



Decision-support Toolkit for Intelligent Transport Systems and Services

Quick guide for new users

*Dieses Handbuch ist auch in deutscher Sprache verfügbar
Ce guide est également disponible en français
Questa guida è disponibile anche in italiano*

What can I use the ITS Toolkit for?

- ▶ To search for **Intelligent Transport System applications** which are relevant to your specific **context** (geographical context, area of transport, problem or policy goal)
- ▶ To obtain **expected values and ranges for benefits** of applications (where data is available), based on evaluation reports of real deployments
- ▶ To access structured summaries of ITS deployment **case studies and evaluations**, and to download the original report (where this is publicly available)
- ▶ The Toolkit does **not** give “instant solutions”, nor can it replace a feasibility study. However, it can assist in such studies by providing evidence of relevant deployments and their results, success factors and lessons learned elsewhere.

What is the Toolkit's scope?

- ▶ The Toolkit covers Intelligent Transport Systems for road and public transport applications in Europe (the scope of the EU's ITS Action Plan). It does not cover systems specific to air, rail or waterborne transport.

How do I get started?

- ▶ To use the Toolkit, you need to **register** (it's free!) Just click on **Create new account**.
 - **Why do I need to register?** We ask that users register in order to better understand the profile of users and also to protect data from hacking or spamming of emails of contact persons. Your personal data will be kept confidential and will not be used for any purpose other than informing you of developments in the Toolkit.
- ▶ To find potential ITS solutions to a given **transport or traffic problem** or **policy goal/objective**, or to find out about **ITS applications** which fall within a given group of ITS services:
 - Use the **ITS Toolkit** option on the top menu bar
 - The Toolkit's intelligent **inference engine** will provide a **list of ITS services** relevant to your query and the number of case study or evaluation reports available for each one
 - Select one of these services to see the **full service description, assessment, overall benefits** and to access relevant **case studies**
- ▶ If you just want to **access the available reports** (case studies and evaluations) associated with a specific ITS service, transport problem or policy goal (without the inference engine):
 - Use the **Search case study** option on the top menu bar
 - This provides a simple list of all case study and evaluation reports in the system which match your search criteria.
 - Unlike the main ITS Toolkit option, this search does **not** suggest and describe the ITS services

Using the Toolkit – an example search

- ▶ Imagine you represent a road authority, responsible for an urban expressway
- ▶ The expressway experiences problems with recurrent congestion
- ▶ You do not already have a specific service in mind
 - ➔ Go to the ITS Toolkit option on the menu



ITS Toolkit | ITS TOOLKIT | 2DECIDE - Windows Internet Explorer

http://www.its-toolkit.eu/2decide/node/38

Fichier Edition Affichage Favoris Outils ?

ITS Toolkit | ITS TOOLKIT | 2DECIDE

Home ITS Toolkit Cost database Search case study Upload Case Study Publishers' Area Edit/Upload content My account Log out

▶ Languages

- English
- Français
- Deutsch
- Italiano

ITS Toolkit

The ITS Toolkit aims to help you find and learn about suitable ITS service applications and deployments for a given situation and context.

Please choose one or more search criteria from the lists below. In some cases, you can select multiple levels of detail.

Fields that must be selected are both **Geographical Coverage** and **Area of Transport**. In addition, one of the following needs to be selected:

- ITS Service OR
- a Problem OR
- an Objective.

The Toolkit will return the following information:

- step 1: Data entry for user input
- step 2: ITS services ranked by relevance to the criteria provided
- step 3: Information on selected ITS services and case studies
- step 4: Information on selected studies

Read the brief guidance

▶ Enter the **Geographical coverage**

- e.g. "Urban areas in Europe – Medium metropolitan area"

▶ Enter the **Area of transport**

- in this case, "Road transport (people)"
- You can further specify in the next box "Motorways and expressways (TERN – Trans-European Road Network)"

You can only select an ITS Service **or** a Problem **or** a Goal/Objective, not a combination of them!

▶ Leave the **ITS Service** blank

- Remember, in this worked example, you do not have a specific ITS service in mind

▶ Enter the **Problem**

- In this case, "Congestion"
- You might wish to further specify in the next box down by selecting "Regular congestion (recurrent)"

▶ Leave the **Goal and Objective** blank

▶ Enter the **Country of implementation**

- Entering a country will list all relevant ITS services, but will only list evaluation reports from that specific country. For less common applications or smaller countries there may be no reports
- Therefore, to get a wider range of results, select "ALL Countries"

Windows Internet Explorer

2decide/node/38

itils ?

