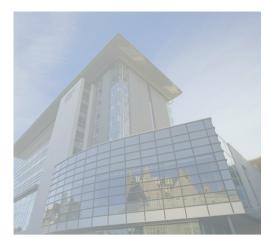
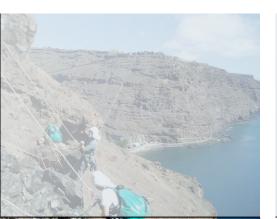
Independent Review of Crowd Congestion Incident at Celtic Park on 2nd September 2018

Summary, Conclusions and Recommendations

27 March 2019







FAIRHURST



9 Summary, Conclusions and Recommendations

9.1 Introduction

On Sunday 2nd September 2018, Celtic FC played an SPFL match fixture against Rangers FC at Celtic Park. The match was scheduled to kick-off at 12pm and was attended by 56,294 supporters.

Prior to the match a significant crowd congestion incident occurred in the North Stand underpass. Movement through the underpass, which was being used by home supporters to navigate around the stadium, stopped at approximately 11.39am as a result of crowd congestion that built-up.

Following the incident, Fairhurst was appointed to act as an expert advisor to Celtic Plc ('Celtic'). The scope of advice instructed to Fairhurst was:

- To undertake an independent review into the root causes and contributory factors of the incident; and,
- As secondary issues:
 - a) To identify any issues which Celtic may require to address in a "Lessons Learned" section; and,
 - b) To consider what improvements, if any, could be made to prevent a future recurrence.

Fairhurst established a dedicated and professional team of suitably competent, qualified and experienced health and safety practitioners to conduct the independent review. One of the team is a former senior ranking Police Officer with an English based constabulary, and the other members of the team are Chartered Safety Practitioners who specialise in safety management at major sporting events.

All members of the Fairhurst review team have considerable expertise in health and safety matters relating to major public events, and particularly in the planning and operational delivery of safety and contingency arrangements for events held globally. The practical knowledge and experience within the review team includes major events held in stadia and in non-stadia environments, including Premiership and Champions League football matches played in some of the UK's largest stadia.

The Fairhurst team was led by our Lead Safety Consultant who is a Chartered Safety Practitioner with over 20 years' experience as an Event Safety Officer for major public events and is also an active member of the Football Safety Officers Association (FSOA). He also has an extensive in-depth knowledge of Celtic Park and its surrounding environs, having been involved in previous crowd analysis and infrastructure development projects in the locale of the stadium.

Information and data collected for the independent review was obtained through formal written requests; organised meetings; and one-to-one discussions, both in person and by telephone.

On Monday 10th September 2018 Fairhurst co-ordinated a multi-agency incident review meeting as part of the independent review process. The meeting was attended by representatives of Celtic, Police Scotland and Scottish Ambulance Service. The review meeting facilitated direct discussion with those who were involved in pre-match safety planning and in the operational management of the incident. This meeting is considered to have been particularly beneficial to the course and depth of the review process.



In addition to direct engagement with key stakeholders and in order to ensure that the review was as wide reaching as possible, an open consultation exercise was undertaken and supporters who were affected by the incident were invited by Celtic to contribute their feedback and observations to the review process. Over 490 items of supporter feedback were received and considered by Fairhurst.

Extensive CCTV recordings from the stadium on 2nd September 2018 were also examined as part of the independent review.

9.2 Overview of Root Causes and Contributory Factors

Review of the information collected by Fairhurst has identified that there was no single direct cause for the incident and that a number of individual factors came together and contributed, to varying degrees of influence, towards the incident. While some of these identified contributory factors have remained constant at previous fixtures held at the stadium, others were specific to the fixture on 2nd September 2018.

It is the opinion of Fairhurst that the all of the identified contributory factors listed below acted collectively to present a unique set of circumstances on the 2nd September 2018, which had not occurred previously at Celtic Park:

- Segregation arrangements and the balance of supporter attendance numbers;
- A constrained window for arrivals of supporters attending the match as a result of the combined effect of:
 - scheduling of the fixture;
 - a limited public transport availability;
 - closure of the railway station closest to the stadium;
- The density of home supporter's peak arrival flows at the stadium and the impact on the North Stand underpass in the pre-match phase;
- Activation and effectiveness of contingency intervention actions.

Whilst some of these factors lie outwith the direct control and influence of Celtic and of partner agencies who were directly involved in the planning and preparation for the match, opportunities have been identified to influence other factors in future planning and preparation. Each of these factors is explained in more detail below.

