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YTL ARENA COMPLEX

Framework Concept of Operations Report

21/01/2020



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1. INTRODUCTION

1.1 Introduction

1.1.1 The Framework Concept of Operations Report (ConOps) is a statement of YTL Development's commitment to designing and operating the venue in accordance with the parameters agreed with the Bristol City Council, South Gloucestershire Council and other relevant stakeholders. The ConOps establishes a concept of operations for the YTL Arena Complex and the local area that has been discussed with the key local stakeholders and forms the basis for how YTL Arena Complex will be operated. The YTL Arena Complex comprises of four different planning applications, as follows:

- Application Site A – Arena Complex: A full planning permission that seeks to demolish buildings within the vicinity of the Brabazon Hangars. The site will be redeveloped to comprise of a music venue, leisure, food retail, non-food retail, training centre and office units.
- Application Site B – West Way: A planning application comprising of highway works at the junction of West Way and Charlton Road to the west of the Arena planning application. These works will improve the junction and provide sufficient capacity for the servicing and back-of-house site management at the Arena development.
- Application Site C – Temporary Car Park: A planning application for the provision of an area on the former Filton Airfield with sufficient capacity to accommodate up to 2,000 car parking spaces. The permission will lapse after 10 years following approval.
- Application Site D – Bridge: A planning application for the erection of a pedestrian bridge to connect the ground level of the Airfield development over the railway line with the northern elevation of the Arena (Central Hangar) building.

1.1.2 This ConOps relates to Applications A and C.

1.2 Project and Site Descriptions

SITE DESCRIPTION

1.2.1 The YTL Arena Complex site is located within the City of Bristol, with the rail line adjacent to the Arena marking the boundary of Bristol City and South Gloucestershire. The site is bounded to the North by the 'Henbury Spur' rail line; to the south by the Filton Golf Club; to the West is a private access road; and to the East is Airbus occupied land.

1.2.2 The YTL Arena Complex site consists of three aircraft hangars, all currently sub-let, the western hangar currently in use for manufacture and distribution. The two other hangars are used for storage of artefacts by the nearby aerospace museum surrounding ancillary buildings are vacant.

1.2.3 The now unused Filton Airfield is located to the north of the rail line, which is the site of a consented mixed-use masterplan, the first phases of which are currently under construction. It is also the site of the proposed temporary car parking in Application C and the proposed permanent car parking solution. Hayes Way runs in an east to west direction to the north of

Filton Airfield and connects the A38 Gloucester Road in the east to the M5 J17 in the west, via Cribbs Causeway.

TRANSPORT ACCESS

- 1.2.4 The main access to the Temporary Car Parking site is via A38 Gloucester Road North, which is linked to both the M4 and M5 to the north and Bristol City Centre to the south.
- 1.2.5 On the western side of the A38, a shared pedestrian/cycle way is provided, while on the eastern side a pedestrian footway is provided. The cycleway is provided from the junction of the A38/Filton Avenue in the south to the B4057 in the north.
- 1.2.6 There is currently limited access to public transport to the YTL Arena Complex site as it is currently only accessible through private Airbus land or via the private access road from Charlton Road to the west. Bus stops providing services to the north and south are located on the A38. These bus stops provide eight bus services in each direction.

1.3 Purpose of the Concept of Operations

- 1.3.1 The purpose of this ConOps is to set out the characteristics of the venue, and to explain the indicative proposed management and operational measures that will be implemented to deliver a world class experience for all visitors and staff whilst minimising the impacts on the surrounding residential and business areas, and transport infrastructure.
- 1.3.2 The crowd management and local transport infrastructure management considerations relating to the operation of the YTL Arena Complex on event days and non-event days have been identified. These relate to both the YTL Arena Complex and Temporary Car Parking Applications. This document outlines strategies that ensure the safe and effective operation of the venue within the local area.
- 1.3.3 The ConOps is a precursor to the Venue Operations Manual, which will be prepared prior to operation and will provide the thorough operational strategy for the venue, integrating:
 - Security strategy
 - Estate contingency plans
 - Safety and security staff handbook
 - Fire strategy
 - Estate evacuation strategy.
- 1.3.4 A framework for crowd management and control measures for when the venue is in operation have been provided in this document. The crowd management measures will likely need refining and will evolve prior to operation, while remaining in accordance with the principles outlined in this ConOps.

1.4 Framework Approach to Developing the ConOps

- 1.4.1 The ConOps establishes the most significant operating parameters for YTL Arena Complex. The ConOps refers to other documents which are included in the planning submission. Where relevant, details from these documents have been extracted or summarised in order to link them back to the commitments to operate the venue professionally and being mindful of the parameters agreed in the planning phase.
- 1.4.2 The ConOps will be developed into detailed, standalone documents, which will be secured as a planning condition of the YTL Arena Complex applications and provide the additional

detail that is not possible to know at this stage but will be need to be defined and agreed with the local authorities prior to the occupation of the development.

1.4.3 It is envisaged that the following detailed documents will be produced and will contain:

1. Detailed Car Park Management Plan
 - a. Car parking location, layout, queuing system and site access route
 - b. Shuttle bus, coach, taxi drop off/pick up, private car drop/pick up locations, layouts, queuing system and site access routes
 - c. Details of the main entrances and exits from the car park
 - d. How the dedicated metrobus lane will be accommodated and how buses will circulate on an event day
 - e. Security measures and fencing
 - f. Pedestrian and cycle routes through the car park
 - g. Parking management and enforcement strategy
 - h. Traffic management strategy within the car park

2. Detailed Cycle Parking Management Plan
 - a. Design and specific location of the cycle parking area/s
 - b. Route to the cycle parking
 - c. Management and maintenance regime of the cycle facilities
 - d. Usage monitoring measures

3. Park and Ride and Shuttle Operation Strategy
 - a. Complete list and description of the sites proposed to be used for Park and Ride
 - b. Process to agree car parking provision at each Park and Ride site
 - c. Booking and enforcement arrangements
 - d. Capacity and frequency of shuttle bus services
 - e. Routes from the Park and Ride and shuttle bus sites to the YTL Arena Complex
 - f. Designated locations within Bristol for the shuttle service pick up and drop off, including any traffic management requirements as part of this

2. OVERVIEW OF ACTIVITIES AT YTL ARENA COMPLEX

2.1 Likely Event Timings

- 2.1.1 It is anticipated that YTL Arena Complex will host a combination of matinee and evening shows.
- 2.1.2 Matinee shows are likely to begin at 14:00 and end by 16:00. Evening shows are likely to begin at 20:30 and end between 22:00 and 23:00. Matinee shows will end by 15:00 if there is an evening event also planned for the evening. The exact timings may vary.

