

ITS Radar Helpdesk Query: Harmonisation of VMS - UPDATE

Query no:	14	Query initiator:	Joanna White
Date:	1 ST August 2006	Compiled by:	Martin Pyne
Query topic areas:	VMS harmonisation activities worldwide - with particular reference to the Framework for Implementation of Variable message signs in Europe (FIVE) and application of the FIVE principles		
Categories and level of relevance:	Traffic Management Technology	Very Relevant	
	Traffic & Travel Information	Very Relevant	
	Safety	Some Relevance	
	Technology Solutions	Very Relevant	
Transferability to Highways Agency:	Meets Policy Objectives	To some extent	
	Cost/Benefits Information		
	Development status	Ongoing	
	Innovative	Yes	
	UK legal issues	N/A	
Summary:	<p>This update presents additional information received on worldwide VMS harmonisation activities. Additional information is shown in italics.</p> <p><i>Additional information has been received from:</i></p> <ul style="list-style-type: none"> • <i>Ontario (Canada);</i> • <i>Malaysia;</i> • <i>Germany;</i> • <i>Hong Kong (China); and</i> • <i>from the Mare Nostrum project.</i> <p><i>In addition to previous conclusions drawn, we note that:</i></p> <ul style="list-style-type: none"> • <i>The Mare Nostrum European project is keen to continue and the EU have indicated support in principle for this. They see slow but continuing progress towards harmonisation of pictograms and convergence on approaches to textual VMS content, they wish to promote greater driver understanding of VMS messages, and they would welcome the participation of the Highways Agency through the STREETWISE project (and any successors) in this initiative.</i> • <i>pictograms are the favoured way forward in Ontario and Hong Kong, coupled with supporting bi-lingual text signage;</i> • <i>In Malaysia, the focus is on text signage consistent with other existing fixed signage.</i> <p>In Summary, there are many examples of VMS harmonisation activities in Europe generally reflecting the FIVE principles including:</p>		

	<ul style="list-style-type: none"> • work in Italy, Spain and France on use of a common signing approach via the Mare Nostrum working group; • work in the VIKING countries (Denmark, Norway, Finland, Sweden, and Germany); and • work in the UK on the MS4 sign. <p>FIVE recommended that where possible:</p> <ul style="list-style-type: none"> • Pictograms should be used for regulatory and danger warning messages and supplementary text should try to be avoided; • Informative or advisory messages should be either in pictogram form or short unambiguous text. <p>In the US, there have also been harmonisation initiatives, looking to ensure continuity between states in how VMS are used. There are national guidelines on changeable message sign use which are referred to in this document. It should be noted that whereas in Europe, pictograms are seen as the best way to convey information to an international driving population, in the US, there is less emphasis on pictogram information presumably due to a common language being spoken in all states.</p>
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Introduction

This helpdesk query response presents a review of worldwide Variable Message Sign (VMS) harmonisation activities, with particular reference to the Framework for Implementation of Variable message signs in Europe (FIVE) and application of these principles.

As the use of VMS technology to update drivers with real-time traffic information has become globally widespread and as drivers travel more freely, there has been an increasing need to make information delivered via this medium more uniform.

In the EU, harmonisation of information presented via VMS has been motivated by safety and efficiency demands calling for greater conformity and simplicity in the messages provided to drivers.

Harmonisation is occurring both on a physical level, related to development of electronic standards for VMS as well as harmonisation of information presented, This query response concentrates on information standardisation, but in passing we note that European standard prEN 129 66-1⁽¹⁾ covers technical sign standardisation in Europe.

The remainder of this query response presents a review of VMS harmonisation activities in Europe, as well as for the United States, and for Canada. It should be noted that through our contacts in the International Benefits Evaluation and Costs (IBEC) working group we have sought information on harmonisation activities worldwide.

Europe

FIVE

In March 2004, following several years of work, comparing VMS practice and usage in European countries, the Conference of European Directors (formally known as WERD/DERD) produced draft recommendations on how to harmonise the use and implementation of Variable Message Signs (VMS)⁽²⁾.