Segregation and supporter numbers

The crowd at the Celtic v Rangers fixture on Sunday 2nd September 2018 was made up of 54,344 home supporters and 796 away supporters, with the balance being hospitality guests.

This crowd make-up represented a new balance of supporter numbers and segregation arrangements, compared with previous fixtures played between the clubs at Celtic Park. At previous fixtures approximately 7,000 away supporters were in attendance. The crowd make-up on 2nd September 2018 resulted in an estimated 6,200 seats that were previously occupied by away supporters being occupied by home supporters at this particular fixture.

The North Stand underpass was being used to facilitate two-way movement, East and West, around the stadium. Celtic, with support from Police Scotland resources, implemented solid segregation on the southern part of the stadium footprint, adjacent to the turnstiles being used by away supporters,



as was usual practice for matches against Rangers FC at the stadium. The underpass was the only feasible circulation route available to home supporters during the peak arrival flows for home supporters as the circulation routes located to the South of the stadium had been closed for the purposes of segregation and hostile vehicle mitigation with effect from 10.35 am. Police Scotland had determined that it was necessary to close the London Road corridor for the purposes of both segregation of home and away supporters and also for protection against hostile vehicles. The solid segregation cordons to the south of the stadium during the peak arrival flows for home supporters, were a significant contributory factor to the crowd congestion that resulted in the underpass.

Constrained window for arrival of supporters

A constrained window for supporter's arrival at the stadium existed. This constrained arrivals window resulted from the combined effect of individual factors including:

- Scheduling of the fixture;
- A limited public transport offering; and
- Closure of the railway station closest to the venue.

Scheduling of the match at 12 pm on a Sunday afternoon was determined by stakeholders, including the SPFL, Police Scotland and TV Broadcasters, Sky. This meant that there was a reduced window of time in which people attending the match would arrive at the stadium, particularly for those supporters who travelled long distances to attend the match and for those who used public transport services.

Significantly reduced public transport options were available to serve those attending the match. This was because reduced 'Sunday service' schedules operate, as standard, on bus and train networks serving the regional areas around the stadium. It has been identified that, on average, the overall reduction in service capacity, on both bus and train services, on Sunday mornings is approximately 50% of that provided for the equivalent time on a Saturday.

On Sunday 2nd September 2018 specifically, the already limited public transport options were further impacted as a result of pre-planned engineering works on the rail network. The closure of Dalmarnock station for pre-programmed engineering works had been communicated to supporters attending the match by Network Rail, Abellio Scotrail and by Celtic. Supporter feedback confirms that a number of supporters who would normally have travelled to the stadium by train found alternative means of travel due to the station closure. The exact number of people affected by the station closures could not be established.

Limited car parking options around the stadium, and the closure of London Road, to both vehicles and to pedestrians, is also considered to have led to an increase in the number of supporters who would have been required to transition between the East and West ends of the stadium, via the North stand underpass.

Indirectly, the impact from the railway engineering works and station closures is considered to have placed an increased demand upon the North Stand underpass by altering the approach routes and timescales of arrival at the stadium of an undetermined number of supporters. This, acting along with increased density crowd 'pulses' that arrived at the stadium in the 20 to 30 minutes prior to kick-off, together with the fact that the only feasible circulation route around the stadium during the peak arrival flows for home supporters was through the North Stand underpass (due to segregation



arrangements), is considered likely to have contributed towards the significant crowd congestion that occurred in the underpass. Analysis of turnstile data shows that, while the arrivals timeframes for home supporters remained in line with that for the previous Celtic v Rangers fixture on 29th April 2018, the number of supporters associated with each 'pulse' was larger, commensurate with the increase in home support ticket allocation.

Density of home supporter peak arrival flows at the stadium and the impact on the North Stand underpass in the pre-match phase

The physical characteristics of the North Stand underpass are such that the 7.3m wide passage is served by significantly larger and 'funnel-like' approach routes to it at either end of the stadium. This physical layout, which is such that the potential input volume to the underpass significantly exceeds the throughput volume that can be achieved in the underpass, means that access into and through the underpass must be managed.

Documentation reviewed by Fairhurst confirms that Celtic acknowledges and embraces its legal responsibilities for managing safety at the stadium. A robust and structured suite of management processes have been developed to ensure the safe operation of the stadium. Management processes are complemented by match-specific arrangements developed in advance of each match fixture. All safety management arrangements are overseen and applied under the supervision of a Club appointed Safety Officer (and supporting team members) who hold high levels of experience and familiarity with delivering events at the stadium.

