Traffic Assessment Overview

June 2016

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HOC/10015/0002

Transport Assessment (TA) methodology (1)

The TA calculates traffic and transport impacts of the Proposed Scheme during construction and operation; traffic and transport *significant effects*[1] are reported in the Environmental Statement (ES)

Key traffic and transport impacts principally arise from construction activities (eg diversions, construction traffic and workforce), compared with a forecast baseline (ie without HS2), which includes committed and planned development

[1] *Significant effects* are defined in the HS2 Phase One Scope and methodology report (CT-001-000/1), November 2013

Transport Assessment (TA) methodology (2)

The following traffic and transport effects have been assessed in the ES:

- traffic flows and delays to vehicle occupants
- pedestrians, cyclists and equestrians severance, delay, amenity and ambience
- public transport delay
- disruption at stations/interchanges
- parking and loading
- accidents and safety
- severance
- waterways.

Transport Assessment (TA) methodology(3)

For consistency, the TA generally assumes a 2021 forecast baseline for the whole Phase One route.

The operation assessments have been carried out for the forecast years of 2026 and 2041 (year of opening plus 15 years).

The forecasts for construction and operation years use strategic models, or DfT standard growth factors, to take account of growth.

The assessments have been carried out for AM (0800-0900) and PM (1700-1800) peak periods, which are typically the busiest times of the day - it does not assume that impacts only occur at this time.

Transport Assessment (TA) methodology (4)

The DfT PLANET demand model has been used to forecast the change in passenger demand at rail stations arising from the operation of HS2.

In the London, Birmingham Interchange and Birmingham Metropolitan areas, where the interactions of transport user behaviour are complex, existing strategic transport models have been used to assess the changes to highway and public transport flows and delays.

The strategic transport models have been developed and used in close collaboration with local transport authorities and inputs agreed with them.

Local junction models have been developed and used in consultation with the relevant highway authority to assess changes to vehicle delays in more detail.

The TA construction assumptions (1)

The TA makes a number of assumptions that are precautionary and based on a realistic worst case; in practice, the impacts are likely to be less than assessed:

- the assessment is based on average daily trips for the peak month of construction activity; for most of the time the actual number of construction trips will be lower than this peak
- all compounds are generally assumed to be in use at the same time; in practice concurrent use will be less frequent
- all the workforce for sites outside of London is assumed to travel to/from the construction compounds by car; however, some of the workforce will use public transport, works buses or other methods
- 50% of the workforce is assumed to arrive between 0800-0900 and depart 1700-1800, overlapping with construction traffic; in practice, most of the workforce is likely to arrive/depart outside these times
- transport of excavated material (mass haul) to/from compounds by road is based on an eight hour day (outside London), for five days each week; in general, core working hours will be 0800 to 1800 on weekdays and 0800 to 1300 on Saturdays

The TA construction assumptions (2)

The assessment:

- does not take into account other potential mitigation such as further opportunities that may arise to remove excavated material by rail at Euston and Langley, and also increased removal by rail at West Ruislip;
- does not include time and capacity controls as set out in Schedule 17 of the Bill;
- excludes measures arising from the implementation of the Code of Construction Practice (CoCP) and any construction workforce travel plan.

Traffic and Transport exhibits

The traffic exhibits are produced to show the routeing and number of construction vehicles along the road network that are generated by the construction of the HS2 scheme.

Where required, exhibits showing other transport impacts have also been produced for certain locations, such as pedestrian and cycle diversions and maps showing road closures

