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THE INTERVENTION PATHS

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DARS d.d.
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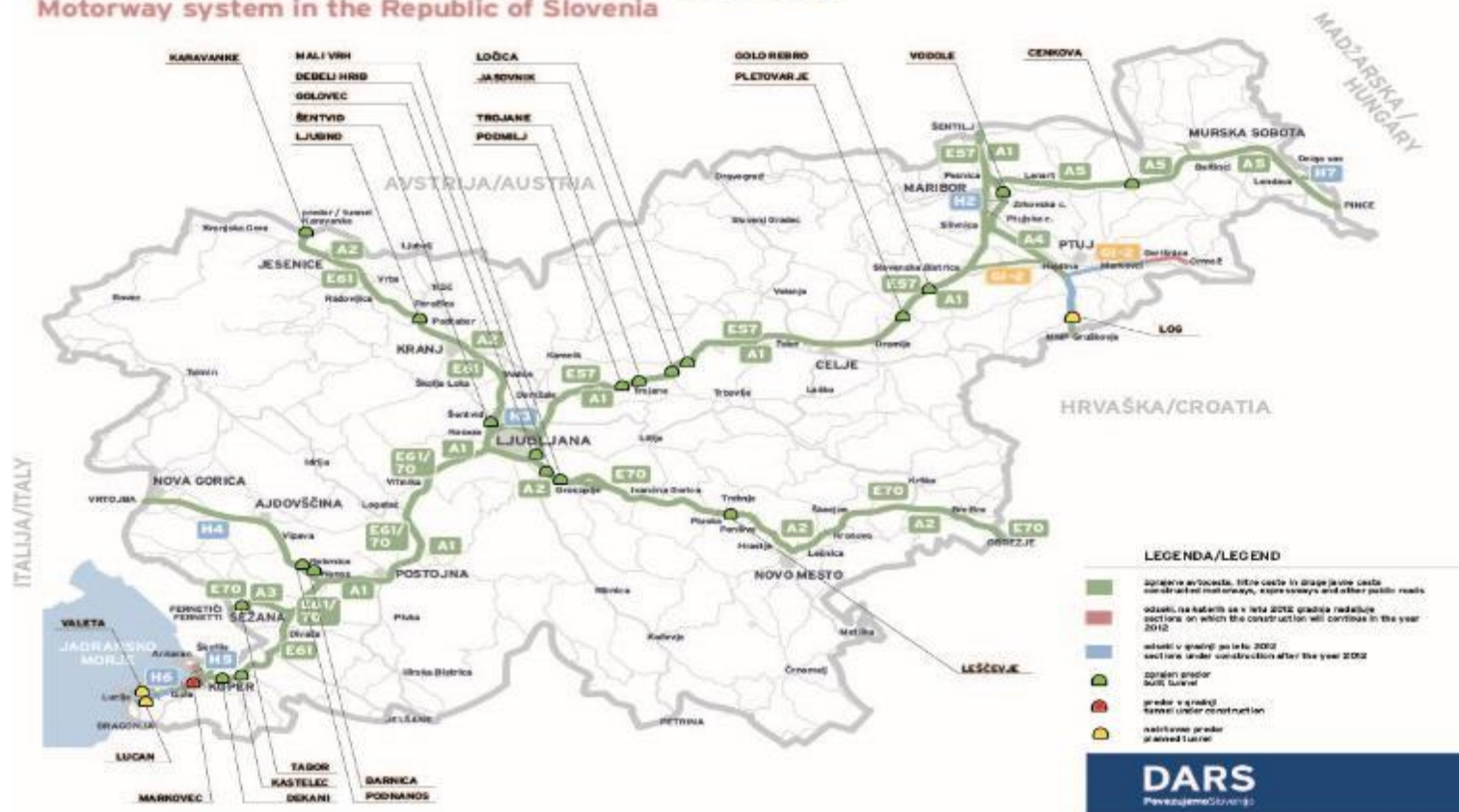
Interventions – How are they carried out?