2.2 Event Configurations and Capacities

- 2.2.1 YTL Arena Complex will have a maximum capacity of 17,000 for an event with standing on the stage floor. However, the majority of events will be at lower capacities than this. The forecast event schedule is presented within Table 2.1:

Table 2.1: Event Capacities

Event Type	Maximum Capacity	Year 1 Annual Frequency	Year 5 Annual Frequency	Expected Event Timings
Grade A Standing	17,000	7	13	Friday & Saturday Evenings
Grade A Seated	14,000	7	13	Weekday & weekend evenings
Grade B	10,000	33	65	Weekday & weekend evenings
Grade C	7,000	20	39	Weekday and weekend matinees & evenings
Total	-	65	130	-

2.3 Event Day Venue Operations

- 2.3.1 Event day operations will be covered extensively in the Venue Operations Manual. This will set out in detail how all the operating components in the venue interact to provide a safe, secure and welcoming environment for guests and staff, as well as linking the supporting policies, procedures, contingency plans and training regimes. This ConOps sets out the key deliverables and parameters of the event day operations.

3. VENUE TRANSPORTATION

3.1 Transport Assessment

- 3.1.1 A comprehensive Transport Assessment (TA) has been prepared and submitted as part of the planning application to assess the impact of the YTL Arena Complex on the local transport network. It includes the details of the Temporary Car Parking proposals and also the highway design for West Way (Application B).
- 3.1.2 The TA details expected demand on all transport modes in all operating scenarios, assessing the likely impact and setting out the primary mitigation measures proposed for those impacts. The TA and ConOps documents are closely related, with many of the management measures set out in this document designed to mitigate impacts assessed in the TA.
- 3.1.3 As well as a mode by mode transport strategy, the TA contains the following assessment of transport impacts:
- Assessment of impacts on the wider transport network of arriving and departing guests.
 - Assessment of impacts on the local highway network of vehicles related to the development, including local junctions.

3.2 Site Access

- 3.2.1 West Gate is the primary vehicle access point to the YTL Arena Complex (excluding public vehicle access, as public car parking will be on the site of the Temporary Car Parking). This provides access to guest blue badge car parking, guest VIP drop off, staff car parking and the servicing yard. It also maintains the existing access for Airbus vehicles accessing the Airbus site.
- 3.2.2 Access for YTL traffic will only be possible from the north of the West Gate junction. Access from the south will be controlled through signage and enforcement.
- 3.2.3 This route can also provide access for staff travelling via foot or bicycle.
- 3.2.4 HGVs arriving for event set up would access the site via San Andreas Roundabout. All others will use Brabazon Roundabout or other site accesses.
- 3.2.5 San Andreas Roundabout will see up to six Metrobus services per hour, equivalent to one bus every ten minutes. Therefore, there is a significant amount of spare capacity on this link, which would be more than sufficient accommodate the ten vehicles associated with event set up without causing any delay to the Metrobus

3.3 Deliveries and Servicing

- 3.3.1 The objectives of the forecast delivery and servicing strategy are to minimise the impact of delivery and servicing vehicle movements to the surrounding area, through planning, sustainable procurement practices, and a reduction in waste generation. The forecast delivery and servicing strategy seeks to achieve the following benefits:
- Reduce the number of deliveries through planning and scheduling of goods and suppliers

- Encourage use of sustainable freight modes or greener vehicles
- Good communication between all parties involved in the servicing of the development (suppliers, staff, the local authority and the facilities management team).

3.3.2 The Venue Operations Manual (VOM) will provide more detail on delivery and servicing operations, including the maintenance needs of the venue.

3.4 Staff Travel Plan

3.4.1 The Staff Travel Plan (STP), submitted as part of this application, sets out aims, objectives, strategy and action plans. The STP is an effective tool in minimising staff vehicle trips by setting out a framework to encourage walking and cycling. The STP sets out the key actions for staff, which will be reinforced by YTL venue management, to achieve mode share targets.

3.5 Emergency Vehicles

3.5.1 Emergency vehicles may access from the main site access at West Gate, and subject to appropriate agreement and management through the Airbus site to the east.

3.5.2 A clear external vehicle route surrounding the YTL Arena Complex has been provided to allow for emergency vehicle access to all parts of the venue.

3.5.3 Further detail of plans for emergency scenarios will be provided within the VOM.

3.6 On-Site Car Parking Management

3.6.1 Car parking will be provided for up to 50 staff members, located to the rear of the hangars. 10 of these spaces will have access to an electric vehicle charging point.

3.6.2 Controlled Parking Zones (CPZs) would be in place to ensure that staff will not park on-street.

3.6.3 A Framework Car Park Management Plan has been submitted as part of the planning application which provides details on the car parks on site, such as hours of operation, parking layouts and enforcement measures. This will be refined into a Detailed Car Park Management Plan, expected to be a planning condition associated with this application and agreed prior to the operation of the venue.

3.7 Staff Cycle Parking Facilities

3.7.1 123 cycle parking spaces will be provided for staff within the YTL Arena Complex. These will be two-tier cycle parking that will be secure, covered spaces with associated lockers and changing facilities.

3.7.2 All staff will also have access to the publicly accessible cycle parking spaces located at the foot of the pedestrian bridge.

4. GUEST USE OF TRANSPORT

4.1 Introduction

- 4.1.1 The Transport Assessment submitted as part of the planning application for the development covers guest use of transport in detail.
- 4.1.2 The following section extracts some key points most relevant to the on-going management of the venue in relation to guest transport. It focuses on the transport mode share, as this determines the guest ingress and egress patterns that inform the operational planning for the external spaces around the venue and the interfaces with transport connections.
- 4.1.3 This data will drive the relevant contents of the VOM as well as the bespoke Event Management Plans for specific events.

4.2 Mode Share

- 4.2.1 Different mode shares are proposed depending on the event type. These mode shares have been developed based on the mode shares observed during the Massive Attack concert and amended based on event specific factors.
- 4.2.2 For the purpose of this report, the mode share that has been used as a comparison is the mode share derived for Scenario 4, 2022 Do Something as this scenario is the most preferable mode share for the site. Mode shares for other scenarios has been included in the TA.
- 4.2.3 Additionally, a comparison study of the mode shares at other venues has been undertaken. Table 4.1 shows the mode share observed at Massive Attack and other venues, as well as the expected maximum capacity event mode share at YTL Arena Complex.