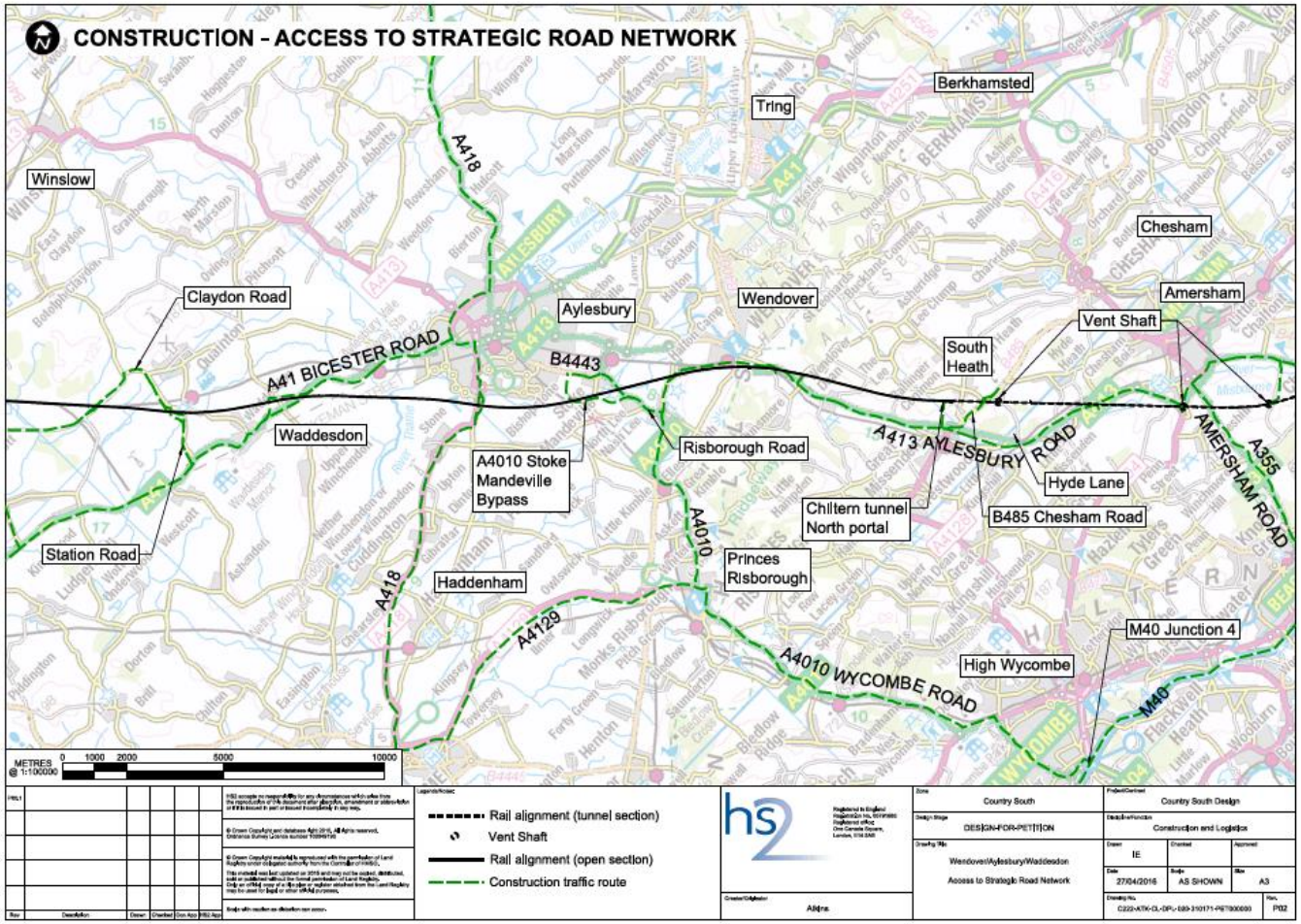
The standard set of traffic exhibits normally comprises:

- access to strategic road network map;
- construction compound routes and vehicle numbers map;
- daily weekday traffic flows construction phase map;
- construction traffic histogram for specific locations.

Sample traffic exhibits:

