

## Appendix H Prompt Lists

### H.1 Principles

**Audit prompt lists** (termed audit check lists in previous versions of this Guide) are recognised as a useful practical tool in assisting auditors (especially those with limited experience) in the identification of risks and hazards during various stages of audit and across a range of scenarios. Notwithstanding they are only intended to be an aid and should not be relied upon to be inclusive, nor is all of the standard content applicable to all projects. Rigidly auditing to prompt lists (often described as a ‘tick box approach’) serves no purpose or value. Prompt lists should not be reproduced in the audit report.

To prepare the current prompt lists, previous examples from Austroads *Guide to Road Safety Part 6A* (2019) and the Safe System Assessment Framework guidelines have been reviewed and updated and enhanced, where possible, utilising a range of resources<sup>15</sup>.

An approach known as **front loading** has been adopted to remind auditors to:

- apply Safe System thinking
- give consideration to vulnerable road user groups, and
- be cognisant of changing road environments in accordance with sustainable transport and Movement and Place principles.

Front loading requires site information (such as traffic composition, volumes, and the speed environment) and design parameters to be collated and considered in response to a series of questions across several headings. However, the process must not be seen as exhaustive in the consideration of Safe System principles, nor is it a substitute for Safe System training and experience.

The second part of the prompt lists contains category/feature prompts by audit stage. The auditor will then tick any/all applicable questions.

Inclusion of prompt lists in this Guide does not preclude organisations and/or individual auditors from adding items and/or developing their own local lists. As auditors become more experienced, their reliance upon prompt lists is likely to decrease. However, they can still serve as a useful check upon completion of a site visit and/or initial drafting of the audit report to ensure that all aspects of the audit brief and the project or existing road itself have been considered. It is more advantageous to detect any omissions at this point than to have to revisit a site or in the worst case, hand over an incomplete report or a report that has not considered all relevant issues.

Further revisions to the prompt lists provided within this Guide are likely to be required to fully reflect the influx of Intelligent Transport Systems (ITS) and automated vehicles.

Further guidance on the undertaking of thematic audits (road user specific) is included in Appendix I.

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<sup>15</sup> Including: the Highways England RSA standard GG119 (Highways England 2019); Safe System Checklists from TfNSW and TMR Qld; and Austroads network level safety principles.

Prompt lists for construction/temporary traffic management sites have not been provided within this Guide. Information can be found in Austroads guidance relating to temporary traffic management (Austroads 2021e).

## H.2 Prompt List for Front Loading

Table H 1 below has been developed as an example prompt list for front loading, applicable to new build and infrastructure modification projects.

**Table H 1: Prompt list for front loading, applicable to new build and infrastructure modification projects**

| Objectives of the project/network considerations   | Audit team observations/comments (Yes/No, as applicable, plus text as required) |
|--|---|
| What is/are the reason/s for the project?  |   |
| Is there a specific risk of a crash type/s with the most severe likely outcomes? (e.g. run-off-road and head-on)   |   |
| If so, what are the causal factors of this crash type and how are they going to be addressed?  |   |
| Does the project reduce exposure, likelihood, and/or severity of the crash types identified above?   |   |
| Does the project address specific issues such as poor speed limit compliance, road access, congestion, future traffic growth, freight movement, amenity concerns from the community, maintenance/asset renewal, etc? |   |
| Have operating speeds and impact angles been managed to minimise crash energy?   |   |
| Have the needs of all vulnerable road user groups been adequately considered?  |   |
| Does the project fit strategically within the overarching objectives or strategy pertinent to the network/link?  |   |

| Objectives of the project/network considerations  | Audit team observations/comments (Yes/No, as applicable, plus text as required) |
|---|---|
| Has consultation been undertaken with key internal and external stakeholders, e.g. regarding potential impacts of the project?  |   |
| Were Safe System principles considered and addressed during the planning/conceptual design phase? (e.g. has an SSA been done?)  |   |
| Were road safety data, crash reports, and road safety engineering toolkits etc. considered during the planning and design stages?   |   |
| Have incremental safety principles been planned/applied?  |   |
| Does the project encourage road users to be alert and compliant, as well as aiming to reduce the severity of crashes through protective infrastructure treatments, speed reductions and vehicle/safety features?  |   |
| Has specific 'road safety expertise' been engaged during the planning and/or design of the project and the procurement requirements of contractors (if applicable)?   |   |
| Have there been any changes to the scope of the project or original design which do not align with the safe system approach?  |   |
| Have there been any design exceptions identified and applied (e.g. Extended Design Domain) and if so, have safety measures been implemented in ongoing operational and maintenance plans etc?                     |   |
| Is the project consistent with the safety vision for the corridor in which it is located?   |   |
| Have decisions regarding the design standards and guidelines to be applied been taken with consideration of the complete corridor in which the project is located, as part of sustainable network safety planning |   |

| Objectives of the project/network considerations   | Audit team observations/comments (Yes/No, as applicable, plus text as required) |
|--|---|
| <p>How does the design/project consider key aspects at macro/context level as well as at the specific micro (project specific) level? For example:</p> <ul style="list-style-type: none"> <li>• is the context appropriate – is the site appropriate within the wider/bigger picture – corridor and network?</li> <li>• will the project be self-explaining within the corridor?</li> <li>• is there strategic alignment of the project with network and corridor plans and visions?</li> <li>• is the project maximising the safety value contribution to the network or is it obligating more effort in lieu of other locations?</li> <li>• is the design sustainable over say 10 years and achieve a self-explaining result over that period?</li> <li>• are the project parameters (e.g. operating speed) aligned to the corridor and the level of risk at the location?</li> <li>• is the level of risk of the project higher or lower than other locations – and is the design appropriate when this is considered?</li> </ul> |   |

It is suggested that in using the following prompt lists (Table H 2 to Table H 6 inclusive), auditors tick off the questions that apply using the boxes provided, before recording any notes and/or findings on the audit findings proforma (Appendix F.1).

### H.3 Prompt List covering Local Alignment

Table H 2: Prompt list covering local alignment issues

| Feasibility (concept)   | Preliminary design   | Detailed design  | Pre-opening  | Existing roads (post-opening)   |
|---|--|--|--|---|
| <b>Visibility</b>   |  |  |  |   |
| <input type="checkbox"/> Are all aspects associated with the location of the route and/or its alignment safe? | <input type="checkbox"/> Are horizontal and vertical alignments consistent with required visibility? | Are sight lines obstructed by: <ul style="list-style-type: none"> <li><input type="checkbox"/> safety fences;</li> <li><input type="checkbox"/> boundary fences;</li> <li><input type="checkbox"/> street furniture;</li> <li><input type="checkbox"/> parking facilities;</li> <li><input type="checkbox"/> signs;</li> </ul> | <input type="checkbox"/> Are the sight lines clear of obstruction? | <input type="checkbox"/> Is sight distance adequate for the speed of traffic using the route? |

