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Other Business

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This document was prepared and submitted by Ms. M. Pronin (IROSİ) and Mr. B. Kollmus (BAST) as per paragraph 5 of the report of the informal session of the Group of Experts on Road Signs and Signals that took place on 4 February 2022. The document examines road signs for commercial cycles and other small vehicles that transport passengers and goods.

ROAD SIGNS FOR SMALL VEHICLES MOTORIZED AND NON-MOTORIZED

Vehicle Categories Examined

	MOTORIZED		NON-MOTORIZED	
For passenger transport	Tricycle Taxis	Motorcycles	Pedal Cycles	Human-powered vehicles
For goods transport	Motorcycles / Tricycles / Quadracycles		Pedal Cycles	

All images are from national sign codes unless otherwise noted.

Both types of pedal cycles examined may be 2-, 3-, or 4-wheeled.

CP = Contracting Party to the Convention on Road Signs and Signals

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Introduction

The task of elaborating on road signs for small vehicles was done by collecting and analyzing road sign images in each of the six categories shown in the table above. At the end of the document, sign symbols for addition to the Convention are proposed by presenting a preferred design and explaining why the design should look that way.











We found that elaborating on road signs for small vehicles led to two main categories: “motorized” and “non-motorized.” These were split into subcategories according to four modes of transporting passengers and two modes of transporting goods.

It is strongly recommended to include a representation of all six categories in the Convention as each one addresses a different issue. For instance, tricycle vehicles (whether motorized or non-motorized) are generally wider than bicycles (motorized or non-motorized). Therefore, the issues to be addressed when posting a sign in a public space will differ, among other things, for assignment of parking spaces or use of specific parts of the road. This also applies to “motorized vs. non-motorized” vehicles, to “passenger vs. goods” vehicles, and to vehicles for “personal vs. commercial” use. Public spaces may be open to non-motorized, but not to motorized, vehicle traffic as in pedestrian zones that may permit access only to pedal cycles or that may prohibit pedal cycles except for some or all types of vehicles used for deliveries. Motorcycles may be permitted on certain high-speed roads, but not motorcycles that carry passengers. To inform road users of such requirements with inscriptions only or with non-harmonized symbols is a recipe for confusion.

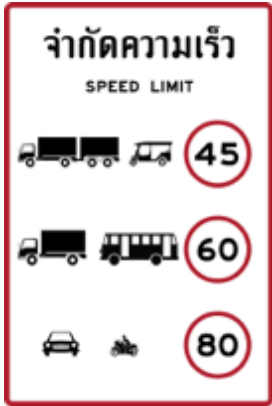
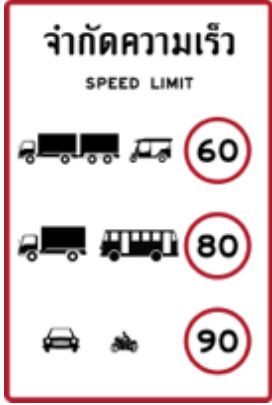




These examples illustrate the need for symbols from the six categories to be in the Convention. Their inclusion will enable each Contracting Party and the many Non-Contracting Parties that follow the Convention to use the symbols to meet their specific roadway requirements, such as prohibitions on motorways, on particular streets, in particular zones, or in particular lanes; speed limits; mandatory and non-mandatory lane use; special regulations for parking and shared lanes; designated areas for taxi stations; and advised route of travel. Their adoption by countries should increase comprehension and compliance on the part of cross-border riders and drivers.






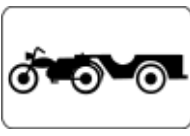
Additionally, it seems not so long ago that many of the small vehicles on the signs studied here were destined to be replaced by larger, more modern means of transport. Instead, due to economic pressures and to the growing awareness of the necessity for motor vehicle emission control, the 21st century has witnessed a resurgence of traditional vehicles either in their original form or in a reinvented modified form that blends the old with the new. This resurgence of low-cost, low-emission (or no-emission) vehicles is to be seen worldwide, including in cities in Europe and North America where they were totally absent a mere few decades ago.