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ITS Toolkit

Search criteria

Geographical Coverage *	Urban areas in Europe - Medium metropolitan area (250.000 to 1 million inhabitants)
Area of Transport *	Road transport (people)
>	Motorways and expressways (TERN)
ITS Service	Please select
>	
>	
>	
Problem	Congestion
>	Regular congestion (recurrent)
>	Please select
Goal and Objective	Please select
>	
>	
Country of Implementation	ALL Countries

Press Submit to get results from Database.

Geographical Coverage: the scope of coverage of the context you want to assess.

Internet 100%

W:\ 1 2DECIDE - Micr... RE: 2DECIDE ITS ... Antwort: 2DECID... ITS Toolkit Quick ... ITS Toolkit | IT... FR 17:19

Then press "Submit"

→ You then get a list of ITS services, ranked in order of relevance to your query (most relevant at the top):

ECIDE - Windows Internet Explorer
 http://www.its-kit.eu/2decide/node/38

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You have provided the following search criteria:

Geographical Coverage: Urban areas in Europe - Medium metropolitan area (250.000 to 1 million inhabitants)
Area of Transport: Road transport (people) > Motorways and expressways (TERN)
Problem: Congestion > Regular congestion (recurrent)

[Back to search criteria](#)

[Export as pdf](#)

Based on those criteria, the following ITS Services are relevant:

Ranking	ITS Services Ranked by Problem/Objective Relevance	Number of Related Studies
1	Dynamic lane management	1
1	Ramp metering	1
1	Travel guidance using variable message signs (VMS)	13
1	Co-ordinated traffic management	1
1	Traffic management for specific vehicles (dangerous cargo, wide loads, etc.,)	0
1	Specific control measures for tunnels	0
1	Specific control measures for bridges	2
1	Specific control measures for vulnerable road users	0
1	Adaptive Traffic Control at Intersections	5
1	Parking facilities management	1
2	Traffic Safety	0
2	Traffic efficiency	1
2	Supporting services	1
2	Value Added services	0

users

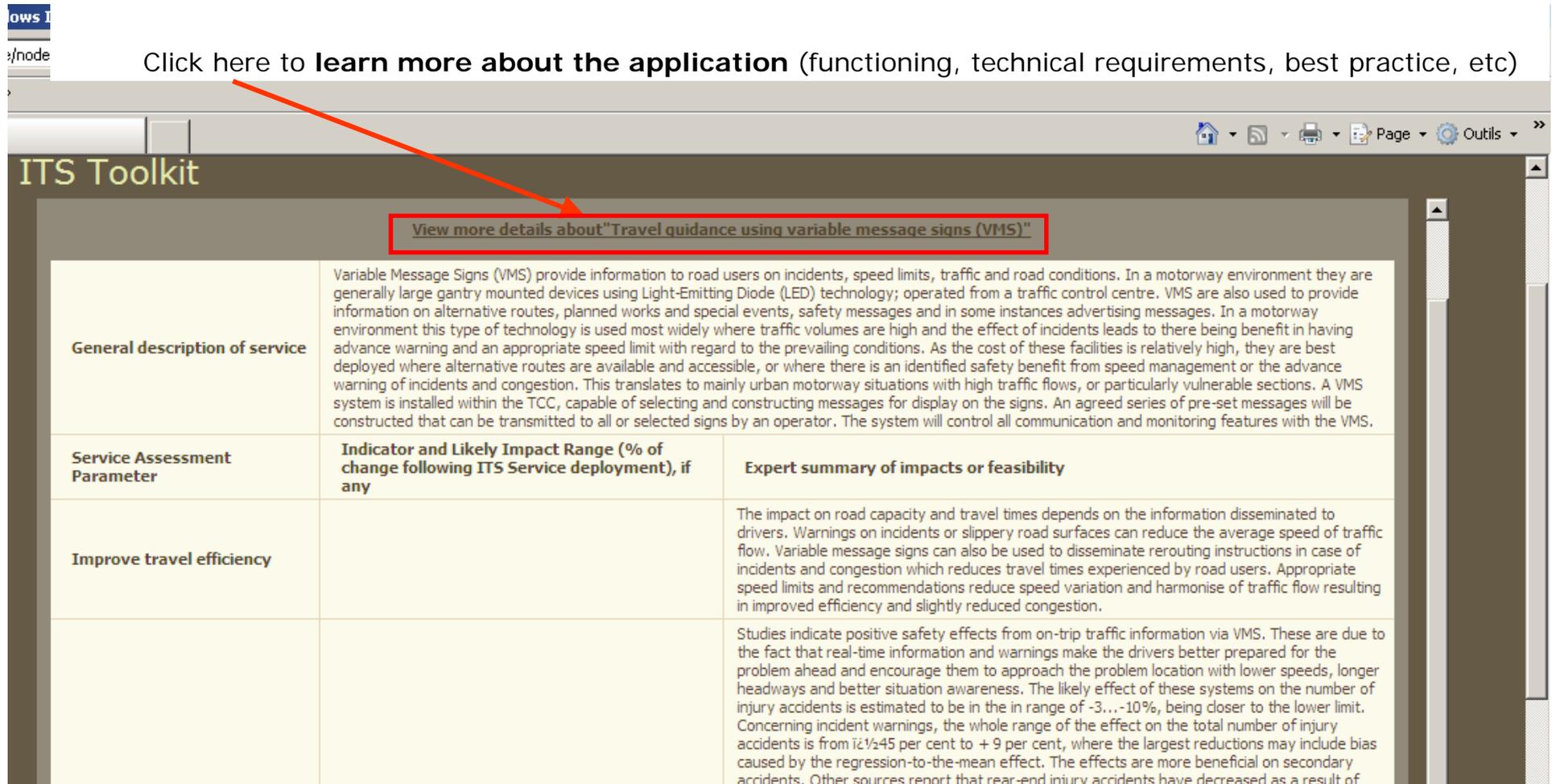
The first ten applications have a ranking of 1, so these are the most relevant

