



Anthony Moore <[REDACTED]>

Fwd: Planning and Highways Committee meeting - 24 September

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From: **Freyja Handy** <[REDACTED]>
Date: Wed, 23 Sep 2020 at 20:45
Subject: Planning and Highways Committee meeting - 24 September
To: Jennifer Atkinson <[REDACTED]>

Dear Jennifer

Please find attached, for information, a copy of a letter (with attachments) we have today sent to the Councillors who are due to attend the Planning and Highways Committee meeting tomorrow at 2pm.

Kind regards

Freyja

FREYJA HANDY

Senior Legal Counsel

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6 attachments

-  **Letter to Councillors re hearing on 24 Sept 2020.docx**
52K
-  **3-CRA-Market Growth Response.pdf**
523K
-  **Grant Thornton Executive Summary - Manchester Arena economic impact assessment 26 June 2019.pdf**
1176K
-  **CRA - Economic analysis of Manchester Arena Market - 11-06-2020.pdf**
2057K
-  **OVG Arena GHG Note F3.pdf**
498K
-  **5-AQC-Climate Change Response.pdf**
352K

23 September 2020

Dear Councillor

Application: 126431/FO/2020 – Erection of a multi-use arena with ancillary retail / commercial uses at Eastlands

Applicant: OVG Manchester Limited (“OVG”)

Determination Date: 24 September 2020

I refer to the above application which you have been asked to determine at the planning committee meeting tomorrow.

I am the Executive Vice President of ASM Global (Europe), based at the European headquarters in Manchester.

Who is ASM Global?

ASM global is a venue management business which formed in October last year when SMG and AEG Facilities merged. ASM Global has over 300 venues in its portfolio across five continents, which equates to 2.7m seats under management, over 160m guests hosted annually, and 61,000 team members.

The Manchester Arena is one of ASM Global's flagship venues.

Our vision for the future of Manchester Arena

My team in Manchester has been working on plans with our landlord and our new ownership to redevelop the Manchester Arena since spring 2018 to celebrate the Arena's 25th anniversary.

The scheme includes a dramatic reimagining of the exterior of the building, with a nod to Manchester's famous worker bee symbol by incorporating a honeycomb design on the façade, and use of digital assets. A copy of our plans are attached.

The planned changes go much further than revolutionizing the look and feel of the venue. The redevelopment works will improve accessibility and visitor experience by creating new concourses, new arrival experiences using cutting edge security technology, increasing the standing floor capacity, and new VIP offerings. We have also been working with the charity Nordoff Robbins to develop a music therapy hub as part of our redevelopment proposals, using music to enrich the lives of people with life limiting diseases, disabilities and feelings of isolation.

The proposed re-development works will cost up to £100m, and the cost of these works was approved prior to OVG's application for planning permission being submitted.

Why I'm writing to you

On 24 September 2020, the future of the Manchester Arena will be in your hands.

ASM GLOBAL EUROPE

Manchester Arena
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There is a real divergence of views in relation to the Application. On one hand, the evidence submitted by OVG (which is supported by a consultant, Hatch, appointed by the Council) suggests that the Arena events market will grow by **150%** by 2035. On the other, respected economic analysts Charles River Associates maintain this growth is '*vastly overestimated*' and based on '*cherry picked data*'. Taking into account trends for the past 10 years (and allowing for population growth, but ignoring likely market contraction caused by COVID-19) they estimate market growth at around **5%**.

The difference in the projections from these experts is staggering. I am sure you will be asking yourselves '*how can professionals in their field reach **such** different views on the same evidence?*' Do the experts fully understand the Arena events market? Have they consulted other (independent) venue operators to aid their understanding? Have they considered the funding business models for both venues to operate side by side? Even if OVG is right about market growth, (which we do not accept), what happens in the years leading up to 2035, when there aren't enough events for two venues to survive?

In particular, will the Manchester arena market double by 2023 when both venue plans would be completed? Has the analysis taken account of the £450m capital spent along with rents payable to both landlords? Is the market big enough (taking account of competing venues still in Liverpool, Leeds and Sheffield) to prevent business failure? (which may leave future investors in Manchester to question its attractiveness).

These are all questions which must be answered before the OVG scheme can be approved. If Charles River Associates is right, and the growth in the Arena events market remains fairly flat (as it has been for the last 10 years), granting planning permission for another Arena when there aren't enough events to support two venues will be the death knell for one of them.

We are not alone in worrying about the future of the Manchester Arena. You will have seen the number of objections from city centre stakeholders, including Legal & General, Aviva, DTZ Investors and The Arndale Centre who all have serious concerns about the impact of the proposed out of centre Arena proposals on the viability and vitality of Manchester City Centre. We and a number of the objectors were dismayed that the applicant had not undertaken a robust impact assessment of the proposed development on the city centre (which is contrary to the National Planning Policy Framework).

Many city centre bars, restaurants and shops have spoken publicly about their reliance on visitors and spending both before and after an event at the Manchester Arena. Because of transport congestion, OVG's transport plan involves getting customers to travel to Eastlands up to 3 hours in advance of an event and to stay for up to an hour after the event ends. If the events that currently take place at Manchester Arena are divided between the existing Arena and OVG's proposed Arena in Eastlands, or the Manchester Arena was forced to close, that would have a devastating impact on spend in the city centre, a location already under significant challenge.

Impact on our proposed investment

From the independent evidence we have seen from Charles Rivers Associates and Grant Thornton (copies attached) and based on the combined experience of ASM Global's management team (who have managed many of the world's most high profile arenas) we cannot justify spending £100m on redevelopment plans for the Manchester Arena when its future is under threat.

What are we asking from you?

We know that our objections will be met with scepticism and cries of '*they just don't want competition!*' which makes it easy to dismiss our concerns. We also understand this application *appears* very attractive – at a time when the economy is severely struggling it will bring construction jobs and benefits to an area

outside the city centre in need of further investment. But short term gain will come at too high a price for the city centre.

What we are asking for is a fair process. Please read our and the other city centre stakeholder objections which are supported by independent evidence. Carefully consider and weigh up the evidence yourselves.

This is a big decision which will impact and shape the city centre forever. It is vital that a decision of this importance is not rushed and that our, and other, objections (which include environmental concerns about carbon emissions – analysis from AQC is also enclosed) are fully and carefully considered by committee members, with more time permitted for proper scrutiny of the application in the context of our objections if necessary.

If you would like any further information, or to discuss any of the issues raised in this letter, I would be delighted to hear from you.

Kind regards,

Yours sincerely,

John Sharkey
Executive Vice President, ASM Global (European Region)

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Grant Thornton
An instinct for growth™

Manchester Arena

Economic Impact Assessment

26 June 2019



Introduction

Grant Thornton UK LLP, working with Oxford Economics, was commissioned to undertake an independent analysis of the economic impact of the Manchester Arena to Manchester and the wider Greater Manchester area.

As part of this work the analysis explored the wider music industry and entertainment market in order to better understand future trends and how this may change the economic contribution made by, and the commercial position of, Manchester Arena.

This report provides a summary of the analysis.

Approach

The analysis undertaken as part of this study was based on four components:

1. **Visitor survey** – A survey of 1,474 visitors who attended at least one event in 2018. The online survey contained a small number of closed questions designed to understand actual spending patterns based on previous visits to the arena alongside testing perceptions for how spending patterns may change in the future.
2. **Economic Impact Model** – Working with Oxford Economics a bespoke economic impact model was built. This model estimates the Arena's net economic impact within the Greater Manchester Economy, considering the direct, indirect and induced benefits associated with the Arena itself and the tourism spending it supports. The model also used survey data to robustly assess the additionality associated with the Arena (ie the extent to which spend could be directly associated with the visit to the Arena).
3. **Secondary data analysis** – Analysis of socio-economic and market specific data drawn from a range of public and private sources including but not limited to the Office of National Statistics, Mintel and Pollstar.
4. **Primary research** – A small number of semi-structured interviews were undertaken with industry promoters with the explicit purpose of better understanding future trends in the market.

The insight generated was drawn together and synthesised to provide the findings contained within this report.

Key Findings



£120m gross visitor spend



2,010 jobs supported



£55.9m GVA contribution to GDP



Over 90% of visitor spend occurs within the City Centre



56% of visitors would be less likely to travel into the City Centre if the event was outside of the city centre



Manchester Arena sells more tickets than the two Birmingham arenas



Three arenas already within a 60 minute drive time of Manchester Arena



46% reduction in events would make Manchester Arena loss making

The market for live entertainment is evolving but Manchester is well served

There is little doubt that the UK live entertainment industry is growing fuelled by more events, higher ticket prices and an increase in music tourism both domestically and internationally. On a regional basis Manchester would appear to consistently be one of the largest markets for live entertainment in the UK, second only to London.

Music tourism is growing...

On a regional basis, London, the North West and Scotland are the largest regions by numbers of music tourists, with the North West and Scotland welcoming over a million each and London over three million¹.

This, coupled with the presence of a strong local market and large population provide Manchester Arena with a strong visitor base.

..But it is not all translating into ticket sales

Looking at ticket sales over a ten year period reveals mixed fortunes.

London has been the biggest market by ticket sales for the vast majority of the past decade, with Manchester consistently sitting second. Amongst the other larger arenas in the UK there has been a constant jostling for third place with increasing competition following the opening of arenas in Liverpool (2008) and Leeds in (2017); which both had a downward impact on event numbers and attendance at Manchester Arena.

In general, however, arena ticket sales have declined. This is in part a result of the cyclical nature of the touring industry. It is also reflective of the increased competition that exists, not just between arenas but with alternative events such as festivals – which have doubled over the past decade and have a particular impact on arena events in the summer months. It is also a reflection of a more cautious consumer environment.

However, looking across a three year average (2015-2017² to account for the cyclical nature of the industry) shows that in terms of tickets sales Manchester has outsold Birmingham and highlights Manchester Arena's ability to successfully navigate the changing market (see table below).

Given that Birmingham is a city with two arenas, this also points to the potential limitations of the market and that an additional venue does not necessarily translate into a material increase in the number of shows or ticket sales.

City	Population	Number of arenas	Ticket sales per annum (3 year average)
London	8,908,081	2	2,015,478
Manchester	2,812,569	1	1,018,221
Birmingham	2,916,458	2	965,705
Leeds	2,320,214	1	500,280
Sheffield	1,402,918	1	398,353
Liverpool	1,551,497	1	238,178

Source: Grant Thornton analysis of Pollstar data and Office for National Statistics (ONS) data. Note: Populations are based on wider city region populations eg Greater Manchester for Manchester, the West Midlands Combined Authority area for Birmingham and Greater London for London.

1 Source: UK Music "Wish you were Here", 2017

2 Source: Pollstar, 2018 data has not been used due to limitations with the Pollstar data for this period.

The market for live entertainment is becoming increasingly competitive but Manchester is well supplied

By looking in detail at the catchment areas of nine large scale arenas across England an interesting picture emerges about the competitive future that exists.

Competition with a 60-minute drive

While attendees will travel to events using different modes of transport and a number will travel in excess of an hour, the 60 minute drive time catchment (see next page) provides valuable insight into the level of competition that exists.

The first observation is the significant overlap that exists between the catchments of the northern arenas (Liverpool, Leeds, Sheffield and Manchester).

The second observation is the variation in the population per arena within these 60 minute catchments (see table below). For Leeds and Manchester there are three arenas within an hours drive. With most others only having one or two.

The result is that the population per arena in both Leeds and Manchester is low: 2.3 million and 2.5 million respectively. Especially when compared to the two London arenas, where the population per arena is much higher at 5.5 million and 6.5 million.

It is a level of competition that is exacerbated if the proposed Eastlands arena is included in the analysis. For Leeds and Manchester this results in 4 arenas within an hours drive and a population per arena of 1.7 million and 1.9 million respectively.

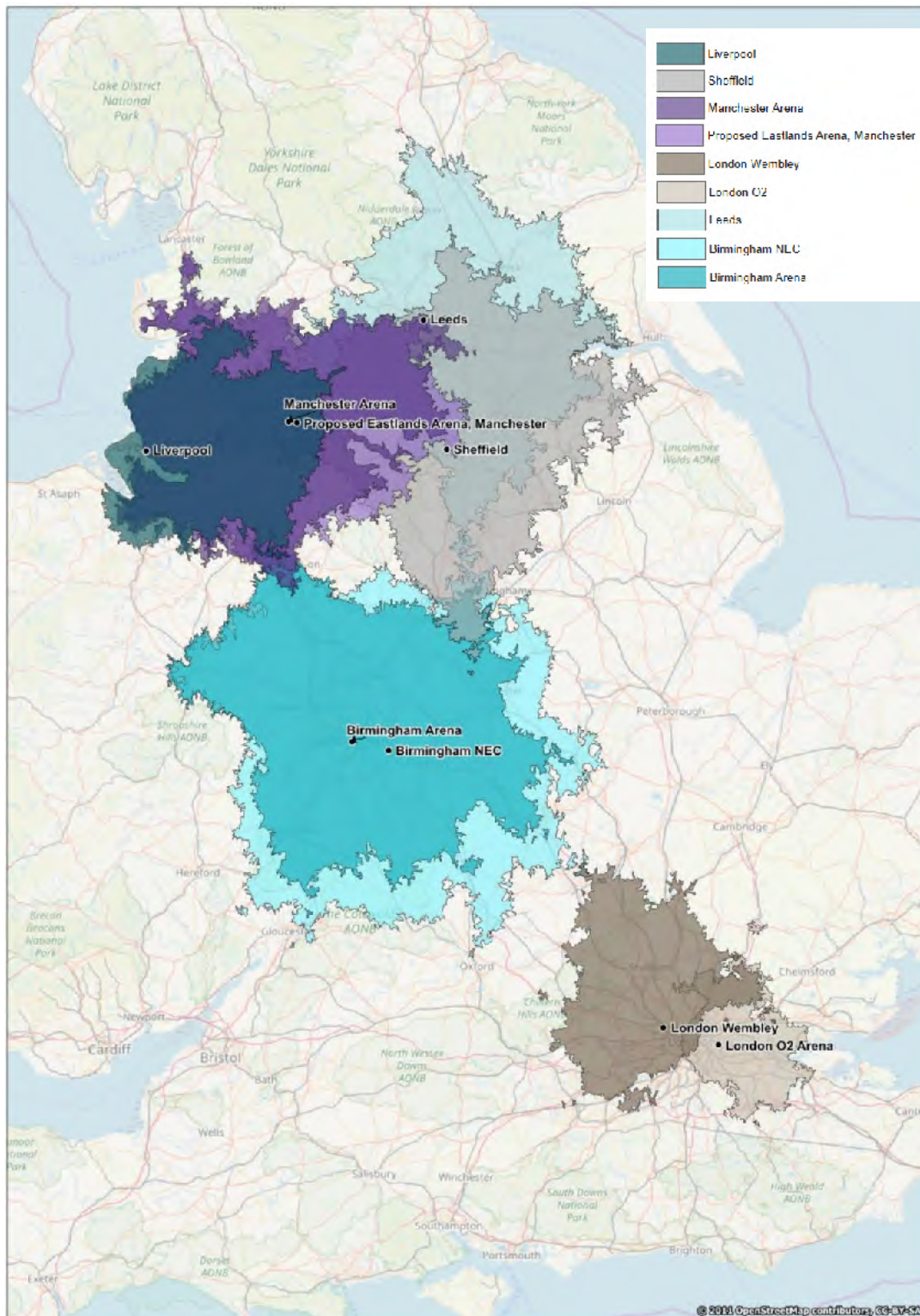
Arena Catchment	Total popn.	Arena capacity	Arenas in catchment (excluding proposed Eastlands Arena)	Popn. per arena (excluding proposed Eastlands Arena)	Arenas in catchment (Including proposed Eastlands Arena)	Popn per arena (Including proposed Eastlands Arena)
Birmingham Arena	6,275,187	15,800	2	3,137,594	2	3,137,594
Birmingham NEC	7,687,271	15,685	2	3,843,636	2	3,843,636
Leeds	6,798,824	13,780	3	2,266,275	4	1,699,706
Liverpool	5,471,767	11,000	2	2,735,884	3	1,823,922
London O2 Arena	5,496,501	20,000	1	5,496,501	1	5,496,501
London Wembley	6,510,602	12,500	1	6,510,602	1	6,510,602
Manchester Arena	7,519,697	21,000	3	2,506,566	4	1,879,924
Proposed Eastlands Arena, Manchester	7,178,744	In excess of 20,000	2	3,589,372	3	2,392,915
Sheffield	5,717,575	13,600	2	2,858,788	2	2,858,788

Source: Grant Thornton analysis of Office for National Statistics (ONS) data, Arena websites and Eastlands Regeneration Framework 2019 Update

Note: This analysis excludes the already announced and committed new venues of Factory and Mayfield Depot in Manchester

The market for live entertainment is becoming increasingly competitive but Manchester is well supplied

Arena 60 minute drive-time catchments



Source: Grant Thornton analysis

It is a change that is identified by those at the heart of the market

By gathering perspectives from a number of the UK's leading concert promoters colour is added to the data analysis and insight is gained around how the industry is evolving and the levels of competition that exist.

An evolving industry

Promoters identified a number of trends affecting the industry

Growth but variety – The live entertainment industry is both growing and becoming more varied. This presents unique opportunities (a wider array of productions) and challenges (bigger and more expensive productions) to the industry

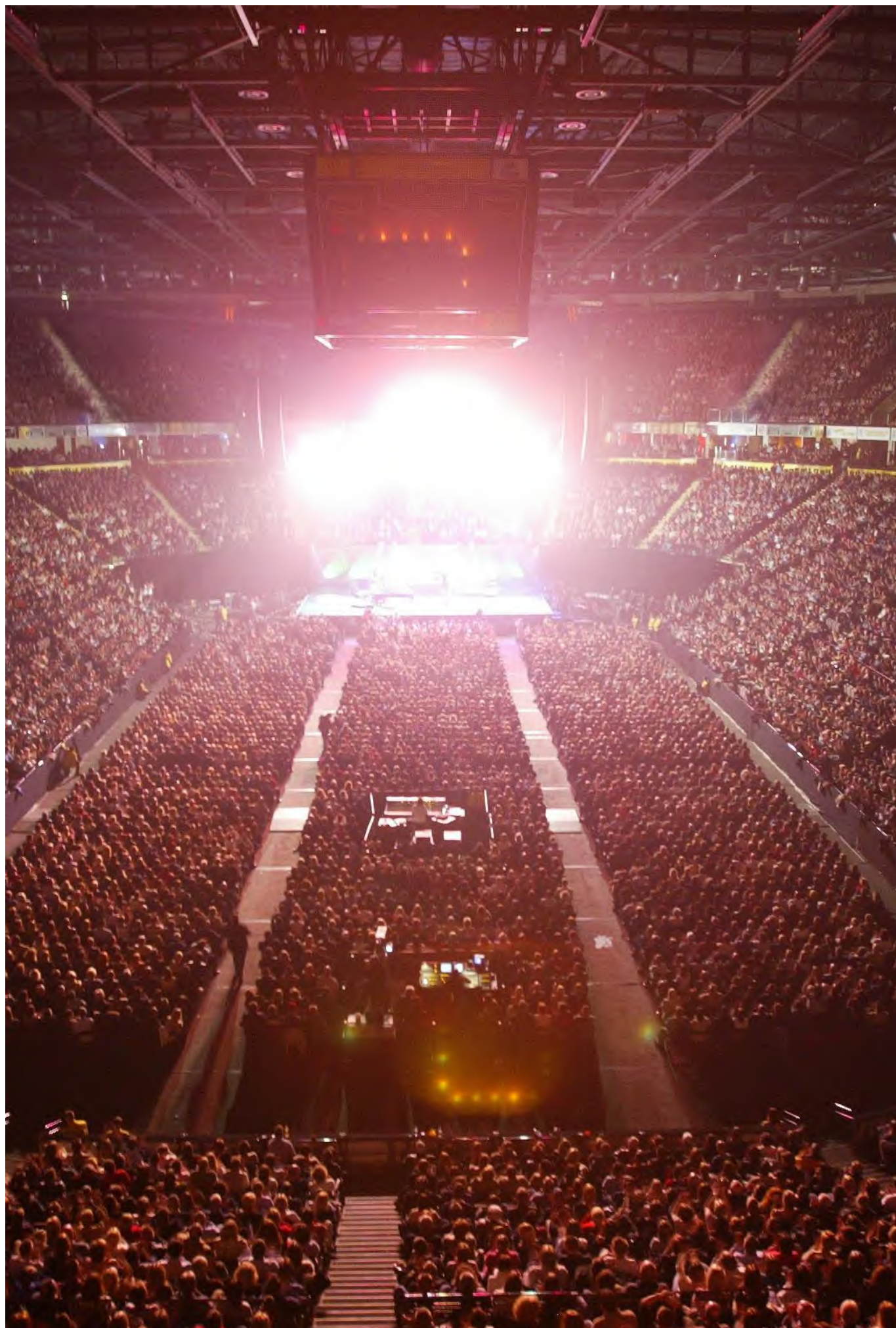
Increasing costs – There has been an increase in ticket prices as a result of both more expensive production and the secondary ticket market showing how much consumers are willing to pay for live experiences. However, there was a strong sense that the industry may be on the verge of overcharging and that increased competition may mean that competing for consumer spend is more difficult.

Virtual reality – As affordability and accessibility to VR improves there may be a shift in consumer behaviour with a “global” tour performed once and streamed worldwide through various VR packages.

A competitive future

The scale of competition is supported by the views of the promoters, as they noted:

- A market that will grow steadily over the next 5-10 years but not exponentially
- Questions over whether there is enough content in Manchester for a second arena to flourish
- Existing capacity within the UK's current offering with specific points made around Manchester Arena being able to provide availability for every show offered
- The growth in the number of shows but a reduction in capacity
- That the increase in shows creates even greater competition to sell tickets – with promoter profitability only coming with the sale of the last 10-15% of tickets
- The need for live entertainment to respond to consumer demand quicker than ever
- The rise of alternative smaller venues
- Increasing competition from other cities (such as Bristol) who want to tap into the market
- The growth in outdoor events and festivals
- A market where it is easier than ever to tour but one with a lack of truly high quality acts that can consistently sell out arena tours



Manchester Arena makes a significant contribution to the vibrancy of Manchester City Centre

Manchester Arena contributes directly to the local economy through both its operational impacts as well as those generated through visitor-related spend that the Arena attracts to the area.

These direct impacts grow as money flows into the local economy through supply chains expenditure and wider consumer spending.

The findings presented below are the 'net economic impacts' and are the additional benefits to Manchester that are directly attributable to Manchester Arena.

Operational and HQ impacts

Through its day to day operations and the presence of the SMG Europe HQ, the Manchester Arena directly sustained 730 direct jobs in the local economy, generating £4.3m in direct earnings and £12.7m in direct GVA contributions to GDP.

After considering supply chain spending and consumer impacts, it is estimated that the Arena supported a total of 890 jobs, £8.1m in wages and £22.9m in GVA contributions to GDP within Greater Manchester.

Visitor related impacts

Gross spend within Greater Manchester by all visitors to the Arena in 2018 was estimated to be £120m. Nearly all (95%, or £114m) of this is estimated to have taken place in the city centre.

Accounting for the fact that many local residents attending events at the Arena may have spent their money in the Greater Manchester area anyway it is possible to calculate a net visitor spent, ie money brought into Manchester as a result of the arena. Net visitor spend was estimated at £45m in 2018, as before nearly all of this was in the city centre (91% or £41.2m).

This net spend is estimated to have sustained 1,120 jobs throughout Greater Manchester, resulting in £19.5m in earnings and a £33m GVA contribution to GDP.



Over 90% of visitor related spend occurs in the city centre

Total net economic impacts

	Jobs	Wages (£2016m)	GVA (£2016m)
Direct	1,590	£17.7	£33.6
Indirect	220	£5.5	£12.3
Induced	210	£4.5	£9.9
Total	2,010	£27.6	£55.9

Source: Oxford Economics, SMG Europe

Supporting a broader, vibrant economy

Through the interviews with promoters it was clear that Manchester Arena supports a broader array of benefits than those that can be quantified by the economic model. These include:

Supporting Manchester's position as a market leader in the entertainment and music industry, often viewed as the UK's second city for music tours after London.

Providing a high quality arena with respondents commenting on the quality of the atmosphere, the physical layout and the event experience for both performers and audience

Building on Manchester's rich music heritage, something that is particularly true for indie and soul.

An arena outside of the City Centre has implications for the City Centre economy

With a proposed new arena outside of the City Centre there are implications for both the city centre economy as it would change visitor behaviours and spend.

Changing behaviours

56% of visitors to Manchester Arena, who were surveyed, said they were less likely to travel into the city centre from an arena outside of the city centre; 30% of these visitors said they were 'much less likely' to travel into the city centre.

