

Responses to queries raised during the TII Standards Roadshow 2022 Any further queries relating to TII Publications should be emailed to infopubs@tii.ie

Topic	Presenter	Organisation	Date	Query	Response
General	AnnMarie Gallagher	Arup	19/05/2022	Are the TII Standards Roadshows recorded and available for viewing at a later date?	We'd like to make it available but are currently seeking an appropriate sharing platform. The presentations will be shared on tiipublications.ie under the training area.
Training	AnnMarie Gallagher	TII	05/05/2022	The Geometric Road Design course: is this a course using Civil 3D?	The course does not cover any design software. The focus is on design principles and standards requirements.
Training	AnnMarie Gallagher	TII	05/05/2022	Is there a plan to have a drainage course?	Transport Infrastructure Ireland (TII) has plans to develop Road Drainage training in the future but no course is currently being developed.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Where do roundabouts sit in general in the Dutch order of preference for junctions?	As with Irish and U.K. Design Standards they are selected based on location specific needs i.e. speeds, Vulnerable Road Users (VRU), Annual Average Daily Traffic count (AADT) and urban/rural context. See Dutch Guidelines for more details.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	I understand the need to move to safer roundabouts for Non-Motorised Users (NMU) but when the AADT reaches the higher end of guidance or if there is a high level of bus use, how effectively does it work for vehicles? Do they cause more congestion/driver frustration/bad publicity towards the projects?	Depends on the objectives - if capacity is the priority, then high volumes of VRU can't safely mix with high AADT and then you cannot achieve a safe junction for all users. If that's the case then you may need to provide for each separately, e.g. the Eindhoven roundabout in the Netherlands.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Is cycling one-way on the roundabout? (i.e. for cyclists wishing to take a right, must they travel around the roundabout to take the appropriate exit). What about e-scooters, which lane/rules apply for them?	Yes its one-way. Two-way can be implemented but this is confusing for both cohorts and not recommended. E-scooters must follow Road Traffic Act as per all users.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	As you mention all entries should be single lane. For example for a road with 25,000 AADT, how will the queuing length be managed in the peak hour for the single lane?	That is the purpose of the trial - to see how this Dutch Design will operate in practice.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Is there any analysis of the effect of the Dutch style roundabout on the vehicular capacity of the roundabout?	Yes. See the publication that was mentioned in the presentation.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	How will the new design take account of the Long/Wide loads which currently traverse the roundabout from the Liebherr Container Crane factory on the Fossa approach?	That will be auto tracked to check specifically for this occasional movement.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Considering the AADT for that roundabout, what are the plans for when that road is operating above that AADT, i.e. most weekends etc. during the summer months?	Normal design procedures apply.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Looks like this type of roundabout would be a congestion hotspot.	Its already a congestion hot spot with associated issues for VRU. The objective is to improve VRU safety without exacerbating existing congestion.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Can the retrofitting be achieved within the footprint of the existing roundabout?	Yes
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Has there been any issue with a dominant arm's traffic backing up during peak traffic periods impeding on other roundabouts or junctions within close proximity to the Dutch style roundabout?	One of the objectives of the trial is to investigate impacts such as this.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	RE Dutch-style Roundabout: Might we change our legislation so that (extended) Zebra Crossings also give priority to cyclists (without the need for them to dismount)? Or is the Zebra intended to apply to them at all?	That may have to be considered more widely regarding VRU provision by the Department of Transport (DoT).

