



laetus in praesens

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Being in the Flow on Strategic Highways and Byways

Enabling sustainable self-governance through traffic signage

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Annex to *Disastrous Floods as Indicators of Systemic Risk Neglect*

Introduction

The main paper explores the systemic imbalances described metaphorically in terms of "floods" and "flooding". The suggestion made there was that "flood control" could be usefully explored in the light of the degree of self-governance and self-organization associated with road traffic.

Rather than consider metaphors based on the control of flooding by water -- even though this requires very concrete measures -- of potentially greater relevance is the understanding to be derived from the control of a "flood" of traffic. This involves forms of "governance" with which many are personally extremely familiar on a daily basis. It also implies a higher degree of self-organization and self-governance. The degree of personal responsibility and engagement in the face of risk "on the ground" is strikingly contrasted with that articulated through abstract representation in complex systems diagrams.

As discussed separately (*System Dynamics, Hypercycles and Psychosocial Self-organization*, 2010), the more complex the map of a system, the less likely it is to be widely comprehended and used, and the greater the potential for unremarked errors. This is relevant to mapping the current strategic issues in Afghanistan (Dion Nissenbaum, *Graphic Shows Complexity of US Counterinsurgency in Afghanistan*, *The Huffington Post*, 22 December 2009; Dion Nissenbaum, *The Great Afghan Spaghetti Monster*, *Checkpoint Kabul*, 20 December 2009).

It is understandable that people find it difficult to identify with the dynamics indicated by such systemic representations. These can be usefully recognized as offering a "false" sense of perspective dissociated from that which people require to navigate within a flood of traffic.

Signage for sustainable self-organization?

Road and traffic signs are widely accepted as a necessary and valuable indication of risk, whether or not neglect of their information is subject to legal penalties. The emergence and standardization of such signs has been a response to the increasing "flood" of traffic and to the need for a succinct (often pictorial) indication of risk. Curiously there is as yet little acceptance of the need for equivalent indication for many other forms kinds of risk.

Sets of road signs can therefore be creatively "mined" for indications as to the kinds of comprehensible signs that might be of value with respect to various other classes of risk. Such "mining" -- effectively a form of "research" -- follows from the argument of Susantha Goonatilake (*Toward a Global Science: mining civilizational knowledge*, 1999).

Whilst suggesting systemic parallels in navigating risky flow situations --"floods" -- this Annex raises the questions:

- which traffic signs are of no systemic relevance to which situations, namely which are of no relevance in some way?
- what is the minimum number of signs to enable viable navigation of "floods" -- the optimum number, an excessive number?
- whether a general theory of "traffic signs" could be developed, from a more systemic perspective, to facilitate navigation in a variety of flow situations?

Given the number of road traffic signs people are called upon to recognize within the flow of traffic, how many "signs" might be required to enable navigation of the dynamics of other systems and their associated forms of flood?

A variant of this question is a feature of the [theory of signage systems](#), namely the design of a comprehensive set of signs for a facility or for an environment. This is illustrated by the study of [Ravi Poovaiah](#) (*Graphic Symbols for Environmental Signage: a Design Perspective*, 1995) who argues:

'Symbols' conceived in the context of environmental directional signage, and one that is specifically intended as a public service facility, is being seen here as having the potentials for constructing an effective graphical interface between the user and the intended facility; the objective is to facilitate the activities of locating, identifying, informing and directing the user through the various gamut of activities of a given service facility.

Such a perspective raises the question as to how it might be applied more generally to elicit the signs and symbols of requisite scope for sustainable governance of the global environment -- as a "public service facility". Appropriately an international review of this approach uses a descriptor of strategic significance (Philipp Meuser and Daniela Pogade, *Wayfinding and Signage: Construction and Design Manual*, 2010).

Framed in terms of a "theory of signs", a recent study by Priscila Farias and João Queiroz (*A diagrammatic approach to Peirce's classifications of signs, S.E.E.D. Journal (Semiotics, Evolution, Energy, and Development)*, 2007) reviews the [trichotomies of signs](#) of [Charles Peirce](#). As with other approaches, such as that of [Charles Morris](#) (*Writings on the General Theory of Signs*, 1971), the concern with respect to the above argument is the extent to which (from a theoretical perspective) it is able to take account of the vital experience of "being in the flow" -- even though traffic signs may be cited as examples.

With respect to strategic relevance, the question for any "theory of signage" is the extent to which the full set of processes in decision-making "in the flow" is appropriately elicited through that theory. Whilst the set of symbols may be coherent as a set from a graphic design perspective, the question is how that set reflects the systemic options necessary to appropriate management of risk whilst "in the flow". This calls for a degree of recognition of strategic design, notably in relation to the work of [Christopher Alexander](#) on [pattern language](#) and the [nature of order](#), as separately discussed (*Designing Global Self-governance for the Future*, 2010).