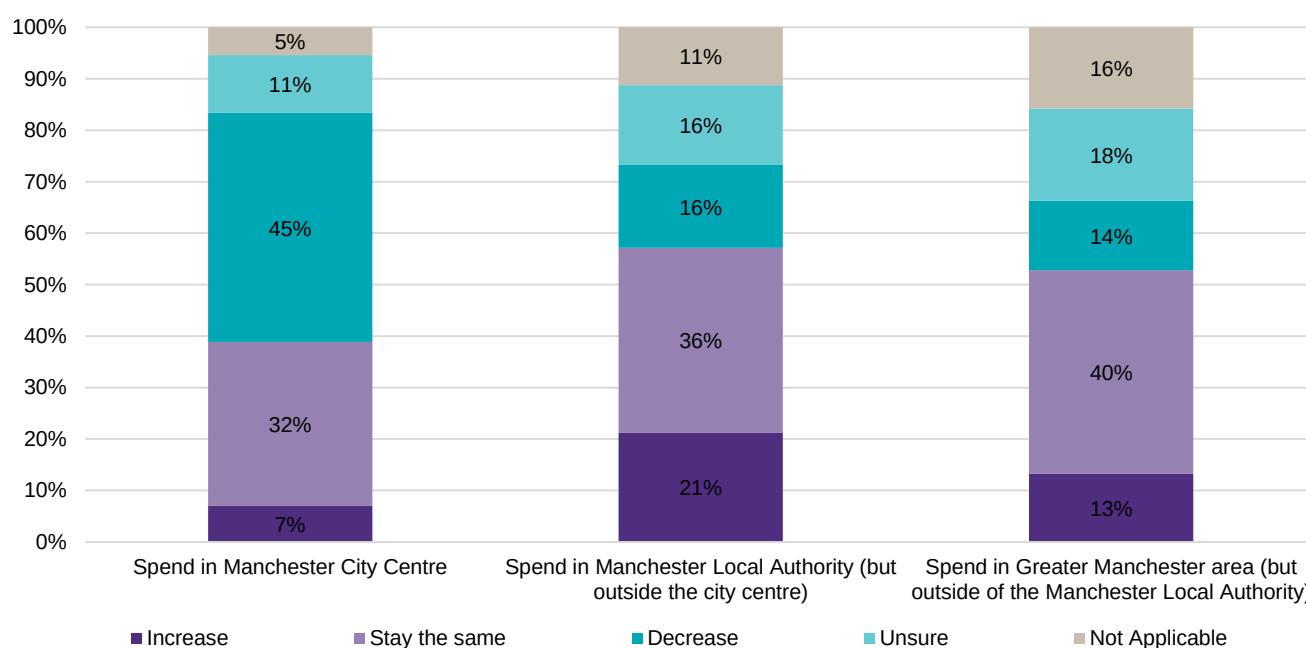
Changing spend

It is a change in behaviour that would also impact on spending patterns with 45% (see graph below) expecting their spend in Manchester City Centre to decrease.

Of those that stated that they would spend less in the city centre, 59% stated they would spend 76-100% less, 14% stated they would spend 51-75% less, 16% stated they would spend 26-50% less and 12% stated they would spend 1-25% less.

Changes of this nature and magnitude would have notable impacts for the city centre and significantly reduce the economic benefits felt in the centre.

How do you think your spend before and after the event would be different compared to your recent visit to the Arena?



Source: Grant Thornton analysis of survey data

An arena outside of the City Centre has implications for Manchester Arena and SMG Europe HQ

Alongside impacts on the city centre economy, changes in the market and the potential impact of losing events have a number of commercial implication for SMG Europe

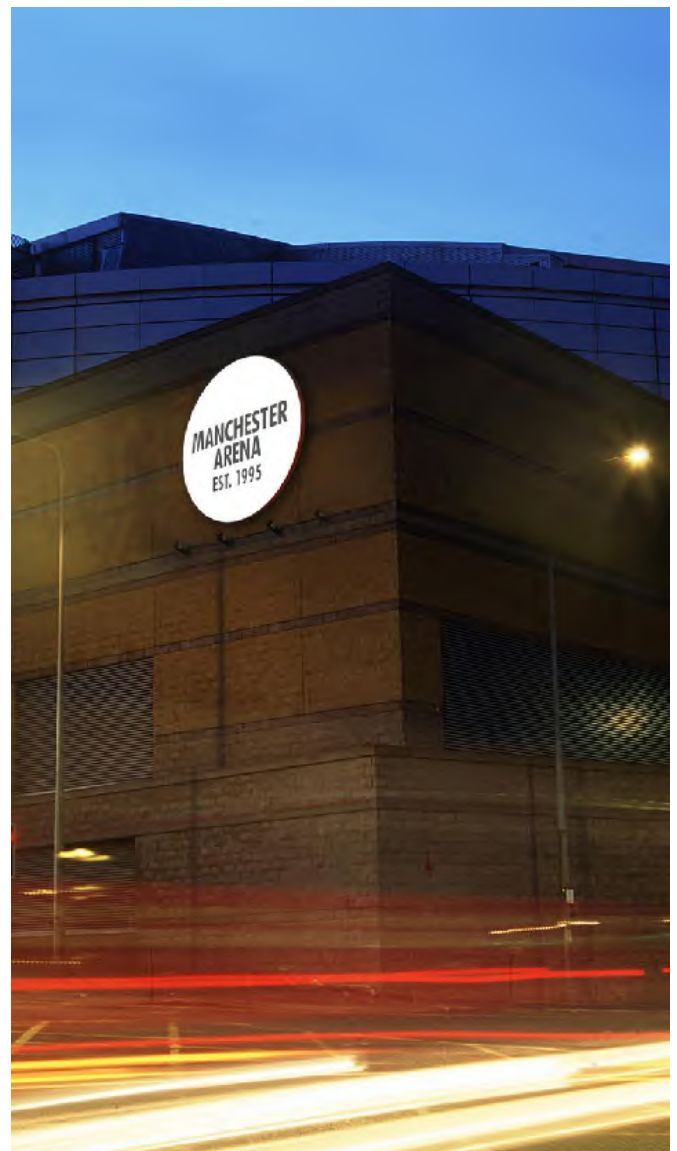
Through a sensitivity analysis of SMG Europe's financial model on the potential impact of the proposed Eastland's Arena development it is clear that any event loss would have a notable impact on Manchester Arena's Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA).

In headline terms, this analysis showed that a 45% loss in events would result in a 100% reduction in EBITDA and calls in to question the longer term viability of the arena. This means that a 46% reduction in events would see Manchester Arena become loss making.

Even a 25% reduction in events would see EBITDA reduce by 69%.

A reduction in events would also have an impact on other commercial aspects of the operation such as the viability of rent commitments.

These commercial implications would also have a knock-on impact for the ongoing establishment of the SMG European headquarters in Manchester.



Disclaimer

This document has been prepared for purposes of providing a summary of our analysis to SMG Europe Holdings Limited (SMG Europe) in relation to understanding the contribution and benefit of the Arena to the Manchester economy and how this may change in the future. This document is prepared for SMG Europe only. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than SMG Europe for our work or this document or for any opinions we have formed. We do not accept any responsibility for any loss or damages arising out of the use of this document by any third party.

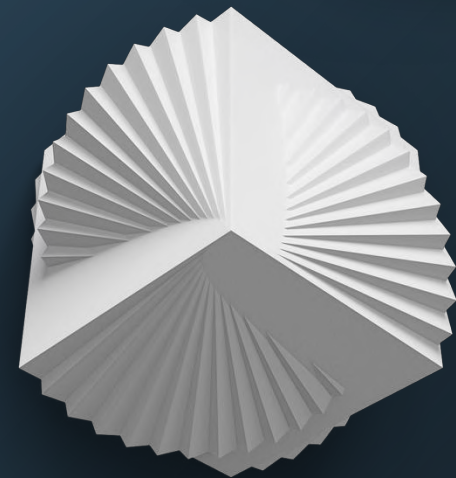
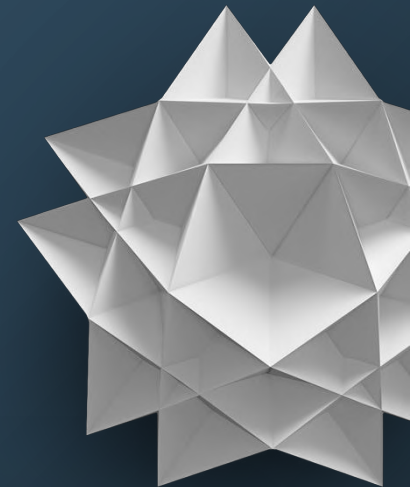
The following have been provided by third parties: 1) data used and incorporated into this document; and 2) SMG Europe's financial model (referred to on page 6 of this document). We will not verify the accuracy or completeness of any such data nor have we carried out an audit or any independent testing procedures on SMG Europe's model, the model assumptions or the model outputs. There may therefore be errors in such data and model which could impact on the content of this document. No warranty or representation as to the accuracy or completeness of any such data, the model or its assumptions or outputs or of the content of the document relating to such data, the model or outputs is given nor can any responsibility be accepted for any loss arising therefrom. Responsibility for SMG Europe's financial model shall remain solely with SMG Europe.

The responsibility for financial data and the assumptions on which they are based is solely that of the management of SMG Europe. It must be emphasised that financial analysis necessarily depends on subjective judgement. They are, to a greater or lesser extent, according to the nature of the businesses and the period covered by the forecasts, subject to inherent uncertainties. In consequence, they are not capable of being audited or substantiated in the same way as financial statements which present the results of completed accounting periods.

Economic analysis of Manchester Arena Market

Response to PwC and ekosgen reports

Prepared for ASM Global
June 2020



Introduction

We understand that Oakview Manchester Limited (OVG) has submitted a planning application for permission to build a new 23,500 capacity venue in Manchester (the “New Arena”). We have been asked by ASM global to assess two reports prepared by PwC ¹ and ekosgen ² submitted in support of OVG’s application. We have been asked to assess the validity and robustness of the assumptions made and whether there is likely to be sufficient market growth to accommodate a second large arena in Manchester without detrimental impact on the city centre economy.

Both reports argue that there will be significant market growth in Manchester that would support the New Arena. This material market expansion is argued to be driven both by general trends in the entertainment market and by “supply-led growth” (i.e. that opening a new, modern venue in Manchester will draw more events to the city).

This document presents our findings that:

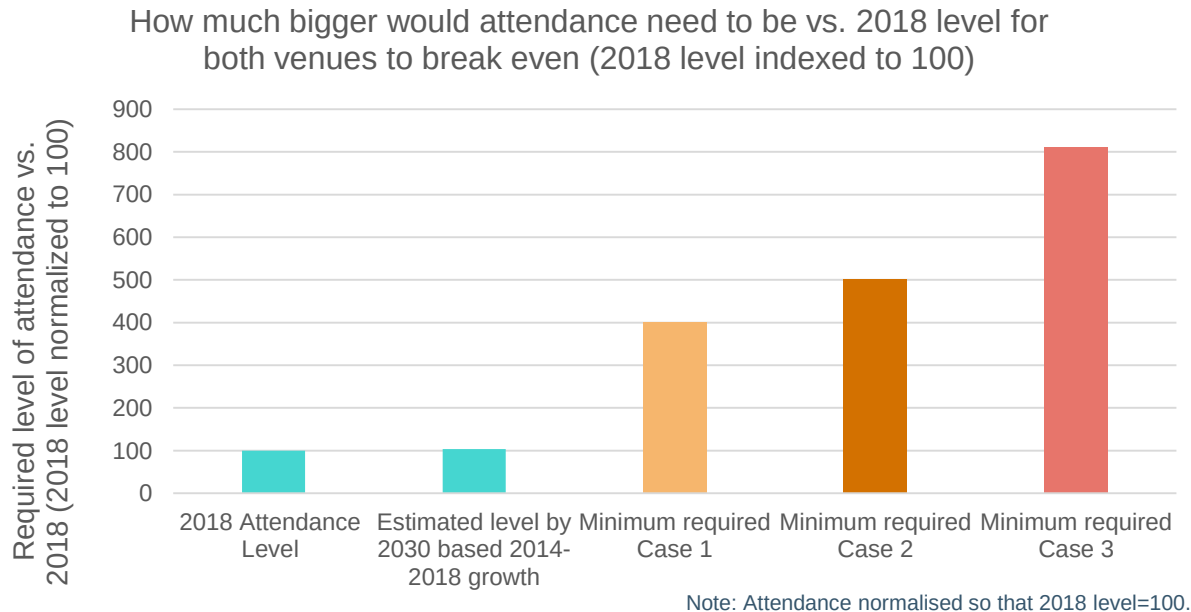
- **At current levels of demand, Manchester cannot support two venues of this size. Very significant (wholly unrealistic) growth of between 4-8 times the attendance levels in 2018 (growth of 300-700%) would be needed if both venues are to operate profitably.**
- **PwC and ekosgen vastly overestimate future growth in Manchester: they use a combination of inconsistent assumptions and cherry-picked data to project attendance to increase 2.4 times by 2035 despite actual growth in attendance in UK and Manchester being essentially flat.**
- **Manchester is already better served (in terms of Arena capacity per capita) than any other UK geography including London and Birmingham.**
- **The claim that a new venue would draw in new events which currently play London, but not Manchester is false given Manchester already does better than any other city in attracting events and the remaining London events are typically London centric, one-off events or played Manchester in subsequent years.**
- **PwC’s claim that the Manchester Arena (MA) is “at capacity” is based on a misunderstanding of the available data and, once corrected, the data shows substantial spare capacity at the MA in terms of both available dates and ability to accommodate more eventgoers.**

Executive Summary (1/7)

At the current level of demand, Manchester cannot support two venues of this size. Unrealistic levels of growth would be needed for both to break even and cover investment costs

Current events coming to Manchester cannot support two venues of this size. Dividing the current “pie” (i.e. MA attendance based on 2018 figures) would mean one or both venues being unable to break even. This is particularly so because OVG would need to earn a return on its £350m investment and investment of up to £100m is proposed to redevelop the Manchester Arena.

Analysis (summarised in the chart below) shows attendance 4-8 times the current level would be needed for both venues to operate profitably taking account of OVG’s £350m investment. The chart indexes 2018 attendance at Manchester Arena to 100 and asks how much higher attendance would have to be based on our financial modelling for both the Manchester Arena and New Arena to break even over a 30 year period. In Case 1 attendance of 400 (4 times the 2018 level) would be needed. Accounting for the planned investment of up to £100m in the Manchester Arena and using a more stringent break even threshold increases this to 800 (8 times the 2018 level would be needed). Full details of this analysis along with details of the sensitivity analysis we have performed is provided later in our report (see slides 18 and 19).



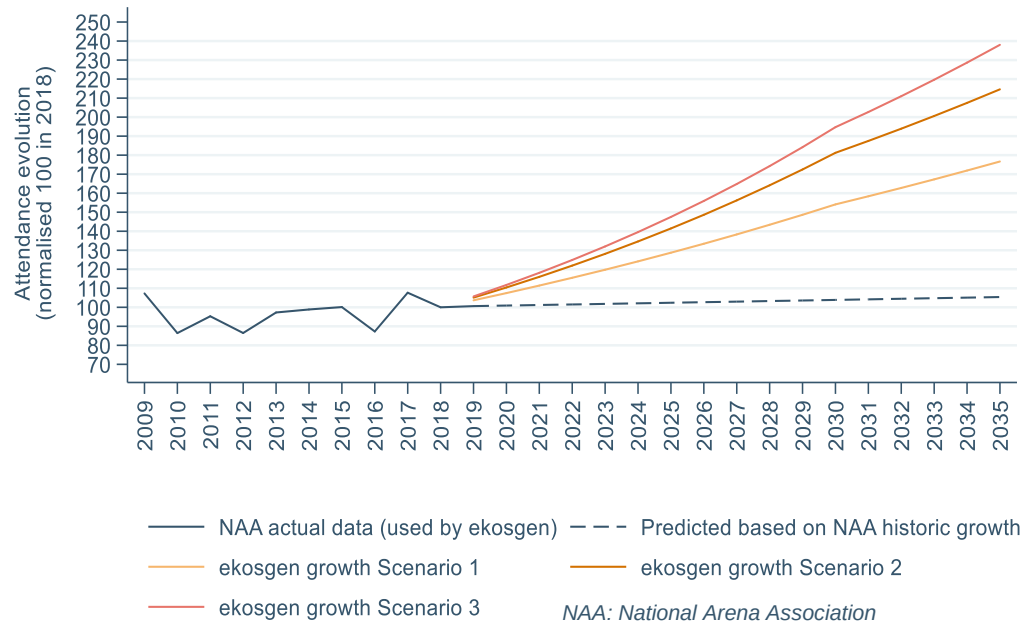
Case 1: Minimum required for two arenas to break even in *aggregate*, without redevelopment costs of up to £100M for the Manchester Arena.

Case 2: Minimum required for two arenas to break even in *aggregate*, with redevelopment costs of up to £100M for the Manchester Arena.

Case 3: Minimum required for two arenas to break even *individually* (redevelopment costs do not make a difference, threshold determined by the New Arena).

Executive Summary (2/7)

PwC and ekosgen make unrealistic projections which vastly overestimate attendance growth in Manchester



Note 1: there is a disconnect in 2019 between ekosgen scenarios and actual data because ekosgen provides an estimate for 2019 which already differs from the actual NAA attendance growth figure.

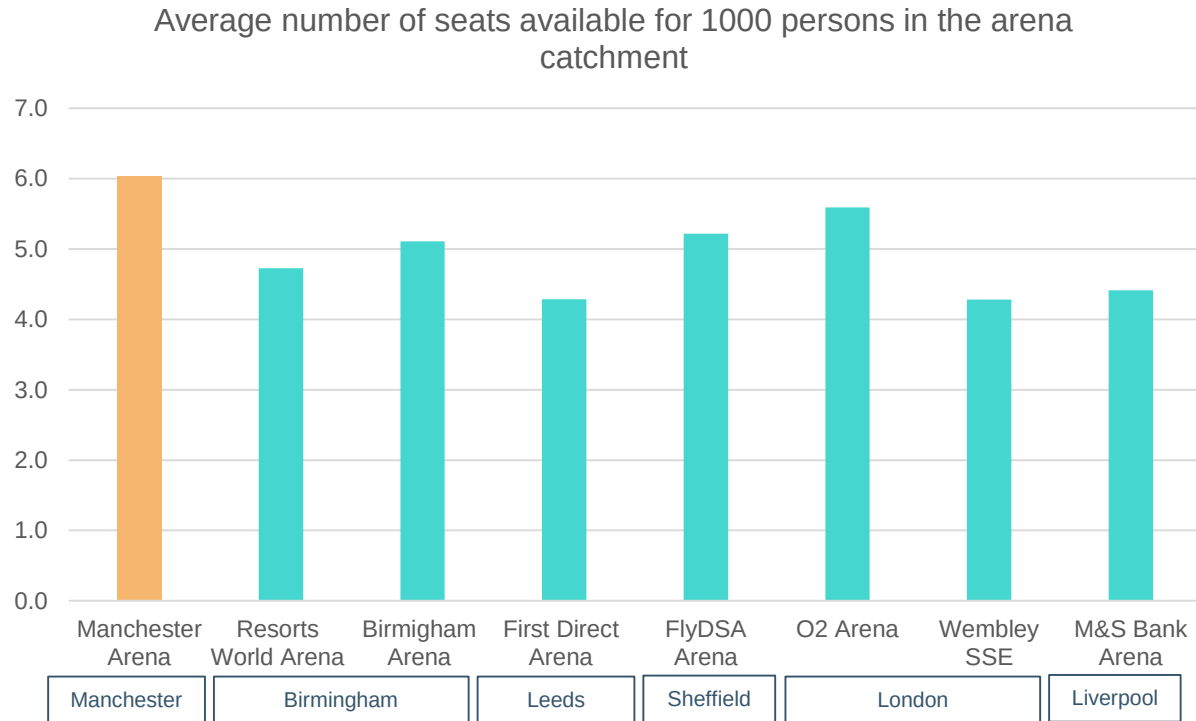
Note 2: historic trends based on UK-wide NAA data (used in ekosgen's projections for Manchester). Using Manchester-specific trends would show an even more abrupt difference between past experience and ekosgen's projections.

PwC and ekosgen use forecasts based on historic National Arena Association (NAA) data and predict huge growth in attendance at events in Manchester relative to past trends (see above where the orange ekosgen forecasts differ dramatically from the blue historic NAA data). But this relies on cherry-picked data analysis or unreasonable assumptions:

- ekosgen forecast the market will grow by +3.7% to +5.7% per year, every year, up to 2035. Actual untweaked growth figures by category – as per the same data used by both ekosgen and PwC – shows 0.3% attendance growth per year on average over the past 4 years in the UK. The same flat (even declining) trend is observed in Manchester. **Assuming a continuation of past trends – which already is an optimistic assumption in the present Covid-19 context – would translate into a 5% increase by 2035, not the 80%-150% assumed by OVG's advisors.**
- To get to these unexplained and exaggerated growth rates ekosgen/PwC have cherry-picked growth rates for event categories that are growing (e.g. darts or e-sports) while downweighing far more relevant event categories (e.g. concerts and comedy) which are flat or declining. They have also made other elementary errors (e.g. PwC's growth rates do not account for inflation).
- PwC assert that a new venue would also result in "supply-led" growth, but this is not supported by the evidence. For example, PwC claim that people would be willing to drive twice as far to come to an event at the New Arena than the Manchester Arena, but this is an entirely unsubstantiated assertion and inconsistent with actual driving patterns for other venues

Executive Summary (3/7)

Manchester is already better served than other UK cities

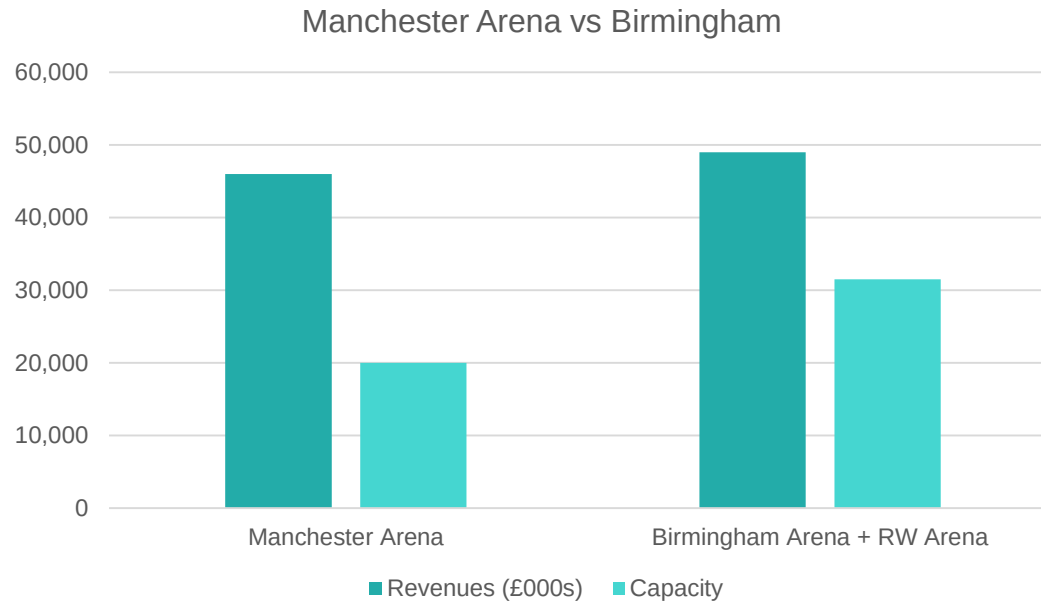


The Manchester catchment is already better served than other UK cities: building on PwC's own data,¹ the number of arena seats per capita is already higher in the Manchester catchment than for a set of comparator catchment areas, including London.

¹ See PwC data on catchments (p.45, 49, 51).

Executive Summary (4/7)

Birmingham is not a good example of supply-led growth



PwC and ekosgen argue that Birmingham is a good example of a successful two-arena region; this is meant to evidence “supply-led” growth.

In fact: Birmingham generates similar levels of revenues to those of Manchester Arena in spite of Birmingham being a “two-arena region” with 50% higher capacity than that of the Manchester Arena. Furthermore, the two Birmingham venues are operated by the same company, and therefore have lower fixed costs, and do not have to repay capital on £350m (OVG proposed investment in the New Arena) or up to £100m (ASM proposed investment in Manchester Arena). In comparable circumstances, the revenues and capacity in Birmingham would need to be significantly higher to remain profitable.

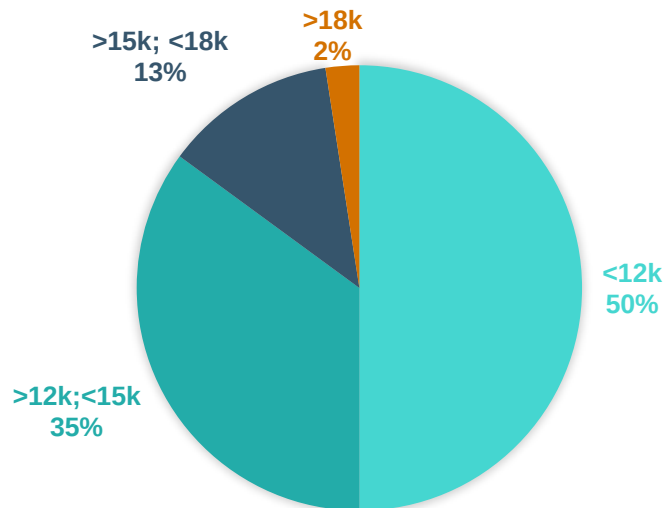
PwC acknowledge this weakness in their report when they concede that a “step up would be required from what Birmingham currently delivers (p.50)”.

