

SCOTT BROWNRIGG⁺

RETURNING TO STADIA POST COVID-19



RETURNING TO STADIA

The very essence of sport presupposes movement. A stadium – a theatre of sport – actually contains two performances which often occur simultaneously. There is the one on the field of play, and the responsive or reactive one from the audience – the spectators.

Play has recommenced in many stadia for TV audiences without the benefit of a “real” crowd. The joyous communal spectator experience of stadia- whether for sports, music or other spectacular events- is only currently available to us remotely. How might stadia re-open safely?

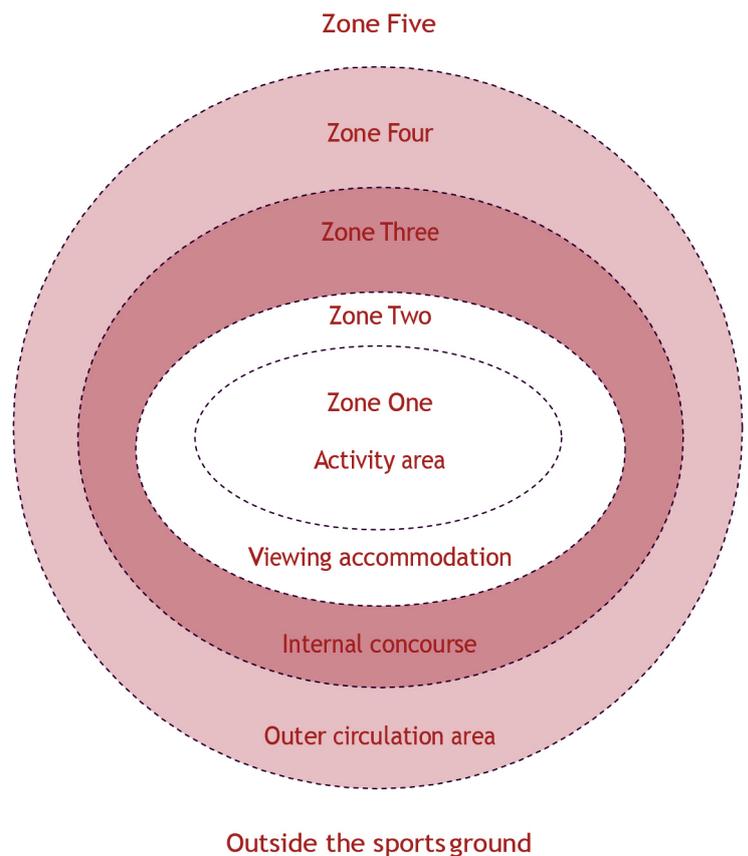
On 17th July 2020 the UK Sports Grounds Safety Authority (SGSA) published draft guidance to help sports grounds plan for social distancing when Government permits the re-admission of fans¹. Board Director Neil MacOmish and Director of Practice Helen Taylor consider what this could mean in practice.

INTRODUCTION

Modern stadia don't only accommodate individual events. Practice spaces, function rooms, changing rooms, fitness suites, physio and medical facilities, offices and a club shop are not unusual. Coaching and viewing balconies, restaurant and dining, kitchens, offices and corporate hospitality are also becoming core requirements for both sporting excellence and financial viability.

Until there is a vaccine it is unlikely that full capacity can be accommodated in existing stadia and may be reduced to a fifth of usual numbers which will significantly affect income². No doubt in principle stadia players, staff and visitors will be encouraged to disperse and keep their distance as much as possible. This needs to be balanced with careful control of entry and security checks which will need to continue. There will be higher risk “touch points” such as ticket barriers that will need particular spatial provision and procedures put in place. Even for reduced numbers, arrival and departure will still have to be carefully managed and additional staff are likely to be needed for stewarding and crowd management.

Technology will be invaluable. From managing ticket sales³, virtual modelling of seating arrangements and movement, to implementing timed and touch-free access, and contactless payments. Digital



Stadium 'Zones' diagram, to limit audience interaction

ticketing systems provide a ready-made automated track and trace system, providing data on exactly who attended and where they sat. Stadium analytics⁴ may even be able to track movements while individuals are in the stadia using Wi-Fi or GPS. Depending on space and layout, in some stadia it may be possible to zone areas to limit exposure between groups of people, while building in overrides for safe emergency escape. A “digital twin” of the stadia, that provides a 3D digital data driven model of the physical space, will allow for dynamic planning for individual events and “virtual views” or fly-throughs of adjusted space provision or signage and how it will look.