The match on 2nd September 2018 was correctly categorised as a category CIR, in line with recognised match categorisation used in Scotland. Planning arrangements were in line with those expected for a high profile category CIR fixture. This view was also recorded by the independent SPFL Match Delegate who oversaw the planning processes and match-day operations.

Pre-match planning processes were extensive, and positive collaboration existed between partner agencies throughout all stages of planning and delivery. This included the hosting of joint-agency planning meetings and site inspections/recces. These practices are considered to have been positive and should be continued for future fixtures.

Risk evaluations, for all phases of the match-day, led to operational and tactical management plans being developed by Celtic and partner agencies to safeguard the entire event.

Evidence shows that risks associated with crowd movement through the underpass had been identified at planning stage and that operational management plans had been considered and implemented. The Review has confirmed that those who were in command and in control of the match on 2nd September 2018 had been appointed to their roles in line with structured criteria and competence requirements. Structured briefing processes were also in place for all Safety Stewards and Police Officers who were working at the match. Review of documented Roles and Responsibilities identified a small number of inconsistencies in the documentation. However, these documentation errors did not influence arrangements on the day or affect the manner in which the incident was dealt with.



An extensive and sufficient number of Safety Stewards, Police Officers and other disciplines, such as Fire Stewards and medical personnel etc. were employed for the match. Operational resource deployments by Celtic and by Police Scotland were in line with well-established operational plans used successfully for previous similar fixtures at the stadium.

The total occupancy of the stadium for the fixture held in September 2018 increased by only 133 people compared with the total occupancy for the previous Celtic v Rangers fixture held in April 2018. However, the change of balance in supporter numbers, and segregation arrangements required to manage the revised balance of supporter numbers, resulted in the home support increasing by 6,193 (+12.87%) compared with the previous match in April 2018.

Analysis of turnstile data captured for the September 2018 fixture shows that, until approximately 45 minutes prior to kick-off (11.15am), the stadium loading rate was on trend with the projected arrivals rate for home supporters.

After 11.20am the rate of loading of home supporters into the stadium reduced, meaning that by 11.30am (30 minutes prior to kick-off) the total number of home supporters who had entered the stadium had achieved only 97.3% of the number that were projected to have entered by that time. By 11.50am the level had further reduced to 93.3% of the projected number. These evaluations have been determined using historical turnstile data recorded at the Celtic v Rangers fixture held in April 2018 as baseline reference.

Peak ingress flows through turnstiles for home supporters at the September 2018 fixture were recorded between 11.30am and 11.35am. For the previous fixture in April 2018 the peak inflow of home supporters was recorded between 11.35am and 11.40am. It is the opinion of Fairhurst that, had there not been significant congestion in the only circulation route outside of the stadium, i.e. the North Stand underpass, it is likely that the actual peak ingress rate for home supporters attending the September 2018 match would also have been recorded between 11.35am and 11.40am.

Comparison between turnstile data recorded for the Celtic v Rangers fixture on Sunday 2nd September 2018 against baseline data captured for the Celtic v Rangers fixture on Sunday 29th April 2018 demonstrates that, while the total home support occupancy rates within the stadium for the September 2018 fixture were always higher than those that were achieved for the April 2018 fixture, from 11.15am onwards the occupancy numbers always fell short of what would have been projected.

It is the opinion of Fairhurst that this is a clear indicator that the increased congestion and greater demand being placed upon the only practical circulation route around the stadium that was available to home supporters, i.e. the North Stand underpass, during the peak arrivals flow for home supporters directly affected the rate of loading into the home supporter sections of the stadium. It is also the opinion of Fairhurst that the turnstile data identifies that the crowd congestion incident was not caused by the late arrival of supporters to the stadium.

The density of home supporters' peak arrival flows in the North Stand underpass pre-match phase, as a result of a combination of the external segregation arrangements during the peak arrivals flows for home supporters and the constrained arrivals window, was greater than had been experienced at previous Celtic v Rangers fixtures..



Data collected as part of the review shows that those who were in command of the event were aware of the progressive crowd congestion build-up in the underpass prior to the point when movement stopped. Intervention actions were instructed to help mitigate the congestion build-up and dynamic judgements were being made throughout. These judgements were based upon a holistic overview of the entire stadium footprint and on past practical experiences of how the underpass had been used in similar circumstances.