Table 4.1: Mode Share by Event Type

Event Type	Car	Coach	Rail	Bus	Shuttle	Taxi/PHV	Walk/Cycle	Other	Total
Massive Attack	57%	12%	-	-	25%	-	6%	-	100%
Ashton Gate, Bristol	61.7%	-	6.9%	22.7%	-	1.2%	7.5%	-	100%
YTL Arena (Grade A Event)	65%	3%	3%	3%	16%	5%	5%	-	100%
YTL Arena (Grade C Event)	80%	3%	5%	3%	-	5%	4%	-	100%
London Stadium	12%	1%	78%	2%	-	3%	4%	-	100%
First Direct Arena, Leeds	80%	2%	5%	4%	-	6%	3%	-	100%
O2 Arena, London	33%	11%	43%	1%	-	3%	0%	10%	100%
Motorpoint Arena, Nottingham	74%	-	11%	4%	-	7%	4%	-	100%

- 4.2.4 The proposed mode share for YTL Arena Complex have been amended on the basis that both Metrobus and Rail services are planned to be running by opening year and use of those services should be allowed for at the committed levels (six buses and one train per hour).
- 4.2.5 The benchmark for delivery of shuttle services from the City Centre is the 3,500 people transported for both Massive Attack events. This equates to 20% of the maximum capacity of the YTL Arena Complex.

4.3 Guest Use of Rail Services

- 4.3.1 North Filton Station will be reopened as part of Phase 2 of the MetroWest project. The station will be located approximately 500m from the YTL Arena Complex.
- 4.3.2 It is expected that North Filton Station and the Henbury Spur line will be open in 2022, prior to the opening date of the YTL Arena Complex.
- 4.3.3 When opened, one train per hour will serve North Filton Station in each direction. It is expected that this will increase as the Filton Airfield masterplan and other CPNN developments are built out.
- 4.3.4 During an egress from the Arena, all spectators will be routed across the pedestrian bridge and into Brabazon Square. All spectators will access North Filton Station from the north side via the Station Square.
- 4.3.5 As a result of the expected demand, a queuing system will be implemented in Station Square that pulses crowds from the queue into the station in time to load each train. For further detail, refer to the External Crowd Modelling Report, which is an appendix to the TA.

4.4 Guest Car Parking

- 4.4.1 Guest car parking for the YTL Arena Complex will be provided across three separate locations, each with varying maximum possible capacities. These car parks are detailed within Table 4.2.

Table 4.2: Car Parking Provision

Car Park	Capacity
Multi-Storey Car Park	1,700
Blue Badge Car Park	170
Temporary Car Park	2,000

TEMPORARY CAR PARK

- 4.4.2 Car parking will initially be provided within a temporary car park located on the existing Filton Airfield Runway. This is the subject of a standalone planning application (Application C) submitted alongside this planning application, limited to 10 years. This seeks permission for 2,000 car parking spaces on this site.
- 4.4.3 This temporary car park would be provided for 10 years, or up until the MSCP is constructed. This is to ensure that there is no period where there is no car parking available, should construction of the MSCP be delayed.
- 4.4.4 The Planning Application C site boundary is of sufficient size to accommodate more than 2,000 cars, however this is only to allow for operational flexibility within the car park and it is expected that the maximum provision of 2,000 spaces will be secured through a planning condition.
- 4.4.5 This provision will allow for guest car parking for the YTL Arena Complex until such a time that a permanent car parking solution is provided. Event car parking in this area will require pre-booking to ensure that the 2,000 car parking spaces are not exceeded.
- 4.4.6 Access to this car park will be likely be via a combination of the new A38 junction, Combination Junction, Brabazon Roundabout and Concorde Roundabout.
- 4.4.7 YTL staff will manage the parking area and guide drivers where to park. Clear pedestrian routes will allow for the safe movement of guests from the car park to the YTL Arena Complex.

