 4: Share road and share zone. Proposals

 7

Figure 5: Pedestrian zone. Selected examples of examined variants

 7

Figure 6: Pedestrian road and pedestrian zone. Proposals

 8

Figure 7: Residential area. Examined variants

 9

Figure 8: Bus lane. Selected examples of examined variants

 9

Figure 9: Proposed image content of new signs

 14

Figure 10: Bus lane. Use of additional panels for permitting other road users

 15

Figure 11: Examples using a C, 14 speed restriction sign on another sign. Not recommended

 15

Definitions

Convention	United Nations Convention on Road Signs and Signals, done at Vienna, 1968
Discriminability	The property of a graphical rendering allowing an observer to clearly visually separate (discern) smallest details from a greatest viewing distance possible.

European Agreement	European Agreement Supplementing the Convention
Image Content	All components of a Signal Aspect ⁸⁾ and their relative disposition
Meaning	Message that a graphical component ⁸⁾ is intended to convey

Introduction

The task to elaborate on the topic of "cycles in share roads" is in a way conflicting, as the Expert Group on Road Signs and Signals did not yet determine what a share road is or implies. "Sharing" may imply that all traffic participants are allowed to make equal use of road space. To achieve this, it may require to provide priority to one or more classes of vulnerable traffic participants (such as cyclists and pedestrians) over others.

To evaluate available forms of "sharing" traffic space, several signs of which many are not (yet) integrated into the Convention of Road Signs and Signals were taken into consideration. In particular, compulsory 'footpath', 'cycle track', 'bus lane', 'pedestrian street/zone', 'cycle road', 'share road/zone' were examined, since these signs all deal with the issue of prioritisation and integration of vulnerable road users. The collection of signs and related commentary are found in 4 "Annex".

Particular interest was taken into the visual appearance of the collected signs, since several may be considered for inclusion into the Convention. To prepare for this, the differentiation of image content of signs is an apparent issue. They should be easily to be told apart from each other and from the signs in the Convention. Image content should be as simple as possible, reduced to a necessary minimum, in order to be unambiguous and easy to learn, comprehend and recognize, and secure visually discriminability over distance.

Any image content of a possible new sign should follow the provisions (provided in writing or via graphical representations) of the Convention, in pursuit of not needlessly expanding its already complex graphical system.

After evaluation of the collected signs, recommendations on suitable image contents for signs to possibly be integrated into the Convention are given in chapter 1 "image content".

In order to support the Expert Group in the differentiation of the use and of signs possibly to be integrated into the Convention, regulations from several countries were collected, to be found in the Chapter 2, "Regulations".

Conclusions to be drawn from work documented in this paper are found in chapter 3 "Conclusions"

This study was generated within a period of four weeks.

Image content

Cycle road

Sign category

Two main categories were identified in the collected examples for the sign 'cycle road' – the 'E'-special regulation sign category (examples 26–29, 30i) and an alternative (also an 'E'-sign) which relies on the use of a 'D'-mandatory sign placed on a white ground (example 30), a custom currently reserved for the indication of a 'zone'.








					
26A)	27A)	28A)	29C)	30A)	30i)
					
E, 5a 'motorway'					

Figure 1: Cycle road. Selected examples of examined variants

Example 30) utilizes the sign D4 ‘compulsory cycle track’ (on white rectangular ground) which clearly gives the priority on cycle roads to cycle traffic. Yet, by the same token, sign E, 5 a ‘Motorway’, or E, 6a ‘road for motor vehicles’, could be represented by a D, 4 sign on a white ground. The logic of the graphical system of the Convention does not require to use a D, 4 sign to convey such a meaning, as the graphical representation of E, 5a) clarifies.

Colours

Since the use of colours should follow the provisions of the Convention, the colour red (see 26A) – if used as colour for symbols of road users – has the meaning of prohibition of overtaking, which seems acceptable, since it is meant to indicate that cycles have priority. But since the end of a ‘cycle road’ or ‘-zone’ is required to be communicated by an ‘end of-‘ sign, there would be no contrast between the red ‘car’-symbol and the red (negation-) bar overlaying the sign ‘cycle road’.

Colours providing insufficient contrast (as grey, see 27A), is not recommended.

Use of sign C, 14 as a graphical component

The use of a C, 14 ‘maximum speed limit to the figure indicated’ as a graphical component of the image content of another sign (see examples 27A) and 29C) is not covered by any provision of the Convention. The placement of C, 14 into a corner of the main sign in such a way that parts of C, 14’s circular border protruding beyond the edges of the main sign are cut off is not covered by provisions of the Convention. Since usually national legislation requires road signs to be maintained and intact in order for its meaning to be valid and enforceable if violated against, a practice as shown with C, 14 here should not be in the interest of the organisation managing and maintaining roads. That said, the C, 14 used as a graphical component results in C, 14 dimensions are very likely to be smaller than required by article 1.C.I.1. of the Convention.

Accordingly, C, 14 should not be used as a graphical component of another sign, and should not be altered by cropping edges. If a speed limit is required, this can be established by either including it into the rules concerning sign ‘cycle road’, as common practice with ‘E’-signs (e.g. E, 5a ‘motorway’), or adding an actual C, 14 sign to the post onto which the sign ‘cycle road’ is mounted.

Symbols

In order to communicate the priority of cyclists, no depictions of car-symbols “in the background”, may they be smaller than the ‘cycle’-symbol or may they be overlapped with a ‘cycle-symbol’, are necessary for correct comprehension, even more so, a single cycle should make the priority given to cyclists more obvious. If motorised traffic is allowed on cycle roads, a country may include this provision into the rules of the sign, or use additional panels to do so.

Recommendation

Following above reasoning, a symbol for ‘cycle’ is proposed to be used on the ground of a rectangular special regulation ‘E’-sign in order to signify a ‘cycle road’ (proposals 30E), 30F), as suggested by 30i). This sign used on a white ground would create a ‘cycle zone’ (30G), 30H).

Speed restrictions, if necessary, may be included into the signs regulations or presented by an added sign C, 14 ‘maximum speed limit to the figure indicated’. Vehicular traffic additionally allowed in ‘cycle roads’, if necessary may be included in the signs regulations or be shown by additional panels.

Inscriptions may be added, if required.

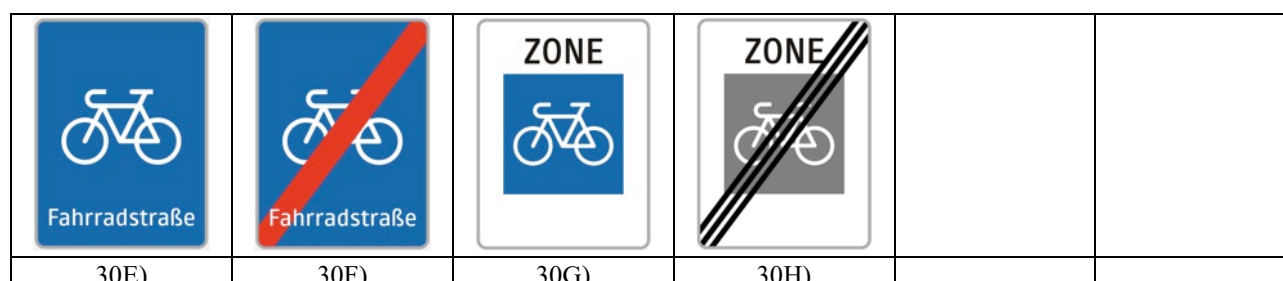


Figure 2: Cycle road and cycle zone. Proposals

Share (space) road/zone

Sign category

Most examples collected represent the concept of signs with zonal validity, although not all follow the rules concerning the visual representation of such signs according to the Convention (signs E, 9 to E, 10). An alternative (35A) follows E-signs such as E, 5a ‘Motorway’. The choice for ‘E’-signs seems appropriate.