Executive Summary (5/7)

The Manchester Arena is not capacity constrained and the PwC “utilisation” rate is flawed and misleading

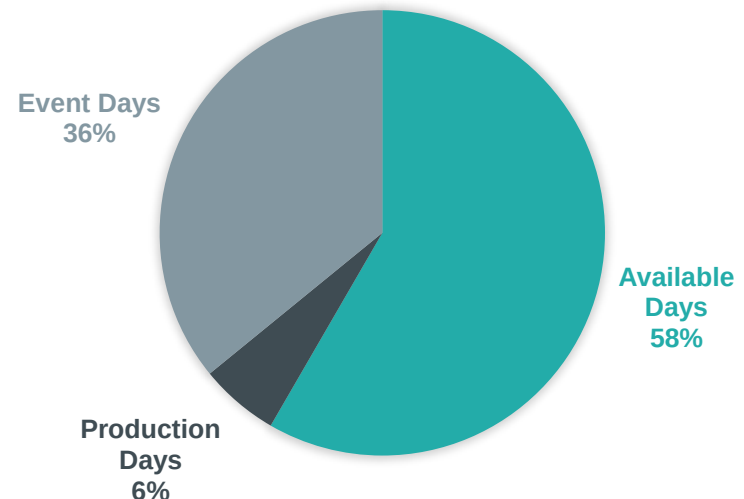
PwC claim the MA has 95-100% capacity utilisation, but this is incorrect and based on a flawed understanding of what the term “capacity” means in this industry. The Manchester Arena has spare capacity both in terms of spare days to accommodate additional performances and in being able to accommodate more eventgoers at the events it currently holds. PwC use capacity data comparing tickets sold to the number of tickets made available for sale, which is not a real capacity constraint. Promoters often select a capacity format which is lower than the available maximum to suit a particular event and expected audience, so limiting the tickets available for sale. This is not a true capacity constraint as a promoter can put more tickets on sale as long as the arena has available space

Most events at the MA are well below its max 20k capacity...



Split of performances at MA by attendance level in 2018

...And the MA could hold twice as many performances



Split across event days, production days and available days at the MA in 2018

Executive Summary (6/7)

There is no material “untapped pool” of events which currently play London but not Manchester

PwC and ekosgen argue that a new venue could be filled with the ~35% of events which currently play London, but not Manchester...

...But a closer look shows that this is not supported by the evidence. The Manchester Arena already does better than any other UK venue in attracting events that also play London and among the remaining ~35% the most common reason to not play Manchester in the same year is that these are London-centric events or touring events which have already or intend to play Manchester the year before or after London.

Played/not played in Manchester	% performance
Played in Manchester (MA or smaller venues)	63%
Proportion of events at the O2 in London not playing Manchester in 2019	37%
Reasons not played in Manchester	% performance
Competing event in Manchester	0.3%
Entertainment event London-based	5.9%
Local London religious content	4.0%
London-centred TV ceremony	3.1%
Multiyear Tour Upcoming Manchester/Manchester past	5.0%
New test event touring potential	3.4%
No Manchester audience	3.1%
On sale but cancelled	0.9%
Recent Play Manchester/Test Market	0.6%
Sport London Based Performer	1.6%
Sport event London base	5.9%
Proportion of events at O2, but not Manchester, in 2019 that could potentially have been brought to Manchester with a more attractive venue	3.1%

Source: events playing the O2 and Manchester in 2019. ASM were then asked to review event by event to determine the reasons why these events did not play the Manchester Arena. 3.1% refers to those events which played the O2, but not Manchester, but may have done so if it had a more attractive venue

Executive Summary (7/7)

Impact of Covid-19

All this analysis now needs to be set against the **backdrop of the Covid-19 crisis**, which will reduce demand for large events going forward, even once the lockdown has ended.

Therefore, **rather than adjusting historic flat trend upward like PwC and ekosgen did, they may have to be adjusted downward instead**, making the construction of a new 23,500 capacity arena in Manchester all the more difficult to justify:

- Live entertainment and hospitality will likely be hit harder than any other industry.
- Costs can be expected to increase post-Covid due to higher health and safety standards that will be required.
- Already experiencing significant drop in demand e.g. in footfall in Manchester city centre.
- Other unforeseeable difficulties and greater uncertainty overall in the market making investments riskier.

Against this background ekosgen's predictions assuming attendance growth of 12% to 18% by 2023 in Manchester are likely overoptimistic given the current economic and social context of Covid-19 and its likely longer-term implications.

Outline of the report

1

Breakeven analysis: could both arenas cover their costs (including financing costs behind initial investment)? What would be the required level of attendance to accommodate both arenas?

2

“Market-led” growth is empirically limited and there is no reason to believe that the historic trend would change

3

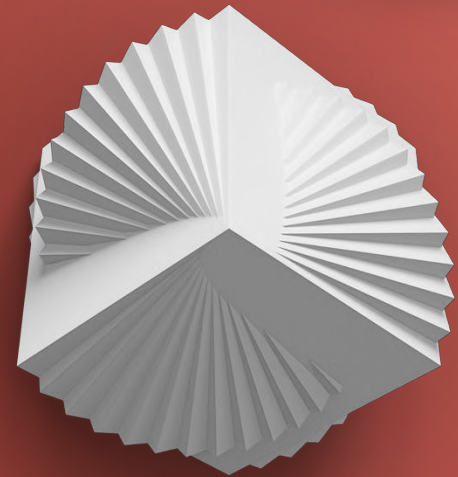
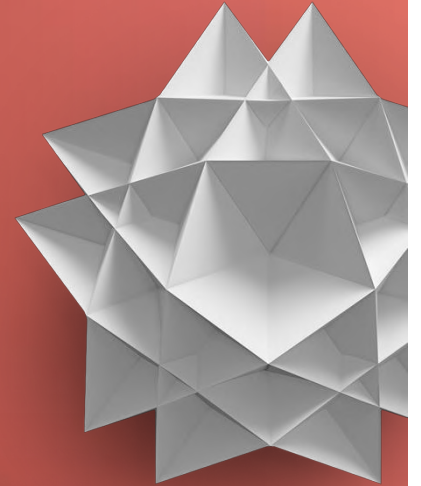
“Supply-led” growth would also be limited in Manchester post entry of the New Arena

4

Manchester is not underserved relative to other cities

Part 1

Breakeven analysis: how much demand increase is required for two large arenas to co-exist profitably in Manchester?



Overview of breakeven analysis

The PwC report acknowledges that, if the New Arena and the MA were to simply split the events that currently come to Manchester, one or both venues would fail to cover even their day to day running costs.

But PwC argue “there would only need to be limited growth in the total event numbers from existing for both arenas to be at breakeven or better and therefore remain viable – at least in the short-term”.¹

PwCs analysis is incomplete:

- OVG’s business plan presumably does not just require its venue to cover its day to day running costs (i.e. to be profitable day to day once constructed). It presumably needs to foresee a return to cover its £350m investment.
- The required growth in event volume to allow the MA to cover its running costs *and* allow the New Arena to make a reasonable return on investment will be substantially larger than suggested by PWC.

To fill the gap in PwC’s analysis we have conducted a fuller “breakeven analysis” and determined the level of event growth required for both Arenas to operate profitably (including OVG paying back its capital investment in a reasonable period). This shows that extremely high levels of event growth would be required for both arenas to operate profitably.

A note on indexing and presentation of our analysis

Our break even analyses works out how much bigger the event attendance would have to be to support the two venues profitably taking account of different definitions of “break even” and making different assumptions about matters including investment levels and revenues per event.

To present our results we express the required level of attendance either in terms of the required level of growth vs. its 2018 level or in terms of the overall level of attendance that would be required compared to the level in 2018. To do so we “index” the required level of attendance to 2018 level, setting the 2018 level at 100 (which represents actual attendance at MA in 2018).

So, for example, if our break even analysis says the required attendance level is 150 this means that the attendance level would need to be 1.5 times greater than its 2018 level (i.e. it would need to increase by 50%). Similarly, if our break even analysis says that the required attendance level is 800 this means it would have to increase to 8 times compared to its 2018 level (i.e. 700% growth would be needed).

We provide notes under each of our results tables to explain our results and how they should be interpreted in light of this indexing approach.

In other analysis later in the document we similarly index levels to their 2018 values.

Estimating the market increase required for both venues to be profitable in Manchester

We estimate the attendance growth that would be required in Manchester for the venues to coexist profitably in Manchester assuming that the MA and New Arena would earn the same margin per event as the MA did in 2018.¹ We consider three questions:

- 1. What is the growth required for *just the MA* to make a profit assuming events are shared 50:50 with the New Arena?** This is an absolute minimum of required growth as the MA could be expected to win less than half of events and this scenario does not allow for OVG to recover its upfront costs (which it would need to do so to break even).
- 2. What is the growth required for the MA and the New Arena to make a profit *in aggregate* (aggregating together their respective costs and revenues)?** This means that we look at the overall profitability, allowing for one of the two venues to make losses, but for the two venues collectively to be profitable. This is an intermediate scenario.
- 3. What is the growth required for *both* the New Arena and the MA to make a profit *individually* assuming demand is equally shared?** This is the most appropriate assumption as it ensures both venues remain viable.

We also account for the investment of up to £100m that is to be made to redevelop the Manchester Arena. As can be seen in the table below, very substantial event growth is required if the MA is to break even and the New Arena is to make a return

	Required growth (assuming a £350m investment)	Required growth (assuming a £350m investment + £100M MA redevelopment costs)
Growth required for <u>just the MA to break even</u> assuming a 50/50 split of demand (OVG would not cover its investment costs in this scenario)	10% (but OVG would not cover its investment costs)	238% (but OVG would not cover its investment costs)
Growth required for the MA and the New Arena to break even in aggregate (i.e. <u>total</u> profit is positive while one or the other can be negative) accounting for investment costs	301%	401%
Growth required for <u>both venues to break even individually</u> assuming 50/50 split of demand and requiring OVG to cover its investment	711%	711%

Note: Assuming a 10% WACC (Weighted-Average Cost of Capital) and a 30-year payback period.

Result 1: At current demand levels it would not be possible for both venues to break even, even focussing only on running costs

Current levels of demand would not support a new venue in Manchester. Splitting in half the current demand in Manchester would cause the MA and the New Arena to make losses. This is not disputed by PwC or ekosgen.¹

The bare minimum level of growth in attendance for the Manchester Arena to break even is 10%

But, growth at this level would not be sufficient to render both venues viable. It would allow the MA to make a profit, but **it would not be sufficient for the New Arena to make a return on its investment.**

In addition, the estimated 10% is conservative because this would be the absolute minimum level of demand required to be profitable in one given year. It does not account for buffers that would secure profitability if demand were to vary across different years.

These results take no account of Covid 19 and its impact on the entertainment industry.

Note: these attendance numbers are all indexed to 2018 levels. See earlier slide on indexing.

¹ See page 29 of the PwC report.

	Without £100m redevelopment costs at the MA	With £100m redevelopment costs at the MA
Current level of demand at the MA (<i>current attendance normalised at 100 i.e. so that current level=100</i>)	100	N/A
Minimum level of demand that is required for the MA to be profitable	55	169
Level of demand achieved at the MA assuming current market demand is split in half between the MA and the New Arena	50	50
Additional demand required for the MA to break even after the New Arena opens assuming demand is shared in half	+10% (55/50)	+238% (169/50)

Result 2: Substantial growth rate would be necessary to break even “in the aggregate” accounting for investment costs

The previous case does not account for the fact that a return would need to be made on the initial investment of £350m.

In this scenario, we therefore recalculate the level of demand growth that would be required for the two venues to break even *in the aggregate* taking account of their upfront investments i.e. have a positive ROI (Return on Investment) assuming a payback period of 30 years and a cost of capital of 10%.

“In aggregate” means that we look at the overall profitability of the two venues taken together in Manchester. The purpose of this scenario is to consider the investment rationale in the aggregate, i.e. from the Manchester area perspective overall, leaving aside profit redistribution considerations between the two venues. In reality, the venues are run by separate operators and they will each need to make a profit individually (which is why we consider our third analysis the most relevant one).

The latter case – whereby both venues need to make a profit individually – is discussed next.

	Based on a £350m investment	
	Without £100m redevelopment costs at the MA	With £100m redevelopment costs at the MA
Current level of demand in the MA (<i>attendance normalised at 100 i.e. so that current level=100</i>)	100	N/A
Minimum level of demand that is required for the MA and the New Arena to be profitable in the aggregate	401	501
Additional demand required for the venues to break even in the aggregate after the New Arena opens	301% (401/100)	401% (501/100)

Note: computations are indexed setting attendance level in 2018=100. So, 401 means an attendance level 4 times the 2018 level is needed to break even (which means 300% growth on the 2018 level).

Result 3: Even more substantial/unrealistic growth in event volume is needed for *both* venues to break even *individually*

The previous case looked at the aggregate viability of the Manchester area by considering the total profit generated and the costs (incl. the upfront investment) incurred.

It ignored that both venues would actually need to make a profit *individually*. In particular, it means that the level of profit generated in the New Arena would need to cover the whole investment costs of £350m on its own.

Still assuming that the demand would be equally shared across both venues, we estimate the critical growth required for the New Arena to be profit making.

This further increases the required level of growth to levels which could not realistically be achieved (711%). Because the more stringent constraint is on OVG to break even, the redevelopment costs at MA do not make a difference in those results.

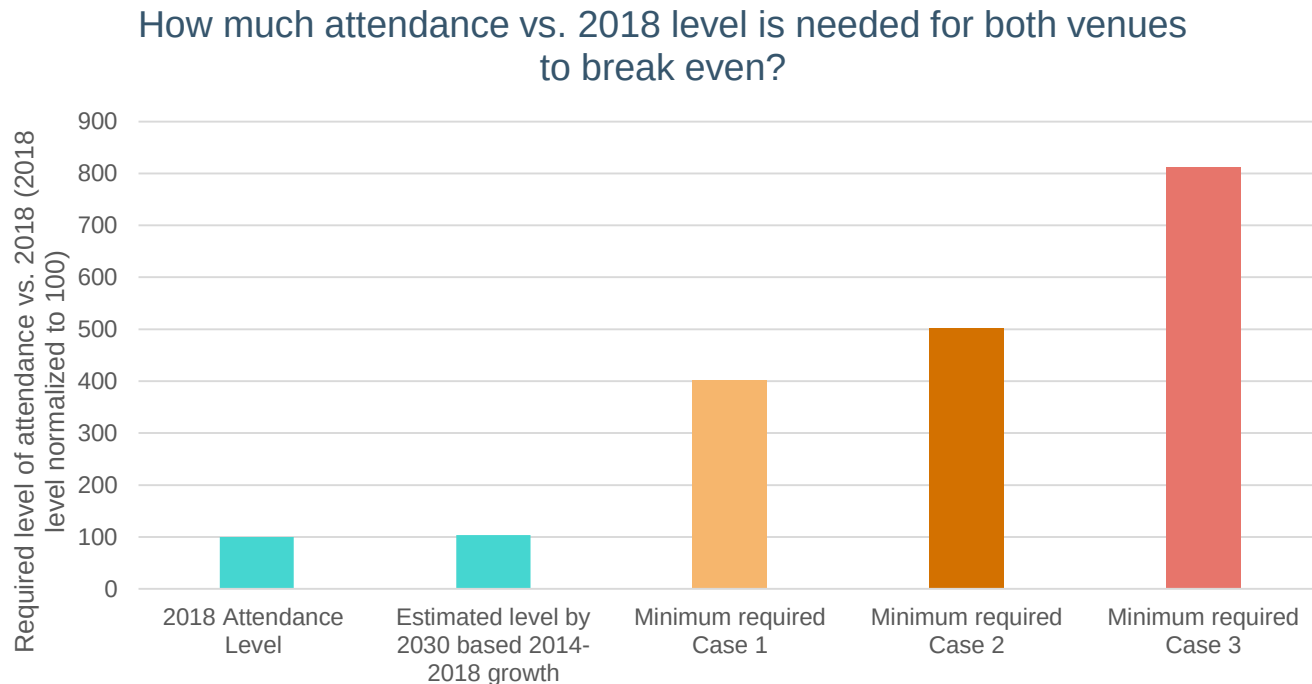
This analysis assumes repayment starts as soon as the investment is made. It does not account for the period of construction where the arena will not generate cash-flow. Hence, despite the magnitude of this estimate, it is currently underestimated.

	Based on a £350m investment
Current level of demand in the MA (<i>attendance normalised at 100 i.e. so that current level=100</i>)	100
Minimum level of demand that is required for the New Arena to be profitable	406
Level of demand achieved assuming the MA demand is shared in half between the MA and the New Arena post entry	50
Additional demand required for the venues to break even in the aggregate after the New Arena opens	711% (406/50)

Note: assuming a 10% WACC and a 30-year payback period. Computations are indexed setting attendance level in 2018=100. Because we have assumed demand will be shared 50/50 between venues, to achieve the minimum level of demand required for the New Arena to be profitable (406 after rounding up), total attendance needs to equal 812, which means attendance 8 times the 2018 level is required (711% growth vs the 2018 level).

Summary of results: minimum required attendance to break even

Attendance would have to increase to 4 to 8 times the 2018 level (growth of 300-700%) for both venues to cover their investment costs and be profitable. Focussing on case 3 (which requires both venues to be profitable individually and is the most appropriate) requires attendance 8 times current level. This is seen in the chart below which expresses level of attendance required indexing 2018 level of attendance to 100.



Note: Attendance was normalised from the 2018 level.

Case 1: Minimum required to break even *in aggregate* without redevelopment costs of £100M for the Manchester Arena.

Case 2: Minimum required to break even *in aggregate* with redevelopment costs of £100M for the Manchester Arena.

Case 3: Minimum required to break even *individually* (redevelopment costs do not make a difference, threshold determined by the New Arena).

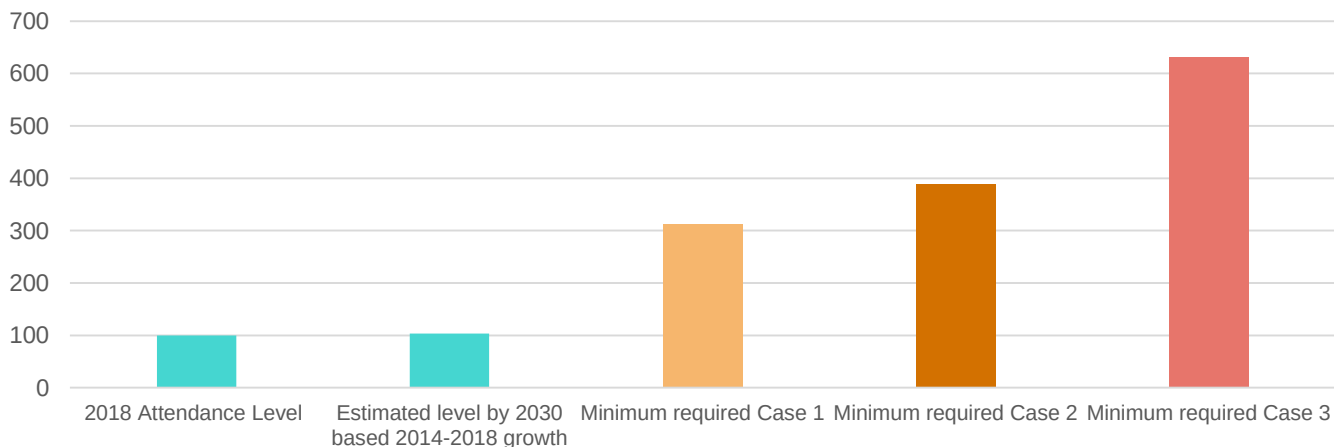
Break even results do not change materially if we allow for the New Arena to make more profit per event than MA

The previous breakeven numbers are computed assuming the New Arena will have the same level of contribution profit per attendee seen at the MA currently. **To check robustness of results we allow for profits per attendee to be 25% higher at the New Arena** (e.g. due to selling more premium seating etc.) than what is currently achieved at the MA.

It is not obvious that one should assume the New Venue will make bigger profits per attendee. On the one hand the New Arena might earn higher revenues per event (e.g. via more F&B revenue or premium seating). On the other one would expect having two similarly-sized venues in the same city would put downward pressure on revenues due to increased competition. Therefore the effect is unclear. **Still, allowing for the New Arena to make 25% higher margins for a given level of attendance does not change the fact that very large growth in attendance (3 to 6 times current level) is needed for both venues to break even and cover their investments.**

How much attendance vs. 2018 level is needed for both venues to break even?

Sensitivity analysis assuming the contribution per attendee at the New Arena would increase by 25% compared to MA's current levels



Case 1: Minimum required to break even *in aggregate without* redevelopment costs of £100M for the Manchester Arena.

Case 2: Minimum required to break even *in aggregate with* redevelopment costs of £100M for the Manchester Arena.

Case 3: Minimum required to break even *individually* (redevelopment costs do not make a difference, threshold determined by the New Arena).

What are the implications of these results for the assessment?

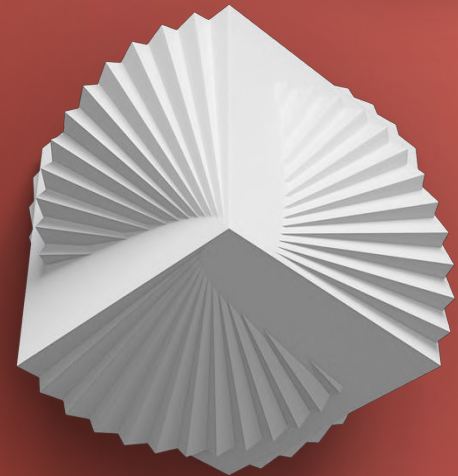
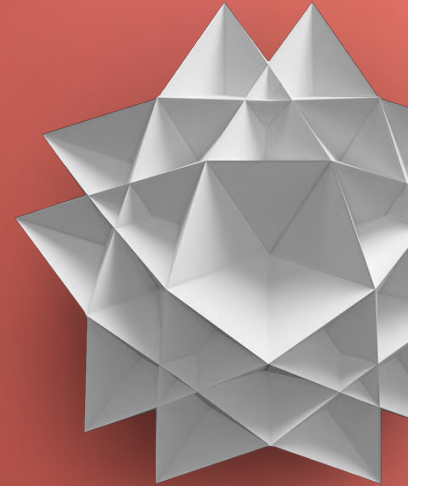
This breakeven analysis shows that the New Arena and the MA can only profitably co-exist if there is substantial and unrealistic growth in event attendance in Manchester (growth up to 8 times the 2018 level would be required).

The only way, such growth could come about would be if there was significant underlying growth in demand and/or good reason to think that the opening of a new venue would, in itself stimulate sizeable event/attendance growth (“supply-led growth” in PwC’s terminology).

PwC argue for substantial trend growth and for substantial supply-led growth. In the next two sections we explain why their analysis is overstated and flawed. In any event, the level of growth they forecast is below the levels required to support both venues and cover the required investments.

Part 2

Historic growth is limited
and there is no compelling
reason for growth to
increase substantially



Overview of this section

PwC/ekosgen predict very substantial growth in event volumes/attendance which they argue make a second venue financially viable. This section discusses their methodology and explains why we consider their forecasts to be overly aggressive and unrealistic. We proceed in stages:

- First we summarize PwC and ekosgen's forecasts and the sources/assumptions used.
- Secondly, we provide an overview of our high-level critiques of their methodology.
- We then show that their methodology results in unrealistic and overly aggressive increases in attendance that are out of line with pre-existing trends in the National Arena Association data they relied upon.
- Following this, we analysed the detail of these forecasts, providing detail on the numbers reported (and not reported) by PwC and ekosgen and the oddities in their assumptions. For full transparency we report the “raw” unadjusted NAA data so the reader can see actual developments in historic attendance.
- Then we explain that, even the overly aggressive forecasts made by PwC and ekosgen would be insufficient for attendance to meet the break even levels computed in the previous section.
- Finally, we discuss the implications of the Covid-19 situation and changes in the likely macroeconomic outlook as compared to the situation envisaged at the time the ekosgen and PwC reports were written.

Overview of PwC and ekosgen methodologies

Both PwC and the ekosgen first estimate or assume market growth rates at the UK level which are then redistributed to Manchester/new arenas.

The PwC report concludes that the UK can support between 4-5 new arenas by 2030 if one assumes that all projected growth would be captured by said new arenas (i.e. it ignores the capacity, ability and incentive of existing venues to capture part of this market-level growth).

ekosgen redistribute the estimated/assumed growth across various regions and arenas, assuming that Manchester would capture 50% of the growth accruing to the northern region.¹ The redistribution methodology remains unclear to us as it is not explicitly detailed in their report.

As we will see both PwC and ekosgen rely on the same data but in inconsistent ways, cherry picking numbers that support their conclusions. ekosgen further make assumptions that are inconsistent with the underlying data.

The Table summarises their assumptions. The inconsistencies and limitations are discussed in the following slides.

Overview of PwC and ekosgen's approaches and key assumptions

	PwC	ekosgen
Step 1	Estimate market growth <i>in revenue terms</i> up to 2030 based on past trends	Assume market growth by 2030/35/40 <i>in attendance terms</i> combining data and "market intelligence"
Step 2	Calculate number of arenas that would be supported by this growth at the UK level	Redistribute market level growth across the different regions
Key assumptions	The entire UK market growth would be captured by new arenas Dismiss attendance growth (that is estimated to be flat) to favour revenue growth (while acknowledging that revenue growth is partly driven by price inflation) Argue niche categories would be sufficient to support the required growth. Argue "supply-led" effects are significant (hence most of the UK growth would accrue to new venues)	Attendance is assumed for most categories (does not rely on actual historic data which is much lower) Niche categories would be sufficient to support the required growth for a new venue in Manchester Manchester would capture 50% of the assumed growth accruing to the northern region Supply-led effects are significant (hence most of the UK growth would accrue to new venues)

Overview of flaws in the PwC analysis of trend growth

PwC focus on revenue growth of 3.6% per annum, but growth in revenues largely reflects ticket price inflation *not* underlying growth in concert/event attendance. PwC's own data shows that attendance is only expected to grow by 0.3% per annum.

- Using the exact same data as PwC but based on attendance figures as opposed to revenue/price inflation, the estimated attendance growth is 0.3% per annum as opposed to 3.6% in revenue terms.
- Despite being more relevant, this number is not reported in the PwC report alongside the forecasts for other variables.
- ekosgen agree that attendance growth is more relevant as their entire analysis is based on attendance/ticket growth (modified in arbitrary ways as is discussed in next slide).

