

High Road West Masterplan – THFC match and event day Crowd Flow

1. Summary

- I. This document has been produced by Movement Strategies (MS), crowd movement advisors to Tottenham Hotspur FC (THFC).
- II. On event days at the Tottenham Hotspur Stadium, the Guide to Safety at Sports Grounds (SGSA, v6, 2018) indicates that the venue operator (i.e. THFC) has a responsibility for assurance of the safety of attendees within Zone Ex (the area in the public domain considered to encompass the main pedestrian and vehicle routes leading from the venue perimeter to public car parks, local train stations, bus stops and so on). The responsibility is to ensure that all stakeholders with a role in supporting the delivery of this outcome are to be engaged and that the measures put in place are implemented in a co-ordinated and consistent way. The stakeholders include emergency services, local authorities and, where appropriate, local landowners.
- III. The area covered by the High Road West Masterplan and LendLease application falls within the Zone Ex area. The application is being reviewed by Movement Strategies from the perspective of THFC's accountability for spectator safety as well as their own obligations to minimise the event-day impacts on the local community.
- IV. We have reviewed the latest Planning Sub-Committee Report associated with the High Road West Masterplan Application submitted by LendLease (HGY/2021/3175). We have also reviewed two documents produced by the Council's Independent Crowd Advisor - Dr Jim Dickie – dated July 13th and July 14th 2022. The document dated July 14th is referred to in the Planning Sub-Committee Report.

2. Crowd Flow Considerations Not Currently Addressed

1. As a starting point it is important to note that the submitted Crowd Flow Study and in turn Dr Dickie's review have not considered a number of matters that are fundamental to an assessment of whether the application will ensure safe and efficient crowd flow. We also understand that the Crowd Flow Study has not been updated since the first concerts held at the stadium on 1st and 2nd July, which Buro Happold indicated they would be present at to observe.
2. The area covered by the High Road West Masterplan and LendLease application falls within the Zone Ex area of Tottenham Stadium. THFC has accountability for crowd movement within this footprint and needs to be certain that the space available to manage event day crowds is capable of accommodating safe and efficient crowd flows in all scenarios. Ultimately, if there is deemed to be a failure in assuring the safety of spectators within Zone Ex it could lead to reductions in the licensed capacity of the venue.
3. One further consequence of this not being delivered through design will be a potential for increased and extended event day staffing requirements. The requirement to account for spectator safety in Zone Ex is detailed in the SGSA's Guide to Safety at Sports Grounds, which places the onus on THFC. Another potential implication is effectiveness with which THFC can deliver their obligations through their Local Area Management Plan to mitigate the impact of major events on the local community.
4. **Both the applicant and the OR undertake a narrowly focused comparison of the quantum of space to be provided. By limiting its focus to indicating the spatial equivalency of queue footprints, the LendLease**

application and associated Crowd Flow Study omits to consider a number of important factors including any consideration of requirements for ingress, emergency conditions, and any flows in the vicinity of the area not related to the Station. The advice from the Council's Independent Crowd Flow advisor is also limited to this by the nature of the two questions he is posed in his most recent report (Haringey Questions – July 14th 2022).

5. The areas where LendLease/Buro Happold have not provided evidence that the masterplan proposals can accommodate what is required to enable successful management of crowd are:
6. **Spatial Impact of Emergency Conditions.** The Crowd Flow Study is focused on normal egress operations and associated flows and queues. There is no consideration of the crowd flow and safety impacts should there be an emergency or incident that requires the queues to be dispersed or the station cleared (the southbound platform in particular). There is also the potential for a scenario where the Stadium itself is evacuated, in part or in whole. **The proposed design should demonstrate that it maintains adequate provision for dispersal in the different potential demand scenarios.** This is both in the end state and during construction.
7. **Degraded Conditions on the Rail Network.** The impact of engineering works on the rail network is not addressed. Planned blockades and restricted service running have affected a number of event days at the stadium, not to mention the unplanned disruptions that are also occurring more frequently. The impact of such scenarios and the spatial and operational consequences have not been considered at all.
8. **Accessibility.** The application does not make any remark on the movement of those with mobility impairments, including wheelchairs, and the extent to which the proposals support their safe and efficient movement on an event day. The Council has a statutory duty when determining the planning application under the Equality Act to advance the equality of opportunity, which will not be addressed if those with mobility impairments have not been properly considered.
9. **Spectator Flows on White Hart Lane.** During construction, there is a statement that Plot G does not have an impact on the existing crowd flow strategy. This is not true. The phasing diagrams indicate that this Plot includes part of the southern pavement of White Hart Lane and this is a critical location during both ingress and egress – with heavy usage by spectators travelling by other modes as well as train. The impacts of Plot G on the event day operations should be addressed.
10. **Spectator Flows on the High Road.** In the Construction Phasing, both plots C & E extend into the High Road, which in itself forms a key part of the Zone Ex for ingress and egress. There is no discussion on the impacts of the construction hoarding on event day crowd operations within the High Road.