Also of interest with respect to the comprehensibility and coherence of any set of symbols for those "in the flow" in the present is the possible relevance of traditional preoccupation with sets of symbols and their integrated relationship. This has been explicated as a "postmodern theory for a pre-modern practice" by Patrick Dunn (*Magic, Power, Language, Symbol: a magician's exploration of linguistics*, 2008). Dunn focuses on the web of symbols and language with which magical operations are associated, examining the role that semiotics and linguistics play in that process. Of relevance to strategic governance, this web calls for new insights into the theoretical realm of the sign, the signified, and the changeable perceptions of a slippery reality with which all have to deal on a daily basis.

Insights into "flood navigation" from road signs?

The emphasis on flow, and "being in the flow", recalls the arguments on learnings to be derived from water (*Enabling Governance through the Dynamics of Nature: exemplified by cognitive implication of vortices and helicoidal flow*, 2010). This certainly holds the "freedom" which people value in being empowered to explore highway and freeways. Does framing the collective challenge in this individualistic way offer a vital key in the elusive quest for sustainable governance?

An extensive summary of road traffic signs, variously clustered, is provided in *Wikipedia* entries. In the entry on [traffic signs](#), *Wikipedia* notes that Annex 1 of the *Vienna Convention on Road Signs and Signals* (1968) defines eight categories of signs:

- A. [Danger warning signs](#)
- B. [Priority signs](#)
- C. [Prohibitory or restrictive signs](#)
- D. [Mandatory signs](#)
- E. [Special regulation signs](#)
- F. [Information, facilities, or service signs](#)
- G. [Direction, position, or indication signs](#)
- H. Additional panels

A [comparison of European traffic signs](#) is also provided. In the case of Australia (the primary example of the main paper), the road signs also typically include warnings regarding the current level of fire danger or the potential dangers in the event of flooding. Other road signs are listed in the following:

- [Road and Traffic Signs](#) (Seton: solutions for a safe and secure Australian workplace)
- [Regulatory Traffic Signs](#) (Seton: solutions for a safe and secure Australian workplace)
- [Traffic and Road Signs](#) (B-Protected)
- [Advanced Road Signs](#)

tests ***

As an exercise, the commentary below endeavours to highlight the systemic relevance of the traffic signs with respect to the "self-governance" of:

- flows in opposite directions
- intersecting and cross-cutting flows
- hazards calling for prudence
- speed

The exercise raises the question as to the number and nature of signs required to enable sustainable flow through a degree of self-governance on the strategic highways and byways. Does any theory of signage or symbols focus reflection on this systemic issue of what amounts to "participatory flow management"?

The question can also be framed in relation to classic sets of injunctions: "do's and don'ts", taboos, or commandments. It is somewhat ironic that, in defining eight categories of traffic signs, the *Vienna Convention on Road Signs and Signals* (1968) is effectively defining an "eightfold way". The limitation on the number of categories distinguished within such sets is intimately related to issues of memorability entangled with what can be meaningfully distinguished (*Representation, Comprehension and Communication of Sets: the role of number*, 1978; *Examples of Integrated, Multi-set Concept Schemes*, 1984).

In contrast with efforts at textual articulation of indicators for systemic governance, whether classical injunctions or contemporary regulations, the effort to embody these indications into signage -- a system of signage -- is especially intriguing in illustrating the vital role that succinct graphic symbols appear to play. As a system of signs, it also recalls the importance traditionally attached to the "esoteric" implications of such comprehensive systems -- as mentioned above with respect to the explorations of Patrick Dunn (2008).

It is of course the case that sets of signs are used in defining systems and the flows in them, as in the case of:

- [circuit design](#) for [printed circuit boards](#) or their miniaturized equivalents, involving production of [circuit diagrams](#) based on a set of [electronic symbols](#)
- [flow charts](#) of process operations
- [control flow diagram](#) of a business process, process or program.
- [data flow diagram](#) representing the "flow" of data through an information system.
- [functional flow block](#) diagram of a system's functional flow.





As noted above, **the focus here on traffic signs recognizes the need to reflect the perspective of those navigating "in the flow" in contrast with that of those external to the flow.** It is of course this contrast which holds the essential dilemma of governance (much challenged by "flooding" beyond its competence or expectations) and individual freedom (obliged to navigate flows in the moment, however unpredictable and poorly signed).









