EXHIBIT LIST

Reference No: HOL/10018
Petitioner: EUSTON STANDARD PACK
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Transport of excavated material by rail

HS2 position on excavated material at Euston

- Section 5.3.144 of the SES2 and AP3 ES states:

  'At Euston, it has been assumed, as a reasonable worst case, that all excavated material and demolition arisings will be transported outside London by road. However, there may be opportunities for a limited volume of excavated material to be transported by rail, but this is constrained by lack of space for sidings and the division of the excavations into two separate stages. Further work is being undertaken to explore effective ways to remove a greater proportion of excavated materials by rail.'

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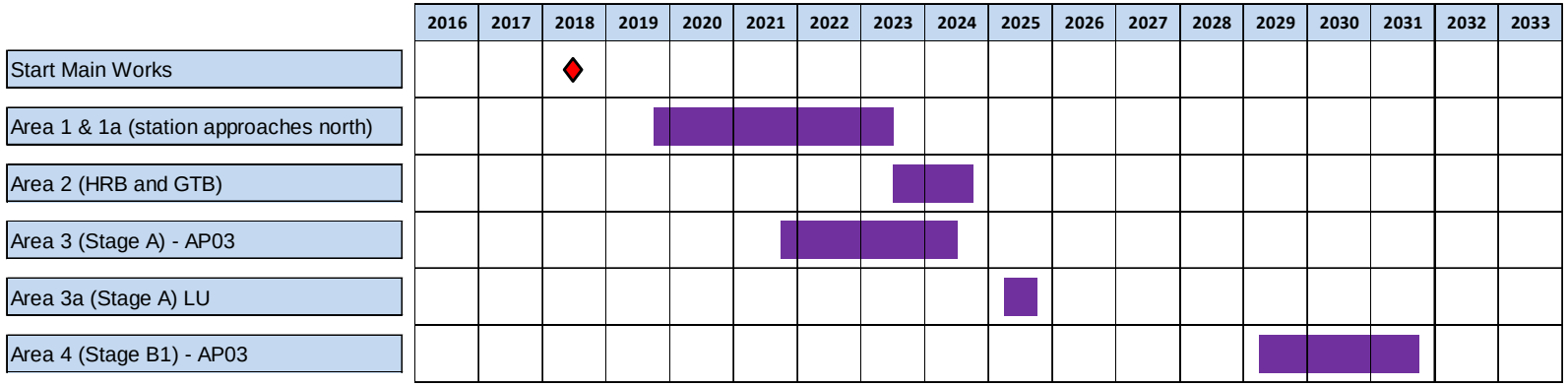
Post AP3 ES approach

Re-evaluated constraints and identified additional opportunities created by the reinstatement of Line X. This allowed the re-assessment of siding and material handling options:

- Reconsidered siding options
- Reconsidered material handling options

The preliminary conclusion was that it might be technically feasible to remove a significant quantity of total excavated material by rail but further work was required to develop and cost options and to establish availability of train paths.

Excavation programme (general)



Volume of Excavated Material

Area 1 & 1a – 229,000m^3

Area 2 – 103,000m^3

Area 3 – 388,000m

Area 3a – 66,000m^3 (not removable by rail)