Example (33A) represents an effort to combine signs with zonal validity with E-signs with blue ground in order to allow for differentiation to the visually very similar sign E, 17 ‘residential area’, included in the European Agreement), which is also in use in that particular country. One country avoided such confusion by decommissioning sign E, 17, substituted by example (34A).

If used without white ground, the blue signs on examples 33C) and 34A) may, despite highly detailed image content, very well represent a ‘share road’, as well as example 35).






					
33A)	33c)	34A)	35A)	E, 17a ‘residential area’	

Figure 3: Share zone. Selected examples of examined variants, compared to ‘residential area’

Colours

Examples 33C) and 34A) appropriately use a blue sign on a white ground representing a sign with zonal validity as required by the provisions of the Convention. The use of a blue special regulation ‘E’-sign of 35) seems as valid. 33A) resembles an ‘F’-Information sign, bearing a white inlay on blue ground, which must be deemed inappropriate.

Use of sign C, 14 as a graphical component

As described above (see 1.1.3) sign C, 14 ‘maximum speed limit to the figure indicated’ should not be used as a mere graphical component, as this is not covered by provisions of the Convention, nor should a C, 14 sign be altered by cropping off parts of the sign’s circular border.

If a requirement for a speed limit is given, this can be established by either including it into the rules of the sign, or adding an actual C, 14 sign to the post onto which the sign ‘share road’ (or share zone) is mounted.

The obvious resemblance of the found examples to the sign E, 17 might be the reason for inserting a C, 14 sign into the ‘share zone’ sign, being the only decisive (conspicuous) graphical component to allow for clear differentiation from E, 17.

Symbols

Several examples found accumulate the symbols for motorised traffic (passenger car), cyclists and pedestrians, which should adequately convey the concept of fairly sharing space among these kinds of road users represented by the symbols. Yet this creates a quite high graphical density and amount of information to be communicated, so more than three graphical components can by no means be found appropriate to establish a simple as possible image content, that can be learned, visually discriminated and comprehended in a road traffic environment. Still, while E, 17 ‘residential area’ does display even more graphical components (six) there is a very realistic danger that ‘share road’ may be confused with E, 17. Additional means to avoid confusion are required.

The Expert Group (EG), during the examination of sign D, 11b ‘combined compulsory footpath and cycle track’, noted that a more vulnerable road user should be placed on the upper part of a sign’s panel, in this case, the ‘pedestrian’ symbol above the symbol for ‘cyclist’. In many examples found for ‘share zone’, the symbol ‘passenger car’ is placed above all other symbols that represent the more vulnerable road users, which is opposed to above note of the EG.

The reason that on many found examples, the symbol ‘passenger car’ is, in relation to the other symbols on the sign rather small (maybe in the “background”), might be found in the attempt to indicate that the other road users are prioritised over motorised traffic, thus establishing fair use of space for all forms of traffic involved.

In the author’s opinion, the concept of sharing space equally requires (quite) equal dimensions of a maximum of three symbols, while placing more vulnerable road users above.

Recommendation

According to the above, a maximum of three symbols should be shown on a ‘share road’ sign, placed on a special regulation ‘E’-sign whose rectangular ground should be aligned vertically in order to better differentiate from E, 17 ‘residential area’. The three symbols should be ‘pedestrian’, ‘cycle’ and passenger car, representing the relevant road

user classes. If the proposed sign (36A) is placed on a rectangular white ground, a sign with zonal validity can be created.

Speed restrictions, if necessary, may be included into the signs regulations or presented by an added sign C, 14 ‘maximum speed limit to the figure indicated’. Vehicular traffic additionally allowed in ‘share roads’, if necessary may be included in the signs regulations or be shown by additional panels.

Inscriptions may be added, if required.

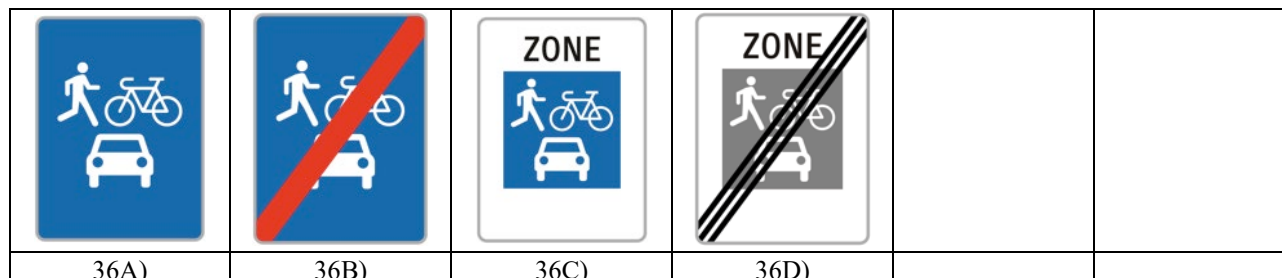


Figure 4: Share road and share zone. Proposals

Pedestrian road/zone

Sign category

In the review of the collected examples, all but one pedestrian zone signs follow the provisions of the Convention, as they are of the ‘E’-category. Two main approaches are evident, the 1st being signs with zonal validity with a white ground bearing a D, 5 ‘compulsory footpath’ (examples 31A–E), or a restrictive sign of category ‘C’ (32A), 32C), the 2nd in the form of ‘E’-signs of rectangular shape with a white symbol ‘compulsory footpath’ (examples 31G, H) placed upon blue ground. One example (31F) combines the rectangular special regulation sign with a white ground (zonal validity), which likewise is following the provisions of the Convention. Example 31i) takes the appearance of an ‘information’ ‘F’-sign while having underlying (special) regulations, just as an ‘E’-sign. This is not supported by the Convention’s provisions.

