Dewsbury Bus Station Construction Traffic Management Plan

Document no: B2382808-JAC-GEN-ZZ-RP-LO-0001
Version: P01

West Yorkshire Combined Authority
[Client reference]

Dewsbury Bus Station Refurbishment
30 June 2023

Dewsbury Bus Station
Construction Traffic Management Plan

Client name:	West Yorkshire Combined Authority		
Project name:	Dewsbury Bus Station Refurbishment		
Client reference:	*[Client reference]*	**Project no:**	B2382808
Document no:	B2382808-JAC-GEN-ZZ-RP-LO-0001	**Project manager:**	Mike Kettlewell
Version:	P01	**Prepared by:**	Emily Boazman
Date:	30 June 2023	**File name:**	Dewsbury Bus Station Construction Traffic Management Plan.docx

Document status: S4

Document history and status

Version	Date	Description	Author	Checked	Reviewed	Approved
P01	30/06/23	For Planning	EB	CD	CB	MK

Distribution of copies

Version	Issue approved	Date issued	Issued to	Comments
P01				

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1. Introduction

The West Yorkshire Combined Authority (WYCA) is undertaking a project to refurbish the existing Dewsbury Bus Station, which is immediately southwest of the town centre. The works form part of a programme of works in the area that Kirklees Council and WYCA are proposing, funded by the Transforming Cities Fund (TCF), to make public journeys along the A638 from the Chain Bar roundabout at Cleckheaton and across to Dewsbury safer and more reliable, by increasing the number of buses and easing congestion along A638 and by improving cycle routes and pedestrian crossings.

The plans for the bus station are transformational and are part of the aspiration to improve the environment and access routes for people using buses and trains, and also walking and cycling routes in Dewsbury and West Yorkshire. This scheme involves extensive refurbishment and physical improvements to the bus station, reconstruction and reconfiguration of the forecourt and platform areas and minor changes to the layout at the junctions with the local highway network.

This Construction Traffic Management Plan (CTMP) is a live document and will be reviewed on a regular basis to ensure that changes to the known road environment can be recognised and addressed at an early stage. This CTMP deals only with traffic impact from the construction of the compounds and does not seek to describe measures that will be used during the main project construction works. The principles outlined herein will form the basis for the detailed CTMP for main construction works.

This document addresses the systems and procedures that should be followed to warn, inform and guide traffic past, through or around all works related to project site. All workers, employees, subcontractors, employers and the management team, involved in the construction of the project shall adhere to this CTMP.

2. Site Location

Dewsbury is a minster town located in the north east of Kirklees district in West Yorkshire. Dewsbury is located approximately 14km south of Leeds, 11km north east of Huddersfield and 9km west of Wakefield. Dewsbury Town centre is surrounded by a Ring Road, with Aldams Road at the south of the Ring Road and the A638 making up the rest of the Ring Road at the north, east and west. Dewsbury Bus Station is owned and managed by the Combined Authority and is situated close to the town centre employment area and retail core situated to the northeast. Dewsbury train station is situated close by to the north. There is access to the bus station for pedestrians and authorised vehicles from Aldams Road and South Street.

Due to the location of the bus station, the permitted routes to access the site which are suitable for Heavy Goods Vehicles (HGVs) are listed below and illustrated in Figure 2-1:

- M62 Junction 28 and A653 Dewsbury Road/Leeds Road
- M1 Junction 40 and A638 Wakefield Road
- M62 Junction 25 and A644 Wakefield Road/Huddersfield Road

