

M2 Junction 5 improvements scheme questionnaire

This document reproduces the response submitted on behalf of the Thames Gateway Kent Partnership.

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1. How concerned are you about the following issues relating to the M2 junction 5?

Issue	Very concerned	Slightly concerned	Not concerned	Not applicable
Traffic congestion	✓			
Journey times or journey reliability	✓			
Road safety	✓			
Accommodating extra traffic from future housing and employment growth	✓			
The effects of the M2 junction 5 traffic on the environment		✓		
Displacement of traffic onto local roads to avoid the M2 junction 5		✓		
Connections to the wider transport network	✓			
Connections to the coast and other parts of the country		✓		

2. Do you think there is severe congestion around the M2 junction 5

Please tick one option. **Yes** ✓

3. What specific local issues do you feel we should be aware of in developing our proposals for the M2 junction 5? Please provide details and examples to illustrate your answers.

- Proposed housing and mixed development growth along the A249 corridor north and north-west of Sittingbourne.
- Continued reliance of commercial traffic from Eurolink Business Estate, Peel Ports (Sheerness), Kemsley Fields and other industrial sites on J5 to access the motorway network.
- Strong travel-to-work corridors along A249 between Maidstone and Sittingbourne, and between Sittingbourne and Medway and Sittingbourne and Canterbury using the M2/A2 corridor.
- Proposed major housing development on A249 adjacent to County Showground potentially affecting A249 traffic flows.

4. What type of journeys do you use the M2 junction 5 for most often? Please tick one.

Not applicable – organisational response

5. How often do you currently use the M2 junction 5? *Please select one option in each row.*

Not applicable – organisational response

6. How much do you agree or disagree that improvements to M2 junction 5 are needed?
Please select one option.

Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree
✓				

Proposed scheme Option 12A

7. Please refer to the information and drawings describing Option 12A, which start on page 5 of the brochure. How much do you agree or disagree that the proposed option will meet the scheme objectives? *Please select one option in each row.*

	Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree	Don't know
Increase the capacity of the junction to support future growth in housing, employment and the economy				✓		
Improve safety for all users of the junction to reduce accident numbers			✓			
Improve reliability of journey times through the junction				✓		
Deliver a high standard of highway design that is in keeping with the local environment			✓			
Minimise any adverse environmental impacts where possible			✓			

8. Overall to what extent do you support the proposed option (Option 12A) for the M2 junction 5 improvements?

Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree	Don't know
			✓		

Please provide details to illustrate your response to question 8.

TGKP strongly agrees with the urgent need for improvement of M2 Junction 5 and the Stockbury Roundabout. We welcome Highways England's consultation on emerging proposals. However, in our judgment the proposed option 12a has a number of shortcomings:

- The proposals retain the existing geometry of the interchange, which is counter-intuitive and one of the sources of driver confusion that leads to accidents. Improved signage might mitigate this to a limited extent.
- Relying on traffic-controlled flows on the roundabout will cause stop-start queueing on the roundabout itself and potentially on slip roads. Just as the layout of both the existing roundabout and proposed option 12A are counter-intuitive, so it seems counter-intuitive to propose subjecting the main north-south flow of traffic on the A249 to signalised control. Has this design been used elsewhere, and what has been its performance in both efficiency and safety?
- Whilst the new slip off the M2 onto A249 northbound will take a significant flow of traffic away from the roundabout, and thus reduce the flows trying to join northbound A249 at the roundabout, the retention of the geometry for all traffic joining the M2 to travel east will perpetuate the problem of a difficult climb with tight curves and short slip road onto the M2.
- Similarly, whilst the new slip for southbound A249 onto M2 westbound will relieve congestion at the roundabout, both this traffic and the traffic joining from A249 northbound will still funnel down onto the existing narrow and steep curve and short slip onto the M2 westbound, which has similar shortcomings to those on the eastbound side.
- The illustrative layout for A249 is signalised rather than free-flowing and is therefore likely to continue to create queues at peak times, however smartly managed. HE's proposal for minimising this appears to be widening the road to 3 lanes at the cross-over, to allow more stationary vehicles at and within the roundabout. There are three potential problems with this:
 - Unless the controls within the roundabout ensure that there is no risk of queueing vehicles tailing back and blocking the roundabout, the north south movements could impede flow from other directions on the roundabout;
 - If queueing is allowed/designed within the roundabout then vehicles 'shooting' the lights at the first traffic controls could block the roundabout.
 - The three lanes of traffic created at the roundabout then have to funnel down to dual carriageway within a short distance of the roundabout. For northbound traffic there would additionally be traffic exiting the roundabout, e.g. from M2 westbound or from the new Oad Street link, or from M2 eastbound (if traffic failed or chose not to use the new slip road). So there could be potentially five lanes trying to funnel down to two. Even the loss of a single carriageway – funnelling from 3 to 2 – has potential to cause congestion either because the weight of traffic will make filtering difficult or resulting from poor/selfish driver behaviour. Both scientific and anecdotal evidence illustrate how lane reduction or lane changing can have far-reaching effects on congestion. We suggest that the negative consequences of funnelling could outweigh any benefits that might arise from creating additional road capacity at the traffic lights, in which case it would be better not to create three lanes in the first place.
- The revised Maidstone Road-Oad Street link seems likely to add further pressure onto the roundabout by creating additional entry and exit points in close proximity. The Oad Street link seems a disproportionately large component of the scheme for what is a minor local road.

For these and other reasons outlined in this response, TGKP does not support option 12A as it currently stands.

9. Do you have any outstanding concerns about the proposed option (12A) to improve the M2 junction 5? *Please select one option in each row*

	Very concerned	Slightly concerned	Not concerned	Not applicable
Capacity to accommodate future growth	✓			
Impact on congestion / journey time	✓			
Impact on road safety		✓		
Disruption during construction		✓		
Impact on noise, air or light pollution		✓		
Impact on landscape setting		✓		
Impact on biodiversity / ecology		✓		
Impact on heritage			✓	
Impact on residential properties / land		✓		
Connections to other parts of the region		✓		
Impact on likelihood of flooding			✓	
Other concerns (please explain):				

10. Having read the brochure, and taking into account the constraints, please share your views on any other ideas you would like us to consider related to this scheme.

We have considered the other progressed options 4 and 10 described in the consultation brochure, and have the following observations:

<i>Potential advantages</i>	<i>Potential disadvantages</i>
Option 10	
Option 10 or a variant thereof (that deals better with local road connectivity) would be the option most likely to withstand future-proofing in the way that it manages the existing main flows and predictable future flows.	Where future proofing is less assured is about the capacity of the M2 itself and the long-term future of the viaduct (which HE staff said they are looking at). If there were any plan to widen the M2, either generally or at pinch-points such as junctions, the Option 10 scheme might end up having to be re-done at considerable expense and complexity.
This is the most conventional and generally intuitive layout from a road user's perspective: the slip-roads lead in the direction you would expect to travel. It does away with the sub-standard curves and difficult gradients of the existing slips to/from the M2, and thus enables vehicles to achieve match with motorway speeds using slips of a higher standard.	More expensive: however the consultation document appears to inflate the estimated costs significantly by comparison with the Technical Appraisal Report.
The encroachment on the landscape would ultimately be less or comparable to the existing interchange but better performing.	The main beneficiaries are north-south travellers; M2-A249 south, A249-M2 west and M2-A249 North all benefit, but A249-M2 west and east benefit less

<i>Potential advantages</i>	<i>Potential disadvantages</i>
	than if the design matched the other quadrants (e.g. A249-M2 east does not have a dedicated slip that avoids using the roundabout).
It provides more convincing capacity to support growth and accommodate the potential impacts of the Lower Thames Crossing, including the function of M2/J5 as a conduit for traffic from the Channel Ports towards the Thames Crossing(s) in the event of problems on the M20.	The revised access from Maidstone Road/Oad Street involves an awkward junction close to westbound traffic exiting the roundabout
	It involves a total replacement of the junction it is likely to cause more disruption than options involving modification. At face value it is hard to see how some parts could be delivered without fairly lengthy closures and diversions.
Option 4	
Option 4 offers significant benefits for A249 north-south traffic and for M2-A249 northbound traffic.	Other benefits are more compromised by retention of the existing geometry of the interchange with its sub-standard slip roads.