Records show that the flow of pedestrians into the underpass is often regulated, indirectly, by the extended queue lanes that form at turnstiles 6-13 and at turnstiles 32-39 located at either end of the underpass. However, on Sunday 2^{nd} September 2018, the extent of queuing at these turnstiles was not as significant as was usually the case, and extended queues did not materialise.

It is the opinion of Fairhurst that the absence of extended queuing at turnstiles 6-13, and the increased density of the home supporters' peak arrival flows identified above, are contributory factors to the crowd congestion incident that occurred within the underpass.

Ultimately, the control measures in place did not prevent the crowd congestion incident that occurred. Throughput capacity of the underpass was unable to accommodate the volume and unorganised two-way flow of supporters passing through it. As the incident occurred at a time which coincided with peak inflow arrivals of home supporters to the stadium, significant congestion built up very quickly in the underpass and at the North West approach to it and it was necessary for the pre-established contingency plan to be activated by the Celtic Safety Officer.

It is the opinion of Fairhurst that, for the future, opportunities exist to improve match-day records and to improve control measures to manage the movement of supporters through the underpass and to identify and manage crowd congestion build-up.

During the review, Fairhurst did not establish any confirmed reports of similar historical incidents, or recorded near-miss events in the North Stand underpass. Fairhurst did establish that the gates located within the North Stand underpass were not closed at any time in the lead-up to or during the incident.

Activation and effectiveness of contingency intervention actions

Data collected as part of the review shows that Celtic's evaluation of the risks associated with crowd movement through the North Stand underpass recognises the possibility that control measures to manage movement may not be successful. The Celtic Park Safety and Security Operations Manual therefore contains a contingency plan to close the North Stand underpass to prevent further ingress into the underpass.

The independent match-day logs maintained by Celtic and by Police Scotland confirm that those who were in command of the event and operating from the stadium Control Room were closely monitoring the situation within the North Stand underpass prior to the point when it became necessary to deploy the contingency plan to close the North Stand underpass using closed cordons and prevent further ingress to the underpass.

In advance of deploying the cordons, the Safety Officer, working closely with the Safety Overview and Match Commander, had instructed that other measures be implemented to help mitigate and reduce the severity of the congestion.



These dynamic decisions, made by those who were in command and using their detailed knowledge of the stadium environs and management arrangements that were in place that day, are recognised as being particularly important factors in achieving an efficient resolution to the incident. These intervention actions included switching turnstiles to manual over-ride and the redeployment of Stewards in order to remove physical segregation barriers and turnstile queue lanes formed of barriers. These actions would not have been obvious to those supporters who were involved in the congestion and were identified by Fairhurst as being critical to the successful and efficient management of the overall incident.

The contingency plan to restore full control of crowd movements was implemented under the direction of the Celtic Safety Officer immediately (at 11.39am) upon him receiving confirmation from Stewards located in the North Stand underpass that movement had stopped. A similar confirmation was also communicated (and recorded at 11.40am) to the Stadium Control Room by mounted Police Officers positioned at the North West corner of the stadium. Until that point, all efforts were being focussed towards maintaining movement through the underpass.

The incident did not escalate to a scale whereby it was necessary for any emergency services partners to declare a Major Incident. Primacy for managing and recovering the situation remained with Celtic at all times.

Some of the contingency measures that were implemented, such as closed cordons formed by Stewards and Police Officers, individually, did not appear to be wholly effective in their objectives at the outset.

The review has identified that this was, in part, because the Stewards and Police Officers were not obviously visible to supporters due to the significant crowd density. Limited communication from the Stewards and Police Officers to supporters was also considered to be a factor. However, once the combination of contingency actions, including closed cordons; safety announcements made over the public address system; and removal of segregation lines to the south of the stadium had been appropriately aligned through co-ordinated joint agency working under the direction of the Celtic Safety Officer, the situation was resolved quickly and 98% of supporters managed to successfully gain entry to the stadium prior to kick-off.

Evidence shows that:

- No serious injuries occurred as a result of the incident, and there were no injuries that were consistent with crushing;
- The entire congestion was cleared from the locus within 20 minutes of contingency cordons being implemented; and
- 98% of all supporters had successfully entered the stadium by the start of the match.

A decision, based upon a dynamic assessment of other likely impacts, was made by the Safety Officer not to delay kick-off as a result of the incident.

Regular joint exercising by Celtic Stewards and Police Scotland Officers of the pre-established contingency plan played a significant part in helping to recover the situation. These practices should be continued.



Another significant factor in the positive resolution of the incident was the behaviour and mutual concern displayed by those supporters who were involved in the incident.