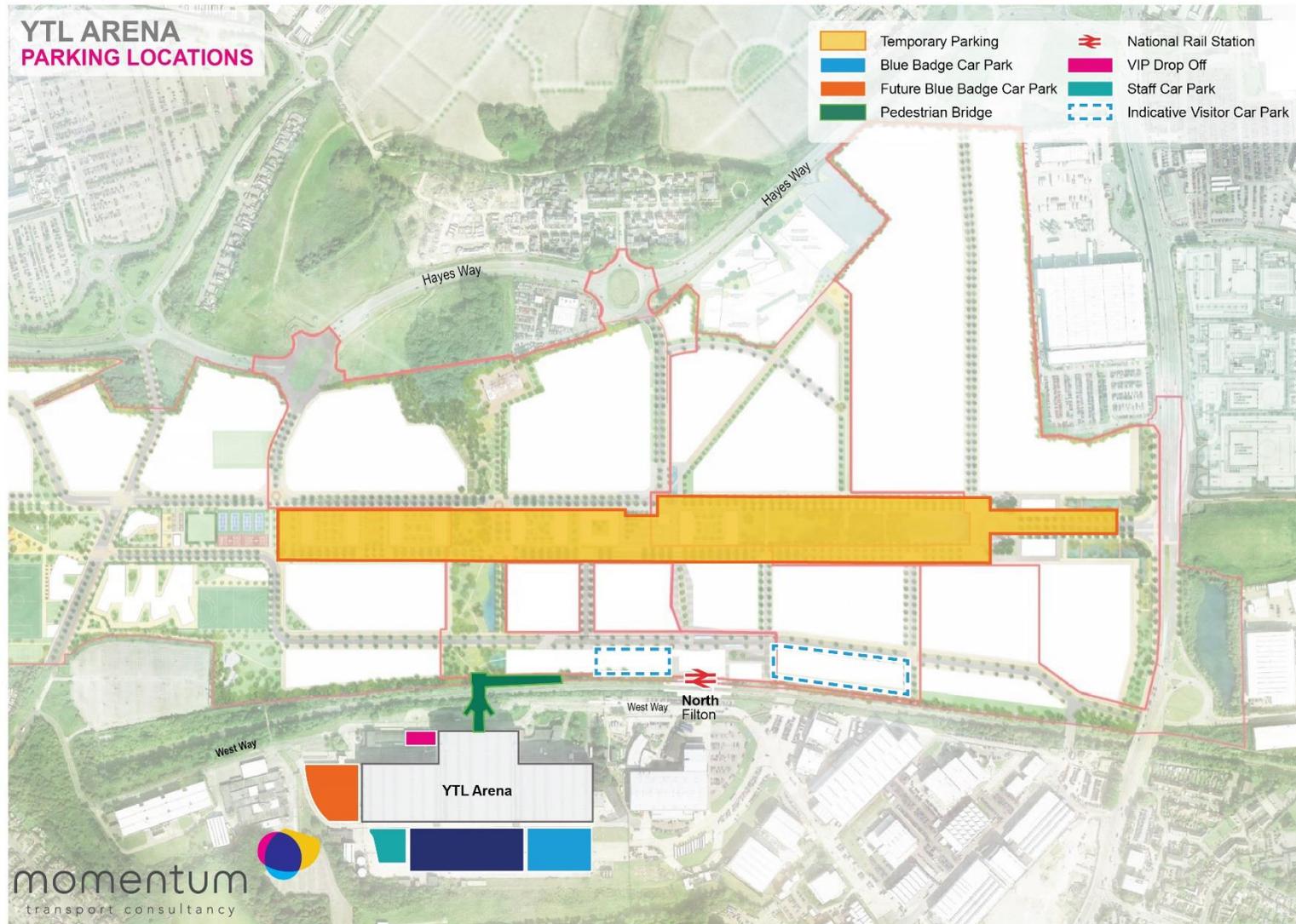
PERMANENT CAR PARK

- 4.4.8 As the Filton Airfield masterplan is developed, the space for temporary car parking will decrease, reducing the available provision. As this occurs, a permanent car parking solution will be developed to maintain the total provision of car parking. This will be in the form of a multi-storey car park with a maximum capacity of 1,700 car parking spaces. The decline in total spaces reflects the anticipated increase in public transport services over time.
- 4.4.9 It should be noted that the permanent and temporary car parks will not operate to their capacity concurrently and the total number of car parking spaces is expected to be capped via a planning condition.
- 4.4.10 Detailed designs and a detailed car park management plan will be provided as this car park is brought forward. It is intended that the car park management plan will be periodically

updated to reflect the anticipated reduction in temporary car parking spaces and provision of permanent car parking spaces during each phase of development.

- 4.4.11 The multi-storey car park will be designed to accommodate the unique demands of an event car park, for example providing additional exits to allow for the large number of vehicles departing the car park in a relatively short period of time.
- 4.4.12 Event car parking in this area will require guests to pre-book their space to ensure that the 1,700 car parking spaces are not exceeded. Advanced warning and enforcement measures will be in place to ensure that the car parking is reserved for YTL Arena Complex guests at event times.
- 4.4.13 Pre-booking will be communicated to those planning to use the car park on the day of an event both through the YTL Arena website and in person on entry to the car park. Cars accessing the car park yet they are not attending the event will be told that they need to relocate their car prior a specific time to avoid being penalised.
- 4.4.14 One in every five car parking spaces will have access to an electric vehicle charging point.
- 4.4.15 The car parks are located separately across the YTL Arena Complex site. Figure 4.1 presents their indicative locations.

Figure 4.1: Car Parking Locations



4.5 Guest Blue Badge Parking

- 4.5.1 A total of 170 Blue Badge spaces are to be provided, which equates to 10% of the total car parking provision for the YTL Arena Complex.
- 4.5.2 Blue Badge car parking spaces will also be provided within the multi-storey car park to accommodate the usage of the multi-storey car park for other elements of the masterplan, with 5% of the total number of spaces to be dedicated for Blue Badge.
- 4.5.3 The Blue Badge car park will be located to the rear of the East Hangar with access achieved via West Way.
- 4.5.4 As access to West Way is for authorised vehicles only, there will be a requirement to pre-book a Blue Badge car parking space prior to arriving to the site so that the vehicle details can be registered.
- 4.5.5 Due to the distance from the Blue Badge car park to the main entrance, it is planned to provide shuttles to transport people with mobility issues to and from the YTL Arena Complex.
- 4.5.6 There is an aspiration for the Blue Badge car park to be relocated to a site west of the West Hangar, which is subject to building ownership issues. This scheme would retain the 170 spaces, but they would be located closer to the YTL Arena Complex entrance, meaning a shuttle service would not be required.

4.6 Guest Cycle Parking

- 4.6.1 567 short stay cycle parking spaces are provided for guests, the majority of which will be located at the foot of the pedestrian bridge, north of the rail line. This allows guests to park their bicycle at this location and walk the final part of the journey to the YTL Arena Complex, ensuring that the main crowd flows are not obstructed by cycles. Lockers will be available for guests to enable the no bag policy enforced by at YTL Arena.
- 4.6.2 This provision exceeds the expected cycle demand and therefore allows for a potential growth in demand in the future and ensures that cycle parking provision is not a barrier to guests choosing this mode of transport.
- 4.6.3 These cycle parking spaces, and wider cycle routes, will be promoted as part of the spectator communication strategy.
- 4.6.4 The detail of these spaces and associated facilities will be provided within a Detailed Cycle Parking Management Plan, expected to be a planning condition associated with this application and agreed prior to the operation of the venue.

4.7 Coach Parking

- 4.7.1 Guest coach parking will be provided within the YTL Masterplan.
- 4.7.2 The coach parking will be located within the temporary car parking site until a permanent coach park is provided, envisaged to be on the ground floor of the multi-storey car park.
- 4.7.3 10 guest coach parking spaces will be provided.
- 4.7.4 Coach parking will be required to be pre-booked by the coach operator prior to the event and will not be permitted into the car park if they have not pre-booked. This will be clearly communicated in advance of events.

4.7.5 The detail of the coach parking layout, access and queuing arrangement will be provided within the Detailed Car Park Management Plan, expected to be a planning condition associated with this application and agreed prior to the operation of the venue.

4.8 Shuttle Bus Operation

4.8.1 A shuttle bus operation that transfers guests from the City Centre to the YTL Arena Complex will be provided for Grade A events. The specific location within the City Centre would be defined after agreement with BCC and relevant stakeholders.

4.8.2 This operation will be provided for both the ingress and egress period and will be advertised in advance each event.

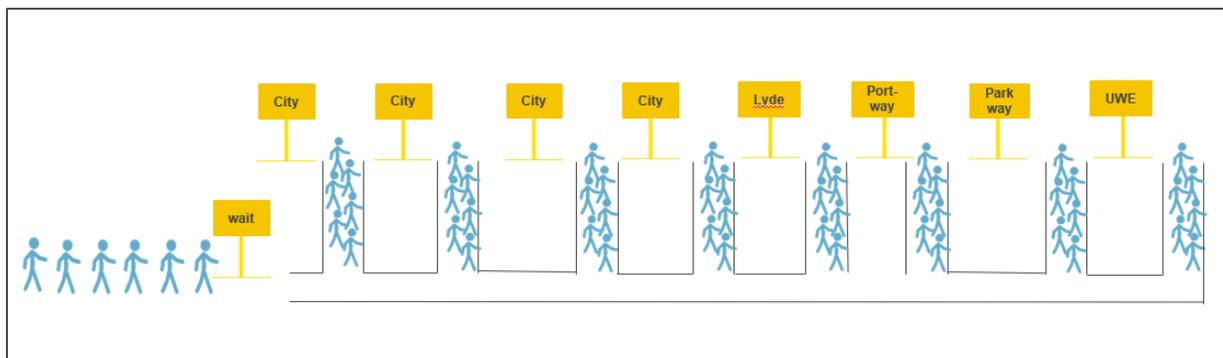
4.8.3 Shuttle buses to other locations within Bristol will be considered dependent on the demand for different pick up locations to assess if this would be viable.

4.8.4 Shuttle buses will drop off and pick up within the temporary car parking site until a permanent location is provided, envisaged to be on the ground floor of the multi-storey car park.