| Feasibility (concept)  | Preliminary design  | Detailed design  | Pre-opening | Existing roads (post-opening)  |
|--|---|--|-------------|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> If the route follows existing roads what are the effects of this?</li> <li><input type="checkbox"/> If the route is in 'green fields' (undeveloped corridor), is the alignment safe? Could it be safer?</li> <li><input type="checkbox"/> Does the scheme fit in with the physical constraints of the landscape?</li> <li><input type="checkbox"/> Does the scheme take account of major network considerations?</li> <li><input type="checkbox"/> Have all harmful safety effects of this scheme upon the surrounding road network been identified? Have they been adequately dealt with?</li> </ul> <p>Is sight distance generally satisfactory:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> at intersections? (if not, what implications?)</li> <li><input type="checkbox"/> at entry and exit ramps?</li> <li><input type="checkbox"/> at property entrances?</li> <li><input type="checkbox"/> at emergency vehicle access points?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Will sight lines be obstructed by permanent or temporary features e.g. bridge abutments and parked vehicles?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> landscaping;</li> <li><input type="checkbox"/> structures;</li> <li><input type="checkbox"/> environmental barriers;</li> <li><input type="checkbox"/> crests;</li> <li><input type="checkbox"/> features such as buildings, plant, or materials outside the highway boundary?</li> <li><input type="checkbox"/> Is the forward visibility of at-grade crossings sufficient to ensure they are conspicuous?</li> </ul> |             | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is adequate sight distance provided for intersections and crossings? (for example, pedestrian, cyclist, cattle, railway)</li> <li><input type="checkbox"/> Is adequate sight distance provided at all private driveways and property entrances?</li> <li><input type="checkbox"/> Are there any visual clues which give a false impression of the vertical or horizontal geometry, including the presence of intersections?</li> </ul> <p>Is the horizontal and vertical alignment suitable for the (85th percentile) traffic speed? If not:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> are warning signs installed?</li> <li><input type="checkbox"/> are advisory speed signs installed?</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> Are the posted advisory speeds for curves appropriate?</li> <li><input type="checkbox"/> Is the speed limit compatible with the function, road geometry, land use and sight distance?</li> <li><input type="checkbox"/> Are safe overtaking opportunities provided?</li> </ul> <p>Is the road free of elements that may cause confusion? For example:</p> |

| Feasibility (concept)  | Preliminary design | Detailed design | Pre-opening | Existing roads (post-opening)  |
|--|--------------------|-----------------|-------------|--|
| <input type="checkbox"/> Are there any curves which are compliant but are obviously out of character with those curves adjacent/close to it? |                    |                 |             | <input type="checkbox"/> is alignment of the roadway clearly defined?<br><input type="checkbox"/> has disused pavement (if any) been removed or treated?<br><input type="checkbox"/> have old pavement markings been removed properly?<br><input type="checkbox"/> do tree lines follow the road alignment?<br><input type="checkbox"/> does the line of streetlights or the poles follow the road alignment?<br><input type="checkbox"/> Is the road free of misleading curves or combinations of curves?<br><input type="checkbox"/> Are medians and islands of adequate width for the likely users?<br><input type="checkbox"/> Are traffic lane and carriageway widths adequate for the traffic volume and mix?<br><input type="checkbox"/> Are bridge widths adequate?<br><input type="checkbox"/> Are shoulders wide enough to allow drivers to regain control of errant vehicles?<br><input type="checkbox"/> Are shoulders wide enough for broken-down or emergency vehicles to stop safely?<br><input type="checkbox"/> Are shoulders sealed? |

| Feasibility (concept)   | Preliminary design   | Detailed design  | Pre-opening   | Existing roads<br>(post-opening)  |
|---|--|--|---|---|
|   |  |  |   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are shoulders trafficable for all vehicles and road users? (i.e. are shoulders in good condition)</li> <li><input type="checkbox"/> Is the transition from road to shoulder safe? (no drop-offs)</li> <li><input type="checkbox"/> Is appropriate superelevation provided on curves?</li> <li><input type="checkbox"/> Is any adverse crossfall safely managed (for cars, trucks, etc.)?</li> <li><input type="checkbox"/> Do crossfalls (carriageway and shoulder) provide adequate drainage?</li> <li><input type="checkbox"/> Are batter slopes traversable by cars and trucks that run off the road?</li> </ul> |
| New/existing road interface   |  |  |   |   |
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Are all sections/transitions where the proposed road scheme connects with the existing network free of potential problems?</li> <li><input type="checkbox"/> Have any railway level crossings been identified and are they treated adequately?</li> <li><input type="checkbox"/> Have other distractions (for example, low-flying aircraft, advertising, etc.) been adequately dealt with?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Will the proposed project be consistent with the standard of provision on adjacent lengths of road and if not, is this made obvious to the road user?</li> <li><input type="checkbox"/> Does interface with other roads occur near any potential hazard, i.e. crest, bend after steep gradient?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Where a new road joins an existing road, or where an on-line improvement is to be constructed, will the transition give rise to potential hazards?</li> <li><input type="checkbox"/> Where the road environment changes (e.g. urban to rural, restricted to unrestricted) is the transition made obvious by appropriate signing and carriageway markings?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is there a need for additional signs and/or road markings?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Where another road joins does this give rise to potential hazards?</li> <li><input type="checkbox"/> Where the road environment changes (e.g. urban to rural, restricted to unrestricted) is the transition made obvious by appropriate signing and carriageway markings?</li> <li><input type="checkbox"/> Have safe run-off areas been provided where high speed merges are present or there are other conflict points?</li> </ul>  |

| Feasibility (concept)   | Preliminary design | Detailed design | Pre-opening | Existing roads (post-opening) |
|---|--------------------|-----------------|-------------|-------------------------------|
| <input type="checkbox"/> Has the potential of the location to attract roadside stalls been considered?<br><input type="checkbox"/> Have all unusual or hazardous conditions associated with special events been considered? |                    |                 |             |                               |

#### H.4 Prompt List covering General Aspects

Table H 3: Prompt list covering general aspects

| Feasibility (concept)  | Preliminary design  | Detailed design  | Pre-opening  | Existing roads (post-opening) |
|--|---|--|--|-------------------------------|
| <b>Departures from Standards</b>   |   |  |  |                               |
| <input type="checkbox"/> What are the road safety implications of any approved departures from standards or relaxations? | <input type="checkbox"/> What are the road safety implications of any approved departures from standards or relaxations?  | <input type="checkbox"/> Consider road safety aspects of any departures granted since the preliminary design stage | <input type="checkbox"/> Are there any adverse road safety implications of any departures from standard granted since the detailed design stage? |                               |
| <b>Cross-sections and cross-sectional variation</b>  |   |  |  |                               |
|  | <input type="checkbox"/> How safely do the cross-sections accommodate drainage, ducting, signing, fencing, lighting, and pedestrian and cycling routes?<br><input type="checkbox"/> Could the scheme result in the provision of adverse camber? |  |  |                               |



