

TII Road Safety Audit and Engineering Conference

24th May 2023

Alastair de Beer, Head of Road Safety



TII Road Safety Engineering and Auditing Conference Agenda

Time	Topic	Presenter
9.00am – 9.30am	Registration	
Session 1 Chair Alastair DeBeer, Head of Road Safety, TII		
9.30am – 9.45am	Opening and Welcome Launch of Road Safety Portal	Alastair De Beer, Head of Road Safety TII Dr. Suzanne Meade, Senior Engineer Road Safety TII
9.45am – 10.05am	Dangerous Driver Behaviours	Velma Burns Research Manager, Road Safety Authority.
10.05am – 10.25am	RMO Updates on Collision Data and LA16	Stephen Flynn, Senior Engineer, Road Management Office.
10.25am – 10.45am	New Road Safety Inspection Risk Rating	Jim McElhinney, Road Safety Inspection Engineer Roscommon NRO
10.45am – 11.00am	Questions	
11.00am – 11.30am Coffee Break		

After Tea

Session 2 Chair Emer Concannon, Director of Service, Sligo County Council		
11.30am – 11.40am	TII Safety Scheme N76 Grangemockler	Milan Gajic, Tramore House NRO
11.40am – 11.50am	TII Safety Scheme N25 Carroll's Cross	Branco Erak, Waterford County Council
11.50am – 12.00pm	TII Safety Scheme N17 Lisduff Compact Grade Separated Interchange	Angela Grady, Mayo County Council NRO
12.00pm – 12.10pm	Questions	
12.10pm – 1.00pm	<p>Round Table Discussion on Road Safety Schemes.</p> <p>Chaired by Emer Concannon Director of Service, Sligo County Council</p>	<p>Paul Curry, Senior Engineer, Kerry County Council NRO</p> <p>Fiona Bohan, Regional Road Safety Engineer, Cork NRO</p> <p>Conor Gerathy, Senior Engineer for Active Travel, D/L Rathdown County Council.</p> <p>Eimear Fox, Senior Landscape Architect, TII</p>
1.00pm – 2.00pm	Lunch	

Afternoon

Session 3 Chair Dr. Suzanne Meade, Senior Engineer, TII Road Safety		
2.00pm – 2.20pm	Treatment of Rural Bus Stops on National Roads	Norman Bruton, Bruton Consulting Engineers.
2.20pm – 2.40pm	Safety Auditing Portal Breakdown and New Road Safety Audit Portal	Lucy Curtis, Regional Road Safety Engineer, Kerry NRO
2.40pm – 3.00pm	Road Safety in Public Realm & Active Travel Schemes	Martin Deegan, Principle Engineer, Traffico.
3.00pm – 3.20pm	Auditing of Greenways and Rural Active Travel Schemes.	Philip Durkin, Regional Road Safety Engineer, Mayo NRO
3.20pm – 3.40pm	Exception Reports when and why.	Bryan Kennedy, Road Safety Engineer, TII.
3.40pm – 4.00pm	How Road Safety Audits are used after the Audit Process is completed.	Virginia Kangley, Senior Engineering Inspector West Region, TII
4.00pm – 4.15pm	Questions	
4.15pm	Close Conference	



TII Road Safety

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Aim: Reduce collisions on National Road Network

Legislation and Policy:

- TII Statement of Strategy
- EU Directive on Road Infrastructure Safety Management (EU RISM), transposed by S.I No. 612 of 2021
- Government's Road Safety Strategy (2021-2030)

Role:

- Identifying safety issues by proactive and reactive analysis,
- Funding safety improvement schemes through Local Authorities and MMarC Contractors
- Overseeing Road Safety Audit Team approvals and training
- Other: Data Analysis, Road Safety Impact Assessments, Road Works Portal, Geometric Standards, Research, training.