The number of related case studies or reports for each ITS application is given

Click on the desired application to learn more about it and access the case studies

- Selecting, for example, the application “Travel guidance using variable message signs (VMS)” gives you an **overall description of the applications and its benefits**.
- Scroll down to the bottom of the screen to access **case study reports**

Click here to **learn more about the application** (functioning, technical requirements, best practice, etc)

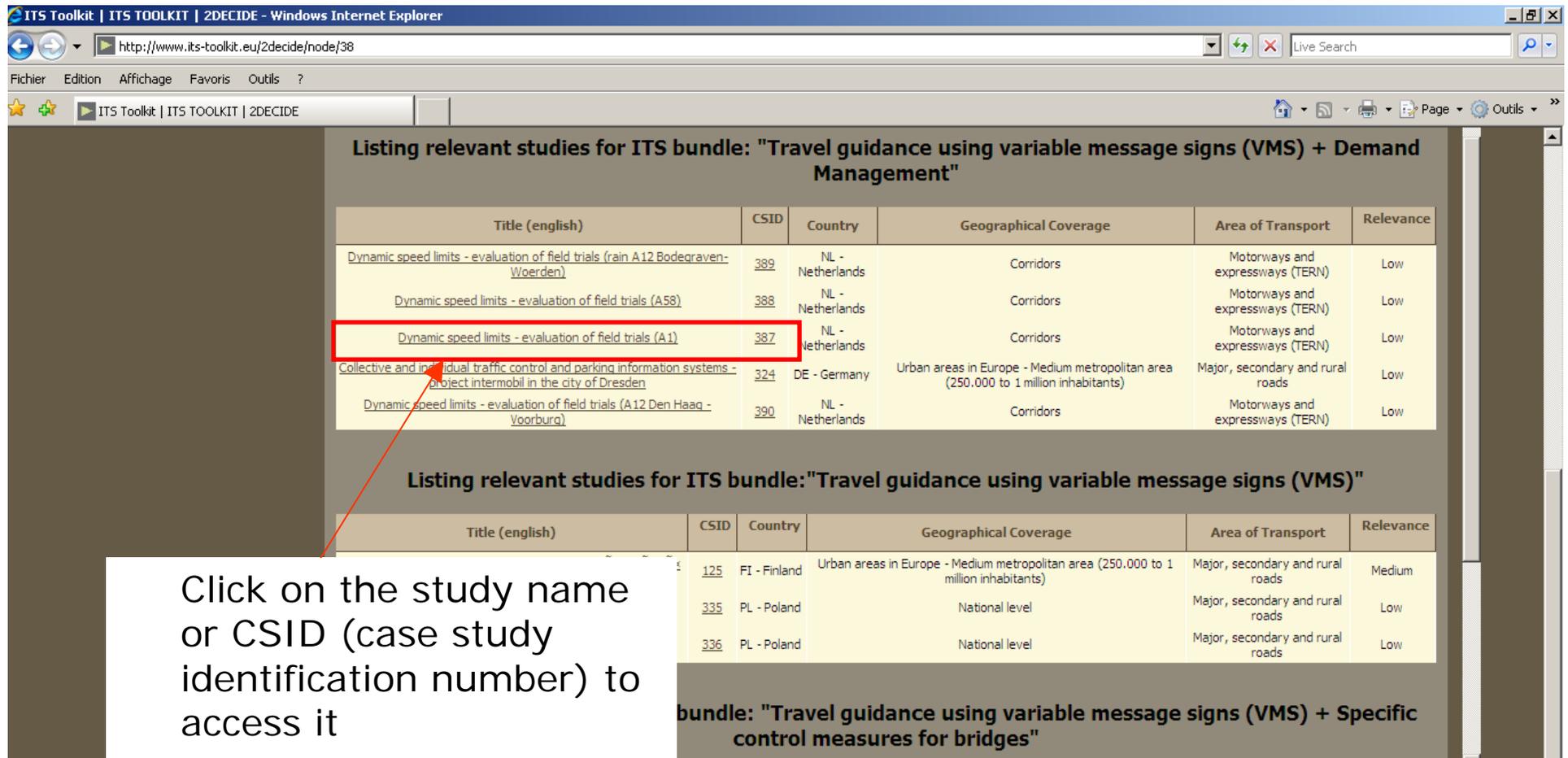


View more details about "Travel guidance using variable message signs (VMS)"

General description of service	Variable Message Signs (VMS) provide information to road users on incidents, speed limits, traffic and road conditions. In a motorway environment they are generally large gantry mounted devices using Light-Emitting Diode (LED) technology; operated from a traffic control centre. VMS are also used to provide information on alternative routes, planned works and special events, safety messages and in some instances advertising messages. In a motorway environment this type of technology is used most widely where traffic volumes are high and the effect of incidents leads to there being benefit in having advance warning and an appropriate speed limit with regard to the prevailing conditions. As the cost of these facilities is relatively high, they are best deployed where alternative routes are available and accessible, or where there is an identified safety benefit from speed management or the advance warning of incidents and congestion. This translates to mainly urban motorway situations with high traffic flows, or particularly vulnerable sections. A VMS system is installed within the TCC, capable of selecting and constructing messages for display on the signs. An agreed series of pre-set messages will be constructed that can be transmitted to all or selected signs by an operator. The system will control all communication and monitoring features with the VMS.	