ARRIVAL

The sequence of arrival is an important part of the spectator experience – the commencement of the performance. A stadium event is an exciting experience⁵ and visitors will want to be reassured that their experience will still be exciting as well as positive and safe. Both linear movement and static spaces for moments of rest – the gathering of the crowds and the accentuation of excitement and expectancy- need to be maintained. And the ability for non-ticket holders to access the space around a stadium may need to be considered carefully to enable this experience to be retained.



Fans arriving at the London Olympic Stadium in 2012

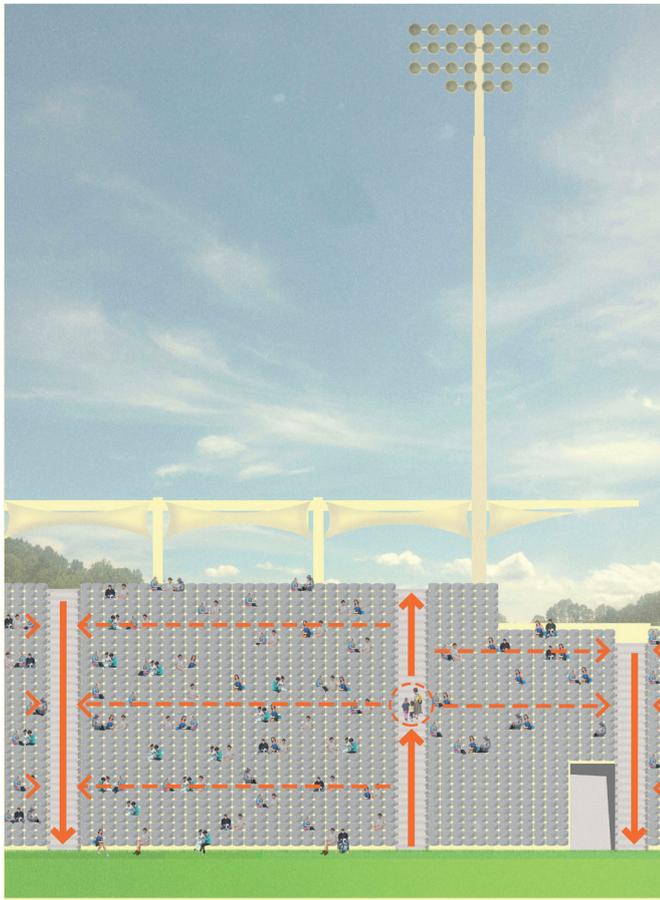
Visitor information on the stadia website will be invaluable and could be enhanced by a “virtual visit” that provides an online fly through of what they will experience during their visit. This can allay a lot of fears and reduce the potential for unhappy customers for staff to have to deal with. A great experience is in everyone’s interests. Some health and safety precautions that have become normal during the last few months, such as keeping distance in queues and provision of sanitiser stations, can be accommodated with some space planning, however provisions such as the wearing of masks might prove difficult for fans screaming in support of their teams or music idol although wearing them to get to and from their seats may be more enforceable.

TICKETING

The event experience begins at ticketing and seating selection. As noted above, digital ticket sales can manage track and trace. Stadia may have their own data about typical group size of bookings that could be used for modelling. For example- seating layouts could assume layouts in pairs with 2m spacing and plan capacity and bookings on that basis. Alternatively, users could be permitted to make collective group bookings for seats immediately adjacent to each other to maximise occupancy, as long as they meet the latest

government guidance for social “bubbles” and provide contact details for all members of the party. This could work for a family group or a small group of friends. Groups of Season ticket holders could establish their own “bubble” for the season. As appropriate distance would need to be maintained between each small group, a dynamic digital seating model could allow for seat allocations to be planned on an event specific basis depending on the technology available. For ease of management, it may be necessary to leave every other row of seats unoccupied. The SGSA draft guidance includes a number of examples of possible seating layouts. Any VIP or private dining/ box areas will need to be assessed to ensure that safe distance can be maintained but, as above, a group “bubble” could be permitted to use these areas. For the purposes of the SGSA Supplementary Guide, a social bubble is defined as a group of up to six people from no more than two households. The provision of catering or other services would need to be assessed on a venue by venue basis and a risk assessment undertaken to ensure that staff and visitor safety are considered. Scott Brownrigg can offer any stadia or arena safety risk assessments that may prove beneficial to owners and operators alike.