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Avtocestni sistem v Republiki Sloveniji

Motorway system in the Republic of Slovenia



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- 610 km Freeways/Highways, including 45 tunnels, measuring 42 145 m in distance
- The only single-tube freeway tunnel Karavanke (7.864 m; 3.450 m in RS)
- The longest double-tube tunnel is Trojane tunnel (2.931 m)

+ Freeways and Highways and CPDR Plans

- During the last 3 decades RS has intensively built on the freeway intersection => the expansion of the network => higher traffic load (The share of PLDF and heavy freight vehicles)
- From 2005 to 2010 the traffic safety conditions were unfavourable (a higher number of larger/mass accidents was recorded) =>
- In 2005 an idea came up, for the Administration for Civil Protection and Disaster Relief of Slovenia (ACPDR) to design **protection and disaster relief plans in cases of mass traffic accidents and special plans in case of disaster reliefs in tunnels**
- The Plans are designed by regions and include all of the freeways and highways, representing pan-European transit corridors (E Roads) as well.
- These are freeways and highways categorized as:
 - A 1 (The 5th pan-European Corridor – Slovenika); A 2 (The 10th pan-European Corridor – Lirika)
 - A 3 (Gabrak – Fernetiči), A 4 (Slivnica – Draženci - Gruškovje), A 5 (Pomurka)
 - H 2 (Mb), H 3 (Ljubljana Ring – North), H 4 (Vipava), H 5 (Obala), H 7 (Dolga vas)

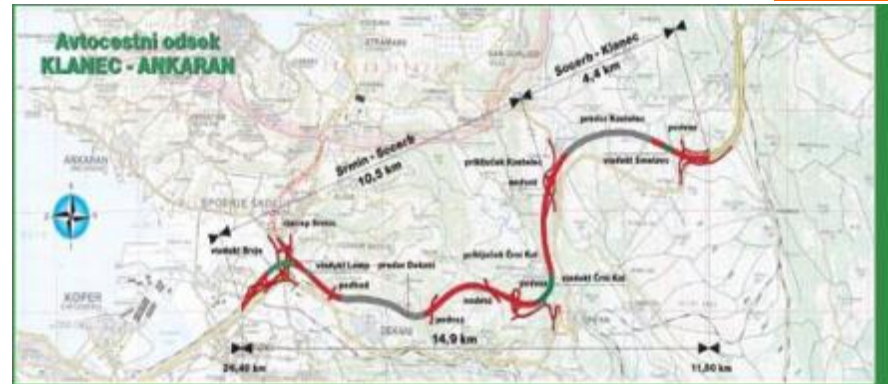
+ Plans are the basis for the teamwork in case of intervention

Under the patronage of ACPDR the following plans have started to be designed:

- **Protection and disaster relief plans in cases of mass traffic accidents on freeways** for the western Štajerska (2005)
- **Regional protection and disaster relief plan in case of an accident in a tunnel**

If there is a tunnel on a freeway or a highway of a certain region, both plans are designed.

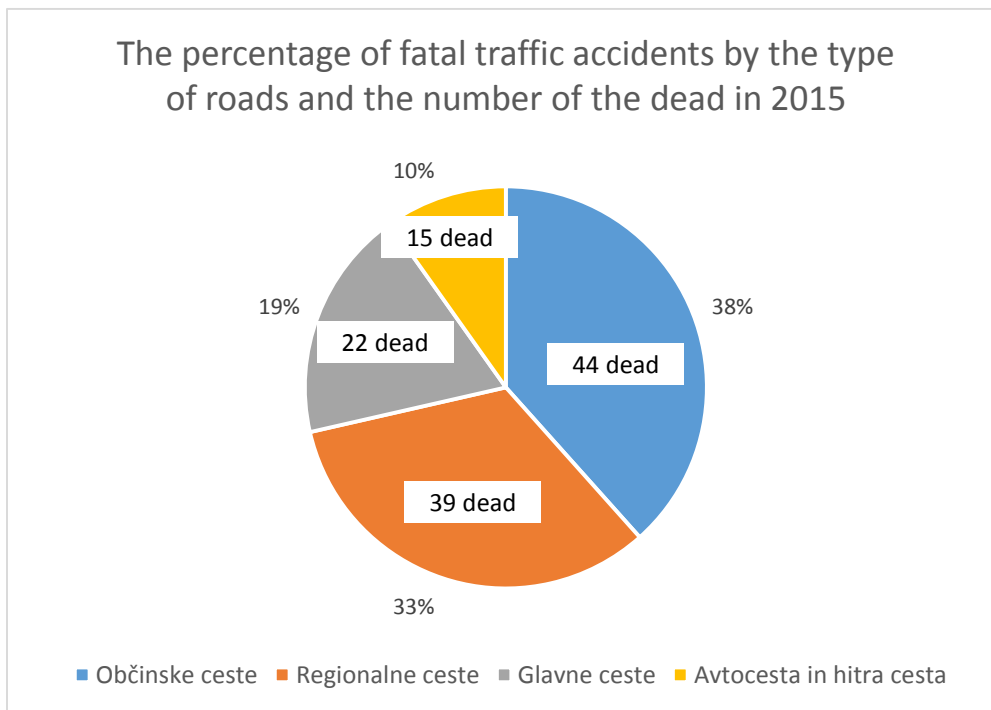
Region areas are divided in accordance with the ACPDR