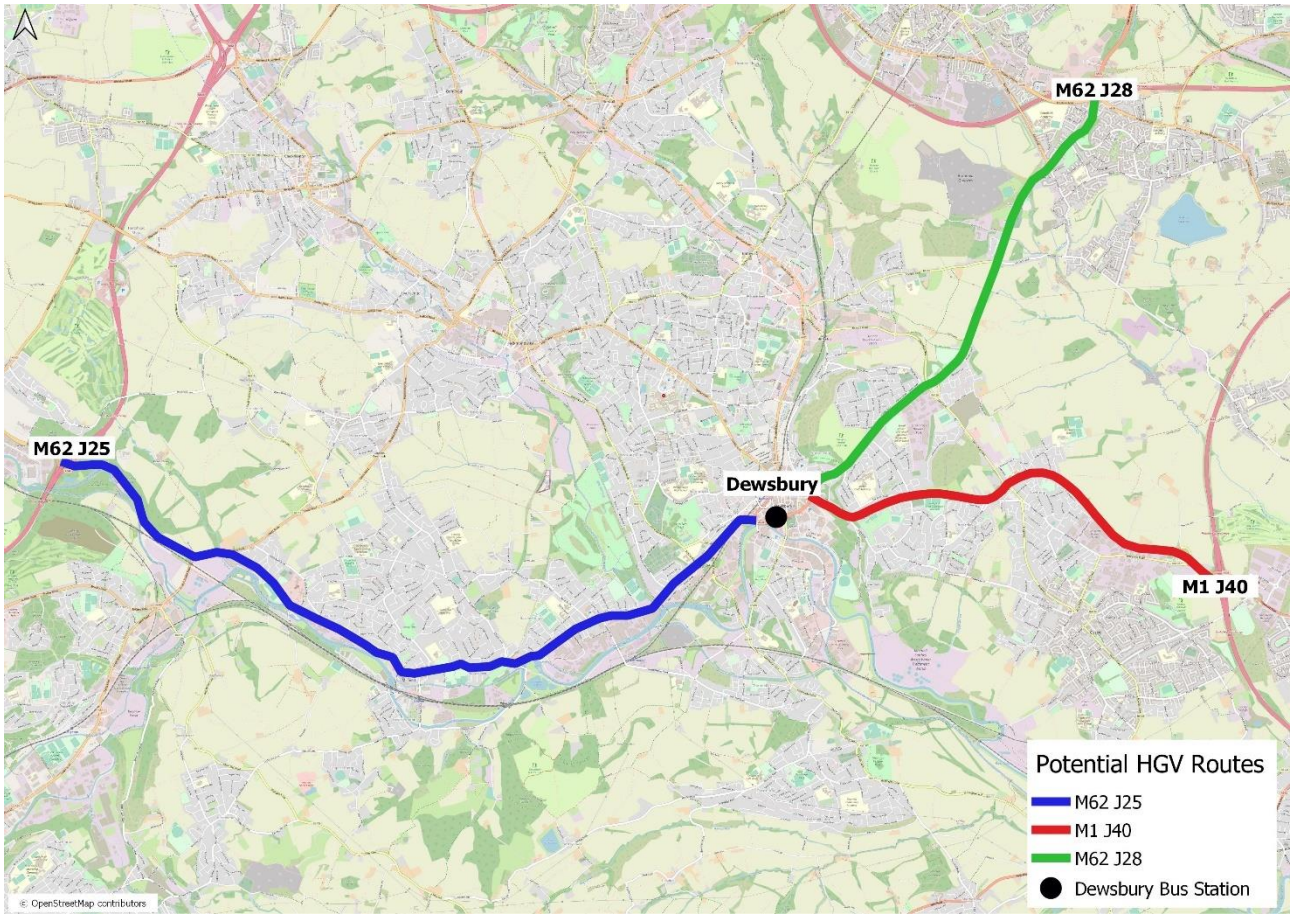


Figure 2-1: Permitted HGV routes to access the Dewsbury Bus Station site.

The compound will be designed to serve as primary assembly, storage of materials, plant equipment and welfare facilities. Multiple compound sites are not required for the construction of the bus station, however should changes arise or the contractor deem additional compounds are required and or, these are not located at the bus station, the CTMP will be updated to reflect these changes. It should be noted that whilst multiple compound sites are not required for the construction of the bus station, it is likely that the location of the compound will move over the various construction phases.

In order to enable compound set up, initially the access will be set up at the compound, including vegetation clearance of the highway and field boundaries, highway junction works and traffic control (where required). Following this, a range of works will be undertaken to construct the compound, install utilities and act as a base for equipment and staff.

Following construction of the compounds, preliminary activities will be undertaken from the compounds including:

- Vegetation clearance, where this has not already been undertaken as part of recent maintenance, if seasonally appropriate and in accordance with licenses;
- Temporary highway works for example site and junction improvements;
- Environmental mitigation works where required;
- Delivery and movement of construction materials; and
- Sorting and storage of materials arising from the preliminary works.

3. Methods of Working

The term 'traffic', wherever used in this CTMP, encompasses both vehicle and pedestrian movement.

Traffic management will be undertaken in a manner that will provide for the safety of all staff, subcontractors and the public and ensure that road and footpath users are not exposed to foreseeable risks. During the construction period, traffic will be managed and integrated into the existing road highway network.

The majority of works will be carried out during the working hours of 7am to 6pm on Mondays to Fridays and 8am to 4pm on Saturdays. To ensure the bus station can continue to be operational throughout construction, work may need to be undertaken outside these hours, however the appropriate permissions will be sought, and the contractor will liaise with the local authority and bus operators throughout construction.

To ensure minimal disruption to the general public and work on site the control and management of traffic will involve the co-ordination and control of the following:

- All delivery vehicles and their loading and unloading.
- Access to the project area by the staff and operatives.
- Vehicular and pedestrian traffic past the work area.

It is not practicable for this CTMP to cover all situations that could arise, it may therefore be necessary for the relevant person in control of the traffic management for a specific activity on site to modify the control measures to address the particular circumstances based on the hazard(s) identified.

Where possible, all deliveries will be planned to avoid peak hour traffic (morning and afternoon). Where and when possible, delivery vans and vehicles entering/exiting site shall use the designated permitted route shown on the designated access route details in Appendix A of this document. All traffic controllers shall be suitably accredited and wear the required PPE at all times e.g. helmets, safety boots and high visibility vests etc.

Key personnel holding a duty of care for the planning and activities on site include:

Management Team

- Section Delivery Lead
- Construction CRE
- H&S Adviser
- Programme Logistics Manager
- Section Logistics Manager

Site Team

- Construction Manager
- Compound Security
- Supervisor / Foreman
- Gateman and Vehicle Marshalls

The Works Foremen have responsibilities for two areas of traffic management, the Work Area and Employees under their control. Foreman shall ensure the following for each area of responsibility:

Work Area

- A documented traffic management risk assessment is completed by the Foreman and the procedures and control measures implemented on site.
- Written permission is obtained from the relevant authority before any work in a road reserve is commenced by the contractor or a person working on behalf of the contractor.
- Road users, pedestrians and contractors can continue with their respective undertakings in relative safety and with the minimum of inconvenience.
- All site related works are correctly barricaded and sign-posted using the relevant approved signs.
- All signs and devices used are in good condition and are removed at the completion of the work.
- All site related works do not commence until all signage is in place, even in an emergency it is essential that safety is observed for both staff and road/footpath users.
- All lamps are:
  - Switched off during daylight hours.
  - Checked at night time to confirm they are working and correctly aligned.
- The CTMP is reviewed regularly to ensure it is still suitable.
- If any person is injured the incident is reported to the Project Manager and the relevant authorities.

In the event of an incident/accident, the following information is recorded using the Accident & Incident Reporting and Investigation Form Template:

- Names and addresses of those involved.
- Names and addresses of any witnesses.
- Actual types of signs and devices at the site.
- Photographs of signs and devices at the site at the time of the incident.
- Details of the surface and the width dimension of the travelled path.
- Details of any hazard at the site.
- Details of the prevailing weather.