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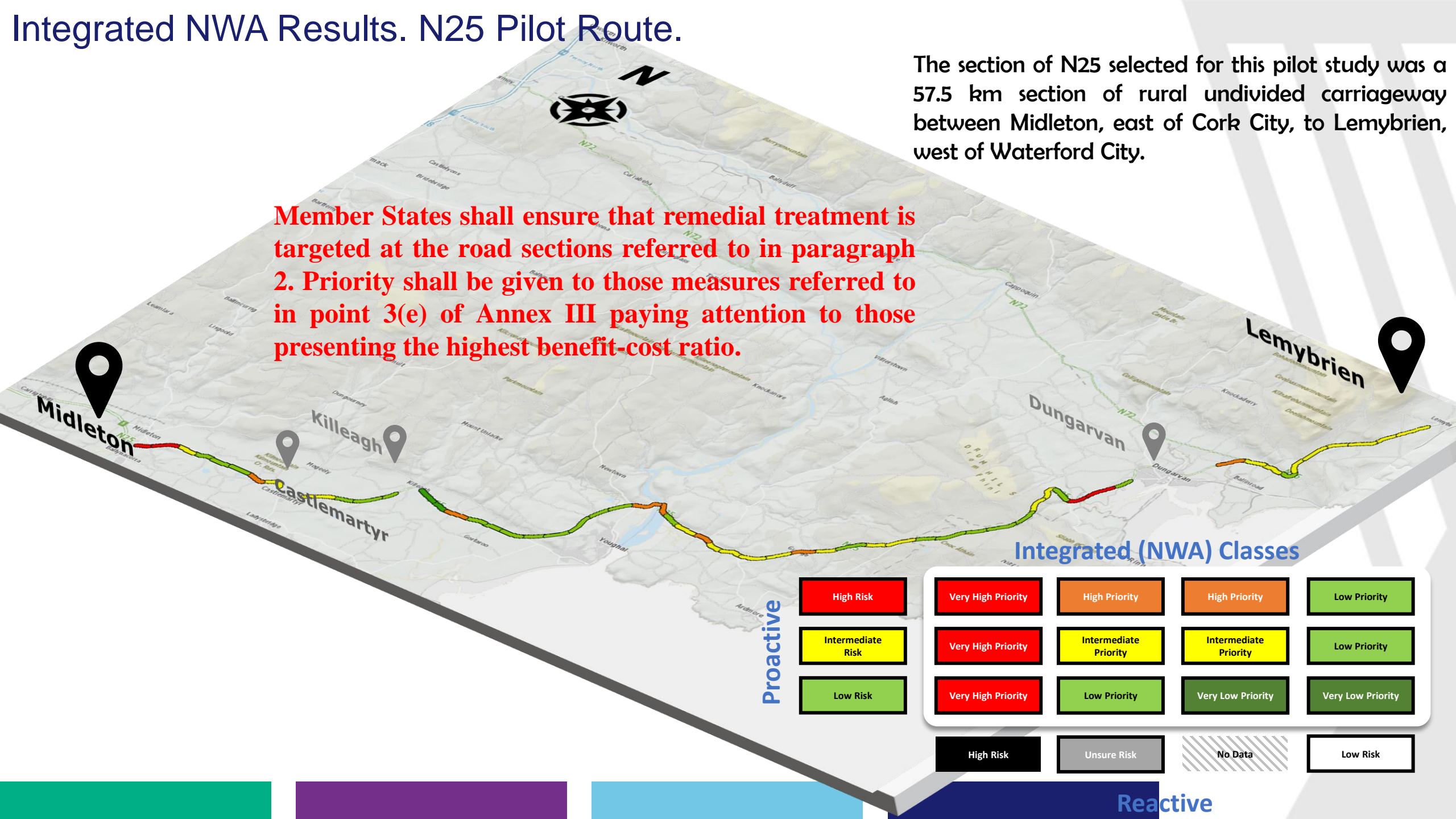
Network Wide Road Safety Assessment

- **New** Requirement in European Directive
- Network-wide Road Safety Assessment is the **combination of Reactive and Proactive**
- Prepare a **safety rating report** to be provided to the Commission every five years from the **31st October 2025**.
- TII Road Safety participated in a **European Commission Trial** and presented the results at a Commission Workshop in January. One of only three countries to have completed the trial.
- TII will be integrating the High Collision and Road Safety Inspection program to develop Network-wide Safety Ratings:
 - Final round of RSI programme to be completed by September 2023
 - 2019-2022 Network Safety Analysis currently being finalised
 - **Jan 2024 – TII's first Network Wide Road Safety Indicators to be published**

Integrated NWA Results. N25 Pilot Route.

The section of N25 selected for this pilot study was a 57.5 km section of rural undivided carriageway between Midleton, east of Cork City, to Lemybrien, west of Waterford City.

Member States shall ensure that remedial treatment is targeted at the road sections referred to in paragraph 2. Priority shall be given to those measures referred to in point 3(e) of Annex III paying attention to those presenting the highest benefit-cost ratio.



Integrated (NWA) Classes

Proactive

High Risk	Very High Priority	High Priority	High Priority	Low Priority
Intermediate Risk	Very High Priority	Intermediate Priority	Intermediate Priority	Low Priority
Low Risk	Very High Priority	Low Priority	Very Low Priority	Very Low Priority

High Risk	Unsure Risk	No Data	Low Risk
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Reactive



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Road Safety Strategy (2021-2030) - Phase 1: 2021-2024



Safe Speeds

The 'Safe Speeds' pillar is represented by a yellow horizontal bar. It includes logos for the Road Safety Authority (RSA), the Garda Síochána (Irish Police), the Department of Transport (An Roinn Iompair), TII (Transport Infrastructure Ireland), CCMA (Construction Contractors' Mutual Association), and the Health and Safety Authority (HSA).

Safe Roads and Roadsides

The 'Safe Roads and Roadsides' pillar is represented by a blue horizontal bar. It includes logos for the Department of Transport (An Roinn Iompair), TII (Transport Infrastructure Ireland), CCMA (Construction Contractors' Mutual Association), and the National Transport Authority (Údarás Náisiúnta Iompair).

Safe and Health Modes

The 'Safe and Health Modes' pillar is represented by a grey horizontal bar. It includes logos for the Road Safety Authority (RSA), TII (Transport Infrastructure Ireland), and the National Transport Authority (Údarás Náisiúnta Iompair).