11. **Flow Management in Emergency Conditions.** For each of the construction phases there is little information provided for managing flows in the event an incident or emergency. Assurance that the various phases of construction offer sufficient provision for emergency service access and safe crowd dispersal from these areas should be provided. A particular concern is raised in relation to the local risks associated with the holding of queues within a space bounded by hoarding on either side, the types of barrier in use and the provision of ample means of escape. **In order to mitigate safety and security risks that would otherwise be present, accommodation of this is likely to necessitate an additional footprint to that set out for northbound and southbound queuing in the CEMP.** This specific point was raised (and minuted) at the Special Safety Advisory Group meeting on the 6th May 2022, with a requested action from the chair for LendLease's security consultants to liaise with THFC's Security team. It is understood that there has been no subsequent engagement.

3. Review of Planning Sub-Committee Report

12. There are only six paragraphs in the Planning Sub-Committee Report associated with THFC match and event day Crowd Flow (6.33). The points raised in each of these paragraphs are taken in turn.
13. The first paragraph (6.33) indicates that the proposals provide a direct link between the Stadium and White Hart Lane Station, and that the proposals provide at least equivalent queuing provision for the Station on event days as the current arrangements. Whilst both of these points are agreed, for the reasons set out above and in our previous notes we do not consider that this is the correct approach to assess whether safe and efficient crowd flow can be accommodated.
14. Paragraph 6.34 shows modelling from the Buro Happold Crowd Flow Study and the accompanying text states that the proposed layout has greater queue capacity than the current layout. This modelling was undertaken prior to the provision of the current event-day plan – which has a greater capacity than that used in the model. However, in any event a narrow focus on the equivalence of the queue space provided is not the only element to consider when determining whether safe and efficient crowd flow can be accommodated.
15. There is reference to assessment of a Cup Game scenario in Paragraph 6.34, which is described as providing an indication of impacts from other less regular events such as boxing contests and concerts. This approach does not consider the distinctions between crowd behaviours, demographics and expectations between the different event types. These are all factors that need to be considered in the development and discharge of an Event Management Plan for each event – which THFC are responsible for in the form of the Local Area Management Plan. As matters currently stand, we do not consider that there has been sufficient analysis and dialogue with THFC about crowd movement associated with these events. Therefore, the Council cannot conclude that it will be possible for the impacts of different event types to be solely mitigated through an Event Management Plan. It should also be noted that THFC supplied more information to Buro Happold in June 2022 relating to demand conditions at non-Premier League fixtures, which has not been used as the basis for the analysis referred to here.
16. Paragraph 6.35 discusses the Construction Phasing, and states that the Crowd Flow Study demonstrates that the equivalent queuing provision can be maintained. This is not the case. The Crowd Flow Study only considers a sub-set of the construction Phases set out in the Construction Environment Management Plan (CEMP). Dr Dickie's document referred to an email exchange with Buro Happold on July 12th (which THFC were not party to and have not seen), where the construction analysis was re-visited. If these figures are to be relied upon then they do show that the space provided are within 4m² of being the equivalent footprint for the southbound queue. This is an area where the focus by LendLease/Buro Happold on area and space has led to factors around operation, management and safety to be omitted. Irrespective of the provision of space for queuing, there are important aspects related to crowd safety and flow during the construction phasing that have **not been addressed**.