The table below contains 72 images of government signs found in national codes around the globe plus 18 images of signs posted by the governments of states, capital cities, and other major cities. The document concludes by proposing symbols that offer, we believe, a high level of comprehension and discriminability. These symbols may be applied to the various relevant sign sections of the Convention.

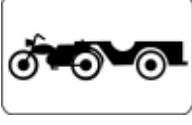
MOTORIZED VEHICLES				
Tricycle Taxis				
#	Sign Image	Description	Country	Comments
1		C: Prohibition	Colombia	The sign is also for goods transport
2			Egypt	Posted in a district of Cairo; not in the national code
3			Indonesia	A side view of a tricycle has superior discriminability and should be more comprehensible and legible
4			Indonesia	The only country with a VMS for any of the sign categories that we examined
5			Peru	
6			Philippines CP	
7			Sri Lanka	
8			Thailand	
9			Thailand	
10			Vietnam CP	










MOTORIZED VEHICLES Tricycle Taxis				
#	Sign Image	Description	Country	Comments
11		E: Speed limit and lanes for road users	Vietnam CP	
12		End of speed limit	Vietnam CP	
13		F: Taxi stand for passenger loading	India CP	This sign is in the national code, but the sign model and symbol vary by state
14			India CP	Parking signs often indicate taxi stand in many of the state codes
15			Indonesia	Defined as stand for public transit other than buses or [car] taxis; an H panel confirms the specific type of vehicle

MOTORIZED VEHICLES Tricycle Taxis				
#	Sign Image	Description	Country	Comments
16	 A rectangular sign with a red border. At the top, it says 'จำกัดความเร็ว' (Speed Limit) in Thai and 'SPEED LIMIT' in English. Below, there are three rows of icons and speed limits: 1. A truck and a tricycle with a speed limit of 45. 2. A truck and a bus with a speed limit of 60. 3. A car and a motorcycle with a speed limit of 80.	G: General speed limits	Thailand	
17	 A rectangular sign with a red border. At the top, it says 'จำกัดความเร็ว' (Speed Limit) in Thai and 'SPEED LIMIT' in English. Below, there are three rows of icons and speed limits: 1. A truck and a tricycle with a speed limit of 60. 2. A truck and a bus with a speed limit of 80. 3. A car and a motorcycle with a speed limit of 90.		Thailand	
18	 A black silhouette of a tricycle inside a rounded rectangular border.	H: Additional panel	Bangladesh	
19	 A black silhouette of a tricycle inside a rounded rectangular border.		Nepal	
20	 A black silhouette of a tricycle inside a square border with a red outline.		Sri Lanka	Used with speed limit signs; usually 40 km/h
21	 A rectangular sign with a red border containing various icons of non-motorized and slow-moving vehicles: a person pushing a cart, a person walking, a person on a bicycle, a person on a motorcycle, a person on a rickshaw, a person on a tractor, and a person on a bullock cart.		Sri Lanka	Used with no entry prohibition sign at start of a motorway










MOTORIZED VEHICLES Passenger Motorcycles				
#	Sign Image	Description	Country	Comments
22		C: Prohibition	Cambodia	Another symbol is also used on prohibition signs in Phnom Penh 
23			China	Defined as no motorized tricycles
24			Japan	
25			Vietnam CP	Includes motorcycles with sidecars
26		H: Additional panel	Cambodia	Used for both passengers and goods











MOTORIZED VEHICLES Goods Motorcycles, Tricycles, or Quadricycles				
#	Sign Image	Description	Country	Comments
27		C: Prohibition	Cambodia	Used for both passengers and goods
28			China	Defined as no 3-wheelers; in India, these vehicles are electrified and are replacing goods cycles
29			Colombia	The sign is also for passenger transport
30		H: Additional panel	Cambodia	Used for both passengers and goods



				
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NON-MOTORIZED VEHICLES				
Passenger Cycles				
#	Sign Image	Description	Country	Comments
31		A: Warning	Bangladesh	This is the only country with a warning sign for any of the sign categories that we examined
32		C: Prohibition	Bangladesh	
33			Cambodia	
34			China	
35			Cuba	Used in Havana; not in the national code
36			Hungary CP	Used in Budapest; not in the national code; The symbol is also seen in Berlin on H panels
37			Indonesia	
38			Indonesia	
39			Laos	