| Feasibility (concept)   | Preliminary design   | Detailed design  | Pre-opening  | Existing roads (post-opening)   |
|---|--|--|--|---|
|   | <input type="checkbox"/> What are the road safety implications if the standard of the proposed scheme differs from adjacent lengths of highway?  |  |  |   |
| Landscaping/Environmental   |  |  |  |   |
| <input type="checkbox"/> Is the surrounding terrain free of physical or vegetation defects which could affect the safety of the scheme? (for example, heavy planting, forestry, deep cuttings, steep or rocky bluffs which constrain the design)<br><input type="checkbox"/> Has safety been considered in the location of environmental features? (for example, noise fences)<br><input type="checkbox"/> Does the scheme deal adequately with potential animal conflicts? (for example, kangaroos, wombats, cattle, etc.)<br><input type="checkbox"/> Are visual distractions (for example, scenic vistas) adequately dealt with? (for example, by providing areas for people to stop safely)<br><input type="checkbox"/> Has the issue of unstable country been considered? (for example, mine subsidence) | <input type="checkbox"/> Could areas of landscaping conflict with sight lines (including during windy conditions)?<br><input type="checkbox"/> Has consideration been given to weather records or local experience that may indicate a particular problem? (for example, snow, ice, wind, fog) | <input type="checkbox"/> Could planting (new or when mature) encroach onto the carriageway or obscure signs or sight lines (including during windy conditions)?<br><input type="checkbox"/> Could earth embankments obscure signs or visibility?<br><input type="checkbox"/> Could trees (new or when mature) be a hazard to an errant vehicle?<br><input type="checkbox"/> Could planting affect lighting or shed leaves on to the carriageway? | <input type="checkbox"/> Could planting obscure signs or sight lines (including during periods of windy weather)?<br><input type="checkbox"/> Do earth embankments obscure signs or visibility?<br><input type="checkbox"/> Could trees (new or when mature) be a potential hazard to an errant vehicle?<br><input type="checkbox"/> Could planting affect lighting or shed leaves onto the carriageway? | <input type="checkbox"/> Is landscaping in accordance with guidelines? (for example, clearances, sight distance)<br><input type="checkbox"/> Will existing clearances and sight distances be maintained following future plant growth?<br><input type="checkbox"/> Does the landscaping at roundabouts avoid visibility problems? |

| Feasibility (concept)   | Preliminary design   | Detailed design   | Pre-opening   | Existing roads (post-opening)  |
|---|--|---|---|--|
| <b>Climatic conditions</b>  |  |   |   |  |
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Do the gradients, curves and general design approaches fit in with the likely weather or environmental aspects of the terrain? (for example, fog-prone areas)</li> <li><input type="checkbox"/> Will the scheme perform safely at night when it is wet, or there is fog?</li> <li><input type="checkbox"/> Has the issue of providing lighting for the design been considered?</li> </ul> |  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is there a need for specific provision to mitigate effects of fog, wind, sun glare, snow, and ice?</li> </ul>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are any extraordinary measures required?</li> </ul>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are climatic conditions giving rise to any safety related risks or hazards, and if so, is any mitigation effective?</li> </ul>   |
| <b>Drainage</b>   |  |   |   |  |
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Does drainage facilities appear to be adequate?</li> </ul>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Will the new road drain adequately, or could areas of excess surface water result?</li> <li><input type="checkbox"/> Could excessive water drain across the highway from adjacent land?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do drainage facilities appear to be adequate?</li> <li><input type="checkbox"/> Are features such as utility covers located within footpaths, cycle routes or equestrian routes?</li> <li><input type="checkbox"/> Are features such as utility covers or gratings located in the likely wheel tracks for motorcyclists or cyclists? Do they give concern for motorcyclist/cyclist stability?</li> <li><input type="checkbox"/> Is surface water likely to drain across a carriageway and increase the risk of aquaplaning under storm conditions?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Does drainage of roads, cycle routes and footpaths appear adequate?</li> <li><input type="checkbox"/> Are drainage features such as utility covers located within footpaths, cycle routes or equestrian routes?</li> <li><input type="checkbox"/> Are features such as utility covers or gratings located in the likely wheel tracks for motorcyclists or cyclists? Do they give concern for motorcyclist/cyclist stability?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are roadside drains and culvert end walls traversable?</li> <li><input type="checkbox"/> Are all sections of the route free from ponding or flow across the road during wet weather?</li> <li><input type="checkbox"/> If there is ponding or flow across the road during wet weather, is there appropriate signposting?</li> <li><input type="checkbox"/> Are floodways and causeways correctly signposted?</li> <li><input type="checkbox"/> Are all culverts or drainage structures located outside the clear roadside recovery area?</li> <li><input type="checkbox"/> If not, are they shielded from the possibility of vehicle collision?</li> </ul> |

| Feasibility (concept)   | Preliminary design   | Detailed design   | Pre-opening   | Existing roads (post-opening) |
|---|--|---|---|-------------------------------|
| <b>Stopping areas</b>   |  |   |   |                               |
| <input type="checkbox"/> Has adequate provision been made for vehicles to stop off the carriageway including rest and picnic areas? | <input type="checkbox"/> Has adequate provision been made for vehicles to stop off the carriageway including rest and picnic areas?<br><input type="checkbox"/> How will parked vehicles affect sight lines?<br><input type="checkbox"/> Could stopping areas be confused with intersections?<br><input type="checkbox"/> Is the stopping area located in a safe location (e.g. away from vertical crests or tight horizontal alignments with limited visibility)? | <input type="checkbox"/> Have stopping areas been positioned safely?<br><input type="checkbox"/> Could parked vehicles obscure sight lines?<br><input type="checkbox"/> Are stopping areas adequately signed?<br><input type="checkbox"/> Are rest and picnic areas properly segregated from vehicular traffic?   |   |                               |
| <b>Public utilities</b>   |  |   |   |                               |
| <input type="checkbox"/> Will utility infrastructure/equipment introduce safety issues?   | <input type="checkbox"/> Could utility infrastructure/equipment be struck by an errant vehicle?<br><input type="checkbox"/> Could utility infrastructure/equipment obscure sight lines?  | <input type="checkbox"/> Can maintenance vehicles stop clear of traffic lanes? If so, could they obscure signs or sight lines?<br><input type="checkbox"/> Is utility infrastructure/equipment located in safe positions away from locations that may have a high potential of errant vehicle strikes?<br><input type="checkbox"/> Does infrastructure/equipment interfere with visibility?<br><input type="checkbox"/> Has sufficient clearance to overhead cables been provided?<br><input type="checkbox"/> Have any special accesses/parking areas been provided and are they safe? | <input type="checkbox"/> Can maintenance vehicles stop clear of traffic lanes? If so, could they obscure signs or sight lines?<br><input type="checkbox"/> Is utility infrastructure/equipment located in safe positions away from locations that may have a high potential of errant vehicle strikes?<br><input type="checkbox"/> Does infrastructure/equipment interfere with visibility?<br><input type="checkbox"/> Have any special accesses/parking areas provided safe?<br><input type="checkbox"/> Are there any utility inspection chambers in live traffic lanes and/or wheel tracks? |                               |