External non-seated areas will have to rely on reduced capacity and social distancing guidelines. The SGSA guidance refers to 12.5 persons per 10 sq m. Internal non-seated areas may only be bookable



Elevation: Managing access routes to ensure limited contact passing.

by a single “bubble” group unless some kind of space partitioning or screens can be safely implemented. Floor markings are unlikely to be effective separators. These would have to be installed without interfering with safe evacuation. Ultimately the adjusted capacity of the stadia will need to be assessed and established based on the capacity of the circulation space and other public space rather than seating arrangements⁶.

Many ticketing systems now integrate travel and parking booking that will assist with providing data on numbers of visitors arriving by different means and allow routes from parking or transport hubs to be reviewed. Current guidance on public transport use may result in a preference for arrival by car, but indoor parking provision may need to be reduced to allow people to keep a safe distance when entering or exiting the car park or their vehicles. Prioritising those travelling in groups, as well as those with a disability, will assist with management as well as mitigating any impact on traffic or air quality around the venue. As with seat ticketing, staggered arrival times may assist.

ENTRANCE

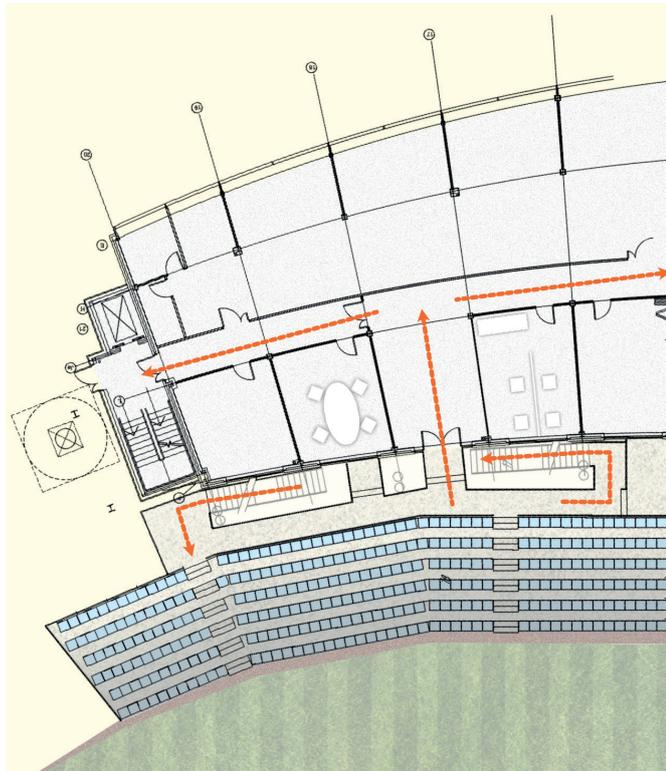
Ticket sales are likely to come with some terms and conditions, or a “code of conduct”, in relation to attendance, which the SGSA Supplementary Guidance makes clear, however temperature check zones at arrival could be enforced as a back up to screen enthusiastic fans who may not be willing to miss events even if they are feeling

unwell. Arrival and departure are time consuming activities even in usual circumstances so all available entrances and exits should continue to be made available, even with reduced numbers attending, and staggered allocated entry times where that can be put in place. Security searches are expected to continue therefore bag search or similar areas will need to be laid out to allow staff and public to maintain distance. Staff PPE will need to be enhanced at these key higher risk “touch points”.

The drama of arrival is an important part of designed movement flows. It is generally considered that to arrive at an upper level and then migrate downwards, reveals the pitch or the sporting theatre in a way in which enhances that arrival experience. Managing access routes, as outlined below, should allow existing arrival sequences to be retained.

CIRCULATION

Whilst there are obvious similarities in some design principles across all sporting stadia, the general use differs across sports. The Safety at Sports Grounds Act 1975 (commonly known as the Green Guide) is the bible of design principles that govern specific requirements for a large number of the elements that constitute the stadium. It is applicable to grounds that have a capacity of 10,000 seated spectators or over. For example, cricket matches have a longer duration (Twenty20 games excluded) and have a number of natural



Access and Egress Plan

“The balance of safety and audience participation in the theatre of sport must always gravitate to the side of safety

break periods (bowling change of ends, fall of a wicket etc), and often 45 minutes for lunch. Even the bish-bash of the Twenty20 games has some of these breaks. This takes away the crowd rush and pressure on ancillary facilities (particularly toilets) in the 15 minute half time break that needs to be accommodated for football and rugby. Equally because of the length of the game, cricket spectator arrival is more relaxed and casual, although this has a different effect on movement around the stadium.