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Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Does this roundabout allow for the use of larger vehicles and Heavy Goods Vehicles (HGV)? It appears that there may be issues with these vehicles manoeuvring through and blocking the operations of the roundabout.	That will be auto tracked to check specifically for this occasional movement.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	2 no. Dutch style roundabouts were built in Limerick in 2015, smaller in scale but with the same layout.	Noted
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	What legal mechanism will be used to give VRU priority; will all crossings be zebra crossings?	The legal mechanism is the Road Traffic Act as with all pedestrian crossings in the state.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Would you consider piloting a Turbo Roundabout? These are used in the Netherlands for higher AADT roundabouts, rather than a roundabout with potentially multi lane entries which would be contrary to the principles of the 'Dutch style' roundabout?	Yes, depending on the outcome of the Design Process which has not commenced yet.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Are the design restraints not very restrictive for HGVs and buses?	That will be auto tracked to check specifically for this occasional movement.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Is there any particular reason why the Planning Act is being used? Is it possible to use Section 38 of the Road Traffic Act rather than Part VIII of the Planning Act?	Part 38 could be used but in this instance the Authority deems Part 8 to be appropriate at this time.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	I would be concerned about the geometry of the trial pictured for the passage of a HGV, it looks too tight of a radius.	That will be auto tracked to check specifically for this occasional movement.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Is a Standard due to be released in 2022?	Changes to TII geometric standards are on-going and we expect those to be published in 2022. We are also aware that the National Transport Authority (NTA) are updating the National Cycling Manual (NCM) and those are pending publication soon but TII does not have a date for those guidelines.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	What is the dwell distance between exiting the roundabout as a vehicle and the zebra crossings, and are the zebras on raised tables?	The details of raised/at grade are not finalised yet. The Dutch roundabouts are typically at grade.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	A welcome development but a significant move away from general resistance to increasing traffic congestion. Will this extend to other pedestrian facilities i.e. the use of raised ped crossings on the TII network rather than an insistence on at grade crossings?	TII funded schemes in urban areas follow other National Guidelines, NCM and Design Manual for Urban Roads and Streets (DMURS) as per DoT guidance. In rural areas i.e. locations over 60kph the TII standards apply. Raised crossing are not recommended in high speed locations for pedestrian crossings.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	With respect, some regional roads have extremely high AADT too?	Noted
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Normally on the roundabouts, vehicles will enter slowly and exit fast. The buffer distance of 5m for cyclist crossings on exits may lead to collisions. What is your thought on this?	This is one element that we will consider carefully with HGV % taken into consideration. Again as with other geometric elements there is guidance in the Dutch geometric guidelines to address this and they have this issue too.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Questions about capacity are interesting. Will your traffic modelling take account of modal shifts that we might hope will come into effect with the improved cycle infrastructure?	Yes that is the intention, however in the absence of an existing cycling model in this area (which is needed to estimate demand) this may be difficult.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Are there any plans to trial a protected signalised junction on the national road network? Would it be more suited to the N22 in Killarney?	Assume that term refers to protected left turn pockets for cyclists? There are no plans at present but we are observing the operation of one in Dublin.

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Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	When will TII stop the use of the term "non-motorised Users" surely the term should be "vulnerable road users" to take account of e-scooters etc.?	Noted.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Is there a concern if the design is tweaked to 2 lane entries where high sided vehicles in one of the lanes block visibility to VRUs about to cross?	Yes, that is why we want to install single lane entry/exit and follow the Dutch Design principles- if that layout is not working , due to severe capacity impacts, we will evaluate a two lane option but, your observation is valid and correct and one of the reasons single lane entries/exits are important - currently HGV take both lanes on entry.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	I understand that the original roundabout may be congested already, but slowing speeds and using tighter radii can only make it worse.	The objective of the scheme is not capacity increase. The objective is safety improvement for a specific group of road users at an existing junction that was designed as a rural junction.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	I think the U.K. Highway Code has been updated but the underpinning body of law has not?	Not sure if you are stating that the new Rules do not have a legal standing. If you are interested details can be read here - the new rules as with some but not all of the Highway Code have legal standing https://www.gov.uk/guidance/the-highway-code/introduction and these changes went to Parliament in Dec 2021!
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	For clarification; Section 38 is for Traffic calming measures, rather than temporary traffic calming measures only.	They may not be temporary, it's a trial and either Part 8 or Section 38 may be employed for the permanent solution as deemed appropriate by the road authority at the time.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Surely in transition zones, the vehicle speeds and vehicle flow would result in an off-road segregated track if applying the NCM.	Yes that is correct. The presentation did not state otherwise - subject matter was Dutch style roundabout that facilitates fully segregated arrangements.
Dutch Style Roundabout Pilot	Suzanne Meade	TII	05/05/2022	Will a trial arrangement (with temporary features?) not impact on the perception and behaviour of users and provide bias in the result as it will be read more akin to a Temporary Traffic Management layout with drivers in particular using more caution than they would in a permanent arrangement with physical kerbs and signage?	As discussed in the presentation, the temporary layout will employ removable kerbs and infill so that is as close as possible to a permanent layout/look. See Capel Street, Dublin
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	This is an excellent development. Some queries: When will this model be made available to the industry for use. Are the performance requirements such as rutting being aligned with the values embedded into Deighton Total Infrastructure Management System (dTIMS)?	The pavement design rutting model has not been aligned with U.S.A Pavement Assessment Management System PAMS / dTIMS performance modelling.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	I understand one of the main drivers for the development of the Irish Analytical Pavement Design Method (IAPDM) tool is to promote a more circular economy. Does the tool provide an estimate of the embodied carbon costs of the designed pavement construction? If not, could an embodied carbon unit rate be added to the materials database along with the stiffness and Poisson's ratio?	The IAPDM does not consider embodied carbon. Environmental considerations e.g. embodied carbon, for different pavement design options will be assessed using a Life Cycle Analysis/Assessment tool currently in development. It will aim to balance agency / user / environment impacts across the pavement asset lifecycle.