4.8.5 On egress, a queuing system will be in place to manage the loading of the shuttle buses. Multiple shuttle buses are envisaged to be loaded at any one time to reduce the clearance time. This operation will be managed by YTL staff. Once a shuttle bus is full, it will depart the site. This concept is shown in Figure 4.2.

4.8.6 The detail of this operation will be provided within a Detailed Park and Ride and Shuttle Strategy, expected to be a planning condition associated with this application and agreed prior to the operation of the venue.

Figure 4.2: Shuttle Bus Feeder Rank Operation



4.9 Park and Ride Operation

4.9.1 To reduce the impact on the highway network in the vicinity of the site, Park and Ride (P&R) sites will be utilised.

4.9.2 Potential P&R locations have been identified and listed below. These primarily include existing P&R sites, however discussions have also been held with private landowners of potential sites that may also be considered for use.

4.9.3 Each potential site is situated in a location that would be beneficial for access to the YTL Arena Complex i.e. close enough to run a shuttle bus operation to and from the YTL Arena Complex and also a short distance from the Strategic Road Network.

4.9.4 It should be noted that these locations are indicative at this stage and may change depending on future agreements with the relevant stakeholders.

4.9.5 These indicative P&R locations are outlined in Table 4.3 and shown in Figure 4.3.

Table 4.3: Indicative Park and Ride Locations

No.	Park and Ride Location	Total Car Parking Spaces	No. of Car Parking Spaces Possible for Use by YTL Arena Complex	Distance from the YTL Arena Complex
1.	The Mall Cribbs Causeway	7,000	500	1.8 miles
2.	Parkway Station	1,898	300*	2 miles
3.	Lyde Green Park and Ride	246	246	5.5 miles
4.	Portway Park and Ride	500	500	7 miles
5.	UWE	2,300	1,000	2 miles
6.	Proposed M32 Park and Ride**	1,800	1,800	-
Total			4,346	-

*Higher number of car parking spaces are available depending on the day of the week and time of year

**Exact location is unknown

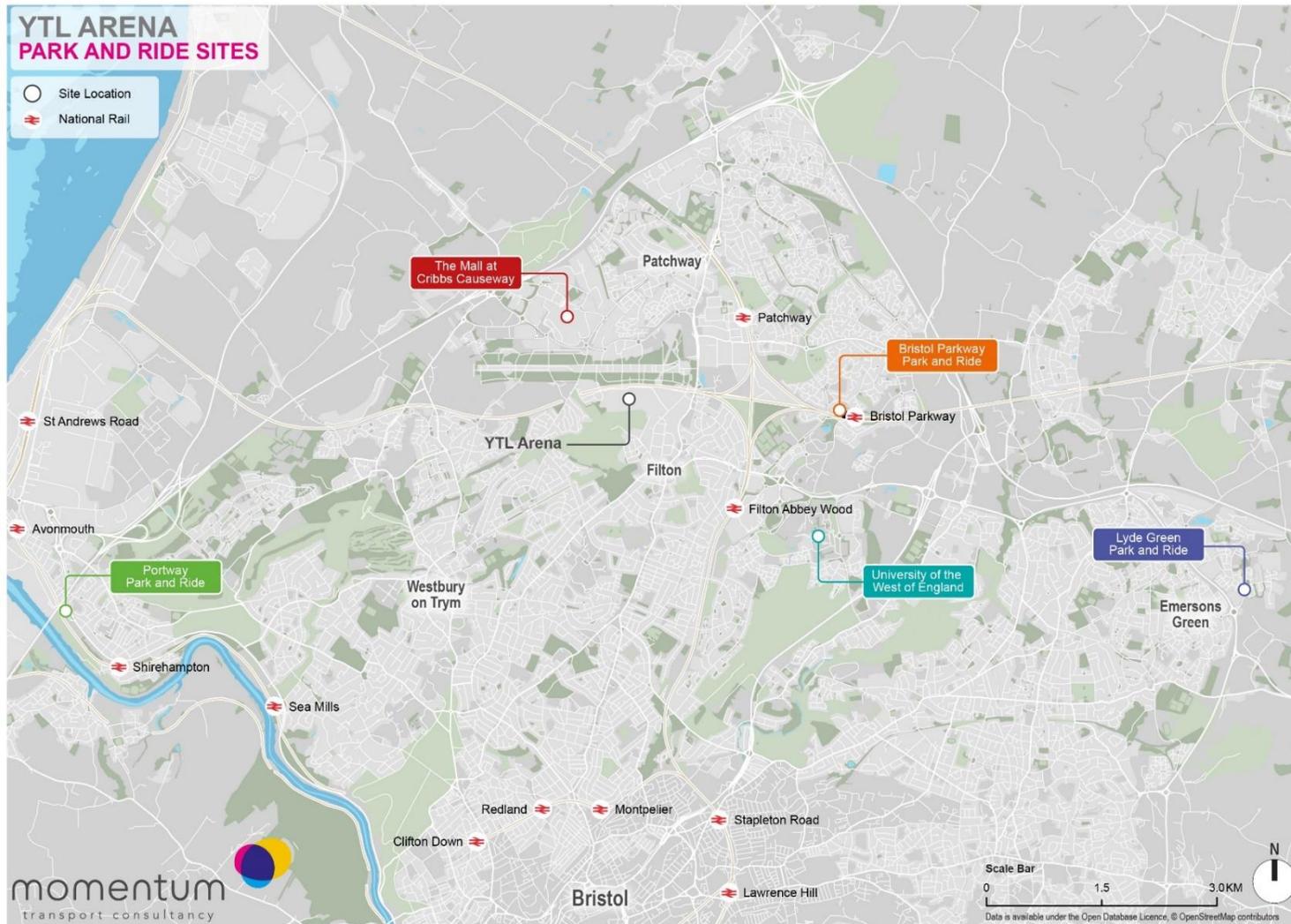
4.9.6 The Mall Cribbs Causeway has been included in this list due to the large number of car parking spaces on site that are often not used to full capacity. An operation run from this site would likely be a 'Park and Walk' due to the distance from the YTL Arena Complex site.

4.9.7 A shuttle service from Bristol Parkway Station may also be used by those arriving to this station by rail.

4.9.8 A range of possible P&R sites have been considered to ensure that there is sufficient P&R parking spaces irrespectively of the day of the week, time of the year, type of event and other relevant factors, for example use of a P&R site by another venue. This provides operational resilience.

4.9.9 The final proposed Park and Ride strategy will be detailed within a separate document the describes the sites to be used, the number of spaces within each site and agreements from the relevant landowners. The production of this document is expected to be a planning condition associated with this application and agreed prior to the operation of the venue.