TII Lead Actions – High Impact Actions (Phase 1: 2021 – 2024)

	Action Description	Progress to date
1	Develop and implement a safety rating indicator for national road infrastructure, which will help target investment on sections of national roads with the highest risk of fatal or serious injury.	On target – working with the European Commission on developing an indicator and reporting in 2024.
2	Deliver an average of 60 road safety improvement schemes and fund an average of four minor realignment schemes on national roads per year, to create forgiving roadsides, self-explaining roads and a safe environment for vulnerable road users.	161 Road Safety Improvement Schemes in 2022 13 minor schemes were at construction in 2022
3	Increase the length of divided roads on the National Primary Network from 1,310km (2020) to 1,366 km (2024).	8km of the N22 Macroom Bypass opened in Dec 2022. Total length of divided road open is 33km since start of RSS.
8	Expand speed management measures on National, Regional and Local roads using Periodic Speed Limits at schools, Vehicle Activated Signs and Average Speed Cameras in collaboration with An Garda Síochána at appropriate high-risk locations.	M7 Average Speed Cameras implemented. Working with AGS to implement ASC in High Collision Locations
39	Develop a National Cycle Network plan for interurban rural cycling and walking, providing connections to active travel networks and Greenways. Develop an implementation plan for delivery in Phases 2 & 3 of the Road Safety Strategy.	A plan for an interurban rural walking and cycling network was developed by TII and forwarded to the DoT in December 2022.

Pillar	Action No.	Actions	Lead Department or Agency
Safe Roads and Roadsides	53	Examine the implications of the installation of median barriers on roads with speed limits of 80kmh or more and make recommendations. (SPI 1)	Department of Transport, Transport Infrastructure Ireland
Safe Roads and Roadsides	63	Review and make recommendations for the provision of a dedicated road safety engineering resource in each Local Authority to progress road safety schemes and strategy actions.	Department of Transport, Transport Infrastructure Ireland, CCMA / LA's
Safe Roads and Roadsides	65	Embed the Safe Systems approach within Transport Infrastructure Ireland standards and guidance documents.	Transport Infrastructure Ireland
Safe Roads and Roadsides	66	Deliver training to key stakeholders; <ul style="list-style-type: none"> • to provide guidance to An Garda Síochána and Local Authority staff on collision analysis and reporting from an engineering perspective • to provide guidance on the design of roads utilising the safe system approach 	Transport Infrastructure Ireland
Safe Roads and Roadsides	70	<i>Transpose and implement the EU Road Infrastructure Safety Management Directive 2008/96/EC as amended by Directive (EU) 2019/1936. Strengthen and extend supporting national infrastructure safety measures to the entire national road network.</i>	<i>Department of Transport, Transport Infrastructure Ireland</i>
Safe Roads and Roadsides	71	Facilitate the improvement of an average of 10 rural bus stop facilities annually on the National Road Network in line with a Safe System approach.	Transport Infrastructure Ireland
Safe Road Use	162	Implement a number of pilot weigh in motion systems on the roads network starting with the national roads network and report on the findings in terms of numbers of overweight vehicles including the potential adverse impact on road safety including road surfaces and potential efforts to change behaviours of freight operators and drivers in respect of overweight vehicles.	Transport Infrastructure Ireland

Support Actions

Collision Trends



Performance Measurement : Collision rate comparison

COLLISION RATE = THE EXPECTED NUMBER OF COLLISION PER KILOMETRE TRAVELLED

The Trans-European Road Network, TEN-T (Roads): 2019 Performance Report shows the average rate of fatal collisions along motorways in **Europe**, over the last five years, is **2.1 fatal collisions per billion** vehicle kilometre travelled.

In **Ireland**, the fatal collision rate is **1.31** for the Core Ten-T network and **0.82** for the Comprehensive Ten-T Motorway network.

Rural 2-Lane (3,478 KM)



2018 to 2020 Collision Rate = 6.797

Benchmark Rate

92% of fatalities and 86% of serious injury collisions occur on Single Carriageway National Roads, which account for only 38% of all veh.km travelled on National Roads

Rural Motorway (947 KM)



2018 to 2020 Collision Rate = 1.660

4 times safer than benchmark rate

Rural Dual Carriageway (275 KM)



2018 to 2020 Collision Rate = 2.372

2.8 times safer than benchmark rate

Urban Motorway (M50 – 50 KM)