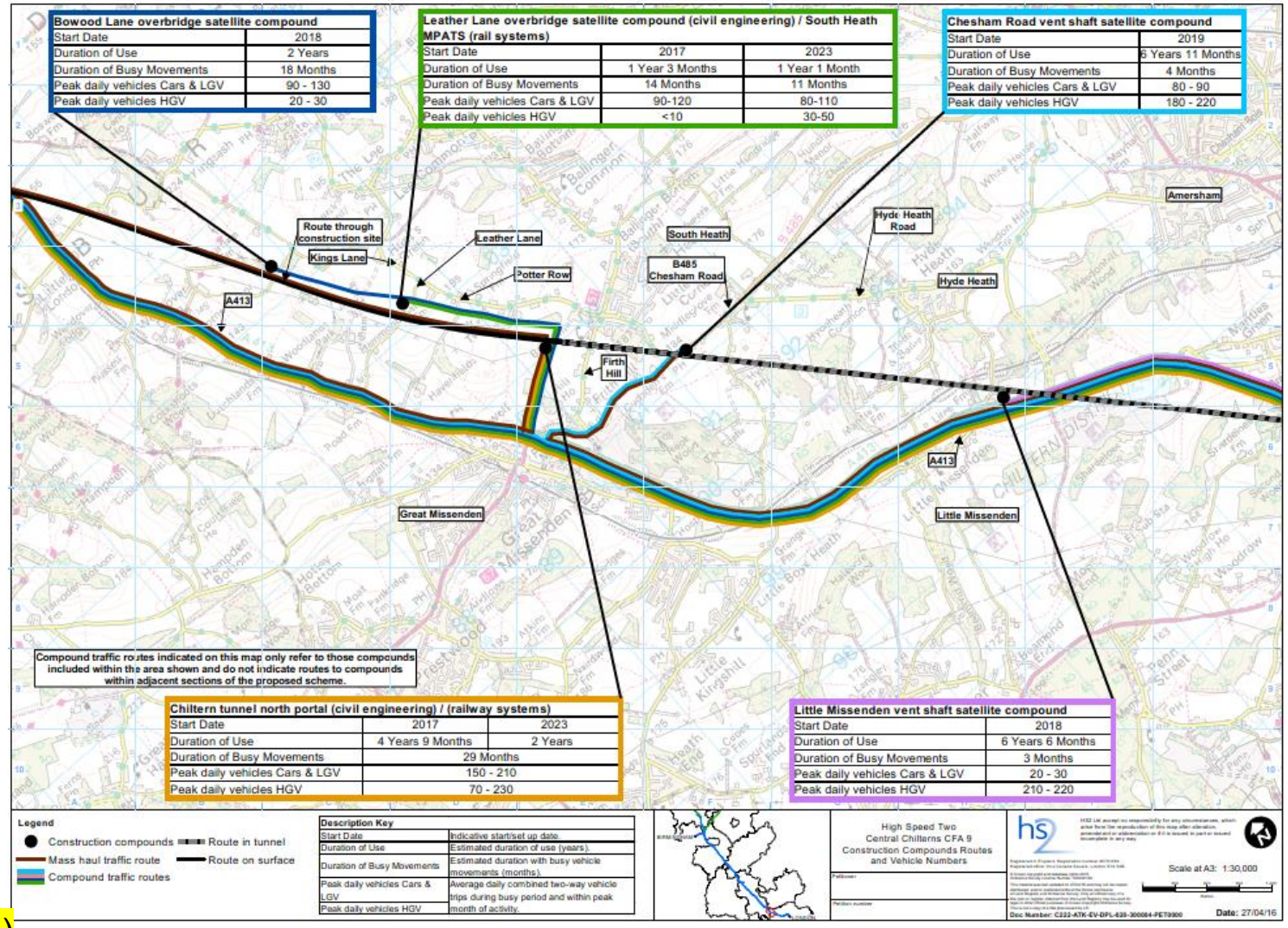
Access to strategic road network

The sample map shows the strategic road network used by construction vehicles (>7.5t), along with the HS2 railway alignment and relevant locations, together with features of the HS2 route



Sample traffic exhibits:

Construction compound routes and vehicle trip generation (1)