Figure 4.3: Indicative Park and Ride Locations



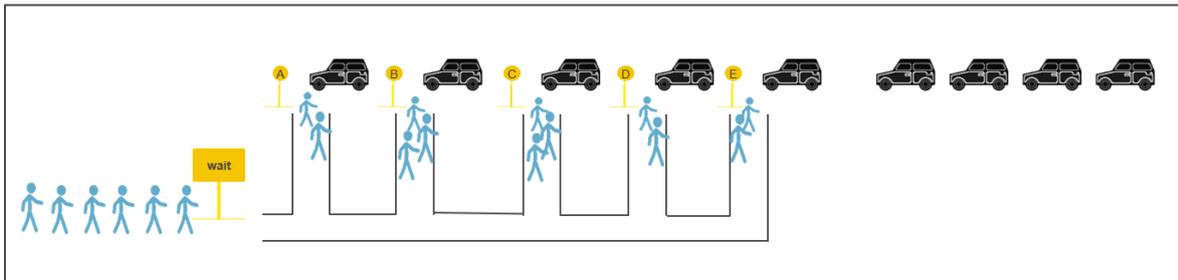
4.10 Taxi, Private Hire Vehicle and Uber

4.10.1 The taxi rank will be provided within the Airfield masterplan site, initially within the temporary car parking area. As the masterplan is developed, a suitable location will be selected that ideally meets the following criteria:

- Within a 5 minute walk from the YTL Arena Complex
- Sufficient space for a queuing system
- Multiple taxi loading points
- Space for a taxi feeder rank
- Situated away from the residential areas of the masterplan to minimise disruption

4.10.2 Figure 4.4 shows the concept taxi rank operation.

Figure 4.4: Taxi Rank Operation



4.10.3 Uber pick up will be located in a separate location to taxis. In order to manage Ubers and prevent uncontrolled pick up within the Airfield masterplan, geofencing will be utilised. Geofencing allows restrictions to be placed over geographical locations that prevents Uber drivers meeting their passengers within set boundaries.

4.10.4 This means that a guest who orders an Uber from within the YTL Arena Complex can be directed to meet their Uber in a specific location set by YTL. This will limit the possible impacts on residential areas and other departing guests.

4.10.5 The details of this operation will be developed and agreed with Uber prior to the operation of the YTL Arena Complex.

4.10.6 The detail of the taxi, PHV and Uber operations will be provided within the Detailed Car Park Management Plan, expected to be a planning condition associated with this application and agreed prior to the operation of the venue.

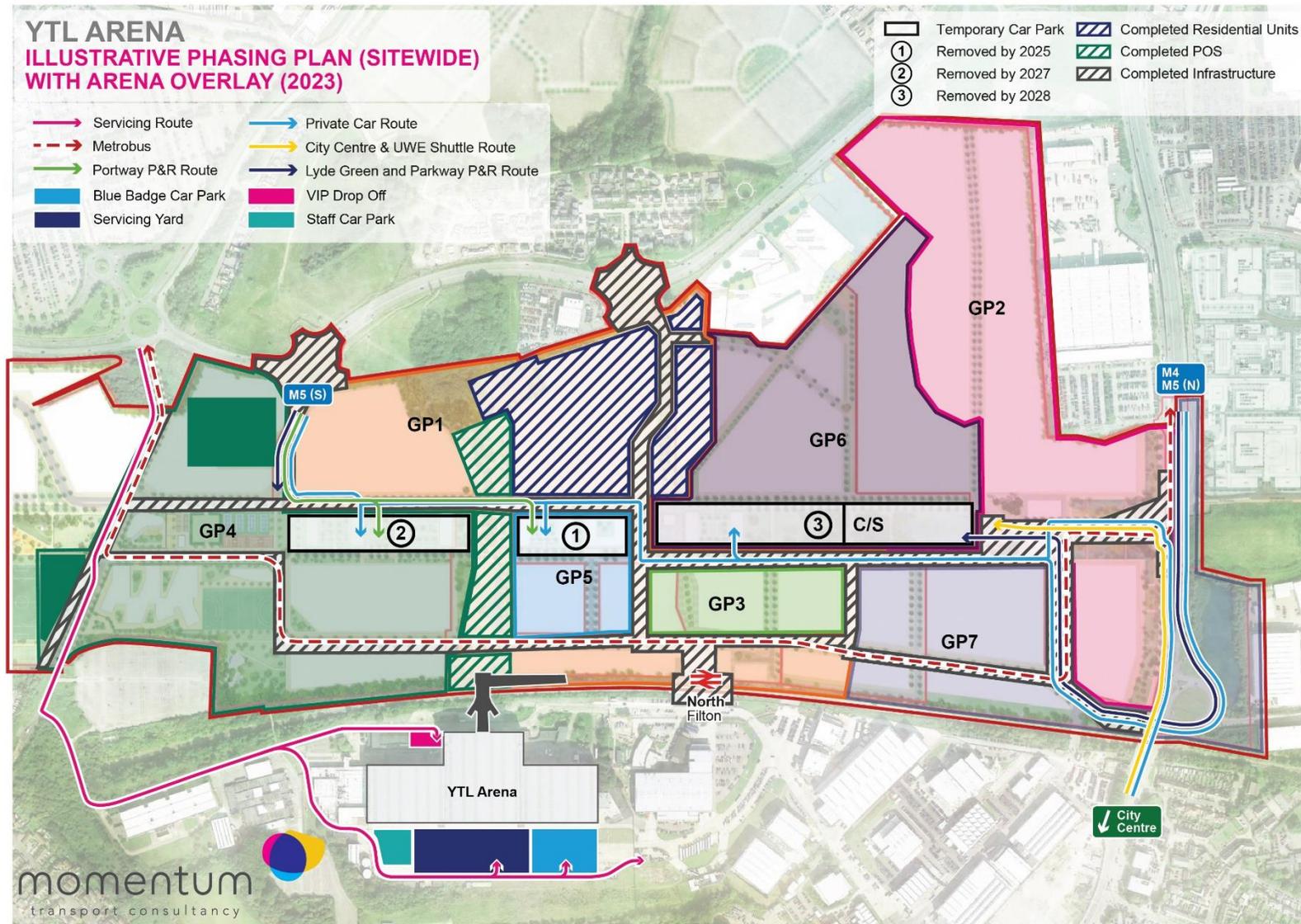
4.11 Bus Operation

- 4.11.1 The Metrobus extension through the Filton Airfield masterplan will result in the addition of six buses per hour within the vicinity of the site.
- 4.11.2 The Metrobus will continue its regular service on event days and it is not envisaged that the route or service frequency will have to be altered. This includes ensuring that the temporary car park does not impact the proposed Metrobus route through the site.

