

<b>Responses to queries raised during the TII Standards Roadshow 2023</b>				Any further queries relating to TII Publications should be emailed to <a href="mailto:infopubs@tii.ie">infopubs@tii.ie</a>	
<b>Topic</b>	<b>Presenter</b>	<b>Organization</b>	<b>Date</b>	<b>Query</b>	<b>Response</b>
General	Jonathan Case	Arup	31/5/2023	Are the presentations recorded/available after this event?	The presentations are not recorded but the slides will be published on the TII Publications website under the Training section.
Roads Emissions Model	Derek Brady	TII	31/5/2023	What emissions (chemical compounds) were measured in that spreadsheet? CO2 only?	Yes, CO2 equivalent. We could have done the same for the air quality emissions as well, but we just presented carbon along with an allowance for the other greenhouse gases whatever they were, methane or carbon monoxide, and they would have increased the carbon emissions by about 1%. So what was presented was CO2 equivalent.
Roads Emissions Model	Derek Brady	TII	31/5/2023	A1 Vehicle Emissions table - is that 'emissions per km' or total?	The A1 table shows megatons, for all the kilometers of national road and all the kilometers of road in the country.
Roads Emissions Model	Derek Brady	TII	31/5/2023	Should the emissions for PHEV vehicles not include the EV emissions on top of the tailpipe outputs?	Yes, ideally they should. However, the table is just tail pipe emissions. But there are further emissions from the electrical power that is loaded up into the battery at home or wherever, but that data is not available to us from COPERT. The reason COPERT does not make it available is because it is going to be different in every country or even within countries because of the different renewables mix. To get the total carbon emissions for plug-in hybrids it is what is in that table from the fossil fuels plus an additional piece for the fossil fuel used to generate the electricity used at home.
Roads Emissions Model	Derek Brady	TII	31/5/2023	Could you produce another version of the table of emissions for various vehicle types but including the fully electric vehicles with the current CO2 emissions from the Irish grid? It would be good to visualise the difference more clearly. Also noting that a proportion of EVs are charged from Solar, which may or may not feature in SEAI's figures.	Yes, all good points. We would very much like to do this. However, we do not have access to energy consumption, validated by appropriate experts, for all EV types. We hope in due course that a body like COPERT will provide the energy consumption rates for EVs. Also, we do not have knowledge on the proportion of home power generation and the use of home charging for hybrids.

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Roads Emissions Model	Derek Brady	TII	31/5/2023	Most EV charging is done overnight when the percentage of renewables in the grid is higher so CO2 per kwh is likely less than the average for the Irish grid.	We are not experts on this and do not know for sure the mix of renewables versus coal, etc. for power generation during night-time. We, therefore, used an average rate from SEAI for Co2 per KWh produced.
Carbon Tool and Environmental Standards	Vincent O'Malley	TII	31/5/2023	What is the difference between the REM and Carbon Tool. Could they be combined?	Yes. Originally when we actually produced the Carbon Tool, it was looking at the construction, the maintenance and the road user emissions. However, when the REM was developed, it focused on the road user emissions. In addition to that, it can calculate the air quality impacts from various pollutants including nitrogen dioxide and particulates. The Carbon Tool now focuses solely on the construction and maintenance emissions associated with a project. This includes the embodied carbon of the raw materials i.e., the emissions generated during the manufacturing process of such precast materials. All emissions generated during the construction phase of the site, and the maintenance of the scheme over a 60 year lifetime. Yes, the emission can be combined in your assessment, use the REM tool to calculate the road user emissions and the carbon tool for the construction and maintenance emissions.
Roads Emissions Model	Derek Brady	TII	31/5/2023	The curves on the emissions rates are very flat from 80kph to 120 kph, which is counter-intuitive to fuel consumption which increases greatly with increases in speed. The emissions rates would seem to suggest that speed does not affect emissions greatly, again which is counter intuitive.	Fuel consumption does increase with speed after 60-70kph. Apparently, this is related to air resistance. The curves/tables presented are based on emission rates for different speeds from COPERT.

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Roads Emissions Model	Derek Brady	TII	31/5/2023	For EV is the carbon calculation and environmental impact of the battery manufacture and the extraction of the materials required (Lithium, etc.) taken into account?	No, just tail pipe emissions. We are only focusing on the in-use emissions.
Roads Emissions Model	Derek Brady	TII	31/5/2023	Have the emissions curves been validated against other sources, such as VECTO for HGV's?	TII did not get into validation of those curves because they are from COPERT, European Environment Agency. Trinity and UCD have been doing combined work looking at these emission curves and they are pretty much in line with what they are seeing as part of the COPERT emissions.
Carbon Tool and Environmental Standards	Vincent O'Malley	TII	31/5/2023	Is there any work underway on developing a carbon calculator specifically for bridge design? As a bridge designer, I am finding it very hard to produce early-stage carbon estimations, short of producing a BoQ, which we all know is very hard and extremely time intensive to do early on in the design. Being able to present options to clients in the context of carbon output is vital for encouraging low carbon options.	Yes, you can estimate emissions during the early stage of bridge design. If you have the quantities of materials, types of materials and the EPD's associated with the materials, you can use the Carbon Tool for looking at the carbon emissions associated with structures. Currently, we are benchmarking various structures and we hope to provide typical values for such structures.
Carbon Tool and Environmental Standards	Vincent O'Malley	TII	31/5/2023	If we are considering the carbon calculation and environmental impact of the battery manufacture and the extraction of the materials required (Lithium etc) for EVs then we need to consider the cost of oil exploration, extraction, refining and transport etc for ICE vehicles.	The carbon tool only addresses emissions associated with the construction and maintenance lifecycle of a project. TII has no control over emissions. The REM tool focuses on tail pipe emissions. At the moment, emissions from EV's are not considered as we have no control over emissions from external sources.
Carbon Tool and Environmental Standards	Vincent O'Malley	TII	31/5/2023	What new guidelines can we expect this year? Will there be any guidance for population & human health assessment?	Yes, a population and human health standard should be available by Q4, we are also working on a new noise standard and water quality standard.

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Carbon Tool and Environmental Standards	Vincent O'Malley	TII	31/5/2023	For Planning of a Scheme, will a quarry source need to be specified in the EIA to calculate the Emissions? Will this create a problem if the Contractor choses another quarry source further away that what was assumed at planning?	You have to be able to demonstrate if the requirement is in the Tender Documents to have a carbon management plan, or to meet a certain carbon specification associated with a project. If the most obvious choice of location for your raw materials is X and the contractor decides to go with one which is farther away, then that is going to create an issue with regards to carbon. If they can justify and reduce carbon elsewhere it is up to them how they actually will reduce that particular carbon. You have to have some assessment of it, and you probably would have to include some calculations as part of that.
Roads Emissions Model	Derek Brady	TII	31/5/2023	EV vehicles are heavier in nature by about 33%, when it comes to carbon footprints etc has there been a study on the extra number of HGV's on roads in the future (more HGV's to move the same overall load) versus the life of the asset, and the increase in maintenance of the asset.	TII has not been involved in such a study.
Carbon Tool and Environmental Standards	Vincent O'Malley	TII	31/5/2023	What is the legal status of acquiring lands through CPO process for Biodiversity Net Gain associated with a road scheme? Do lands have to be located adjacent to road CPO or could the area of lands be a small bit remote from the proposed road?	The current legal position is that lands that are only necessary for the construction of the project can be acquired through CPO. Lands do not necessarily have to be located adjacent to the road for biodiversity purposes.
Introduction to Mass Haul Tools and their role in sustainability	Cathal Mac an tSearraigh	Arup	31/5/2023	Does the Mass Haul tool have capability to import raw Civil 3D earthwork quantities?	The tools are developed to be able to use tabulated outputs from packages such as Civil 3D or Open Roads. We have tested this during development of the tool in terms of bringing in chainage data, the associated cut and fill data, alignment levels and ground levels in tabulated format. It is intended to be a cut and paste exercise in the very first tab to then facilitate the following functions within the tool.

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Introduction to Mass Haul Tools and their role in sustainability	Cathal Mac an tSearraigh	Arup	31/5/2023	As well as optimising the design, are the Mass haul outputs/philosophy provided to contractors during the tender phase to potentially benefit from pricing reductions?	The mass haul tool currently is not intended to be a direct deliverable at Phase 3 or 4. The intent is for the optimization that is identified as part of the tool to be incorporated into the design, and then the design becomes the principal deliverable. One thing to note is that the mass haul tool is not intended to replicate the mass haul that would be undertaken by the contractor at Phase 6 because their focus would be primarily on costs and programme. The intent with the Earthworks Analysis and Mass Haul tool is for a consideration of the sustainability objectives during the option selection process and during the preliminary design and that solutions linked with sustainability objectives are incorporated into the design, which then becomes the deliverable.
Introduction to Mass Haul Tools and their role in sustainability	Cathal Mac an tSearraigh	Arup	31/5/2023	Is the use of the Mass Haul tool mandatory? If not, is there the intention to make it mandatory in the standards in the near future?	The tool is currently not mandatory and the intent is that, following use of the tool and feedback on the tool, consideration will be made as to whether it should be made mandatory. Some project teams may already be using proprietary mass haul software to run mass haul during the initial phases, but this tool is intended to provide or to ensure a minimum consistent assessment of mass haul.