Traffic safety conditions (improving every year, though) – Police and Slovenian Traffic Safety Agency official data

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The most dangerous freeway sections (considering traffic accidents or the consequences)

- 8 116 traffic accidents recorded on freeways/highways between 2011 and 2013
- 14 175 drivers, passengers or other people involved
- Traffic accidents cause congestions, the traffic transport is hindered, and major traffic accidents demand victims
- Freeway/Highway sections with the highest number of traffic accidents

Road	Sections	Section from - to	Dead	HTP
A2	0002 do 0005	Hrušica - Podtabor	5	1
A2	0006 do 0008	Podtabor - Brnik	1	9
A2	0022	Grosuplje – Ivančna Gorica	0	6
A1	0039 do 0042	Dramlje – ČCP Vransko	1	6
A1	0639 do 0640	ČCP Vransko - Dramlje	0	10
A1	0052 do 0056	ČCP Log - Razdrto	2	5
A1	0652 do 0656	Razdrto – ČCP Log	2	14
A1	0067	Trojane - Blagovica	1	2
A5	0806 do 0809	Dragučova – Vučja vas	4	5



The worst traffic accidents so far

On the unfinished freeway network, the following traffic accidents have been the worst:

- *July 16, 1992 – A 1 before Pletovarje tunnel; 10 people dead*
- *September 12, 1995 – A 2/ from Torovo to Bled; 5 people dead*
- *November 14, 1998 – A 2 by Rupovščica viaduct , 5 people dead*
- *January 31, 1998 – A 2 close to Naklo; 5 people dead*
- December 8, 2006 – A 1, just before Slovenska Bistrica exit, 4 people dead (speed driving, passengers fell out of the vehicle)
- October 2, 2009 – A 1, close to Arja vas, 3 people dead, driving into the wrong direction. The person responsible for the accident survived and has been convicted.
- **November 28, 2011 – A 2, between Višnja Gora and Grosuplje – a pile-up accident due to dense fog and unadjusted speed, 38 vehicles and 51 people involved, 3 people dead.**
- **December 28, 2014 – A 1 close to Postojna; 51 vehicles involved; a heavy freight vehicle overturned, poor visibility, snow storm, rear-ended collision of a number of vehicles. 120 people involved, 1 person died and 3 people were severely injured.**



+ Event taking place at the traffic

- Already with the first major accidents (after 2005), the first problems concerning the access of the intervention services are noted
- One of the major goals in the past was TO RAISE AWARENESS AMONG THE FREEWAYS/HIGHWAYS USERS ABOUT THE IMPORTANCE OF TAKING CARE OF THOSE INVOLVED IN THE TRAFFIC ACCIDENTS AS SOON AS POSSIBLE.



Prevention and awareness raising
(continually carried out)



Prevention

REŠI ŽIVLJENJE

REŠEVALNI PAS OB ZASTOJU

Upoštevaj pravilno razvrščanje vozil ob zastoju na avtocesti!

S pravilno razvrstitvijo vozil, ki niso udeležena v prometni nesreči na avtocesti, omogočimo reševalnim vozilom hitrejši dostop do ponesrečenecv in s tem povečamo možnost preživetja tudi do 40 %.

Razvrstitev vozil v primeru prometne nesreče na avtocesti **POMEMBNO VPLIVA na reševanje** poškodovanih, zato ob vsakem zastoju upoštevajte pravilo o razvrščanju vozil.

Vedno, ko pride do zastoja...

Med kolonama vozil na prehitevalnem pasu in voznem pasu mora biti dovolj prostora za vožnjo intervencijskih vozil, ki so opremljena z modro ali rumeno lučjo (reševalci, gasilci, policija, izvajalec rednega vzdrževanja, inšpekcijske službe...).

Vozila na voznem pasu se morajo razvrstiti na desno stran do robne črte, vozila na prehitevalnem pasu pa na skrajno levo stran do robne črte.

Globe
Predpisana globa za nepravilno razvrščeno vozilo ob zastoju na avtocesti in hitri cesti je **200 evrov**.

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Vzpostavitev REŠEVALNEGA PASU na avtocesti je obvezna ob vsakem zastoju!

- Aid offered by Slovenian Traffic Safety Agency
- Due to „poor practice“ being exposed in the mass media as well, this has changed
- Today – the errors committed mostly by the foreigners => banners written in foreign languages





Dilemmas ?