The second major difference is viewing time. A day's cricket is 6-7 hours which enables seats and seat spacing (including terrace goings) to be more generous. There is no necessity for crowd segregation either, which has a significant effect on spectator movement. There is an ebb and flow between the crowd inspiring the players and the players inspiring the crowd. This is facilitated by several things – acoustic properties are important, but good sight lines and an unobstructed view of the action combined with a terraced section that provides those good sight lines. Physical intimacy to the playing area is perhaps even more significant but may need to be adjusted to keep a comfortable distance between the players and the spectators.

In addition, the pragmatics of people flow within the stadium fabric are usually assessed on a simple level against the following design criteria defined within the Green Guide;

> Entry capacity – determined by the number of persons capable of

entering the ground in 1 hour – usually 660 people per turnstile per hour- to maintain social distancing this may be reduced significantly.

> 10% of the ground can be “unreserved seats”- the use of these will need to be managed carefully to maintain “track and trace” requirements

> Stair widths – usually 1.2 – 1.8m - this will require 1 way systems to be put in place wherever possible.

> Concourse capacity – usually 20 persons per 10 sq m - even with 1m social distancing this could reduce to 5 or less depending on dimensions so at least a quarter of usual capacity.

Internal and external concourse areas will need to be reviewed to rehearse general circulation routes. One way systems and floor markings and demountable barriers could assist visitors in maintaining suitable distance. Sanitising stations and enhanced cleaning regimes will be required in all public areas⁷.

TOILETS

Assuming a reduced occupancy for events, toilet capacity should be plentiful and allow for alternate cubicles and wash basins to be closed to ensure individuals can maintain a suitable distance while using the facilities. Urinals may need to be closed depending on →



Stadium Hospitality: A new concept of the corporate box

spacing. Hand driers should be shut off and Paper towels provided. All bins should have lids and be foot operated. Automated flush or tap provision will reduce points of contact, but cleaning regimes and waste management will need to be enhanced and staff PPE will be required in all cases.

REFRESHMENTS

Outdoor refreshment concessions should be able to operate with contactless payments and socially distanced queues facilitated with markers. Transparent plastic screens at counters have become commonplace already and some great apps are available to minimise the need for paper menus or queuing.

Indoor refreshment concessions will need the same provision but may also need additional measures- particularly if they rely on automated ventilation or extract. Self-service food areas are unlikely to be possible and any self-service cutlery/condiment provision will need to be removed. Any seating/ dining areas will need to be reviewed for space layouts and cleaning requirements.

Concession holders will need to carry out risk assessments and operational plans for how they will manage the health and safety of staff working in the concessions. Staff may be required, or wish to, wear masks.

WASTE AND RECYCLING

The current pandemic situation has unfortunately led to an increase in disposable plastic products and containers for hygiene reasons. Many stadia do not permit visitors to bring their own food and drink in any case but increased visible recycling provision would be beneficial, particularly if any water fountains need to be shut off. The use of bio-degradable materials for containers should be encouraged wherever possible. As in the toilet areas, bins should be touch free or foot operated.

INCLUSIVE ACCESS

Many stadia rightly pride themselves on being inclusive facilities however this may rely on lift access or other provision such as specific designated seating areas. Continuing to meet the needs of disabled people and their carers must be assessed on a venue by venue basis to ensure that inclusive access can be maintained safely. Any new signage, sanitiser stations, demountable barriers, communications or changes to routes or seating availability must not negatively impact inclusive access.

VENTILATION AND OTHER ENVIRONMENTAL SERVICES

Every stadia will need a specific assessment of any air handling provision particularly for covered arena or those with retractable roofs. The ability to provide appropriate ventilation at all times to all areas will be a fundamental requirement of re-opening. Few indoor stadia are naturally ventilated so outdoor arena will have an advantage in terms

of delivering fresh air.

Hosting high profile events such as an Ashes Test – that historic cricketing battle between England and Australia- usually requires meeting essential criteria set down by the England and Wales Cricket Board (ECB) and the Test Match Status – including such requirements as 15,000 permanent seats of which 10% had to be covered, a media centre to facilitate 200 press members, TV and Radio studios, outside broadcasting facilities, test officials accommodation (Third umpire, TV replay etc) and ancillary accommodation. Assuming these standards are not relaxed, and social distancing needs to be maintained, this will reduce the potential number of stadia able to accommodate such events.