The Framework for harmonised Implementation of Variable Message Signs in Europe (FIVE) was designed for the Trans European Road Network (TERN), and other motorways and aims at improving the way road users, in particular 'international road users' understand any VMS messages they may encounter on their journeys. The framework makes a trade-off between level of harmonisation and required adaptations, giving recommendations for harmonised presentation, while mainly using existing hardware and indicates which way to migrate when replacement of old equipment is due. This therefore deals with 'cultural' differences, such as where in some countries the same function is done with pictograms only, while in other countries explanatory texts are being used. FIVE recommendations follow the same basic approach as the 1968 Vienna convention on fixed plate signage⁽³⁾, which is, to consider provision of regulatory messages, danger warning messages and informative messages.

FIVE Recommendations

FIVE recommended that where possible:

- Pictograms should be used for regulatory and danger warning messages. This removes difficulties related to language and reduces issues surrounding understanding of messages. Supplementary text should try to be avoided;
- Informative or advisory messages should be either in pictogram form or short unambiguous text.

More specific recommendations include:

- Special regulatory signs for lane control, e.g. arrows, red crosses, speed restrictions etc, should be placed above each lane, or on both sides of the carriageway, to prevent ambiguity;
- The use of flashing lanterns should be limited to regulatory or danger warning messages (e.g. queue protection);
- Preferably, informative messages should not contain more than four (unambiguous) words;
- Messages should be confined to no more than three lines of text;
- Abbreviations are not recommended, except common ones such as 'min' or 'mn' for minute;
- Prepositions (e.g. in, on, at, to, after) have proved confusing for foreign drivers.

Some advice is also provided on the format of text legends for informative messages.

Mare Nostrum Working Group – Updated

The Mare Nostrum Working Group⁽⁴⁾ is working to standardise VMS usage on a key corridor between France, Spain and Italy. The group consists of representatives from the ARTS, SERITI and CORVETTE EU Directorate General for Transport Euro-Regional projects. Projects carried out by Mare Nostrum are designed to improve cross border traffic management in southern Europe, with great attention given to the needs of the 'International driver'.

There are currently different approaches to VMS signing adopted by Spain, France and Italy. After analysis of these approaches, Mare Nostrum has made several recommendations with regard to possible future harmonisation of VMS. Certain VMS danger warnings have been identified by Mare Nostrum as being relatively harmonized across all three countries, for example to communicate any road wind variations to drivers, a single standardized pictogram has been adopted by the three nations. However, where text based VMS messages are employed greater inconsistency exists.

The working group has developed a VMS Working Book. The document's general approach is to:

- categorise the road conditions/incident type;
- present alternative VMS messages as currently used in Spain, France and Italy (considering alphanumeric characters and pictograms and the structure of messages and location on the Variable Message Sign);
- Rank the status of each incident type/road condition;
- Provide preliminary conclusions on current practice, risk of misunderstanding of legends by international drivers, and sensitivity testing required; and
- Final conclusions consisting of a recommended message set.

High level road condition/Incident type categories are as follows:

- road adherence variations (slippery roads);
- road traffic variations (congestion);
- road visibility variations (fog);
- road wind variations;
- road capacity/availability variations (road/lane closures, hard shoulder/additional lane availability);
- road itinerary variations (compulsory exit from road, re-routing, travel times);
- other variations (accidents, road works, pedestrians/animals in road, ghost or errant drivers).

The Mare Nostrum working group generally recommends the use of Pictograms in preference to text. Where legends are used, the concern is that European drivers may misinterpret the text, for example when using text to communicate congestion levels and available exits upstream of congestion. Mare Nostrum recommends investigation of the use of symbols together with length of the congested section, rather than conjunctions. Thus, the French legend would say:

- BOUCHON – 12 KM; instead of
- BOUCHON DE 12 K.