Area 4 – 234,000m^3

Total – 1,020,000m^3

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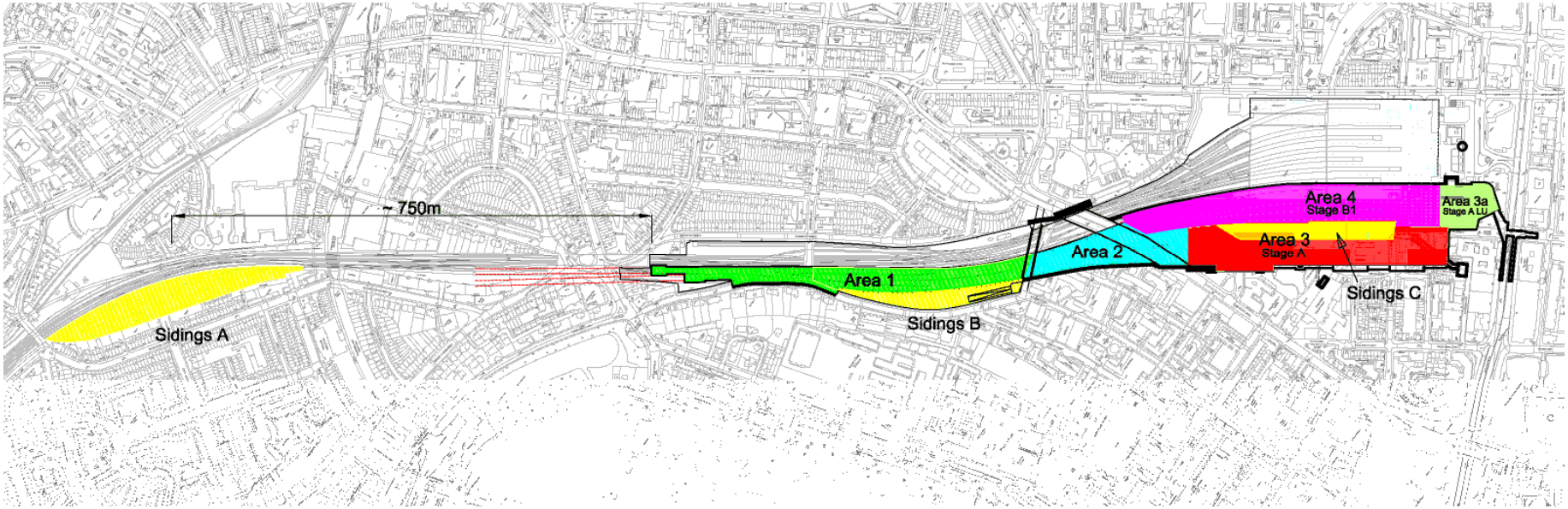
Potential transfer of excavated material to rail

- A typical 11 wagon train will carry approximately 300m^3 of excavated material
- A typical lorry carrying excavated material will carry approximately 8.5 m^3
- One 11 wagon train will therefore remove around 35 full HGVs (and a further 35 empty HGVs) from the road network

Potential siding locations



3 General areas for siding(s)

- Siding A – 750m North of the site in Camden Carriage sidings within conventional rail corridor and currently used Network Rail siding
- Siding B – Within conventional rail corridor in the disused Carriage Shed close to Park Village East and Granby Terrace Bridge
- Siding C – Within the New HS2 Station Zone and located to suit Stage A and Stage B1 construction

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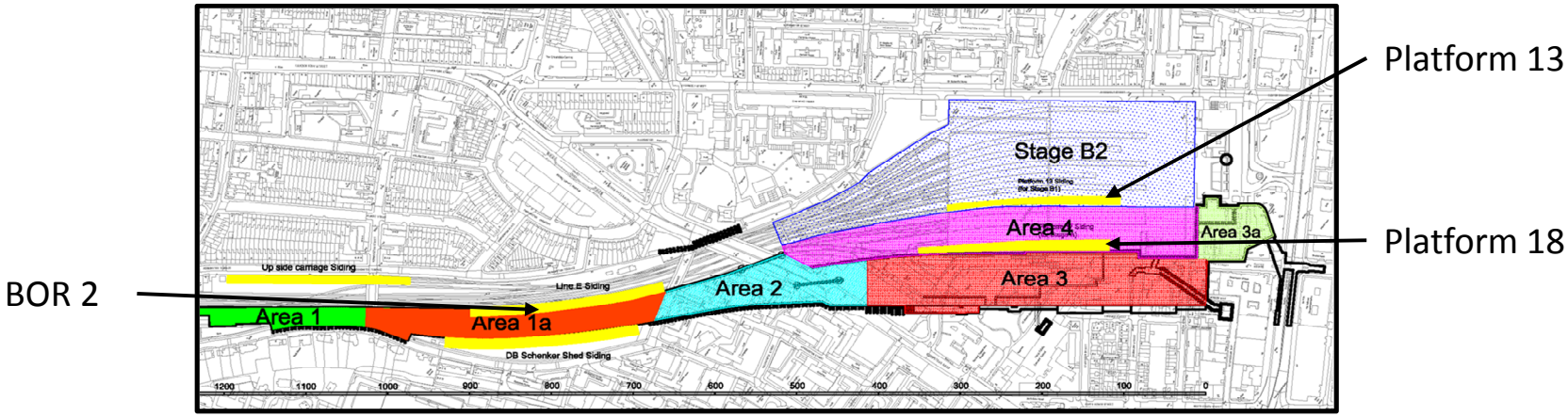
Post House of Commons Select Committee Work