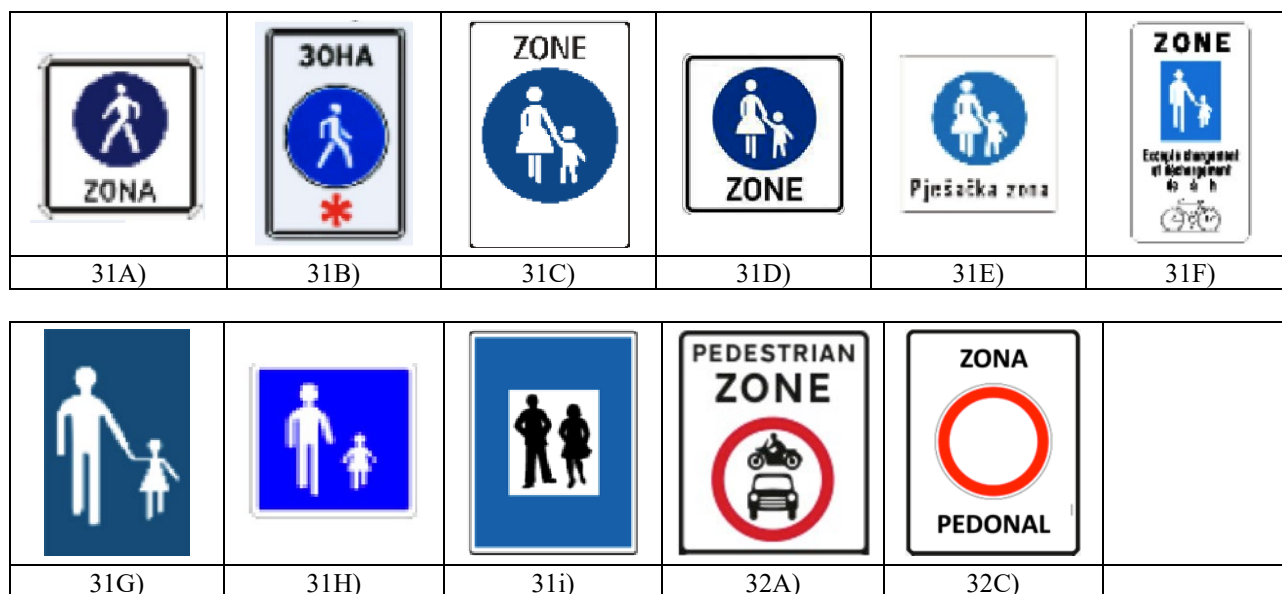


Figure 5: Pedestrian zone. Selected examples of examined variants

Colours

Except 31i), all examples use of colours and colour combinations reflect the provisions of the Convention.

Symbols

Examples (31A-H) show symbols used by sign D, 5 ‘compulsory footpath’, either ‘adult and child’, as supported by the Convention, or national equivalents where D, 5 is represented by a single ‘walking person’. Both seem acceptable and should be easily understood. Due to quite few graphical components, information density is very low, allowing ease of learning and good discrimination/ recognition over distance.

Example 31i)'s symbol consists of one female and one male adult, uniquely used on this sign. While it's composition should not impede comprehension, it cannot be supported to have an additional symbol needlessly expand the total number of graphical components of the Convention's graphical system.

Examples (32A and 23C) very clearly communicate the restrictions implemented for the benefit of pedestrians, never the less it is deemed more intuitively comprehensive to directly identify the category of road user which has priority in the pedestrian zone by the symbol representing the category: 'adult and child' (or 'walking person')

Recommendation

As the found approaches to the sign 'pedestrian zone' seem equally permissible, it seems appropriate to raise the issue of the soundness of meaning in order to come to conclusions. Concerning the approach including a D, 5 'compulsory footpath' on a white zonal validity ground (examples 31A–E): The blue circular ground incorporates 'compulsory', which means that pedestrians have to use – and other traffic (exceptions may be applied) – is not allowed to use the "path", which is defined in the Convention as:

"Sign D, 5 "COMPULSORY FOOTPATH" shall notify pedestrians that the path at the entrance to which it is placed is reserved for them, and shall notify other road users that they are not entitled to use that path. Pedestrians shall be required to use the path if the path is running along a carriageway, cycle track or track for riders on horseback and leading into the same direction.."

Accordingly, the term "path" would make sign D, 5 be appropriate to be used for 'pedestrian roads', roads being of a merely onward, narrow, longitudinal nature, which is opposed to the meaning of 'zone', where e.g. several roads are "combined" to represent a surface area. In this regard, in order to maintain a consistent logical framework in the Convention's system, throughout all it's graphical components, it seems more appropriate to apply only the symbol of D, 5 'adult and child' on a rectangular special regulation 'E'-sign. Such practice allows to avoid the meaning of "path", contradicting "zone", while allowing for any required regulation to be attributed to the sign ('pedestrian road' examples 32D, 32E).

By placing this sign on a white 'zonal validity' ground, a 'zone' sign is created (examples 32F, 32G).

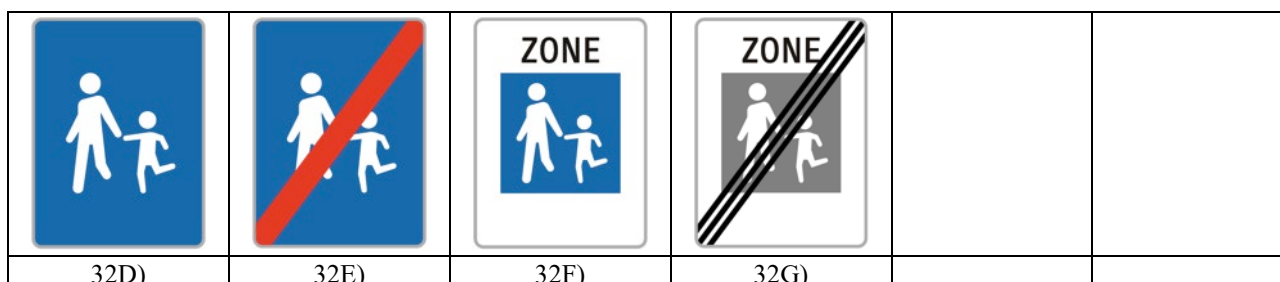
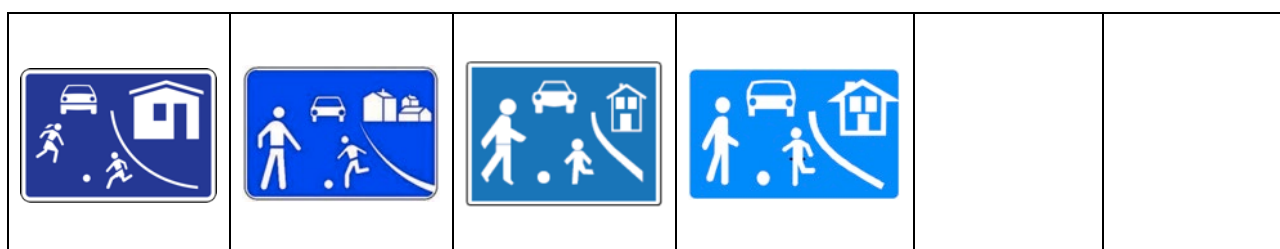


Figure 6: Pedestrian road and pedestrian zone. Proposals

Of course, from a pedestrian's point of view, the differentiation between a longitudinal-oriented space or a wider area may seem irrelevant, as pedestrians move back, forth and crosswise, with this having the experience of a zone, regardless of the shape of space. So it might be unnecessary to have or apply a 'pedestrian road', as seen in examples 32D) and 32E). 'Pedestrian zone' (32F, 32G) may be sufficient in all occasions. s

Residential area

As expressed earlier, the sign D, 17 'residential area's' graphical representation is unfortunately close to the one of 'share zone', which makes confusion quite likely. Adding to this, some countries have integrated regulations into D, 17 that differ significantly. For instance, in Latvia and Portugal a maximum speed of 20 km/h is mandated, while in Austria and Germany, it is walking speed. In both countries, aside from pedestrians, cycles are prioritised in both countries, but to a different degree. Representatives from Portugal describe the residential area to be "specially designed for shared use by pedestrians and vehicles".



38A)	39A)	40A)	E, 17a 'residential area'		
------	------	------	---------------------------	--	--

Figure 7: Residential area. Examined variants

Recommendation

It should be attempted by the Expert Group to clearly specify the meanings of the signs 'share road/street' and 'residential area', in order unambiguously separate the signs' purposes. Possibilities are provided in chapter 3 "Conclusions".