In general, the Mare Nostrum working group are in favour of the use of VMS pictograms whenever possible. Any additional text should be kept to a minimum to avoid misinterpretation and sign format should be kept uniform. These recommendations are in keeping with the recommendations made by FIVE.

The ITS Radar team attended a round table discussion on Mare Nostrum at the Euro-regional conference in Barcelona. Minutes are attached at the back of this query.

Key points noted were:

- *The Mare Nostrum group are keen to continue their activities beyond 2006.*
- *The European Commission appear supportive of the initiative and it should be retained within the EASYWAY programme (2007-2013). Initial indications suggest that at least 250 M€ will be made available to support the continuation of the Euro-Regional projects.*
- *The EC want results and implementation not directives and reports.*
- *Mare Nostrum partners consider that it is not possible to follow the FIVE guidelines in operational situations.*
- *In Mare Nostrum a common philosophy will be promoted for:*
 - *Adapting pictograms within the context of the Vienna Convention;*
 - *Developing combinations of Alpha/Pictogram text additions;*
 - *Abstract signs – prepositions/ city names*
 - *Length, distance, location, congestion etc.*
- *The congestion pictogram is considered the most urgent for attention.*
- *ISO testing methods will be applied.*
- ***Involvement of the Highways Agency and STREETWISE representatives would be welcome.***

ITS Radar holds a copy of the revised Mare Nostrum Working Book.

Harmonisation of VMS in the Viking Countries

A study was carried out by the Finnish National Road Administration in 2004 entitled, "Practice and deployment of variable message signs (VMS) in Viking countries – potential for harmonisation" ⁽⁵⁾

This study was designed to:

- gain information about variable message signs, their appearance and use in the Viking countries (Denmark, Norway, Sweden and the five northernmost states of Germany); and
- utilise this information to enhance the harmonised use of VMS in the region.

In the study, harmonisation needs were specified and prioritised. The focus was on harmonisation issues from the drivers' point of view.

Although the main focus of the study concentrated on the northern Viking countries, it was thought that by focussing on regional circumstances and problems this would promote both regional and Europe-wide harmonisation work. It was also thought that such progress could facilitate the creation of a specific programme for harmonisation work in the future.

Whilst the Viking countries have similarities, it must be stated that the area is not exceptionally homogenous. For example, in Germany, VMS are implemented principally on multiple-lane motorways and are not usually used on two-lane roads, whereas in the Nordic countries VMS are also commonly implemented on two-lane roads. There are also differences in the traffic systems, traffic volumes and regulation systems.

Harmonisation issues have been addressed from the drivers' point of view, i.e. how well drivers interpret and understand VMS. Data were provided by traffic sign experts in each individual country, providing information on current practice and deployment of VMS. These data were collected in the autumn of 2003. Data provided were concerned with the three main sign categories (regulatory messages, danger warning signs and informative signs) as well as several sub-issues and some general aspects).

Research results identified several VMS features and practices that differ from one country to another and also those that had already been harmonised. There are differences in the usage areas and the need to use variable systems, depending on the country. The most harmonised aspects are the colours and the use of symbols and pictograms in regulatory and danger warning signs. There are a greater number of variations in terms of informative signs, but also in this category, pictograms are preferred to text messages. Excess information is also avoided.

Common targets for both the short-term and the long-term harmonisation involve development of systems reliability, the amount of information presented, the use and development of pictograms and the use of flashing lights in VMS.

Viking VMS Harmonisation Workshop

An update on the current state of VMS harmonisation activities in the Viking countries was presented at the VMS Harmonisation Workshop 16th May 2006 in Copenhagen, Denmark ⁽⁷⁾. Presentations alluded to existing literature in Sweden, Norway, Finland, and Denmark on VMS guidelines. In general all countries are adopting VMS practice in line with the FIVE principles. In addition to information regarding Mare Nostrum and German harmonisation projects (described elsewhere) one talk, presented by Hans Remeijn, concerned VMS harmonisation in the Netherlands.