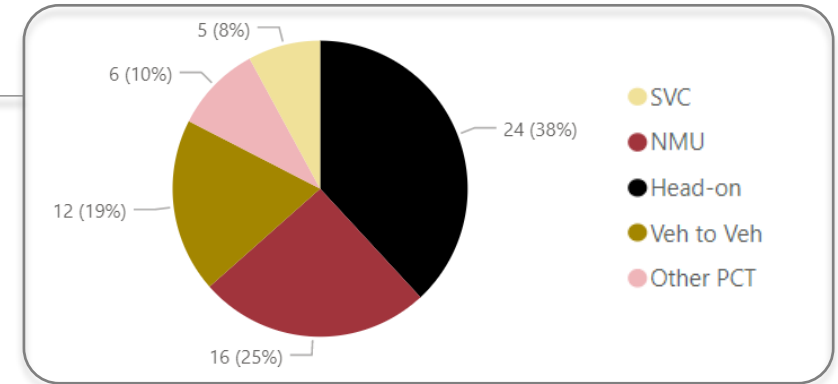


2018 to 2020 Collision Rate = 3.227

2.1 times safer than benchmark rate

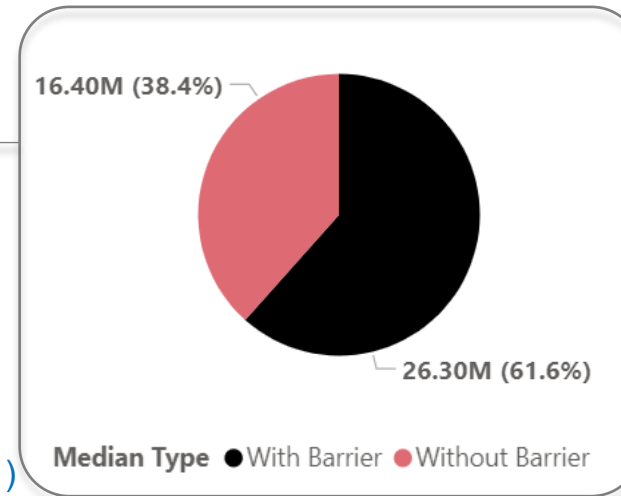
What, related to your lens, has been driving the rise in fatalities in 2022, and trends in serious injuries? (Consider ongoing and new trends)

- [Head-on collisions \(38%\)](#) are the main cause of fatalities on Single Carriageways
- [Non-Motorised Users account for 25%](#) of all fatalities ,with 82% in rural sections of National Roads (>60km/h)
- [92% of fatalities and 86% of serious injury collisions occur on Single Carriageway National Roads, which account for only 38% of all veh.km travelled on National Roads](#)



What do we know now that is new / different to what we have known or seen before? What is new or surprising information that should be considered in 2023 delivery?

- 270% increase in NMU fatalities on National Roads compared to 2021 (from 6 to 16)
- Trend of head-on collisions is consistent at 40% of fatal collisions over the last 10 years



Which priority focus areas do you believe to be the most important to focus on in 2023?

1. Segregated NMU facilities and improving bus stop facilities on rural National Roads (Action 71)
2. Reduce speeds on single carriageways (Action 6) and explore options for dividing sections of National Primary single carriageway roads (Action 3) with high risk of head-on collisions
3. Expand speed management measures on the National Road Network at key locations where high speeds are resulting in fatal and serious injury collisions (Action 8)

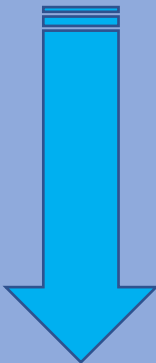
Main Fatal Collision - Head on Collisions

Fatal head-on collisions account for 43% (TII, 2022) of all fatal collisions on national roads

90% of fatal head-on collisions on rural road sections (High Speed)

Example (2016):

Total 27 Fatal Head-On Collisions



71 people injured or killed

31 people died

23 people had serious injuries

17 people minor injuries





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Thank you for your attention

Go raibh míle maith agaibh



TII Road Safety Improvement Scheme (RSIS Portal)

Dr. Suzanne Meade Transport Infrastructure Ireland

Road Safety Audit Conference – 24th May 2023 Tullamore

Presentation Outline

- TII RSIS Standard GE STY 01037
- Dissemination of TII HCL Analysis
- Making Applications (Feasibility & Options Reports)
- Approvals & Communication
- RSIS Project Progress and Tracking
- *Other business – APM Questionnaire*



