



ADL Traffic and Highways Engineering Ltd

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Your ref: TR010022

Our ref: ADL/RG/Is/2680

3 March 2020

The Planning Inspectorate
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol
BS1 6PN

Via email: A38DerbyJunctions@planninginspectorate.gov.uk

Dear Sir/Madam

Re: A38 DERBY JUNCTIONS PROJECT: DEADLINE 6

This letter is provided following our letter of 3 February 2020 and the subsequent hearing on 19th February. We note updates under the previous letter headings as follows:

a) *assessment of junction capacities;*

ADL have prepared a LINSIG model for our client and this has been reviewed by the Eurogarages consultant team.

We have sought to reproduce the modelling undertaken by Highways England and subject to differences in the two software packages used, have prepared a replication of the HE model, including:

- Adoption of the Highways England cycle and stage timings;
- Adoption of the Highways England phasing, i.e. the sequence and ordering of each green signal presented to drivers travelling through the junction.

We are finalising a Technical Note which will be supplied to the Inspector and Highways England, however, the LINSIG modelling exercise has produced broadly similar results to HE's own TRANSYT model in terms of queue outputs.

Our client's concern with the design of the junction has been the limited storage behind the proposed stop line where McDonald's and Eurogarages customers will need to wait and the LINSIG model would appear to confirm HE's findings that suggest there would be sufficient storage for waiting vehicles. We consider, however, there are some important caveats to this:

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- (i) Both computer models assume that the approach to the junction is standardised, i.e. uniform layout, straight and without any complications. Whilst manual adjustments can be made to reduce the overall capacity of a link within the model, this still needs to reflect situation at the proposals; the proposed stop line queue is clearly on a tight bend, with a 90⁰ turn required from the McDonald's car park, into the queue. This is something which neither computer model can fully represent accurately. Neither can the models account for drivers making 'selfish' lane choices, as shown in the enclosed drawing 2680-SK-22 which shows the swept path of a right turning customer potentially blocking the left turn lane. This sort of manoeuvre is not considered to be unreasonable, but could unintentionally affect other drivers (from McDonald's or Eurogarages) seeking to exit, thus reducing queueing space.
- (ii) LINSIG utilises a flat traffic profile, which assumes an even distribution of cars over the modelled period. Traffic behaviour at the site is unlikely to follow a flat profile, given that customer behaviour will not be uniform over an hour.

Overall therefore, we consider that the models produced still have weaknesses in terms of the reliance which can be placed on them. We have considered the use of a microsimulation package (such as PARAMICS), however, these models are reliant on accurate journey time studies being made at the study area, based on the real-world conditions. As this scheme is still at the proposal stage, it is therefore not possible to build and validate a model via microsimulation. This point was also discussed with Aecom informally at the 19th February hearing.

b) *junction geometry;*

The left turn in from the A52 remains a tight manoeuvre (particularly for HGVs) and there does not appear to be scope to improve on this, given the constraints of the available highway land, McDonald's land and Eurogarages land.

Considering these entering vehicles; drivers unfamiliar with the site, including HGVs seeking to refuel at the garage have limited time to slow to a speed appropriate to undertake a full u-turn manoeuvre into the site. Whilst car drivers will find the manoeuvre into the wider site easier, they will still need to reduce speed considerably, then have to make a decision about making the right turn into the McDonald's car park, or continuing to the PFS within around two car lengths, whilst making a judgement about gaps in oncoming traffic leaving the PFS.

Turning to exiting traffic and referring again to attached drawing 2680-SK-22, these constraints are highlighted once more, as it would only take a queue of seven vehicles back from the stop line, before blocking the approach to the drive thru lane entrance, and eight, before the drive thru lane exit would be blocked.

c) *the need to strengthen the McDonalds car park;*

As noted previously, McDonalds have instructed their own contractor to undertake core tests of the existing car park. We understand the fieldwork has now been completed and results are awaited.

d) *justification for ingress to the McDonalds/EG facilities from the A38 slip road;*

We note the content of HE's Technical Note (ref: HE514503-ACM-HGN-Z2_JN_J2_J-TN-CH-0002). Within the TN, HE SR-D note that:

"...it must be possible to demonstrate that the resultant layout represents the best possible option when weighed up against the alternatives."