| Feasibility (concept)                             | Preliminary design  | Detailed design  | Pre-opening  | Existing roads (post-opening)   |
|---|---|--|--|---|
|   |   | <input type="checkbox"/> Are there any utility inspection chambers in live traffic lanes and/or wheel tracks including those of motorcyclists or cyclists? Do they give concern for motorcyclist/cyclist stability?  | <input type="checkbox"/> Has any loose material around utility covers or gratings located in the verge been compacted down and made level with the surrounding ground?   |   |
| <b>Access</b>                                     |   |  |  |   |
|   | <input type="checkbox"/> Can all accesses be used safely?<br><input type="checkbox"/> Can multiple accesses be linked into one service road?<br><input type="checkbox"/> Are there any conflicts between turning and parked vehicles? | <input type="checkbox"/> Is the visibility to/from accesses adequate?<br><input type="checkbox"/> Are the accesses of adequate length to ensure all vehicles clear the main carriageway?<br><input type="checkbox"/> Do all accesses appear safe for their intended use?   | <input type="checkbox"/> Is the visibility to/from accesses adequate?<br><input type="checkbox"/> Are the accesses of adequate length to ensure all vehicles clear the main carriageway?   | <input type="checkbox"/> Is the visibility to/from accesses adequate?<br><input type="checkbox"/> Are the accesses of adequate length to ensure all vehicles clear the main carriageway?  |
| <b>Surfacing/surface friction/skid resistance</b> |   |  |  |   |
|   |   | <input type="checkbox"/> Are there locations where high friction surfacing (such as on approaches to junctions and crossings) would be beneficial?<br><input type="checkbox"/> Do surface changes occur at locations where they could adversely affect motorcycle stability?<br><input type="checkbox"/> Is the colour of any high friction surfacing appropriate? | <input type="checkbox"/> Do any joints in the surfacing appear to have excessive bleeding or low friction?<br><input type="checkbox"/> Do surface changes occur at locations where they could adversely affect motorcycle stability? | <input type="checkbox"/> Is the condition of the pavement edges satisfactory?<br><input type="checkbox"/> Is the transition from pavement to shoulder free of dangerous edge drop offs?<br><input type="checkbox"/> Is the pavement free of defects (for example, excessive roughness or rutting, potholes, loose material, etc.) that could result in safety problems (for example, loss of steering control)? |

| Feasibility (concept)   | Preliminary design   | Detailed design   | Pre-opening | Existing roads (post-opening)  |
|---|--|---|-------------|--|
|   |  |   |             | <ul style="list-style-type: none"> <li><input type="checkbox"/> Does the pavement appear to have adequate skid resistance, particularly on curves, steep grades, and approaches to intersections?</li> <li><input type="checkbox"/> Has skid resistance testing been carried out where necessary?</li> <li><input type="checkbox"/> Is the pavement free of areas where ponding or sheet flow of water could contribute to safety problems?</li> <li><input type="checkbox"/> Is the pavement free of loose stones and other material e.g. fallen leaves, nuts/seeds, branches?</li> </ul> |
| <b>Emergency vehicles</b>   |  |   |             |  |
|   | <input type="checkbox"/> Has provision been made for safe access and egress by emergency vehicles? | <input type="checkbox"/> Has provision been provided for safe access and egress by emergency vehicles?  |             | <input type="checkbox"/> Is provision for emergency vehicles unhindered and effective?   |
| <b>Agriculture</b>  |  |   |             |  |
| <input type="checkbox"/> Are there any adjoining agricultural areas? Have the safety implications of this been adequately considered? |  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Have the needs of agricultural vehicles and plant been taken into consideration (e.g. room to stop between carriageway and gate, facilities for turning on dual carriageways)?</li> <li><input type="checkbox"/> Are such facilities safe to use and are they adequately signed?</li> </ul> |             | <input type="checkbox"/> Is adjoining agriculture having an adverse effect on road safety? If any mitigation measures have been affected, are they effective?  |

| Feasibility (concept)             | Preliminary design   | Detailed design  | Pre-opening  | Existing roads (post-opening)  |
|-----------------------------------|--|--|--|--|
| <b>Fences and safety barriers</b> |  |  |  |  |
|                                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is there a need for safety barriers to protect road users from signs, gantries, parapets, abutments, steep embankments, or water hazards?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is there a need for safety barriers to protect road users from signs, gantries, parapets, abutments, steep embankments, or water hazards?</li> <li><input type="checkbox"/> Do the safety barriers provided give adequate protection?</li> <li><input type="checkbox"/> Are the safety barriers provided long enough?</li> <li><input type="checkbox"/> Are specific barrier systems required for motorcyclists?</li> <li><input type="checkbox"/> If there are roads on both sides of the fence is an interlocking-design necessary to prevent impalement on impact?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is the safety barrier system adequate?</li> <li><input type="checkbox"/> In the case of boundary fencing, are the rails placed on the non-traffic side of the posts?</li> <li><input type="checkbox"/> Have specific barrier systems been provided for motorcyclists?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is the safety barrier system provided appropriate and well maintained?</li> <li><input type="checkbox"/> In the case of boundary fencing, are the rails placed on the non-traffic side of the posts?</li> <li><input type="checkbox"/> Have specific barrier systems been provided for motorcyclists?</li> </ul> |

| Feasibility (concept)  | Preliminary design   | Detailed design   | Pre-opening  | Existing roads (post-opening)   |
|--|--|---|--|---|
| <b>Adjoining/adjacent development</b>  |  |   |  |   |
| <input type="checkbox"/> Will adjoining/adjacent development cause interference/confusion?   | <input type="checkbox"/> Does adjoining/adjacent development cause interference/confusion? (e.g. lighting or traffic signals on adjacent roads may affect a road user's perception of the road ahead)<br><input type="checkbox"/> Is screening required to avoid headlamp glare between opposing carriageways, or any distraction to road users? | <input type="checkbox"/> Has screening been provided to avoid headlamp glare between opposing carriageways, or any distraction to road users?<br><input type="checkbox"/> Are there any safety issues relating to the provision of environmental barriers or screens? | <input type="checkbox"/> Have environmental barriers been provided and do they create a potential hazard?  | <input type="checkbox"/> Are adjoining/adjacent development causing interference/confusion such that road safety is adversely affected? |
| <b>Basic design principles</b>   |  |   |  |   |
| <input type="checkbox"/> Is the proposed concept appropriate for the predicted level of use for all road users?  | <input type="checkbox"/> Are the overall design principles appropriate for the predicted level of use for all road users?  |   |  |   |
| <b>Bridge parapets</b>   |  |   |  |   |
|  |  | <input type="checkbox"/> Are parapet heights appropriate for the adjacent road user groups?   | <input type="checkbox"/> Is the projection of any attachment to the parapet likely to be struck by road users?   | <input type="checkbox"/> Are bridge parapets well maintained and adequately protected?  |
| <b>Specific/Vulnerable Road Users</b>  |  |   |  |   |
| <input type="checkbox"/> Does the concept provide specific consideration of vulnerable groups? (i.e. the young, older users, mobility and visually impaired, motorcyclists.) | <input type="checkbox"/> Is specific provision required for vulnerable groups? (i.e. the young, older users, mobility and visually impaired, motorcyclists.)   | <input type="checkbox"/> Are gradients appropriate for mobility scooters?<br><input type="checkbox"/> Are timings at controlled crossings sufficient for all users?   | Are the following adequate for specific and vulnerable groups? <ul style="list-style-type: none"> <li><input type="checkbox"/> visibility;</li> <li><input type="checkbox"/> signs;</li> <li><input type="checkbox"/> surfacing;</li> <li><input type="checkbox"/> other guardrails;</li> <li><input type="checkbox"/> drop kerbing/flush surfaces;</li> <li><input type="checkbox"/> tactile paving;</li> </ul> | <input type="checkbox"/> Are the measures provided for specific/vulnerable road users effective and well maintained?                    |