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TII Publications

GE PE DN CC DP AM RE

Road Safety Improvement Scheme Approval Procedure

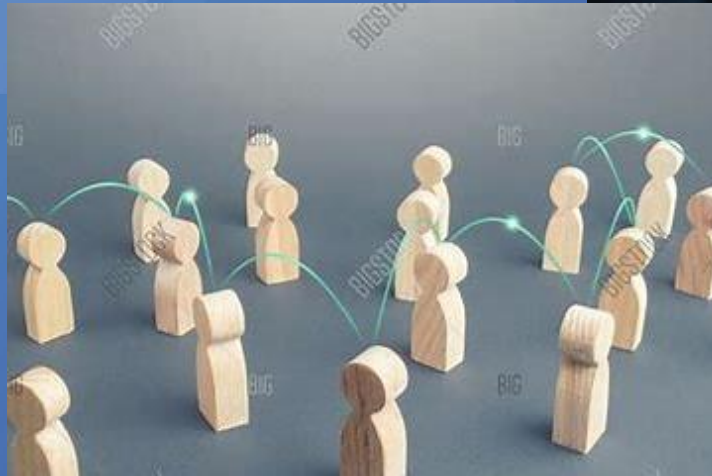
GE-STY-01037
April 2021

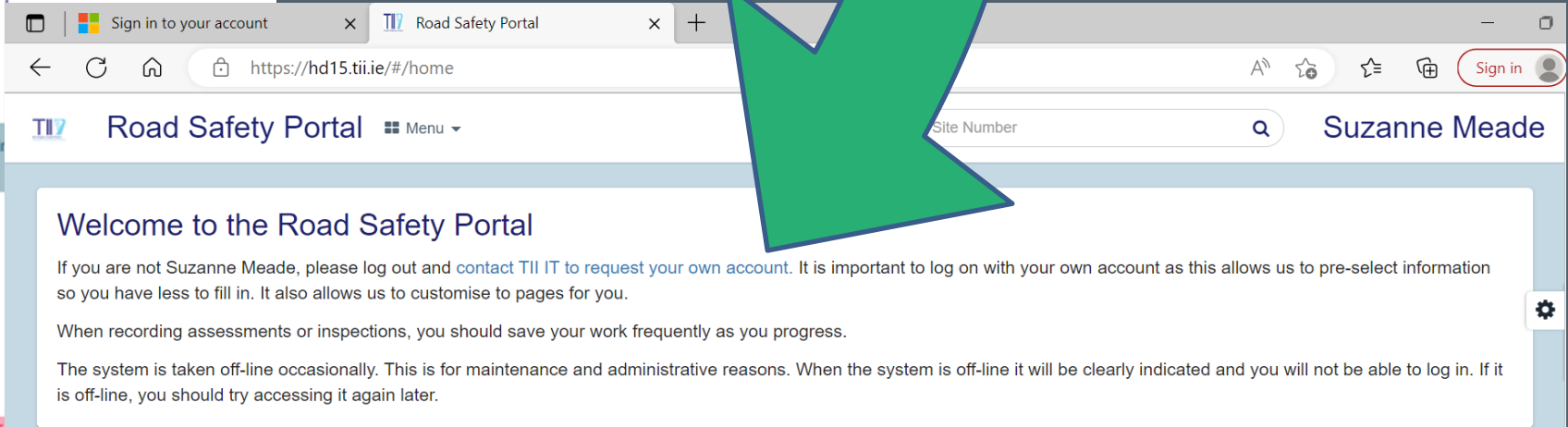
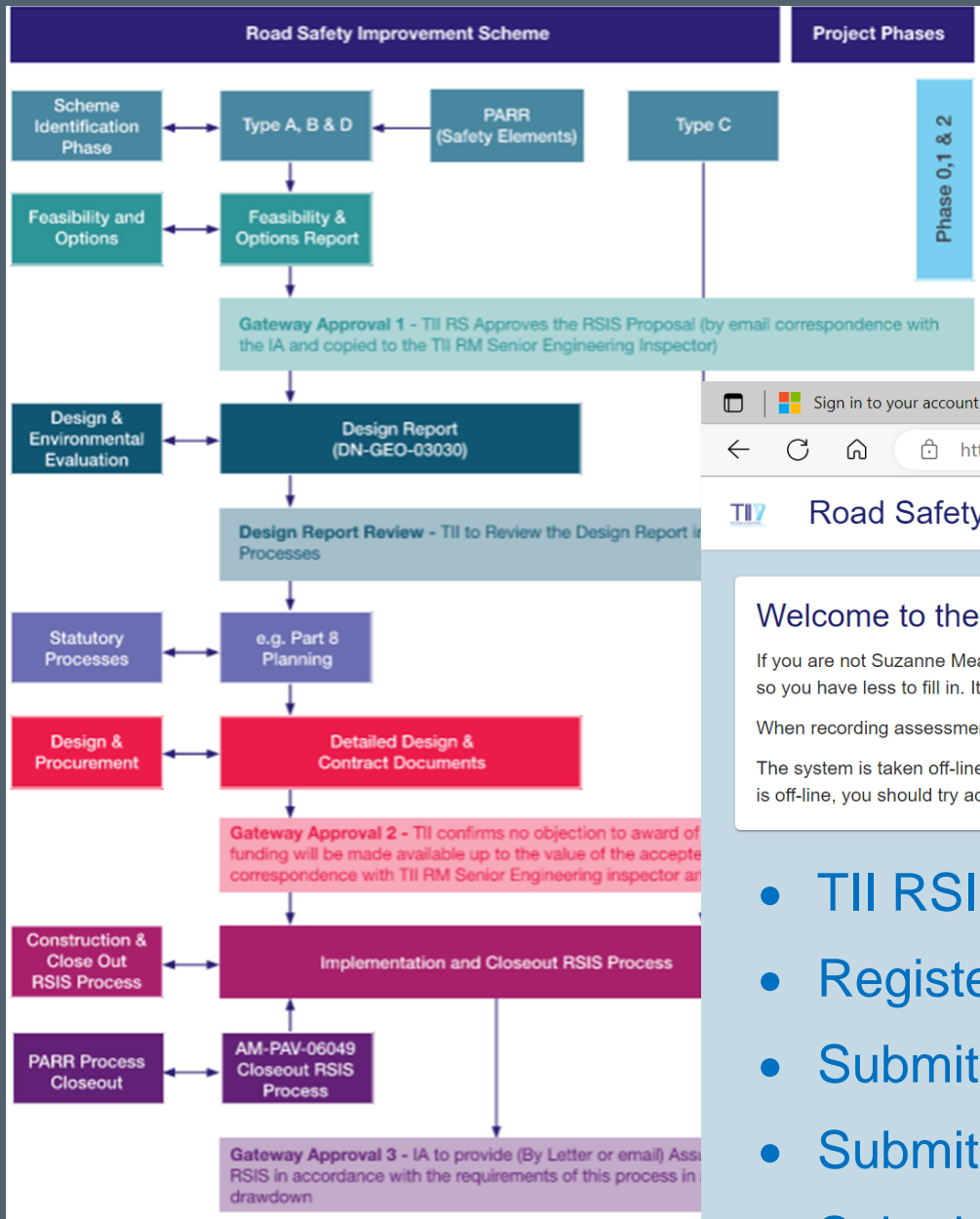
GE General