In the Netherlands the anticipated introduction of English MS4 type VMS signs – which are consistent with the prEN 129 66-1 regulations – is an accommodating move in the drive for European harmonisation. However, many other forms of signage remain in the Netherlands including; fibre optic motorway (lane control) signs; Dynamic Route Information Panels; Text carts (portable units - often comprising static and dynamic signs); and VMS panels on pickups. With respect to the MS4 VMS, the first signs are expected to be on the roads some time in June 2006, with guidelines currently being prepared (largely orientated

about the English M4 road trial). With the numerous varieties of Message Displays in operation the aim is for eventual convergence onto a single display system, however at present some “exotic” signs linger.

UK

Within the UK various activities have been undertaken to harmonise the information presented on VMS: not least, significant involvement in the FIVE activities.

England

Testing and procurement of MS4 signs both on the M4 in Newbury and now on the M42 in Birmingham are tangible signs of VMS harmonisation. The implementation of Variable Speed Limits on the M25 and M42 also evidence this. Work to deliver travel time information on VMS is ongoing, with trials planned this summer. This travel time information is in line with FIVE recommendations.

Wales

The FIVE project workshop in Frankfurt (2002) ⁽⁶⁾ made reference to the fact that text only signs were in use on the M4/A48M and A55 in Wales. Since the Frankfurt workshop 46 new MS4 signs have been installed on the M4, A55 and A470 at the request of the Welsh National Assembly. As part of the Assembly’s strategy for bilingual signing, the ability to display pictograms (in line with the Vienna Convention style) with minimum supporting text has assisted in the harmonisation of information to road users.

Ireland

The National Roads Authority has been developing Guidelines for the use of Variable Message Signs. We await more detailed information on these guidelines and their impact on harmonisation of VMS messages.

Germany - Updated

New developments

Recent research has been undertaken in Germany to develop new multi functional display panels. These are fixed plate signs with large variable elements arranged in blocks on the signs.

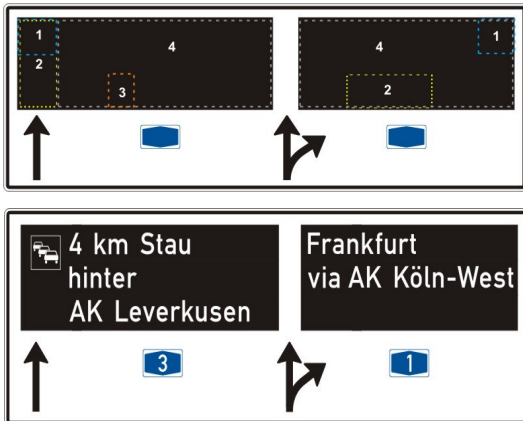


Figure 1 dWiSTA Multi Functional Display Panels

The signs are now being rolled out on the Nordrhein-Westfalen autobahn network ⁽⁸⁾.

We have received some further information from Dr Fritz Bolte at BASt (Bundesanstalt fuer Strassenwesen) on the DWiSTA signage and usage thereof. This information is in German and is available on request.

US

Clearly the US although extensive in terms of geographical area is not subject to the same linguistic conflicts Europe must face, yet separate sets of guidelines are produced for many states of the US. Nonetheless, guidelines have been produced in the US to try and bring into harmony inter state VMS practice.

Changeable Message Sign Operation and Messaging Handbook

In August 2004 The US Department of Transportation Federal Highway Administration produced a comprehensive set of guidelines for the operation of Changeable Message Signs (CMS), the U.S. term for Variable Message Signs. The Changeable Message Sign Operation and Messaging Handbook ⁽⁹⁾ consolidated the various CMS message design and display manuals, recent research reports and state documentation regarding CMS operational procedures and best practice. The Handbook was intended to provide very specific guidelines for all levels of personnel involved in the operation of CMS across states, regions and local transportation agencies. The Handbook does, in Section 2.1, make reference to a need to ensure that “CMS messages are standardized and consistently applied throughout a state or region”. The guidelines stipulate that messages must be presented in a consistent manner and order, based on motorists’ expectancies, so that the messages are “transparent” to road users in the state or region. The Handbook goes on to provide detailed notes on every aspect of CMS operation from length, arrangement and content of messages during normal and peak periods, to policy on advertising, special events and during adverse weather, environmental, and roadwork situations.