Employees

- Workers are competent to work on or near the roadways.
- Workers have a general awareness of traffic safety issues.
- Workers are informed of the public relations aspect of their work and instructed they should not allow themselves to be provoked by members of the public.
- Where required, all workers have access to and use the following safety equipment and PPE:
  - High visibility vest or shirt.
  - UV protection eyewear and sunscreen (SPF 30 standard or better).
  - Wide brimmed hat/ safety helmet.
  - Steel cap safety footwear.

- Appropriate clothing to protect against UV radiation.
- Hearing protection (where appropriate).
- Eye protection (where appropriate).

A gateman / vehicle marshal will be appointed to control access to and from the site, this operative will be responsible for sighting oncoming traffic beyond any obstructions in visibility and ensuring oncoming traffic has slowed and is aware of any egressing vehicle. The gateman will also be responsible for ensuring that the condition of the access track and public highway is not affected either by increased use or deposits of mud or debris from the work site. The gateman will be responsible for contacting the supervisor should the provisions in place prevent this become insufficient. The gateman will be required to wear highway compliant high visibility clothing and a detailed risk assessment and task briefing will be developed for this operation.

All other operatives carrying out work activities on or immediately adjacent to the site will:

- Take reasonable care for their safety and that of those around them.
- Follow the applicable requirements of this CTMP.
- Prior to proceeding with any work, contact their supervisor or a Site Management Team member for clarification of any requirement applicable under this CTMP, if they are uncertain of what is required or how it is implemented.
- Wear high visibility vest or shirt where required under this CTMP.
- Always obey the applicable road rules for pedestrians and drivers.
- Always follow safe driving practices, including using the correct thoroughfare in accordance with any posted speed limits and safety requirements in a manner that does not put at risk their safety or that of any other persons (e.g. passengers, fellow workers or members of the public).
- Parking will be within the site works area. All parking will be as per parking signs and rules and avoid creating any form of safety hazard when parking or parked within the site.

4. Site Entry, Exit and Manoeuvring Procedures

4.1 Access Control

A gateman / vehicle marshal will be appointed to control access to and from the site, this operative will be responsible for sighting oncoming traffic beyond any obstructions in visibility and ensuring oncoming traffic has slowed and is aware of any egressing vehicle. The operative will also be responsible for ensuring that the public do not cross the bus station lanes and they stick to temporary footpaths.

The gateman will be required to wear highway compliant high visibility clothing and a detailed risk assessment and task briefing will be developed for this operation.

All deliveries of plant, materials and structures to the compound will be booked in/out via the logistics management system.

4.2 Visibility Splays

The visibility splays are sufficient for the speed of the road. Hedge lines will be kept trimmed / flailed back where required to ensure that the visibility splays can be achieved.

A dedicated Site Security Guard will be in control of the site access security to ensure no members of the public can enter the site. A detailed Risk Assessment and Task Briefing sheet detailing these works will be developed by the contractor to ensure the safety of all site personal including the gateman.

4.3 Vehicle Manoeuvring

The access points will be designed to ensure that no vehicle entering the site is restricted in pulling fully off the public highway. An allowance within the works site will be made for all vehicles to park, unload and manoeuvre so that all egressing vehicles are able to pull out of the access road in a forward direction. There will be no reversing onto the local road.

4.4 Advanced Warning Signage

During the works the access will be used to a slightly higher intensity to what the local highway users are used to. To ensure that public highway users are aware of the site access and slowdown in advanced of the access signage will be placed warning of the access point. Signage consisting of 'SLOW DOWN' and 'SITE ACCESS AHEAD' will be set where appropriate.

4.5 Highway Debris

The gateman will also be responsible for ensuring that the condition of the access track and public highway is not affected either by increased use or deposits of mud or debris from the work site. To prevent mud and debris accumulating out on the local road the access point / track will be stoned / repaired / reinstated in any areas that pot-holes have formed or areas that are not currently stoned, in addition a parking area will be formed with hard standing. This will ensure that the daily vehicles entering and exiting site do not access onto loose ground where mud and debris can accumulate on the vehicle and be transported off site and onto the road.

Plant and vehicles that need to work within site and are likely to accumulate mud will not exit the site until they have been washed down on site with wheel wash and inspected to ensure the wheels and wheel arches are clean and clear of debris. In addition, there will be a road sweep on call should it be required to clean and maintain the road.

5. Construction Access Routes

Construction traffic will comprise both Heavy Goods Vehicles (HGVs) (over 7.5 Tonne) and Light Goods Vehicles (LGVs) (under 7.5 Tonne), carrying materials and staff to and from the proposed compound construction areas. The permitted construction access routes that will be utilised are illustrated in Appendix A.

In accordance with DfT principles for the selection of Primary Route Networks, the Construction Access Routes have considered:

- the directness of the potential routes
- the standard and capacity of the potential routes
- the environmental surroundings of each highway

During the assessment and selection of the proposed permitted construction access routes, a number of factors have been considered for example, but not limited to height and weight restrictions, road layout and visibility constraints.

In addition to the above considerations, the impact that other committed developments will have on the local highway network and how the construction traffic for the bus station will interact with these have been considered.

Construction Access Routes avoid rural villages and passing residential frontages. At roads and junctions where physical constraints mean that considerable works would be required to provide clearance for HGVs, these routes have been prohibited.

Construction Access Routes to the site and compound have been proposed, which are designated roads that HGVs and LGVs can use to access construction compounds. It is recognised that specifying car trips along designated routes is not practical and cannot be enforced, although the workforce will be encouraged to use designated routes.

6. Parking

All parking for compound staff and operatives will be on site only. At no time will any personnel, including contractors and vendors, be authorised to park outside of the site boundaries unless prior permission has been granted by either the relevant landowner or the local authority.

This will be managed by establishing a clearly identified temporary car parking area at the very beginning of the compound construction start.

Further efforts will be made to encourage and provide alternative collective methods of transport to staff and operatives from local transport hubs such as nearest train stations wherever practicable.

7. Standards

The Dewsbury Bus Station refurbishment aims to follow the principles of CEEQUAL, which is the evidence-based sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and public realm projects.