Overall, it is therefore TGKP's view that **none** of the three schemes progressed fully satisfies the requirements that improvements to Junction 5 should fulfil. We would add the following points for Highways England's consideration:

- The M2 is part of the strategic national network, and the level of funding a fit-for-purpose solution should be commensurate with providing added national network resilience, not just for Kent-based traffic movements but as part of the Channel Ports to M25 corridor. That includes providing the capacity to deal with disruption elsewhere on the network, such as closures on the M20 or A2/M2 west of J5, and facilitating flow of traffic from the Isle of Sheppey and Sittingbourne to the M20 as well as the M2.
- Whilst page 11 of the consultation document references the relationship with proposals for the Lower Thames Crossing (LTC), and in particular current modelling work, it is clear that the implications of the LTC need to be fully factored into the final design solutions and decisions about M2 Junction 5, as well as investment in other key parts of the network such as M2 Junction 7/A20 (Brenley Corner) to Dover, and the A229/M2 Junction 3 (Bluebell Hill). It is vital that Highways England should look in a joined-up way at the relationships and investment requirements on a whole network basis, rather than scheme-by-scheme.
- We recognise that resources are not unlimited but the suggested budgetary envelope set by Government means that, unless an improved scheme can be delivered much more cost effectively, the final scheme is destined to be sub-optimal and lack long-term resilience. Highways England's preferred option is insufficiently future-proofed to support future residential and employment growth and wider network impacts.
- Improvement is better than no improvement; but we would prefer to see Highways England going for the best scheme and spending whatever it takes to make the junction work now and in the future, rather than simply selecting the cheapest of the three options progressed.

We suggest some variant of the 3 progressed options should be considered, notably:

- one that incorporates A249 fly-over or dive-under to enable unimpeded north-south traffic, avoiding use of a roundabout and probably removing the need for signalisation at the roundabout;
- one that ideally improves the logic, geometry and gradients of slip-roads to and from the M2;

- one that avoids funnelling traffic through short-distance lane reductions; and
- one that concentrates on the major roads and ensures that secondary roads remain secondary.

11. How do you think we can improve routes for other highway users, including pedestrians, cyclists and horse riders, as part of our proposals?

The existing junction and Stockbury Roundabout present a difficult and unhelpful environment for pedestrians, cyclists and horse riders. The opportunity should be taken to provide a safer means of navigating the roundabout/junction, ideally with segregated trackways that keep non-motorised users away from the main carriageway where possible, without involving significant inconvenient diversions.

12. Do you have any other comments on the proposals for the M2 junction 5 scheme (Option 12A)?
Please provide them below.

The priority is for a safe junction that enables free-flow movement on the A249 for traffic that is not joining the M2, improved and more intuitive slip roads between A249 and M2 in all directions at the junction itself, and has the capacity and resilience to support ambitious growth proposals in the borough of Swale, particularly along the A249 corridor north of the M2 and regeneration of the town centre.

The Technical Appraisal Report published as part of the consultation suggests that even a conservative recalculation of the cost-benefit ratio would show a very positive outcome for any scheme. It is unclear how HE have arrived at the publicised cost estimates in the consultation document when the Technical Appraisal Report (table 23.1) shows significantly lower figures. It is hard to see why a much better scheme than option 12A could not be delivered within the indicative budget. But we would reiterate that HE should aim to deliver the scheme that fulfils the long-term needs of both the strategic network and local residents and businesses, and press for the budgetary provision to enable this, rather than settle for a sub-optimal solution that will not support longer-term pressures and growth expectations.

Responses to questions 14-21 (about the consultation process) omitted from this version.