

Calderdale Local Plan – Technical Note 14 and Infrastructure Delivery Plan – CH2M Review

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Task Overview

This Technical Memorandum [TM] has been prepared by CH2M as Highways England has tasked CH2M to review WSP's Technical Note 14 [TN14] which has been produced for Calderdale Council [the Council] as part of the ongoing emerging evidence base to support the Council's Local Plan [the Plan].

In addition, this TM also reviews the Infrastructure Delivery Plan [IDP] – Transport Infrastructure Schemes – which was submitted to Highways England alongside TN14.

Highways England has worked with the Council through the emergence of the Local Plan, providing comments on the transport evidence base as it has emerged. As such, TN14 forms the latest part of evidence to be considered. Given that the M62 passes through the district of Calderdale, there is potential for the development aspirations within the Local Plan to impact upon the Strategic Road Network [SRN], hence the need for this review. As such, this TM reviews the contents of TN14 and IDP and considers the impact on the capacity, operation and safety of the SRN.

This review should be read in the context of CH2M's previous reviews of the Technical Notes prepared by WSP in support of the Plan. In addition, this TM has been prepared within the context of the second signed Statement of Common Ground [SoCG] between the Council and Highways England, which was signed by both parties on 7th May 2021. The points of common ground in the SoCG are:

- 1) The Calderdale Local Plan evidence base includes a technical assessment of the impact of the proposed growth on the M62 mainline and junctions undertaken at a strategic level. This is considered to be a 'proportionate' approach to Plan preparation and fulfils the requirements of the NPPF. However, the parties agree that more detailed modelling would need to be carried out at the appropriate stage in the planning process in order to understand site specific impacts.
- 2) Based on the information before Highways England and the Council, there is no evidence that the impacts of Calderdale growth would result in a severe residual impact on the SRN after mitigation.
- 3) Calderdale has identified a number of potential mitigations at motorway junctions and included these within our Infrastructure Delivery Plan, along with indicative costs. Further micro-simulation or junction modelling would be required at the application to inform the

necessity for and design of these interventions. Development within Calderdale would be expected to make a proportionate contribution to funding such mitigation.

- 4) The Council would accept a main modification to the Local Plan to include a policy within the Infrastructure and Masterplanning chapter reading along the lines of the following:

‘Developments that have the potential for a significant impact on the Strategic Road Network (and its related junctions) will be required to make provision for measures that will reduce and mitigate that impact. A transport assessment will need to demonstrate that any committed schemes are sufficient to deal with the additional demand generated by the site. Where committed schemes will not provide sufficient capacity or where Highways England does not have committed investment, development may need to contribute to additional schemes identified by Highways England and included in the Infrastructure Delivery Plan (IDP) or other appropriate schemes. If development is dependent upon construction of a committed scheme, then development will need to be phased to take place following scheme opening’

This TM reviews the contents of TN14 and the IDP in the order in which the issues are presented, with a summary and conclusions presented at the end of this document.

TN14 Review

It is stated that TN14 presents a comparison of predicted congestion levels between the with Plan scenario and a 2014 base year, and highlights the points on the SRN, M62 and junctions immediately feeding onto the M62 at Junction 23 to Junction 26, where an impact at the SRN could be possible. It is not clear to as to why a base year of 2014 has been used, and clarity is required on this to justify the methodology.

It is further stated that TN14 details probable causes for the modelled congestion and the level of possible interventions that could be carried out. WSP states that it should be noted that it is not possible to exactly define mitigation measures, as ultimately Highways England need to advise as to what would be acceptable in line with the prevailing strategy of the company and the constraints of policy regarding safety, environmental impact etc, and as such, TN14 states that it would also be the case that Highways England would make a more informed view at the time of a planning application as to the suitability and need for the suggested mitigation measures.

It is considered by CH2M that this approach to delivering mitigation allied to individual planning applications is fundamentally flawed, whereas it is a more nuanced view that impact at the SRN will occur as a consequence of the cumulative impact of the Plan. Whilst some planning applications may have more of an impact at specific locations at the SRN, the cumulative impact of the Plan and the mitigation required to accommodate this impact needs to be identified by the Council as promoters of the plan (no doubt via future work which WSP will be commissioned to undertake on their behalf) with the appropriate mitigations, funding streams and organisational responsibilities clearly identified.