The minimum standard of vehicles that any vendor shall use to supply this project is membership and certification within the FORS scheme.

All Site Security Staff shall be SIA licenced officers.

All construction staff shall hold an appropriate CSCS or PTS certification.

All Traffic Management personnel shall be LANTRA qualified.

8. Vehicle Types Used for Construction

HGVs are any vehicle over 7.5t. For the movement of bulk or large materials, these are likely to be predominantly 40t 4-axle wagons delivering granular materials and concrete as shown in Figure 8-1, but also include some other HGVs such as 40ft articulated lorries, low loaders delivering plant and extendable trailers delivering structural steel elements.

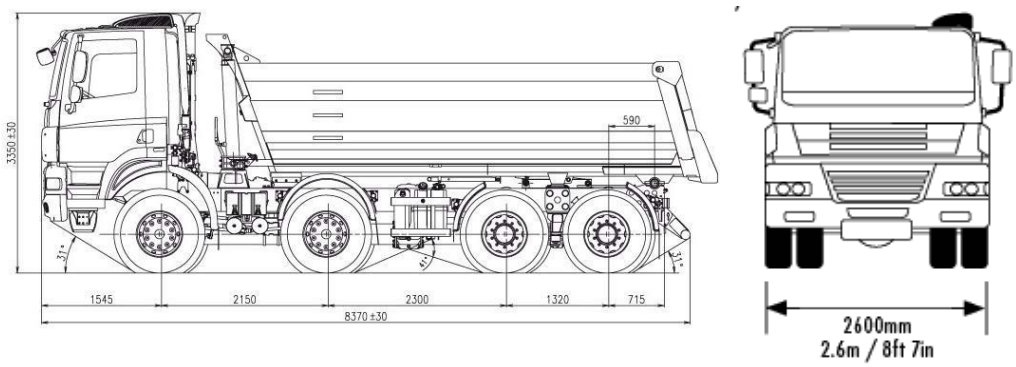


Figure 8-1: Example of HGV that could be used as part of the construction of the bus station.

LGVs are any vehicle up to 7.5t excluding cars. They will be used to move small plant and materials around site as well as minibuses to move site operatives. These movements will predominantly be 3.5t and 5t dropside rigid pickups with crew cabs, as shown in Figure 8-2.

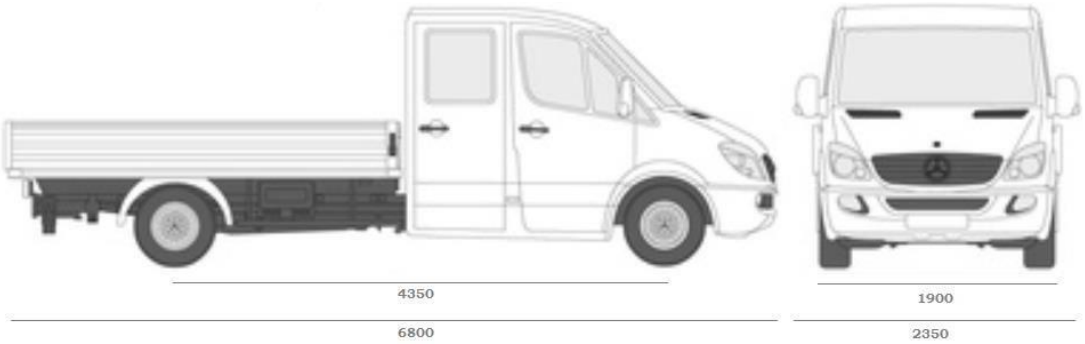


Figure 8-2: Example of LGV that could be used as part of the construction of the bus station.

Other vehicles that will be used are 50T-70T mobile cranes which vary in size but are generally suited for most common roads.

9. Traffic Management

9.1 Traffic Management Principles

This CTMP does not seek to address any traffic management required as these are to be confirmed at a later date by the contractor and this information will be provided in a more detailed CTMP.

The contractor will employ a professional and specialist Traffic Management contractor to ensure the highest standards are maintained. The guiding principles for traffic management activities is first the health and safety of all affected and secondly the minimisation of inconvenience to all affected.

Basic communication requirements of CTMPs will be to provide:

- Advanced warning of a change in traffic conditions in time for the users to adjust.
- Information and Guidance as to where to go to safely negotiate the work site. That is delineation of travel path and its separation from the work site and any necessary barricading.

Typical signage and barriers used in temporary traffic management scopes include the following methods. It may also be required to use temporary traffic lights or a temporary reduction in the normal speed limit.

Pedestrian Barrier	Heras Fencing	Chapter 8 Barrier	VMS Advanced Warning Sign
			
Road Closed Sign	**Footpath Closed Sign**	**Footpath Diversion Sign**	**Traffic Marshall/Banksman**
			

Figure 9-1: Typical signage and barriers to be used in temporary traffic management scopes.

9.2 Road Control Principles

Figure 9-2 below illustrates the proposed temporary access routes to the bus station. The Senior Construction Manager/Relevant Foreman shall ensure that all vehicles accessing the bus station follow the appropriate routes and the appropriate traffic management are applied where required. The proposed temporary access routes will be reviewed by the appointed contractors and changes will occur to the proposed routes throughout the phases of the construction. The finalised routes for buses and construction traffic will be confirmed by the contractor, in advance of construction, following liaison with all parties involved.