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Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	What is the underlying model used to estimate the strains for each of the models? For example was this CIRCLY or BISAR or was a structural number approach adopted?	It uses a Multi-Layer Linear Elastic mechanistic model. It would produce very similar results compared to CIRCLY and BISAR. The mechanistic (stress / strain) outputs would be similar to BISAR or CIRCLY. The material characteristics and empirical / performance models (risk of pavement failure) are specific to IAPDM.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	Does this method allow for the design of concrete pavements or is the software only for flexible pavements? Does the model allow composite pavements with a cement bound bases to be designed?	Rigid / concrete pavements are not considered within the IAPDM. Cement bound materials can be modelled within the IAPDM.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	Does the tool allow for including pavement reinforcement layers?	No, but this is under development.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	Can you advise if a carbon estimation module is available? This is very important and could be easily added.	No, there is no carbon estimation tool within the IAPDM.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	We hear that some contractors have introduced rejuvenation or preservation treatments - have TII guidance on how/what can be used?	This is currently under development for inclusion within CC-SPW-00900.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	Does the tool allow for modulus corrections to asphalt stiffness based on traffic speed at the site such as intersection approaches?	This is currently not considered.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	What stage of development is the TII Aggregates Register currently at?	The aggregate register is currently undergoing user testing. A publication date is not yet available.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	I would like to see the wider use of thicker unbound bases with a thin bituminous layer which does not go into tension. Is this option permissible using the new system? This option would also have low carbon characteristics.	Yes, unbound base layers with thin surfacing can be modelled within the IAPDM.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	Will Figure 4.1 to DN-PAV-03076 be updated to permit more MSA uses in the interim to the IAPDM Web-based design software being publication? i.e. MSA 4; 6; 7; 13; 14; 16 etc.)	No, this document will eventually be withdrawn once the IAPDM is operational.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	With regards to the reduction of the depth of pavements as a means of reducing carbon footprint and costs, will TII standards such as DN-GEO-03047 be updated in line with this? For rural cycleway the standard suggests 150mm of 804 clause material base, which is similar to that of highway design. Does a cycleway require as much base 804 as a highway given the nature of the loading on the surface?	The design of cycleway pavement structures is currently under review and will be updated shortly.
Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	With sustainability & environment being to the fore, with Electric Vehicles & Hybrid vehicles being approximately 33% heavier. HGV's also in the future also going the same way. This may lead to a 33% increase in HGV's on the road network to carry the same load as current HGV's, has there been research on the possible effect of lifecycle of the pavement and the overall cost of the maintenance of the asset and possible shorter life cycle?	Yes, the effect of overloaded vehicles, i.e.. vehicles loaded in excess of the vehicle pavement wear factors currently considered have been analysed using the IAPDM and additional ME pavement design tools. The thickness of additional pavement materials required to meet the additional load requirements and provide a similar level of service and maintenance need have been identified.

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Irish Analytical Pavement Design Method	Alan Lynch	Arup	05/05/2022	When is it anticipated that the IAPDM web-based design software will be published for industry use?	It is expected that the IAPDM will be published in 2022.
Pavement key points and checks	Eddie Winterlich	TII	05/05/2022	Who keeps the samples?	Local Authorities
Pavement key points and checks	Eddie Winterlich	TII	05/05/2022	In reference to PSV, Petro LA etc. (If a contractor has overlapping contracts using the same materials, can reference be made to the same sub-samples supplied?)	Reference can potentially be made on a case by case basis dependent on the nature of the surfacing, the category of the event and the timing of the production of the aggregate relative to the installation of the surfacing.
Circular Economy	Janet Lynch		05/05/2022	Great to see a lot of work being done on promoting a more circular economy. Do TII plan to publish estimated embodied carbon equivalents for each material type and pavement construction activities? The TII Schedule of Rates (CC-GMP-00054) could be updated to include these unit rate estimates for each line item. This would encourage the calculation of environmental impact costs of alternative options.	TII are developing a carbon tool for use on projects which will be published in due course including embodied carbon for key construction materials. Product specific Environmental Product Declarations are shared by Irish Green Building Council (IGBC) for Irish products and these include embodied carbon data for some products which may be used on pavement projects. In addition TII are working with industry regarding product category rules for pavement products which will enable Environmental Product Declarations specific to pavement materials to be created to a similar set of rules.
Circular Economy	Janet Lynch	Arup	05/05/2022	What type of changes are being considered in TII Series 600 specifications due to the circular economy plan?	An update to Series 600 has recently commenced which will include enabling the reuse and recycling of by-products and wastes. A range of different options are being considered as part of this update.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	Why is segregation not required at 60kph?	The standard applies to rural national roads with speed limit of 60kph or greater only. Note the national cycle manual requirements are being reviewed and updated.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	Does this standard apply to the development of stand-alone Greenway schemes?	Yes, as it interacts with national road infrastructure in rural areas (greater than 60kph). Otherwise 03047 applies for greenways.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	Why consider DMURS when outside of the 60kph zone?	DMURS is not applicable outside of the 60kph zone. For national roads the following standards apply in the context of active travel: Rural sections with speeds greater than 60kph, PE-PMG-02045, transition zones, DN-GEO-03084 and urban sections of the national roads with speed limits less than 60kph, DMURS.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	On a National Road in an Urban Environment, with a speed limit in excess of 60kph, is segregation of a cyclist from vehicles required?	The standard applies to rural national roads with speed limit of 60kph or greater only. Note the national cycle manual requirements are being reviewed and updated.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	Any plans to improve substandard active transport facilities on recently delivered schemes, i.e. Sallins Bypass	Project interventions are identified by Sponsoring Agencies.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	What is required in terms of active travel at Phase 2 Options Selection? Should we be developing the active travel option alongside the various road based options?	The appropriate active travel intervention shall be determined as part of project development.