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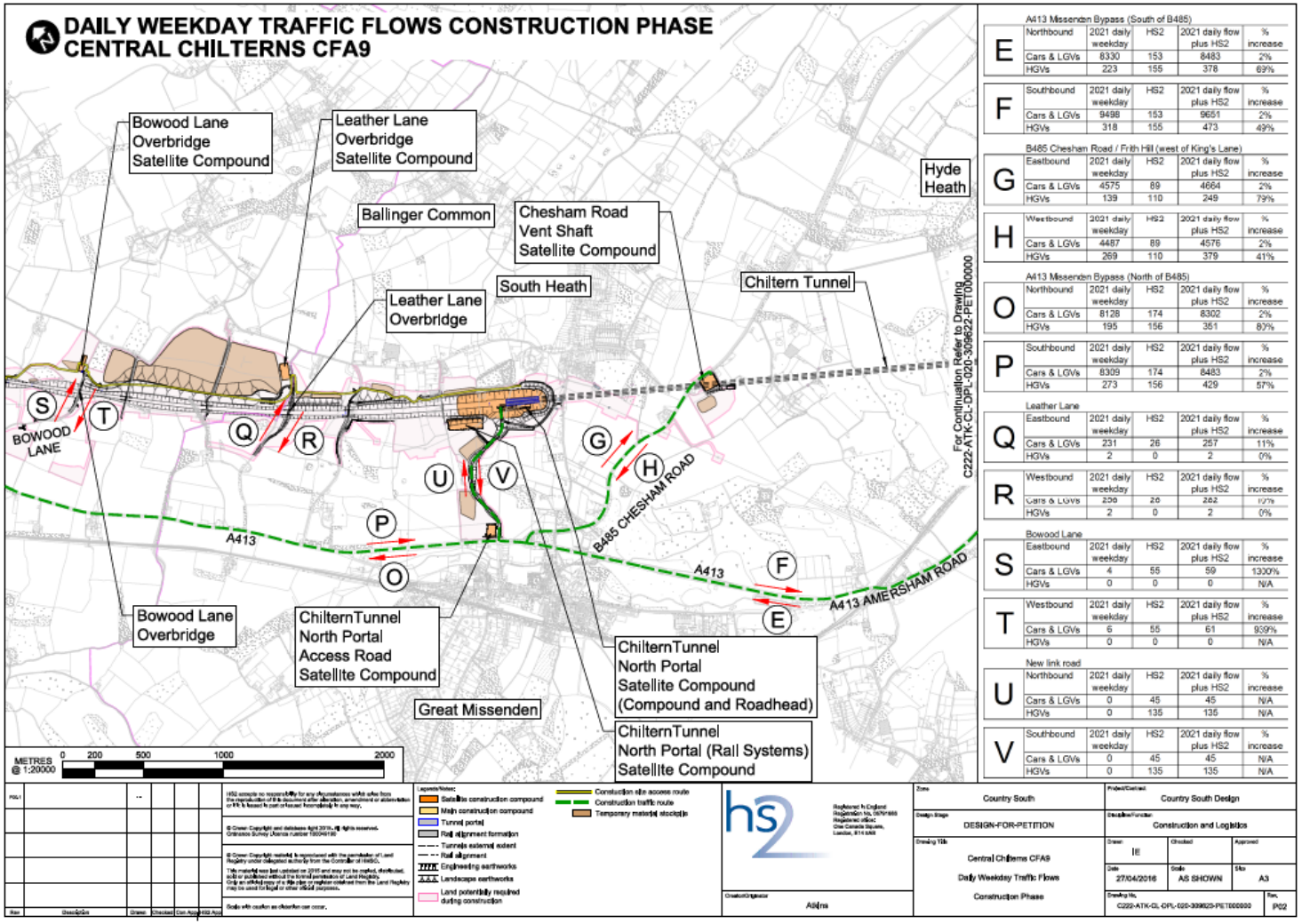
Sample traffic exhibits:

Daily weekday traffic flows construction phase (1)



A413 Missenden Bypass (South of B485)

		2021 daily weekday	HS2	2021 daily flow plus HS2	% increase
E	Northbound				
	Cars & LGVs	8330	153	8483	2%
	HGVs	223	155	378	69%
F	Southbound				
	Cars & LGVs	9498	153	9651	2%
	HGVs	318	155	473	49%

B485 Chesham Road / Frith Hill (west of King's Lane)

		2021 daily weekday	HS2	2021 daily flow plus HS2	% increase
G	Eastbound				
	Cars & LGVs	4575	89	4664	2%
	HGVs	139	110	249	79%
H	Westbound				
	Cars & LGVs	4487	89	4576	2%
	HGVs	269	110	379	41%

A413 Missenden Bypass (North of B485)

		2021 daily weekday	HS2	2021 daily flow plus HS2	% increase
O	Northbound				
	Cars & LGVs	8128	174	8302	2%
	HGVs	195	156	351	80%
P	Southbound				
	Cars & LGVs	8309	174	8483	2%
	HGVs	273	156	429	57%

Leather Lane

		2021 daily weekday	HS2	2021 daily flow plus HS2	% increase
Q	Eastbound				
	Cars & LGVs	231	26	257	11%
	HGVs	2	0	2	0%
R	Westbound				
	Cars & LGVs	256	26	282	10%
	HGVs	2	0	2	0%