| Feasibility (concept) | Preliminary design | Detailed design  | Pre-opening   | Existing roads (post-opening)   |
|-----------------------|--------------------|--|---|---|
|                       |                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do surface changes or excessive use of carriageway markings occur at locations where they could adversely affect motorcycle stability?</li> <li><input type="checkbox"/> Are specific barrier systems required for motorcyclists?</li> <li><input type="checkbox"/> Are features such as traffic calming, utility covers or gratings located in the likely wheel tracks for motorcyclists or cyclists? Do they give concern for motorcyclist/cyclist stability?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> gradients;</li> <li><input type="checkbox"/> lighting levels;</li> <li><input type="checkbox"/> restraint systems;</li> <li><input type="checkbox"/> positioning of utility covers/gratings.</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Does adjoining landscaping and/or vegetation lead to items being on the surface that can impinge upon the safety of a vulnerable road user (e.g. make the surface particularly slippery for a young or ageing pedestrian or cyclist)</li> </ul> |

## H.5 Prompt List covering Intersections

Table H 4: Prompt list covering intersections

| Feasibility (concept)  | Preliminary design  | Detailed design   | Pre-opening  | Existing roads (post-opening)   |
|--|---|---|--|---|
| <b>Layout</b>  |   |   |  |   |
| <p>Are all aspects of intersections (for example, spacing, type, layout, etc.) appropriate with respect to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> the broad concept of the project</li> <li><input type="checkbox"/> the function of this road and intersecting roads</li> <li><input type="checkbox"/> the traffic mix on this road and intersecting roads</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is provision for right turning vehicles required?</li> <li><input type="checkbox"/> Are acceleration/deceleration lanes required?</li> <li><input type="checkbox"/> Are splitter islands required on minor arms to assist pedestrians or formalise road users' movements to/from the intersection?</li> <li><input type="checkbox"/> Are there any unusual features that affect road safety?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are the intersections and accesses adequate for all vehicular movements?</li> <li><input type="checkbox"/> Are there any unusual features, which may have an adverse effect on road safety?</li> <li><input type="checkbox"/> Have guardrails/safety fences been provided where appropriate?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Have guard rails/safety fences been provided where appropriate?</li> <li><input type="checkbox"/> Do any roadside features (e.g. guard rails, safety fences, traffic bollards signs and traffic signals) intrude into drivers' line of sight?</li> <li><input type="checkbox"/> Have bollards been provided to assist pedestrians or formalise road user movements?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are all intersections and accesses operating effectively/safely for all vehicular movements?</li> </ul> |



| Feasibility (concept)  | Preliminary design  | Detailed design  | Pre-opening | Existing roads (post-opening) |
|--|---|--|-------------|-------------------------------|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> types which are consistent within the scheme</li> <li><input type="checkbox"/> and consistent with adjacent sections?</li> </ul> <p>Is the frequency of intersections appropriate (neither too high nor too low):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> for safe access?</li> <li><input type="checkbox"/> to avoid impacts on the surrounding network?</li> <li><input type="checkbox"/> for emergency vehicle access?</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> Has the vertical and/or horizontal alignment been considered regarding the style or spacing of intersections?</li> <li><input type="checkbox"/> Have all physical, visibility or traffic management constraints which would influence the choice or spacing of intersections been considered?</li> <li><input type="checkbox"/> Are all the proposed intersections necessary or essential?</li> <li><input type="checkbox"/> Can any unnecessary intersections be removed?</li> <li><input type="checkbox"/> Can access safety be improved by changes on the surrounding road network?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are widths and swept paths adequate for all road users?</li> <li><input type="checkbox"/> Will large vehicles overrun pedestrian or cycle facilities?</li> <li><input type="checkbox"/> Are there any conflicts between turning and parked vehicles?</li> <li><input type="checkbox"/> Are any intersections sited on a crest?</li> <li><input type="checkbox"/> Is the intersection type appropriate for the traffic flows and likely vehicle speeds?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do any roadside features (e.g. guard rails, safety fences, traffic bollards signs and traffic signals) intrude into drivers' line of sight?</li> <li><input type="checkbox"/> Are splitter islands and bollards required on minor arms to assist pedestrians or formalise road users' movements to/from the intersection?</li> <li><input type="checkbox"/> Are parking or stopping zones for buses, taxis and public utilities vehicles situated within the intersection area? Are they located outside visibility splays?</li> <li><input type="checkbox"/> Are any utility covers or gratings located in the likely wheel tracks of motorcyclists or cyclists?</li> </ul> |             |                               |

| Feasibility (concept)   | Preliminary design  | Detailed design   | Pre-opening   | Existing roads (post-opening)   |
|---|---|---|---|---|
| <b>Visibility</b>   |   |   |   |   |
| <input type="checkbox"/> Will the angle of the intersecting roads and the sight lines be adequate for the safety of all road users? | <input type="checkbox"/> Are sight lines adequate on and through junction approaches and from the minor arm?<br><input type="checkbox"/> Are visibility splays adequate and clear of obstructions such as street furniture and landscaping?<br><input type="checkbox"/> Will the use of deceleration or acceleration lanes obscure junction visibility? | <input type="checkbox"/> Are the sight lines adequate at and through the junctions and from minor roads?<br><input type="checkbox"/> Are visibility splays clear of obstruction?  | <input type="checkbox"/> Are all visibility splays clear of obstructions?   | <input type="checkbox"/> Are all visibility splays clear of obstructions?               |
| <b>T, X, Y intersections</b>  |   |   |   |   |
|   |   | <input type="checkbox"/> Have ghost island right turn lanes and refuges been provided where required?<br><input type="checkbox"/> Do intersections have adequate stacking space for turning movements?<br><input type="checkbox"/> Can staggered crossroads accommodate all vehicle types and movements?        | <input type="checkbox"/> Are priorities clearly defined? Is signing adequate?   |   |
| <b>All roundabouts</b>  |   |   |   |   |
|   |   | <input type="checkbox"/> Are the deflection angles of approach roads adequate for the likely approach speed?<br><input type="checkbox"/> Are splitter islands necessary?<br><input type="checkbox"/> Is visibility on approach adequate to ensure drivers can perceive the correct path through the roundabout? | <input type="checkbox"/> Can the roundabout be seen from appropriate distances and is the signing adequate?<br><input type="checkbox"/> Where chevron signs are required, have they been correctly sited? | <input type="checkbox"/> Are any roundabouts provided operating effectively and safely? |