STAFF ACCOMMODATION

The legal responsibility for the occupational health and safety needs of employees is unchanged. Maintaining staff health and safety will be key and will require a review of the staff provision from arrival to locker storage, welfare areas, refreshments, toilets, circulation and higher risk contact points with visitors.

DEPARTURE

Although arrival times and entrance routes can be staggered and managed, departure and exit is typically more difficult as everyone typically leaves at the same time and potentially through different routes than through which they arrived. It may be necessary to stagger departure times or maximise potential exit routes to allow visitors to disperse and maintain distance as much as possible. This will need to be clearly communicated to spectators before arrival. Events ending late in the evening may have a particular challenge, with visitors wanting to leave quickly to catch trains or beat traffic, so event start and finish times may need to be adjusted accordingly.

ACCIDENTS, INCIDENTS OR EMERGENCIES

It is vital that basic health and safety provision is not compromised by any covid- specific changes. For example, fire exits and ambulance or other emergency vehicle access need to be maintained, and the roles and responsibilities of staff and the procedures for emergencies should be reviewed on a venue by venue basis. The Green Guide requires that a stadium must be able to be evacuated to its safe zone within 8 minutes and the playing area can be a designated safe zone but only for a short temporary basis. While the SGSA Supplementary Guidance states clearly that- in the event of an emergency, standard operational procedures will generally take precedence over social distancing requirements, it is still the responsibility of individual stadia to review their own plans and assess the risk.

It may also be worth a temporary relaxation of the rules which apply to the definition of safe zones; currently the playing area is not allowed to be included. However, to consider the playing area as a safe reservoir for a limited number of

spectators that may be in attendance, this should allow for emergency services to deal with whatever that emergency may be, then facilitate an orderly evacuation.

Responsibility for all people present in a sports ground lies at all times with the ground management. The ability to carry out a virtual rehearsal of arrival, entrance, circulation, seating, toilets, departure and emergencies with a digital twin could make all the difference.

Arguments will rage on about whether crowds should be allowed back in at all, and the shifting science does indicate that even within an external environment like stadia, there are positive benefits to wearing masks, but certainly there are commercial and viability issues coming to bear that allude to the absolute necessity of spectators in seats. They provide the backdrop and ambience that truly make watching sport on television a theatrical experience, give home and away teams a competitive edge and the limited return of sport in our lives (even under some of the current ‘fake’ conditions) have been a welcome shot in the arm to a huge part of the populations well-being ●

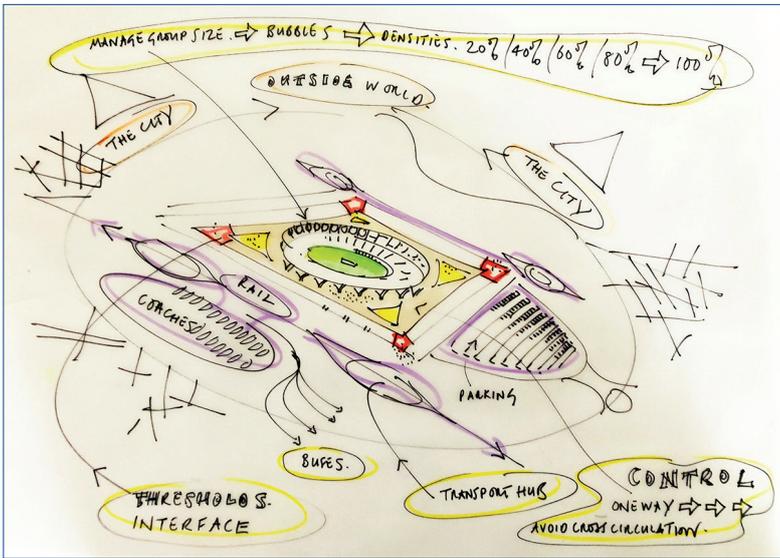
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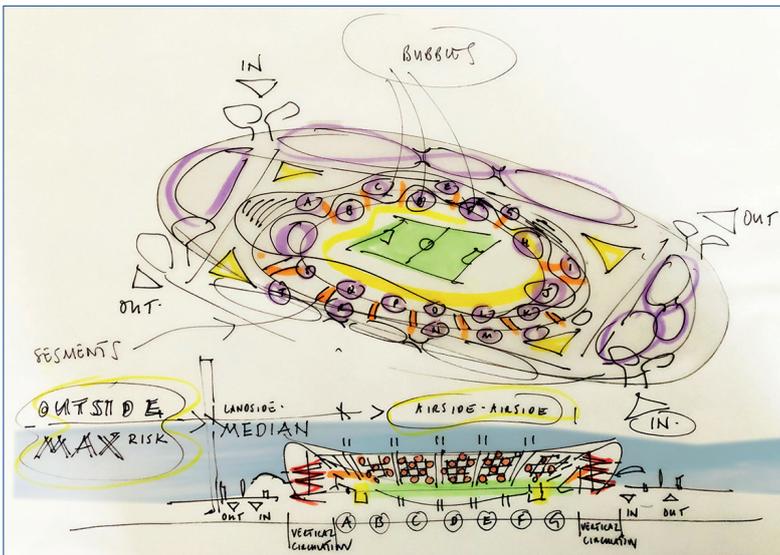
COVID TRANSFER | MANAGING RISK - A GRAPHIC NARRATIVE.