It is the opinion of Fairhurst that communications issued to supporters during the progress of the incident could have been improved. In particular, engagement by Stewards and Police Officers with supporters in the early stages of dealing with the incident could have been more effective. Announcements over the stadium public address system were considered to have been particularly effective in helping to resolve the incident. The manner in which communication is made with supporters during incidents of this nature has been identified as an area for improvement.

Based upon records made available, it is the opinion of Fairhurst that there are opportunities to improve arrangements relating to the activation and the effectiveness of contingency arrangements associated with managing crowd movement at the North Stand underpass.

9.4 Other matters

Pre-match communications

Pre-match communications issued by Celtic and by Police Scotland were limited in their number and over a shorter timescale, compared with communications that would normally be issued for a Celtic v Rangers fixture at Celtic Park. The scheduling of the match fixture, approximately 2.5 days after a significant UEFA Europa League fixture, (Celtic v FK Suduva, 30.08.18), at the stadium, was a key factor in the limited communications.

Celtic's communications strategy aimed to avoid generating confusion for supporters attending either of the Celtic v FK Suduva or Celtic v Rangers matches. Communications that were issued by the Club did appear to have been largely effective, despite being limited in number and reach, although there were many supporters who were not aware of any advanced communications from the Club or from Police Scotland.

Some confusion existed through contradictory social media messaging issued by Abellio Scotrail and by Network Rail. However, this confusion is not considered to have had any direct influence on the incident that occurred in the North Stand underpass.

It is the opinion of Fairhurst that there are opportunities to improve communications shared through the Club and partner agency media channels.

Behaviours and communications from Stewards and Police Officers

In the feedback received from supporters who attended the match a number of separate and individual concerns were reported about behaviours and communications from individual Stewards and Police Officers at the stadium. Overall, the main concerns expressed by supporters related to the apparent lack of knowledge of or appreciation of the severity of the incident. There were also comments expressed in supporters' feedback to behaviours and attitudes displayed by individuals that were not expected from officers of Police Scotland. Recognising the cumulative number of the reports and the importance of these issues, Fairhurst recommends that Celtic should review this supporter feedback with Police Scotland. All applicable reports received from supporters, suitably anonymised, will be passed to Celtic by Fairhurst.



9.5 Recommendations

On 6th September 2018 Fairhurst accepted an instruction from Celtic to commence with an independent review of the crowd congestion incident that occurred in the North Stand underpass on 2nd September 2018. The review exercise commenced immediately through the collection and review of data and organisation of meetings with primary stakeholders involved with the planning and delivery of the match.

In September 2018, Fairhurst suggested short-term control/mitigation measures to be considered by Celtic. Whilst these suggested mitigation measures are included within the final list of recommendations noted below, it is recognised that many of the recommendations have already been implemented by Celtic for matches held in the period since the crowd congestion occurred.

During the course of the independent review exercise, Fairhurst attended pre-match planning meetings for successive and high attendance fixtures to be played at Celtic Park following the incident on 2nd September 2018. This was to assist stakeholders with the measurement of planned safety control measures, against the initially identifiable contributory factors to the crowd congestion incident on 2nd September 2018. The pre-match planning meetings attended by Fairhurst included:

- Celtic v Rosenberg BK (20.09.18), pre-match planning meeting on 19th September 2018
- Celtic v Heart of Midlothian (3.11.18), pre-match planning meeting on 31st October 2018
- Celtic v RB Leipzig (08.11.18), pre-match planning meeting on 31st October 2018

Having completed the independent review and identified a range of contributory factors to the crowd congestion incident and evaluated them against the arrangements that were in place for the Celtic v Rangers match fixture on 2nd September 2018, the following specific recommendations have been offered for Celtic, and partner agencies, to consider:

Pre-Match Planning

- 1. Maintain the positive and collaborative joint working approach across stakeholder organisations and continue to facilitate cross-organisation joint decision making at senior management levels, (where possible). Maintain the well-structured teamwork approach to support senior management roles/responsibilities.
- 2. Review documented roles and responsibilities for all stakeholders and individuals in management hierarchy and seek to agree, where possible, defined intervention thresholds for contingency deployment, to overcome individually subjective interpretations.
- 3. Continue the good practice of conducting pre-match joint-agency site inspections/recces to benefit situational awareness for dynamic decision making.
- 4. Review options to ensure that spectator attendance numbers and segregation arrangements for fixtures are aligned and are proportionate to maintain safe and efficient access/circulation around the stadium.
- 5. Consider alternative segregation arrangements to maintain transition routes along South circulation areas at the stadium.