- As part of its work in meeting assurances made during the HoC SC period, HS2 Ltd has been developing a plan to maximise the amount of excavated and construction material that is moved by rail during construction.
- 3 Options taken forward after initial sifting for further consideration:
  - Backing out road 2 (BOR2) – (Stage A work)
  - Platform 18 – (Stage A work)
  - Platform 13 – (Stage B1 work)

Transport of excavated materials by rail options plan



2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Euston Stage A – to Phase 1 opening										Euston Stage B1 – to Phase 2 opening					
			'Platform 18' operation									'Platform 13' operation			
				'BOR 2' operation											

Transport of excavated materials by rail options table

Option	Total 1 way vehicle trips removed	Excavated material out (m^3 (% of total))	Percentage of total 1 way vehicle trips removed	Construction cost (Including: prelims, design, management. Excluding: risk and contingency)
Backing Out Road 2	6,648	56,510 (4.8%)	1.8%	£14m
Platform 18 siding	40,828	253,540 (21.6%)	11.1%	£9.5m
Platform 13 siding	14,091	77,280 (6.6%)	3.8%	£9.5m

The figures in this table assume that the options are pursued in isolation and therefore it should not be assumed that they can be aggregated

Reasons for not pursuing BOR2

- Siding is located within the limited confines of the site which means that it takes valuable space and that it can only be in place for a limited period.
- Requires construction of a temporary piled slab.
- Siding can only be in place for an 18 month long programme window limiting usefulness for spoil removal and preventing it from being used for delivering material to site
- Train access to BOR2 requires access to Platform 18 then a reversing move in to BOR2. This would limit operations at the more productive Platform 18 siding. Conversely, implementing the Platform 18 Option would impact on BOR2 work.
- Consequently, Platform 18 provides a more effective solution and the addition of BOR2 would conflict with that Option.

Post House of Commons Select Committee Work - Conclusions

- The initial conclusions were that it would be possible and reasonable to implement both the Platform 13 and Platform 18 options with the current scheme, provided the following requirements are satisfied:
  - Passenger impacts can be mitigated to a reasonable level
  - Construction programme impacts can be mitigated
  - Network Rail approve of the use of the platforms
- Work will continue with NR to clarify passenger impacts and options for mitigation
- Following the report by HS2 Ltd the Secretary of State for Transport approved the recommendations.

BOR 2 Operation

BOR2

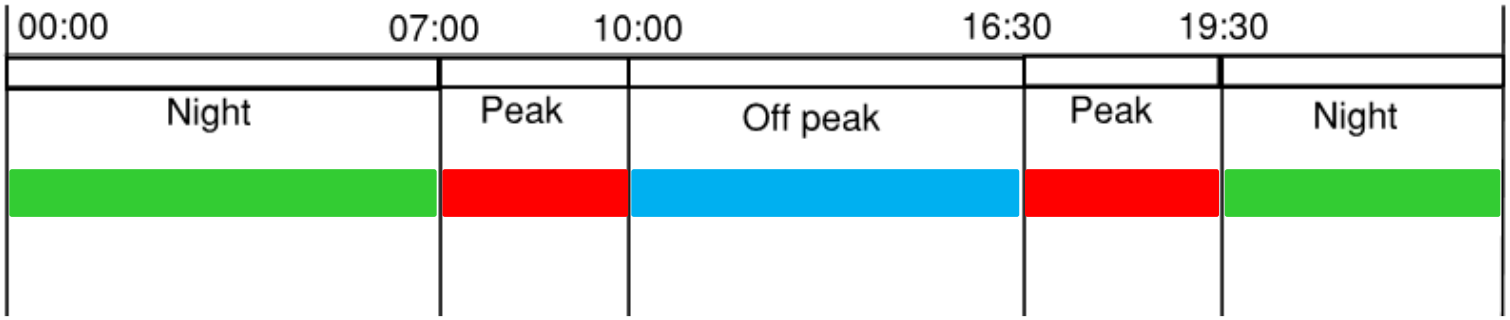
i. Arrival of empty train
   - From WCML slow lines to Platform 18
   - Reverse out of Platform 18 into BOR2

ii. Train is loaded with excavated material

iii. Departure of full train
   - From BOR2 into Platform 18
   - From Platform 18 across to WCML