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Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	The Active Travel Planning Guidance requires Segregation over 60km/hr on a National road. Is this a compulsory requirement of the new guidance/standard, and how will this be implemented on the more constrained regional and local road network, and would it require a departure if not implemented?	The interim standard applies to the development of active travel infrastructure adjacent to national road infrastructure.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	Will the TII be providing specific funding to LAs for the ongoing Maintenance of cycleways?	Maintenance requirements and funding are under investigation.
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	The definitions of active travel types is different in the Active Travel Planning document to definitions in roads act. Has this been noted?	n/a
Greenways and Active Travel	Michael Gaughan	TII	05/05/2022	Is the preference to provide active travel segregation roundabouts rather than signalised junctions?	The appropriate active travel intervention shall be determined as part of project development.
Geometry updates	Martin Allen	Arup	05/05/2022	Will the new geometry standards reduce parameters somewhat to take account of future technologies such as speed limits to be linked to Global Positioning System (GPS), connected vehicles and the like?	It is not proposed to reduce geometric design parameters (e.g. sight distance, curvature etc.) to take account of future technologies.
Geometry updates	Martin Allen	Arup	05/05/2022	Anything new or additional in relation to hidden dips?	This subject is being reviewed and further guidance may be included in the updated standards.
Geometry updates	Martin Allen	Arup	05/05/2022	Will this standard apply to the Trans-European Transport Network (TEN-T) road network?	Unsure exactly what standard is being referred to here, but the expectation is that the revised geometry standards would be used for the design of the TEN-T Network.
Geometry updates	Martin Allen	Arup	05/05/2022	Any consideration for entry path deflection radius for mini roundabouts? It is difficult to achieve 100m for small Inscribed Circle Diameter (ICD) roundabouts where staggered arms not possible on local roads.	Mini-roundabouts are not currently included in DN-GEO-03060 and it is not currently proposed to include these in the updated standards. However, it is proposed to include further guidance on entry path deflection for both single lane and multi lane roundabouts.
Geometry updates	Martin Allen	Arup	05/05/2022	Anything new in relation to right turn ghost island facility design need?	Additional guidance is likely to be included in respect of the siting of right turn ghost islands and the avoidance of overtaking through ghost island junctions.
Geometry updates	Martin Allen	Arup	05/05/2022	Are there any options to reduce the segregation distances (min 2m, I think) between traffic and cycle lanes on roads of 80kph? Difficulty in reducing the speed limits and additional land take not really an option on a number of roads in Dublin that cycle lanes are being proposed.	Reductions in segregation distances require departure approval.
Departures from Standards	Esther Madden	TII	05/05/2022	The TII Departures application portal currently appears to be inactive, is this a global issue with the portal?	A further level of security has been mobilised for the departures portal. Log in will now be via Microsoft 365 and an authentication code may be required if you are not already logged into MS365. If you have not received an invitation from Microsoft please email infoDEPs@tii.ie to request access. If you have received the invitation but are still experiencing issues, please contact infoDEPs@tii.ie

