

Managing Impacts on the Strategic Road Network

Spatial Planning Advice Note
SPAN-17-DM



October 2025

SPATIAL PLANNING ADVICE NOTE: SPAN-17-DM Managing Impacts on the Strategic Road Network

Summary

This note provides guidance for National Highways Spatial Planning Teams on appraising development impacts on the congestion and capacity, and potential arising safety implications, of development proposals on the Strategic Road Network (SRN).

Key areas covered by this note include the legal framework, key policy guidance and procedures together with advice on the fundamentals on appraising development impacts.

This includes outlining the broad principles for appraising impacts, explaining under what circumstances it may be appropriate to advise mitigation is required to reduce impacts so they are below the severe and unacceptable thresholds, and where impacts cannot reasonably be mitigated, the justification for a recommendation to refuse.

This note is primarily intended for **internal** use by National Highways officers and service providers that make up the **Spatial Planning Community of practice** within the Operations Directorate (OD). This note will also be useful for the national Planning Policy team within the Customer, Strategy and Communications (CSC) Directorate.

This note may be used as a reference for discussions led by the Spatial Planning Community with stakeholders including Local Planning Authorities (LPAs), scheme promoters and other third parties involved in the Spatial Planning process.

This note may also be referred to by other teams across the National Highways business with an interest in this topic area.

This SPAN fits within the overarching legislation, policy and guidance applicable to all SPANs set out in **SPAN-01-SP – Spatial Planning Handbook**.

This advice should also be read alongside the following:

- **SPAN-05-MS** **Modelling Studies and Assurance**
- **SPAN-16-DM** **Guidance on the use of Planning Conditions**

Document Control

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V1.1	March 2024	Rachel Smith (JSJV), Laura Knowles (JSJV)	Update following refresh of NPPF in December 2023
V1.2	August 2025	Rob Murphy (Assistant Planning Manager, CSC)	Minor review to update particularly with reference to NPPF December 2024 publication

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1. Introduction

1. During the spatial planning and development management processes, National Highways' Spatial Planning Teams will undertake appraisals of a wide array of development proposals, assessing their implications on the safe operation and long-term integrity of the SRN.
2. This work includes identifying the scale of development impact on the existing network and in relation to traffic impacts, ensuring that the risk of otherwise *unacceptable safety* or *severe congestion impacts* are managed either through the recommendation of planning conditions which restrict the development in line with suitable mitigation or the recommendation of refusal (here impacts cannot be mitigated through planning conditions or obligations) of the planning application.
3. When assessing the impact of development sites on the SRN through the development plan or planning application process, the Spatial Planning Team should only advise refusal if there are unacceptable impacts upon highway safety, or *severe* residual cumulative impacts on capacity/congestion, taking into account all reasonable future scenarios, in accordance with paragraph 116 of the National Planning Policy Framework (NPPF). In accordance with DfT Circular 01/2022 paragraph 51, where a transport assessment (TA) indicates that a development would have an unacceptable safety impact or the residual cumulative impacts on the SRN would be severe, the developer must identify when, in relation to the occupation of the development, transport improvements become necessary.
4. Neither the Circular nor the NPPF includes definitions of what constitutes an *unacceptable* or *severe* impact. In practice, this is left to professional judgement, which can lead to differences in application. It should be noted that, the NPPF does not state that development should be prevented or refused on the highway grounds of *unacceptable* or *severe* impact (paragraph 116 of the NPPF), instead stating it should only be refused on highway grounds in these circumstances. Some Local Plans seek to provide clarification on this through the Development Management Policies and where this is the case, reference to those policies should be made in any response to the LPA in order to strengthen National Highways recommendations.
5. There are two matters of principal each of which is reflective of a National Highways' imperative:
 - Road Safety – the prime consideration (Circular 01/2022 paragraph 51); and
 - Congestion – which can have a cost to the economy arising from environmental, business and social impacts (Circular 01/2022 paragraph 51).
6. It is clear from the NPPF that the current national policy threshold regarding the levels of congestion that could result in the prevention or refusal of a development on highway grounds sets a high benchmark. This is reflective of the fact that "...mere congestion and inconvenience [is] not sufficient to trigger the 'severe' test but rather it [is] a question of the consequences of such congestion" which need to be considered. Ref (APP/D3315/W/16/3157862 Inspector, Mike Fox).
7. Through the spatial planning process, it is therefore necessary to identify operational risks and to evaluate what impacts associated with new development proposals are likely to constitute an unacceptable safety impact or a severe congestion impact on the SRN, and ensure that these are satisfactorily mitigated and/or managed.