Before the beginning of the making of NZR there were the following dilemmas:

- To use the intervention paths as parallel roads by the freeways/highways as well
- Build intervention passages between both sides of the roadways
- Provide more control
- The idea to rescue with the aid of a helicopter?
- Concerning the standard-setting regulation, the following question emerged: **Should we allow the access to the intervention on the roadway of a highway intended for vehicles to drive in the other direction?**

Action carried out (2005 onwards):

Passages between both sides of the roadways

- **Passages before tunnel portals,** The Directive of the European Parliament and of the Council 2004/54/ES on April 29, 2004 on minimal safety requirements for tunnels in pan-European Road Network
- **Quickly set up middle passages – set up in a form of a steel safety fence (JVO)**

+ Plans – open parts of freeways/highways and tunnels

- The initial question/dilemma in 2005:
What is a mass traffic accident?
 - *A mass traffic accident (MTA) on a freeway/highway is an accident **involving a larger number of vehicles or a larger number of people have died or have suffered body injuries**, the accident circumstances require an intervention and a coordinated teamwork of a larger number of intervention units or different services.*
 - *MTA on a freeway/highway is also an accident, which does not meet the previous criteria, but the circumstances of the accidents (***dangerous substances spillage, massive traffic hindrance, traffic blockage for a longer period of time and the similar***) require an immediate engagement of a larger number on the intervention teams.*
 - The question: what are the services supposed to do to lower the number of accidents and in case they do happen how can the rescue workers be as efficient as possible?
- Among the measures leading to that goal are also included:
- Regulations supplementation – Road Traffic Regulation Act (partly), introducing the requirement on **providing space for the intervention vehicles on a highway**, as stated in the Article 30.
 - **In case of traffic blockage the drivers must provide enough space for the intervention vehicles to drive between the two lines of vehicles stopped on the road lanes, closest to the left side of the roadway.**

+ What has the manager done?

- The installation of the passages has been initiated where needed and where the regulations require for the passages to be installed.
- A lot of modernisations have been carried out as required when it comes to the „important infrastructure,“ which needs to be built by the highest standards - TUNNELS
- Tunnel safety manager
- The tunnels are built in such a way that they provide traffic safety (when drivers meet the traffic regulations), as well as good conditions concerning disaster reliefs.
- Thermo scanner in front of Karavanke tunnel and determining the number of heavy freight vehicles to enter the tunnel
- Other equipment to monitor the traffic and the possibility to operate the traffic
- The passages installed on open parts of the freeway



Cross connections between the tunnels

- For the needs to rescue people in case of a traffic accident, the cross connections have been built
- This has been carried out in longer and newer double-tube tunnels (Jasovnik, Ločica, Trojane, Podmilj, Kastelec, Dekani, Šentvid, Markovec – all of the tunnels longer than 500 m) with cross connections between the tunnel tubes.



+ Before the tunnels

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+ Intervention passages

- ACPDR's initiative
- **Quickly set up middle passages – installed in a form of a steel safety fence (JVO)**



- Valid road regulations (Roads Act (ZCes-1), OG RS Nr 109/2010) and road traffic regulations (Road Traffic Regulations Act ZPrCP), OG RS Nr 109/2010), as well as the executive acts have been in use already for 5 years, the freeway/highway conditions have improved, which is reflected:
- The rule on ensuring a passage wide enough for the disaster relief is complied with – violations take place rarely
- **In the last past years the intervention middle passages have never needed to be opened for the needs of disaster reliefs, in which case the workers or the intervention services would use them => we will no longer install them.**



The manager's problems during an event and after it

The goals of DARS d.d. :

To provide an appropriate traffic safety and if a traffic accident does happen, to provide an appropriate conditions to carry out a disaster relief.

Offer an appropriate flow



During the traffic accident disaster relief:

- Via the traffic-information centre a message about the happening on a freeway is sent
- Recommended detour – but the detour used also by the heavy freight vehicles – this means that the traffic flow on regional roads is hindered
- The administration of RS does not define that the heavy freight vehicles cannot/are not allowed to use detours

+ The basis or the starting point for the further work

- Carry out all the activities with **positive influence on the increase of the intervention services' efficiency**
- Tunnel equipment, special objects, track the development, comply with the safety directives and the similar
- Looking for ways to improve the drivers' behaviour/a lower number of traffic accidents, consistently obeying the driving regulations ... dangerous goods cargo issues
- Administrative measures – prohibition to drive a certain types of vehicles
- Keep on carrying out the activities regarding prevention

Drive safely!