NON-MOTORIZED VEHICLES				
Passenger Cycles				
#	Sign Image	Description	Country	Comments
40		C: Prohibition	Malaysia	Defined as no slow vehicles
41			Taiwan	
42			Taiwan	
43			Taiwan	
44			Thailand	
45			Thailand	
46			USA	Used in Denver; not in the national code
47			Vietnam CP	Passengers face the rear









NON-MOTORIZED VEHICLES				
Passenger Cycles				
#	Sign Image	Description	Country	Comments
48		D: Mandatory lane	Bangladesh	
49			Cuba CP	Used in Havana; not in the national code
50			India CP	
51			Indonesia	
52			Indonesia	Defined as lane for non-motorized vehicles only
53		E: Non-mandatory lane	Bangladesh	
54		Non-mandatory shared lane	Bangladesh	
55		Start of non-mandatory lane	Bangladesh	
56		Reserved lane	Cuba CP	Used in Havana; not in the national code


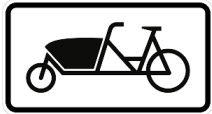

NON-MOTORIZED VEHICLES				
Passenger Cycles				
#	Sign Image	Description	Country	Comments
57		E: Parking	Indonesia	Used in Yogyakarta; not in the national code; The space is reserved for passenger cycles only
58			Malaysia	Used in George Town and, with variations, in other cities; not in the national code; The space is reserved for passenger cycles only
59		F: Informing potential passengers	Estonia CP	Used in Tallinn; not in the national code; Ban on cycle taxis in the city's Old Town
60			Estonia CP	Used in Tallinn; not in the national code; Ban on cycle taxis in the city's Old Town
61		Taxi stand for passenger loading	India CP	This sign is in the national code, but the symbol and sign model vary by state; for example: 
62			India CP	Parking signs often indicate taxi stand in many state codes 
63			Mexico	Defined as tourist cycle [stand] in the Mexico City sign code; the symbol below replaced this sign in 2019 with a new definition
64			Mexico	Defined as cycle taxi stand in the Mexico City sign code; not in the national code

NON-MOTORIZED VEHICLES				
Passenger Cycles				
#	Sign Image	Description	Country	Comments
65		H: Additional panel	Bangladesh	
66			Nepal	Bangladesh and Nepal share the same exact sign

NON-MOTORIZED VEHICLES				
Human-powered Passenger Vehicles				
#	Sign Image	Description	Country	Comments
67		C: Prohibition	China	Defined as no pulled platforms or no rickshaws
68			Hong Kong (China)	
69			Japan	Includes all light vehicles (animal-drawn carts, human-powered passenger vehicles, and handcarts except pedal cycles)
70			SADC	Southern African Development Community members: Angola, Botswana, Comoros, DR Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, S Africa, Tanzania, Zambia, Zimbabwe
71			SADC	Yellow ground = temporary sign

NON-MOTORIZED VEHICLES Human-powered Passenger Vehicles				
#	Sign Image	Description	Country	Comments
72		D: Mandatory lane	SADC	
73			SADC	Yellow ground = temporary sign
74		E: Parking	SADC	
75			SADC	Yellow ground = temporary sign
76		E: Exclusive lane reserved	SADC	
77			SADC	Yellow ground = temporary sign
78		H: Additional panel	SADC	H panel colors vary to coordinate with sign colors
79			SADC	

NON-MOTORIZED VEHICLES				
Goods Cycles				
#	Sign Image	Description	Country	Comments
80		C: Prohibition	China	Cargo is mainly in back in Africa and Asia and mainly in front in Europe and the Western Hemisphere
81			Malaysia	Defined as no slow vehicles
82			Poland CP	
83			Taiwan	
84			Vietnam CP	
85		D: Mandatory lane	Malaysia	
86		E: Parking	Mexico	In the Mexico City sign code; not in the national code
87			USA	Used in Minneapolis; not in the national code

NON-MOTORIZED VEHICLES				
Goods Cycles				
#	Sign Image	Description	Country	Comments
88		H: Additional panel	Belgium CP	Used in Ostend; not in the national code
89			Germany CP	
90			Guyana CP	Used in Georgetown; not in the national code

Conclusions and recommendations

The proposal for the Amendments to Annexes 1 and 3 contains contemporary designs of road signs to be brought into the Convention.