Permission of additional vehicles/use

The permission of vehicles or use of traffic space which otherwise is dedicated to specific road users, like pedestrians in a pedestrian zone, or buses in a bus lane, is done by countries in "implicit" or explicit" ways: For example, Switzerland (5A) and Austria (5C) require an additional panel to be added ("explicit") to the mandatory sign 'compulsory bus lane' found in sign E, 2a in order to have cyclists (or other vehicles) allowed on the lane. For this practice, it seems to be necessary to point out that on the additional panel, the word "except" should not be used. The United Kingdom (11A, 12A) follows this approach, but does not apply a visual frame that would represent the contour of the additional panel. Both examples (11A, 12A) seem to convey the intended meaning.

In an implicit way followed by France (2B) and Sweden (3A), additional panels are not required. The allowance for cyclists to use the bus lane are embedded in the sign's regulation. Of course, this requires cyclists to be aware of the rules in order to use the lane, while on the other hand side, the amount of information is reduced, which is a positive aspect.

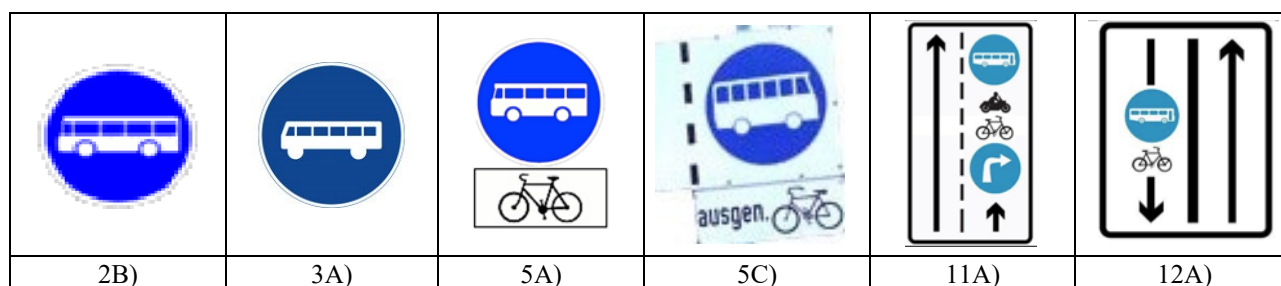


Figure 8: Bus lane. Selected examples of examined variants

Recommendation

The choice for an implicit or explicit way to give permission for additional vehicles seems up to the customs of signatory countries of the Convention. If permission is granted through an additional panel, the term "except" should not be added, as in example (5A).

Regulations

Equal to determining adequate image content for the new signs discussed in the chapter above, it seems essential to look at the regulations already used for these signs. Doing so, it is expected to allow for gaining insights if regulations of the new signs overlap, or possibly overlap with signs in the Convention. In addition, by establishing the rules (most) commonly used for a sign, it is deemed to simplify the creation of descriptions for the new signs possibly to be put into the Convention. The following collection of regulations does not claim completeness.

Cycle road

	Austria	Belgium	Finland	Germany	Sweden	Slovakia
Speed						
30 km/h	YES	YES	Adjust to speed of cyclists	YES	Adjust to speed of cyclists	YES
Priority						
Cyclists have priority						YES
Parking						
Only in specified areas			YES		YES	Parking is allowed only on marked parking lots
Other vehicles allowed						
Emergency and maintenance, rail and bus lines	YES	All vehicles are allowed in cycle streets				
More through announcement (additional panels)	YES			YES		
Crossing of cycle streets by any vehicle allowed	YES					
Other traffic only allowed for residents, or only one-way traffic				YES		
Motor vehicles only when it is allowed by an additional panel						YES
Motorists' driving behaviour						
Driving behaviour that does not endanger or hinder cyclists	YES		YES	YES		Cyclists are not be endangered. Overtaking only with lateral distance of at least 1.5 m
Cyclists not to be overtaken		YES				
Cyclists' behaviour						
May use the whole width of the carriageway in one way streets		YES May use whole width of the right hand side of the carriageway in two way streets		Cycles allowed to ride abreast	Cycles required to ride on outer side (national rule). Riding abreast not forbidden.	Cyclists may use the full width of the cycle road determined for their direction of ride.

Analysis

Speed

In general, among the examples investigated, it is common for countries (6 out of 6) to issue maximum speeds of 30 km/h (which is about the speed cycles are designed for), or the requirement for other vehicles to not go beyond the speeds of cyclists. This does provide priority to cyclists quite effectively, as well as the prohibition of one country for motorists to not overtake cyclists.

Motorists' behaviour

The rule to not endanger (or hinder) cyclists is present in 5 out of 6 countries' regulations.

Use of lane/carriageway

Somewhat less common is a preference for allowing cyclists to utilize the entire carriageway, or in roads with two way traffic, to use the entire width of the lane labelled as a cycle road.

Share road/zone

	Austria	Belgium	Slovenia	Switzerland	
Speed	20 & 30 km/h	20 km/h	20 & 30 km/h	20 km/h	
Priority					
Pedestrians have right of way over all vehicles			Space shall be shared by all traffic participants in accordance with the principles of road transport	YES	
Parking					
Motorists-parking only allowed in designated areas		YES			
Where parking is allowed, vehicles may be placed left or right in the direction of driving		YES			
Parking for cyclists according to general rules				YES	
Motorists' driving behaviour					
Drivers of vehicles may neither endanger nor impede pedestrians and cyclists	YES		Drivers of vehicles may not endanger pedestrians		
Pedestrian's behaviour					
Pedestrians may use the entire carriageway	YES		YES	YES	
Pedestrians must not intentionally obstruct vehicle traffic	YES	Pedestrians must not obstruct vehicles (traffic) unnecessarily		Pedestrians must not obstruct vehicles (traffic) unnecessarily	
Cyclists' behaviour					
May ride side by side if other traffic is not obstructed				YES	
Infrastructure					
Infrastructural rebuilding at entrance and exit of the zone required				YES	
Installation of pedestrian crossings is not allowed				YES	

Analysis

Speed

4 out of 4 countries decree a speed of 20 km/h, while 2 of 4 give the option to implement 30 km/h. Such variability requires for an additional C, 14 sign 'maximum speed limit to the figure indicated', see also 1.1.3 and 1.2.3. If only one speed limit is applied country-wide for this sign, no C, 14 is required, and the speed limit may be included in the sign's regulations.

Use of entire width of lane/carriageway

3 of 4 countries allow for the usage of the entire carriageway for pedestrians.

Traffic obstruction caused by pedestrians

Regulations from 3 of 4 countries required pedestrians not to obstruct vehicle traffic needlessly/unnecessarily.

Residential area

	Austria	Latvia	Portugal	Germany
Speed	Walking speed	20 km/h	20 km/h	Walking speed
Priority		Pedestrians and cyclists have priority	Specially designed for shared use by pedestrians and vehicles.	Vehicles are required to wait on pedestrians if necessary
Prohibited users				
Vehicular traffic is prohibited	YES			
To be allowed by authorities	Cycles, road maintenance, garbage collection, public security services and fire brigades as well as traffic to access to/depart from residences.			
Pedestrians' behaviour				
Pedestrians may play on and use the carriageway	YES	Pedestrians and cyclists permitted to move on the carriageway	YES	YES
Permitted vehicle traffic must not be intentionally obstructed	YES	Pedestrians and cyclists are prohibited from unjustifiably disturbing the movement of other vehicles	YES	Permitted vehicle traffic must not be obstructed unnecessarily
Cyclists' behaviour				
Required to ride on the side of the road			YES	
Required to not endanger or disturb pedestrians			YES	
Other traffic must not be disturbed			YES	
Motorists' driving behaviour				
Drivers of vehicles may not impede or endanger pedestrians and cyclists	YES			Drivers of vehicles may not impede or endanger pedestrians.
Vehicles are required to wait or stop if necessary			YES	YES
Lateral distance of 1.5 m from a bicycle when overtaking			YES	

Analysis

Speed

2 out of 4 countries apply a 20 km/h speed limit, and 2 decree walking speed for 'residential area'.