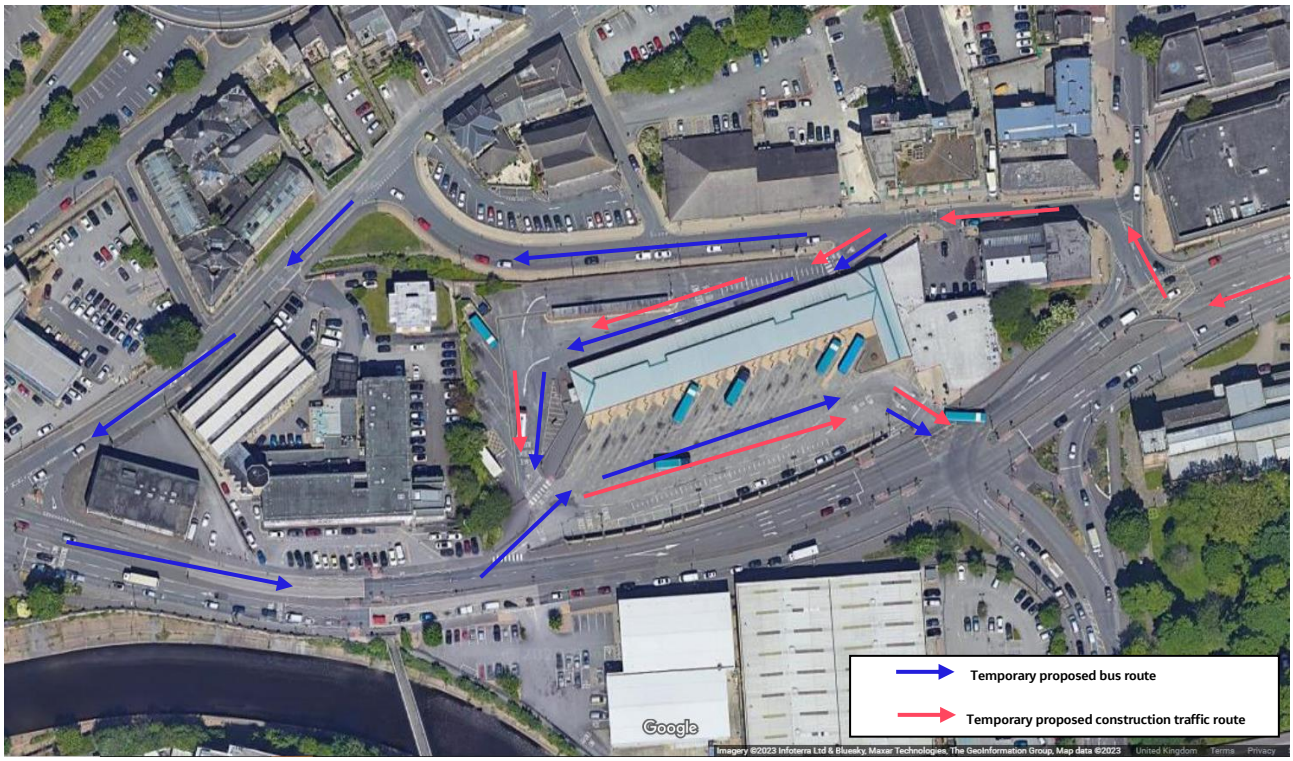


Figure 9-2: The temporary access routes to the bus station.

If the roadway has to be partially closed, an appropriate taper should be marked in the transition (taper) area and wherever possible should be located so that its full length is visible to approaching traffic.

Traffic cones or bollards are used after the appropriate advance signs on the approach side of the hazard, forming a taper from the kerb to the outer limits of the clearance area. Table 9-1 below provides a guide to the recommended taper length for two-lane, two-way roads to be closed for various approach speeds based on a lane width of 3.5m.

Approx. Approach Speed	Traffic Control at Beginning of Taper	Diverge Taper	Merge Taper
Less than 60km/h **	15 m	15 m	30 m
60 to 80 km/h	30 m	70 m	140 m
81 to 100 km/h	30 m	90 m	180 m
More than 100 km/h	30 m	100 m	200 m
** - Typically, a low speed residential or commercial street			

Table 9-1: Road control Taper Lengths

The distances in the columns in Table 9-1 are applied as follows:

- Traffic control at beginning of taper: Applicable at a location where there is a traffic controller just prior to a diverge eg. Into a single lane that is being controlled by a controller
- Diverge taper: Applicable where traffic is simply required to shift laterally without conflict with another stream of traffic.
- Merge taper: Applicable where one lane of traffic is required to merge onto another lane of traffic.

9.3 Delineation at Work Site – Travel Paths

Delineation of the Travel Path

Suitable, adequate and appropriate delineation of the travel path is perhaps the greatest need of road users. To give satisfactory guidance for road users, traffic control measures shall provide drivers with an advance view of the site, indicating the general direction of the trafficable path and guiding the driver through or past the works. Depending on the circumstances, movement of traffic in connection with a work site shall be achieved in one of the following ways:

- Through the work area.
- Past the work the area.
- Around the work area by a detour on an existing road.

Further detailed information will be provided regarding the movement of traffic and pedestrians in connection with the site once a contractor has been appointed and construction timescales have been confirmed.

Through the work area

Unless there is no practicable alternative, passage through a work area shall only be considered on lightly trafficked roads and where traffic and the work can be satisfactorily controlled so that the risk any person on site and traffic is kept as low as possible. Only authorised persons will be able to travel through the work area.

Past the Work Area

Where the traffic is conducted past the work area there needs to be a minimum distance of 1.2m clearance between the edge of the work area and the edge of the travel path as a no-go buffer zone. This clearance shall be defined on both sides of the travel path to avoid inadvertent intrusion by any persons and shall be provided by the use of containment fences such as barrier tapes, mesh fences, interconnected lightweight units or bollard fences. Past the work area is the most likely delineation of the travel path and careful consideration will be given to the general public as the bus station will continue to be operational throughout the construction phases.

Around the work area

When it is not practical to allow traffic through or past the work area it may be catered for by means of a detour using existing roads. This practice, in general, would require the advice from the relevant road authority. Considering the site location and current usage of the site it is unlikely that traffic will be required to be diverted around the work area.