The guiding principle of those designs may be summarized with the phrase “as simple as possible,” which means no “overdesigning” must occur. Overdesigning results in a profusion of details that may distract drivers and require viewing for legibility at a too-near distance. This must of course be avoided. Very many sign images in the table above exemplify overdesigning, our reason for excluding these signs from consideration for the Convention. Specifically, these signs have lines that are too fine or too wide, unnecessary inclusion of human figures, overly precise rendering of human figures, and such unnecessary details as wheel spokes, a cushion, bicycle chains, etc., that interfere with fast detection most particularly on signs with multiple images as on Convention signs C4a and C4b.


Other design flaws noted are symbols that are too small for the ground space, too large for the ground space (that is, too close to or in contact with the sign border), are not centered in the ground space, lack good proportion, or exhibit a degree of awkwardness due to addition of a new concept, without modification, to an existing symbol. By contrast, symbols should deliver a message to road users that is clear, strong, respectful, and appealing – ideally with a certain degree of artistry and elegance.

Simple designs almost automatically lead also to good results regarding the aspect of contrast in general. High contrasts are – together with a simple design – essential in ensuring a fast and easy visual detection of road signs when driving.


Beyond that, most symbols regarding different categories of vehicles in the proposal for the Amendments to Annexes 1 and 3 have vehicle side views, so symbols for small vehicles should also be drawn that way. Further, this takes into account that side views have in most cases better discriminability and should be more comprehensible and legible compared with front views.

We also discovered several symbols that did not fulfill the need to clearly reveal the purpose for which they had been designed. For example, some symbols do not have an appearance unique to their purpose and too closely resemble golf carts, trucks, or other types of vehicles.


Regarding the design principles stated above, these seven symbols are proposed:

Sign Image	Description	Comments
	Tricycle taxis	Designed by S. Egger; not in a national code yet

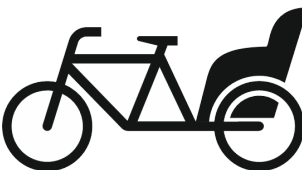
Regardless of national language, many countries use the English word "TAXI" on road signs for car taxis. This should favor comprehensibility of our proposed sign in those countries. Also, many other languages possess a cognate for this word, e.g., "TAKSI" and "TEKSI".

Sign Image	Description	Comments
	Passenger motorcycles	Designed by BAST; not in a national code yet


The symbol shows a “classic” motorcycle plus two riders to accentuate the “passenger” aspect. Regarding the aspect of safety, both riders wear helmets.

Sign Image	Description	Comments
	Goods motorcycles, tricycles, or quadricycles	Designed by S. Egger; not in a national code yet



The symbol clearly depicts “goods” by its suggestion of cargo, which also differentiates the symbol from “tricycle taxi.”

Sign Image	Description	Comments
	Passenger cycles	Designed by BAST; not in a national code yet


The symbol has been derived from a “classic” cycle. The added seat in the back shows the “passenger” aspect.

Sign Image	Description	Comments
	Human-powered vehicles for passenger transport	Designed by South Africa; national codes of the SADC countries

The design fulfills almost all aspects regarding a simple, contemporary design. The spokes of the wheel may be removed to enhance simplicity.

Sign Image	Description	Comments
	Goods cycles (cargo in front)	Designed by BAST; national code of Germany
	Goods cycles (cargo in front)	Designed by S. Egger; not in a national code yet

Both symbols have been derived from a “classic” cycle. The added “box” shows the “goods” aspect. As both symbols fully exemplify a simple design, either is suitable for the Convention.

Sign Image	Description	Comments
	Goods cycles (cargo in back)	Designed by BAST; not in a national code yet

The symbol has been derived from a “classic” cycle. The added “box” shows the “goods” aspect. One sign plus an alternative to encompass cycles with goods carried in front or in back are recommended for regional comprehension. In Europe and the Western Hemisphere, goods are mostly carried in front whereas in Africa and Asia, goods are mostly carried in back.

Further consideration is being given to modification of this symbol in order to incorporate the concept of "cycle billboard," which are cycles used for advertising.