5. TRAFFIC MANAGEMENT

- 5.1.1 Traffic management measures will be in place in event days in order to safely manage the flow of vehicles away from the site and onto the highway network.
- 5.1.2 These high level traffic management proposals will be developed prior to the operation of the YTL Arena Complex and presented to and agreed with BCC and SGC. The production of this Detailed Traffic Management Plan is expected to be a planning condition associated with this application.
- 5.1.3 Traffic will be managed through a combination of soft and hard measures. Soft measures will include pre-event communications with guests to instruct them on the most suitable route to the venue depending on their origin and destination. Traffic signage will also be in place to direct drivers to the on-site car parking, with the site access point different dependent on where guests have approached the site from.
- 5.1.4 Hard measures will include physical barriers and trained marshals to control the flow of traffic to and from the site.
- 5.1.5 Measures will vary depending the size and timings of the event, as well as due to external factors, for example congestion on key roads or junctions in the vicinity of the site.
- 5.1.6 Figure 5.1 shows the opening year transport masterplan proposals when the temporary car parking operation is in place. This plan also shows the phasing of the temporary car park between opening year and 2028.
- 5.1.7 In this scenario, car parking will be separated from shuttle bus drop off, coach parking and park and ride drop off. These sustainable travel modes will be prioritised over private car and taxi usage by locating them closer to the site access points to allow for guests using these modes to have a faster and better experience when arriving to and departing from an event.
- 5.1.8 This will be managed with the use of car parking operatives controlling the parking location for each vehicles during arrivals.
- 5.1.9 Trained traffic marshals will also be in place during egress to control departing traffic and give road priority to the coaches and shuttles and key locations where these flows will combine with private vehicles, for example on the approach to junctions.

Figure 5.1: Opening Year Transport Masterplan



6. CROWD MANAGEMENT

6.1 Introduction

- 6.1.1 This chapter focusses on crowd movement within the Arena's immediate surroundings. Including Brabazon Square and pedestrian routes between the Arena and key transport hubs and stations.
- 6.1.2 Where necessary, guidance from the Guide to Safety at Sports Grounds (The Green Guide) 6th Edition has been used to support the management proposals. The Green Guide is an advisory document regarding the regulation, licensing, design and planning, and the safety management and operation of sports grounds. Although the YTL Arena Complex is not a sports ground itself, many of the principles are interchangeable and relevant to a venue such as this.

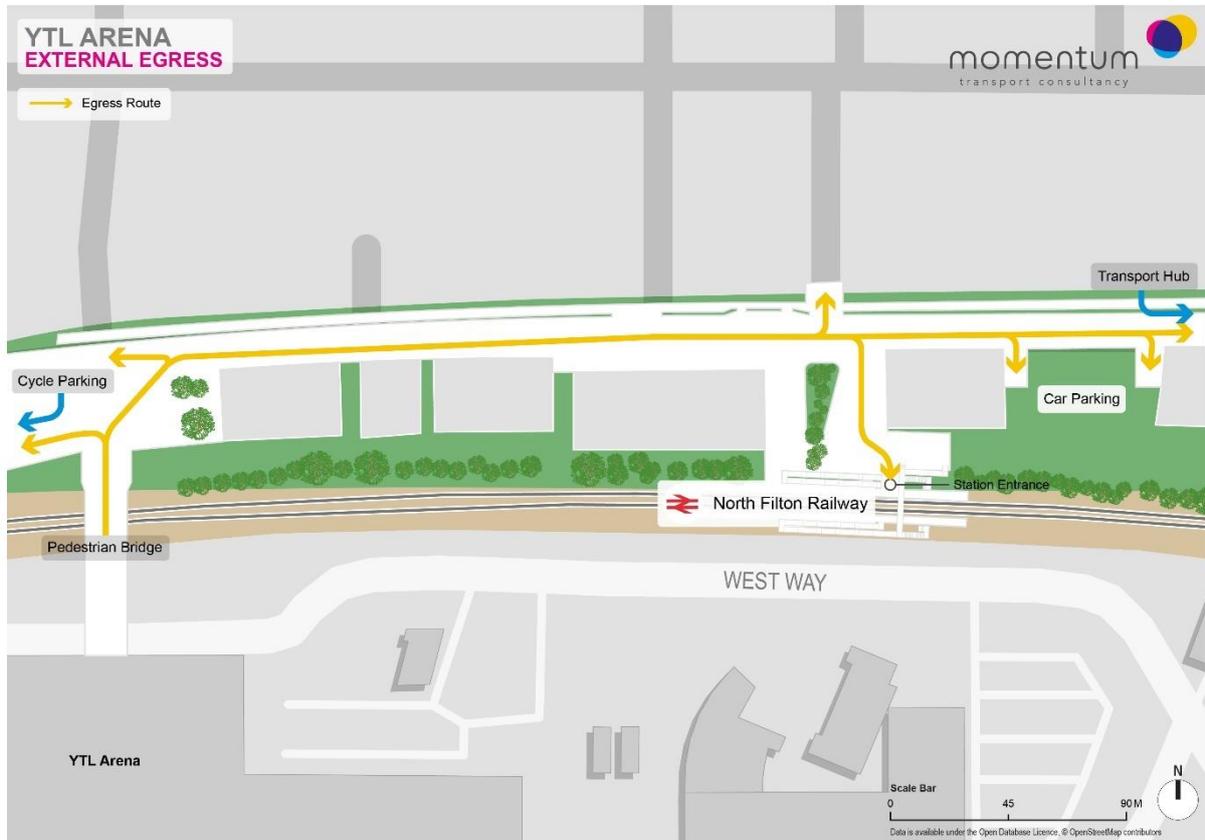
6.2 Ingress

- 6.2.1 It is envisaged that as spectators arrive, bags, if allowed, will be searched, and all tickets will be checked. Ticket checks will be automated by the use of electronic turnstiles or ticket gates, and bag searching will be done manually by venue staff.
- 6.2.2 At the security points north of the bridge, it is proposed that there is a 'fast lane' for spectators with no bags to check, and a 'slow lane' for spectators with bags. This will separate the queues and ensure that spectators without bags are not unnecessarily delayed by waiting in line behind spectators whose bags are being checked.
- 6.2.3 A high-profile campaign will be launched prior to events to discourage spectators from bringing bags.

6.3 Egress

- 6.3.1 This section outlines the crowd management during egress. It should be noted that an External Crowd Modelling Report has been submitted as an appendix to the TA.
- 6.3.2 The spectator egress routes are shown in Figure 6.1 below.