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Departures from Standards	Esther Madden	TII	05/05/2022	I have been experiencing issues accessing the Departures from Standards portal. Have any changes occurred to the portal requiring different login details?	A further level of security has been mobilised for the departures portal. Log in will now be via Microsoft 365 and an authentication code may be required if you are not already logged into MS365. If you have not received an invitation from Microsoft please email infoDEPS@tii.ie to request access. If you have received the invitation but are still experiencing issues, please contact infoDEPS@tii.ie
Departures from Standards	Esther Madden	TII	19/05/2022	Can a departure Refusal be appealed if the Local Authority believe it should be approved?	Not at the moment. In relation to a refusal of a departure, a justification must be provided. What usually happens is that the departure would first be REJECTED so that additional information or mitigation measures can be discussed with the applicant prior to a REFUSAL being issued. Usually a REFUSAL is only issued, when an agreement can not be reached after consultation.
Departures from Standards	Esther Madden	TII	19/05/2022	If a departure is rejected, can the applicant use the same departure number to re-submit with added documents and or comments or do I need to re-submit again with new departure number?	Yes the correct procedure is for the applicant use the same departure number and to provide any additional information or comments that are required to review the application. The applicant shall ensure that they have resubmitted the application once all relevant information has been added or else it will not appear on the Worklist for processing.
Departures from Standards	Esther Madden	TII	19/05/2022	When locating a departure application on the map, for new schemes the location will be difficult to determine. Is this a mandatory requirement?	An approximate location is sufficient and can be located by clicking on the map and panning/zooming to that location.
Departures from Standards	Esther Madden	TII	19/05/2022	If a departure from standard is deemed to have resulted in a road death. Does TII or designer have liability? Is it shared?	An accepted Departure can be regarded as a project-specific standard and any incident would be dealt with in the same way as any situation where TII standards have been complied with. In accepting a departure, TII does not take on any "Designer" responsibilities. The relevant road authority or their consultant will still be Project Supervisor Design Process (PSDP) and responsibility for the provision of a safe design would remain with the Designer.
Departures from Standards	Esther Madden	TII	19/05/2022	In the other departures Tab, do we need to include the relaxations details also?	Relaxations do not have to be listed here but if there is a departure at a specific location and then a relaxation at the same location then this could result in another departure depending on the nature of the relaxation. An example would be if there was a departure for geometric design and then a relaxation in geometric design at the same location. Then this should not be treated as a relaxation and as a departure where you have a combination of a departure and a relaxation.
Departures from Standards	Esther Madden	TII	19/05/2022	Can a Departure report be printed?	Yes there is a printer icon on top right of the page
Departures from Standards	Esther Madden	TII	19/05/2022	When uploading related documents to a departure application there was a document size limit of approx. 3MB which involved breaking a large document into a number of sections when submitting. Has this cap been revised, if so what is the current limit?	Yes, but please note that it can be slow so you may need to wait a moment or two before uploading the next doc

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Departures from Standards	Esther Madden	TII	19/05/2022	Can a Departure be retrospectively issued during the works and is the Contractor entitled to a copy of said departure if it has been approved.	This type of departure would automatically be rejected as they would not be considered a Departure as defined in our standard.
Departures from Standards	Esther Madden	TII	19/05/2022	I have a list of departures from a Pavement Asset Repair Renewal scheme. Can they be upload as one or will each departure need to be individually uploaded?	If there are changes to the cross section as part of the PARR scheme and or as a result of a safety scheme being carried out in conjunction with the PARR, a design report will be required in accordance with DN-GEO-03030 and all departures shall be listed in the design report.
Departures from Standards	Esther Madden	TII	19/05/2022	Can a departure be retrospectively applied for on a live project and if so does a copy of the Departure have to be supplied to the Contractor?	This type of departure would automatically be rejected as they would not be considered a Departure as defined in our standard.
Departures from Standards	Esther Madden	TII	19/05/2022	Is there a possibility to communicate with TII departure approval representatives to explain justifications/ constrains for particular critical departures?	Please submit a design report in accordance with any relevant standards and if required, a meeting can be facilitated but the design report is usually sufficient.
Departures from Standards	Esther Madden	TII	19/05/2022	Departures - At early planning stage; is it acceptable to request an informal meeting with TII Departures section to discuss the issue?	yes
Departures from Standards	Esther Madden	TII	19/05/2022	If a departure is only discovered during construction what is the process to follow?	Works are to cease and a departure is to be submitted asap
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	If a barrier is struck and requires replacement, is there a requirement to test the replacement posts?	Refer to Section 3.2.2 CC-SPW-00400 Push testing shall be undertaken where safety barrier repair works are being undertaken if the length of safety barrier to be repaired is greater than 50m in length.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	Can posts be inserted into "sleeves" for ease of replacement if struck?	Yes, many systems can be provided in sockets. The key element is that the manufacturers installation manual includes details on the sockets and the CE Certificate for the product should list sockets as an approved foundation type for the safety barrier system.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	What research was done to determine the width of the clear zone? If a clear zone is 10m from traffic edge; how acceptable is it not to provide a barrier, say to a bridge pier, if the set back of the pier is say 10.1m from the traffic edge?	The clear zone is a theoretical value based upon international research completed separately to TII. The CEDR SAVeRS project compared international clear zone values. The risk associated with a particular hazard needs to be considered e.g. is it on the outside of a bend and the likelihood of a vehicle leaving the road and hitting the hazard that is 0.1m outside of the clear zone is high then based upon risk a barrier or better again mitigation of the hazard should be considered. These items are often picked up in stage 3 Road Safety Audit (RSA) so they should also be reviewed at earlier stage RSAs.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	In the event that there is a hazard either side of a field access, what are the options?	This is very common and likely can only be dealt with via a departure to use a full height terminal as part of the length of need to protect as close to the access as possible. Care is to be taken in terms of visibility from the access if placing a full height terminal directly adjacent.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	There are alot of legacy ramped 'upstream terminals' country wide, is there a programme underway to retrofit these?	TII Standards are not required to be implemented retrospectively however if a terminal is struck and needs to be replaced, they are generally replaced with a terminal compliant with the standards in place at the time of repair/ replacement.