8. It should be noted that this note **is not prescriptive**; there is no rigid framework for Spatial Planning Teams to follow when appraising the scale of development impacts. Developments are assessed on a case-by-case basis and each circumstance and local context are highly relevant. It is important to distinguish between the different measures of acceptability and to use the appropriate terminology in all cases. For example, it has often been the case that an impact has been judged as being severe because it has consequent unacceptable impacts on road safety. The Spatial Planning team should primarily consider all elements of road safety through the appraisal of a planning application or development plan and if there are none, only then go on to consider the consequential effects of congestion, in terms of increased delay for example.

Note Structure

9. The remainder of this note is as follows:
- **Section 2** - provides background information about the legal framework and policy guidance;
 - **Section 3** - sets out the context and pre-requisites of appraising development impacts; and,
 - **Section 4** - outlines the broad principles to be followed when appraising and suggests indicators that impacts are severe leading to an unacceptable impact on road safety.

2. Legal Framework and Policy Guidance¹

10. National Highways has an important role to support the planning process as a proactive partner committed to working with organisations and stakeholders when considering planning applications that impact upon the SRN. LPAs are legally required to consult with National Highways as a statutory consultee before reaching a decision on planning applications relevant to the SRN.

National Planning Policy Framework (December 2024)

11. NPPF Section 9 outlines the highway and transport considerations for new development proposals, with paragraphs 115 and 116 being particularly relevant.

12. Paragraph 115 of the NPPF states:

In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- a) *sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
- b) *safe and suitable access to the site can be achieved for all users;*
- c) *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*
- d) *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach.*

13. Paragraph 116 of the NPPF states:

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.

14. Evaluating the threshold of unacceptable safety impact presents its own challenges to Spatial Planning Teams; however, the burden of proof and the balance of judgement is evidently of a lower order; safety being paramount. For both safety and congestion, the resulting harm must be reasonably and adequately considered by the Spatial Planning Teams when appraising development impacts.

15. The term 'residual' (in the context of NPPF Para 116) refers to those impacts which remain after the implementation of any identified mitigation measures. Therefore, when looking at the overall impact of a proposal, it must be considered in the light of any transport improvements (both hard and soft measures²).

¹ Note: specific reference made to the NPPF, PPG, DfT Circular 01/022 and other relevant Policy may be superseded by updates. As such, updates to this Advice Note will be necessary at appropriate intervals.

² Note: Mitigation may be in the form of 'hard' measures such as physical highway improvements and/or 'soft' measures such as a reduction in vehicular trips as a result of an effective Travel Plan.

DfT Circular 01/2022: 'The Strategic Road Network and the Delivery of Sustainable Development'

16. The DfT Circular 01/2022: 'The Strategic Road Network and the Delivery of Sustainable Development' provides details for determining whether development proposals are likely to be acceptable (or can be made acceptable) when SRN impact and accessibility are considered.
17. Development proposals should set out the interaction between land use and the impacts on road safety and future performance of the SRN. Where mitigation measures are required to address these impacts, the developer must identify when, in relation to the occupation/phasing of the development, these measures become necessary. For both safety and capacity considerations, it may be necessary to secure interventions or enhancement measures by way of a planning condition to ensure the development proposals comply with Circular 01/2022 paragraph 51 and can be made acceptable in strategic highway and transport terms.
18. At the time of writing, Spatial Planning, CSC and Legal Services are considering the practical implementation of vision-led approaches including 'Vision and Validate', 'Decide and Provide' and 'Monitor and Manage' as per paragraph 15 of the DfT Circular 01/2022. Notwithstanding, it is considered that any *vision* should be site specific and appropriately seek to manage the impacts on the SRN particularly in relation to managing unacceptable impacts upon highways safety.