Pedestrians

Pedestrians are allowed to use the entire carriageway, and play there, yet they shall not intentionally or unnecessarily obstruct other traffic (4 out of 4 countries).

Priority

Priority for pedestrians and cyclists is specifically promoted in Portugal and Latvia (2 out of 4 countries).

Motorists' behaviour

2 out of 4 countries require motorists to not impede or endanger pedestrians, and are required to wait or stop if necessary.

Pedestrian road/zone

	Austria	Germany	Sweden	Slovakia
Speed	Walking speed	Adjust to pedestrians	Walking speed	20 km/h
Priority		Pedestrians	Drivers must yield to pedestrians	
Parking		No special regulations		Parking is allowed only on marked parking lots
Prohibited users				
All vehicular traffic is forbidden, cycles must be pushed	YES	Road users other than pedestrians must not use the pedestrian zone	Motor vehicles are not allowed to be driven other than to cross it.	
Allowed by authorities (additional panel)	Loading or unloading, picking up or drop off by taxis, animal drawn vehicles or rented cars	YES	Deliveries of goods to or from shops	
	Picking up/d disembarking of guests of hotels		Transport of goods or accommodation to or from the address at the pedestrian street, transport of guests to or from hotels	
	Cycles			Cyclists (any vehicles) are allowed only when the additional panel is displayed.
	Access of motor vehicles of handicapped citizens		Transports of sick or disabled people to or from the address at the pedestrian street.	
Pedestrians' behaviour				
May use the entire carriageway	YES	YES		YES
Must not intentionally obstruct allowed vehicle traffic.	YES			
Vehicle drivers' behaviour				
Pedestrians can not be endangered or impeded.		YES		YES

Analysis

Speed

3 of 4 countries adhere to the speed of walking. One country applies 20 km/h for maximum allowed speed.

Pedestrians

Pedestrians may use the entire carriageway, as applied in 3 out of 4 countries.

Vehicular traffic generally forbidden

In three of 4 countries, vehicular traffic is forbidden, unless allowed by additional panels.

Conclusions

Proposed signs

As the topic of “cycles in share roads” is very broad and vague, not only since the Group of Experts did not yet determine ‘share roads’, several signs already bearing a “sharing” character were examined. As many of those are pending (possible) integration into the Convention, in order to clearly distinguish them from one another and from the signs in the Convention, the signs ‘cycle road/zone’, ‘share road/zone’, ‘pedestrian road/zone’ were created along the way, following research done since 2005, the provisions of the Convention and the logic of it’s graphical system. In addition, it was carefully attempted to produce these signs in such a way that their image contents are as simple as possible without suffering loss of clarity of the messages conveyed. This simplicity is key for the ease of learning, recognition, comprehension and distance discriminability. The signs are depicted as follows. It is open for the Expert Group which signs to include into the Convention.

For details on the examination and reasoning behind the proposed signs see chapter 1 “image content”.

Cycle road and -zone

30E) Cycle road	30F) End of cycle road	30G) Cycle zone	30H) End of cycle zone		

Share road and -zone

36A) Share road	36B) End of share road	36C) Share zone	36D) End of share zone		

Pedestrian road and -zone

32D) Pedestrian road	32E) End of pedestrian road	32F) Pedestrian zone	32G) End of pedestrian zone		

Figure 9: Proposed image content of new signs

On permission for other vehicles to use dedicated road space

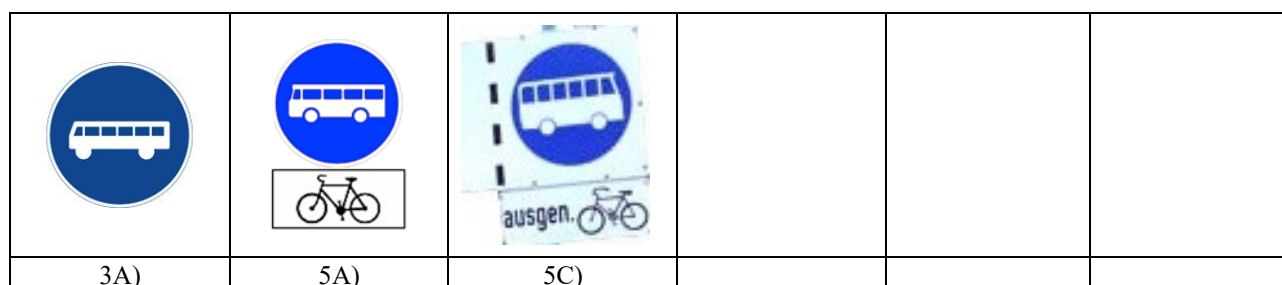


Figure 10: Bus lane. Use of additional panels for permitting other road users

If permission is granted through an additional panel, the term “except” should not be added (see 5C), but omitted, as in (5A). If a country wishes to generally allow a certain type of vehicle on bus lanes, a additional panel is obsolete, see (3A). This practice should be applied to the new signs proposed in this document.

On speed restriction signs used on other signs

The provisions of the Conventions do not allow for the use of C, 14 as shown below in Figure 11, nor that the circular red border of C, 14 is (partially) cropped. Speed restrictions, if necessary, may be included into the signs regulations or presented by an added sign C, 14 ‘maximum speed limit to the figure indicated’.

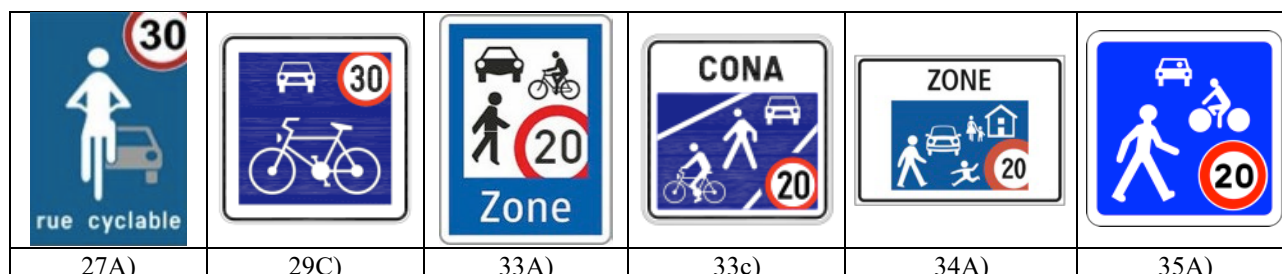


Figure 11: Examples using a C, 14 speed restriction sign on another sign. Not recommended

The obvious resemblance of the found examples to the sign E, 17 ‘residential area’ might be the reason for inserting a C, 14 sign into the ‘share zone’ sign, being the only decisive (conspicuous) graphical component to allow for a clear differentiation from E, 17.

On regulations

Unsurprisingly, speed regulation is used most often by countries to ensue the desired mode of traffic. If the maximum allowed speed is adjusted to a specific road user, either by issuing a clear limit (such as 30 km/h for cyclists, found in ‘cycle roads’) or by a provision that speed is to be adjusted according to current traffic of the specific road user, safety for this user is raised, and priority is (indirectly) provided. The rule to adjust to actual speed of the specific user (pedestrians or cyclists) currently prevalent on the road seems to have the advantage of preventing overtaking manoeuvres performed by motorists, thus increasing safety.