Based on HE's own traffic flow data, closure of the access from the A38 would involve directing approximately 100 vehicles per hour who would visit McDonald's or Eurogarages, from the A38 south approach, through the proposed gyratory and require them to use the signalised access into the wider site from the A52 to make the u-turn in. These 100 vehicles making the turn in would be part of an hourly flow of over 1000 vehicles heading to the A52 westbound through the junction. It would seem that HE's concerns under the CDM regulations 2015 with regard to the designer's duty

"to eliminate foreseeable health and safety risks where reasonably practicable"

...do not extend to the risks associated with introducing 100 u-turn movements per hour to the proposed traffic signal junction, which could otherwise be avoided, by maintaining access from the A38. Whilst HE's own team may foresee health and safety risks associated with maintaining access and egress from the A38, they have failed to acknowledge the wider implications and the potential risks associated with introducing a high number of u-turns off of the A52 into the site.

We note from HE's Safety Audit extracts at problem 4.3.6, their auditor acknowledges this issue stating:

"The proposed access into the new Esso/McDonalds access appears tight. If vehicles cannot safely turn into the access from Markeaton roundabout kerb strikes may occur or grazing collisions with vehicles waiting to turn right out of the junction onto the A52."

Therefore, the risks associated with an access which "appears tight" and requires a u-turn manoeuvre, on a road with a flow of over 1000 through vehicles per hour, do not appear to have been considered in the context of those same 100 vehicles making a less tight left turn in from the A38, as part of a passing flow of fewer than 500 vehicles in either peak hour. We require further explanation of how one option is considered to eliminate "foreseeable health and safety risks" over another, given the manoeuvres and traffic flows involved.

e) ***the provision of roadside signage;***

Our client awaits further input from HE in terms of a reasonable and practical signage proposal as part of the wider scheme mitigation.

f) ***the effect of the proposal on access rights across the McDonalds and EG sites. Is a copy of the conveyance referred to in title number DY103730 available?***

We have previously supplied the Land Registry filed plan for title number DY103730, which shows shaded in brown the land over which EG have rights. Investigations in relation to the implications of the scheme are still being considered by our client.

g) ***Please summarise the outstanding matters for agreement, the next steps to be taken and whether agreement is anticipated during the Examination.***

We do not consider that we are in a position to update the Statement of Common Ground further at this time.

We remain in receipt of extracts of HE's Road Safety Audits, however, these did not include the audit brief, terms of reference or details of the Audit Team and their qualifications, as would be expected of our client when undertaking a Road Safety Audit.

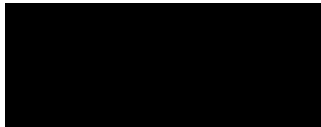
We are still yet to receive a copy of the WCHAR report.

General

As noted previously, ADL have been asked to ensure McDonald's interests are pursued. It is requested that HE are held to the same high standards as any developer adjacent to the SRN would be.