The California Department of Transportation

We have been informed that The California Department of Transportation is in the process of developing a new specification for changeable message signs. The Western Transport Institute (WTI) Montana State University are involved in the project and they inform us the new specification should be complete within a year.

Usage Guidelines for Portable Changeable Message Signs

In February 2006 a set of guidelines, "Usage Guidelines for Portable Changeable Message Signs", was published for use in the Gary-Chicago-Milwaukee (GCM) Corridor. The document was produced to encourage common messaging across state and agency borders since there are presently so many people with different affiliations (contractor, state and local transportation agency and others) handling these signs.

Portable Changeable Message Signs (PCMS) are recognised as the movable units (typically trailer mounted) commonly found on highway construction projects. The guidelines recommend the adoption of a messaging system similar to the larger permanent signs, whilst at the same time employing a carefully chosen set of abbreviations so as to fit the smaller PCMSs.

The GCM Corridor Action Team has established three general goals for PCMSs:

1. (a) To expand the amount of useful information delivered to the public. The GCM Corridor could act as a "test bed" in this respect, with PCMSs used as prototypes to test out new sites for future permanent Changeable Message Signs.
(b) To be fully compatible with ITS Architectures. This would result in: lower operating costs; integrated systems; established standards.
2. (a) To have all PCMSs controlled via agency Traffic Management Centres (TMCs). TMCs have the best access to current information, they have trained personnel, and they have the communications networks already in place to interact with those devices.
(b) To have the information on all incidents automatically routed through Gateway. Sharing information from one TMC with other TMCs in the Corridor through a single processing system could yield the following benefits: all incidents being addressed regardless of borders; greater message uniformity; reduced changes for incorrect or missed messages; simplified communication with a single source of information; simple media updates; easy website updates.
3. To encourage the use of "Areas of Influence" to aid decision making. Indiana Department of Transportation (INDOT) formally developed the "Areas of Influence" approach which has been adopted by the GCM and provides a clear technique for defining when a message should be installed on a board based on the incident's location. This would set up for all boards within the region, such that one agency could define when another agency's board would be addressed.

Canada - Updated

The Ministry of transportation of Ontario (MTO) has recently reviewed the best methods of providing bilingual roadway signing in the areas of the province that are designated under the French Languages Services Act of Ontario. There have been a number of previous studies on bilingual signing undertaken in Ontario, but in many cases, have included alternatives to providing bilingual signing as a potential option, including the “do nothing” or “status quo” option.⁽¹¹⁾

The primary objectives of this activity were to:

- Develop and recommend approaches to enable MTO to accommodate bilingual messages in designated areas where space for signs is limited; and
- Develop a program to enable rapid progression to symbols and pictograms on VMS signs to the maximum extent possible, including any public education.

Testing two sample groups of users, various VMS formats were assessed on the basis of ease of comprehension. One sample group consisted of primarily French speaking users, and the other, of primarily English speaking users. From this assessment it was concluded that the three-line colour bilingual format (with pictograms) be selected as the approach for VMS bilingual signing to be carried forward through the remainder of the study. Overall cost and implementation time and effort also support the three-line colour bilingual format. Furthermore, extensive use of pictograms addresses the needs of drivers who best understand languages other than French or English.

Malaysia- Updated

Malaysia has recently invested in a US\$ 100 million Integrated Traffic Information System (ITIS). More details can be found at: <http://www.itis.com.my/itis/about-itis.jsp> This system includes use of Variable Message Signs on Expressways. There is an ITS outreach programme which presents the system to visiting groups.