| Feasibility (concept)  | Preliminary design | Detailed design  | Pre-opening   | Existing roads (post-opening)  |
|------------------------|--------------------|--|---|--|
|                        |                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Where chevron signs are required, have they been correctly sited?</li> <li><input type="checkbox"/> Are dedicated approach lanes required? If provided, will the road markings and signs be clear to all users?</li> <li><input type="checkbox"/> Are any utility covers or gratings located in the likely wheel tracks of motorcyclists or cyclists?</li> </ul>   |   |  |
| <b>Traffic signals</b> |                    |  |   |  |
|                        |                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Will speed discrimination equipment be required?</li> <li><input type="checkbox"/> Is the advance signing adequate?</li> <li><input type="checkbox"/> Are signals clearly visible in relation to the likely approach speeds?</li> <li><input type="checkbox"/> Is 'see through' likely to be a problem? If so, would lantern filters assist?</li> <li><input type="checkbox"/> Is the visibility of signals likely to be affected by sunrise/sunset?</li> <li><input type="checkbox"/> Would high intensity signals and/or backing boards improve visibility?</li> <li><input type="checkbox"/> Would high-level signal units be of value?</li> <li><input type="checkbox"/> Are the STOP/Give Way markings in the correct location?</li> <li><input type="checkbox"/> Are any pedestrian crossings excessively long?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Can the traffic signals be seen from appropriate distances?</li> <li><input type="checkbox"/> Can drivers see traffic signal heads for opposing traffic?</li> <li><input type="checkbox"/> For the operation of signals: Are the signal phases working correctly, are unnecessary delays being created?</li> <li><input type="checkbox"/> Do pedestrian and cycle phases give adequate crossing time?</li> <li><input type="checkbox"/> Can pedestrians or cyclists mistakenly view the green signal for other pedestrian or cycle phases?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are traffic signals operating correctly?</li> <li><input type="checkbox"/> Are the number, location and type of signal displays appropriate for the traffic mix and traffic environment?</li> <li><input type="checkbox"/> Where necessary, are there provisions for visually impaired pedestrians? (for example, audio-tactile push buttons, tactile markings)</li> <li><input type="checkbox"/> Where necessary, are there provisions for elderly or disabled pedestrians? (for example, extended green or clearance phase)</li> <li><input type="checkbox"/> Is the controller located in a safe position? (i.e. where it is unlikely to be hit, but maintenance access is safe)</li> </ul> |

| Feasibility (concept) | Preliminary design | Detailed design  | Pre-opening | Existing roads<br>(post-opening)  |
|-----------------------|--------------------|--|-------------|---|
|                       |                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are the proposed tactile paving layouts correct?</li> <li><input type="checkbox"/> Are the markings for right turning vehicles adequate?</li> <li><input type="checkbox"/> Is there a need for box junction markings?</li> <li><input type="checkbox"/> Is the phasing appropriate?</li> <li><input type="checkbox"/> Will pedestrian/cyclist phases be needed?</li> <li><input type="checkbox"/> Does the number of exit lanes equal the number of approach lanes?</li> <li><input type="checkbox"/> If not is the taper length adequate? Is the required intersection intervisibility provided?</li> </ul> |             | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is the condition (especially skid resistance) of the road surface on the approaches satisfactory?</li> <li><input type="checkbox"/> Are traffic signals clearly visible to approaching motorists?</li> <li><input type="checkbox"/> Is there adequate stopping sight distance to the ends of possible vehicle queues?</li> <li><input type="checkbox"/> Have any visibility problems that could be caused by the rising or setting sun been addressed?</li> <li><input type="checkbox"/> Are signal displays shielded so that they can be seen only by the motorists for whom they are intended?</li> <li><input type="checkbox"/> Where signal displays are not visible from an adequate distance, are signal warning signs and/or flashing lights installed?</li> <li><input type="checkbox"/> Where signals are mounted high for visibility over crests, is there adequate stopping sight distance to the ends of traffic queues?</li> <li><input type="checkbox"/> Is the primary signal free from obstructions on the nearside footway to approaching drivers? (trees, light poles, signs, bus stops, etc.)</li> </ul> |

## H.6 Prompt List covering Walking and Cycling

Table H 5: Prompt list covering walking and cycling

| Feasibility (concept)   | Preliminary design   | Detailed design  | Pre-opening   | Existing roads (post-opening)   |
|---|--|--|---|---|
| <b>Adjacent land</b>  |  |  |   |   |
| <input type="checkbox"/> Will the project adversely affect adjacent land?                         | <input type="checkbox"/> Will the scheme have an adverse effect on safe use of adjacent land?  | <input type="checkbox"/> Are accesses to and from adjacent land/properties safe to use?<br><input type="checkbox"/> Has adjacent land been suitably fenced?  | <input type="checkbox"/> Has suitable fencing been provided?  | <input type="checkbox"/> Is fencing provided complete and well maintained?<br><input type="checkbox"/> Is the risk of incursion onto the road from the adjacent land minimal?   |
| <b>Public transport</b>   |  |  |   |   |
| <input type="checkbox"/> Is provision made for public transport?                                  | <input type="checkbox"/> Are any bus stops to be provided safely located with adequate visibility and clearance to the traffic lane?<br><input type="checkbox"/> Are shelters and seats to be provided located safely to ensure that sight lines are not impeded? Is clearance to the road adequate? | <input type="checkbox"/> Are bus stops safely <b>located</b> with adequate visibility and clearance to the traffic lane?<br><input type="checkbox"/> Are bus stops in rural areas signposted in advance?<br><input type="checkbox"/> Are shelters and seats located safely to ensure that sight lines are not impeded? Is clearance to the road adequate?<br><input type="checkbox"/> Is the height and shape of the kerb at bus stops suitable for pedestrians and bus drivers? | <input type="checkbox"/> Are bus stops safely located with adequate visibility and clearance to the traffic lane?<br><input type="checkbox"/> Are bus stops in rural areas signposted in advance?<br><input type="checkbox"/> Are shelters and seats located safely to ensure that sight lines are not impeded? Is clearance to the road adequate?<br><input type="checkbox"/> Is the height and shape of the kerb at bus stops suitable for pedestrians and bus drivers? | <input type="checkbox"/> Are bus stops safely located with adequate visibility and clearance to the traffic lane?<br><input type="checkbox"/> Are bus stops in rural areas signposted in advance?<br><input type="checkbox"/> Are shelters and seats located safely to ensure that sight lines are not impeded? Is clearance to the road adequate?<br><input type="checkbox"/> Is the height and shape of the kerb at bus stops suitable for pedestrians and bus drivers? |
| <b>Pedestrians</b>  |  |  |   |   |
| <input type="checkbox"/> Does the concept appropriately consider the requirements of pedestrians? | <input type="checkbox"/> Have pedestrian routes been provided where required?<br><input type="checkbox"/> Do shared facilities take account of the needs of all user groups?   | <input type="checkbox"/> Have the needs of pedestrians been considered especially at intersections and roundabouts?  | Are the following adequate? <ul style="list-style-type: none"> <li><input type="checkbox"/> visibility;</li> <li><input type="checkbox"/> signs;</li> <li><input type="checkbox"/> surfacing;</li> <li><input type="checkbox"/> other guardrails;</li> </ul>  | <input type="checkbox"/> Do actual crossing points relate to desire lines? And if not, does this introduce increased levels of significant risk?  |