Figure 6.1: Model extents and spectator routes



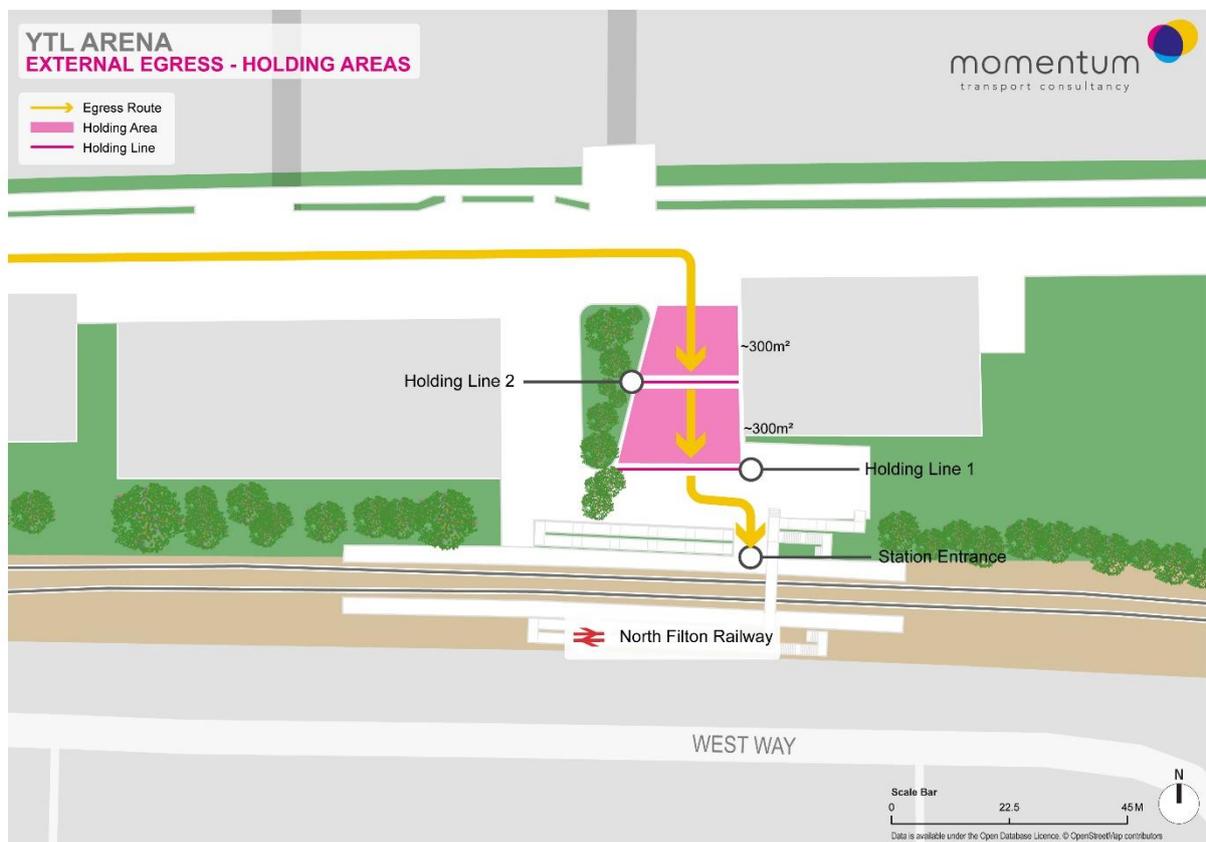
- 6.3.3 Spectators will exit via the pedestrian bridge and will head to the station, bus, car park etc. These routes will be supported by a signage and wayfinding strategy.
- 6.3.4 A protected pedestrian route will be in place between the pedestrian bridge and station / car park in order to avoid pedestrian and vehicle conflict.
- 6.3.5 Spectators queuing for the train will be communicated to ensure that they are aware of the waiting times.
- 6.3.6 Information would also be provided within the Arena to inform the waiting times for the train.

EXTERNAL STATION QUEUING SYSTEM

- 6.3.7 The expected demand for the station is too high to be accommodated in a single train. For this reason, large queues are expected to form in the Station Square.
- 6.3.8 In order to manage and accommodate the predicted level of queuing, without densities exceeding dangerous levels or substantially increasing journey times and walking distances, a 'pulsing' queue mechanism has been proposed. This pulse queue is what has been tested in the dynamic modelling.
- 6.3.9 The pulse queue will require strict management by stewards on the ground and requires two designated holding areas to hold spectators in a queue when the station demand exceeds a certain limit.
- 6.3.10 The pulse queue works as follows (please also see Figure 6.2):
 - Spectators are allowed to freely enter the station and fill the platforms.

- Once the platforms begin to reach their capacity (which is proposed should be the same as the 95% train capacity), spectators are no longer allowed into the station.
- Spectators are then held at the first holding area.
- This holding area should have the same capacity as the platform (or a 95% full train).
- Once this first holding area reaches capacity, spectators should be stopped at the second hold point.
- Once a train arrives, and the platform has been emptied, spectators held at the first holding area are permitted into the station to fill up the platform and wait for the next train.
- Once the first holding area has been cleared, spectators held in the second holding area are permitted into the first holding area.
- Once a train has cleared the platforms again, this process may repeat itself.

Figure 6.2: Proposed pulse queue system



Management of queueing system

- 6.3.11 To successfully implement this pulsing queue system, stewards or other Arena or station staff members will be required at each of the holding locations and on the platforms. It is proposed that, because of the width of the holding line (up to 25m), at least 5 stewards should be present to enforce the 'stop and hold' when the platform is full. The same applies for the 'stop and hold' at the second holding line when the first holding area is full.
- 6.3.12 Quick and clear communication between parties at all three locations (station platforms, Holding Line 1 and Holding Line 2) will be necessary for this to be effective.

6.4 Evacuation

- 6.4.1 After an evacuation, all spectators will be held externally in designated holding areas surrounding the Arena, until the threat has passed. Once the threat has passed spectators will either be allowed to re-enter the YTL Arena Complex or they will be allowed to disperse away from the site (in a controlled manner).
- 6.4.2 The holding areas will be located to the front of the building where there is a large amount of clear space to accommodate this amount of people.

7. CO-ORDINATION AND PLANNING

- 7.1.1 An events coordination and planning group will be formed to ensure all stakeholders are regularly involved in the planning for YTL Arena Complex events and have a forum to provide feedback on previous events.
- 7.1.2 The events group will meet as required before major upcoming events to share necessary information. This could include road closures, rail engineering works, clashing events at other venues etc
- 7.1.3 The events group will also meet after events to share information and address any concern that arose from the event.
- 7.1.4 The events group will provide a platform for relevant stakeholders to share and discuss useful information.
- 7.1.5 The following parties will be invited to the events coordination and planning group:
- Bristol City Council
 - South Gloucestershire Council
 - Highways England
 - FirstGroup
 - Great Western Rail
 - Network Rail
 - British Transport Police
 - Avon & Somerset Police
 - Avon Fire & Rescue Service
 - The Mall at Cribbs Causeway
 - Bristol Rovers FC
 - Post Office Sorting Depot
 - NHS Blood & Transplant Service
 - South Western Ambulance Service
 - NHS Foundation Trust