3. Context and prerequisites of appraising development impacts on capacity and congestion

Planning Context

19. National Highways is a proactive partner in the delivery of sustainable development, committed to working with organisations and stakeholders through the planning application process in relation to proposals that impact on the SRN.
20. LPAs are also legally required to consult with National Highways, as a statutory consultee, before reaching any decision on relevant planning applications (i.e. those that have the potential to affect the SRN).
21. National Highways' substantive and formal response to planning application consultations is set out in a National Highways Planning Response (NHPR). The NHPR should provide the rationale that supports the recommendation made by National Highways in its consultation responses, including, where relevant, the technical appraisal of transport assessments/statements and other material that the applicant submitted supporting the planning application. This includes confirming the scale of development impact on the existing network and the conditions necessary to manage the development in relation to the availability of the transport interventions, (including physical improvements), necessary to mitigate against otherwise *severe* or *unacceptable* impacts.
22. When assessing sites that may be allocated for development in plans, or specific applications for development, the NPPF states it should be ensured that any significant impacts from the development on the transport network can be cost effectively mitigated to an acceptable degree through a vision-led approach (Paragraph 115).
23. There may however be other economic, social and/or environmental aspirations that influence the local plan and its transport strategy, which could result in a different emphasis on the requirements of a transport strategy needed to support a local plan; an example would be resolving pre-existing issues.
24. In all cases, however, the NPPF criteria for the acceptability of a transport strategy **should be seen as the minimum transport requirement by the Spatial Planning Teams**. The content of the supporting transport strategy is, in most cases, presented in a TA.
25. Whilst the thrust of this note relates to understanding and managing unacceptable impacts on highway safety and/or *severe* impacts on congestion and capacity in the development management context, i.e. through the life of a planning application, the broad principles and best practice guidance set out below can also be considered relevant in the generality of the context of the plan making process.

The role of Transport Assessments and Traffic Models

26. The NPPF encourages all developments that will generate significant amounts of movement to provide a travel plan, and such applications should be supported by a transport statement or TA to assess the likely impacts of the proposal (paragraph 118).
27. The requirement for a Developer/ Applicant to produce a TA to evidence the impacts on the SRN will be a judgment for the relevant area Spatial Planning Team. Specific regional knowledge can be a significant deciding factor in the requirement for and scoping of a TA, where Spatial Planning Teams have the benefit of expert local knowledge of the SRN and associated issues relevant to that area.
28. On the issue of local knowledge, when deciding on whether a TA is required, LPAs may not be fully aware of sensitive locations on the SRN (or, similarly, on the local highway network), which could lead to them not requesting a TA be produced, when in fact National Highways would expect this to be the case. Such risks can be mitigated in part by regular dialogue with the LPA (see paragraph 34 of this SPAN) and proactively engaging with site promoters through the pre-application process (see paragraphs 36 - 38 of this SPAN).
29. The National Planning Policy Guidance (NPPG) on *Travel Plans, Transport Assessments and Statements* (DLUHC and MHCLG) sits alongside the NPPF and states the following in terms of why Travel Plans, Transport Assessments and Statements are important. They can positively contribute to:
 - encouraging sustainable travel;
 - lessening traffic generation and its detrimental impacts;
 - reducing carbon emissions and climate impacts;
 - creating accessible, connected, inclusive communities;
 - improving health outcomes and quality of life;
 - improving road safety; and
 - reducing the need for new development to increase existing road capacity or provide new roads.
30. DfT Circular 01/2022 paragraph 47 states:

Where the company is requested to do so, it will engage with local planning authorities and development promoters at the pre-application stage on the scope of transport assessments/statements and travel plans. This process should determine the inputs and methodology relevant to establishing the potential impacts on the SRN and net zero principles that will inform the design and use of the scheme. Development promoters are strongly encouraged to engage with the company to resolve any potential issues and maximise opportunities for walking, wheeling, cycling, public transport and shared travel, as early as possible.