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Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	What alternative materials are being considered instead of the use of concrete foundations	CL804, recycled materials such as crushed concrete, shredded rubber and also prefabricated concrete raft like continuous foundations with sockets.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	Should dynamic testing of the performance of crash barriers use the highest permissible vehicular loads (i.e. H.G.V.'s) as the force generated against the barrier which would be greater than vehicles used in demo, thus catering for worst case scenarios?	The mass and speed of the impact of the dynamic test can be varied depending on the containment of the barrier. So for higher containment barriers which are certified through crash testing of HGVs into the barrier, the applied force for the dynamic test can be increased.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	In relation to the Independent Engineer required to test the ground conditions. Is there a level of service expected from the approved engineers on the TII list?, i.e. requirement to personally attend site for testing.	The requirements within CC-SPW-00400 in relation to the independent engineer were strengthened in the most recent publication in June 2020 and a new document CC-REQ-04009 was issued in relation to the requirements for the independent engineer. The requirements in CC-SPW-00400 now clearly require the engineer to attend site and witness the tests and produce a test report in a defined format.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	If an existing VRS system which has been installed without any conformance in respect of setback or working width has to be altered or repaired, will the current design standards have to be complied with to allow certification of the altered system	Yes if repairing and replacing VRS, the new installation should comply with the standards in place at the time of repair/ replacement.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	Is a W4 working width acceptable for a central reserve steel barrier on a Type 2 dual carriageway which may result in the barrier deflecting into the opposing traffic lane?	The requirement for safety barriers in the central median of Type 2 Dual Carriageways includes the containment level of H2. H2 is certified through crash testing of a 13t vehicle into the barrier and it is this crash test that dictates the W4 working width. The working width for lighter vehicles which are the predominant vehicles on the road networks would be much less and the angle of impact of any impact is likely to be quite low given the proximity of the barrier to the trafficked lane. There is also an issue with the availability of products with H2 containment and a working width less than W4 that can fit within the narrower central reserve on Type 2 Dual Carriageways. The requirement up until 2019 was for a N2 W5 barrier and there are no recorded collisions on the network involving deflection into the opposing lane.
Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	On a VRS scheme recently a T110 P4 safe end was specified with a exit box class Za1 & Zd1, the contractor highlighted supply issues and proposed a Zd3 instead, the contractor highlighted that this has been accepted previously	There is a product on the TII Compliant list that can meet these requirements. However a Zd1 value is only relevant for specific scenarios. The requirements for the Zd class should be considered for each location, Zd1 is rarely required. See https://www.tiipublications.ie/document/?id=3061 GE-TBU-01041 Guidance for Designers when Specifying Safety Barrier End Terminals, June 2020 for further guidance.

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Vehicle Restraint Systems	Eoin Doyle	Arup	19/05/2022	The table of contents for the winter service manual mentions continual improvement - what is envisaged here?	A review should be carried out each year by each local authority to identify any operation successes or difficulties that are part of the operation and how they can be respectively implemented further or removed. TII will also be providing improvements to decision support, updating equipment and improving depot resources.
Pavement Maintenance	Stephen Smyth	TII	19/05/2022	Although Direct Liquid Application (DLA) is still under research, is it likely that DLA may become the mainstream treatment for frost and snow conditions in the future?	The current proposals for national roads in Ireland is that we will make pre-wet spreading our standard precautionary treatment over the coming years. While DLA is also good for a precautionary treatment, where a reactionary de-icing or snow removal treatment is required the ability to spread dry or pre-wet salt is very important. Where ploughing is required, dry salt or pre-wet salt application, in conjunction with the ploughing, is effective.
Pavement Maintenance	Stephen Smyth	TII	19/05/2022	When is the revision of the standard due to be released?	August 2022.
Pavement Maintenance	Stephen Smyth	TII	19/05/2022	TII Publications have a document 'Winter Service Manual - AM-PAV-06051 - October 2021' on the site. Is this the latest publication or is the June/July release a different doc?	This is the current document. The revision planned will only revise the performance requirements as they specifically relate to cycleways and footpaths based on local authority feedback.
Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	Does this imply a greater focus on Ground Investigation (GI) at earlier phases of scheme development?	It is important that an appropriate level of GI is completed at Phase 2 and Phase 3 to inform the Mass Haul Analysis, and assessment/design of earthworks in general. This should have due regard to the details of the scheme, the available existing information, ground risks, and phase of the project. As a general approach - undertaking GI earlier in the process can bring advantages. The designer will need to consider this for each scheme, as each will vary.