| Feasibility (concept) | Preliminary design   | Detailed design   | Pre-opening  | Existing roads (post-opening)   |
|-----------------------|--|---|--|---|
|                       | <ul style="list-style-type: none"> <li><input type="checkbox"/> Can verge strips dividing footways/cycleways and carriageways be provided?</li> <li><input type="checkbox"/> Where footpaths have been diverted, will the new alignment permit the same users free access?</li> <li><input type="checkbox"/> Are footbridges/subways sited to attract maximum use?</li> <li><input type="checkbox"/> Is specific provision required for special and vulnerable groups? (i.e. the young, older users, mobility and visually impaired?)</li> <li><input type="checkbox"/> Are tactile paving, flush kerbs and guard railing proposed?</li> <li><input type="checkbox"/> Is it specified correctly and in the best location?</li> <li><input type="checkbox"/> Have all walking needs been considered, especially at intersections?</li> <li><input type="checkbox"/> Are these routes clear of obstructions such as signposts, lamp columns etc.?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are any proposed drop kerbs flush with the adjacent highway?</li> <li><input type="checkbox"/> Is tactile paving proposed?</li> <li><input type="checkbox"/> Is it specified correctly and in the best location?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> drop kerbing or flush surfaces;</li> <li><input type="checkbox"/> tactile paving.</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are there appropriate travel paths and crossing points for pedestrians?</li> <li><input type="checkbox"/> Is a safety fence installed where necessary to guide pedestrians to crossings or overpasses?</li> <li><input type="checkbox"/> Is a safety barrier installed where necessary to separate vehicle and pedestrian flows?</li> <li><input type="checkbox"/> Are pedestrian facilities suitable for night use?</li> <li><input type="checkbox"/> Is there adequate separation distance between vehicular traffic and pedestrians on footways?</li> <li><input type="checkbox"/> Is there an adequate number of pedestrian crossings along the route?</li> <li><input type="checkbox"/> At crossing points is fencing oriented so pedestrians face oncoming traffic?</li> <li><input type="checkbox"/> Is there adequate provision for the elderly, the disabled, children, wheelchairs, and baby carriages? (for example, holding rails, kerb and median crossings, ramps)</li> <li><input type="checkbox"/> Are adequate handrails provided where necessary? (for example, on bridges, ramps)</li> </ul> |

| Feasibility (concept) | Preliminary design   | Detailed design  | Pre-opening  | Existing roads<br>(post-opening)  |
|-----------------------|--|--|--|---|
|                       |  |  |  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is signing about pedestrians near schools adequate and effective?</li> <li><input type="checkbox"/> Is signing about pedestrians near any hospital adequate and effective?</li> <li><input type="checkbox"/> Is the distance from the stop line to a cross walk sufficient for truck drivers to see pedestrians?</li> </ul>   |
| <b>Cyclist</b>        |  |  |  |   |
|                       | <ul style="list-style-type: none"> <li><input type="checkbox"/> Have cycle routes been provided where required?</li> <li><input type="checkbox"/> Do shared facilities take account of the needs of all user groups?</li> <li><input type="checkbox"/> Can verge strips dividing footways/cycleways and carriageways be provided?</li> <li><input type="checkbox"/> Is specific provision required for special and vulnerable groups? (i.e. the young, older users, mobility impaired?)</li> <li><input type="checkbox"/> Have all cycling needs been considered, especially at intersections?</li> <li><input type="checkbox"/> Are these routes clear of obstructions such as signposts, lamp columns etc.?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Have the needs of cyclists been considered especially at intersections and roundabouts?</li> <li><input type="checkbox"/> Are cycle lanes or segregated cycle tracks required?</li> <li><input type="checkbox"/> Does the signing make clear the intended use of such facilities?</li> <li><input type="checkbox"/> Are cycle crossings adequately signed?</li> <li><input type="checkbox"/> Has lighting been provided on cycle routes?</li> <li><input type="checkbox"/> Are any proposed drop kerbs flush with the adjacent highway?</li> <li><input type="checkbox"/> Are any parapet heights sufficient? Is tactile paving proposed?</li> <li><input type="checkbox"/> Is it specified correctly and in the best location?</li> </ul> | <p>Do the following provide sufficient levels of road safety for cyclists on, or crossing the road?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> visibility;</li> <li><input type="checkbox"/> signs;</li> <li><input type="checkbox"/> guardrails;</li> <li><input type="checkbox"/> drop kerbing or flush surfaces;</li> <li><input type="checkbox"/> surfacing;</li> <li><input type="checkbox"/> tactile paving.</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is a safety fence installed where necessary to guide cyclists to crossings or overpasses?</li> <li><input type="checkbox"/> Are there appropriate travel paths and crossing points for cyclists?</li> <li><input type="checkbox"/> Is a safety barrier installed where necessary to separate vehicle and cyclist flows?</li> <li><input type="checkbox"/> Are cycling facilities suitable for night use?</li> <li><input type="checkbox"/> Is the pavement width adequate for the number of cyclists using the route?</li> <li><input type="checkbox"/> Is the bicycle route continuous? (i.e. free of squeeze points or gaps)</li> <li><input type="checkbox"/> Are drainage pit grates bicycle safe?</li> </ul> |

## H.7 Prompt List covering Traffic Signs, Line Markings and Lighting

Table H 6: Prompt list covering traffic signs, line markings and lighting

| Feasibility (concept) | Preliminary design   | Detailed design  | Pre-opening   | Existing roads (post-opening)   |
|-----------------------|--|--|---|---|
| <b>Signs</b>          |  |  |   |   |
|                       | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is there likely to be sufficient highway land to provide the traffic signs required?</li> <li><input type="checkbox"/> Are sign gantries needed?</li> <li><input type="checkbox"/> Have traffic signs been located away from locations where there is a high strike risk?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do destinations shown align with signing policy?</li> <li><input type="checkbox"/> Are signs easy to understand?</li> <li><input type="checkbox"/> Are the signs located behind safety fencing and out of the way of pedestrians and cyclists?</li> <li><input type="checkbox"/> Is there a need for overhead signs?</li> <li><input type="checkbox"/> Where overhead signs are necessary is there sufficient headroom to enable designated walking and cycling usage?</li> <li><input type="checkbox"/> Has sign clutter been considered?</li> <li><input type="checkbox"/> Is intersection signing adequate, consistent with adjacent signing and easily understood?</li> <li><input type="checkbox"/> Have the appropriate warning signs been provided?</li> <li><input type="checkbox"/> Are signs appropriately located and of the appropriate size for approach speeds?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are the visibility, locations, and legibility of all signs (during daylight and darkness) adequate?</li> <li><input type="checkbox"/> Are signposts protected from vehicle impact or passively safe?</li> <li><input type="checkbox"/> Will signposts impede the safe and convenient passage of pedestrians and cyclists?</li> <li><input type="checkbox"/> Have additional warning signs been provided where necessary?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Have all signs been installed in accordance with the appropriate guidelines?</li> <li><input type="checkbox"/> Are all signs conspicuous and clear?</li> <li><input type="checkbox"/> Are all necessary regulatory, warning and direction signs in place?</li> <li><input type="checkbox"/> Are the correct signs used for each situation, and is each sign necessary?</li> <li><input type="checkbox"/> Are all signs effective for all likely conditions? (for example, day, night, rain, fog, rising or setting sun, oncoming headlights, poor lighting)</li> <li><input type="checkbox"/> If restrictions apply for any class of vehicle, are drivers adequately advised?</li> <li><input type="checkbox"/> If restrictions apply for any class of vehicle, are drivers advised of alternative routes?</li> </ul> <p>In daylight and darkness, are signs satisfactory regarding visibility and:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> clarity of message?</li> <li><input type="checkbox"/> readability/legibility at the required distance?</li> </ul> |