31. The Applicant's / Developer's evidence base for appraising the impacts of development should be set out in supporting transport documents, and where possible, pre-application engagement with prospective developers is encouraged to ensure adequate scoping and assessment of the SRN.
32. Early and ongoing engagement with the relevant LPA and the Applicant is recommended from the outset of development proposals, particularly in the case of complex applications, and carried through to the final determination. This presents an opportunity to draw developers' / LPA attention to issues on the SRN that may be relevant in the context of a particular development or developments. Sharing network intelligence with site promoters has the potential to lead to positive outcomes ensuring that the most up-to-date and relevant information is used to form a robust evidence basis for appraisal.
33. This is particularly important as the evidence produced within a TA and supporting traffic models form the fundamental basis upon which judgements and decisions are made by the Spatial Planning Team when advising the relevant planning authority on the impacts of developments on the SRN. There may be cases where other information is utilised to inform the judgment of the Spatial Planning Teams, such as existing transport models owned and operated by National Highways. However, in either situation, information taken into consideration when appraising development impacts must be robust, reliable and publicly available.
34. The role of traffic models to quantify impacts of development robustly and objectively is generally fundamental when appraising and subsequently judging development impacts on the SRN.
35. Traffic models are objective tools, most often testing a 'without development' scenario compared to a 'with development' scenario, quantifying the differences, and testing potential forms of mitigation, where necessary, on the SRN. Traffic models vary in type and application, and **SPAN-05-MS – Modelling Studies and Assurance** provides further guidance on the use of traffic modelling software through each of the stages of any model development. In the case of development planning, the DfT Circular 01/2022 "opening year assessment" forms the primary assessment scenario (paragraph 50).
36. For models submitted to or developed by the Spatial Planning Team for appraising development impacts, it should be ensured that there is a clear and agreed evidence log of the model development. Model reviewers should provide the Spatial Planning Teams with evidence to support their work, including what matters have been checked and how the review was undertaken.
37. Assumptions and outcomes should be clearly documented in a model development report, clearly describing the outputs of the modelling and implications of the development impacts. All information should be made available to the relevant planning authority. Where the Spatial Planning Team do not consider information provided to be sufficient to enable a robust conclusion to be formed on whether the impact is or is not acceptable, then a holding recommendation should be made to the LPA in a NHPR setting out clearly what additional information/ clarifications are required.

4. Assessing development impacts, Broad Principles, and indicators of Severity and Unacceptable Impacts

Introduction

38. This section sets out the broad principles of assessing development impacts with particular emphasis on the context of *severity* and introduces indicators that may show a development impact meets, or breaches, the *severe* threshold and may consequently lead to *unacceptable* impacts upon road safety.
39. The following section provides a framework of best practice and considerations; it does not provide a prescribed 'pass / fail' criteria for assessing impacts and whether they would be ranked severe/ or unacceptable or not. For all cases where impacts are assessed, in both the spatial planning and development management scenarios, national and local policy, local considerations and the robust assessment of the consequences of impacts, are of the upmost importance.