We have received updated information regarding Malaysian use of VMS from Aminah Taib, Public Affairs Manager for the Urban Transportation Department, Kuala Lumpur. The following points were noted:

1. The current language used in the display of VMS is the national language, Bahasa Malaysia.
2. The legends used on VMS make reference to key landmarks, road names and/or interchanges. These are generally an abbreviated form from existing road signage to mitigate confusion to motorists.
3. Terminologies used are also to an extent practically consistent with terms used by Government Public Works Department.
4. The pictograms used are also consistent with those used in the Public Works Department.

Singapore

The Land Transit Authority in Singapore has, for many years, been a leader in ITS procurement and deployment. Information on VMS in Singapore is presented using tri coloured pictograms supplemented by English text where required. Mixed case text is used on some VMS.

Pictograms are a mixture of those based on Geneva Convention signs and non standard signs. Non standard signs used include:

Accident; Ambulance; Plant watering; Road sweeping; Roadworks; Tree pruning; Vehicle breakdown. Examples of these signs can be found at:

http://www.onemotoring.com.sg/publish/onemotoring/en/on_the_roads/traffic_management/intelligent_transport_systems/emasys/messages.html

We note that the LTA has recently signed a Memorandum of Co-operation with Transport for London. The objective of this exercise is to, "...share valuable lessons and experiences in the areas of ticketing systems, congestion pricing, integrated transport systems, and bus location and traveller information systems."

Japan

Japan has been a leader in the development of Intelligent Transport Systems. Wide use is made of Variable Message signs for parking management in urban areas using graphical information panels. Graphical information panels are also in use to provide congestion information. Character and pictogram signs are also used to convey information to motorists. The opportunity for harmonisation of text is however limited due to the use of a character or symbol based language as opposed to an alphabet based language. Signs tend to be much smaller as fewer characters need to be displayed to convey the same information.

The major part of traffic information dissemination is undertaken using in vehicle devices most notably VICS. Japan is a key player in the standardisation activities of such devices through ISO/TC_204 working groups.

The Japanese ITS Handbook can be found at
http://www.its.go.jp/ITS/topindex/topindex_g02_handbook.html

Hong Kong (China) - Updated

Traffic Control and Surveillance systems (TCSS) are available on seven major motorways in Hong Kong. The VMS used on the existing TCSS motorways in Hong Kong are bilingual, incorporating both English and Chinese text. The VMS allows space for two lines of English text (approximately 18 characters per line), one line of Chinese text and pictograms on both sides. Flashing wig-wags and lane control signals are usually incorporated into the VMS structure, which are flashed whenever a non-default message is displayed on the sign.

On new TCSS motorways being implemented, the VMS will include a third line of English text.

Conclusions

The harmonisation of Variable Message Signs has been the goal of several recent international initiatives in Europe and indeed it is increasingly becoming a priority for highway institutions worldwide. The desire for a 'less cognitively taxing' message system for drivers is driven by a desire for safer road use. It must be noted here that complete universal harmonisation is not realistic and some variation based on cultural and linguistic differences should be tolerated. Nonetheless, in the short term, it is hoped that more consistent operation of VMS can be achieved with aspects such as the use of flashing lanterns, control procedures, amount and type of information converging across regions. A crucial step in this harmonisation involves the increased use of (uniform) pictograms combined with minimum necessary text. In the long term it is hoped that international co-operation of authorities will only increase such that national irregularities become phased out to make way for a more uniform signage system for drivers worldwide. With future in-car technologies likely to add to the amount of information available to drivers on international road networks it is certainly important to minimise the conflict between existing systems.