17. Paragraph 6.36 discusses the THFC objection, and the review by Dr Dickie – ‘*who considers that the current and proposed queuing provision is sufficient to enable safe management and movement of spectators at events between the stadium and White Hart Lane Station during premier league football fixtures.*’ This statement does represent Dr Dickie’s position, but is clearly defined and limited to the size of the queuing provision. Event day crowd management and movement through the proposed masterplan footprint is not limited to the queues for the station, but Dr Dickie has only been directed to look at this aspect (see ‘Haringey questions (e-mail May 31 2022 v3)’. In our discussions with Buro Happold, they also indicated that the sole objective they were asked to prove was the equivalency of space for queue management at the station. Crowd Flow considerations not covered by the application or Dr Dickie’s review are highlighted in the second section of this note.
18. Paragraph 6.36 also references the queue conditions on other event-day types – ‘*Excessive queues can be experienced for concerts, boxing matches, occasional football matches with late finishes in the current queuing arrangements however this can be safely resolved through the Event Management Plan with measures such as effective communication to spectators.*’ This indicates that there is recognition of a series of event types where different crowd conditions will occur and there will be a need for different management. This is known by THFC and there is considerable effort on behalf of the club to plan for and manage crowd conditions in the Stadium vicinity. However, the Council does not have sufficient information to determine whether or not these issues can be addressed solely through an Event Management Plan before accepting a masterplan design.
19. Paragraph 6.38 states – ‘*The submitted parameters and illustrative masterplan can accommodate the spatial requirements required to enable the successful management of crowd flows on event days.*’ **It is not possible to make this statement on the basis of the evidence supplied as part of the submission, or the independent review undertaken on behalf of the Council. The scope of the assessments and conclusions are limited to the post-event queuing to access White Hart Lane Station, and therefore it is not proven that other aspects related to event day crowd flow, safety and management can be accommodated by the masterplan.**
20. **Fundamentally the objective of the Crowd Flow Study and any evaluation of the proposals must be to ensure that the application proposals are adequately designed so that they can safely accommodate event day crowd movement and associated operations**In Section 2 above we set out a number of highly material issues which have not been considered by the applicant in the Crowd Flow Study. In Section 4, we consider other items raised by Dr Dickie.

4. Additional Comments on Dr Dickie’s Documents

21. There are two recent documents available on the Planning Portal authored by Dr Dickie. These are:
- ‘Haringey Questions (May 31 2022) v3’ dated 14th July 2022
 - ‘Buro Happold – Crowd Flow study in support on Lendlease’s hybrid planning application concerning the High Road West development’ dated 13th July 2022

Comments on ‘Haringey Questions’

22. Dr Dickie’s document is drafted to provide direct answers to the questions he has been asked. THFC has not been provided with the email in which the questions were posed and therefore the rationale for their selection. The two questions posed are only related to the queuing provision and equivalency with the existing footprint and therefore his brief is tightly framed. He has not been (and in our view should have been) asked any questions about the wider ability of the scheme to safely accommodate event-day crowd flow.

23. Nevertheless, he does indicate that there are types of events where the queuing provision will need to be supported by an Event Management Plan for the proposals to be acceptable.
24. Dr Dickie references that the Event Management Plan worked well when there were rail problems on the day of the event which took place on May 1st 2022. There is also a comment around travel information supplied prior to the recent Guns N' Roses concert that was comprehensive and beneficial. These Event Management Plans (more specifically, the Local Area Management Plan or 'LAMP') were developed by THFC, with input from stakeholders. **Therefore, Dr Dickie is saying that the proposals are only acceptable for Category 2 events if accompanied by a Plan that has to be developed and implemented by THFC.**
25. Therefore, for the proposals to be accepted, THFC and the decision maker need to be satisfied that LendLease can develop a workable plan for these scenarios. It is clear from dialogue to date, that whilst there have been an ongoing discussions, they have yet to reach a conclusion. It does not follow that because an Event Management Plan appeared to work well previously that it can be applied/work well for all scenarios, given the fundamental changes to the environment both in the end state and during construction. Dr Dickie himself also indicates that NFL games are different to other Category 2 events, presumably due to the changes in the ability to communicate with attendees.
26. Dr Dickie clearly states that the assessment of the construction phases should not solely be a question of area and equivalency, and indeed highlights that Buro Happold themselves demonstrate that there are opportunities for improvements. Dr Dickie also categorically excludes the construction phasing when responding to the second question proposed by the Council. **The need to consider more than just the equivalency of space have not been addressed by the applicant as part of an update to their Construction Environmental Management Plan. It is therefore not appropriate to proceed without further scrutiny and development of these plans.**

Comments on 'July 13' Note

27. This document is a 'walk through' of the May 2022 version of the Crowd Flow Study produced by Buro Happold in support of the LendLease application, with commentary on specific points made in line. The document is structured to match the Study report and does not in itself state any objectives or formulate a conclusion. It appears to have been drafted to highlight points that have been added by Buro Happold since the February draft which Dr Dickie, Movement Strategies and THFC commented on in April 2022.