| Feasibility (concept) | Preliminary design | Detailed design   | Pre-opening | Existing roads<br>(post-opening)  |
|-----------------------|--------------------|---|-------------|---|
|                       |                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are sign posts and sign structures passively safe or protected by safety barriers where appropriate?</li> <li><input type="checkbox"/> Are traffic signs illuminated where required and the correct reflectivity provided?</li> <li><input type="checkbox"/> Are traffic signs located in positions that minimise potential strike risk?</li> <li><input type="checkbox"/> Is the mounting height of sign faces appropriate?</li> <li><input type="checkbox"/> Are traffic signs orientated correctly to ensure correct visibility and reflectivity?</li> </ul> |             | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are signs able to be seen without being hidden by their background or adjacent distractions?</li> <li><input type="checkbox"/> Is driver confusion due to too many signs avoided?</li> <li><input type="checkbox"/> Is sign retroreflectivity or illumination satisfactory?</li> </ul> <p>Are sign supports out of the clear zone? If not, are they:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> frangible?</li> <li><input type="checkbox"/> protected by barriers (for example, guard fence, crash cushions)?</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> Are curve warning signs and advisory speed signs installed where required?</li> <li><input type="checkbox"/> Are advisory speed signs consistent along the route?</li> <li><input type="checkbox"/> Are the signs correctly located in relation to the curve? (i.e. not too far in advance)</li> <li><input type="checkbox"/> Are the signs large enough?</li> <li><input type="checkbox"/> Are chevron alignment markers (CAMs) installed where required?</li> <li><input type="checkbox"/> Is the positioning of CAMs satisfactory to provide guidance around the curve?</li> <li><input type="checkbox"/> Are the CAMs the correct size?</li> <li><input type="checkbox"/> Are CAMs confined to curves? (not used to delineate islands, etc)</li> </ul> |

| Feasibility (concept)                        | Preliminary design  | Detailed design   | Pre-opening  | Existing roads (post-opening)   |
|--|---|---|--|---|
| <b>Lighting</b>                              |   |   |  |   |
|  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Is the project to be street lit?</li> <li><input type="checkbox"/> Has lighting been considered at new intersections and where adjoining existing roads?</li> <li><input type="checkbox"/> Are lighting columns located in the best positions? (e.g. behind safety fences)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Has lighting been considered at new intersections and where adjoining existing roads?</li> <li><input type="checkbox"/> Is there a need for lighting, including lighting of signs and bollards?</li> <li><input type="checkbox"/> Are lighting columns passively safe?</li> <li><input type="checkbox"/> Are lighting columns located in the best positions, e.g. behind safety fences and not obstructing walking and cycling routes?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Does the street lighting provide adequate illumination of roadside features, road markings and non-vehicular users to drivers?</li> <li><input type="checkbox"/> Is the level of illumination adequate for the road safety of pedestrians and cyclists?</li> <li><input type="checkbox"/> Is lighting obscured by vegetation or other street furniture?</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Has lighting been adequately provided where required?</li> <li><input type="checkbox"/> Is the road free of features that interrupt illumination? (for example, trees or overbridges)</li> <li><input type="checkbox"/> Is the road free of lighting poles that are a fixed roadside hazard?</li> <li><input type="checkbox"/> Are frangible or slip-base poles provided?</li> <li><input type="checkbox"/> Ambient lighting: if it creates special lighting needs, have these been satisfied?</li> <li><input type="checkbox"/> Is the lighting scheme free of confusing or misleading effects on signals or signs?</li> <li><input type="checkbox"/> Is the scheme free of any lighting black patches?</li> </ul> |
| <b>Posts/columns</b>                         |   |   |  |   |
|  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Will poles/columns be appropriately located and protected?</li> </ul>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are poles and columns passively safe?</li> <li><input type="checkbox"/> Are poles and columns protected by safety fencing where appropriate?</li> </ul>   |  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do all poles and columns have structural integrity and are well maintained?</li> </ul>  |
| <b>Lines, other markings and delineators</b> |   |   |  |   |
|  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are any road markings proposed at this stage appropriate?</li> </ul>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do the carriageway markings clearly define routes/priorities?</li> <li><input type="checkbox"/> Are the dimensions of the road markings appropriate for the speed limit/design speed of the road?</li> </ul>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Are all road markings/studs clear and appropriate for their location?</li> <li><input type="checkbox"/> Have all superseded road markings and studs been removed adequately?</li> </ul>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Does all linemarking conform with these guidelines?</li> <li><input type="checkbox"/> Is there advance warning of approaching auxiliary lanes?</li> </ul>   |

| Feasibility (concept) | Preliminary design | Detailed design  | Pre-opening   | Existing roads (post-opening)  |
|-----------------------|--------------------|--|---|--|
|                       |                    | <ul style="list-style-type: none"> <li><input type="checkbox"/> Have old road markings and road studs been adequately removed?</li> <li><input type="checkbox"/> Are road markings appropriate to the location?</li> <li><input type="checkbox"/> Are centre and edge lines; hatching; road studs; text/destinations etc approved and/or conform to the local Manual of Uniform Traffic Control Devices (MUTCD)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Do the carriageway markings clearly define routes and priorities?</li> <li><input type="checkbox"/> Have all superseded road markings and studs been removed adequately?</li> </ul> | <p>Is the linemarking and delineation:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> appropriate for the function of the road?</li> <li><input type="checkbox"/> consistent along the route?</li> <li><input type="checkbox"/> likely to be effective under all expected conditions? (day, night, wet, dry, fog, rising and setting sun position, oncoming headlights, etc.)</li> <li><input type="checkbox"/> Is the pavement free of excessive markings? (for example, unnecessary turn arrows, unnecessary barrier lines, etc.)</li> <li><input type="checkbox"/> Are centrelines, edge lines, lane lines provided? If not, do drivers have adequate guidance?</li> <li><input type="checkbox"/> Have RRPMs been installed where required?</li> <li><input type="checkbox"/> If RRPMs are installed, are they correctly placed, correct colours, in good condition?</li> <li><input type="checkbox"/> Are profiled (audible) edge lines provided where required?</li> <li><input type="checkbox"/> Is the linemarking in good condition?</li> <li><input type="checkbox"/> Is there sufficient contrast between linemarking and pavement colour?</li> <li><input type="checkbox"/> Are guideposts appropriately installed?</li> </ul> |