Standards



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- TII RSIS Portal
- Register as a user
- Submit Feasibility & Options Report
- Submit other reports/costs/Tender Approval Requests etc.
- Submit Close Out Sheet/Report

- **TYPE A** High Collision Location (HCL)
- **TYPE B** Design Road Safety Inspection Schemes (RSIs)
- **TYPE C** Routine Road Safety Inspection Schemes (RSIs-simple *i.e. no Design needed*)
- **TYPE D** *Other Road Safety Improvement*, Schemes identified by Local Authorities that demonstrates a safety benefit in accordance with GE STY 01037.

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Sign in to your account | Road Safety Portal | Home

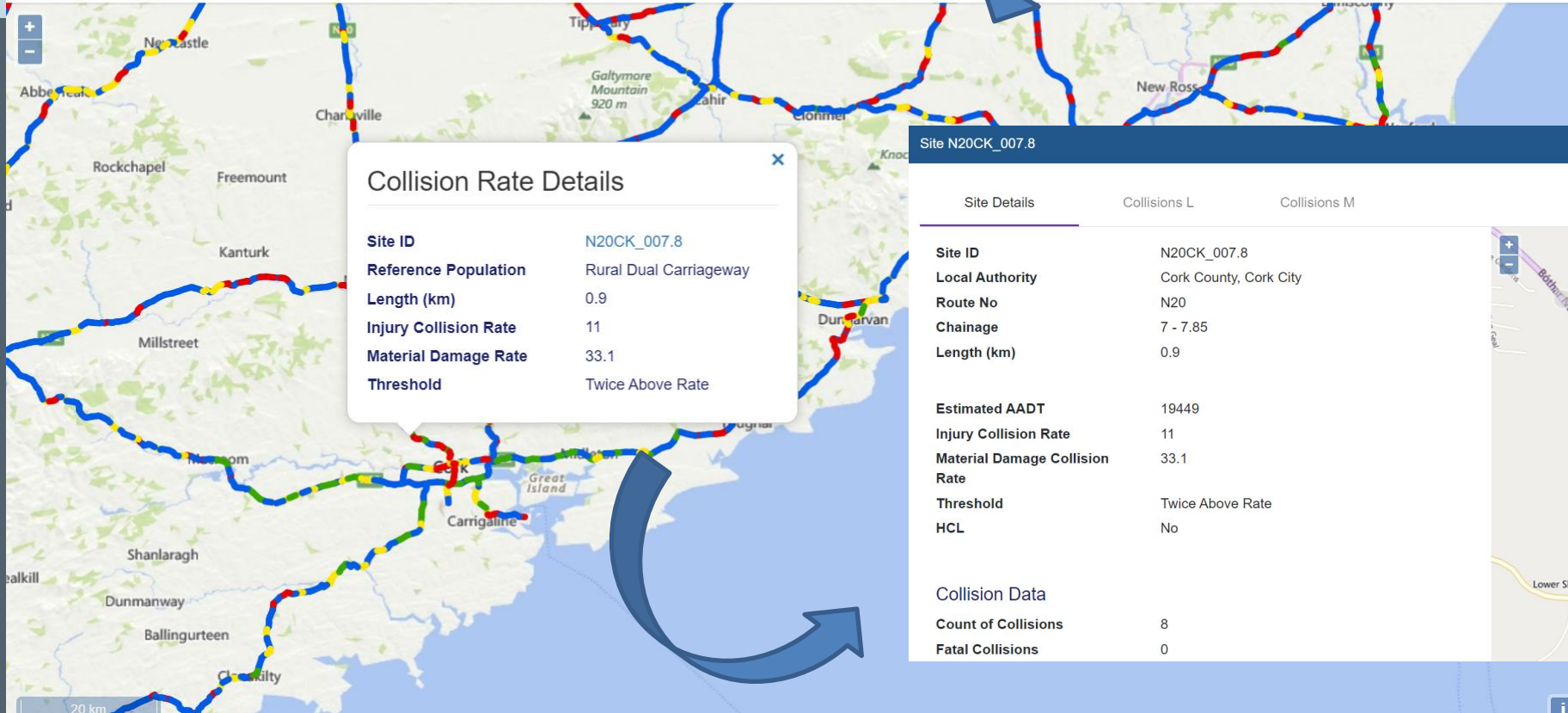
Search by Site Number | Suzanne Meade

- Home
- Collisions
- HD15**
 - Round L Assessments
 - Round M Assessments
 - Sites Map
- Applications and Projects
 - Applications
 - Open Projects
 - Closed Projects
- Log out
 - Log out