In a ‘pedestrian zone’, walking speed seems to be highly appropriate. A speed limit of 20 km/h in a pedestrian zone (as commonly found in the shared zone) downgrades the clear preference for pedestrians, posing a very possible threat to vulnerable road users. Through this, the subjective perception of safety of pedestrians may turn negative, thus reducing the use (and success) of a ‘pedestrian zone’.

The speed limits found for ‘residential area’ are divided: 2 of 4 countries use 20 km/h (as in ‘shared zone’), 2 use walking speed, as for the ‘pedestrian zone’. The countries employing 20 km/h specifically define the ‘residential area’ to be intended for share use of pedestrians and cyclists, by providing priority to those user groups.

On ‘residential area’

Since the mainly used model of ‘share zone’ originates from ‘residential area’, it seems plausible to provide ‘residential area’ with “sharing” characteristics, yet this creates a clear conflict with ‘share road/zone’– also in relation to the visual appearance of both signs (see Figure 3). It is recommended to

- a) have regulations and appearance for both signs to be designed to be clearly differentiated (as attempted in this document).
- b) Additionally, the Expert Group may attempt to implement either ‘share road/zone’ or ‘residential area’ into the Convention, possibly modifying ‘residential area’ to have a more ‘sharing’ character, but since this sign allows for children to play on the carriageway, it is






discouraged to do so (unless the image content of the sign 'residential area' is altered), as playing requires a very low (preferably walking-) speed limit.







On "cycles in share roads"





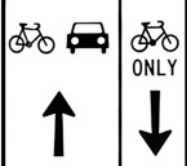


Given the speed limits implemented in 'share zones', but also in some variations of 'residential area' (20km/h, 30 km/h), there is an obvious desire to strengthen the position of cyclists in mixed traffic situations. Additional measures to do so, e.g. by allowing cyclists to use the entire carriageway, or to ride abreast, support this notion. This should encourage the Expert Group to consider solutions to foster cycle traffic, possibly following the proposals of this document.




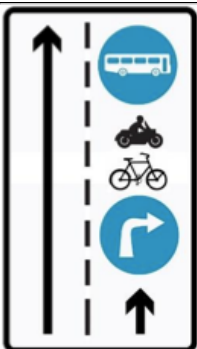
Annex / examined signs

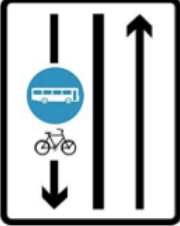
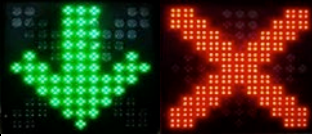
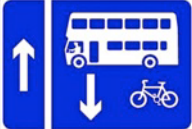



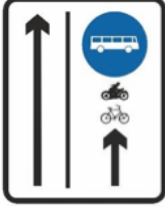


Excerpts from Informal Document No.2 (ECE-TRANS-WP.1-GE2-2019-Informal-2e.pdf). Original Text of Doc. No. 2 is marked in grey. Additions are black on white. An online investigation was conducted, several Experts of the Group contributed with depictions and descriptions/comments.





No.	Sign image	Sign description	Countries using the sign	Experts observations
1A)		Exclusive lane for cars and cyclist	Greece	France: Not used in France panel only with cycles without another picture IROSI: The Convention's D Category should be modified to permit images of road users beyond pedestrians and cyclists. The maximum number of images on the signs should be discussed: 2 or 3? Switzerland: Specific sign not used
2A)		Exclusive lane for busses and cyclist	UK Malta Cyprus Australia LMIC Greece	France: Not used in France  Panel only with bus without another picture but cycles can use the bus way Switzerland: Specific sign not used, However, vehicles that are additionally allowed to use the bus lane may be indicated on an additional panel under the Bus sign (Art. 26bis par. 3 of the Convention),as in 5A).
2C)		Footway or footpath	Germany Slovakia	Germany: 1. Road users other than pedestrians must not use footways or footpaths. 2. If supplementary signs permit use of a footway or footpath by another type of road user, these road users must show consideration for pedestrians. Pedestrians must be neither endangered nor impeded. If necessary, vehicular traffic must wait; it may only move at walking pace. Slovakia: Cyclists may drive on the footpath only when allowed by an additional panel displayed. Without additional panel, only children under 10 years and cyclists carrying them may use the footpath. Pedestrians can not be endangered or impeded.
2D)		Shared route for pedestrians and pedal cycles only	Germany	Germany: 1. Pedal cyclists must not use the carriageway; they must use the shared route for pedestrians and pedal cycles (mandatory use of cycle tracks). 2. Other road users must not use it. 3. If supplementary signs permit use of a shared route for pedestrians and pedal cyclists by another type of road user, these road users must show consideration for pedestrians and pedal cyclists. If necessary, vehicular traffic must adapt its speed to that of the pedestrians.

No.	Sign image	Sign description	Countries using the sign	Experts observations
2E)		Common pedestrian and cycle track	Slovakia	Slovakia: Cyclists shall not endanger pedestrians.
3D)		Segregated track and path for pedal cycles and pedestrians	Germany Slovakia	<p>Germany: 1. Pedal cyclists must not use the carriageway; they must use the cycle track of the segregated track and path for pedal cycles and pedestrians (mandatory use of cycle tracks). 2. Other road users must not use it. 3. If supplementary signs permit use of a segregated track and path for pedestrians and pedal cycles by another type of road user, these road users may only use the track reserved for pedal cyclists. 4. The other road users must show consideration for pedal cyclists. If necessary, other vehicular traffic must adapt its speed to that of the pedal cyclists.</p> <p>Slovakia: Pedestrians and cyclists are obliged to use only the part of the track designated for them, except passing, overtaking, turning and entering/leaving the track. In these cases they can not endanger each other.</p>
4D)		Cycle track	Germany	<p>Germany: 1. Pedal cyclists must not use the carriageway; they must use the cycle track (mandatory use of cycle tracks). 2. Other road users must not use it. 3. If supplementary signs permit use of a cycle track by another type of road user, these users must show consideration for pedal cyclists and the other vehicular traffic must, if necessary, adapt its speed to that of the pedal cyclists.</p>
3A)		Start and end of a mandatory lane for vehicles in regular passenger traffic, etc	Sweden	Sweden: The traffic rule for this sign says that cycles and light mopeds also are allowed to be driven in the lane. No other vehicles are generally allowed in the lane.
3B)				
3C)		Dedicated bus lane	Germany	<p>Germany: 1. Vehicles other than regular service buses and vehicles carrying schoolchildren or disabled persons that have to be marked with the school bus sign under legislation governing the carriage of passengers must not use dedicated bus lanes. 2. Ambulances, taxis, pedal cycles and buses operating occasional services may use a dedicated bus lane only if this is indicated by supplementary signs. 3. Taxis may stop at bus stops (sign 224) to pick up or set down passengers without delay. 4. Electrically powered vehicles may use a dedicated bus lane only if this is indicated by a supplementary sign</p>








No.	Sign image	Sign description	Countries using the sign	Experts observations
4A)		Exclusive track ...	LMIC example	
5A)		Exclusive lane for buses and cyclists	Switzerland	IROSI: Some CPs display D bus sign with cycle image on an H panel. Some NCPs add text "Only" to sign or on an H panel.
5B)		BUS lane	Slovakia	Cyclists may use the BUS lane only if allowed by the additional panel displayed.
5C)		Exclusive lane for buses and cyclists	Austria	Egger: As 5A) the additional panel indicates the allowed use of the lane by cyclists, despite the that 5C) uses the additional inscription "except", while 5A) does not.
6A)		Tracks for cyclists and ... car traffic?	Australia	
7A) 7B)		Lane for buses and cycles	United Kingdom	IROSI: These UK signs are seen at intersections.
8A) 8B)		Start of shared lanes	United Kingdom	IROSI: These UK signs are seen at intersections.