Bowood Lane

		2021 daily weekday	HS2	2021 daily flow plus HS2	% increase
S	Eastbound				
	Cars & LGVs	4	55	59	1300%
	HGVs	0	0	0	N/A
T	Westbound				
	Cars & LGVs	6	55	61	939%
	HGVs	0	0	0	N/A

New link road

		2021 daily weekday	HS2	2021 daily flow plus HS2	% increase
U	Northbound				
	Cars & LGVs	0	45	45	N/A
	HGVs	0	135	135	N/A
V	Southbound				
	Cars & LGVs	0	45	45	N/A
	HGVs	0	135	135	N/A

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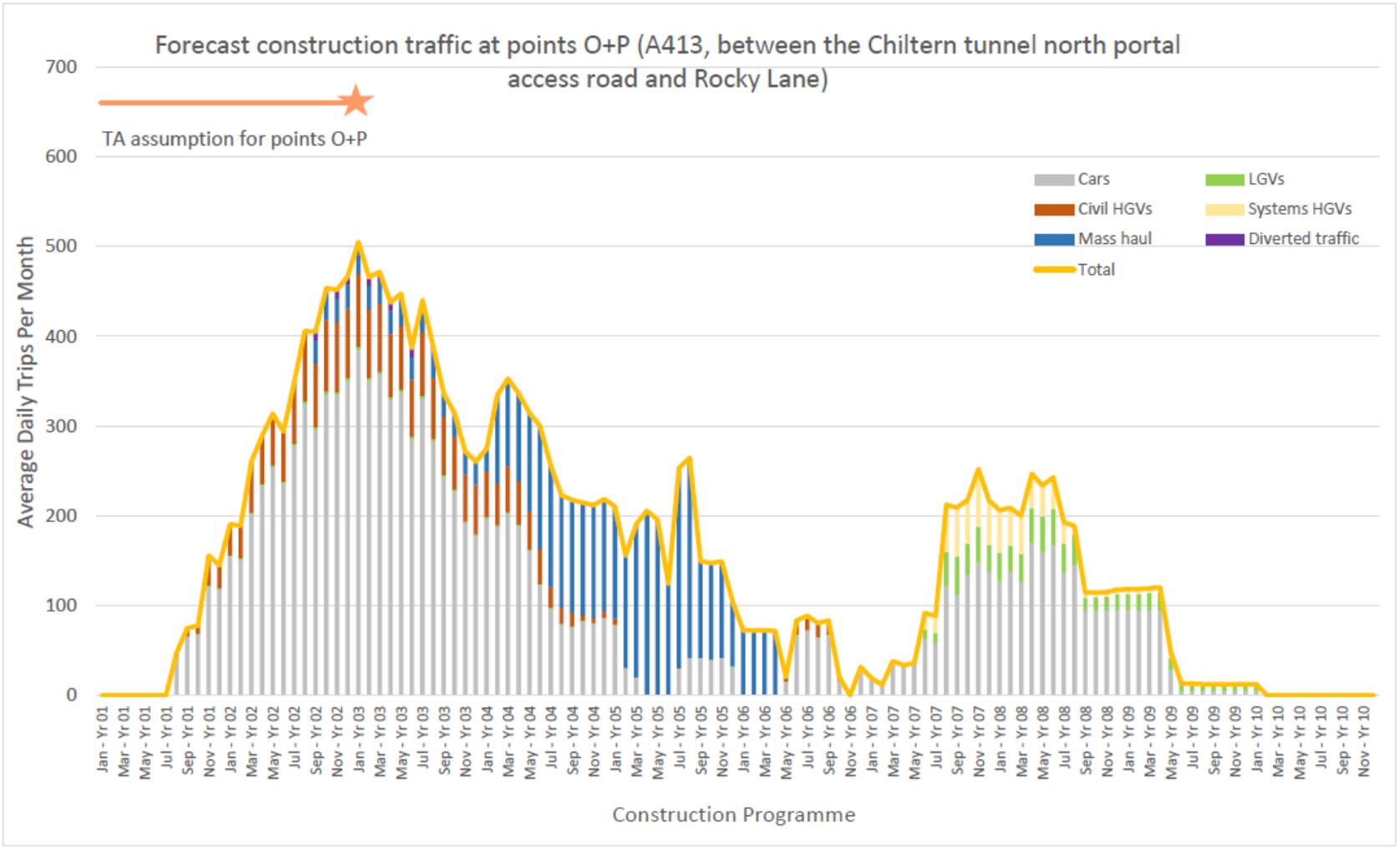
Sample traffic exhibits:
Construction traffic histogram (1)



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Mitigation of traffic impacts during construction (1)

It is in the Promoter's interest to reduce delays and congestion, as this will also affect HS2 construction traffic.