10. Traffic Signage and Control

10.1 Principles of Signing

The Contractor shall ensure no matter how brief the work site is occupied careful consideration is given to signing of the site to:

- Provide advance warnings to drivers, pedestrians and all non-motorised users of changes in the surface of the roadway/footpath and/or in the changed traffic conditions and that personnel and/or plant are engaged in work.
- Adequately instruct and guide traffic, pedestrians and non-motorised users safely through, past or around the work site.
- Provide separation of the travel path and the works area.

The Contractor shall ensure the following important principles are observed regarding traffic management signage:

- Signs and devices comply with those listed in Traffic Signs Manual Chapter 8 parts 1 and 2.
- Signs and devices will be erected and displayed before work commences.
- On approaches to the work area signs are erected in the following sequence and then removed in the reverse order.
- Advance warning signs.
- Other warning signs.
- Instruction signs
- Signs are placed within the driver's and pedestrian's line of sight and at the same time not obscure other traffic devices from the driver's and pedestrian's line of sight.
- All signs and devices are placed in the most advantageous positions having regard for the location and nature of the hazard, and the warning being conveyed, to provide the maximum visual impact for approaching traffic and pedestrians. Such signs and devices shall have an adequate clear view in advance of them (minimum 50m for 60 km/h, minimum 100m for 100 km/h).
- Signs and devices are placed in a manner and position, so they are not obscured from view by vegetation or parked vehicles.
- Signs and devices are placed in a manner and position so as not to become a possible hazard to workers, pedestrians or vehicles (e.g. divert traffic into an undesirable path).
- Signs and devices shall be regularly checked for effectiveness and maintained in a satisfactory condition.
- Signs and devices are selected and placed in a manner so as not to require a driver to disobey a law unless so directed by an authorised officer such as a police officer.
- Permanent signs which conflict with the signs required for the temporary work situation are covered or removed.
- Signs and devices are removed from the site when practical once the hazard ceases to exist. This not only restores the road/footpath to normal but is also an essential part of maintaining the credibility of the signs.

10.2 Erection and Location of Signs

The Contractor shall ensure:

- All road signs are used with approved stands or erected on posts set into the ground, where permitted by the relevant authorities.

- All signs are placed in the most advantageous position, having regard for the nature of the hazard and the warning being conveyed, to provide the maximum visual impact for approaching drivers and pedestrians.

Where signs are erected on posts set into the ground the following applies:

- On un-kerbed roads in rural areas the sign should be at least 600 mm clear of the outer edge of the road shoulder, line of guide posts or face of the guard measured towards the property boundary. The clearance should not be less than 1m nor more than 5m from the edge of the travelled way and the height of the sign should be 1.5m above the nearest edge of the travelled path.

- On kerbed roads signs should be located back from the face of the kerb not less than 300 mm no more than 1.0m. On urban roads that are not kerbed the distances given for rural areas above should apply. The height of the sign should be about 2.2m above the kerb or footpath to reduce the interference from parked cars.

- Where the signs are erected on temporary stands for short term work they should be erected on the road shoulder in un-kerbed areas no closer than 600 mm to the running lane. In kerbed areas the provisions outlined above for post-mounted signs shall be followed.

10.3 Advance and Intermediate Advance Warning Signs

Advance and Intermediate Advance Warning Signs alert approaching vehicles of changed road conditions, so road users may negotiate any travel path at an acceptable level of risk.

The Advance Warning Signs are limited to:

- Workers Ahead
- Roadwork Ahead
- Site Access Ahead

Intermediate Advance Warning Signs are used where, in addition to a general warning of the onset of the roadworks, a warning is needed either of a specific action of a driver or of the condition of the road.

The intermediate advance warning signs are:

- Diversion Ahead
- Prepare to Stop

The minimum distance for positioning of the advance warning signs shall be as determined in Chapter 11 Traffic Signs Manual and shown on the Traffic Management drawing produced for the work. The distance shall be measured from the sign position to the beginning of the taper area or the beginning of the diversion associated with the work site.

Advance Warning signs for vehicular traffic are not required in the following situations:

- Where work is sufficiently remote from the roadway that no action or extra vigilance is required of a driver other than would be normally required on that section of road.
- Where approach speeds are so low that no devices are needed to give advance warning i.e. signs and devices can be seen in plenty of time for drivers to take necessary action.

11. Abnormal Loads

For the purposes of construction, no abnormal loads are currently foreseen. Should detailed design of the compounds prove otherwise, these will be subject to movement orders. Table 11-1 sets out the requirements for a movement order. Where a movement order is required that conflicts with the Construction Access Routes, the movement order will take precedence. Abnormal loads will generally be routed overnight to minimise conflict with other road users and in addition an escort vehicle will travel ahead of the load to hold oncoming traffic at suitable passing points.

Table 11-1: Movement Order Requirements

Limitation	Police Notification	Road and Bridge Authority Notification	Attendants Required (STGO)	Escorts Required (EWR)
Gross weight exceeding 44000kg but not exceeding 80000kg	No	Yes – 2 clear days notice	No	No
Gross weigh exceeding 80000kg	Yes – 2 clear days notice	Yes – 5 clear days notice	No	No
Length of vehicle including any forward or rearward projection exceeds 18.75m	Yes – 2 clear days notice	No – unless other Limitation applies	Yes	Yes
Length of any projection exceeds; forward 2m or rearward 3.5m	Yes – 2 clear days notice	No – unless other Limitation applies	Yes	Yes
Vehicle with load width of 3m or less, but width of load projecting at one side exceeds 0.305m	Yes – 2 clear days notice	No – unless other Limitation applies	No	No
Vehicle with load width exceeding 3m, including any projections	Yes – 2 clear days notice	No – unless other Limitation applies	No	Yes
Width exceeds 3.5m including any projection	Yes – 2 clear days notice	No – unless other Limitation applies	Yes	Yes