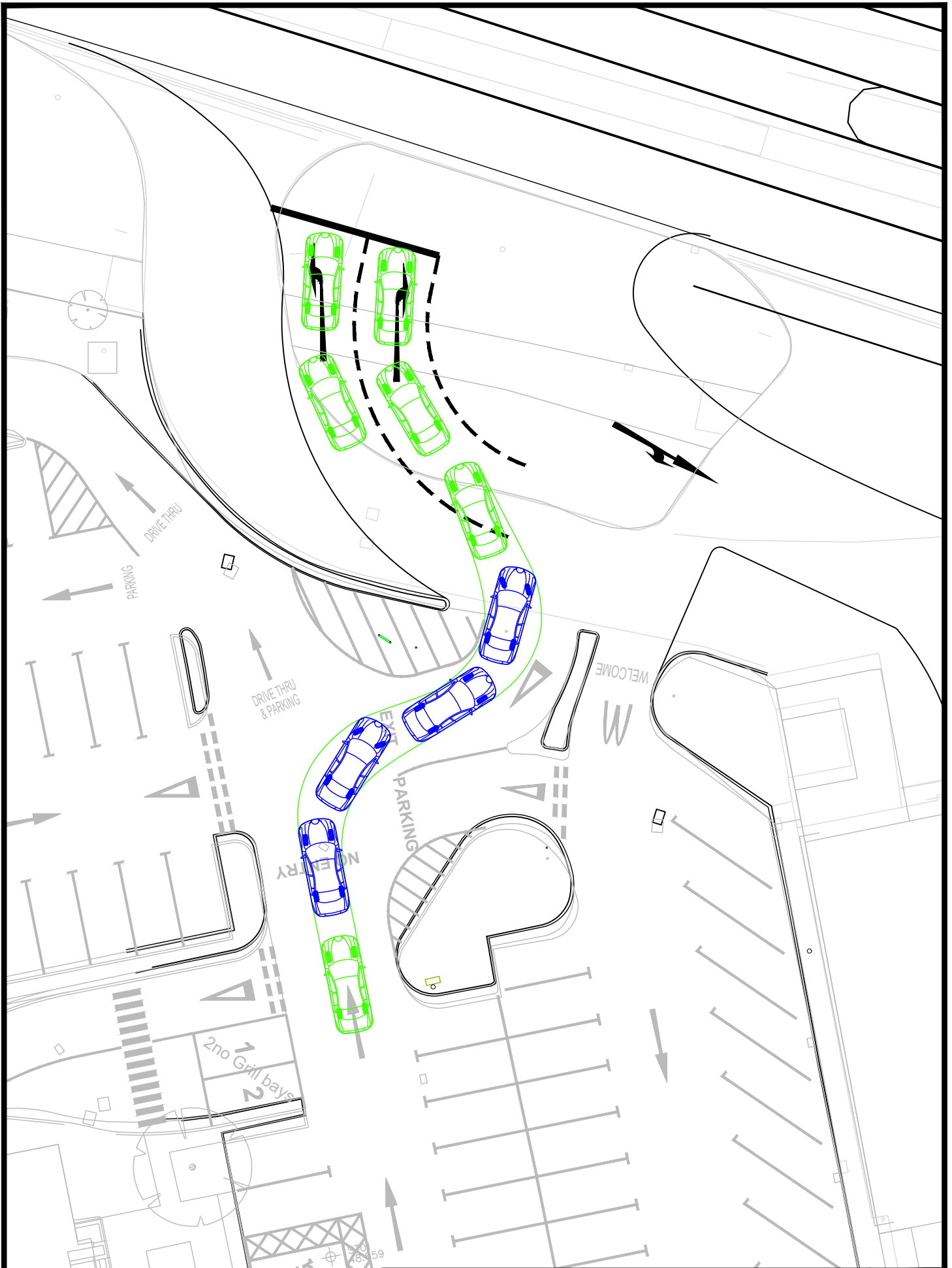
Notwithstanding this, however; despite their concerns, McDonald's instructions are to continue to engage with HE in order to work towards resolving as many matters as possible.

Yours sincerely
for **ADL TRAFFIC AND HIGHWAYS ENGINEERING LIMITED**



ROB GREEN
ASSOCIATE DIRECTOR

Enc. 2680-SK-22



ADL
 TRAFFIC
 HIGHWAYS

Title

5.0M LARGE CAR EXITING
 McDONALD'S CAR PARK

Scale

1:250@A4

2680-SK-22