Prerequisites

40. When appraising development impacts, as detailed above, it is important that development assumptions and inputs are agreed with the developer/ transport consultant at the earliest possible stage.
41. The agreed development parameters will consist of traffic generation and traffic distribution. These are then applied to a baseline case either through the use of a traffic model and/or a simple traffic flow diagram. It is essential that the base case is validated to observed data and forecast growth is applied to the assessment year to form the comparator case where appropriate (in accordance with paragraph 49 of DfT Circular 01/2022).
42. Outputs will be in terms of traffic flows, journey times and queue lengths. The results of the analysis of development impact then needs to demonstrate the extent of change to these parameters to determine network performance change as a result of development, i.e. comparing the network conditions of the 'without development' scenario to those of the 'with development' scenario.
43. The extent of change to network performance, such as an increase in queue length or delay on the SRN as a result of development, is not in itself sufficient to judge whether an impact 'is' or 'is not' severe. Rather, the 'implication' (i.e. the perceived consequences) of predicted changes to network performance is the relevant indicator, in essence demonstrating the 'harm' that the resultant change would cause.

The broad principles when appraising development impacts on congestion and capacity

44. With any model, either traffic model or traffic flow comparison, the critical matters to be considered are:
- **Existing Conditions**; the current traffic flow, levels of delay, queue lengths and capacity inhibitors, providing an accurate representation of base conditions on the network as it operates currently;
 - **Forecast Conditions**; predicted levels of delay, queue length and capacity in both 'without' and 'with' development traffic scenarios;
 - **Magnitude of Change** i.e. comparing the quantum in the 'with' and 'without' development cases; and

- **Implication of Change** i.e. the consequences of the specific anticipated impacts on the network.

Existing Conditions

45. Accurately representing the existing (often called 'base') conditions at relevant times, usually peak periods, is a sound basis from which the development of forecast scenarios can proceed.
46. As detailed above, it is important to ensure that critical inputs and assumptions are agreed by the respective parties. Where the assessment utilises traffic models, it is essential that base models are suitably validated.
47. Network intelligence and area specific understanding is critical for any analysis, and particularly when developing a traffic model that adequately accounts for existing conditions. Consequently, where the outputs from the proposed base model do not align with the Spatial Planning Team's collective and evidenced understanding of how the SRN operates, it is necessary to challenge the outputs and seek to resolve any issues which may be leading to the model under or over stating performance and capacity on the SRN.

Forecast Conditions

48. It is important that that the Applicant / Developer provides a robust, reliable and agreed forecast case using agreed parameters and predictions, to compare a 'with' and 'without' development scenario.
49. Where development can be accommodated within the **existing capacity** of a section (link or junction) of the SRN, or they do not increase demand for use of a section that is already operating at over-capacity levels, **this does not indicate a severe impact** and they are likely to be considered favourably.
50. Where the existing link or junction is operating **at within-capacity levels**, but the development impacts result in the section of the SRN operating over capacity, then the magnitude of change, comparing 'with' and 'without' development scenarios, needs to be compared and the implication of changes needs to be understood. **This principle applies irrespective of the degree of change.** This is detailed further in the following section.
51. Where the existing link or junction is **operating at over-capacity levels** in both the 'with' and 'without' development scenarios, then the same considerations apply as described above.

Magnitude and Implications of Change

52. In all cases, the prime consideration of National Highways will be the continued safe and effective operation of the SRN.
53. When comparing the '*with development*' and the '*without development*' cases in those circumstances where the network is already over capacity or where the 'with' development scenario results in the network operating over capacity, then quantifying the magnitude of change is key to understanding the significance of the change itself.
54. Capacity indicators, such as a ratio of flow to capacity (RFC) above 100%, or a Practical Reserve Capacity (PRC) of less than 0%, can be useful initial gauges that help to understand where impacts of development may potentially be judged to be *severe*. On their own, however, such indicators are of limited value in assessing development impact as a whole.
55. Traffic flow, queue lengths and delay are essential quantified metrics for the judgements that need to be made and the Spatial Planning Team need to ensure they are satisfied that the analysis, from inception to output, is adequately robust.