1. Wider context. The city and the destination.

Mitigation of virus spread starts in the wider context and is dependent upon adherence to government advice and legislation.

People will arrive by bus, train, car and on foot and each group should acknowledge and minimise risk. Intersection and convergence represent potential transfer.

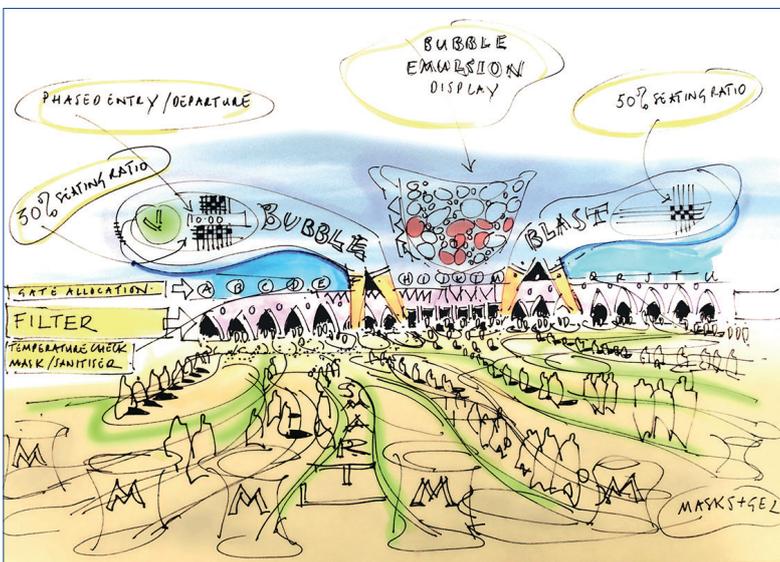


2. Aerial and section. Schematic stadium planning.

Compartmentation is the key to managing spread amongst larger groups.

Circulation spaces between bubbles must be managed in terms of one way systems and proximity.

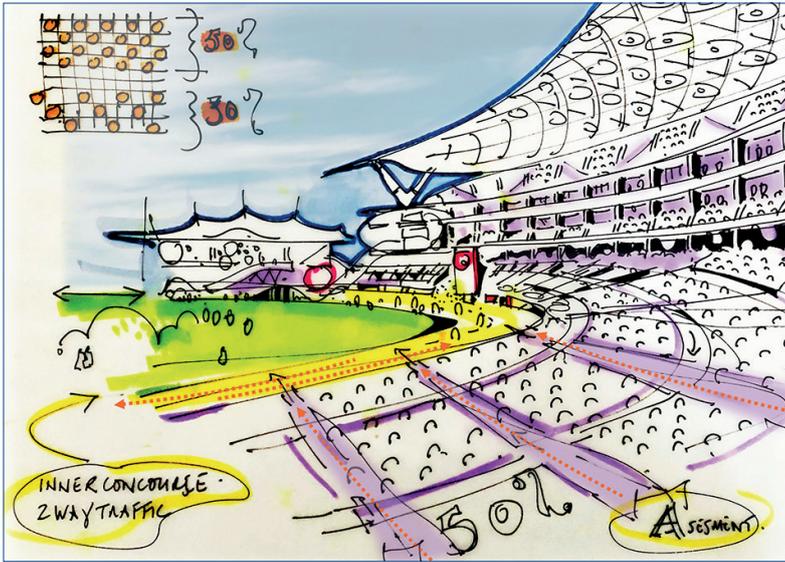
At the moment of entry into a stadium context individuals must accept their responsibilities to a wider group and not attend if feeling unwell.