No.	Sign image	Sign description	Countries using the sign	Experts observations
8C)				
9A) 9B)		Start of shared lanes	Ireland	IROSI Ireland's signs indicate whether the lane is on the left or right side of the road.
10A) 10B) 10C)		Start of shared lanes	Spain	
11A)		Within flow lane reserve for public transport, motorcycles, cyclist and right turners	UK Ireland Cyprus Greece	<p>(This sign is installed at a junction).</p> <p>France: Not used in France</p> <p>IROSI: The Greek sign on the left would not be installed at an intersection, but rather ahead of an intersection according to sign D1a.</p> <p>Switzerland: Swiss Traffic law does not know this sign. IN Switzerland, bus lanes are generally not used for right-turners (motorvehicles or motorbikes).</p>



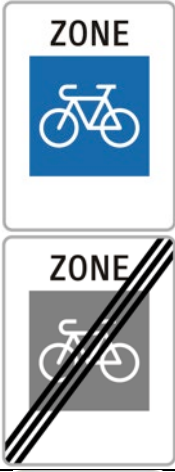

No.	Sign image	Sign description	Countries using the sign	Experts observations
12A)		Shared contra flow lane reserve for public transport and cyclist.	Ireland Estonia Greece	<p>France: In France, C24c (12B) signs indicate specific traffic conditions such as the number of lanes, direction of travel per lane, or lanes, direction of travel per lane, or indications concerning one or more lanes of the of the divided roadway.</p> <p>Switzerland: Swiss traffic law does not know this sign. Contra flow lanes are not common in Switzerland (except for cycle lanes).</p> <p>IROSI: The US marks contraflow lanes with VMS only: a downward green arrow or a red X above the lane.(12C)</p> 
13A)		Shared counter flow lane	Ireland?	
14A) 14B) 14C)	  	Shared counter flow lane	Estonia?	<p>IROSI: Estonia's signs highlight the Convention's lack of examples of E and G cross traffic signs. When contraflow is concerned, driver error may lead to oncoming crashes. Harmonizing all types of contraflow signs should be a top priority. The contraflow fixed signs are not as clear as they should be and may be hazardous particularly to cross-border road users.</p>
15A)		Shared within flow lane reserve for public transport, motorcycles, cyclist	UK Ireland Hungary Spain Australia Greece	<p>Switzerland: This sign is used in Switzerland in a slightly different form as a separate “Display of lanes with restrictions”:</p>  <p>Example: Instead of the max speed other signs may be used (including the sign “Bus Lane”)</p>
16A)		Shared within flow lane	United Kingdom	

No.	Sign image	Sign description	Countries using the sign	Experts observations
16B)				
17A)		Shared within flow lane	Ireland	
18A) 18B) 18C)		Shared lane	Australia	
19A) 19B) 19C) 19D)		Cyclists may use full lane	US LMIC	






No.	Sign image	Sign description	Countries using the sign	Experts observations
20A) 20B) 20C)		Safe distance for driving beside or overtaking cycles	USA Australia Europe	<p>IROSI: I worked with the US federal government on designing a sign for safe minimum distance. Due to the many variations in safe distances based on vehicle size and speed, it was determined to be too complicated to set a federal standard.</p> <p>Examples are from localities in the US, Australia, and Europe</p>
21A)		Warning of shared road space	Australia	<p>IROSI: The shared streets outside Europe do not assign priority to cars or cycles. Examples are from the US, Canada, and an LMIC.</p>
22A) 22B)		Start and end of a walking street	Sweden	<p>Sweden: Drivers must yield to pedestrians on the street. Vehicles including cycles must be driven in “walking speed”</p> <p>On a pedestrian street, motor vehicles are not allowed to be driven other than to cross it. However, such vehicles may be driven on pedestrian streets if necessary for</p> <ol style="list-style-type: none"> 1. deliveries of goods to or from shops or the equivalent at the pedestrian street, 2. transport of goods or accommodation to or from the address at the pedestrian street, 3. transport of guests to or from hotels or the equivalent at the pedestrian street, or





No.	Sign image	Sign description	Countries using the sign	Experts observations
				4. transports of sick or disabled people to or from the address at the pedestrian street.
23A)		Road reserved to agricultural vehicles, pedestrians, cyclists and pedestrians where specific rules apply.	Belgium	(is more or less the same as the walking street of Sweden and the pedestrian street of Chile, Austria (square blue sign with symbol of a bicycle and/or pedestrian) Switzerland: Swiss traffic law does not know this combination of symbols on a sign.
23B)				
24A)		Greenway - This route is reserved for pedestrian and non-motorized vehicle traffic	France	
25A)		Quiet Lane	United Kingdom	IROSI: The UK's similar sign permits cars.
26A)		Start and end of a cycling road	Belgium Netherlands	Something like that should be shown in the convention (but the colour red should be avoided) France: Not used in France Egger: In cycle lanes, cyclists may use the full width of the carriageway if it is a one-way street in their direction of travel, or the right half of it if the carriageway is open to both directions. Motorized vehicles may use cycle lanes, but may not overtake cyclists. A maximum speed of 30 km/h applies on cycle lanes.
26B)				Switzerland: has done various tests for so-called bicycle lanes, and this sign was also tested. In the end, the sign was not included in the law. However, it is not impossible that the sign will be included in the law in the future.
27A)		Start of a cycling road	Luxembourg (slightly different sign)	Newly introduced in Luxembourg: Cycling road. Cars allowed but no priority. (in Luxbg: C,2 included) France: Not used in France IROSI: My presentation for the 20th GERSS session points out that CPs have signs for cycle streets, cycle zones, and cycle street zones. The definition of these signs needs clarification. The Convention does not have a provision for adding speed limits within signs. Switzerland: See Swiss comment to (26) above. The







No.	Sign image	Sign description	Countries using the sign	Experts observations
				signal tested in Switzerland did not include a speed limit but was tested in tempo 30 zones.
28A)		Start and end of a cycling road	Finland	<p>France: Panel only with car ou cycle without another picture</p> <p>Egger: Cyclists define the speed, and other vehicles let the cyclists have a free way to move. Ride on the right side of the lane.</p> <p>Switzerland: See Swiss comment to (26) above.</p>
28B)				
29A)		Start and end of a cycling road	Sweden	<p>Sweden: There are some traffic rules combined with the sign (30 km/h, No parking other then on specific parking areas, adjustment of vehicle speed to cyclists)</p> <p>Switzerland: See Swiss comment to (26) above.</p>
29B)				
29C)		Cycle road	Slovenia	<p>Egger: The sign indicates roads that are primarily intended for cycles and other non-motorized users, as well as for motor vehicles whose maximum permitted speed must not exceed 30 km/h.</p>
29D)				
30A)		Cycle road	Austria	<p>Egger: Cycle street In a cycle street, all vehicular traffic is prohibited except for cycles; this does not apply to vehicles of the road maintainance and the garbage disposal as well as rail vehicles and buses in regular service, public security service and the fire brigade, ambulance, provided that the starting- or end point of the patient transport is located in the cycle road, or driving for the purpose of entering and exiting. (2) ...other vehicles than those specified in para. 1 may be permanently or time restricted permitted. Crossing cycle lanes is permitted in any case. (3) The maximum speed is 30 km/h. Cyclists must not be endangered or hindered.</p>
30B)				