- 6. Review the safe throughput capacity of the North Stand underpass and evaluate against anticipated peak flows for each specific match fixture. Anticipated peak flows for each fixture should be used to inform operational control measures.
- 7. Seek to engage with relevant stakeholders regarding fixture scheduling, including known/likely crowd attendances, transport options and the impact on the arrival and departure window for supporters. Continue to consider scheduling and its impact on arrival and departure of supporters during pre-match planning.
- 8. Consider establishing a Traffic & Transport working group to optimise and publicise transport options for supporters attending matches.
- 9. Review and promote parking options on all approach routes to stadium, to help balance and minimise impact on circulation spaces around stadium.
- 10. Consider extending pre-match risk assessment process to include reference to, and recording of, baseline data used in assessments (historical attendance numbers and arrivals profile etc) and evaluation of match specific arrangements. Review risk assessment process to record/report identified consequential impacts of significant decisions, such as closure of circulation routes to South of stadium.
- 11. Consider undertaking strategic review of directional signage, including placement and content of signs, in parallel with an assessment of spectator movements around the stadium.
- 12. Consider extending CCTV coverage at key locations around the stadium, and the feasibility of automated systems to provide early alerts of increased density and/or abnormal crowd movements.
- 13. Review operational deployment for mounted police officers at the stadium, and particularly their remit and positioning in respect of crowd movement through North Stand underpass.
- 14. Consider appointment of additional trained individuals, dedicated to live monitoring of the North Stand underpass and approach spaces to it, to ensure early identification of problems and deployment of intervention controls. If implemented, ensure all areas of space to be monitored by designated duty holders can be seen clearly from deployed monitoring positions.
- 15. Review briefing information provided to Stewards and Police Officers and consider providing all event staff, including Stewards and Police Officers, with stadium layout plans, noting all gates/fences and other assets clearly labelled and with grid-referencing system to ensure accurate referencing.
- 16. Review prepared contingency plans, including pre-match deployment checks for contingency stand-by resources. This should include a review of arrangements for 'coded' communications to event staff.
- 17. Ensure contingency/scenario planning and information exchange between stakeholders is maximised to align cross-agency tactical and operational plans.



- 18. Maintain regular joint-agency practice of contingency actions, in particular contingency cordons deployments.
- 19. Consider establishing a communications working group, with multi-agency stakeholder input, to agree messaging and communication platforms to maximise potential reach for key messages.
- 20. Consider evaluating the audibility of the Public Address system against background noise generated by dense crowd build-up in the enclosed underpass space.

Match-day Operations

- 21. Review operational plans to ensure consistency across all agencies and that it is recorded that management action is co-ordinated through single oversight, i.e. Safety Officer.
- 22. Review communications structure and protocols to ensure that efficient lines of communication can be maintained throughout entire safety management hierarchy, from Control Room, through Stewards to supporters.
- 23. Consider the feasibility of adjusting the physical layout of the North Stand underpass /approach routes using infrastructure and/or applied management controls, such as:
 - Managed two-way contraflows;
 - Contingency stand-by resources to regulate crowd inflow to underpass and/or crowd movement on approach routes; and
 - Enhanced signage and physical barrier delineations.
- 24. Continue to maintain close monitoring of turnstile use to ensure supporters use designated turnstiles unless contingency plans have been activated. Optimal stadium loading balance could be affected.
- 25. Review operational deployments for Stewards and Police Officers in and around the North Stand underpass and consider ways to make Stewards/Police Officers easier to identify in dense crowds, e.g. extend uniform provision to include high-visibility headwear.
- 26. Ensure comprehensive records of all key decisions, actions and communications are maintained in match-day logs. Consider if upskilling of staff is required and the benefits of a singular event logging system, to be used by all stakeholders.
- 27. Consider benefits of recording all audio communications on two-way radio networks.

Post-match follow up

- 28. Consider reviewing arrangements for recording learning outputs from post-match 'hot de-brief' meetings.
- 29. Ensure media responses to all situations, including any emergency/contingency situations are agreed jointly by stakeholders (as far as is possible) prior to release.

While most of the recommendations listed above are uniquely associated to the crowd congestion circumstances that occurred on Sunday 2nd September 2018, a number of the recommendations do



not relate specifically to the events of Sunday 2^{nd} September 2018 and are general recommendations based on Fairhurst observations and which are offered to assist Celtic with the continued safe operation of the stadium.





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