Clarification is provided within TN14 that it should be noted that with the exception of M62 Junction 26, all of the road network beyond the slips onto and off the M62 are under the control of the Local Authority rather than Highways England.

TN14 states that a major intervention on the M62 through the Calderdale area is planned for the short term, with the likely introduction of all lane running between Junctions 20 and 25, matching provision on either side of this stretch and providing an additional lane of traffic across the Pennines.

This scheme involves the upgrading the M62 to ‘SMART’ motorway between Junction 20 (Rochdale) and Junction 25 (Brighouse) across the Pennines. It is envisioned by Highways England that together with other smart motorways in Lancashire and Yorkshire, this will provide a full smart motorway link between Manchester and Leeds, and between the M1 and the M6.

However, the scheme is not designed to be implemented to provide capacity at junctions, but to ease mainline issues relating to congestion and safety at the SRN. There are no junction works planned as part of this project. The scheme is currently under review as part of the national review of the SMART Stocktake Exercise, and is not committed as per the Road Investment Strategy 2: 2020 – 2025 announcement.

Comparison of Congestion Levels

WSP states that, to identify the areas with significant congestion in the Do Something model, the output from the modelling has been examined in terms of the ratio of volume over capacity [V/C], and this compares the modelled traffic flow over an hour to the theoretical maximum capacity for an hour.

It is stated that the V/C ratio is presented for the M62 between junctions feeding onto the motorway at Junctions 23, 24, 25 and 26; and furthermore, it is stated that the junctions with at least one arm showing a V/C ratio of greater than 85%, which is stated by WSP as generally accepted as the point where congestion begins, are identified.

In addition, TN14 states that a comparison of congestion levels between 2014 base year and 2032 Plan has been undertaken to establish whether the high V/C values already exist in the base year or the V/C values drastically increase in the forecast year due to higher traffic flow. Whilst this approach is noted by CH2M, we would ask for further clarification in the future as to the use of the 2014 base year.

In order to identify mitigation, it is stated that the subsequent analysis of these points on the model network, alongside local knowledge, is done to identify the probable reasons for the congestion and estimate likely intervention to address the problem. It is considered that there should also be a clear identification of the cumulative impact of the Plan at the SRN, with appropriate mitigation identified, to ensure the overall impact of the Plan is mitigated. Whilst the use of local knowledge is welcomed by CH2M, this should not be at the expense of robust modelling within the transport evidence base.

M62 Junction 23

When considering M62 Junction 23, within TN14 it is stated that Figure 2-1 and Figure 2-2 represents the V/C ratio for the forecast year 2032 for the morning and evening peaks.

WSP state that in the morning peak, a V/C value of 93% can be observed at the merge point of the M62 northbound off-slip with New Hey Road. In the evening peak, high congestion levels are observed on the northbound off-slip and on the New Hey Road to Mount Roundabout contributing to V/C values of 96% and 94% respectively.

It is considered that further work between all parties in the future will provide clarification around the methodology to determine appropriate mitigation measures and what impact they may have on the capacity, operation and safety of the SRN.

M62 Junction 24

With regards to M62 Junction 24, TN14 Figure 2-5 and Figure 2-6 present the V/C ratio for the forecast year 2032 for morning and evening peaks.

It is stated that the morning peak shows very high levels of congestion (V/C >100%) on the entry and exit arms of Blackley Roundabout. In the evening peak, the entry arm of Blackley Roundabout is highly congested with V/C value of 105% whereas the exit arm is at starting levels of congestion.

TN14 states that this is primarily because the entire roundabout is modelled with 2 lanes to capture the traffic whereas the entry arm from Blackley Road and exit arm to northbound on-slip are modelled as single lane to carry similar levels of traffic flow. Furthermore, it is stated that the circulatory arms are well within the congestion levels.

To this end, it is stated by WSP that if the issues shown at Blackley Road and the eastbound slip onto the M62 are seen in future, it is believed that they could be mitigated by widening of the entry (at Blackley Road) and making the exit slip two lanes from the roundabout. However, it is stated that this is probably not desirable for the SRN given that the current arrangement will meter traffic onto the M62.