Responses to queries raised during the TII Standards Roadshow 2022

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Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	Is the idea of this to ensure that more designers will be asked to produce more detailed mass haul diagrams and material management/reuse plans at early design and tender stage to ensure sustainability of the scheme as a whole, rather than identifying a deficit (for example) at detailed design or construction phase? Also the resultant data output by these spreadsheets is dependent on the quality of the input data and therefore the early stage ground investigation.	<p>The aim is for earthworks design to be considered appropriately throughout the design process, so that this can feed into the design when options are at their most flexible - e.g. at option selection at Phase 2 and preliminary design at Phase 3. This allows solutions to be developed and incorporated more readily, rather than trying to do so later when the design or Lands Made Available (LMA) are fixed, solutions are more difficult to incorporate, and hence reactive design solutions may be required.</p> <p>It is correct that the outputs from the Mass Haul Analysis Tools is dependednt on the quality of the input data, and ground investigation data is a key part of this. This is why separate tools have been developed for Phase 2 and Phase 3 - while both follow the same process and principles, the Phase 2 tool takes account of the likely lesser level of GI and understanding of ground conditins at Phase 2, and tailors the level of geotechnical categories to suit. It is however important that designers consider the GI information required to inform their analysis at each Phase, and design their GI to suit.</p>
Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	Does the mass haul analysis and earthworks design take into account the cost benefit analysis of providing a more forgiving roadside, i.e. collision savings arising from flattening earthwork slopes and increasing the width of the clear zones as an alternative to VRS, particularly as the proportion and weight of heavier vehicles is increasing on the network on an ongoing basis, which may increase containment level requirements and associated risks and costs, including ongoing maintenance, replacement, testing and research costs for VRS and ground conditions	<p>The Mass Haul Analysis Tools in themselves do not undertake an assessment of the costs/benefits of incorporating a more forgiving roadside (or other design options). They do allow for an analysis of the mass haul associated with the earthworks for a given design option. Determination of the overall optimal solution will depend on a holistic assessment which takes account of all relevant factors. It may be the case that advantages in terms of earthworks for an option are offset or outweighed by disadvantages in terms of other aspects. For example, in the situation raised here, it could be that flatter earthworks slopes significantly increase the volume of cut/fill or result in a deficit/surplus on the scheme - but this may result in improved safety, reduced maintenance of VRS etc. It is therefore important to ensure that Earthworks (including Mass Haul) is considered as an integral part of the design, and the design team takes account of all relevant aspects.</p>
Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	Will the use of TII's Mass Haul tool be a requirement for Motorway or national road schemes?	<p>It is not intended that use of the Mass Haul Tools will be mandatory. Designers may use alternative tools if preferred - for example proprietary software. Designers should give appropriate consideration to Mass Haul, but there is flexibility in the tools used for this.</p>

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Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	Will more detailed mass haul diagrams be required by TII at earlier stages of scheme development as a result of these tools being available? I think it would be a great idea from an environmental (as discussed!) and a sustainability perspective	<p>The aim is for earthworks design to be considered appropriately throughout the design process, so that this can feed into the design when options are at their most flexible - e.g. at option selection at Phase 2 and preliminary design at Phase 3. This allows solutions to be developed and incorporated more readily, rather than trying to do so later when the design or Lands Made Available (LMA) are fixed, solutions are more difficult to incorporate, and hence reactive design solutions may be required.</p> <p>It is correct that the outputs from the Mass Haul Analysis Tools is dependednt on the quality of the input data, and ground investigation data is a key part of this. This is why separate tools have been developed for Phase 2 and Phase 3 - while both follow the same process and principles, the Phase 2 tool takes account of the likely lesser level of GI and understanding of ground conditins at Phase 2, and tailors the level of geotechnical categories to suit. It is however important that designers consider the GI information required to inform their analysis at each Phase, and design their GI to suit.</p>
Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	The identification and classification of materials for reuse on a scheme pre construction will introduce a transfer of risk from the contractor to the client. To indicate that any rock material can be processed for use for example as cl804 will transfer compliance and performance risk and probable claims if the material cannot be successfully processed. The Contract will have to be carefully worded to avoid this type of claim due to over detailing the reuseability of material	This point is well made, and is noted. It is not intended that Mass Haul/Earthworks Analysis undertaken pre-tender stage would replace that done by the Contractor at Phase 6. Assessment of reuseability at Phase2 and 3 will be beneficial in developing a more sustainable scheme, but it is not intended that this would result in any guarantee to the Contractor as to material reuse etc.
Sustainable Earthworks - Mass Haul	John O'Connor	Arup	19/05/2022	A more imaginative use of varying earthworks acceptability limits would also improve the optimisation and sustainability of earthworks	Agreed. Note that a separate work package is currently underway to update Series 600 Specification for Earthworks. This wil include a review of the acceptability limits. A key focus of the update is to increase opportunities for sustainability and reuse of materials, while not adversely impacting on quality.
Overview of Environmental Standards	Christian Nea	TII	19/05/2022	Currently there is an expectation that Health Impact Assessment would be completed by a medical doctor. Certainly the expert witness at the Oral Hearing is expected to be one. Will the new HIA guidance help to address this restriction so appropriately experienced professional can undertake the HIA?	It is anticipated that technical and standard documents published in relation to impact assessment in respect of the environmental topic types will contain guidance in respect of the qualifications and competences of experts. In this regard, please see the standard and technical documents published in relation to Landscape and Visual Impact Assessment.