12. Logistics Management Specifics

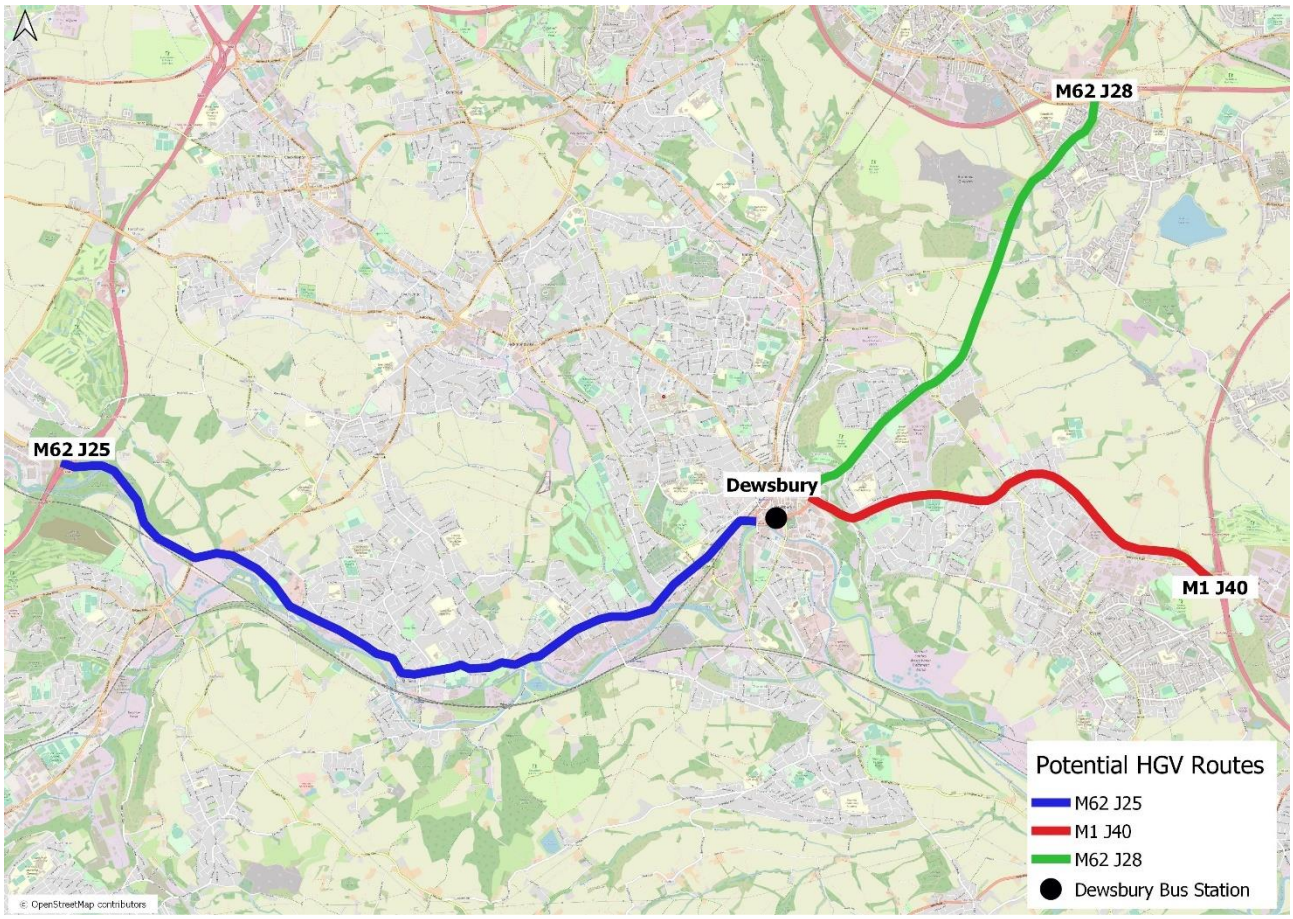
It is expected that all logistics for compound construction and subsequent operations will be scheduled, routed and controlled. The contractor may look to implement a logistics management system such as Voyage Control. This will allow for the precise routing of individual delivery loads and vehicles, clear time slot and prioritisation control, clear measurement of vendor compliance and performance and identification of source and destination of individual loads.

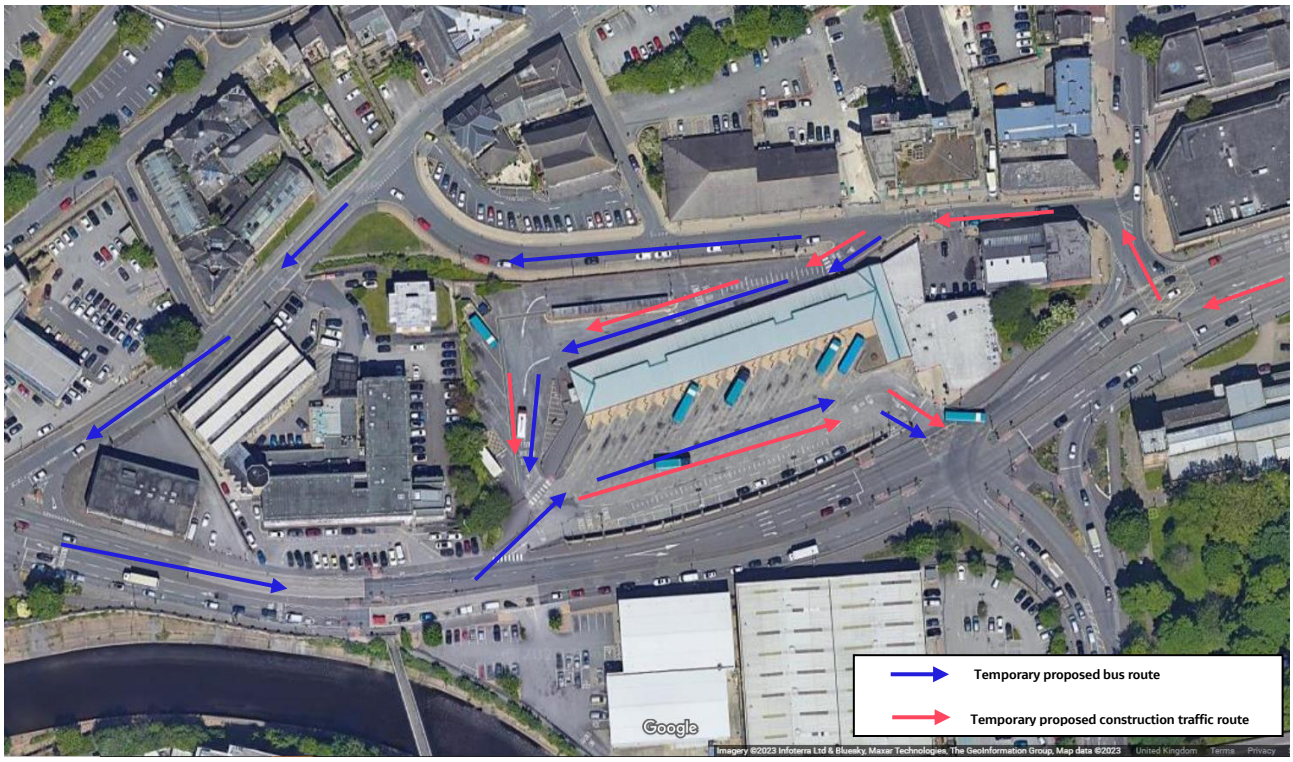
The benefits of using such a system are the ability to respond rapidly to queries relating to:

- Routing
- Punctuality
- Sustainability performance
- Damage or complaints by the public due to the contractor vehicle behaviour
- Deconfliction with other works in the same area
- Precise control of when and where individual loads will arrive with the associated ability to minimise and eliminate stacking of vehicles on the highway.
- Maintenance of standards

Appendix A. Construction Access Routes

The following map illustrates the permitted routes for all vehicles, staff and operatives to access the site. The main construction works as well as the compound construction will take place on site at Dewsbury Bus Station. The temporary proposed routes for buses and construction traffic will change throughout the phases of construction, however the indicative routes have been displayed in the Figure below.




Temporary proposed bus route
Temporary proposed construction traffic route
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Appendix B. Planned Traffic Volume for Construction

The table below describes the predicted number of construction vehicles expected during the construction. It does not reflect future flows of traffic, which are described in detail within Transport Statement.

Table 12-1: Daily trip generation for construction (two-way vehicle trips)

Vehicle Type	One-way Movements		Two-way Movements	
	Per Day	Per Week	Per Day	Per Week
HGV	3	15	6	30
LGV	7	35	14	70
Total	**10**	**50**	**20**	**100**

Appendix C. Bus Disruption Plan

C.1 Construction Phases

The existing bus station currently consists of 16 bus stands, two drop off locations for buses, a coach stand island, four layover stands, a stand for ambulances only and a number of spaces for staff/visitor car parking. The construction will be completed in phases over a period of 15 months. There are five phases in total and the impact of each phase has been summarised below:

- Phase 1 – This phase consists of the enabling works. Bus stands have been relocated and the maximum number of bus stands during this phase is 12. Pedestrian access to the bus stands will be diverted around the compound and construction of the main concourse.
- Phase 2 – This phase consists of removal and construction to the main concourse. Bus stands will be located in the same location as they are in Phase 1. Pedestrian access to the bus stands will be diverted around the compound and construction of the main concourse.
- Phase 3 – This phase consists of carrying out works to the remainder of the main concourse. Temporary bus stands 1-5 are located in the same location as previous phases. Stands 6-12 will be relocated to the east. Pedestrian access to the bus stands through the main concourse.
- Phase 4a – Night works are proposed to repair pavement defects within the western stands area. Temporary bus stands are located in the same location as in Phase 3. Pedestrian access to the bus stands is through the main concourse.
- Phase 4b – Repairs of pavement defects within the eastern stands area. Temporary bus stands 1-5 are located in the same location and stands 6-12 are located within the western area of the bus station. Access to bus stands is through the main concourse entrance.
- Phase 4c – Repairs of pavement defects of stands in the middle of the bay. Temporary bus stands are located at either end of the bay of stands. The maximum number of stands during this phase is 12. Access to bus stands is through the main concourse entrance.
- Phase 4d - Repairs of pavement defects of stands in the middle of the bay. Temporary bus stands are located at either end of the bay of stands and the total number of stands during this phase is 12. Access to bus stands is through the main concourse entrance.
- Phase 4e – Both the southern entrance and exit will be closed. Night work has been suggested for this phase. There will be 20 bus stands during this phase.
- Phase 4f – The northern entrance will be closed (if permitted closed overnight) and temporary stands 1-5 will be removed. Pedestrian access to the bus stands is through the main concourse. All stands 1-15 will be available in the main bay of stands. Buses will need to enter the bus station via the south east entrance.
- Phase 5 – This phase includes day closures of areas in the south and north east of the bus station. The bus station can be fully functional whilst these works are ongoing. There will be 19 stands which are operational during this phase and pedestrians can access the site through all entrances.

C.2 Disruption to buses

The bus station will continue to be operational throughout the various phases of construction and disruption to buses and the public will vary throughout. Consideration has been given to the timings of works including carrying out work throughout the night to ensure disruption is kept to a minimum. The following will be taken into consideration and appropriate actions will be undertaken to mitigate the impact:

- Bus services will be re-timetabled and buses will be reallocated stands throughout the phases. The contractor will be in close liaison with the public transport operators and the local authorities.
- General public will be informed in advance through a range of communication channels so they are aware of the changes to the bus station including access to bus stands, changes to the timetable of services and changes to the stand in which the bus services will be running from.
- The best routing for all vehicles accessing the bus station will be considered to reduce interference and are likely to change throughout the construction phases as different sections of the bus station will be closed.
- Bus layover bays, resting locations and welfare facilities for bus drivers will be considered and reallocated. These will be considered in liaison with the public transport operators.