It is considered that further work between all parties in the future will provide clarification around the methodology to determine appropriate mitigation measures and what impact they may have on the capacity, operation and safety of the SRN.

M62 Junction 25

TN14 states that Figure 2-9 and Figure 2-10 presents the V/C ratio for M62 Junction 25, for the forecast year 2032 for morning and evening peaks. It is stated that from the figures that the base year model link flows are well within theoretical capacity. The increase in future year traffic flow causes one of the circulatory arms in the morning peak to exceed the 85% V/C threshold. In the forecast year in the evening peak, it is stated that it is observed that three arms on the roundabout show congestion with V/C greater than 90%; however, the mainline and the slip roads around M62 Junction 25 do not show any indication of congestion.

Notwithstanding the above, it is stated that it is acknowledged that the model does not show the true extent of current congestion at this junction, with the primary cause being the pinch-point at Cooper Bridge which causes traffic to back up onto the roundabout in both peak periods. CH2M are aware that there is a planned mitigation scheme for this location, and that is being progressed by Kirklees Council which will aim to significantly reduce the queuing back into the roundabout from the east. In addition, it is stated that a minor scheme to provide amended signing and lining arrangements for the roundabout has been agreed as part of outline planning permission granted for the Clifton Business Park scheme.

With regards to mitigation, it is stated that possible further interventions to mitigate the Plan could be either widening the roundabout junction, on either side of the M62, and / or signalling the entry arms to accommodate the increase in demand in the future year; and the need for these interventions would need to be considered in further detail alongside the impact of the proposed Cooper Bridge scheme. As such the further future undertakings by the Council as set out in the latest SoCG, will provide a greater depth of data and rationale to support the delivery of suitable mitigation on the SRN.

M62 Junction 26

M62 Junction 26 does not fall within the district of Calderdale; however, it is appreciated that it has been included within TN14 due to the intrinsic cross boundary movements between the Council boundary, and others. The V/C ratio for M62 Junction 26, 2032 model year for morning and evening peaks are presented in TN14 Figure 2-13 and Figure 2-14 respectively.

WSP state that high values of V/C ratio can be observed in the entry arm of Bradford Road northbound and one of the circulatory arms in both the peaks in the 2032. Furthermore, it is stated that the slip roads are at starting levels of congestion in the evening peak. WSP conclude that it can be inferred from Figure 2-15 and Figure 2-16 that these congestion levels exist in the base year and continue to the future year.

It is further stated that as this area is on the periphery of the Calderdale network, the model has not been updated to reflect the recent upgrade of the Chain Bar roundabout with additional circulatory lanes; and as such the model is reflecting levels of congestion that are worse than expected and it is not expected that further mitigation is required.

It is considered that further work between all parties in the future will provide clarification around the methodology to determine appropriate mitigation measures and what impact they may have on the capacity, operation and safety of the SRN.

M62 Mainline

It is stated that the M62 mainline between Junctions 23 and 26 do not show any congestion issues in the morning peak in 2032. However, in the evening peak in 2032, the mainline section between Junction 25 and Junction 26 northbound records a V/C of 86% which is stated as being slightly above the threshold limit, as represented in Figure 2-17.

In regards to the previous comments in this note regarding the M62 SMART motorways upgrade, it is considered that the pragmatic approach is to not include the scheme within the modelling until the scheme is considered as committed, and to update the modelling to accurately reflect the operation of the M62 mainline in the morning and evening peaks, which is subject to delay and congestion.

TN14 Summary

TN14 concludes that the following measures may be necessary to mitigate the impacts of the Plan upon the SRN.

Table 1 below replicates the table presented in Section 5 of TN14:

Table 1 – Potential Mitigation Measures

Location	Description
Junction 23	Signalisation of roundabout
Junction 24	Additional lane on entry to Ainley Top roundabout from M62 Junction 24.
Junction 25	Cooper Bridge improvement on local road network (minor improvements to roundabout to be investigated when planning applications submitted)
Junction 26	No intervention required
M62 Mainline	No intervention required (Smart Motorway planned)

(TN14, Section 5)

It is stated by WSP on behalf of the Council, that the interventions shown in Table 1 are considered to be feasible schemes that could be implemented during the plan period; and that they would need to be considered on a case by case basis when major planning applications are received.