Indicators of a severe impact and arising impacts on safety on network operation

56. Having ensured that the degree of magnitude or change is quantified (i.e. the increases in traffic flow, delay and queue length), then the consequences of the change on the network can be determined.
57. An important factor the Spatial Planning Teams should remember is that impacts on the SRN are a network operational issue. TA's stating impacts are not severe as increases in trip making amounts 'to only 1 vehicle every minute' or 'queues increase by just 2 vehicles' (or similar conclusions) offer little insight into the operation of the network.
58. The distinction between **unacceptable impacts upon highway safety** and **severe impacts upon congestion and capacity** is clearly differentiated in policy. Where there are safety concerns these are paramount. Safety issues may be separate to capacity issues and can be dealt with on their own. For clarity, the impact of additional traffic on a junction or link will: reduce any available spare capacity; will result in a capacity exceedance; or will exacerbate an existing capacity exceedance.
59. The latter two circumstances will lead to congestion characterised by slower speeds, longer trip times, and increased vehicular queueing. Slower speeds can have the effect of improving road safety by reducing collision severity. Increased journey times can, however, have economic implications although are commonly associated with driver inconvenience while increased queueing can increase road safety risk in certain circumstances.
60. In the latter case, the relevance of the highway safety issue would clearly take precedence in the evaluation of the acceptability or otherwise of the proposals. But where congestion and capacity are a factor without highway safety implications, the severity test on its own should be applied.
61. Changes to each of these and the consequences for unacceptable safety impacts or severe congestion on the network is discussed below:

Traffic Flow

62. Can the development traffic be adequately accommodated on the SRN, including:
 - Priority Junction Provision?
 - Link Capacity?
 - Weaving Sections?
63. Can development traffic be accommodated on the existing merge or diverge layout where merging or diverging traffic joins or leaves the mainline carriageway?
64. Can adequate visibility be provided for the merge/ diverge? (full Sight Stopping Distance (SSD) shall be provided along the length of the connector road up to the back of the nose with the SSD being available at any point along this length).
65. In the above cases, if the answer is 'no', then the highway arrangement would not be suitable for the amount of traffic using it and road safety risks would arise. The highway arrangement could be made suitable in certain cases by, for example, a change in junction or merge/diverge layout.

66. Is the capacity of affected links adequate to accommodate forecast traffic flows? In this case, if the answer is 'no', congestion is likely to occur and further investigation of the upstream highway arrangement may be needed to ensure that other consequential effects do not also arise.

Queue Length and Delays

67. Does the extension of queueing on the SRN block back to other junctions (on the SRN or local road network) upstream leading to further network performance deterioration or deterioration that can have safety implications (e.g. at pedestrian crossing facilities)? Alternatively, can the predicted increased queueing be safely accommodated within available stacking space?

Economic Appraisal

68. In some cases, it may be appropriate to undertake a broad-brush economic appraisal to assess the journey time impacts of a development particularly on the motorway. This is based on the differences between forecasts of the 'without development' and 'with development' cases. In addition, analysis of the impact on the frequency and severity of collisions as part of the economic appraisal for a developer proposed scheme can be used as comparator test.
69. This follows the principles of the Cost-Benefit Analysis (CBA) in accordance with the Department for Transport's TAG Unit A.1. This allows the benefits or disbenefits to be monetised. This can be done using a number of metrics and the metric chosen can affect how impacts are classified as costs or benefits. The two most commonly used metrics are the 'benefit-cost ratio' (BCR) and the 'net present value' (NPV).
70. The COBALT software undertakes the analysis of the impact of accidents as part of highway related economic appraisals, in accordance with the Department for Transport's Transport Analysis Guidance. COBALT assesses the safety aspects based on a comparison of accidents by severity and associated costs, across an identified network and a comparison of cost between the 'without development' and 'with development' forecasts could be used to monetise development impact on highway safety. The analysis and appraisal is undertaken using details of the individual link and junction characteristics, their forecast traffic volumes and relevant accident rates and costs. Spatial Planning Teams can seek support to undertake these appraisals from CSC and Spatial Planning consultants.