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Overview of Environmental Standards	Christian Nea	TII	19/05/2022	Environment - With all these proposed updated publications over the next few years; what assessment guidance shall schemes current starting phase 3 following for EIA?	<p>In producing such standard and technical documents we are cognisant of the impacts on national road projects currently in development. It is anticipated that all such standard and technical documents will provide for transitional arrangements within the Implementation section. The following are the transitional arrangements contained within the Landscape and Visual Impact Assessment standard document: "Where projects requiring approval under Section 51, Section 177AE or Part 8 have, at the date of publication of this Standard, commenced planning and design and, in particular, where technical advisor contracts have been executed, this Standard should also be:</p> <ul style="list-style-type: none"> • treated as advice and guidance; • employed to the greatest extent reasonably practicable; and, • applied in a proportionate manner, having regard to the characteristics and location <p>of the project/maintenance works and the type and characteristics of potential impacts."</p>
Overview of Environmental Standards	Christian Nea	TII	19/05/2022	The use of herbicides by road authorities seems to be becoming even more prevalent. Is any environmental monitoring of the receiving environment (e.g. watercourses) carried out by/on behalf of TII?	<p>Whilst such monitoring is carried out by or on behalf of other bodies, I am not aware of any such monitoring carried out by or on behalf of TII. Section 3.1 of TII's Technical Guidance on 'The Management of Invasive Alien Plant Species on National Roads' provides detailed guidance on policy and legislation/law in respect of herbicide usage. The Sustainable Use of Pesticides Directive provides that the use of pesticides, inter alia, 'on or along transport routes (such as railway lines)' and 'on sealed or very permeable surfaces' can lead to higher risks of pollution of the aquatic environment and should, therefore, be reduced as far as possible, or eliminated, if appropriate. Road authorities must ensure that they use herbicides in accordance with relevant legislation/policy/etc.</p>
Overview of Environmental Standards	Christian Nea	TII	19/05/2022	For deer, their population is growing and there are less areas or ease of crossing roads for them. Is this something TII is looking to retrospectively control and limit collision risk?	<p>A work package is being looked at that will examine a number of clusters of deer collision locations; produce proposed mitigation for same; and, will lead to the production of a suite of standards documents. This work will deal with both existing and proposed roads.</p>
Overview of Environmental Standards	Christian Nea	TII	19/05/2022	The Carbon Assessment Tool looks great. When do you expect it will be made available to use for contractors/consultants?	<p>A decision on the hosting of the tool is pending.</p>

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Overview of Environmental Standards	Christian Nea	TII	19/05/2022	Feedback from TII is that sustainability is not just an EIAR issue but throughout all aspects of the project. However at Phase 3, the EIAR is the public facing document for a project, should a sustainability chapter be included in the EIAR to demonstrate how this has been addressed?	Dedicating a chapter in only one phase imposes a risk that TII's six sustainable principles which are set out in the TII Sustainability Implementation Plan (SIP) will be focussed at this stage alone and overlooked elsewhere. Consequently, a chapter on sustainability is not required in the EIAR as this is not in line with the aim of embedding sustainable principles throughout the project.
Training	AnnMarie Gallagher	Arup	19/05/2022	Will there be a PMM for Active Travel Projects?	A Project Manager's Manual for Greenway Projects has been published. The need for a specific manual for active travel projects is being examined.
Training	AnnMarie Gallagher	Arup	19/05/2022	What is the difference between the ATU Road Safety Audit qualification and the 3 day course from Traffico?	Team leaders have to have the ATU road safety audit qualification, the 3 day course only allows one to qualify as a team member.