HS2 has used physical measures to mitigate construction traffic impacts:

- road closures have been avoided by the use of off-line replacements, where practical and necessary, in locations where the HS2 railway crosses existing infrastructure
- use of the HS2 railway trace as a haul road in non-tunnelled areas, where practical
- specific highway improvements at junctions to reduce congestion and delays
- specific highway improvements to address existing road safety issues
- proposed temporary highway measures (eg temporary slip roads from M25 to Colne Valley compounds)

Mitigation of traffic impacts during construction (2)

Operational measures to mitigate construction traffic impacts include:

- use of routes with the most direct access to the strategic road network, where practicable, and approval of routes for large good vehicles by the local highway authority
- Provision of specific assurances, where necessary, to limit construction traffic flows in specific locations
- provision of overnight workforce accommodation at the main construction compounds, where appropriate
- traffic management arrangements, as identified in the draft CoCP including:
  - Local Traffic Management Plans (LTMPs)
  - implementation of site specific measures
  - workforce travel plans

Local Traffic Management Plans (LTMPs)

A draft Route-Wide Traffic Management Plan (RTMP) has been produced which sets out the scope for the LTMPs – it has been developed in consultation with highway authorities, within the Highways Sub Group of the HS2 Planning Forum.

The draft RTMP includes 'Construction Logistics and Cycle Safety (CLOCS)' standards for driver and vehicle safety, to manage work related road risk for vulnerable road users (cyclist and pedestrians) and the 'Freight Operation Registration Scheme (FORS)', where operators are subject to audit to ensure that they meet a number of quality standards in fleet operations around management, operations, vehicles and drivers.

LTMPs will initially be drafted by HS2 and completed by the final contractors - they will include the proposed traffic and construction vehicle management strategy.

Traffic Management Site Specific Measures

Traffic Management sites specific measures as set out in the draft CoCP include:

- phasing of works
- road traffic management layouts and signage
- timing of operations
- arrangements for liaison with the relevant highway authorities and emergency services
- monitoring of vehicles arriving and leaving construction compounds
- emergency access protocols
- proposals for transport of construction workforce and measures to ensure safe access to and from site
- parking controls
- use of internal haul roads for construction vehicles to minimise the need to use public roads
- monitoring for deviation from authorised routes
- requirements relating to the movement of traffic from business and commercial operators of road vehicles, including goods vehicles
- measures for highway reinstatement
- a list of roads that may be used by construction traffic in the vicinity of the site, including any restrictions to construction traffic on these routes, such as the avoidance of large goods vehicles operating adjacent to schools during drop off and pick-up periods, where necessary

Workforce travel plans

Construction workforce travel plans will be prepared by the lead contractors with the aim of encouraging the use of sustainable modes of transport to reduce the impact of workforce travel on local residents and businesses.

The plans will include:

- key issues to consider for each compound/ construction site or group of sites
- site activities and surrounding transport network including relevant context plans
- anticipated workforce trip generation and how it may change during the construction process
- travel mitigation measures that will be introduced to reduce the impact of construction workforce on the transport network
- targets to reduce individual car journeys for the construction workers

Further engagement

Prior to commencement of main construction works, and during the construction phase, regular local Traffic Liaison Group (TLG) meetings will be established with local highway authorities so that matters such as local traffic management schemes can be reviewed prior to submission, or approval, and the implementation of schemes reviewed and other monitoring reported.

Proposed attendees at the TLG meetings include HS2 traffic manager, relevant local highway authority, the police and local bus operator representative.

HS2 Ltd has liaised with stakeholders, where further work is required eg:

- Saltley Viaduct Strategy, Birmingham
- A46/ A452 assessment, Warwickshire
- A413 access road, Great Missenden
- Ickenham study, Hillingdon