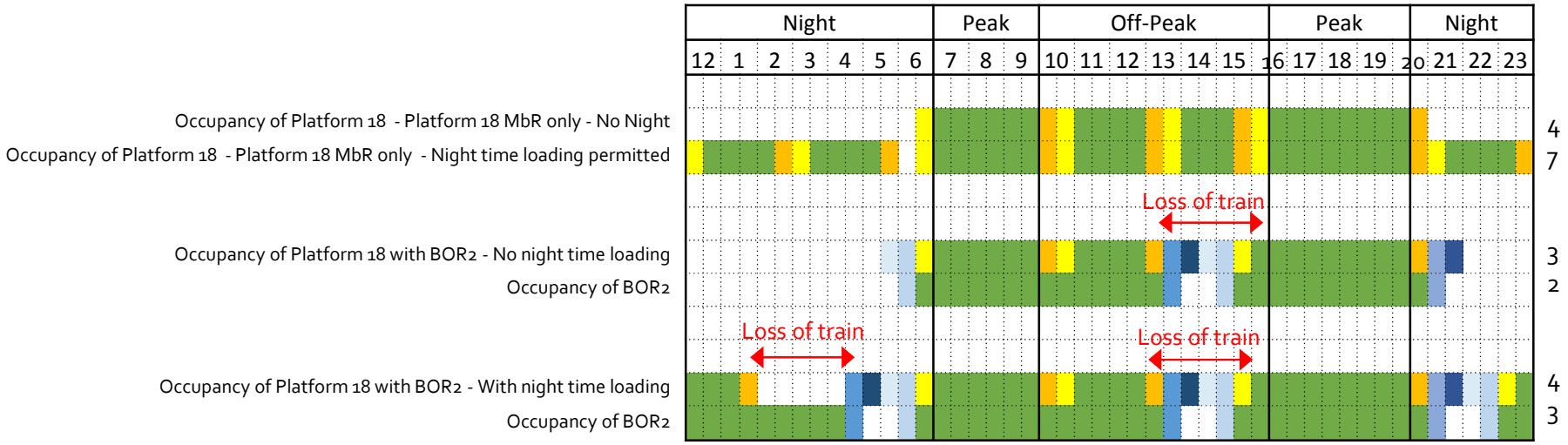
Platform 18 needs to be clear during both arrival and departure movements

Availability of train paths (assumed)



- Peak (am & pm): no train paths available
- Off-peak: 1 train per hour each way
- Overnight: train paths available

Possible operation of Platform 18 and BOR2 for MbR assuming no perturbation



Assume: No train paths during Peaks

out train paths 1 hr interval
in train paths 1 hr interval
loading at night TBC

Plat 18 receive train (0.5 hr typ)
Plat 18 load train (2 hr typ)
Plat 18 depart train (0.5 hr typ)

BOR2 head shunt to Plat 18
BOR2 Plat 18 out
BOR Plat 18 in
BOR2 head shunt from Plat 18

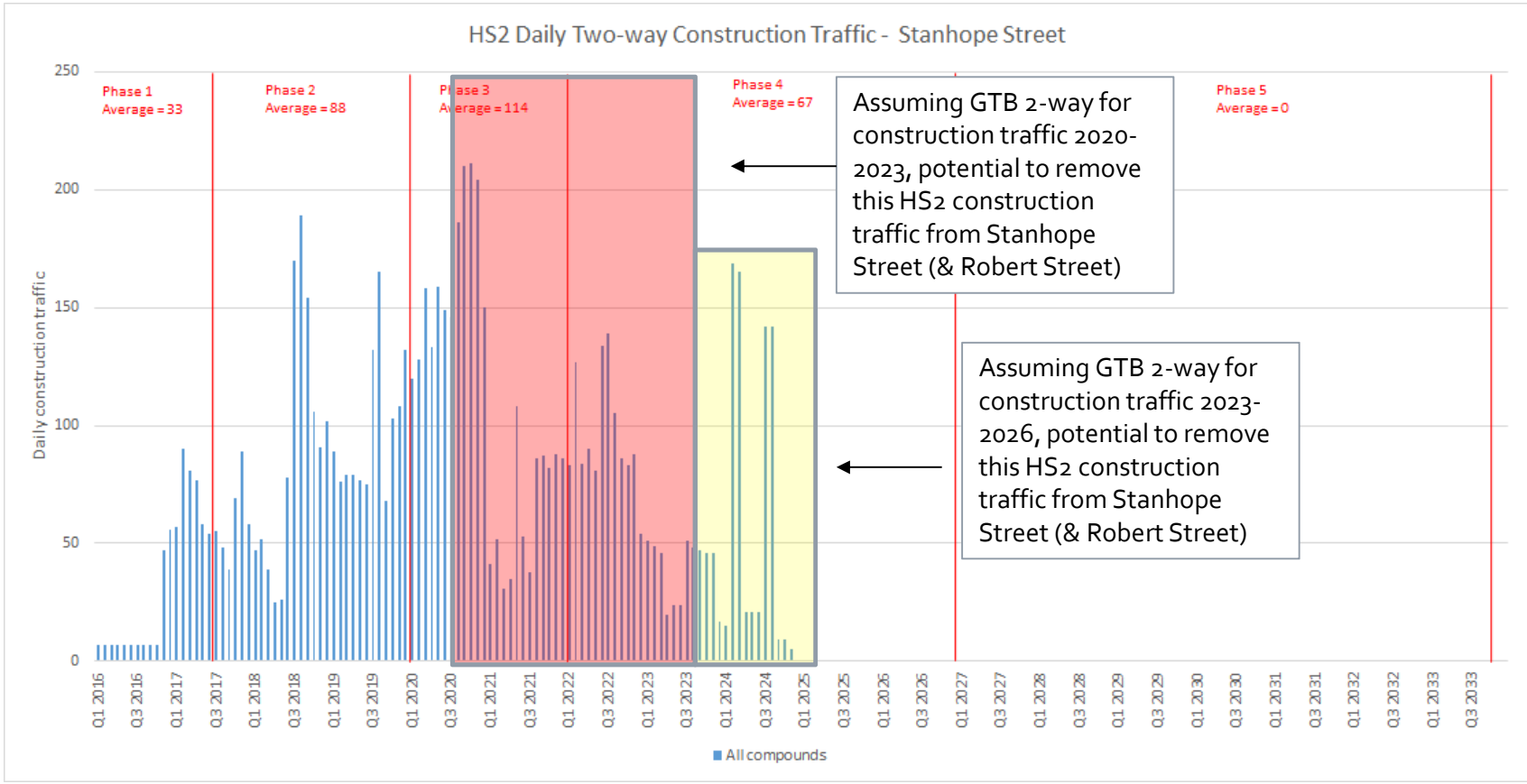
BOR2 - Traffic

- The BOR2 option would result in limited reductions in HS2 construction vehicles on Stanhope Street, Robert Street and the A400 Hampstead Road from 2020 to 2022.
- However if Granby Terrace bridge was re-opened to allow **two way** HS2 traffic [1], most HS2 construction vehicles could be diverted from Stanhope Street & Robert Street [2] to Granby Terrace bridge from late 2020-late 2023.
- If Granby Terrace bridge was retained as a construction-only route **post-2023**, HS2 construction traffic could also be diverted from these roads 2023-2026. [1]

[1] Subject to suitable junction design being developed with and acceptable to TfL and LBC including de-conflicting construction traffic and Hampstead Road bus/cycle lanes

[2] With the exception of some vehicles associated with utility works

Granby Terrace Bridge - Traffic



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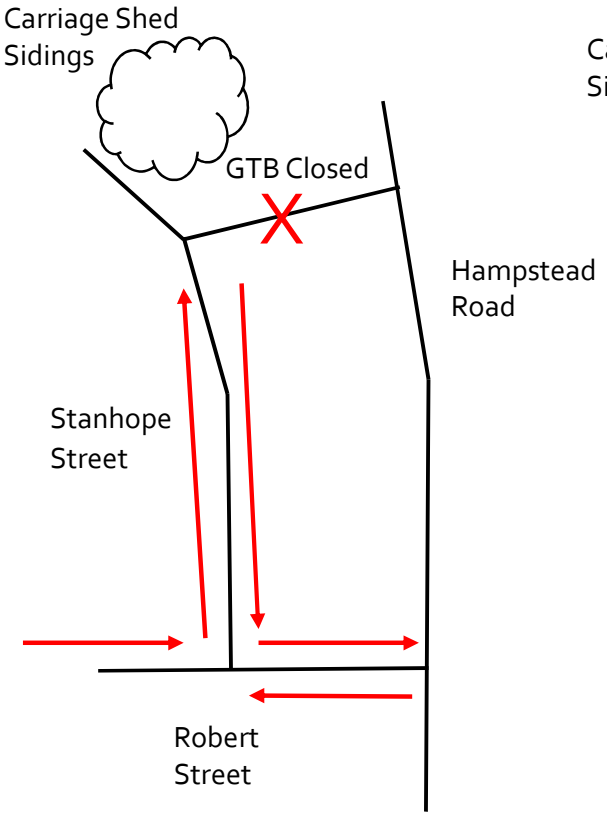
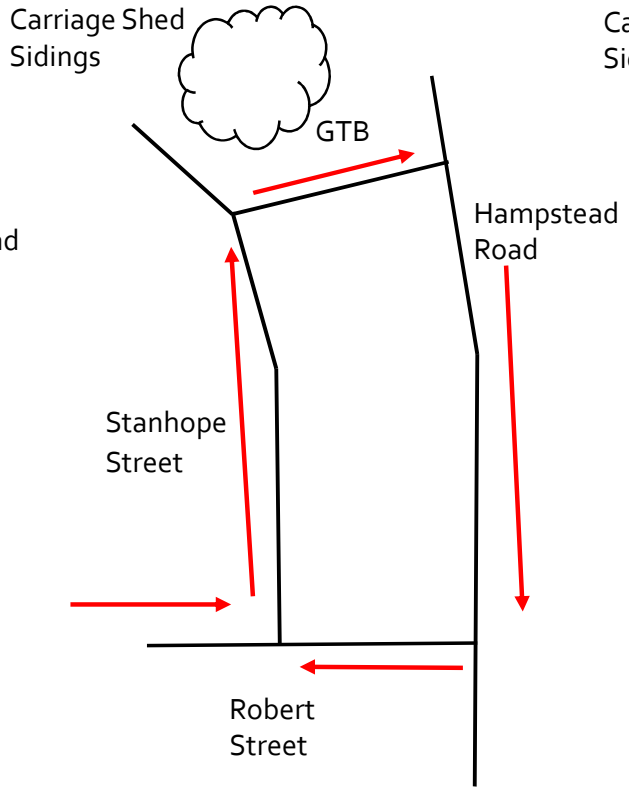
Granby Terrace Bridge - Traffic

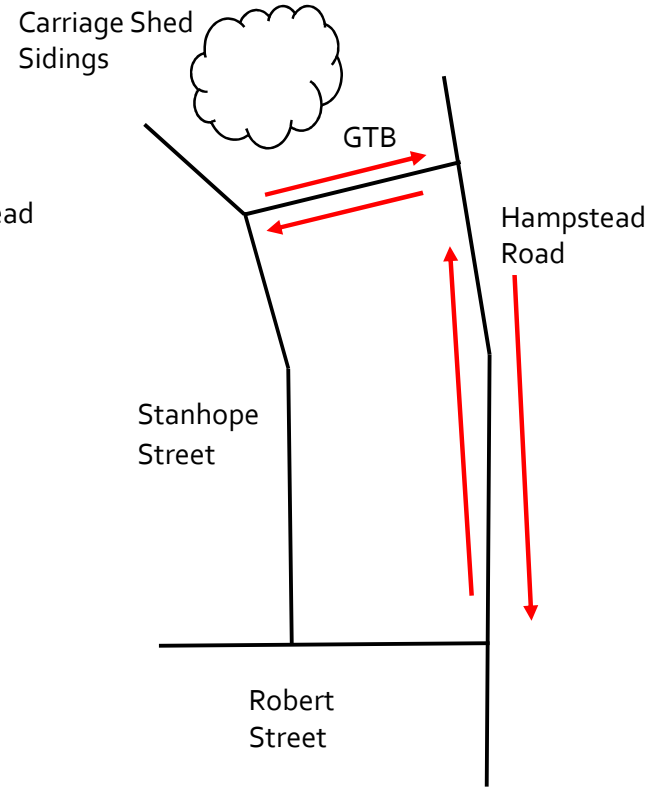
Pre-2020 (Proposed Scheme)



Late-2020 – late 2023 GTB one- way (Proposed Scheme)



Late-2020 – late-2023 GTB two-way option



LEGEND

HS2 construction traffic routes