References

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3. 1968 Vienna convention on fixed plate signage <http://www.unece.org/trans/conventn/signalse.pdf>
4. The Mare Nostrum Working Group <http://www.arts-mip.com/vms/default.asp>
5. Practice and deployment of variable message signs (VMS) in Viking countries – potential for harmonisation http://alk.tiehallinto.fi/julkaisut/pdf/4000432e-vpractice_and_deployment.pdf
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9. Changeable Message Sign Operation and Messaging Handbook http://tmcdfs.ops.fhwa.dot.gov/cfprojects/uploaded_files/CMS%20Operation%20and%20Messaging%20Handbook-Final%20Draft.pdf
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11. Ministry of Transportation of Ontario, Bilingual Sign Design Services Final Report, 28th February 2006.

Minutes of the Mare Nostrum Round Table Discussion in Barcelona

Project:	Mare Nostrum	Job No/Ref:	
Purpose:	International participation	Date held:	28th June 2006
Held at:	Barcelona	Made by:	Richard Harris
Present:	Alberto Arbaiza, DGT Antonio Lucas, DGT/UEVG Rafael Conte, SCT Pedro Jaquerira, BRISA Richard Harris, Faber Maunsell (STREETWISE) Graeme Scott, IBI Alf Pederson, SRA Reinhard Pfliegl, Austria Tech Gilberto Tognoni, SATAP/SINA Jan Joseba Aizpurua, DT Hans Remeijn, RWS Mattiue Lisbonis, ASF	Distribution:	ITS RADAR

No	Item	Action By
1	<p>Background</p> <p>Mare Nostrum promotes standardised VMS settings based upon operational situations. It has been successful in promoting some cooperation within Spain, France, Italy and more recently the Netherlands.</p> <p>A document has been produced which summarises progress and sets objectives for the future.</p> <p>The Mare Nostrum group are keen to continue their activities beyond 2006.</p> <p>The European Commission appear supportive of the initiative and it should be retained within the EASYWAY programme (2007-2013). Initial indications suggest that at least 250 M€ will be made available to support the continuation of the Euro-Regional projects.</p> <p>The EC want results and implementation not directives and reports.</p>	
2	<p>FIVE</p> <p>Mare Nostrum partners consider that it is not possible to follow the FIVE guidelines in operational situations.</p>	
3	<p>Context</p>	

	<p>Mare Nostrum recognises national and international regulations and conventions. Changes to the UNECE Vienna Convention on signs is a slow process. Interim MOUs could be formulated.</p> <p>However common interpretation should be widely promoted.</p> <p>Sweden tries to follow FIVE – but it is not enough. England has a Traffic Signs Manual. Republic of Ireland is updating its Traffic Signs Manual. (Note ROI is not a signatory of the Vienna Convention)</p> <p>The latest UNECE update will be circulated to partners.</p>	
4	<p>Contacts</p> <p>Mare Nostrum has links with an EC supported safety and construction project and the SOMS/IN-SAFETY VMS problems/messages project.</p>	
5	<p>Philosophy</p> <p>A common philosophy will be promoted for:</p> <ul style="list-style-type: none"> ▪ Adapting pictograms within the context of the Vienna Convention; ▪ Developing combinations of Alpha/Pictogram text additions; ▪ Abstract signs – prepositions/ city names ▪ Length, distance, location, congestion etc. <p>The congestion pictogram is considered the most urgent for attention. ISO testing methods will be applied.</p>	
6	<p>Grouping</p> <p>Involvement of the Highways Agency and STREETWISE representatives would be welcome.</p>	
7	<p>Next steps</p> <p>Participants are requested to produce the following in time for the next meeting which will be in Rome (afternoon of 28th morning of the 29th September 2006):</p> <ul style="list-style-type: none"> ▪ Using the Mare Nostrum handbook, produce national information on signage; ▪ Collate pictograms in use ▪ Identify text extensions used in conjunction with pictograms ▪ Consider potential advances in signing due to increased sign performance 	
8	<p>Summary</p> <p>The Mare Nostrum group are active road operators concerned with the</p>	

<p>provision of clear and consistent information to travellers. They are focussed on operational issues. It seems a worthwhile initiative in which to become involved. Involvement should start as soon as possible to enable input to the future direction of the group.</p>	
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