Service Assessment Parameter	Indicator and Likely Impact Range (% of change following ITS Service deployment), if any	Expert summary of impacts or feasibility
Improve travel efficiency		The impact on road capacity and travel times depends on the information disseminated to drivers. Warnings on incidents or slippery road surfaces can reduce the average speed of traffic flow. Variable message signs can also be used to disseminate rerouting instructions in case of incidents and congestion which reduces travel times experienced by road users. Appropriate speed limits and recommendations reduce speed variation and harmonise of traffic flow resulting in improved efficiency and slightly reduced congestion.
		Studies indicate positive safety effects from on-trip traffic information via VMS. These are due to the fact that real-time information and warnings make the drivers better prepared for the problem ahead and encourage them to approach the problem location with lower speeds, longer headways and better situation awareness. The likely effect of these systems on the number of injury accidents is estimated to be in the in range of -3...-10%, being closer to the lower limit. Concerning incident warnings, the whole range of the effect on the total number of injury accidents is from 12½-45 per cent to +9 per cent, where the largest reductions may include bias caused by the regression-to-the-mean effect. The effects are more beneficial on secondary accidents. Other sources report that rear-end injury accidents have decreased as a result of

→ Access case study reports by “ITS bundle”

- this screen also contains tables of impacts for applications where these are measurable and can be inferred with reference to comparable case study reports



Listing relevant studies for ITS bundle: "Travel guidance using variable message signs (VMS) + Demand Management"