PwC's case for event growth relies largely on non-concert growth (e.g. in sports and e-sports), but concerts remain the key driver of demand for arena space and are forecasted to have flat growth. PwC rely on high growth in demand for events like darts and e-sports which cannot credibly fill a 23,500 capacity arena.

- Concerts currently account for 64% of arena events in the UK and 70% of events at the MA. This segment has seen no growth at all in the last 4 years. PwC appear to believe growth in sports and e-sports could fill the New Arena, but these are niche sources of demand (concert demand for arena capacity is 8x sports).
- PwC's high revenue growth figures depend on niche categories like Darts (+20%) which appear less relevant to fill a venue like the one proposed. See more detail on next slides.
- The argument that there is potential for an English basketball franchise rests on shaky evidence (the observation that there is demand for the London NBA game once a year). The Manchester Giants, previous MA tenant, now play in a repurposed 5-a-side football centre in front of very modest crowds of a few hundred spectators. Even the GB national team plays at a basketball centre with temporary seats, in Gorton. These examples are indicative of the lack of demand there is for basketball in the UK.
- PwC dismiss data on other segments (e.g. comedy and dance), which its data show are *declining* on a UK-wide basis. PwC justify this on the basis that this is "one of the smaller components of the market". But this category is actually larger than the Sports segment (£70 vs 50m) which PwC rely upon heavily to support their analysis.

PwC's claim that underlying growth could support 4-5 new arenas relies on untenable assumptions. PwC assume that all their assumed growth would accrue to new arenas. This ignores the capacity of existing venues to capture part of this growth. Further, they ignore that much of the growth they are estimating is due to inflation, not a rise in attendance volume that would generate a need for increased arena capacity.

Overview of flaws in the ekosgen analysis of trend growth

ekosgen estimate/assume growth in attendance under a number of scenarios. The growth under each scenario is then distributed across regions to conclude that there would be sufficient market expansion in Manchester for the New Arena to operate profitably.

There is a disconnect in the variables modelled by PwC and ekosgen. ekosgen (rightly) focus on growth in attendance volume rather than the growth in revenues analysed by PwC. However, ekosgen construct forecasts for attendance growth which are inconsistent (and much higher) than in the PwC report.

As with PwC, the UK market growth estimate rests on an analysis that is both selective and flawed:

- Actual data shows that the attendance growth was **0.3%** per year over the past 4 years.
- This number is entirely ignored by ekosgen who do not report it, even though it derives from the main source of data used by ekosgen (National Arena Association 2014-2018) so it seems clear they had access to it.
- Only growth figures *by category* are reported. These are then individually (arbitrarily) modified to obtain a much higher attendance growth of up to **5.7%** per annum in Manchester. This estimate is assumed to remain constant for at least 10 years resulting in a market that doubles in size by 2030.

ekosgen's underlying market growth estimate is asserted rather than supported by evidence:

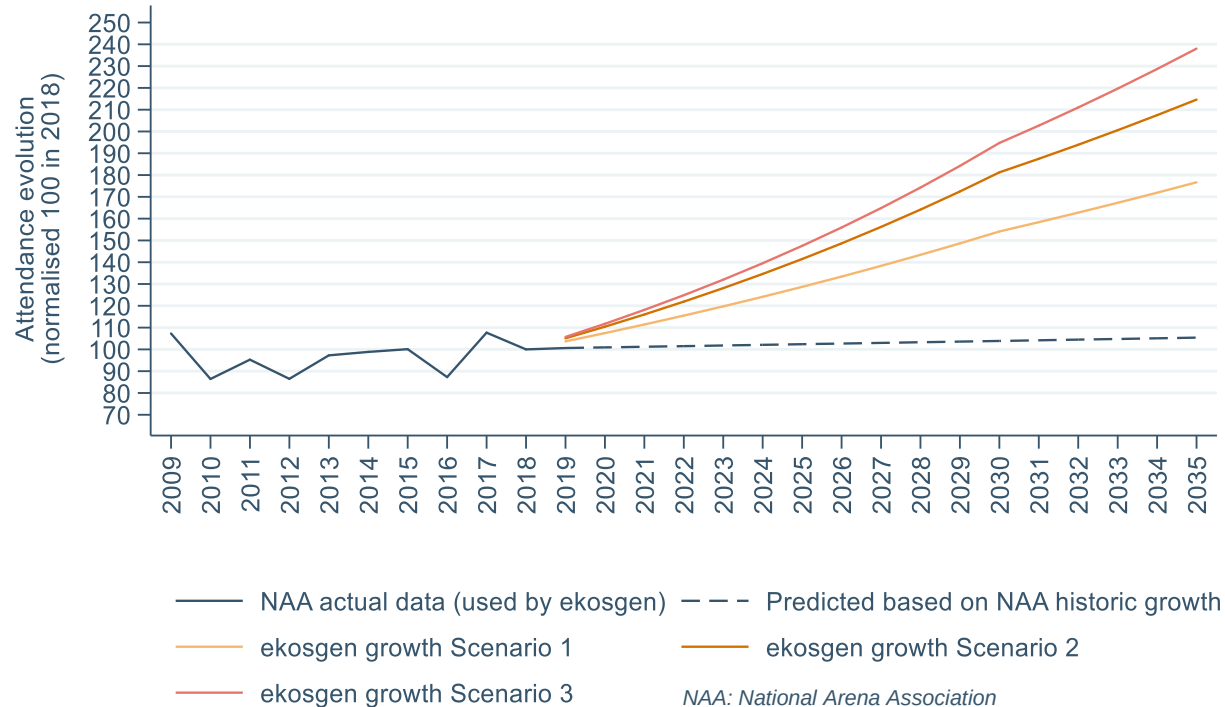
- ekosgen takes a selective approach which relies on niche categories (e.g. darts and basketball) and anecdotal evidence, some being clearly less relevant for 23,500 capacity arena.
- Results entirely stem from adjustments made on actual growth figures of the Concert and the Other categories, while actual growth figures are much more modest or even negative.

ekosgen's redistribution assumptions are also flawed:

- The underlying methodology is not fully explained but results in a very high proportion of forecasted growth being allocated to the Manchester region.
- From what we understand of ekosgen's methodology, growth is allocated proportionally to capacity *post-entry* (*i.e. it is effectively assumed that the larger a venue is built the more demand it will generate*). This assumption that “if you build it they will come” is effectively circular and amounts to “assuming ones conclusion”.

As a result of these flawed assumptions, PwC/ekosgen's forecasts imply a dramatic and unrealistic acceleration in growth relative to historic trends

This can be seen in the chart below which shows actual National Arena Association data in blue and ekosgen/PwC's projections in red (all data indexed so that 2018 level=100)



Note 1: there is a disconnect in 2019 between ekosgen scenarios and actual data because ekosgen provides an estimate for 2019 which already differs from the actual NAA attendance growth figure.

Note 2: historic trends based on UK-wide NAA data (used in ekosgen's projections for Manchester). Using Manchester-specific trends would show an even more abrupt difference between past experience and ekosgen's projections.

PwC and ekosgen are inconsistent in their growth assumptions, with evidence of cherry-picking data that gives higher growth

Both PwC and ekosgen aim to estimate market growth. As discussed in previous slides, PwC and ekosgen's methodology are inconsistent in at least two main aspects:

- **Metric used:** revenue (PwC) vs attendance (ekosgen).
- **Data used:** actual NAA data (PwC) vs mix of actual historic data and arbitrary assumptions on categories with limited/negative historic growth (ekosgen).

Both reports also cherry pick figures:

- **PwC:** total attendance growth is not shown/used in the analysis.
- **ekosgen:** data used differs by category and is often simply *assumed* based on “market intelligence” or anecdotal evidence.

When we combine these approaches in an objective manner using (i) attendance and (ii) actual data, the estimated growth is 0.3% per year. This means attendance will be 2.9% higher by 2030, far below the level necessary to support two profitable venues according to our breakeven analysis. And this does not even account for the Covid-19 crisis.

Inconsistencies across the two reports and cherry picking of growth figures by PwC and ekosgen

	PwC		Ekosgen (scenario 1)	
	Revenue growth	Attendance growth	Revenue growth	Attendance growth
Comedy	2014-2018 CAGR* NAA data	Not used	Not used	2012-2018 CAGR NAA data (2014-2018 growth figure is much lower at 0.5%)
Family	2014-2018 CAGR NAA data	Not used	Not used	2014-2018 CAGR NAA data
Sport	2014-2018 CAGR NAA data	Not used	Not used	? (growth of 6% not sourced)
Other	2014-2018 CAGR NAA data	Not used	Not used	2014-2017 (2014-2018 growth figure is much lower at -6.8% + ekosgen made a mistake in the 2014-2017 calculation)
Total	2014-2018 CAGR NAA data	Not presented (actual figure is 0.3%)	Not used	Combining cherry-picked/assumed numbers above

NAA: National Arena Association.

*CAGR: Compound Annual Growth Rate.

PwC and ekosgen do not report NAA attendance growth data despite this being their chosen source and the best metric

The next two slides show how PwC and ekosgen cherry pick the data they relied upon and selectively present the most favorable figures and ignore the most relevant one.

Both reports rely on NAA (National Arena Association) data over the 2014-2018 period, but are selective in which data series they report. Both reports omit to show the most relevant data point over that same period of time, namely the **NAA UK-level attendance growth for all categories combined**, which happens to be 0.3% i.e. to show flat growth overall. This is most relevant data point since it takes into account the fact that the Concert category represents a much greater share of total attendance than other categories that PwC and ekosgen prefer to put forward such as Sports.

- The first of the next two slides provides an overview of the NAA tables and figures reported in each of PwC and ekosgen reports covering the 2014-2018 period. These are quite detailed, and provide figures on overall revenue growth for *all categories*, revenue growth by category, attendance growth *by category* etc. However, in none of the reports is the average attendance growth for all categories reported.
- The subsequent slide then discloses for transparency the full raw database in a neutral way, revealing that the average attendance growth for all categories at the UK level is 0.3%, a rate which is wholly inconsistent with the much more optimistic projections made in the two reports.

We note again that PwC and ekosgen are inconsistent with their methodology: PwC does not report attendance growth (relying instead on revenues) while ekosgen report attendance growth (but replace the actual growth rates in the NAA data with their own arbitrary, and higher, assumptions).

A side by side of the forecasts used by PwC and ekosgen

Cherry picking and lack of transparency on historic overall attendance growth

By category, attendance numbers are reported in both the PwC and ekosgen reports:

Music Concert Market						
	2014	2015	2016	2017	2018	CAGR
Events	1,101	1,111	1,087	1,121	1,098	0.1%
Revenue ('000s)	£326,654	£365,921	£320,523	£438,508	£397,597	3.8%
Attendance ('000s)	7,209	7,739	7,046	8,253	7,342	0.5%

Source: NAA and PWC

Limited growth on the main Concert category in attendance terms. This number will be modified by ekosgen

Sports Market						
	2014	2015	2016	2017	2018	CAGR
Events	222	285	303	281	334	10.8%
Revenue ('000s)	£29,066	£37,573	£51,188	£45,959	£50,489	15.0%
Attendance ('000s)	910	1,120	1,234	1,227	1,372	10.8%

Source: NAA and PWC

Family Market						
	2014	2015	2016	2017	2018	CAGR
Events	523	523	524	578	673	6.5%
Revenue ('000s)	£73,768	£79,151	£79,967	£73,582	£88,579	4.7%
Attendance ('000s)	2,038	2,133	2,080	1,883	2,177	1.7%

Source: NAA and PWC

Other						
	2014	2015	2016	2017	2018	CAGR
Events	354	257	132	344	272	-6.4%
Revenue ('000s)	£79,065	£56,581	£24,979	£81,483	£67,093	-4.0%
Attendance ('000s)	2,381	1,707	713	2,395	1,793	-6.8%

Source: NAA and PWC

Negative growth in the Other category is dismissed by PwC/ekosgen reports while the size of the category is significant (50% larger than Sport)

But when it comes to showing the resulting overall market growth, total attendance growth is not reported

PwC's presentation of data: only events and revenues are shown. A similar table on attendance evolution is not reported

Events by category NAA

Events	2014	2015	2016	2017	2018	CAGR 2014-18
Concert	1,101	1,111	1,087	1,121	1,098	0.1%
Family	526	523	524	578	673	6.4%
Sport	222	285	303	281	334	10.8%
Other	354	257	132	344	272	-6.4%
Total	2,203	2,176	2,046	2,324	2,377	1.9%
Number of venues	21	20	20	22	22	

Revenue by category NAA

Revenue (£'m)	2014	2015	2016	2017	2018	CAGR 2014-18
Concert	327	366	321	439	380	3.8%
Family	74	79	80	74	89	4.7%
Sport	29	38	51	46	51	15.0%
Other	79	57	25	81	67	-4.0%
Total	509	539	477	640	586	3.6%
Number of venues	21	20	20	22	22	

Source: Public information, PwC Analysis

ekosgen's presentation of data: attendance figures are shown but total line (adding up to 0.3% growth) is not reported

NAA Attendance Figures (in 000's)

	2014	2015	2016	2017	2018	CAGR
Music	7,209	7,739	7,046	8,253	7,342	0.5%
Family	2,083	2,133	2,080	1,883	2,177	1.7%
Sport/Esport	910	1,120	1,234	1,227	1,372	10.8%
Other *	2,381	1,707	713	2,395	1,793	-6.8%

Note: there is also an calculation error in the ekosgen table above: Family attendance in 2018/2014 is 2,177/2,083 which translates into a growth CAGR of 1.1% and not 1.7% as indicated above.

Looking at the unadjusted NAA attendance data in its entirety makes clear that attendance growth has been limited

For transparency the table below plots the full “raw” NAA attendance data along with category-level compound annual growth rates (CAGRs). This shows that attendance overall and in key categories has been flat.

Category	Sub-category	Metric	2014	2015	2016	2017	2018	CAGR 2014-18	Mean
Music		Revenue (£m)	327	366	321	439	380	3.8%	367
		Attendance ('000s)	7,209	7,739	7,046	8,253	7,342	0.5%	7,518
Sports	Ice Hockey	Revenue (£m)	10.18	11.83	15.83	13.10	16.02	12.0%	13
		Attendance ('000s)	318	348	386	354	433	8.0%	368
	Tennis	Revenue (£m)	6.56	6.77	8.36	7.33	7.18	2.3%	7
		Attendance ('000s)	205	199	204	198	194	-1.4%	200
	Darts	Revenue (£m)	2.82	5.10	7.42	6.14	6.88	25.0%	6
		Attendance ('000s)	88	150	181	166	186	20.6%	154
	Boxing	Revenue (£m)	2.56	4.79	6.89	4.03	6.25	25.0%	5
		Attendance ('000s)	80	141	168	109	169	20.6%	133
	Other	Revenue (£m)	7.04	9.55	12.14	14.80	14.43	19.7%	12
		Attendance ('000s)	220	281	296	400	390	15.4%	317
Family events		Revenue (£m)	74	79	80	74	89	4.7%	79
		Attendance ('000s)	2,038	2,133	2,080	1,883	2,177	1.7%	2,062
Other	Comedy	Revenue (£m)	64.32	45.61	12.60	67.29	51.02	-5.6%	48
		Attendance ('000s)	1,949	1,382	360	1,979	1,379	-8.3%	1,410
	Dance	Revenue (£m)	5.21	1.62	3.54	3.30	2.63	-15.7%	3
		Attendance ('000s)	158	49	101	97	71	-18.1%	95
	Misc.	Revenue (£m)	9.04	9.08	8.82	10.85	12.69	8.8%	10
		Attendance ('000s)	274	275	252	319	343	5.8%	293
Total		Revenue (£m)	509	539	477	640	586	3.6%	550
		Attendance ('000s)	12,539	12,697	11,074	13,758	12,684	0.3%	12,550

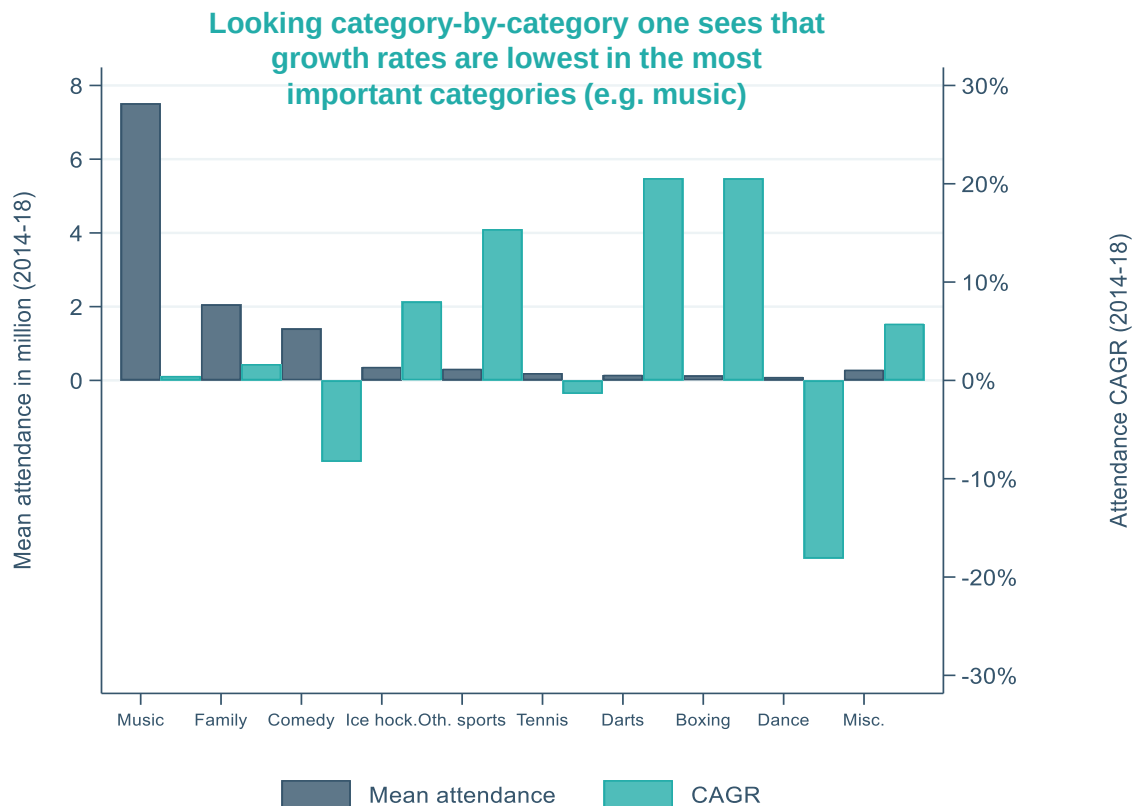
PwC and ekosgen growth potential rely on niche categories while growth is inexistent or negative on main market segments

PwC and ekosgen's calculation/justification of underlying market growth (CAGR) relies on niche categories, some of which are clearly of limited relevance for a >20k arena. Conversely, as is clear from the chart below, trends of main contributors (Concert, Family, Comedy) are either flat or declining. In the round, overall attendance has been flat over the past 4 years.

In the music category, which represents on average 60% of the attendance between 2014 and 2018, there has been only 0.5% of yearly growth on average over the past 4 years.

Sports, which is used to claim strong opportunities, is relatively low in terms of attendance. The high growth rate of this category is driven by niche categories (e.g. Darts, NBA and E-sports) that are less likely to fill a 23,500 capacity arena on a regular basis while Tennis is declining.

The Other category includes Comedy, Dance and Miscellaneous has been drastically declining between 2014 and 2018. It is dismissed by PwC/ekosgen while being 50% bigger than Sport in terms of attendance or revenue.



Notes: based on UK-level NAA figures used by ekosgen. CAGR: "Compound Annual Growth Rate"

Further detail on ekosgen's methodology (1/2)

Arbitrary assumptions are made which overstate market growth potential

2014 to 2018 attendance growth was around 0.3%/year at the UK level and declined in Manchester. ekosgen make arbitrary adjustments to what historic data is included to make forecasts or simply assert alternative numbers. This acts to substantially increase forecasted growth, but no real analysis or justification is provided.

Category	Actual data growth of attendance 2014-18	ekosgen forecast (2018-30)	How does ekosgen come up with its growth forecast?	CRA comment
Concert	+0.5%	+1.3% to +1.8%	1.3% is based on a longer 2012-18 trend instead of 2014-2018	Cherry-picked: no apparent reason to select different time period accept that it gives a higher figure
Family	+1.7%	+1.7% to +2.4%	1.7% is found applying the 2014-2018 growth rate. Other rates are assumed.	No major issues (uses actual data which mirrors the PwC report).
Sport	+10.8%	+6.0% to +9.0%	Reducing the 2014-2018 growth rate.	No indication on how the 6% figure is found. Acts to reduce overall growth forecast, but downward impact is much smaller than the upward modifications made on bigger categories like Concert and Other.
Other	-6.8%	+0.5% to +2.0%	Amending the 2014-2018 growth rate to reflect the variability of the category, the modest longer-term growth rates and emerging potential of new formats.	Drastic increase in growth made without justification. Likely calculation error. The estimated growth for 2018- could reflect the growth rate of 2014-2017 mentioned on page 24. However, this is a mistake in the calculation: the growth rate for 2014-17 is actually 0.2%.
Total	+0.3%	+1.9% to +3.0%	No justification/result from above assumptions.	Drastic increase in growth made without justification. Forecast is much higher than actual historic performance due to arbitrary assumptions made on Concert, Comedy and Dance categories.

Source: ekosgen report - Scenarios 1-3: Trend/Market Intelligence Based

Further detail on ekosgen's methodology (2/2)

ekosgen scenarios and redistribution methodology overstate Manchester market growth potential

ekosgen present 3 growth scenarios based on various assumptions:

- **Scenario 1:** Scenario 1 is meant to account for trends in ticket sales over the most recent and longer period but is explicitly stated not to include any “supply driven growth”. Incorporates “market intelligence” with regard to key sectors. This is deemed by ekosgen to be a very conservative approach.
- **Scenario 2:** Scenario 1 + Supply effects of new arenas. Deemed the most realistic scenario by ekosgen.
- **Scenario 3:** Scenario 2 + Strong development of new markets such as E-sports. ekosgen acknowledges that the scale to which these new markets can develop is very uncertain and even that its growth may only replace declining figures from other sub sectors of the market.

Unclear criteria used to then redistribute added demand across regions:

- Statements such as “Manchester is *likely* to account for *circa* 50% of the uplift in the northern market (p.44)” or “Growth *likely* in all arenas (p.47)” is vague and lacks economic foundation/empirical evidence or even clarity on how exactly market growth was redistributed across regions and to the New Arena specifically.
- From what we can reverse engineer, it seems that the share of UK-level growth that gets allocated to Manchester is equal to its capacity share accounting for MA and the New Arena capacities combined. Said differently: because the MA and the New Arena would represent 18% of the total large-arena UK capacity, Manchester gets allocated 18% of the growth estimated at the UK level, according to ekosgen, a fundamentally flawed approach.
- **Despite saying that Scenario 1 excludes “supply driven growth” (i.e. that opening an arena will in itself act to raise demand) this is in fact exactly what Scenario 1 does: higher capacity in Manchester is *assumed* to result in more events coming to Manchester even in ekosgen’s “conservative” analysis.**
- The lack of clear redistribution criteria also gives rise to potential **double-counting errors in the other two scenarios** whereby both growth estimates and their redistribution criteria account for supply led effects that would result from additional capacity.

Conclusion: PwC/ekosgen vastly overestimates market growth in Manchester

Estimates from the ekosgen report imply growth rates for Manchester of up to **95% by 2030 and 138% by 2035**. As evidenced in the previous slides, these are unrealistic and inconsistent with empirical evidence or historic trends and therefore cannot be relied upon.

A revised estimate using the actual **CAGR of 0.3%** and considering that the same growth would occur in Manchester, yields a much lower growth of **3.5% and 5.0% respectively by 2030 and 2035**.

Even if we redistribute proportionally to capacity accounting the capacity for the New Arena (i.e. this implicitly assumes strong supply-led effects as we now allocate twice as much in Manchester as capacity doubles), the revised total growth by 2030/2035 remains very modest amounting to **7% and 10% respectively**.

In addition, we note that ekosgen's first scenario seemingly accounts for supply-led effects in the redistribution share allocated for Manchester while by ekosgen's own definition they should not. Therefore estimated growth is not even correct (being overestimated) as per ekosgen's own methodology.

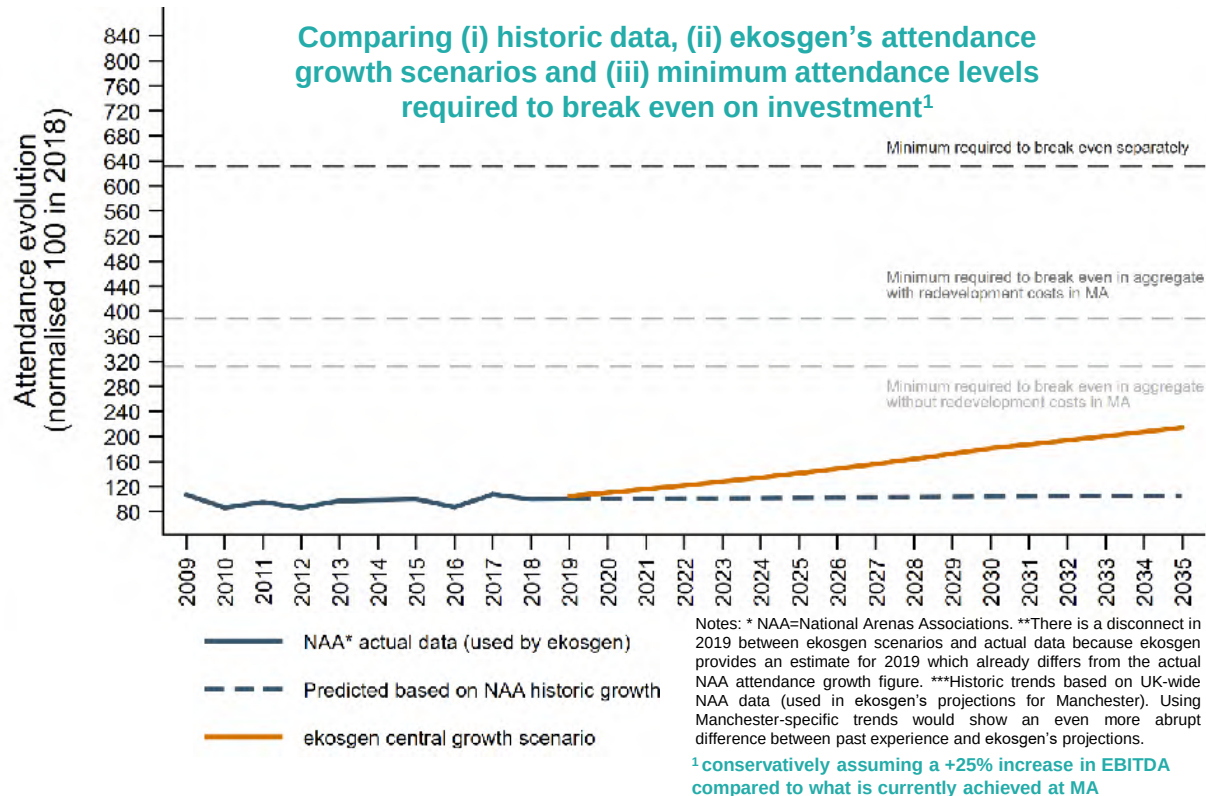
	ekosgen Scenario 1	ekosgen Scenario 2	ekosgen Scenario 3	Revised estimate based on past trends
	UK Market			
Annual attendance growth	1.9%	2.5%	3.0 %	0.3%
Total attendance growth by 2030	25%	34%	43%	3.5%
	Manchester			
Annual attendance growth	3.7%	5.1%	5.7%	0.3%
Total attendance growth by 2030	54%	81%	95%	3.5%

UK-level attendance growth is utterly unrealistic in light of past trends.

Moreover, allocation of UK market growth at the Manchester level is also flawed and unrealistic: without clear justification, a significant share of the market growth would get allocated to Manchester according to ekosgen.

This results in a steep compounded growth of up to 5.7% a year amounting to a total increase in attendance of 95% by 2030.

Even assuming ekosgen's unrealistic attendance growths, both venues would not break even on their investments



Even assuming ekosgen's unrealistic attendance growths, both venues would not break even on their investments.

This result holds even if we assume higher profits *per attendee* compared to what is currently achieved at MA. A higher profit per attendee could be driven by ticket price increase (e.g. premium seating) or additional sales, which are both uncertain. A higher profit per attendee is even less likely if both venues of this size are operating simultaneously due to increased competition. Still, to prove our results would hold even if profits per attendee were to increase, we have considered a scenario where we cumulatively assume both (i) ekosgen's utterly unrealistic *attendance* growths and (ii) a 25% increase in profit *per attendee*. Even then, it would not suffice for both venues to operate profitably in Manchester, as is shown in the above figure.

Covid-19 effect

PwC acknowledge that “certain risks are not directly taken into account in [their] analysis which could impact the market for a new arena” and “an economic downturn could reduce the disposable income and consumer spending on attendance at live events” (slide 29). Still, PwC’s and ekosgen’s reports take no account of the potentially devastating impacts of Covid-19 on Manchester city centre.

Covid-19 has clearly hit live entertainment harder than just about any other sector of the economy.

The New Arena will not be built until 2023 at the earliest after which one would hope the public health issue will have passed. However, **live entertainment is clearly one of the last sectors of the economy to be released from lockdown and there is a tail risk that event demand could be suppressed long term** through some combination of restrictions on large gatherings, economic downturn or other factors (e.g. restrictions on travel making multi-national tours less feasible).

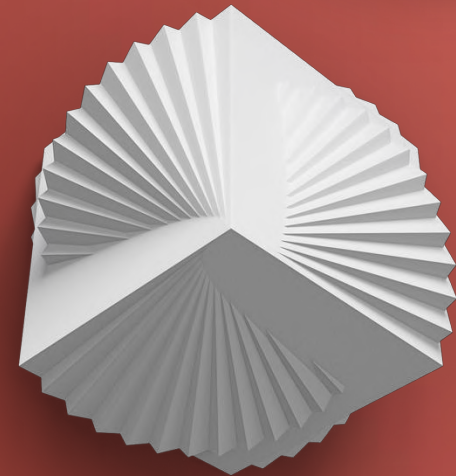
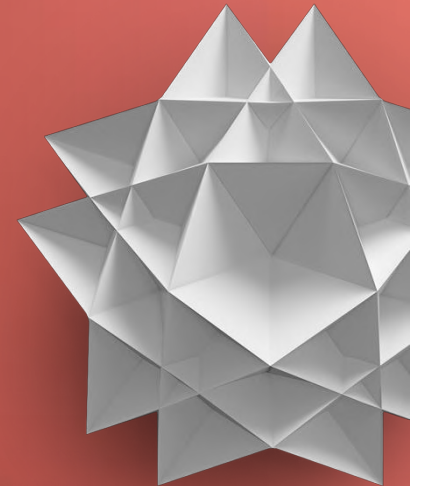
Costs are expected to increase as venues will have to hire additional personnel and guarantee sufficient infrastructure to meet the higher safety and health regulations which are likely to be enacted.

Against this background, ekosgen's prediction scenarios assume an attendance growth of 12% to 18% by 2023 in Manchester which appears wholly unrealistic in the current economic and social context, in which we have seen total closure of events, and given the likely longer-term implications of Covid-19.

While it is difficult to assess precisely its full impact, the Covid-19 crisis will undoubtably have implications for the financial durability of the MA hence its ability to survive in a two-arena city.

Part 3

Supply-led growth would
not be sufficient



Would the New Arena's catchment be twice MA's?

PwC state that, if the New Arena were to have an **iconic status like the O2 Arena**, its catchment area would increase by 50% or would even **double** that of the Manchester Arena. This is not credible.

First, any crude comparison with the O2 is misconceived as it ignores that the O2 is specific for multiple reasons (for example, being in a capital city with three times the population size, a significantly higher disposable income per capita and therefore a substantially larger ticket buying market).

Second, leaving the previous considerations aside, **actual catchment data reveals a completely different picture**: the O2 Arena does not have anything close to twice the catchment area of the Manchester Arena. Their 80%-of-sales catchment areas (i.e. the area that captures 80% of their sales measured in driving distance) is **almost identical**.

Third, even if the catchment were to be bigger, it is not clear that it would attract many more people since it would then overlap more significantly with neighbouring venues e.g. in Liverpool, Leeds, Sheffield, and Birmingham.

The O2 does not have a bigger catchment than MA: PwC's premise is incorrect

Venue name	80% catchment area (normalised at 100 for the O2 for confidentiality reasons)
The O2 Arena	Normalised to 100
Manchester Arena	102 (i.e. Manchester Arena's 80% catchment area is 2% <i>larger</i> than the O2s not 50% smaller as assumed by PwC)

Note: data covers 2018 for the O2 and June 18 – June 19 for the MA. Catchments calculated in km calculated across all events played in the venues. Results robust to using equivalent data for the O2 covering just the summer months

The New Arena is unlikely to bring many more events to Manchester (1/3)

The potential to attract events from London is overestimated

PwC and ekosgen argue that a new venue could be filled with the ~35% of events which currently play London, but not Manchester.

But a closer look shows that this is not supported by the evidence. The Manchester Arena already does better than any other UK venue in attracting events that also play London and among the remaining ~35% the most common reason to not play Manchester in the same year is that these are London-centric events or touring events which have already or intend to play Manchester the year before or after London.

Played/not played in Manchester	% performance
Played in Manchester (MA or smaller venues)	63%
Proportion of events at O2 not playing Manchester in 2019	37%
Reasons not played in Manchester	% performance
Competing event in Manchester	0.3%
Entertainment event London-based	5.9%
Local London religious content	4.0%
London-centred TV ceremony	3.1%
Multiyear Tour Upcoming Manchester/Manchester past	5.0%
New test event touring potential	3.4%
No Manchester audience	3.1%
On sale but cancelled	0.9%
Recent Play Manchester/Test Market	0.6%
Sport London Based Performer	1.6%
Sport event London base	5.9%
Proportion of events at O2, but not Manchester, in 2019 that could have been brought to Manchester with a more attractive venue	3.1%

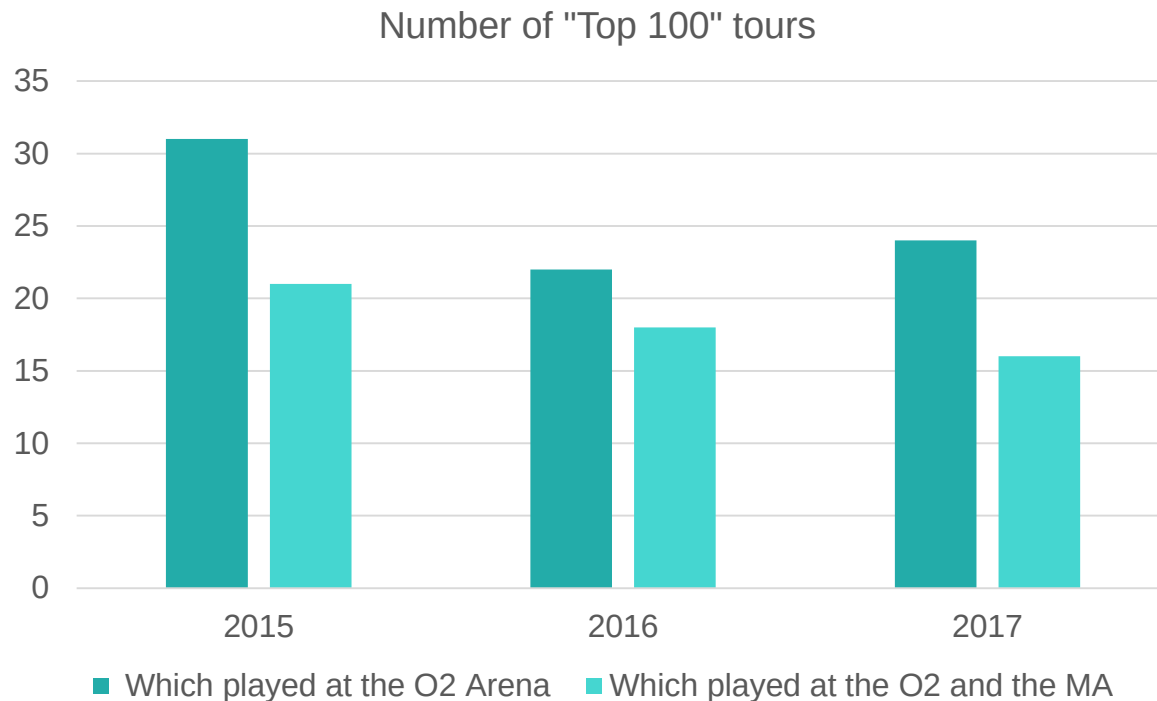
Source: events playing the O2 and Manchester in 2019. ASM were then asked to review event by event to determine the reasons why these events did not play the Manchester Arena. 3.1% refers to those events which played the O2, but not Manchester, but may have done so if it had a more attractive venue

The New Arena is unlikely to bring many more events to Manchester (2/3)

The MA has highest overlap with the O2 – more than any other arena in the UK

The MA also has the highest overlap with the O2 including for top 100 international tours. Given there are other population centres in the UK of comparable size, this is not what one would expect if the MA was held back by venue-related issues such as layout etc. (as suggested by OVG).

This further confirms that the limited share of major events that played in the O2, and did not in Manchester, were not played at the MA for good reasons which for the most part had nothing whatsoever to do with a lack of floor layout flexibility. In that sense the New Arena is unlikely to attract many more events than the MA.



Note: based on Pollstar data that is unreliable/non-representative in 2018 (AEG - the operator of the O2 and other venues, stopped contributing to the publication after the Oak View Group acquired Pollstar in December 2017).

The New Arena is unlikely to bring many more events to Manchester (3/3)

PwC's assertions that the New Arena would attract events which would otherwise not come to Manchester are not evidence based

PwC list a number of recent events that were not secured in the MA and future opportunities which could play in the New Arena. However:

- It is not clear that these events would play in the New Arena if they did not play in the MA. They could have decided **not to play in Manchester for good reasons**.
- In 2 out of 9 instances on past events, the reason given is **“venue too large” or “venue hire costs prohibitive”**. Clearly, a new larger and more expensive venue will not resolve these issues.
- It is argued that these events would be attracted by an “iconic” status of the New Arena and state of the art facilities and the flexibility of having 2 arenas. However, even assuming this were to be true, **one would need (to be consistent with the argument) to account for the increased competition that would result from the opening of the Sphere in London**.

As previously explained, the vast majority of events that did not play the MA chose not to do so for a good reason, independent of the venue itself. The new Arena would not make any difference in that respect.

List of opportunities for the New Arena according to PwC

Summary of recent events not secured

Nature of event	Date	Reason not secured
Tennis	Nov 2016	Could not secure dates for length of tenancy
Tennis	Noc 2017	Could not secure dates for length of tenancy
Netball	Apr 2018	Dates not available
Netball	Apr 2019	Dates not available
Athletics	Feb 2020	Could not secure dates for length of tenancy
Tennis	Feb 2020	Venue too large and hire costs prohibitive
Tennis	Mar 2020	Could not secure dates for length of tenancy
Athletics	Spring 2020	Venue hire costs prohibitive
Tennis	Nov 2021	Additional facility requirements

Future potential event opportunities

Sport	Event
Athletics	IAAF World Indoor Athletics Championships
Badminton	World Individual Badminton Championships
Basketball	FIBA Basketball Olympic Qualifiers NBA Pre Season
Boxing	European Boxing Paris 2024 Qualifiers
Gymnastics	British Gymnastics Championships European Gymnastics Championships World Artistic Gymnastic Championships Gymnastics World Cup
Netball	Netball International Series Netball Quad Series Netball Super League Finals / Semi Finals Netball World Cup
Swimming	FINA Swimming World Championships
Table Tennis	World Table Tennis Championships
Tennis	ATP Tour Finals Davis Cup Tennis Finals Fed Cup Tennis Finals WTA Tour Finals

Source: Information provided by market sources

Leeds and Liverpool cases do not evidence supply-led effects (1/3)

General flaws in PwC and ekosgen comparison to claim “supply-led” effects

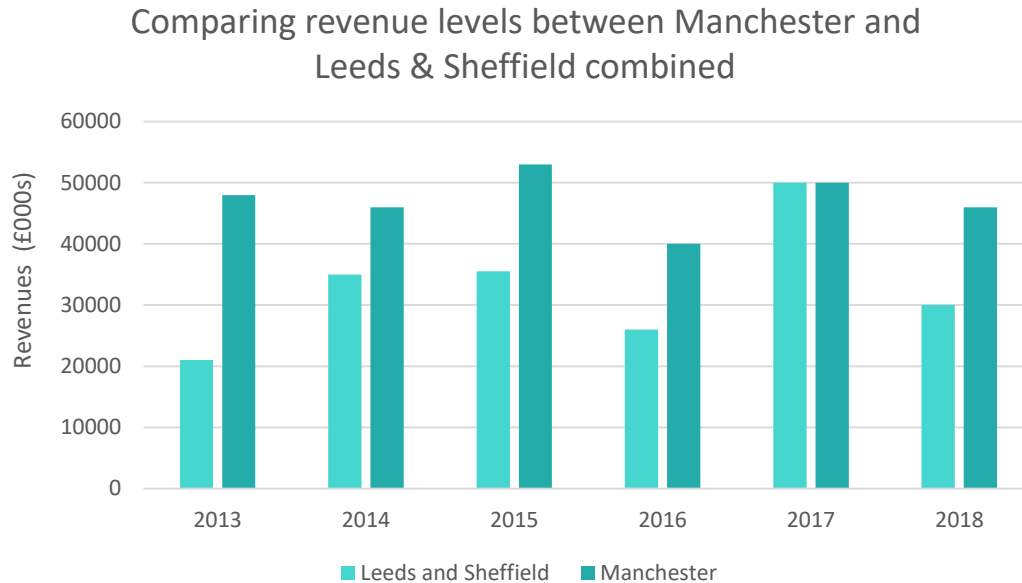
PwC argue that Manchester's stable revenues combined with the growth experienced in Liverpool and Leeds, in which new arenas were opened, is evidence that ***"supply has been a catalyst for growth in the regional market"***.

But careful review of data and facts does not support this conclusion:

- **Leeds/Sheffield was under-served:** Before the opening of the First Direct Arena (Leeds), a region with similar catchment population as Manchester and limited overlap with the latter was only supplied with one arena: FlyDSA Arena (Sheffield) with 13,600 capacity. The MA, on the contrary, is the best served catchment area in the UK (see later slides).
- **Liverpool and Leeds were not expected to have material impact in the MA due to limited overlap on their catchments:** Differences in overlap and arena characteristics explain better why the two new arenas did not have a material impact on the MA than the supply-led growth thesis advanced by PwC.
- **On the other hand, the New Arena can be expected to have a material impact on the MA for two main reasons. First, its catchment will perfectly overlap with that of MA. Second, it will be large enough to compete for the same calibre of artists/events.**

Leeds and Liverpool cases do not evidence supply-led effects (2/3)

Leeds and Sheffield: under-served before the opening of the First Direct Arena



Prior to the opening of the First Direct Arena (Leeds), the catchment area for Leeds/Sheffield was only supplied with a 13,600 seats arena in Sheffield. This catchment area is of similar size to Manchester's and has limited overlap with the latter. These conditions that allowed for the new venue in Leeds to have the impact in growth that PwC boast **are not present in Manchester:**

- The MA catchment population is the best served in the Northern region.
- The MA has larger revenues than Leeds and Sheffield combined despite lower capacity and similar catchment which is indicative of less room for supply-led growth.

Leeds and Liverpool cases do not evidence supply-led effects (3/3)

The New Arena will have the impact that Leeds and Liverpool were never expected to have

PwC argue that the openings in Liverpool and Leeds had no material impact on the MA and that, as such, the New Arena will not have any material impact either. This argument omits to take any proper account of: (i) the very close proximity of the MA and the New Arena; (ii) the overlapping catchment areas of the MA and the New Arena; (iii) similar capacities of MA and the New Arena (which are both much larger than Leeds and Liverpool).

Venue capacity differences

Equipped with a capacity of around double that of Liverpool and Leeds, the proposed venue will attract more similar events to those currently hosted by the MA than Liverpool and Leeds ever did.

Arena	Capacity
Manchester Arena	21,000
OVG's proposed New Arena (Manchester)	23 500
First Direct Arena (Leeds)	13,781
M&S bank Arena (Liverpool)	11,000

Catchment overlaps differences

As PwC themselves explain, Leeds and Liverpool have very limited overlap with the MA (25% and 44% respectively). By contrast the New Arena is to be located a mere 2.9 miles away from the MA resulting in nearly perfectly overlapping catchments.

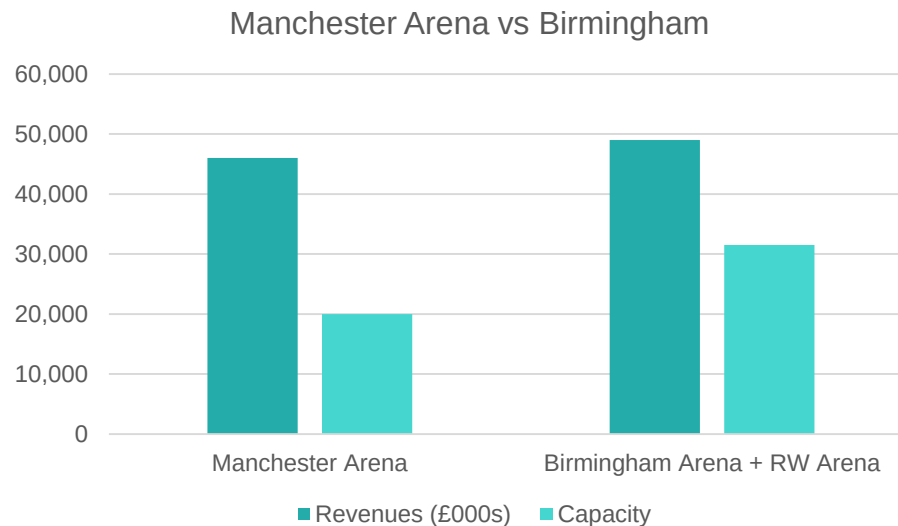
Naturally, these differences in location do matter when comparing the potential impact of the opening of a new venue.

With limited overlaps, the impact is expected to be limited too. Thus this cannot serve as a ground to claim “supply-led” effects. Even less so in Manchester where the New Arena is to be located next to the MA.

Despite lower capacity, Manchester generates similar revenues to the two arenas in Birmingham combined

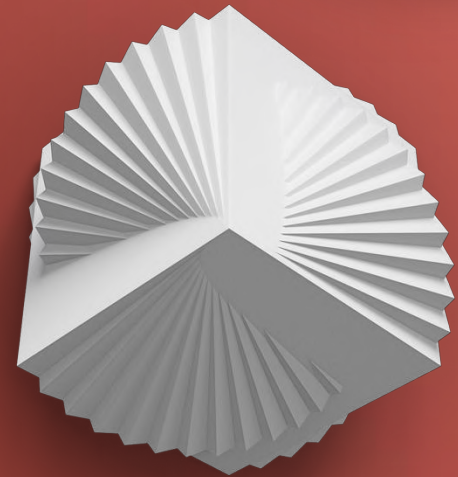
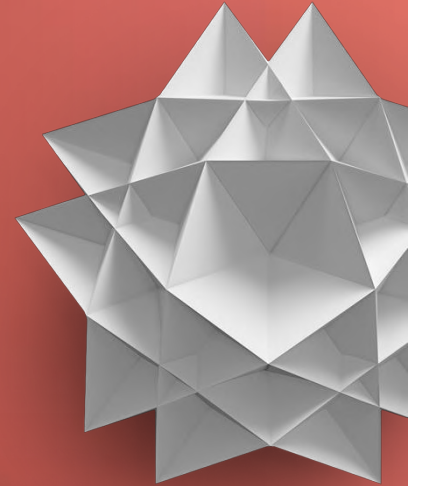
PwC and ekosgen argue that Birmingham is a good example of a successful two-arena region. However:

- **Manchester generated in 2018 £46M in revenues, closely matching the revenues generated by two-arena Birmingham (£49M)**, despite having lower absolute capacity and a similar catchment area.
- This comparison suggests that, contrary to what PwC argued, the Birmingham two-arena experience is not indicative of supply-led growth occurring in Manchester. **PwC acknowledge this weakness in their argument** when they concede that a *“step up would be required from what Birmingham currently delivers (p.50)”*.
- Moreover, the growth in revenues in Birmingham was achieved in part thanks to **common ownership of the two venues which allowed for, as PwC remark, “more efficient, complementary, programming offers”**. This type of synergies would not occur in a hypothetical two-arena Manchester so PwC overestimate potential growth accruing from one additional venue.
- Also, the Birmingham arenas do not pay landlord rent and do not have to return on redevelopment or investment cost.

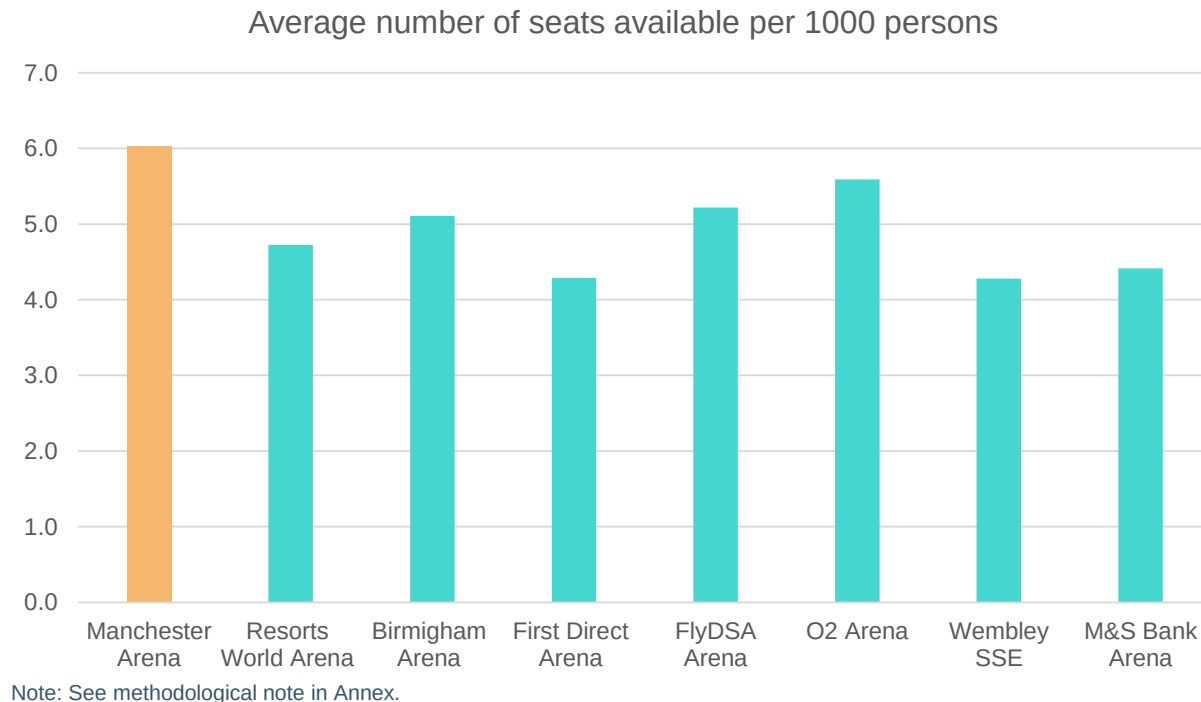


Part 4

Manchester is not
underserved relative to other
cities



Manchester is better served than other areas in the UK (1/2)



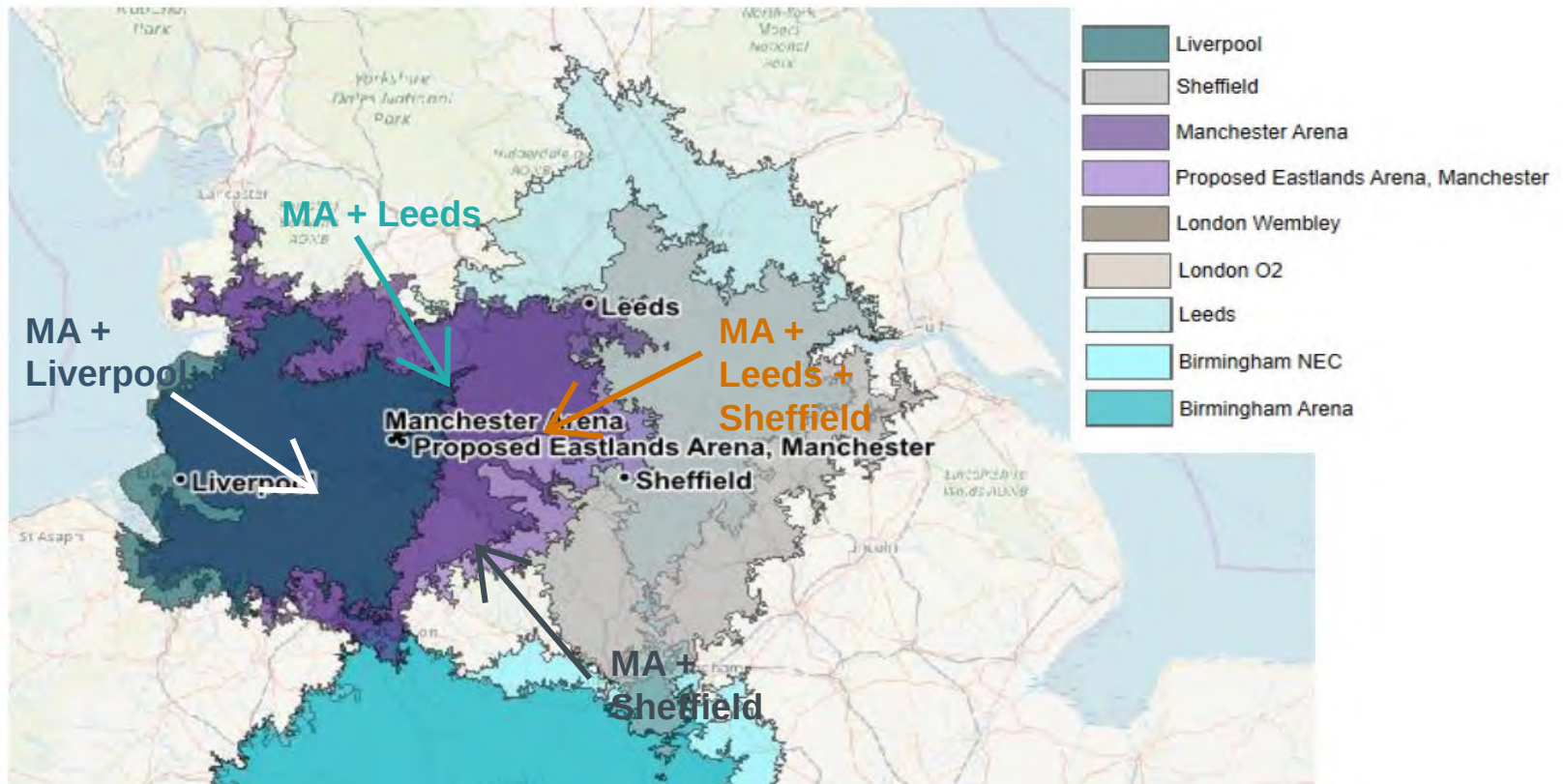
Manchester is already well served with a number of arena seats per 1000 persons that is already higher than any other catchment area of other UK venues. Indeed, building on PwC's own data, the **average number of seats per capita is higher in the Manchester catchment than for any other neighbouring venues, including The O2.**

The reason is that the MA catchment overlaps with many surrounding large venues in Liverpool, Leeds and Sheffield. As a result, many people in the Manchester catchment have multiple arena choices, making that region particularly well served.

¹ See PwC data on catchments (p.45, 49, 51).

Manchester is better served than other areas in the UK (2/2)

The Manchester Arena catchment appears almost saturated already



Notes: This map showing 60-minute drivetime catchment areas comes from the Grant Thornton report "Manchester Arena Economic Impact", July 2019. The arrows are pointing at "people" that can go to multiple arenas.

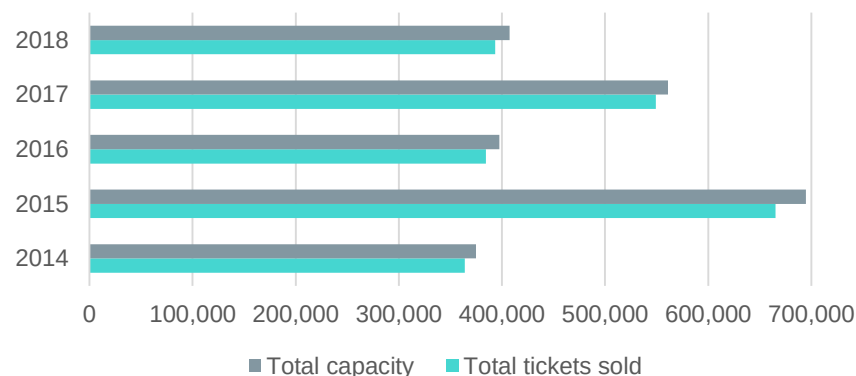
The Manchester Arena is **in the middle of a 4-large arena** overlap within a 60-minute drive time. Most other arenas in the UK have one or two within that distance.

The MA is not capacity constrained. PwC's analysis to the contrary is misleading (1/2)

PwC report that the MA's "utilisation" is high (near 95-100%). But PwC's analysis is confused and misunderstands what it means to measure "capacity" in this industry:

- There are two ways a venue might be "at capacity":
 - 1) if it is unable to add more events (i.e. all potential "event dates" are full) or
 - 2) if it is unable to receive more attendees on any given night (i.e. if the venue is a "sell out")
- PwC's measure of "utilization" does not capture either of these concepts: PwC compares the number of tickets sold to the number of tickets made available for the event in question.
- So, for example, if a promoter decided to put 5,000 tickets on sale and sold 4500 PwC would record this as "90% utilisation", but this is clearly incorrect: the MA can accommodate ~20k attendees.
- One can see the flaws in the PwC approach by looking at changes in "capacity" over time: by PwC's logic the MA's "capacity" doubled from 2014 to 2015 and then halved again.
- Finally, we must also note that PwC conduct its analysis on Pollstar data which is unreliable for 2018 (AEG - the operator of the O2 and other venues, stopped contributing to the publication after the Oak View Group acquired Pollstar in December 2017).

PwC's measure of "capacity" varies markedly from year to year, showing that it is not a meaningful measure of the actual constraints on the MA...



... in fact the MA has spare capacity both in terms of available event days and ability to sell more tickets on individual nights, none of which is accounted for in their analysis to meet market growth in a sustainable city centre location.

The MA is not capacity constrained. PwC's analysis to the contrary is misleading (2/2)

Using accurate measures of capacity shows that the MA is not capacity constrained

The MA is rarely at capacity on individual nights. Only 8 events had attendance in excess of 18k notwithstanding MA's total capacity of ~20k. Some of this will reflect that some floor lay outs have maximum attendance below 20k, but even so clear that MA is not "topping out" regularly.

In addition, note that new egress routes with the redevelopment which will facilitate even larger capacity on the floor (as well as large productions) if there is demand for such events.

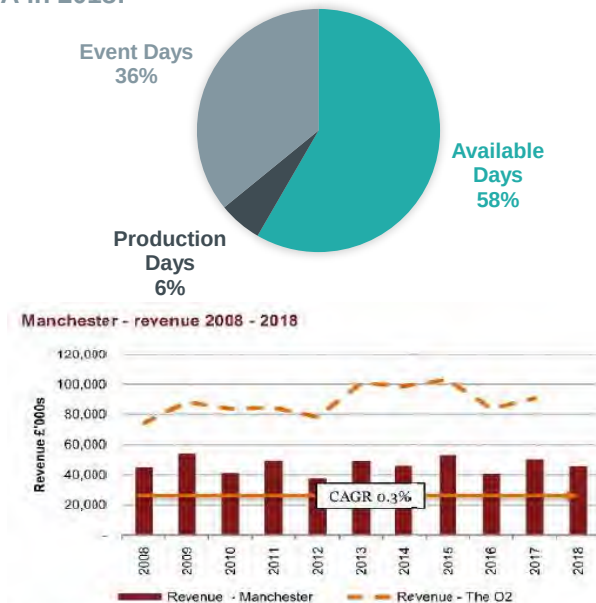
The MA could accommodate materially more event dates: we understand from ASM that the MA only hosts an event on 42% of days where an event could in principle be hosted. Moreover, with the redevelopment, the MA will be able to increase capacity for big productions thus increasing even further the spare capacity.

In light of this spare capacity, the fact that the MA has not experienced material attendance growth since 2008 suggests that demand in Manchester can be accommodated and is further evidence that Manchester is not able to accommodate a second large venue.

Split of the MA performances by attendance level in 2018:

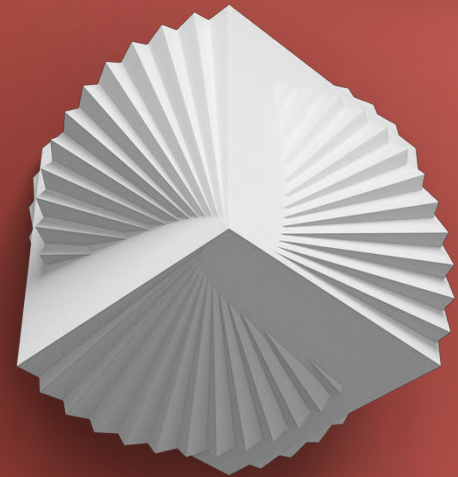
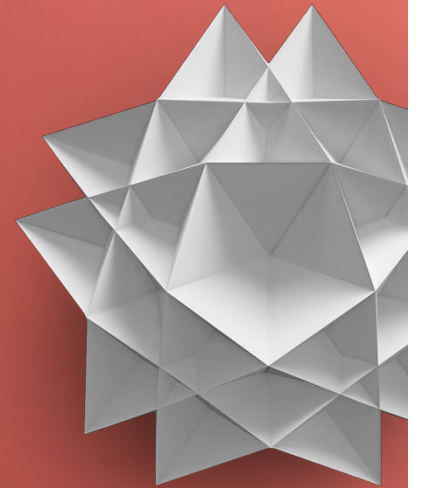
Number of tickets per night	Number of performances	Total capacity	Mean capacity
>12k	164 (50%)	2,435,495	14,851
>12k; <15k	115 (35%)	1,631,119	14,184
>15k; <18k	41 (13%)	654,344	15,960
>18k	8 (2%)	150,032	18,754

Split across event days, production days and available days at the MA in 2018:



Source: PwC analysis of Pollstar data

Annex



Density Analysis – Methodological note

- PwC catchment data was used for all the venues except for the O2 Arena, SSE Wembley and the M&S Bank Arena. For these three venues, given the lack of information in the PwC and ekosgen reports, estimates from the “Manchester Arena Economic Impact Assessment 26 June 2019” prepared by Grant Thornton (“GT report”) were used.
- PwC and ekosgen use peak-hour drivetime catchments as they argue they are superior to its off-peak counterparts reported by Grant Thornton.* We transform from off-peak to peak figures by assuming the catchment in the three venues would decrease in the same proportion as they did for the venues present in the PwC report. For London this assumption is quite conservative as traffic congestion is significantly larger than in other areas of the country. As such, we allow for overestimated peak-hour catchment areas for the O2 Arena and the SSE Wembley.
- The analysis is based on the average number of seats available for customers located in the catchment of a given arena. For the population in areas where the catchments overlap, the averages are added to account for the increased offer available. The figures in the chart are a weighted average between the averages of areas where there is no overlap and those where there is.
- The overlap considered between the Manchester Arena and the M&S Bank Arena is the one reported in the PwC report. The overlap used for the two venues in London is based on the map provided in Page 9 of the GT report which shows that the two arenas mostly overlap in the North East of London. According to the authors of the report: *“The London catchments are more separate, although there is some overlap in the North East of London.”* We use publicly available data on the population of London by sub-regions and include both the North and North East population in our estimated overlap between the two arenas. The inclusion of North London is to guarantee we are not underestimating the overlap. We obtain a 41% overlap between the two London venues which we then use to compute the density figures in the same way as we did for the other venues.

* Grant Thornton report, “Manchester Arena Economic Impact Assessment – Full report” dated 30 July 2019

Catchment areas and revenues

Catchment areas	Number of people in catchment area (million)		Revenues (2018, Millions)	Capacity
	Peak driving 60mn	Off peak driving time 60mn		
Manchester Arena	5.8	7.4	48	21,000
Resorts World Arena	6.2	7.4	22	15,685
Birmingham Arena	5.6	6.9	28	15,800
First Direct Arena	6.4	7.7	20	12,345
FlyDSA Arena	4.8	6	10	13,314



OVG Arena: Impact on Climate Change

June 2020



Experts in air quality
management & assessment

Document Control

Client	Manchester Arena	Principal Contact	Freyja Handy
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Job Number	J4038
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Document Status and Review Schedule

Report No.	Date	Status	Reviewed by
J4038A/2/F3	11 June 2020	Final	Dr Graham Earl

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1 Introduction

- 1.1 This report provides a brief overview of the potential impacts to climate change of the proposed OVG Arena in Manchester.

2 Climate Change Background

- 2.1 Climate change (often referred to as Global Warming) describes the change in the global climate caused by the release of greenhouse gasses¹ (GHG) which act to trap heat within the earth's atmosphere. Climate change include changes (both globally and regionally) of temperature, rainfall, frequency of storms and sea level.
- 2.2 GHG include emissions that occur naturally, for example due to release of methane from peat bogs as well as from human activity, for example due to the combustion of fossil fuels in transport, power generation, combustion heating and from industrial processes.
- 2.3 The primary GHG is carbon dioxide (CO₂) which accounts for over 90% of all GHG emissions. When quantifying GHG it has become normal practice to present them in a common unit called Carbon Dioxide Equivalent (CO₂e), which takes into account that some GHG result in greater warming than others. For example, 1 kg of methane which is a GHG has the same effect on climate as 20 kg of CO₂. To convert methane to CO₂e it is therefore multiplied by 20. CO₂ on the other hand is multiplied by 1.
- 2.4 The proposed OVG Arena will result in the release of GHGs from a range of sources, including heating plant (gas boilers are proposed for primary space heating), electricity consumption, transport and construction (the 'embedded' or 'embodied' GHG emissions released from the mining and manufacture of the construction materials used to build the Arena). Taken together these GHG emissions are commonly referred to as a carbon or more accurately a GHG footprint.

Climate Change Policy

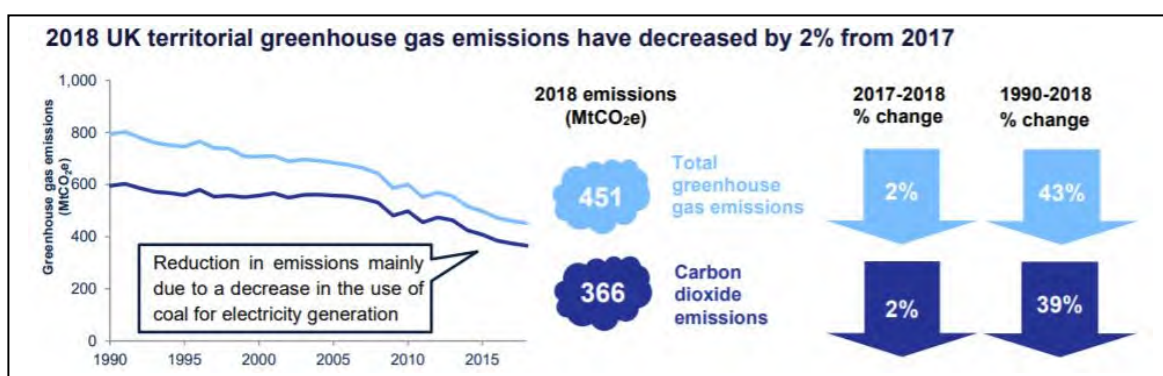
- 2.5 In 1992, members of the United Nations signed the United Nations Framework Convention on Climate Change (UNFCCC), whose objective is to stabilise global climate change. UNFCCC members have met regularly since 1992 to agree treaties to work towards this objective, the most recent and significant of which has been the Paris agreement signed in 2016, which aims to limit global climate change to a less than 2 degrees Celsius increase in average global temperatures by 2100, with an ambition for average global temperatures to increase by no more than 1.5 degrees.

¹ GHG are atmospheric emissions defined as having an effect on global climate and include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), and nitrogen trifluoride.

- 2.6 To meet the Paris agreement, scientists have calculated that net global emissions² of GHG need to fall to zero by the 2080s and to meet a 1.5-degree objective to be net zero by the middle of this century. In response to this, the UK has set a legally binding target to reduce its GHG emissions to net zero by 2050, delivered through the Climate Change Act. In meeting the long term 2050 target the UK government is also required to set out 5-year milestones on a trajectory towards the 2050 target, known as carbon budgets. So far carbon budgets have been approved by government up until 2032, known as the 5th carbon budget.
- 2.7 The UK's commitment to net zero by 2050, introduced in 2019, coupled with an increasing public awareness and concern about the long-term effects of climate change have led a large number of local authorities to declare 'climate emergencies' and quickly move to introduce local policies to help work towards the net zero 2050 target. Manchester City Council's response to this has been to aspire to meet net zero carbon within the city by 2038; 12 years earlier than the Government's target.

UK GHG Emissions

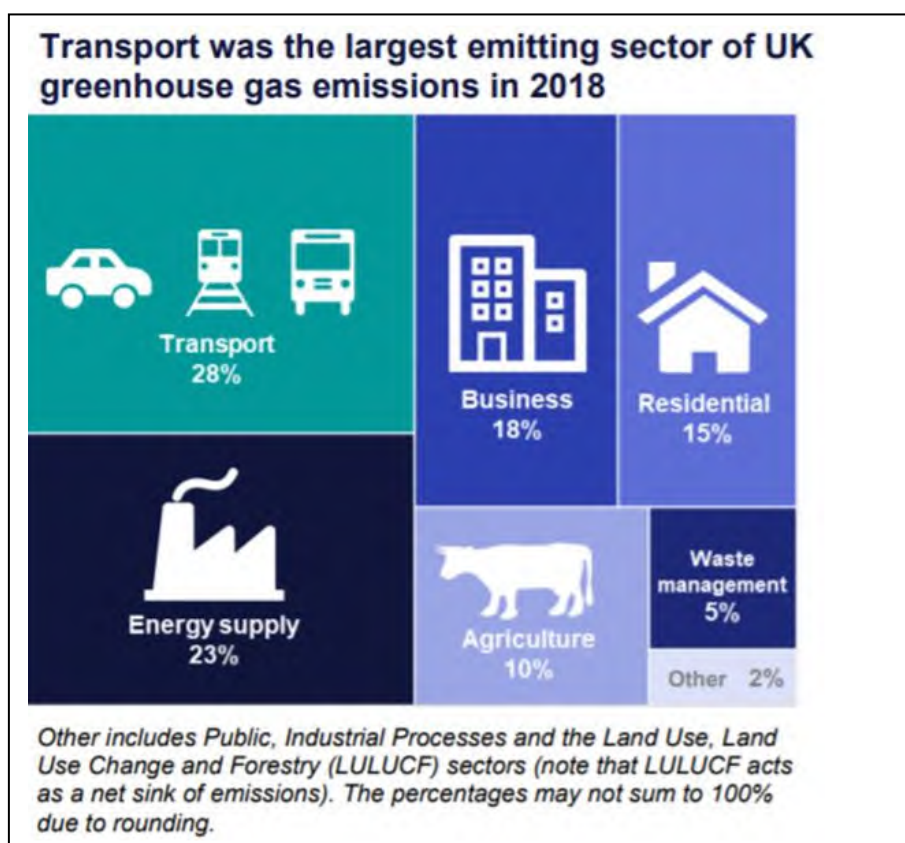
The UK reports its GHG emissions annually to enable it to manage and track its performance. In 2018 the UK emitted 451MtCO₂e. This is a fall of 43% since 1990 as shown below.



The single largest contribution to this fall has been the switch from coal to gas for the generation of electricity. Since 1990 GHG emissions from energy generation have fallen 62% compared to only a 2% fall from transport.

In terms of overall contribution, in 2018 the single largest source of emissions is from transport, as shown below.

² Net emissions reflect that there are both sources of emissions, for example combustion of fuels that add emissions to the atmosphere and carbon sinks, for example trees, that reduce GHG emissions in the atmosphere. The balance between the two are net emissions.



3 Impacts of the OVG Arena on Climate Change

Scale of Impacts

- 3.1 The Environmental Statement (ES) submitted in support of the planning application for the proposed OVG Arena sets out an assessment to quantify the GHGs emitted as a result of the construction and operation of the Arena. The assessment focusses on:
- GHGs from energy consumption (gas and electricity); and
 - Embedded GHGs in construction materials.
- 3.2 The assessment completely discounts transport emissions. As detailed above these are a major source of UK emissions and a significant contributor to the development's GHG emissions. Furthermore these emissions can be influenced by the Arena through the development of measures to encourage sustainable transport (such as mass transit modes) and discouraging private car use.
- 3.3 Despite the exclusion of transport emissions from the assessment, the emissions from construction and energy are estimated to contribute 72,570 tonnes of CO₂e over a 60-year lifetime of the Arena. This resulted in a conclusion within the ES that the impacts of the Arena on climate change from

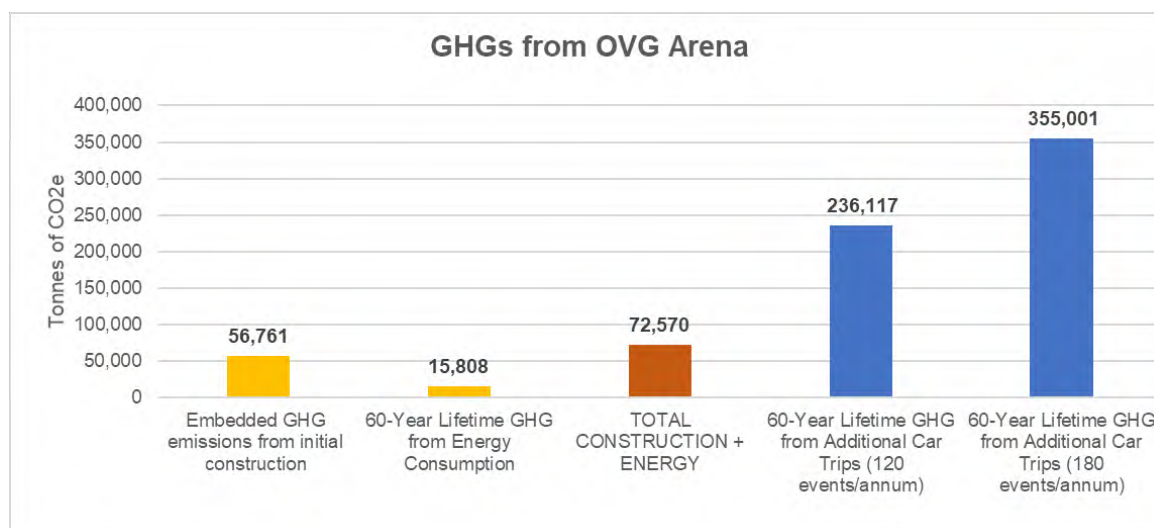
GHG emissions would be major to moderate adverse before mitigation and **moderate to minor adverse** when considering the implications of the proposed mitigation.

3.4 In terms of the transport emissions, Transport Consultants Blacc have undertaken analysis to determine the number of additional car trips likely to be generated by the Arena, based on both 120 events per year and 180 events per year at the Arena (the proposed typical and maximum event numbers). Although additional car trips only represent a proportion of the transport movements to and from the venue by visitors (57%), the additional car trips are important because:

- travel by private car results in higher GHG emissions per person compared to walking, cycling and mass transit modes (bus, Metro and rail transport);
- although the Arena cannot fully control the methods used by visitors to access the site, it can provide mitigation to discourage or prevent private car use in favour of more sustainable transport modes; and
- emissions from transport are significant at a national level, are proving difficult to reduce and thus require action across the economy from all parties including government, individuals and developers.

3.5 To provide some context of the importance of GHG emissions from these additional car trips, the figure below shows the lifetime GHG emissions from construction and energy, as set out in the OVG Arena ES, against the estimated lifetime GHG emissions from additional car trips. The emissions from additional car trips are based on data provided by Blacc on number and distance travelled by car to and from the Arena, assuming an opening year of 2023, and assuming that by 2050, all emissions from road vehicles will be zero, in line with the UK's net zero target³.

³ Calculation based on 1,288,913 additional car trips per year (120 events) to 1,937,876 additional car trips per year (180 events) with average travel distance of 73.9 km (provided by Blacc based on Manchester Arena visitor data). GHG emissions factors obtained from Department of Business Energy and Industrial Strategy and include a 3.7% per year reduction between 2023 and 2050 to account for decarbonisation of road transport by 2050.



Comparison of Estimated GHG Emissions Associated with the OVG Arena

- 3.6 The estimated lifetime GHG emissions from additional car trips are 3-5 times higher than the lifetime emissions from construction and energy, the latter of which are described as a moderate to minor adverse effect in the OVG Arena ES. Transport emissions therefore represent a predominant portion of the Arena's GHG emissions and are a source of emissions that the developer can actively influence and therefore the decision to exclude these from the GHG assessment is unjustified. Nationally transport emissions are significant and to meet the UK's 2050 target require concerted action by all parties.
- 3.7 If transport emissions were to be included in the GHG assessment for the OVG Arena, it is reasonable to conclude, based on the assessment criteria set out in the OVG Arena's ES, that the GHG emissions would be a **major to moderate adverse effect**. This is because they would result in a *“Medium-term net increase in GHG emissions resulting from the Proposed Development in construction and operation. Trending towards achieving net zero over the lifecycle of the Proposed Development, but not before 2038, as per the Manchester City Council commitments”* (see Table 15.2 in the OVG Arena ES)⁴.

Proposed Mitigation and Policy Compliance

- 3.8 In order to contribute towards Manchester City Council's target to achieve a net zero carbon city by 2038, the OVG Arena is reliant on a 15-year plan to remove natural gas heating (boilers) and cooking appliances from the Arena. Although the ES sets these out as mitigation opportunities (assuming, but not committing to replacement of these gas fired technologies by 2030), it falls short of providing a firm commitment to deliver these mitigations, or to clearly set out whether these are achievable or viable. As climate change is a cumulative issue (in other words the GHG emissions remain in the atmosphere contributing to climate change so the sooner emissions are removed the better), the

⁴ This describes the impact magnitude as 'moderate', which when combined with a 'high' sensitivity receptor leads to a major – moderate adverse effect as described in Table 15.3 of the OVG Arena ES.

Arena would benefit from delivering a scheme that is not reliant on gas-fired heating and cooking from day 1, but the assessment does not address the feasibility of this either.

- 3.9 Manchester City Council's Climate Change Framework 2020-2025 describes that *"We need to ensure that new developments in the city don't eat into our limited carbon budgets and add to the already significant retrofit challenge. This means that we need them to be built and operated to zero carbon standards as soon as possible... with a view to all new development needing to be zero carbon from 2023 at the latest"*, and the Draft Manchester Zero Carbon Framework 2020-2038 also makes clear that *"New buildings need to generate zero emissions"*. The OVG Arena, with reliance on gas-fired heating, does not comply with this emerging new policy.
- 3.10 In terms of transport, the OVG Arena provides a travel plan setting out measures to encourage sustainable transport; however, facilities to encourage private car use remain, including the proposed use of 3,000 parking spaces near the Arena (used for the Etihad Stadium) for events, when the Stadium is not in use. The travel plan suggests however that the Arena will function with only 500 designated parking spaces when the Etihad Stadium is concurrently in use; the intimation of the ability of the Arena to function with 1/6th of its overall parking capacity raises questions about why the Arena cannot operate every event with only 500 available parking spaces to discourage private car use and reduce the associated GHG emissions.
- 3.11 The transport analysis undertaken by Blacc has identified that during these events where the Etihad Stadium is in use, there is insufficient capacity in the public transport network to accommodate the volume of visitors to both venues, resulting in an estimate of up to 5,500 private cars that will look to use street parking or existing local car parks near to the venue. The Arena has proposed an extension to the existing Controlled Parking Zone (CPZ) in the area to try and discourage off-site parking, but Blacc's analysis of this measure identifies that the extension to the CPZ is already subject to planning agreements with Manchester City Council, so is not additional mitigation provided by the OVG Arena application.
- 3.12 Blacc's analysis identifies that the OVG Arena is poorly situated to service its own demand by sustainable travel, due to a distant proximity to the city centre making walking and cycling unattractive or due to poor or limited capacity public transport links; this will put a heavy reliance on private car use (or taxi drop-offs), which will result in a substantial challenge in reducing GHG emissions from transport to and from the Arena.

Summary and Conclusions

- 3.13 The OVG Arena proposal in its current form does not support Manchester City Council's commitment to achieving a net zero carbon city by 2038:
- the OVG Arena application has not included GHG emissions from transport in the climate change assessment provided to support the application; analysis shows GHG emissions

from private car trips will be 3-5 times higher than the lifetime emissions from construction and energy consumption;

- considering GHG emissions from transport, the effects of the OVG Arena in terms of GHG emissions are judged to be major-moderate adverse;
- the OVG Arena will provide access to 3,000 parking spaces encouraging the use of private car, which has substantially greater GHG emissions than mass transit modes (bus/tram/train) and walking or cycling;
- the Arena is heavily reliant on access by private car, and reducing car parking will only likely displace car trips to street parking, which will not reduce GHG emissions;
- the OVG Arena's reliance on gas-fired technology for heating and cooking appliances is not consistent with areas identified for urgent policy action described in Manchester City Council's Climate Change Framework 2020-2025 and Draft Manchester Zero Carbon Framework 2020-2038, and will require replacement with zero-carbon technology before 2038 in order to achieve net-zero on-site emissions, a clear commitment to which has not been provided in the application.

Economic analysis of the proposed new arena in Manchester

Response to PwC, ekosgen, Deloitte and Amion reports

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INTRODUCTION

Oakview Manchester Limited (OVG) has submitted a planning application for permission to build a new 23,500 capacity venue in Manchester (the “New Arena”). We have been asked by ASM global to provide an economic assessment of whether Manchester can sustainably support a venue of this size alongside the existing Manchester Arena (MA). This report builds upon our previous report on these issues (CRA 1)¹ and responds to two new reports, commissioned by OVG and prepared by Deloitte² and Amion³, and including a short annex prepared by ekosgen.⁴

To recap, CRA 1 assessed the validity and robustness of the assumptions made in two previous reports by PwC⁵ and ekosgen⁶ submitted in support of OVG’s application. Both of these reports argued that there will be significant market growth in Manchester that would support the New Arena. This material market expansion was argued to be driven both by general trends in the entertainment market and by “supply-led growth” (i.e. that opening a new, modern venue in Manchester will draw more events to the city). Our assessment in CRA 1 was that:

- At current levels of demand, Manchester cannot support two venues of this size. Very significant (most likely unrealistic) growth of between 4-8 times the attendance levels in 2018 (growth of 300-700%) would be needed if both venues are to operate profitably and make a return on investment.⁷
- PwC and ekosgen vastly overestimated future growth in Manchester: they used a combination of inconsistent assumptions and cherry-picked data to project attendance to increase 2.4 times by 2035 despite actual historic growth in attendance in the UK and Manchester being essentially flat.
- Manchester is already better served (in terms of Arena capacity per capita) than any other UK geography including London and Birmingham.

1 See CRA report “Economic analysis of Manchester Arena Market – Response to PwC and ekosgen reports” dated June 2020.

2 Deloitte report “OVG Manchester, Proposed New Arena Response to Representations – Application Ref. 126431/FO/2020. Volume 1: Main Report” dated 29 July 2020.

3 See “Appendix B, Robust Scenarios, ekosgen” of Deloitte report “OVG Manchester, Proposed New Arena Response to Representations – Application Ref. 126431/FO/2020. Volume 2: Appendices” dated 29 July 2020.

4 See “Appendix C: New Arena in Manchester – Assessment of Demand Report, Amion” of Deloitte report “OVG Manchester, Proposed New Arena Response to Representations – Application Ref. 126431/FO/2020. Volume 2: Appendices” dated 29 July 2020.

5 OVG Manchester, Due diligence report Volume I: UK Arenas and Manchester market overview, PwC, 2 March 2020.

6 UK Large Arena Market and Growth Scenarios 2018-2040, ekosgen, February 2020.

7 See CRA 1, Part 1, slide 11.

- The claim that a new venue would draw in new events which currently play London, but not Manchester was unconvincing given Manchester already does better than any other UK city outside of London in attracting events and the remaining “London only” events are typically London centric, one-off events or played Manchester in subsequent years such that the scope for drawing further events to Manchester was limited.
- PwC’s claim that the Manchester Arena is “at capacity” was based on a misunderstanding of the available data (it compared the number of tickets sold to the number of tickets put on sale without recognising that promoters can adjust the arena layout to put more tickets on sale if they anticipate there being sufficient demand). Once corrected, the data shows substantial spare capacity at the MA in terms of both available dates and ability to accommodate more eventgoers.

The new reports by Deloitte, Amion and ekosgen make some criticisms of the conclusions above. They also present some new evidence, most significantly a survey analysis presented in the Amion report, which is used to back up the ekosgen forecasts. We note that the focus of the Amion report is not to defend ekosgen’s existing methodology, but rather to present a completely new approach, essentially hinging on asking questions to people as to whether they are “interested” in the OVG New Arena and, based on the reported level of interest, making assumptions about future attendance growth.

Our main findings are as follows:

- All our critiques made in CRA 1 are valid and our conclusions hold. The new evidence provided by OVG focuses on an entirely new assessment of market growth potential (the Amion report) rather than defending the previous ekosgen methodology, consistent with the latter indeed being non robust or reliable.
- The growth potential predicted by Amion is in fact *more aggressive* than that forecast by ekosgen. It implies that attendance will be more than triple in Manchester by 2035. As with ekosgen, this forecast contrasts starkly with historic growth of the past 10 years which indicates at best a 5% increase by 2035. While one might foresee some acceleration in growth, a 207% increase is unrealistic based on facts and lacks credibility.
- These latest reports argue that our extrapolations of past attendance growth are inaccurate as they fail to account for population growth. This is misconceived: it is true that the UK population is expected to grow but it also grew in the past. Projecting past growth in attendance would only be problematic if one expected UK or Manchester population growth to increase *more* in future years, but in fact the Office for National Statistics predicts the opposite. In which case, our predictions are already (conservatively) accounting for the effect of population growth on arena attendance trends. Similarly, CRA 1 is criticised for using a four-year time window to make forecasts (notwithstanding that this was not our decision, but rather the window used by both PwC and ekosgen), but using a longer time window actually shows lower – even negative – trend attendance growth rates (see Figure 1 below) and makes the ekosgen and Amion forecasts look even more implausible.

- Both ekosgen's and Amion's estimates result from a flawed survey methodology. Amion's growth estimate relies on a consumer demand survey that is not adapted for the purpose of predicting demand growth. Survey responses can be easily manipulated. The one used by Amion provides unprecise answers from which additional questionable assumptions are made. The survey suffers from what the Competition and Market Authority ("CMA") calls an "*acquiescence bias*" which is "*where the customer thinks they should agree with a statement included in the question and therefore does so*".⁸ One example is when the survey asks "how interested" people would be to visit the New Arena. "How interested" suggests you should be interested. Another good example it is assumed that people who did not attend an event in the past five years will attend events at the New Arena if they declared in the survey they were "interested" in attending certain types of events in a given venue. We note from the Amion report that "*survey respondents were shown visuals of the new arena and given a description of the proposed offer*".⁹ We have not seen those visuals or description of offers, but it is clear that these will strongly influence the respondents' answers.
- Unjustified assumptions are made on top of survey responses to calculate the "growth potential". Continuing with the same example: for those people who usually do not attend events but are "interested" in the New Arena, it is further assumed they will attend once a year every year. There is no basis for that frequency of visit. Declaring that you are "interested" in a venue does not imply that you will attend that venue once a year every year. You might actually not visit at all, or may just be "interested" enough to visit it once, as a "one-off", especially if you do not usually go to concerts or entertainment events. Similarly, Amion assumes that the frequency of visit will increase by 3 visits every 5 years for those who already visited an arena. This is a pure speculation – the number is not estimated from the survey responses and no evidence is provided to support this assertion. Put differently, the growth is assumed/constructed combining responses from a questionable survey and arbitrary assumptions.
- The Manchester Arena area is already better served than other venues in the UK. This is due to the presence of many arenas surrounding the Manchester Arena, as we have explained in CRA 1.¹⁰
- Our break-even analysis is sound. None of the critiques presented by Deloitte invalidate our findings that at the current level of demand, Manchester cannot support two venues of this size. Unrealistic levels of growth would be needed for both to break even and cover investment costs.

⁸ CMA guidelines on "Good practice in the design and presentation of customer survey evidence in merger cases" available at <https://www.gov.uk/government/publications/mergers-consumer-survey-evidence-design-and-presentation>. See para. 3.11.

⁹ Amion report page 9.

¹⁰ See CRA 1, Part 4 slide 46.

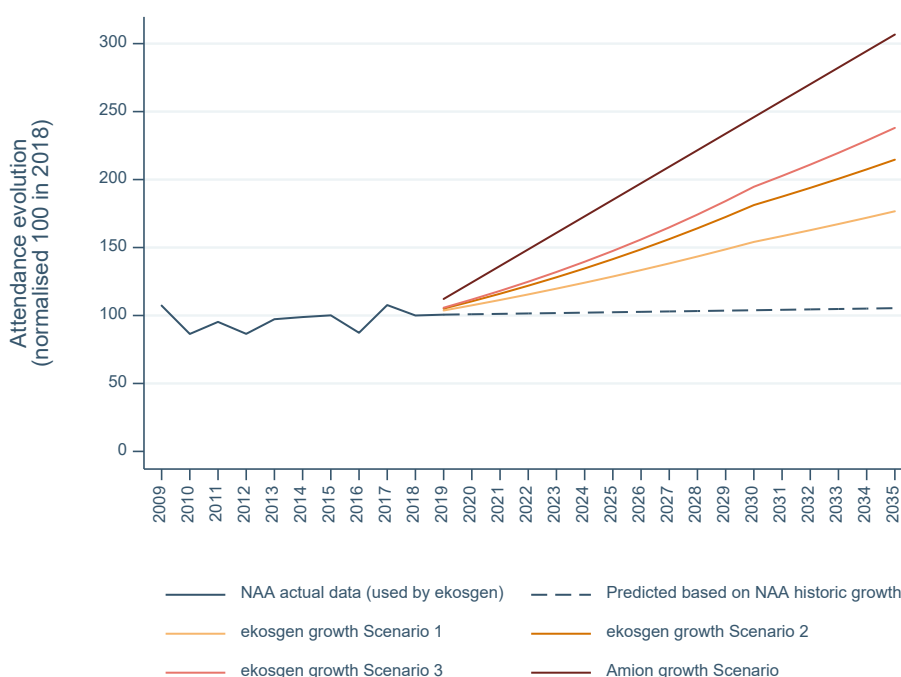
The remainder of the report is organised as follows: Section 1 discusses the assessment of market growth potential responding to ekosgen and Amion's reports. Section 2 demonstrates that the Manchester area is already better served than any other venue in the UK and responds to Deloitte's criticism of our analysis. Section 3 recaps our break-even analysis and responds to Deloitte's observations.

1. ASSESSMENT OF MARKET GROWTH POTENTIAL IN MANCHESTER

The potential for future attendance growth is the central question for the assessment of the viability of the new and existing arenas in Manchester. The question is whether there is likely to be sufficient growth to accommodate a second large arena in Manchester.

Before diving into the intricacies of the four reports commissioned by OVG, we provide below a simple summary chart of the projected growths estimated by ekosgen and Amion, which are set against historic data. **We observe that PwC/ekosgen and Amion forecasts imply a dramatic acceleration in growth relative to historic trends. And as shown in CRA 1,¹¹ there is no compelling basis to assume that growth will increase substantially from pre-existing trends and certainly not by the amount forecasted by Amion or ekosgen.**

Figure 1: Historic attendance data, projections from ekosgen and Amion and a linear forecast based on historic growth



Notes 1: There is a disconnect in 2019 between ekosgen scenarios and actual data because ekosgen provides an estimate for 2019 which already differs from the actual NAA attendance growth figure.
 Note 2: Historic trends based on UK-wide NAA data (used in ekosgen's projections for Manchester). Using Manchester-specific trends would show an even more abrupt difference between past experience and ekosgen's projections.

Source: CRA analysis of NAA data and ekosgen and Amion reports.

As explained in CRA 1,¹² ekosgen's forecasts are based on mix of arbitrary assumptions and cherry-picked data from the National Arena Association (NAA) and predict that the Manchester market could grow by up to 150% by 2035. The latest report by Amion reports that the market in Manchester will almost triple in size by 2035. The forecasts in both reports differ dramatically from the historic NAA data on arena attendance covering more than 10 years of historic data, as is summarised in the next table. Note that NAA data is used as a relevant input to predict growth in all categories in the ekosgen report. However, ekosgen cherry picks data in a way that maximises growth, and ignores data which does not, an approach which does not provide a robust basis for growth projections¹³

Table 1: Forecast comparison (i) based on historic data with growth predicted, (ii) according to ekosgen, (iii) according to Amion's report

	Historic data <u>2014-18</u>	Historic data <u>2014-19</u>	Historic data <u>2009-19</u>	ekosgen report	Amion report
% growth estimated by 2035	5%	5%	<0%	80%-150%	207%

Source: CRA analysis of NAA data and the ekosgen and Amion reports.

One of the recurring arguments put forward by Deloitte, ekosgen and Amion is that our prior analysis failed to account for population growth in the UK. This is incorrect. The UK's population has increased in the past as well as being likely to increase in the future. This means that the historic trends in actual attendance figures (which, as above, are virtually flat) already *account for population growth*. Since we rely on historic attendance data in our predictions, population growth is thus *de facto* included in our forecasts. The only situation where the argument would hold is if population growth was expected to occur at a *higher* pace in the future than in the past. This is not the case. The Office for National Statistics (ONS) predicts the opposite: population growth will gradually decrease in future years.¹⁴

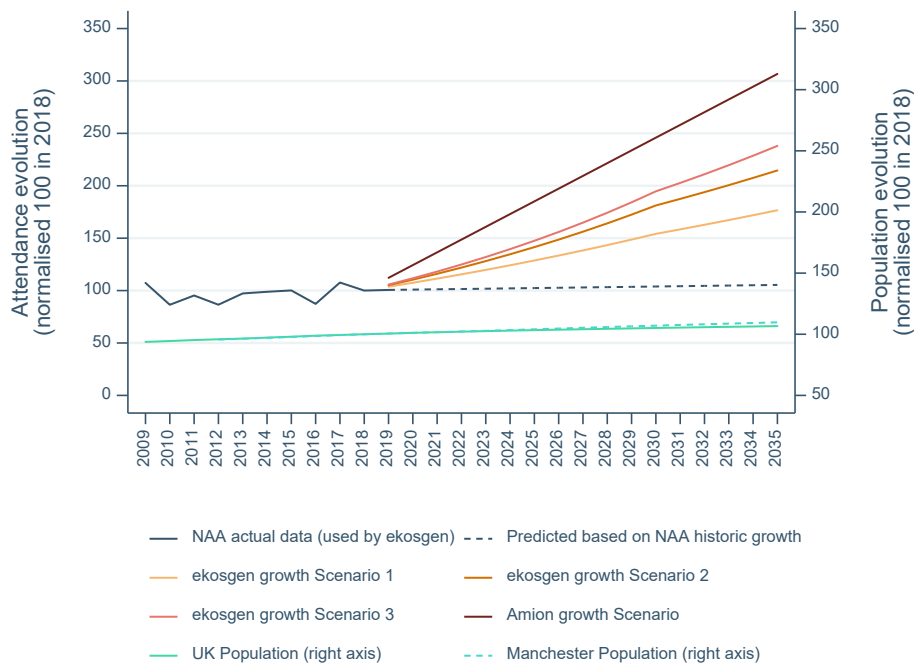
To illustrate those trends, we replicate below our previous chart adding the population trend according to ONS data, alongside forecasts made by ekosgen and Amion. The only scenarios completely disconnected from the past reality are those constructed by ekosgen and Amion. If anything, this comparison gives more credibility to our predictions based on historic trends than the alternative forecasts submitted in support of the application.

¹² See CRA 1, slides 27-30.

¹³ See ekosgen report e.g. page 14: "Although the NAA does not provide a breakdown of tickets sales by arena, it does break the national market into the four main categories. The figures from the National Arena Association, reviewed by PwC, highlighted a very strong growth in sports, as well as growth in both family entertainment and music, with total ticket sales of 12.684m in 2018".

¹⁴ More detail provided in Annex.

Figure 2: Historic attendance data, projections from ekosgen, Amion and CRA, and population growth in the UK and Manchester estimated from ONS data



Notes 1: There is a disconnect in 2019 between ekosgen scenarios and actual data because ekosgen provides an estimate for 2019 which already differs from the actual NAA attendance growth figure.
 Note 2: Historic trends based on UK-wide NAA data (used in ekosgen's projections for Manchester). Using Manchester-specific trends would show an even more abrupt difference between past experience and ekosgen's projections.
 Note 3: Population from ONS estimates

Source: CRA analysis of NAA and ONS data, and ekosgen and Amion reports.

We detail in the next sections the underlying reasons why those estimates are biased. We first respond to ekosgen and then turn to the Amion report.

1.1. Response to ekosgen

ekosgen defend their projected growth scenarios in a short annex in the Deloitte report.¹⁵ ekosgen's response relates to:

- The period of analysis
- Accounting for long-term trends
- Accounting for population growth
- An alleged anomaly in the 2018 data

We respond to these arguments in turn below.

¹⁵ See "Appendix B, Robust Scenarios, ekosgen" of Deloitte report "OVG Manchester, Proposed New Arena Response to Representations – Application Ref. 126431/FO/2020. Volume 2: Appendices".

Period of analysis: ekosgen claim that “*Scenario planning based on the most recent four-year trend, projected forward for 15-20 years, does not present a credible scenario or market forecast under any circumstances*”.¹⁶

This criticism is somewhat perplexing as the decision to rely on the past four-year period of growth as the basis for making future forecasts was not made by us, but *by ekosgen themselves*.¹⁷ The 2014-18 period is used throughout the ekosgen report, to serve as a basis for their prediction scenarios. For example, ekosgen forecast the evolution of the “Family” category precisely from the past growth calculated over that four-year period (estimated at 1.7%). That average historic growth figure (1.7%) is then assumed to remain constant for 15 years. So the critique that “[forecasts] based on the most recent four-year trend, projected forward for 15-20 years, does not present a credible scenario or market forecast under any circumstances” would equally apply to their own methodology. See the following table by way of illustration of the use a five-year period (four year-on-year growth figures) by ekosgen.

Table 2: example of analysis presented by ekosgen looking at the 2014-18 NAA historic growth

NAA Attendance Figures (in 000's)						
	2014	2015	2016	2017	2018	CAGR
Music	7,209	7,739	7,046	8,253	7,342	0.5%
Family	2,083	2,133	2,080	1,883	2,177	1.7%
Sport/Esport	910	1,120	1,234	1,227	1,372	10.8%
Other *	2,381	1,707	713	2,395	1,793	-6.8%

* Includes comedy, which accounts for the variability year or year, dependent upon headline acts undertaking national tours

Source: CRA analysis of ekosgen report, page 14.

What is true however is that ekosgen arbitrarily discarded categories where historic growth was limited (e.g. music or “other”), to come up with a different (higher) growth estimate. The main difference with our analysis is that, while we have re-used ekosgen’s input making use of the same data and on the same period, we have done so in a comprehensive and non-arbitrary way.¹⁸ Simple adjustments – removing cherry-picked or arbitrary adjustments made by ekosgen – resulted in a 5% market increase by 2035 (as opposed to the 150% claimed by ekosgen or the 207% growth estimated by Amion).¹⁹

¹⁶ See “Appendix B, Robust Scenarios, ekosgen” of Deloitte report “OVG Manchester, Proposed New Arena Response to Representations – Application Ref. 126431/FO/2020. Volume 2: Appendices”.

¹⁷ See e.g. ekosgen’s report, page 14.

¹⁸ See CRA 1 section 2.

¹⁹ See CRA 1, slides 29 and 30. By category, attendance numbers are reported in both the PwC and ekosgen reports over the same 2014-18 period. But when it comes to showing the resulting overall market growth, total attendance growth is not reported. In PwC’s presentation of data only events and revenues are shown and a similar table on attendance evolution is not reported. As for ekosgen’s presentation of the data: attendance figures are shown but total line (adding up to 0.3% growth) is not reported. Note that there is also a calculation error in the ekosgen table: The Family attendance in 2018/2014 is 2,177/2,083 which translates into a growth CAGR of 1.1% and not 1.7% as indicated in ekosgen’s table. Sources: pages 16, 19, 22 and 24 of the ekosgen report and page 23 of the PwC report.

Accounting for longer term trend: ekosgen claims that we should have accounted for long time trends. But our results hold even if we increase the time period to up to 10 years since the flat evolution of attendance is not specific to the last 4 years but is observed for at least 10 years. This is shown in the following table replicating the analysis using different time periods. Between 2009 and 2018, UK arena attendance has even slightly declined (the same trend observed in Manchester).

Table 3: Historic growth between 2014-18 and 2009-18 accounting for long-term trends

	From historic data over <u>2014-18</u>	From historic data over <u>2009-18</u>
% growth estimated by 2035 predicted from past trends	5%	<0%

Source: CRA analysis of NAA data and ekosgen and Amion reports.

Indeed longer-term trends are even less favourable: if we extend the period to 10 years between 2009 and 2018 we obtain a negative growth since the market has slightly declined (see Table 3 above).

Population growth: ekosgen claims that “It is noteworthy that UK population growth alone is estimated at 0.5% per annum for the UK, and 0.6% per annum.” (NB: part of the sentence seems to be missing in the ekosgen report). This is meant to be at odds with our predictions.

But, as explained above, there is no inconsistency between an extrapolation of historic trends and the observation that the UK population has increased and will increase. Population growth cannot justify the predicted growth. 0.5% growth per year would amount to 8.3% by 2035²⁰ – far from the 150% increase predicted by ekosgen – and is not very far from our estimated 5% growth estimated from historic data.

More importantly, there has been population growth over the past 4 years as well, so any prediction based on those past 4 years would also account for it. Moreover, population growth in Manchester is meant to gradually *slow down* in the next few years according to ONS predictions – see following table.

²⁰ Assuming a yearly growth rate of 0.5% until 2035.

Table 4: Population growth rate in the UK and Manchester is positive but mostly declining with years

Year	UK	Manchester (city)
2013	0.63%	0.70%
2014	0.76%	0.73%
2015	0.79%	0.75%
2016	0.82%	0.82%
2017	0.59%	0.74%
2018	0.60%	0.69%
2019	0.54%	0.60%
2020	0.59%	0.56%
2021	0.50%	0.53%
2022	0.46%	0.53%
2023	0.43%	0.55%
2024	0.40%	0.58%
2025	0.37%	0.61%
2026	0.36%	0.59%
2027	0.35%	0.60%
2028	0.34%	0.57%
2029	0.33%	0.55%
2030	0.31%	0.52%
2031	0.30%	0.54%
2032	0.30%	0.50%
2033	0.29%	0.50%
2034	0.28%	0.46%
2035	0.28%	0.49%

Source: CRA analysis of ONS data.

This means that if we were to account for the *decline* in population growth as predicted by the ONS, our forecasts should rather be adjusted *downward*.

An alleged anomaly in the data: ekosgen claims that 2018 figures are not representative because in December 2017 Peter Kay cancelled 49 events in five Arenas, including 16 at the Manchester Arena. This would have been a record-breaking tour, with a further 51 events planned for 2019.

This is not an anomaly, artists cancel events every year and such cancellations will continue to occur in the future. The New Arena will not be exempted from unpredictable event cancellations; even less so considering the current Covid-19 context that could bring about further contingencies.

At any rate, our predictions are the same even if we exclude 2018 and replicate our analysis by computing the average year-on-year growth between 2014 and 2019. If we extend the analysis over a 10-year+ period the market has even declined.

Table 5: Historic growth between 2014-18, 2014-19 and 2009-19

	From historic data over <u>2014-18</u>	From historic data over <u>2009-18</u>	From historic data over <u>2009-19</u>
% growth estimated by 2035 predicted from past trends	5%	<0%	<0%

Source: CRA analysis of NAA data and ekosgen and Amion reports.

In sum, looking at historic data either excluding 2018 or accounting for long-term trends is not supportive of the 150% attendance growth claimed by ekosgen which is at odds with both historic trends and credible future projections.

1.2. Response to Amion's report

1.2.1. Overview of Amion's results

Amion claim that Manchester could see 2.29m additional audience in Manchester by 2035. This is much higher than what was estimated by ekosgen (they forecast that the market would see 1.27m additional tickets sold by 2035). Such an increase implies that attendance would more than triple in Manchester by 2035.

The Amion report puts forward four components to estimate the market growth potential. These are listed below. They all rely on a consumer survey that was commissioned from The Audience Agency. The survey was undertaken online during the last two weeks of June 2020 reaching a sample of 2,164 adults aged over 16 who live within a 90-minute drive of the site of the proposed new arena in Manchester.

- **Population growth** is meant to represent an additional attendance of up to 0.24m equivalent to a +22% market growth (assuming that the entire population growth within the 90-minute catchment would be captured by Manchester and would visit the New Arena at the same frequency of visit as is currently declared by respondents).²¹
- **Reducing leakage to venues outside of the catchment**, which would drive c.0.42m (38% market growth) visits per annum to the proposed new venue (assuming that 50% of the visits made to arenas in London, Glasgow, Newcastle, Belfast and Cardiff by people in the 90-minute catchment are captured).
- **Unlocking latent demand** (appealing to new/lapsed audiences within the catchment) would drive c.0.73m visits per annum to the proposed new arena (+66% growth).
- **Increasing the frequency of visits** by those in the catchment who already attended arenas would drive c.0.9m visits per annum to the proposed new arena i.e. an 81% market growth (assuming average frequency increases from 9 visits every five years to 11.5).

²¹

See table 4.11 of Amion's report. Population growth – calculated on the entire 90-minute catchment – is used to calculate the 2.29m additional attendance compared with the 1.27m of ekosgen that relates to Manchester only. Amion therefore assumes that the whole of the population growth in the northern region will represent additional sales in Manchester only.

Table 6: Amion's summary of market development opportunities

Table 4.11: summary of market development opportunities			
Market development opportunity	Maximum additional audience	Adjusted additional audience	Note on adjustment
1. Population growth	0.38m	0.24m	Assumes lower propensity and frequency amongst ageing population
2. Reducing leakage to venues outside of the catchment	0.83m	0.42m	Assumes 50% are captured
3. Unlocking latent demand	1.32m	0.73m	Assumes lower frequency amongst new audiences
4. Increasing the frequency of visits	1.49m	0.90m	Assumes an extra three visits every five years
Total potential additional audience	4.02m	2.29m	
Ekosgen growth forecast	1.27m	1.27m	
Demand based headroom	2.75m (217%)	1.02m (80%)	

Source: Amion's Report, Table 4.11.

The following figure provides a sense of the relative importance of each of those categories in contributing to Amion's claim that the Manchester market will more than triple by 2035. None that of those growth estimates are reliable. On population growth: it is assumed that population growth within 90 minutes of the MA would only lead to a higher attendance in Manchester, and in no other venue e.g. in Liverpool, Leeds or Sheffield even though those are located at around 60 minutes of Manchester. On other components, the estimates rely on a combination of inadequate survey responses and arbitrary assumptions.

Figure 3: Relative importance of each component in Amion's estimate of attendance growth



Source: CRA Analysis of Amion report.

1.2.2. General observations on the survey methodology including the change of baseline assumption on catchment size

We have very little detail on the survey used by Amion and its methodology. This makes it more difficult for us to assess the reliability of the estimates provided. Key elements of the survey are missing. For example, the Amion report explains that “*survey respondents were shown visuals of the new arena and given a description of the proposed offer*” before certain questions were asked on the respondents’ interests in the new venue. These visuals and descriptions were not made available to us; but responses will naturally be influenced by what respondents were shown. The survey is also most likely nonrepresentative: it is based on a 2-week period last June and was conducted online. Amion declares that “*the sample of respondents was representative of age, gender, family life stage and employment*” but no evidence of that is provided in the report.

More importantly, we note the change in focus from a 60-minute catchment under the application in the ekosgen report to a 90-minute catchment in the response. This shapes the entire survey design and therefore is instrumental in Amion’s analysis. The catchment size has a major impact on all results, hence the change of catchment size assumption should be strongly documented. However, there is no justifiable basis for now changing the baseline catchment size from a 60-min to a 90-minute catchment i.e. more than doubling the area of the catchment.²² This reveals the lack of consistency between the various economic reports commissioned by OVG

As a reminder, PwC stated that,²³ if the New Arena were to have an iconic status like the O2 Arena, its catchment radius could increase by 50% or would even double (+100% increase) that of the Manchester Arena. This would result in a catchment twice to four times as big as what the Manchester Arena achieves currently.²⁴ However, the main analysis in PwC and ekosgen reports still assumed a 60-minute catchment size. For example, PWC claimed that:

*“Based on our discussions with promoters, there appears to be a general consensus that the target audience for arenas mostly sits within 1 hour peak driving time”*²⁵

A 60-minute catchment even allowed PwC to claim that there would be limited overlap between Manchester and Leeds arenas, contrary to Birmingham arenas or Leeds/Sheffield:

*“Based on a 60-minute peak drive time, there is limited crossover in catchment areas between Leeds and Manchester arenas. However, this is a significant contrast to Leeds/Sheffield and the Birmingham arenas where the overlap is significant”.*²⁶

Assuming the catchment area will double (+50% increase of its radius) or quadruple (+100% increase of its radius) is not credible for the following reasons:

²² Increasing by 50% the radius of a circle leads to an area increase of 125%.

²³ PwC report, slide 46.

²⁴ Doubling the radius of a circle is equivalent to quadrupling its area.

²⁵ PwC report, page 45.

²⁶ PwC report, page 45.

First, any crude comparison with the O2 is misconceived as it ignores that the O2 is specific for multiple reasons. Most evident examples are: London is a capital city with three times the population size and London has a significantly higher disposable income per capita and therefore a substantially larger ticket buying market. See CRA 1 for a more detail.²⁷

Second, actual catchment data reveals a completely different picture: an analysis of ASM data reveals that the O2 Arena does not have anything close to twice the catchment area of the Manchester Arena. On the contrary: the 80%-of-sales catchment areas – i.e. the area that captures 80% of their sales measured in driving distance – are almost identical between the MA and The O2. This comparison is summarised in the following table.

Therefore an empirical analysis of actual data confirms that PwC's assumptions – and Amion's premise – are flawed.

Table 7: The O2 does not have a bigger catchment than MA: PwC's premise is incorrect and Amion's survey design is not justified

80% catchment area (normalised at 100 for the O2 for confidentiality reasons)	
The O2 Arena	Normalised to 100
Manchester Arena	102 (i.e. Manchester Arena's 80% catchment area is 2% <i>larger</i> than the O2s not 50% smaller as assumed by PwC)

Source: CRA analysis of ASM data.

Note: data covers 2018 for the O2 and June 18 – June 19 for the MA. Catchments are calculated in km across all events played in the venues. Results are robust to using equivalent data for the O2 covering just the summer months.

1.2.3. Response to Amion's claim that attendance in Manchester would triple by 2035

Amion claims that the Manchester market will likely triple by 2035 (adding 2.29m tickets to the current 1m attendance) while there has been no growth over the past 10 years both at the UK and Manchester levels. The following table provides an overview of how Amion end up with those unrealistic estimates.

²⁷

CRA 1 slide 38.

Table 2: Summary Amion approach to estimate growth in Manchester: survey data, assumptions and conclusions on additional attendance

Driver of attendance growth according to Amion	Survey data	Assumption	Conclusion
1 – Population growth	Propensity to visit and frequency of visit (26% and 1.8 respectively based on current declared levels)	Manchester would absorb all additional attendance	Additional attendance of 0.24m (+22% growth)
2 – Reduce leakage to other regions	Distribution of visits of those living within Manchester 90-minutes catchment area across arenas located (i) within and (ii) outside the catchment area	New venue would conquer 50% of the flow towards outside arenas (no basis for the assumed 50%)	Additional attendance of 0.42m (+38% growth)
3 – Unlocking latent demand	Share of population who have not visited any arena within the last five years Share of those would declared that would be “interested” in visiting the New Arena	Frequency of visit of the New Arena of those people: once a year	Additional attendance of 0.73m (+66% growth)
4 – Increasing frequency of visits	Interest in attending more frequently amongst those who have attended arenas within the last five years and live within Manchester's 90-minute catchment area	Frequency rate of visits equal to 3 visits every 5 years	Additional attendance of 0.9m (+81% growth)

Source: CRA analysis of the Amion report.

Population growth

Amion's report estimates that by 2035 Manchester's Arena 90-minutes catchment area will see an additional population of 800,000 based on ONS data. Relying on the results of the survey, Amion further considers that 26% of the additional population will visit 1.8 times an arena within any given year. This results, according to Amion, in an additional attendance potential by 2035 of 0.24m per annum i.e. a 22% attendance growth.²⁸

Amion notes that all venues may share this additional attendance. However, Amion's summary table²⁹ rather implies that only Manchester's Arena catchment area will absorb all of this additional attendance which is not realistic.

Reduce leakage to other regions

Amion observes in the survey that some people declared they made visits to arenas located outside of the 90-minute catchment. This represents 32% of visits equivalent to 1.39m visits per annum. Regarding attendance at Birmingham and Nottingham, Amion considers that

²⁸ After an adjustment ageing population.

²⁹ Table 4.11 of Amion's Report.

this could be a product of proximity.³⁰ Amion observe however that visits are also made to venues located further away: 10% (0.47m) visits are made to the London arenas and 8% (0.36m) are made to Newcastle, Glasgow, Belfast and Cardiff.

Then, Amion *assumes* that 50% of the visits currently made to London, Newcastle, Cardiff, Glasgow and Belfast would be recaptured by the New Arena in Manchester. This is meant to represent 0.42m additional attendance – i.e. a 38% attendance growth – and “*make a significant contribution to the ekosgen central growth forecast of 1.27m*”, according to Amion.³¹

It is clear that the choice of 50% is arbitrary and cannot be used as indicator of potential increase of attendance. This assumption comes with no justification from Amion. It is not even clear that the New Arena could “recapture” any attendance at other venues.

People in Manchester attend events at venues outside the Manchester catchment for multiple reasons that have nothing to do with the level of offering in Manchester, at least for two evident reasons.

First, visits in far-located cities’ arenas may not be the sole purpose of the trip but rather fit in a holiday, vacation, family visits or other types of stay. People may have been able to attend an event in The O2 simply because they happened to be in London at that time for another reason that has nothing to do with the current offer in Manchester.

Second, some events are location-specific, particularly in London. Amion’s premise is similar to PwC and ekosgen’s claims that the New Arena could be filled with the ~35% of events which currently play London, but not Manchester. However, as explained in CRA 1, a closer look shows that this is not supported by the evidence.³² The Manchester Arena already does better than any other UK venue in attracting events that also play London and among the remaining ~35% the most common reason to not play Manchester in the same year is that these are London-centric events or touring events which have already played or intend to play Manchester the year before or after London.

All venues will see that some people located nearby will attend events at other venues. This is not specific to Manchester. If we were to ask the same questions to people located in other arena catchments a fraction will surely also say they visited other venues. Figures put forward by Amion are not compelling in that sense nor have they been justified. At least, a comparison with other venues would have been necessary to support Amion’s claim that there is “leakage” in Manchester.

Overall the New Arena is unlikely to bring many more events to Manchester. The potential to attract events from London is overestimated.

Unlocking latent demand

Amion considers that some people who did not visit any arena in the last 5 years will visit the New Arena. That additional attendance is estimated as follows.

30 Amion’s Report, page 8.

31 Amion’s Report, page 8.

32 CRA 1, slide 39.

Amion first estimates the share of the population in the 90-minutes catchment area which has not attended arena events within the last 5 years based on the consumer survey. Then, also based on survey responses, Amion calculates from this sample the share of individuals who declared being “interested” or “very interested” in attending an event in the new arena. Finally, Amion assumes a frequency of attendance for this group which results in an estimated additional yearly attendance of 0.73m, i.e. a 66% attendance growth in Manchester.

At least three issues arise in Amion’s analysis.

First, the survey invites respondents to provide a positive answer. The survey asks:

“Thinking broadly about the types of events that we have described in the survey, how interested would you be in attending a venue like this?”³³ (emphasis added)

Note the difference between asking “how interested” – which already suggests you should be interested – and a more neutral phrasing asking “would you be interested in attending [...]?”. It is well known a slight change in the survey question can have major influence on the answer. This generates a significant bias making the survey data unreliable and of poor evidential value. Given that a 66% market growth is estimated by Amion from that single response, they should have ensured it was not biased by a selected favourable wording. See for example the UK Competition and Markets Authority (CMA’s) guidelines on good practice in the design and presentation of customer survey evidence. The CMA explains that “the questionnaire must not influence customers to give particular answers”.³⁴ The guidelines provide a useful example that applies well to this case:

A question that is presented in a way that leads customers to one answer in preference to another (irrespective of their actual view or behaviour) constitutes bias, and is likely to be of limited evidential value as a result. Some potential sources of bias that should be considered when drafting customer survey questions include:

(a) Acquiescence bias, where the customer thinks they should agree with a statement included in the question and therefore does so. For example, ‘Have you been to the dentist in the last year?’ contains an acquiescence bias to the response ‘Yes’. A better, more neutral question would be: ‘When, if at all, did you last go to the dentist?’ (emphasis added)

The so-called “acquiescence bias” is patent in Amion’s question asking people “how interested would [they] be in attending a venue like this” “thinking broadly about the types of events” they were shown.

Second, Amion explains that the question was asked after the “survey respondents were shown visuals of the new arena and given a description of the proposed offer”. While Amion did not provide the types of events described to respondents, those visuals and descriptions have equally influenced respondents’ answers. We can still infer from the wording “thinking broadly” that multiple event types were presented to respondents, to maximise the chances they would declare being interested by the New Arena. Therefore, the potential interest in

33 Amion’s Report, page 10

34 See para. 3.10 of the CMA guide on “Good practice in the design and presentation of customer survey evidence in merger cases” available at <https://www.gov.uk/government/publications/mergers-consumer-survey-evidence-design-and-presentation>. This is done in the context of merger cases but principles are the same.

the new arena is likely to be a consequence of the survey's design rather than latent demand.

Third, Amion arbitrarily assumes that those new potential audiences would visit once a year, every year without justification. In other words, Amion considers that individuals who have not attended an arena event in the last five years will start to attend once a year every year solely as a result of the opening of a new venue. Amion adds that *"more detailed analysis of these levels of interest shows a significant level of interest amongst those who have not visited any arena in the last five years and suggests a significant amount of latent demand for a high-quality new arena with the capacity to attract world class events"*.³⁵ This is pure assertion as no detail is provided whatsoever in the report or in the annexes.

Fourth, and more fundamentally, the mechanism at issue seems questionable. One would expect most consumers' decision to visit an Arena to be driven by a desire to see a specific artist or event, not the identity of the venue per se. It seems intuitively implausible that merely building a more attractive venue could trigger consumer responses on this scale.

Increasing frequency of visits

Amion claims that consumers will visit the New Arena more, increasing the frequency of visits compared to current levels. To support that claim – and estimate such an increase in frequency – Amion again combines survey responses and arbitrary assumptions.

First, Amion explains that according to the consumer survey, 62% of people "agree" or "strongly agree" that they would attend events more with the new venue.

But as this does not provide any indication on magnitude of the increase (even assuming it would occur), Amion then *assumes* it could be between 1 extra visits every five years and 1 extra visit every year. Amion then takes the mid-point i.e. 3 visits every 5 years. Amion concludes from this that the New Arena would deliver an additional attendance of 0.9m a year in Manchester equivalent to an 81% attendance growth.

This number is essentially arbitrary. Yet it represents alone an 81% increase in attendance in Manchester.

As in the previous section, the question asked in the survey is not neutral and rather invites respondents to provide a positive answer. The survey indeed asks:

*"The new arena would be able to attract a wider range of world class events to the city.
To what extent do you agree with the following statement – I would be likely to attend
these types of events more frequently than I did before"*

It is not granted that the new venue will be able to attract a wider range of world class events in Manchester as assumed in the question. Of course some respondents who attended arenas within the last five year would declare they would attend more frequently if they are promised a "wider range of world class events". The survey is almost tautological.

The second and main limitation is that Amion has no real data on the additional frequency of visits caused by the new arena. Amion says it could be once every five years or once every year. But it could equally be 0.1 a year. This whole range is arbitrary but still Amion then decides to make the mid-point i.e. assume an increase of 3 visits every 5 years. Yet it is based on this range that Amion calculate an additional attendance of 0.9m (+81%

35 Amion report, page 9.

increase). This lack of explanation is particularly surprising given this component alone represents roughly 40% of the 2.29m total potential additional audience estimated by Amion's and given the fact that, as above, the assumed growth is wholly inconsistent with actual historic developments in attendance.

In conclusion, the new Amion analysis is not reliable for many reasons.

- The growth potential predicted by Amion is highly unrealistic: it implies attendance will more than triple in Manchester by 2035. This forecast contrasts starkly with historic growth of the past 10 years which indicates at best a 5% increase by 2035.
- Critiques made to our previous report are ineffectual. The population growth argument is misconceived: it is true that the UK population is expected to grow but it also grew in the past. So projecting past growth in attendance will already take account of the effect of population growth on attendance growth. Plus the ONS predicts that population growth will decrease in the future so that our predictions would already be conservative from that perspective. Similarly, CRA 1 is criticised for using a four-year time window to make forecasts (notwithstanding that this was not our decision, but rather the window used by both PwC and ekosgen), but using a longer time window actually shows lower trend attendance growth rates and makes the ekosgen and Amion forecasts look even more implausible.
- Amion's estimates result from a flawed survey methodology. Amion's growth estimate relies on a consumer demand survey that is not adapted for the purpose of predicting demand growth. Survey responses can be easily manipulated. The one used by Amion provides unprecise answers from which additional questionable assumptions are made. Specifically, the survey suffers from strong "acquiescence bias" which refers to when respondents think they should agree with a statement included in the question and therefore does so. The Amion report contains many examples of those leading to biased answers on which growth forecasts are based.
- Unjustified assumptions are made on top of biased survey responses to calculate the "growth potential" in Manchester. These include e.g. how many times people who usually do not attend events but are "interested" in the New Arena would attend the New Arena, or the increase in frequency of visit for those who already visited an arena. Key is to understand that these numbers are not sourced from the consumer survey used by Amion. These are simply assumed. No evidence is provided to support these assertions.

Overall, it appears that the growth potential in the Amion report is constructed or assumed rather than estimated from actual data.

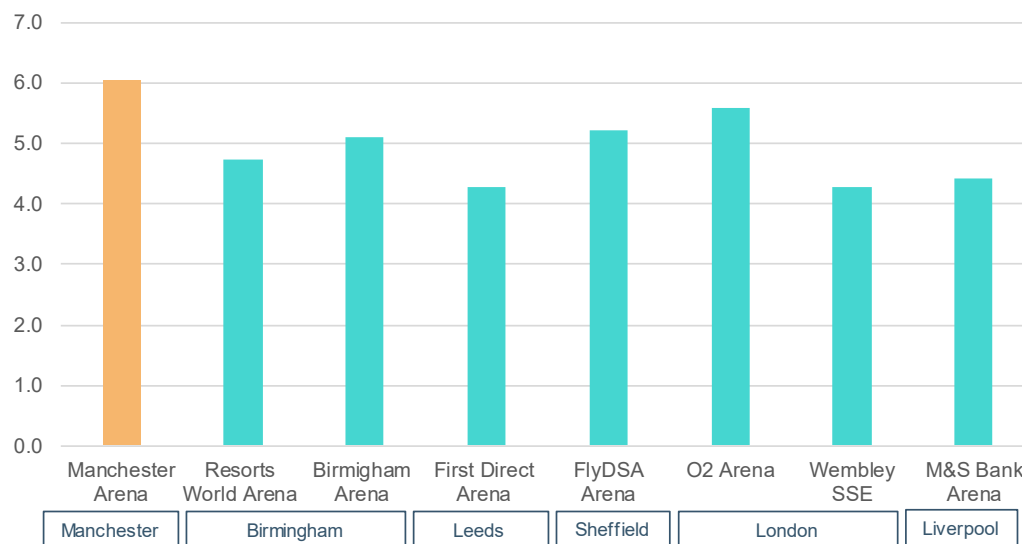
2. MANCHESTER IS NOT UNDERSERVED COMPARED TO OTHER VENUES IN THE UK

The claim that attendance in Manchester would triple as a result of the opening of the new venue is even more unrealistic given that the Manchester catchment is already better served than other UK cities. Indeed, building on PwC's own data,³⁶ the number of arena

³⁶ See PwC data on catchments (p.45, 49, 51).

seats per capita is already higher in the Manchester catchment than for a set of comparator catchment areas, including London.

Figure 4: Average number of seats available per 1000 persons in the arena catchment



Source: CRA analysis of PwC data.

Deloitte and Amion make a few observations in response which are discussed next.

Deloitte claim that the analysis would need to be revised because the existing MA capacity should be equivalent to Resorts World, as MA operates for most events at a capacity of no more than 15,000 (equivalent to Resorts World current capacity).

This statement is factually wrong. Manchester Arena has a capacity of 21,000 seats and can very well accommodate attendance above 15,000 persons for events that are able to attract as many people, as historic data shows. In 2018 for example, one in six performances sold more than 15,000 tickets and out of these many exceeded 18,000 tickets sold.³⁷

Deloitte claims that Birmingham’s combined offer should include both the Resorts World and Arena Birmingham and that London arenas should also be combined showing a capacity now of 32,500, which would then show that Manchester is underserved.

This argument is unsound and reveals a lack of understanding of the correct basis for analysis. Our analysis is based on the average number of seats available for customers located in the catchment of a given arena, but accounting for all the surrounding arenas. That means if people can access many arenas because they are located in multiple arenas’ catchments, like in Birmingham or London, all arenas’ capacities that are “within range” will be counted. This is explained in detail in the Annex of CRA 1.³⁸ Our analysis is therefore more precise than what Deloitte suggests and shows that Manchester is already well served with a number of arena seats per 1,000 persons that is already higher than any

³⁷ See CRA 1, slide 50.

³⁸ See CRA 1, slide 52.

other catchment area of other UK venues. The reason is that the MA catchment overlaps with many surrounding large venues in Liverpool, