

Ref: Letter response for RSE-SCEGGS Darlinghurst

4/8/2021

Ben Liddell
Senior Engineer
Traffix

Dear Ben

Condition B12 of the Development Consent for SSD 8993 –SCEGGS Darlinghurst

I refer to Condition B12 of the Development Consent for SSD 8993 which is pasted below verbatim.

Traffic, Access, Car and Bicycle Parking

B12. All future development applications for new built form must be accompanied by:

- (a) a Traffic Impact Assessment that considers the traffic, transport and parking impacts associated with the construction and operation of the proposed development;
- (b) an updated Green Travel Plan outlining the measures to reduce private vehicle usage;
- (c) an Operational Transport and Access Management Plan; and
- (d) a Road Safety Evaluation.

You asked me to comment on the appropriateness of road safety evaluations (RSE), as a tool for assessing the impacts of a development. Please accept this letter as my response.

My professional background

I am a road safety and traffic engineer and accredited road safety auditor with more than 20 years experience in road safety, traffic management, road design and construction. Currently, I am accredited as a level 3 (lead) road safety auditor in NSW (Transport for NSW scheme), a senior auditor in Victoria (VicRoads scheme), and a senior auditor in Queensland (QTMR scheme). I have completed more than 1000 road safety audits over my career, as well as more than 300 crash investigation projects. I currently work for my own company, DC Traffic Engineering.

Between 1999 and 2007, I was employed by the (then) Roads and Traffic Authority (RTA) which has now been amalgamated into Transport for NSW. I worked in various roles including five years as the Road Safety Audit and Crash Investigation Team Leader for Sydney Region, and four years as the Accident Investigation and Blackspot Program Manager for the Head Office. In the latter role, I was also a co-author for the *Accident Reduction Guide* – a two-part guide with technical and procedural advice on (i) how to conduct a crash investigation project and (ii) how to conduct road safety audit. This Guide was later superseded by the *Guidelines for Road Safety Audit Practices* (2011) which is the current guideline and procedure document for road safety audits and other similar practices.

Since leaving the RTA in 2007, I worked as a road safety and traffic engineering consultant with road safety audits comprising more than 95% of my work. This included approximately five years where I was the lead presenter and trainer in IPWEA's Road Safety Audits course.

Guidelines for Road Safety Auditing Practices (2011) and definitions of road safety investigative activities

This is the official guideline and procedural document in NSW for three types of road safety investigative activities, namely:

- **Road Safety Audits** – defined as “a formal examination of proposed or existing roads and road related areas from the perspective of road users and with the intention of identifying road safety deficiencies and areas of risk that could lead to road crashes. It does not consider crash history. It is conducted by an independent, qualified team of professionals”. Furthermore, road safety audits can be conducted at the feasibility design stage, concept design stage, detailed design stage, pre-opening stage, and roadworks stages of a project in design/ construction. It can also be conducted of an existing road. Key stringent requirements of a road safety audit are that the audit must be conducted by at least two accredited auditors and there must be a level 3 and a level 2 road safety auditor on the team as a minimum.
- **Road Safety Check** – defined as “an assessment of proposed or existing roads and road related areas from the perspective of all road users and with the intention of identifying road safety deficiencies and areas of risk that could lead to or have led to road crashes. It is conducted by a road safety professional. A road safety check is really a truncated version of a road safety audit. It is not considered to be as formal as an audit, and it may be conducted by one person, with an accreditation of level 2 or higher.
- **Road Safety Evaluations** – which “involves a road safety audit, a crash investigation and a review of the speed zone. It is a formal examination of existing roads and road related areas from the perspective of all road users with the intention of identifying road safety deficiencies and areas of risk that have led to or could lead to road crashes. It is conducted by an independent, qualified team of professionals”. As this involves a road safety audit, a crash investigation and a speed zone review, it really requires competent persons in all three investigative activities. The road safety audit component requires a level 3 and a level 2 auditor as a minimum.