Title (english)	CSID	Country	Geographical Coverage	Area of Transport	Relevance
Dynamic speed limits - evaluation of field trials (rain A12 Bodegraven - Woerden)	389	NL - Netherlands	Corridors	Motorways and expressways (TERN)	Low
Dynamic speed limits - evaluation of field trials (A58)	388	NL - Netherlands	Corridors	Motorways and expressways (TERN)	Low
Dynamic speed limits - evaluation of field trials (A1)	387	NL - Netherlands	Corridors	Motorways and expressways (TERN)	Low
Collective and individual traffic control and parking information systems - project intermobil in the city of Dresden	324	DE - Germany	Urban areas in Europe - Medium metropolitan area (250.000 to 1 million inhabitants)	Major, secondary and rural roads	Low
Dynamic speed limits - evaluation of field trials (A12 Den Haag - Voorburg)	390	NL - Netherlands	Corridors	Motorways and expressways (TERN)	Low

Listing relevant studies for ITS bundle: "Travel guidance using variable message signs (VMS)"

Title (english)	CSID	Country	Geographical Coverage	Area of Transport	Relevance
125	125	FI - Finland	Urban areas in Europe - Medium metropolitan area (250.000 to 1 million inhabitants)	Major, secondary and rural roads	Medium
335	335	PL - Poland	National level	Major, secondary and rural roads	Low
336	336	PL - Poland	National level	Major, secondary and rural roads	Low

bundle: "Travel guidance using variable message signs (VMS) + Specific control measures for bridges"

Click on the study name or CSID (case study identification number) to access it

→ All the case study reports have a common structure and summary in English

total case studies, View record [, CSID: 387]

Basic Information Document Information Company Study Categorization Study Analysis

Basic Information

Title (english)	Dynamic speed limits - evaluation of field trials (A1)
Title (original language)	Dynamische maximumsnelheden - Evaluatie praktijkproeven (A1)

Document Information

Document original language	nl - Dutch
Programme/Project	
Country of implementation	NL - Netherlands
Year of study/report	2010
Year of the implementation	2009
Document File	ITS_TOOLKIT_387_1320666261.pdf
Document Source	website
Document Weblink	http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2011/02/11/bijlage-2---rapport-dynamische-maximumsnelheden-evaluatie-praktijkproeven.html

Additional Information

Author/s of the original report	
Author/s Company	Rijkswaterstaat - Ministerie van Verkeer en Waterstaat

Company

Company Name	
Unit Division	
Contact Name	
Company E-mail	

Study Categorisation

Geographical Coverage	Corridors
Geographical Coverage (2)	
Area of Transport	Road transport (people)

