USE-iT WP3 – Safety of people & Safety of goods

CONCEPT 1: Accident reduction measures

Vision Zero

Vision Zero" is an ambition that seeks to eliminate death and serious injury in road transport, focusing on infrastructure, vehicle technologies, services and education, control and surveillance. Achieving Vision Zero in the longer term may need improvements in: data collection, key institutional management functions, supporting R&D, funding effective e safety programs, etc.

- **Barriers**
  The fatality rate in other modes is much lower, interest in setting similar safety targets may be low.
- **Benefits**
  A similar concept could bring high safety benefits.

Modular urban transport safety and security analysis (MODSAFE)

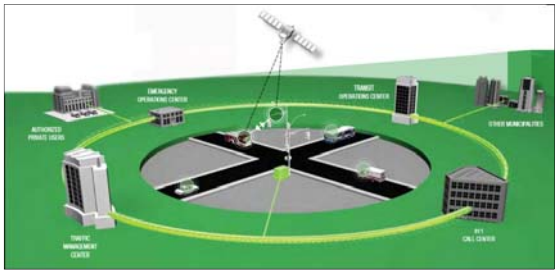
A proposal of recommendations and generic methods and tools for harmonizing and simplifying the upgrade of Urban Guided Transport, through a Hazard and Risk Analysis and corresponding safety measures. The analysis includes: identification of hazard, estimation of risk and coverage by safety measures.

- **Barriers**
  Hazard guidelines may be different across modes and could impede implementation.
- **Benefits**
  Potential to share relevant guidelines on hazard analysis.

Implementation of safety management strategies

Setting safety targets at regional/national level is recommended, as it has been proved to improve road safety performance. Moreover, the inclusion of these targets into a country's road safety management system enhances the probability of success.

- **Barriers**
  There is no tradition with safety targets and strategies in waterborne transport.
- **Benefits**
  Strategies with set safety targets, regularly monitored and updated, will help improve waterway safety.



Intermodal Emergency Response Services
(Source: Tranportation Control Systems, 2015)

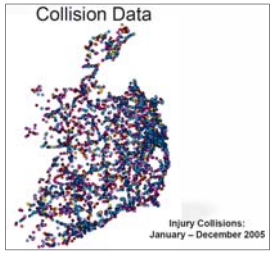
Intermodal Emergency Response Services

Cooperation between emergency response services from all transport modes; in a crash event, multiple transport modes may be required (emergency helicopters, rescue vessels, ambulances, etc.). A common emergency dispatch centre would be beneficial.
International cooperation is encouraged, including cooperation between various national EMS dispatches.

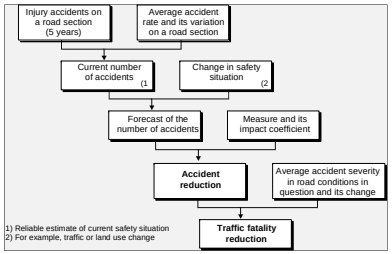
Barriers
Lack of common agreements, trans-national communication barriers (e.g. language).

- **Benefits**
  The use can contribute to faster reaction time, response time and efficient management of emergencies.

Vision Zero
(Source: Vision Zero Initiative, 2015)



Network safety ranking procedures
(Source: Doherty, n.d.)



Network safety ranking
(Source: Peltola, 2009)

Network safety ranking and accident prediction

A method for identifying and classifying hazardous road network sections. Specific software and databases are used to rank network safety, based on classifying road sections according to their potential for safety development and accident cost savings. Based on: accident data and accident prediction models.

- **Barriers**
  Similar software would need to be adapted for rail. Collection of considerable data needed.
- **Benefits**
  Increased safety due to optimised identification of high risk locations; accident prevention.

Procedure for defining black spots on public roads

A road safety inspection method to identify and record black spots, as well as for defining the appropriate safety measures. Black spots are clasified based on a linear analysis of accident rates for the previous three years; they are categorised by degree of danger. A black spot is removed from the database after implementation of planned safety measures.

- **Barriers**
  Various procedures may be already be in place in rail transport.
- **Benefits**
  Possible optimization of rail maintenance procedures.

Technique for carrying out road safety audits and inspections

A procedure for assessing accident rates on sections of the road traffic network is proposed, as well as issuing traffic safety measures. Data such as accident statistics, road profile , traffic volume, traffic composition are usually used for an audit.

- **Barriers**
  Various procedures may be already be in place in rail transport.
- **Benefits**
  Possible optimization of rail maintenance procedures.

CONCEPT 2: Human factors and education

Nautical port information

Port Information Guide provides all general nautical information for the port as a whole: port safety and security, environmental info, contact info and port regulations, port description and navigation, nautical services, arrival and departure checklists, etc.
Port Sections Guide provides specific nautical info for each berth and fairway section.

- **Barriers**
  Different e-infrastructures limit the exchange of data.
- **Benefits**
  An effective data management between modes could facilitate transport and increase safety.

Port Information Guide
(Source: Hamburg Port Authority, 2015)

Education for maritime safety

Education of seafarers in generic competencies is important in order to enable dealing with critical and dynamic situations and thus contributing to the system's recovery from non-routine or critical situations.

- **Barriers**
  Difficulty to incorporate generic competencies into current education programs.
- **Benefits**
  Increase in safety, due to higher abilities of people responsible by the transport mode.

Maritime education
(Source: Chalmers University of Technology, 2015)

Port Information Guide
(Source: Hamburg Port Authority, 2015)

DOMAIN KEYS: Technologies | Infrastructure | Governance | Customer

INFRASTRUCTURE KEYS: Left - Applicable; Right - Possible applicable — Road | Rail | Water | Air