The relevance of each investigative activity to development applications

Before discussing road safety investigative activities, I would like to consider other investigative activities used for development applications. Two in particular are traffic impact assessments and environmental impact assessments. For development applications, these two activities are used to identify the foreseeable traffic/ environmental impacts of the development proposal, identify appropriate mitigation measures, and then test those mitigation measures for effectiveness. The key intention is to assess for impacts that are likely to occur as a result of the development, not pre-existing traffic/ environmental issues.

Drawing a parallel with these two investigative activities, any road safety investigative activity carried out at the development application stage should follow the same logic. That is, the road safety impact assessment (for lack of a better term) should assess for foreseeable road safety impacts associated with the development proposal, then seek to mitigate those impacts. In these respects, an *existing stage* road safety audit (which is basically an assessment of existing road, traffic and land use conditions) is not an appropriate tool by itself. Whilst it may establish a “baseline” road safety condition of the road, it would not identify any road safety impacts associated with the development proposal. It should be noted that road safety evaluations (see definition above) involve an *existing stage* road safety audit.

Furthermore, a crash investigation (which is also part of a road safety evaluation) is based on the historic road safety performance of the road, and provides little information on the future crash exposure as a specific result of the development proposal. Again, this could be used to inform the “baseline” road safety condition, as well as what needs to change to address that existing road safety performance (ie. like blackspot projects). However, unless innovative crash prediction methods are used (there is a lack of guidance in the industry for this), there is no reliable way of determining the increase or decrease in crash exposure as a direct result of a development proposal. As such, crash investigation is not an appropriate tool by itself to assess the foreseeable road safety impacts associated with a development.

In these respects, it is my opinion that a road safety evaluation is not the correct tool to be used for road safety investigations associated with development proposals. The most appropriate tool would be a design-stage road safety audit (ie. either feasibility, concept or detailed design). This is discussed further in the next section.

How a *design-based* road safety audit can be used to assist in the assessment of road safety impacts

In the previous section, it was already established that an *existing stage* road safety audit is not an appropriate tool for assessing the foreseeable road safety impacts associated with a development proposal. As such, a road safety evaluation, which includes an *existing stage* road safety audit, is also not an appropriate tool. By contrast, a more appropriate tool would be a *design-based* road safety audit (eg. feasibility stage, concept stage or detailed design stage road safety audit).

A *design-based* road safety audit would involve a review of the development proposal to understand the intention of the proposal and therefore identify likely road safety risks associated with that proposal. Whilst the audit type makes reference to a design, it is not always a design *per se*. The audit team merely has to understand what the intended development is, and that can be conveyed through many forms, such as a master plan, a written document including a worded description of the development, a concept/ detailed design, architectural drawings, landscaping plans, an artist impression, a video “fly through” etc. It is important to acknowledge that a design-based road safety audit does not necessarily need to be based on a hard-and-fast design.

Secondly, and equally critical, is that when it comes to a development proposal, there may be road-based changes, land use changes (with no road-based changes), or a combination of both. A design-based road safety audit needs to consider the road safety impact of both road-based changes (eg. a new drop off area, a new pedestrian crossing etc) as well as land-use changes (eg. increasing traffic volume as a result of increased school enrolment). The audit team needs to consider the road and land use changes, and how those translate to foreseeable road safety impacts. Even if the pre-existing road environment is retained and continues to be used as part of the development proposal, the audit team must envisage the impact of the additional road and pedestrian traffic (due to the development) when put onto the pre-existing road environment. This is still a *design-based* road safety audit as it considers the implications of the design (development proposal) on the existing road network.

Furthermore, like a traffic impact assessment, this road safety audit should consider the nett change in road safety to differentiate between what is a pre-existing road safety performance (and hence no “fault” of the development proposal) and what is a new and introduced road safety risk (which could perhaps be attributable to the development proposal).

My recommendation

In these respects, I believe that the most appropriate road safety investigative tool for a development proposal is a *design-based* road safety audit considering both the physical road-based changes as well as the traffic and pedestrian-generation impacts of the proposed land use changes.

If there are any queries regarding this letter, please contact me on the details below.

Kind regards



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