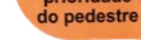





No.	Sign image	Sign description	Countries using the sign	Experts observations
30C) 30D)		Cycle road	Germany	<p>Germany: 1 . Vehicles other than pedal cycles must not use cycle-only roads unless this is permitted by supplementary signs. 2 . The maximum speed for vehicular traffic is 30 km/h. Pedal cyclists must be neither endangered nor impeded. If necessary, motor vehicles must further reduce their speed. 3 . Pedal cyclists may ride two or more abreast. 4 . In all other cases, the rules governing use of the carriageway and right of way apply.</p> <p>Switzerland: See Swiss comment to (26). We are rather in favor of a sign of the type used Belgium, Luxembourg, Finland or Sweden to prevent a confusion with the sign for cycle paths.</p>
30E) 30F)		Cycle road	Proposal	<p>Egger: Proposal</p>
30G) 30H)		Cycle zone	Proposal	
30i) 30J)		Cycle road	Slovakia	<p>Slovakia: A brand new sign/rules (since 1. 3. 2022); never used in practise yet. Cyclists may use the full width of the cycle road determined for their direction of ride. Maximum speed is 30 km/h. Motor vehicles may ride in the cycle road only when it is allowed by the additional panel displayed. Cyclists have priority, they can not be endangered and they can be overtaken only with a lateral distance of at least 1,5 m. Parking is allowed only on marked parking lots.</p>

No.	Sign image	Sign description		Experts observations
				
31A)		Pedestrian zone	Latvia	
31B)		Pedestrian zone	Russian Federation	
31C)		Pedestrian zone	Slovenia	
31D)		Start of a pedestrian zone	Germany	2. If supplementary signs permit use of a pedestrian zone by another type of road user, paragraph 2 to sign 239 applies mutatis mutandis to vehicular traffic.
31E)		Pedestrian zone	Croatia	
31F)		Pedestrian zone	Belgium	
31G)		Pedestrian zone	Luxembourg	

No.	Sign image	Sign description	Countries using the sign	Experts observations
31H)		Pedestrian zone	France	
31i)		Pedestrian zone	Austria	<p>Egger:</p> <ul style="list-style-type: none"> o All vehicular traffic is forbidden, cycles must be pushed o Maxium speed: walking speed o Loading or unloading, picking up or drop off by taxies, animal drawn vehicles or rented cars can be allowed by authorities o Picking up/disembarking of guests of hotels can be allowed by authorities o Cycles can be allowed by authorities o Access of motor vehicles of handicapped citizens can be allowed by authorities o Pedestrians may use the entire. However, they must not intentionally obstruct allowed vehicle traffic.
31J)		Pedestrian zone	Slovakia	<p>Slovakia: Pedestrians may use the whole width of the zone. Cyclists (any vehicles) may ride in the pedestrian zone only when it is allowed by the additional panel displayed.</p> <p>Pedestrians can not be endangered or impeded.</p> <p>Parking is allowed only on marked parking lots.</p> <p>Max. speed is 20 km/h.</p>
32A) 32B)		Pedestrian zone	United Kingdom	<p>IROSI: The most “correct” version of the pedestrian zone sign prohibits vehicles, with or without exceptions, and requires text to define the type of zone. It is unlikely that signs lacking an image of pedestrians will find approval.</p>
32C)		Pedestrian zone	Portugal	

No.	Sign image	Sign description	Countries using the sign	Experts observations
32D) 32E)		Pedestrian road	Proposal	
32F) 32G)		Pedestrian zone		
33A) 33B)		Share(d) space zone	Austria	<p>Any sign with a zonal application shall be made in accordance with para 8, see page 47.</p> <p>Egger, Maximum speed: 20 or 30 km/h</p> <ul style="list-style-type: none"> o Drivers of vehicles may neither endanger nor impede pedestrians o Drivers of motor vehicles must neither endanger nor impede cyclists. o Pedestrians may use the entire carriageway in share space zones. However, they must not intentionally obstruct vehicle traffic. <p>Sign does not follow provisions for zones “light cloured ground”) as required by the Convention.</p>
33C) 33D)		Shared space zone	Slovenia	<p>Egger: A place in a settlement where an area of common traffic space begins/ends. Versions for 20 and 30 km/h speed limit exist.</p>

No.	Sign image	Sign description	Countries using the sign	Experts observations
34A)		Share space zone	Switzerland	<p>Egger: To avoid confusion, Switzerland has omitted sign E, 17 residential area.</p> <p>Switzerland: This sign is called “encounter zone” (with a maximum speed of 20 km/h; right of way for pedestrians, also over bicycles).</p>
35A) 35B)		Share space zone – Beginning and end of a share space zone	France	<p>IROSI: Examples of shared zone signs from Canada, Australia, and New Zealand:</p>  <p>35C) 35D) 35E) 35F) UK</p> <p>IROSI: Again, the Convention does not have a provision for adding speed limits within signs.</p>
36A) 36B)		Share (space) road	Proposal	<p>Egger: Proposal: According to research (Egger S. (2018)), done for the Slovenian Ministry of infrastructure, this sign was proposed for use. By inserting the sign onto a white ground, zonal validity can be accomplished, according to Article 13, 4. It is not encouraged to integrate a speed restriction sign into this sign.</p> <p>IROSI: This Canadian H Panel (36E) is the only sign whose image content coincides exactly with sign (36A)</p>  <p>36E)</p>
36C) 36D)		Share (space) zone	Proposal	<p>Egger: Proposal</p>

No.	Sign image	Sign description	Countries using the sign	Experts observations
37A)		Pedestrian priority on shared roads	Canada LIMICs	IROSI: The sign to the immediate left (B) permits riding on a sidewalk for the distance indicated. Pedestrians have priority. Sweden and Finland also have signs for pedestrian priority on shared roads.
37B)				
37C)				
37D)				
37E)				
38A)		Residential area	Latvia	Latvia: In living zones, courtyards of multi-residential houses, fuel stations and parking areas, driving speed of all vehicles may not exceed 20 km/h. In a living zone, fuel stations and parking places, pedestrians and cyclists are permitted to move on the carriageway. In a living zone, and territory of fuel stations and parking places pedestrians and cyclists have priority, however they are prohibited from unjustifiably disturbing the movement of other vehicles.
39A)		Residential area	Portugal	Portugal: Portugal has a sign for residential areas, which area is specially designed for shared use by pedestrians and vehicles. In those areas, special traffic rules are applied, such as the maximum speed limit of 20 km/h for all types of vehicles.
39B)				
40A)		Residential area	Austria	Egger: Vehicular traffic is prohibited; with the exception of cycles, road maintenance, garbage collection, public security services and fire brigades as well as traffic to access to/depart from residences. Pedestrians may enter or play on the carriageway. However, the permitted vehicle traffic must not be intentionally obstructed. Drivers of vehicles may not impede or endanger pedestrians and cyclists and may only drive at walking
40B)				

No.	Sign image	Sign description	Countries using the sign	Experts observations
				speed. When exiting a residential area, one must give way to traffic flowing outside the residential area.

Author: Stefan Egger, Expert on visual sign systems
 Steinergerasse 11 / 1 / 9
 1170 Wien, Austria
 Email: stkegger@gmail.com