28. Dr Dickie indicates that more comprehensive detail on the data obtained (p5) and information on the assumptions behind the Legion modelling (p4) are necessary in order to establish the merit of the conclusions drawn. This is concurred with, and such a concern has led to a dialogue with Buro Happold to provide further clarity. Additional information has subsequently been supplied by THFC but not factored into an updated analysis.
29. Importantly, Dr Dickie later re-visits this point (on p9). *'Without detailed knowledge of the computer model and given what has been observed I would not be confident in drawing and conclusion other than the illustrative Masterplan is demonstrably superior to the existing layout as regards the SB queue provision.'* **If, as we suggest, there is a need to consider more than just the equivalency of space, then Dr Dickie indicates that the information supplied does not allow him to draw any conclusions beyond this.**
30. Dr Dickie notes that the analysis of a Concert scenario is not included and provided his own assumptions around this scenario. THFC has subsequently supplied their own assumptions for a concert scenario and the Guns N Roses concerts in July 2022 were monitored and observed. The Buro Happold Study does not include any analysis of a concert scenario.
31. The need for an Event Management Plan to achieve reduction or re-direction of spectators in the queuing areas is a conclusion drawn by Dr Dickie when reviewing the analysis of the 'stress test' scenario. By re-iterating that it is fundamental to the successful delivery of crowd management, it follows that the Council needs to be satisfied that that an Event Management Plan can be delivered for all foreseeable scenarios in the context of the Masterplan and the various construction phases. We do not consider that the Council is able to reach that conclusion based on the information currently provided by the applicant.
32. On p10, Dr Dickie states that – *'In this writer's opinion Fig 6-7, illustrating the current crowd flow procedures, seriously weakens THFC's objection.'* It is believed that this relates to an objection made by THFC about avoidance of 'funnelling' within queue systems. Fig 6-7 shows an image of the flow past the temporary HVM at the High Road-White Hart Lane junction during egress where 'funnelling' occurs in the current configuration. It is considered preferable to avoid funnelling within any egress flow system to minimise safety risks and/or need for mitigation. **As such, when any new parts of the system are designed, this should be avoided wherever possible.** The current situation is a result of the requirement from the Council to include an HVM at this location. It is understood that THFC expressed to the Council at the time that this introduced a pinchpoint and that they would seek to avoid this, but no alternative position was agreed and therefore THFC's Local Area Management Plan adapted accordingly.

5. Conclusions

33. THFC has accountability for the safety of crowds as they move to/from the Stadium through Zone Ex on an event day. The masterplan falls within Zone Ex. The LendLease justification of the scheme from a crowd flow perspective focuses on demonstrating that the masterplan has the equivalent space for the event day queues associated with White Hart Lane station. The approach is overly simplistic for the reasons set out. The Planning Application Sub-Committee report (and questions asked by the Council of an Independent Crowd Expert) have followed this line of thinking. As identified in review, there are a series of omissions from the application and supporting evidence related to crowd movement, a number of which have implications for the spatial requirements.

34. Furthermore, the review by the Independent Crowd Expert indicates that there is a category of event where the acceptability of the proposals are subject to the design and successful implementation of an Event Management Plan. It has not yet been demonstrated that a successful Event Management Plan is capable of being delivered within the proposed scheme.
35. As set out above Dr Dickie also categorically excludes the construction phasing when responding to the second question proposed by the Council. Therefore, this key issue has not been considered.
36. **As such, we do not consider that the application fully demonstrates that safe and efficient crowd flow operations can be provided throughout the 10-year construction phase and also during the 'end state'. The implications for this may be a requirement for uplifts in event-day management, with associated costs and impacts on local amenity, or a reduction in the licensed capacity of the venue.**