Danger warning signs for traffic












A [traffic warning sign](#) is a sign indicating a hazard ahead on the road that may not be readily apparent to a driver.


















These include:

- [general cautions, obstacles](#) (possibly dividing the roadway),
- [animals crossing the roadway, unusual vehicles crossing the roadway](#) (tractors, etc),
- [road works or construction](#),
- [unexpected curves and corners, tunnels, bridges](#),
- [traffic signals, crossings and intersections](#),
- [traffic lane starting or ending, roads with one entry point, no passing zones](#),
- [pedestrian crossings, schools, bicycle, other signs with unprotected people](#),
- [fire stations, oncoming traffic, railway crossings](#),
- [falling rocks](#) and other warnings, [road conditions, crosswinds or side winds](#),
- [slow down, merge to stay with through traffic](#)

Warning signs for traffic	
	
Divided road ahead	Pass either side
	

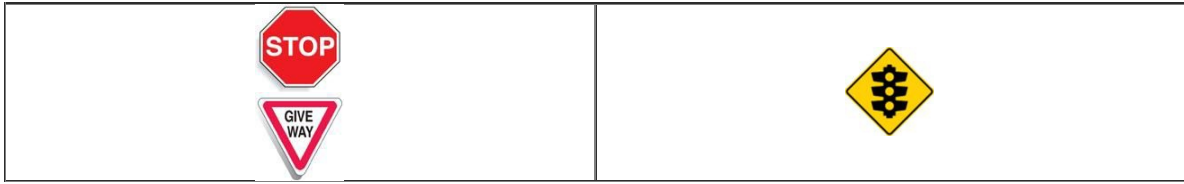
	
	 
 	

Advisory signs	
 	 
curve left	Dangerous curves and winding road
  	 
intersections	
	

Traffic hazard signs	
  	  
 	  
  	  