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Updates to Geometric Design Standards	Danny Wicks	Arup	31/5/2023	<p>Why has the Type 3 Divided Road (previously known as Type 3 Dual Carriageway) been re-introduced for new offline schemes?</p> <p>And to help determine of cross section, do TII have a better breakdown of the Collision Factors for each type of road and not just the high level of single, dual and motorway types?</p>	<p>International research carried out on cross section types has suggested a shift away from undivided single carriageways on high-speed roads equivalent to the National Primary Network. This is to better align with the Safe Systems approach and Vision Zero aims.</p> <p>Type 3 Divided Roads with central barrier protection can now be considered as an appropriate alternative to Single Carriageways on certain schemes. Guidance has been included within the Standard to recommend an appraisal based cross section selection process, which considers elements such as intended service function, safety, cost, environmental impacts etc. in addition to traffic composition in order to make an informed decision on a particular scheme.</p> <p>The change to the Standard allows a wider application of the Type 3 Divided Road cross section (i.e. in offline schemes), and this may provide an opportunity to better align with Safe Systems objectives on certain schemes.</p> <p>Collision rate data on the National Road Network is available at <a href="https://data.gov.ie/organization/transport-infrastructure-ireland">https://data.gov.ie/organization/transport-infrastructure-ireland</a></p>

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Updates to Geometric Design Standards	Danny Wicks	Arup	31/5/2023	Surely dual carriageways did not need rebranding to professional users. Could the logic be explained more?	The Type 2 / 3 Divided Roads perform a reduced Mobility function and cater for lower traffic volumes compared with a Type 1 Dual Carriageway. The rebranding to a Divided Road aims to make the distinguishment of the Type 2/3 Divided Road as a lower category of road (when compared with the Type 1 Dual Carriageway) clearer.
Updates to Geometric Design Standards	Danny Wicks	Arup	31/5/2023	Compact Junctions - Is a priority junction on a minor road now a departure? It is noted that roundabouts are shown on the updated diagrams.	While priority junctions do not require a departure, roundabouts on the minor road of a compact grade separated junction are the preferred junction treatment from a collision reduction perspective as outlined in Section 9.4.2. Considering this, the diagram in Figure 9.2 has been updated.
Updates to Geometric Design Standards	Danny Wicks	Arup	31/5/2023	There appears to be an inconsistency between the headroom in the cross-section standard versus the offline cycleway standard - 2.4m vs 2.7m. Can this be clarified?	Noted. This is under review and an update will be made to address any inconsistency between the two standards.
Updates to Geometric Design Standards	Danny Wicks	Arup	31/5/2023	Is there an SCD for the pedestrian fence as shown in DN-GEO-03036 or should CC-SCD-00321 be used?	The pedestrian fence detail shown in DN-GEO-03036 is indicative. A pedestrian guardrail in accordance with the requirements outlined in DN-REQ-03034 should be developed.
Updates to Geometric Design Standards	Danny Wicks	Arup	31/5/2023	Will there be opportunity for feedback after the implementation of the new SCDs?	TII's approach to standards and publications is to review and update in order to align with international best practice. Part of this process involves reviewing feedback and considering it as part of any further future updates.

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Project Management Guidelines	Jim McCarthy / Virginia Kangley	TII	31/5/2023	I am involved in a project which is currently at Phase 2. Is the new Options Report required now if we have been working to the previous version of the PMG?	Your Senior Engineering Inspector will advise you on your specific scheme, however the new report combines two previous deliverables and should result in less documentation to produce, not more. As some aspects of the Phase 2 are now moved to Phase 1 you may need a slightly bespoke report. You should consult your Senior Engineering Inspector who will know the specifics of your scheme and what is best for the scheme.
Project Management Guidelines	Jim McCarthy	TII	31/5/2023	Will the requirement for a Project Brief (from all phases) be removed from the PAGs?	It is still required at Phase 5, it is the Phase 2 brief that has been removed. We are anticipating an update to the PAGs later this year. The update is contingent on a government publication which is awaited. The PAGs will be consistent with the PMG's where relevant.
Project Management Guidelines	Jim McCarthy	TII	31/5/2023	Will the commercially sensitive costings and benefits of options be included in the Option Selection Report?	No. But they should also be produced and submitted to TII within the spreadsheets. The normal spreadsheets that are available in the download section of the cost management manual and the TSP spreadsheets should still be provided, but it is range of costs that we are asking to be put into documents, not definitive costs, at this stage.
Project Management Guidelines	Jim McCarthy	TII	31/5/2023	Will there be any TII PMG Templates added to the download section for use on Schemes?	Yes.
Project Management Guidelines	Jim McCarthy	TII	31/5/2023	Was it considered to move the SAR to TII Phase1 - given the requirement for a long list of options, etc.?	TII deliverables are based on overarching Department of Transport deliverables; these are set by the DoT for TII, and we have to align with them. There is currently, and we anticipate that there will be, a requirement from the DoT for a Phase 0 and a Phase 1 document and we have to align to that. So, was it considered? No, as there is a requirement to align with the CAF.