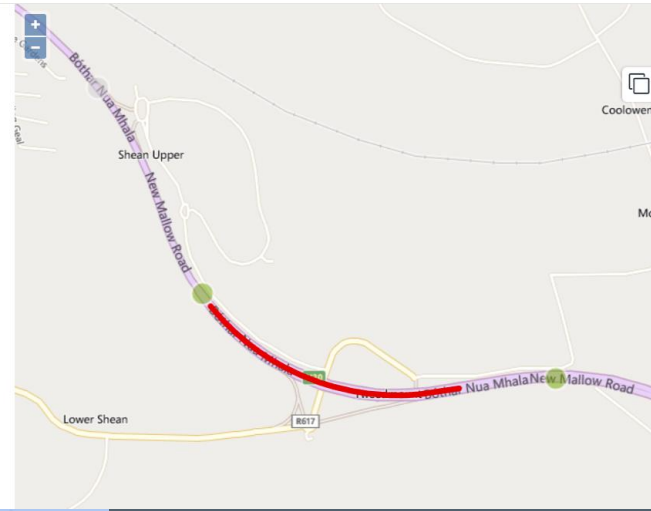
Where do I find HCLs and analysis now?

https://hd15.tii.ie/#/sites-map

Search by Site Number | Suzanne Meade



Site N20CK_007.8	
Site Details	Collisions L
Site ID	N20CK_007.8
Local Authority	Cork County, Cork City
Route No	N20
Chainage	7 - 7.85
Length (km)	0.9
Estimated AADT	19449
Injury Collision Rate	11
Material Damage Collision Rate	33.1
Threshold	Twice Above Rate
HCL	No
Collision Data	
Count of Collisions	8
Fatal Collisions	0



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Edit Application

Title
New RSIS

Funding Amount
100000

Description
Traffic Calming

Urban Rural

HCL RSI

Please Note

The maximum file size for uploads is **5 MB** .
Only document files (**DOC, PDF, XLS**) are allowed .

+ Add files...

Choose Files No file chosen



Upload Feasibility and Options Report here.

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Approvals & Communication during project progression

TII Email Agent - Action Approved Email



TII Systems Notification <noreply@tii.systems>

To Suzanne Meade

This message was sent with High importance.

Approval at Gateway 1 achieved. The scheme should proceed to the next phase

Date : (22/5/2023)

Road Safety Improvement Scheme Name : N21LK_030.0 RSIS

Approved TSB: €2424 (including VAT)

PRS Code : {PRSCode}

Please go to <https://apps.tii.ie/hd15> for more details.

TII Email Agent - Action Approved Email



TII Systems Notification <noreply@tii.systems>

To Suzanne Meade

This message was sent with High importance.

Action required

Date : (22/5/2023)

Road Safety Improvement Scheme Name : N21LK_030.0 RSIS

Please go to <https://apps.tii.ie/hd15> for more details.