Determinant Test Table

71. The tables below set out a series of indicators, based upon collective regional practice, showing whether or not development impacts might be judged *unacceptable* or *severe*. This is not an exhaustive list, and in all cases the context of the local SRN under review is the most important consideration. It should be borne in mind that even when an impact does not meet the indicators set out below, it does not unquestionably mean that the specific impact 'is not unacceptable or severe'.

Table 1: Determinant test table summary

Determinant	Applies to:				
	Links	Rbt's	GSJ's	Priority Junctions	Signal Controlled
Queue Length	No	Yes	Yes	Yes	Yes
Delay	No	Yes	Yes	Yes	Yes
Traffic Flow	Yes	Yes	Yes	Yes	Yes
Economic Appraisal	Yes	Yes	Yes	Yes	Yes

Table 2: Determinant test table full

Network Impacts	Considerations	Determinant Test	
		Severe Impact Implications	Unacceptable Safety Impact Implications
Queues	Have queues increased as a result of development and does development traffic cause blocking back to an adjacent junction or to the SRN/ LHN? (not present previously). Does the increased queueing occur in both peak periods? Do queues adequately dissipate at the end of the peak period?	Queueing is either a sign that the network is having difficulty coping with the volume of traffic which directly impacts on the driver's journey time (regardless of journey purpose) or that an incident has occurred. Traffic modelling (assuming the model is robust in the area of influence) would be capable of assessing the increase in level of queueing. The extension of queueing on the SRN blocking back to other junctions (on the SRN or local road network) upstream may lead to further and wider network performance deterioration. However, additional queueing may not trigger the severe threshold and the Spatial Planning Team should consider the consequence of increases of queueing (see Unacceptable Safety Impact Implications).	If this occurs, it should be ensured that the knock-on effects have been included in the assessment. This includes: • If the upstream junction is a diverge from a free running carriageway, does the queue introduce or exacerbate conflict with the through moving traffic? • Does the back of the queue remain clearly visible to approaching vehicles (beyond the absolute minimum SSD)? • Does the queue introduce or exacerbate conflict with pedestrian/cycle/horse rider crossing facilities? If yes, the Spatial Planning Team should consult with Safety, Standards and Engineering (SES) colleagues.
Delays and Journey Times	Have delays significantly increased? Are queues and delays increasing exponentially in a highly congested situation?	Significant increase in journey time are considered to be a cause for concern, encapsulating long and shorter distance journeys. It may lead to driver impatience causing re-routing to less appropriate routes. On its own it is difficult to differentiate between 'driver inconvenience' effects and 'road safety' effects and if delay on its own is the determinant of acceptability, further advice needs to be sought from SES.	Congestion based collisions can be influenced by a number of factors including the free flow speeds. In a highly congested situation, the Spatial Planning Team should consider the existing safety record and the consequences additional development traffic may have. Further advice may need to be sought from SES.

Traffic Flow – DMRB Compliance and Road Safety	Can the development traffic be safely accommodated on the SRN? Including: • Priority Junction Provision • Link Capacity • Weaving Sections • Diverge layouts and auxiliary lanes • Merging layouts		Can development traffic be safely accommodated on the existing merge or diverge layout? Can adequate visibility be provided for the merge/diverge? (full SSD shall be provided along the length of the connector road up to the back of the nose with the SSD being available at any point along this length). Have link capacity calculations been provided to determine the requirements for overall carriageway width based on the forecast traffic flows? Spatial Planning Teams should engage with SES on the appraisal of these submissions. If 'no' to any of the above, then cost effective mitigation should be sought.
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Identifying impacts and next steps