As per the points of common ground within the SoCG, it is considered that further future work between all parties regarding the cumulative impact of the Plan and the mitigation required to accommodate this impact; and this will be identified by WSP alongside appropriate funding streams for delivery. This is a fundamental exercise for the Council to ensure that contribution opportunities are not missed, potentially forcing smaller sites to make much larger contributions than could be feasible for them.

The identification of mitigation measures is welcomed at this stage, and further microsimulation or junction modelling will be required at stages within the planning application process to inform these interventions. This will also further assist in understand the interactions between the local road network and the SRN and needs to be considered by WSP alongside the conclusions drawn within this TM.

IDP Review

It is stated that this update to the transport elements of the IDP has been produced based on the requests of the Inspector in the second round of Examination in Public [EIP] hearings held in the autumn of 2020. It is considered that a proactive approach from the Council following the EIP is welcomed.

Whilst it is stated that the IDP should be regarded as the definitive position on the programme of transportation schemes (at the time of writing) and as such it supersedes any previous iterations; it is considered that Highways England would always advocate that as a living document the IDP remains an iterative process to be constantly reviewed and be updatable as the life of the Plan progresses, and not a static document.

M62 Junction 20 to Junction 25 Smart Motorway

As stated earlier within this TM, the scheme is currently under review as part of the SMART Stocktake Exercise, and as such, is not committed as per the Road Investment Strategy 2: 2020 – 2025 announcement. This should be reflected within the IDP.

M62 Junction 24A New Junction

It is known that whilst the introduction of a junction on the M62 (referred to locally as Junction 24A) is an aspiration, it is not a scheme Highways England would promote, nor see as necessary.

This has been stated publicly to the Council, the West Yorkshire Combined Authority and clearly stated at the EIP hearings held. With this in mind, it is considered that any reference to M62 Junction 24A should be removed from the IDP and associated documentation – unless there is committed funding or certainty around delivery by the Council or a third party, and an understanding of how such a scheme would interact with both the SRN and local road network.

A644 Cooper Bridge to M62 Junction 25 programme

The IDP states that this scheme will see an improved connection between the A62 and A644, and in turn M62 Junction 25. Furthermore, it is stated that this is primarily a Kirklees Council scheme but would also mitigate M62 Junction 25. A consultation is planned for later in 2021.

It is considered that Highways England will use the upcoming consultation to make representations regarding the proposed scheme, and it is considered that evidence will need to be provided as the scheme emerges to identify whether the scheme resolves existing issues at M62 Junction 25 and or provides further capacity to support development aspirations being proposed by the Council and their neighbouring Local Authorities' Local Plans.

It is considered that the identification of mitigation at both M62 Junction 23 (proposed signalisation of roundabout) and Junction 24 (addition of a lane on entry to Ainley Top roundabout from Junction 24) is welcomed, and that further future work by the Council and WSP will then define any impact on the capacity, operation and safety of the SRN.

It is stated that this mitigation does not form part of a current programme; however, the Council consider this feasible in principle, with funding through Section 106 / CIL / Section 278 contribution(s).

Summary and Conclusions

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This review has highlighted the following issues as follows:

- 1) It is not clear to CH2M why a base year of 2014 has been used, and as yet these details have not been provided as to the methodology, and the approach taken. Clarity is required on this to justify the methodology, particularly with 2014 base year being some seven years old;
- 2) The cumulative impact of the Plan on the SRN, including potential mitigation interventions, funding streams and organisational responsibilities will be discussed and agreed by all parties though further work in the future;
- 3) The M62 Junctions 20 - 25 scheme as being currently under review as part of the SMART Motorways Stocktake exercise as outlined in RIS2; and as such, is not considered as committed. This should be reflected within the IDP;
- 4) In order to identify the mitigation required to support the quantum of development contained within the Plan, it is considered that further analysis of the existing modelling will be undertaken; and
- 5) Any new junction on the M62 (namely Junction 24A) remains an aspiration locally only; and is not a scheme Highways England will promote.