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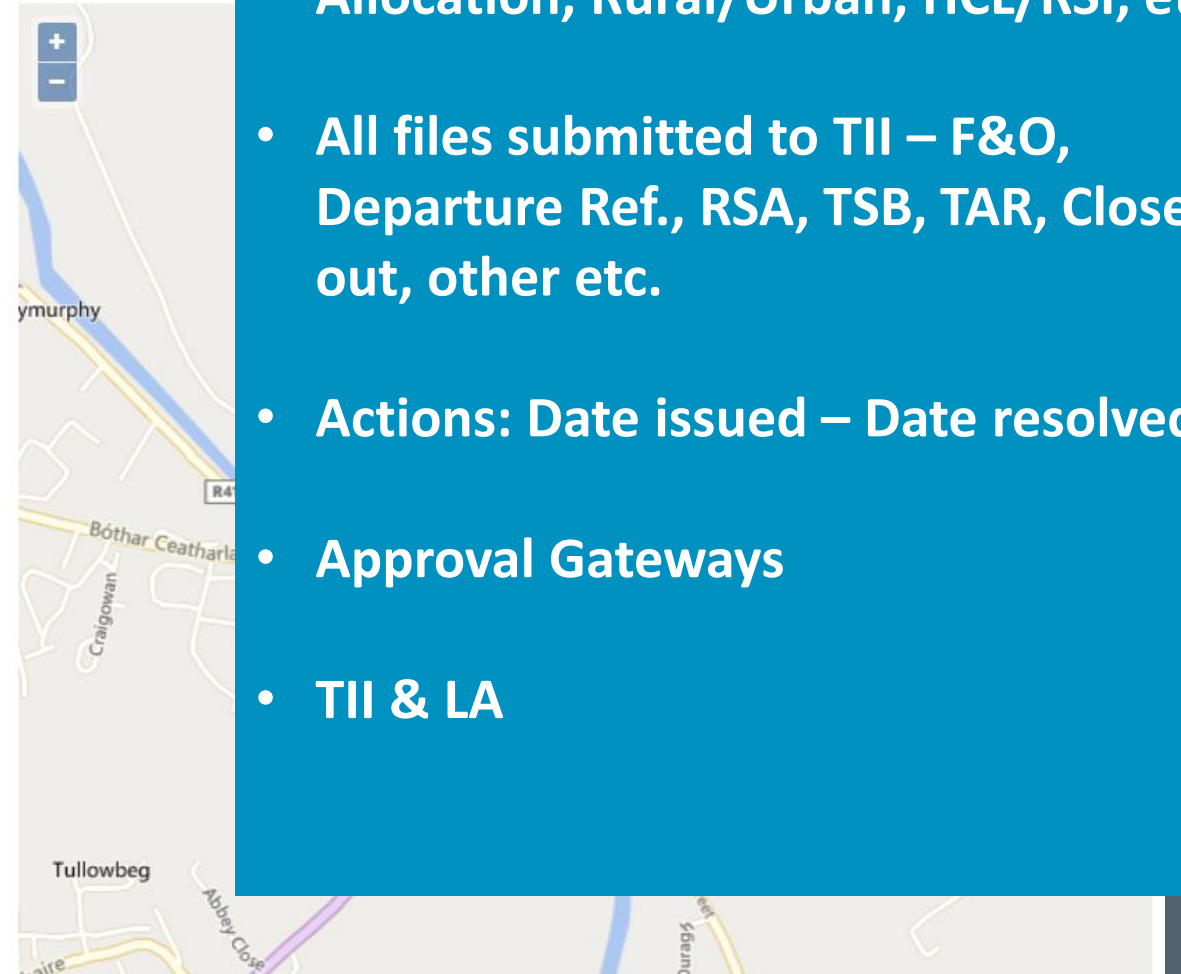


Site No	Date Created	Project	Location
N21LK_030.0	22 May 2023 8:18 PM	NR/21/22172 - N21LK_030 RSIS HCL	,Lir
N65GY_034.0	16 Mar 2023 12:08 PM	NR/21/25640 - Urban XXX) RSI RTL	Galway County
N17MO_072.4	16 Mar 2023 11:27 AM	NR/21/22172 - N17MO_072 RSIS Right Turn Lane	Mayo County
N83MO_057.7	23 Feb 2023 2:24 PM	MO/19/18761 - N60MO_09 Breaffy Road, Castlebar Right Turn Lane	Mayo County

- Each County can track “Applications”
- Each County can track all RSIS “Projects” from Design Stage to Construction – Status Bar

Project Details


Site No.	N81CW_069.0
Local Authority	Carlow County
Route No.	N81
Length (km)	0.9991812
HCL	Yes
Route	Rural
Funding Programme	HCL
Is Project on-Hold?	No
PRS Project	CN/21/24636 - N03CN Lisduff & Edenburt RSIS
Project Type	HD15 and HD17 Minor Works - Nat
Initial Allocation	€200,000.00



- Each RSIS has a “Project” page
- All details- PRS Code, Initial Allocation, Rural/Urban, HCL/RSI, etc.
- All files submitted to TII – F&O, Departure Ref., RSA, TSB, TAR, Close out, other etc.
- Actions: Date issued – Date resolved
- Approval Gateways
- TII & LA

Stage: **Application**

Files

File Name	File Type	Date Created ↓	Created By	Download
Saville.pdf	Preliminary Design Report	23/02/2023 03:00	Suzanne Meade	



Approval at Gateway 1

By: Suzanne Meade

Date: 16/03/2023, 11:27:16

Stage: **Design and Environmental Evaluation**

Files

File Name	File Type	Date Created ↓	Created By	Download
Lot 1_SAQ_2023 (Issue).docx	Design Stage Cost Estimate	16/03/2023 11:51	Suzanne Meade	
2022 Feasibility Options Report Castlereaa HD15 Site SM Comments.pdf	Other	16/03/2023 11:47	Suzanne Meade	

Actions

Description	Date Created	Created By	Completed	Verified	Actions
Please submit revised F&O and costs	16/03/2023 11:49	Suzanne Meade	Yes	By: Maciej Wdowiarz-Bilski, Date: 30/03/2023	Proceed

Approval to proceed to the next phase

By: Suzanne Meade

Date: 16/03/2023, 11:53:57

Stage: **Statutory Processes, Enabling and Procurement**

Files

File Name	File Type	Date Created ↓	Created By	Download
Saville.pdf	Tender Assessment Report	16/03/2023 11:56	Suzanne Meade	

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TII Research – TRL & ARUP

To improve Road Infrastructure Safety Management, Prediction tool commonly known as Accident Prediction Models (APMs) - Source of CMFs

Previously no Irish models (adapted UK APMs)

Practitioners Tool - 11 Questions – takes 5mins

QR Code



Thankyou

Suzanne.meade@TII.ie

Questions and Answers