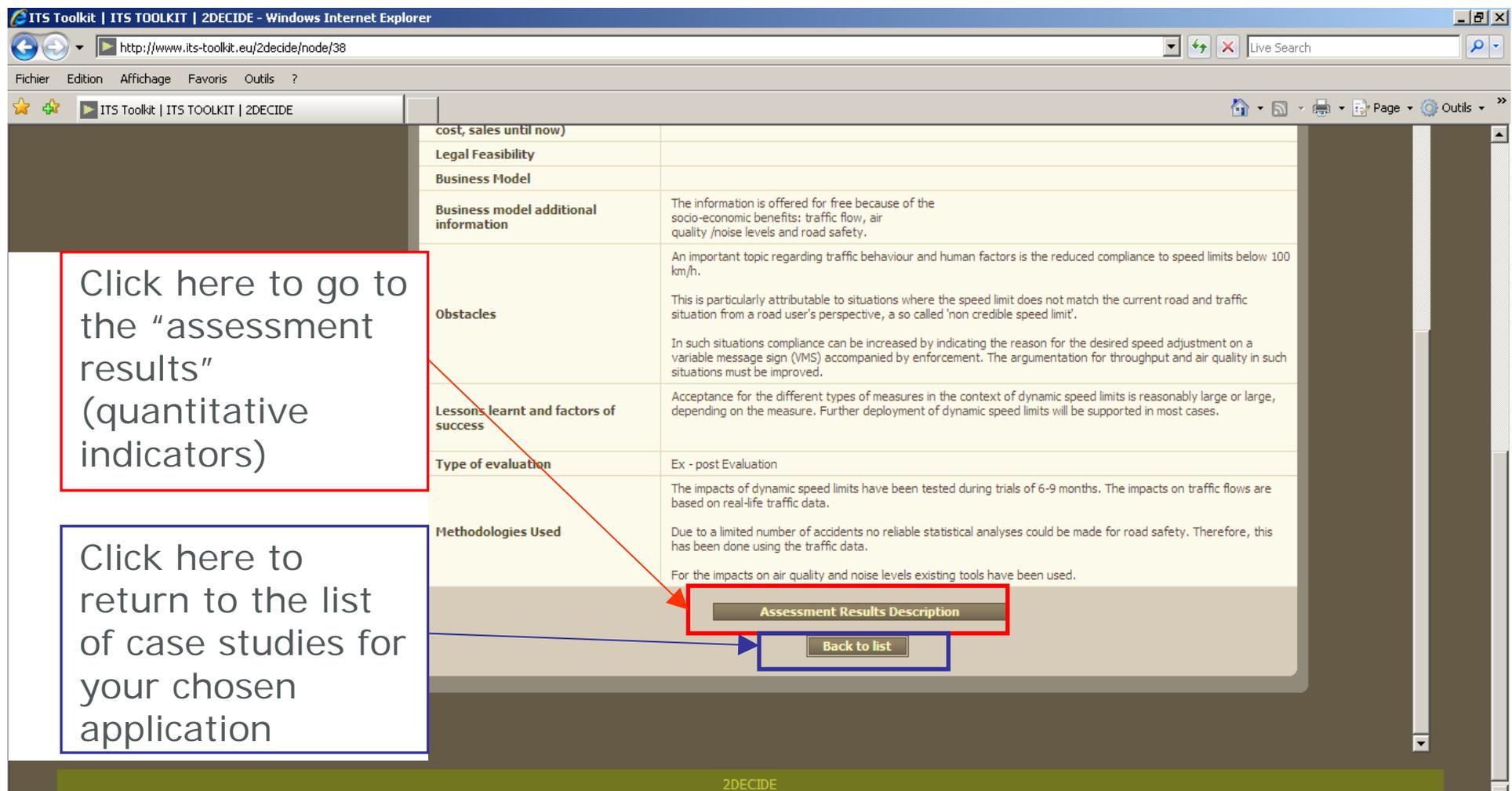
Name in English and original language of the study (in this case, Dutch)

Date (of the report and also the ITS implementation)

Link to the original report (in original language) and link to website if there is one

Scroll down for full study description

→ End of case study description (scrolling to bottom of case study page)



The screenshot shows a web browser window displaying the ITS Toolkit 2DECIDE website. The page content includes a table with the following sections:

cost, sales until now)	
Legal Feasibility	
Business Model	
Business model additional information	The information is offered for free because of the socio-economic benefits: traffic flow, air quality /noise levels and road safety.
Obstacles	An important topic regarding traffic behaviour and human factors is the reduced compliance to speed limits below 100 km/h. This is particularly attributable to situations where the speed limit does not match the current road and traffic situation from a road user's perspective, a so called 'non credible speed limit'. In such situations compliance can be increased by indicating the reason for the desired speed adjustment on a variable message sign (VMS) accompanied by enforcement. The argumentation for throughput and air quality in such situations must be improved.
Lessons learnt and factors of success	Acceptance for the different types of measures in the context of dynamic speed limits is reasonably large or large, depending on the measure. Further deployment of dynamic speed limits will be supported in most cases.
Type of evaluation	Ex - post Evaluation
Methodologies Used	The impacts of dynamic speed limits have been tested during trials of 6-9 months. The impacts on traffic flows are based on real-life traffic data. Due to a limited number of accidents no reliable statistical analyses could be made for road safety. Therefore, this has been done using the traffic data. For the impacts on air quality and noise levels existing tools have been used.

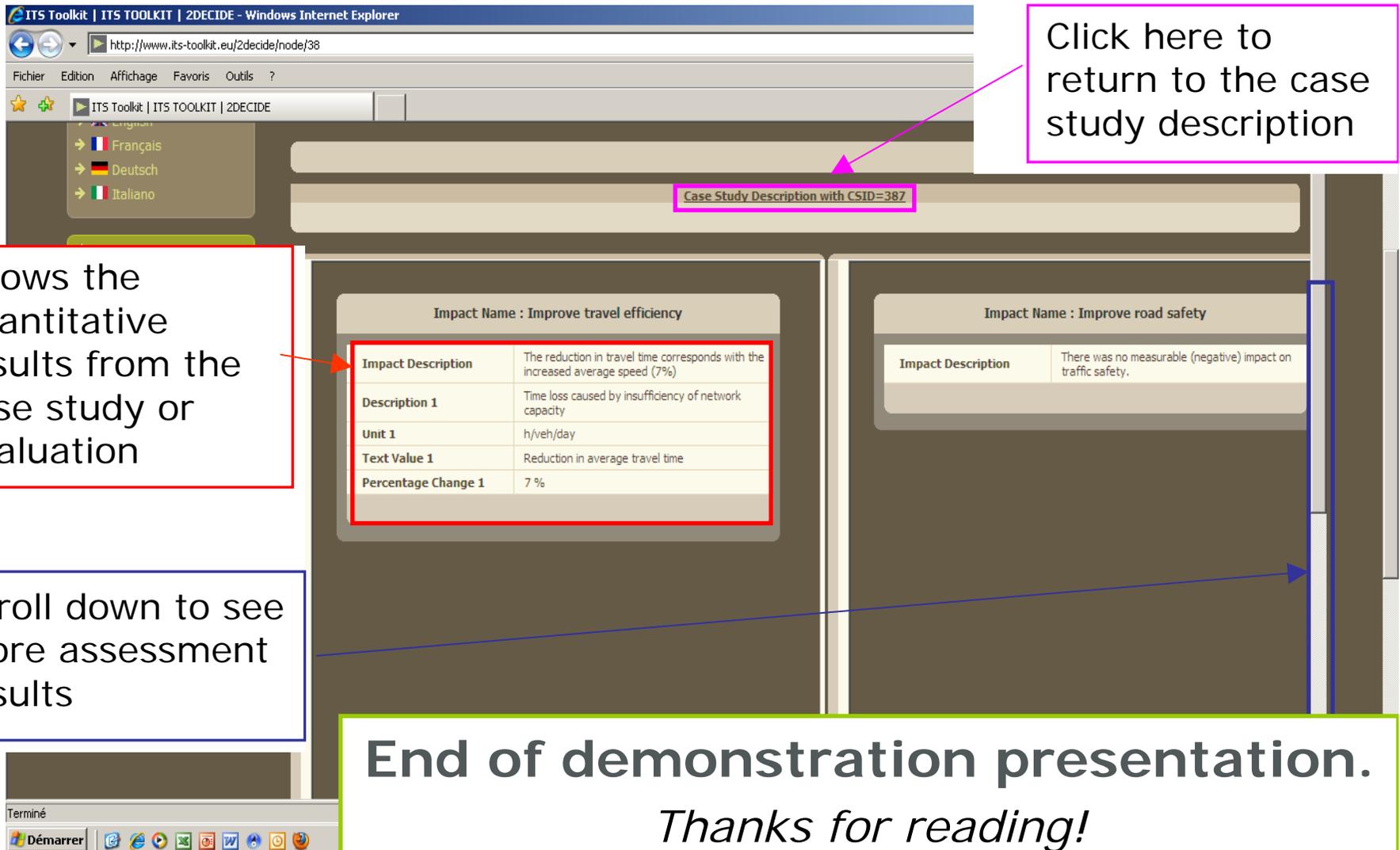
Annotations on the screenshot:

- A red box highlights the text: "Click here to go to the 'assessment results' (quantitative indicators)". A red arrow points from this box to the "Assessment Results Description" button.
- A blue box highlights the text: "Click here to return to the list of case studies for your chosen application". A blue arrow points from this box to the "Back to list" button.

Buttons at the bottom of the page: "Assessment Results Description" (highlighted in red) and "Back to list" (highlighted in blue).

Page-Footer: 2DECIDE

→ Assessment results description



Click here to return to the case study description

Shows the quantitative results from the case study or evaluation

Scroll down to see more assessment results

End of demonstration presentation.
Thanks for reading!

Impact Name : Improve travel efficiency	
Impact Description	The reduction in travel time corresponds with the increased average speed (7%)
Description 1	Time loss caused by insufficiency of network capacity
Unit 1	h/veh/day
Text Value 1	Reduction in average travel time
Percentage Change 1	7 %

Impact Name : Improve road safety	
Impact Description	There was no measurable (negative) impact on traffic safety.