3. Entrance view. Filters and thresholds.

Attendees at events will be offered masks, sanitiser and a temperature check and will be managed in terms of dedicated queuing choreography.

Gate allocation is predetermined, and entry and exit will be phased. Each threshold represents a check and all transactions will be contactless.

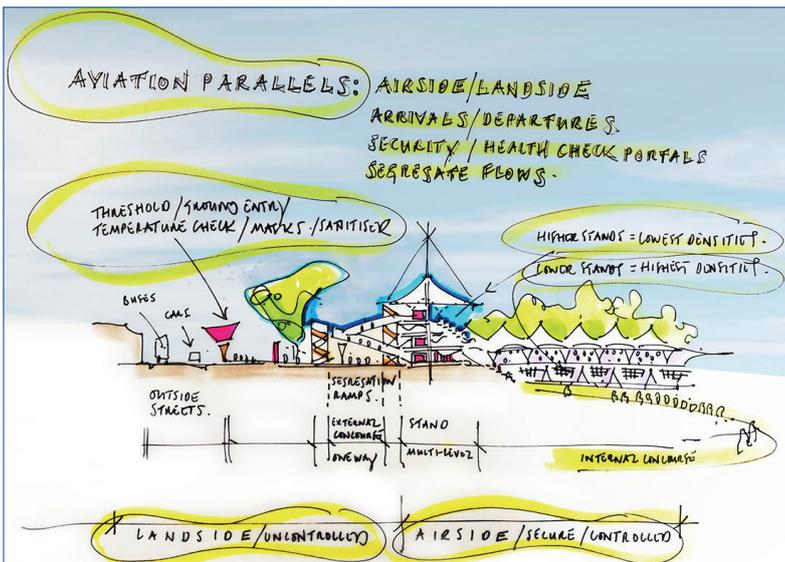


**4. Stand perspective.
Density variations.**

Successful management of crowds will depend on density within the overall stadium and individual stands.

Levels may vary on different tiers with the lowest levels most likely in the upper stands and the highest in the lower levels.

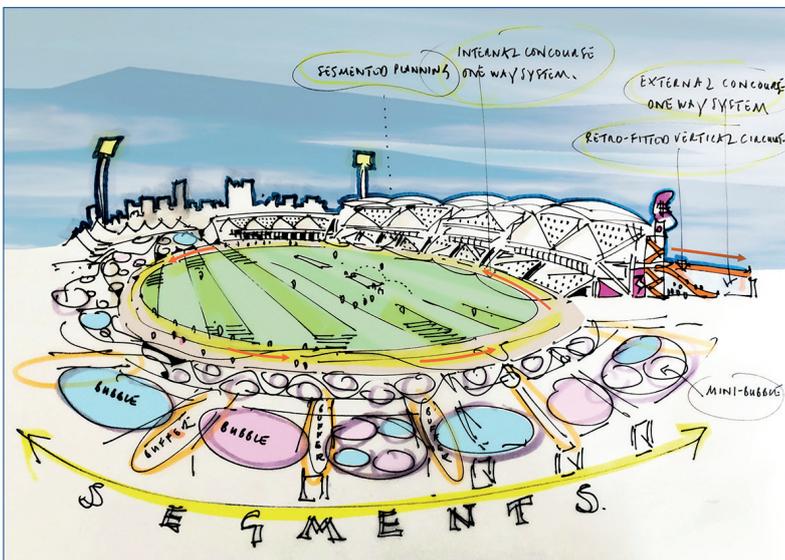
Additional concourse space will need to be released to manage circulation patterns.



**5. Schematic section.
Aviation parallels.**

The aviation sector and Terminal planning offer many insights into how we can manage crowds within stadium environments.

Using the Airside -Landside and Arrival-Departures parallels, general circulation ,group sizes and health security checks will mitigate risk and allow the public to feel more secure.



6. Aerial. Segments and compartmentation.

Seating patterns and densities will be optimised for individual stadia.

Compartments will be filled and emptied on a timed basis, and retro fitted vertical circulation ramps and stairs will help to separate incoming and outgoing spectators.

CONTACT DETAILS



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