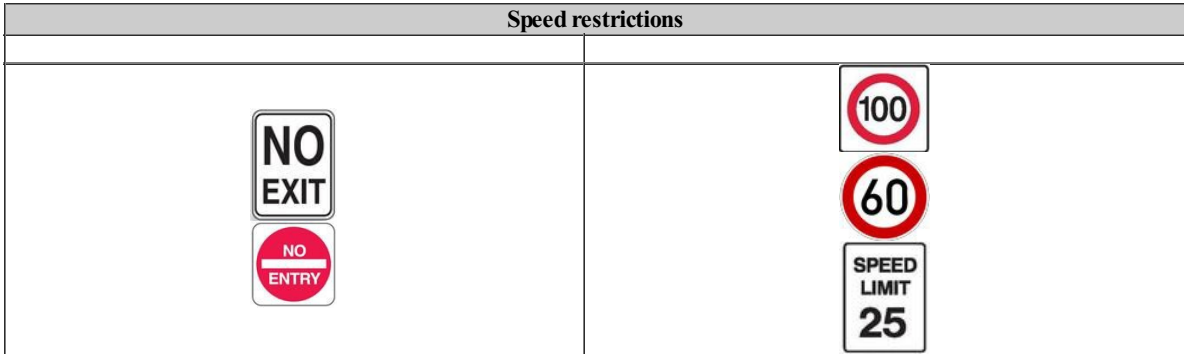
Traffic priority signs

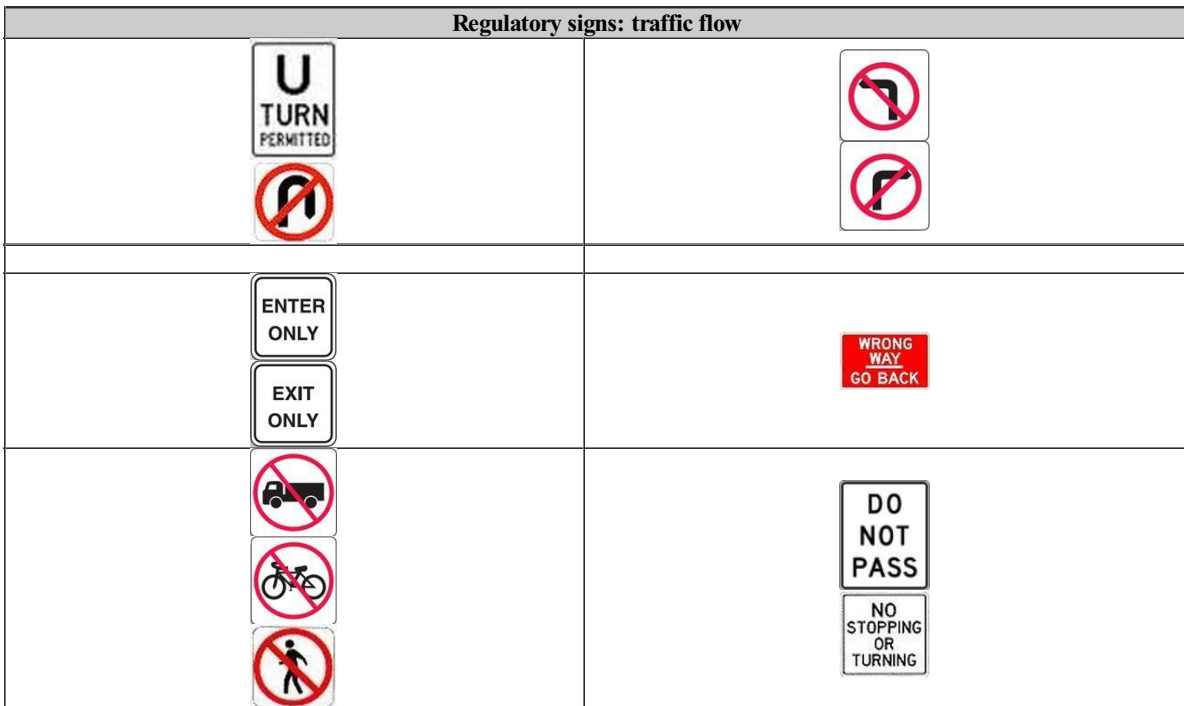
Priority traffic signs indicate the order in which vehicles should pass intersection points



Prohibitory or restrictive traffic signs

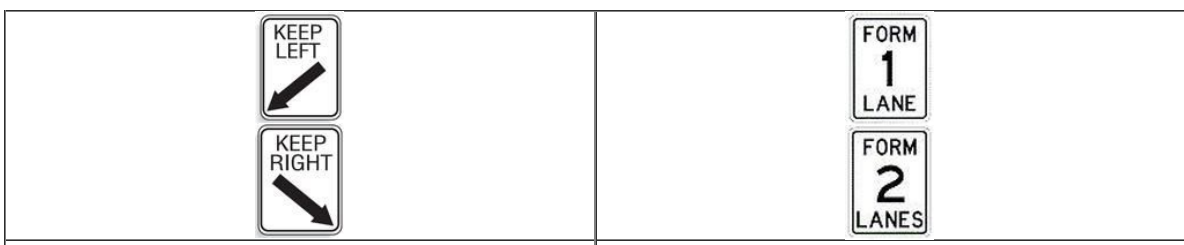
Prohibitory signs are used to prohibit certain types of manoeuvres or some types of traffic. They include restrictions: on entry (No entry), on speed (Speed limits), on parking (No parking), on overtaking (No overtaking), on turning (No right, left, or U-turn), on direction (Wrong way).





Mandatory traffic signs

Mandatory signs set the obligations of all traffic which use a specific area of road -- indicating what it must do, rather than must not do (as in the case of prohibitory or restrictive signs).





Special traffic regulation signs

Special regulation signs are used to indicate a regulation or danger warning applying to one or more traffic lanes, indicate to lanes reserved for buses, indicate the beginning or end of a built-up area or signs having zonal validity. They include one-way traffic indications and the start or end of a pedestrian zone

Information signs for traffic

Information, facilities, or service signs

Direction signs for traffic

Direction, position, or indication signs

Hazardous condition of drivers

There is a considerable body of experience regarding the engagement with risk of drivers of vehicles on roads, notably including that of Tasmania (*Road Risk Reduction*, 2009). This focuses on:

- concentration and coordination, as it is affected by:
 - tiredness
 - influence of alcohol or other substances
 - distracting influences (mobile phone use, etc)
- speed
- misjudgement, notably with regard to safe driving in relation to road conditions and to other vehicles
- driving skills
- knowledge/ignorance relative to that of other drivers

Studies (and remedial campaigns) have notably focused on the appreciation or denial of risk by drivers, typically through misplaced overconfidence. These issues come to a focus in the heightened risk associated with the enthusiasm for speeding. There is a natural thrill in taking risks in many driving situations -- typically associated with a degree of denial regarding the level of risk. It is in this sense that the engagement with risk may be described as "psychoactive".

The situation is relatively clear in the case of road traffic, despite such patterns of denial. It is far less clear in many of the other forms of "flooding" described above. Clearly risks are taken in those situation -- exemplified by the high risks taken in the financial speculation leading to the recent global financial crisis.

Hazardous condition of drivers	
	Slowing down won't kill you
	OPEN YOUR EYES FATIGUE KILLS

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