72. Where it has been identified that a severe or unacceptable impact on the SRN is predicted to occur, it is important that dialogue is had with the relevant LPA, local highway authority and site promoter to develop a mitigation strategy. Prior to that, it may be necessary for the Spatial Planning Team to take advice internally from SES and asset teams, exploring the implications of development impact, particularly where there are concerns relating to highway safety.
73. It is important to note that the absence of existing historic collisions on a link or junction does not indicate that a development impact or access is safe; this is particularly true of greenfield development on rural high-speed links where existing traffic volumes may be low.
74. In line with the NPPF, sustainable development must be pursued in a positive way; at the heart of the Framework is a presumption in favour of sustainable development. To achieve transport sustainability, Spatial Planning Teams should ensure the Developer explores sustainable and non-highway investment initiatives when seeking to mitigate severe impacts. Only where all such reasonable opportunities have been pursued, should the promotion of 'hard measures' as described on page 7 of this SPAN, that would physically improve capacity on the SRN, be explored.
75. Where 'hard' measures have been shown by robust evidence to be necessary in order to mitigate the residual cumulative impacts of development (i.e. provide additional capacity on the SRN), then the same process appraisal methodology of engineering and safety evaluation, and traffic modelling, conducted through the development planning process, should be undertaken by the Spatial Planning Teams.
76. Where the need for mitigation on the relevant local highway network by the Local Highway Authority has been identified, the Spatial Planning Team should ensure the resultant impacts of such mitigation measures on the SRN are quantified and appraised. Equally, vice-versa, the teams must ensure that 'hard measures' on the SRN do not lead to unreasonable and unintended deterioration to network performance on the Local Highway Network without the agreement of the Local Highway Authority.
77. Following agreement by the Spatial Planning Team that mitigation measures identified by the Developer are sufficient, safe, necessary and deliverable, those measures should form the basis of a planning condition, the effect of which would be to limit the development to a suitable trigger point, with further development being conditional on the implementation of the identified measures. In accordance with DfT Circular 01/2022 paragraph 51, where a TA indicates that a development would have an unacceptable safety impact or the residual cumulative impacts on the SRN would be severe, the developer must identify when, in relation to the occupation of the development, transport improvements become necessary.
78. The scope and phasing of necessary transport improvements will normally be defined by the company in planning conditions that seek to manage development in line with the completion of these works. In such circumstances, modifications to the SRN must have regard to the need to future-proof the network, while its delivery may require a funding agreement between the development promoter and the company (DfT Circular 01/2022 paragraph 52).
79. When imposed, planning conditions help to ensure that the delivery of the development (for which permission has been granted) is appropriately managed. This can include the management and delivery of necessary interventions, such as pursuing sustainable 'soft' measures as defined on page 7 of this SPAN or physical improvements to the SRN. For more information, see **SPAN-16-DM – Guidance on the use of Planning Conditions**.

80. It is important to note that the lack of compliance with a particular design standard does not automatically constitute a *severe* or *unacceptable* impact and dialogue with SES should be maintained through the evaluation process. In addition, the lack of adherence to an adopted Local Plan does not constitute a severe impact. Spatial Planning Teams should ensure that the appropriate level Road Safety Auditing is undertaken once the principle of any 'hard measures' are agreed. For more information, see **SPAN-13-TSPE Road Safety Audits in the Planning Process**.

Summary

81. Spatial Planning Teams should consider the need for mitigation and requirements of the NPPF on the basis of a robust testing platform. The first 'test' is the unacceptable safety test: does the impact of development lead to an unacceptable impact upon road safety?
82. The Spatial Planning Team's judgement should in all cases be based on the principle of 'reasonableness', deriving their position from the robust evidence available at that time. If the need for soft and/or hard measures is considered necessary to mitigate impacts, the relevant test must be that without mitigation, the development should be recommended for refusal by the LPA on either safety or severity grounds.
83. Where development is advised to be refused by National Highways, it is vital to ensure a reasonable case can be made based on evidence and context relevant to the application when/ if challenged at appeal. This should be discussed with the specific area Spatial Planning Manager and escalated where relevant.
84. Through effective and pro-active dialogue, Spatial Planning Teams should seek to promote development of a holistic transport package to manage growth assisting all stakeholders in shaping and responding to a proposed transport strategy. Ideally, all significant developments would emerge through the plan process where the opportunity for comprehensive network review can be best achieved with benefit to all, and sound parameters to guide the later detailed work at planning application stage, will have been set.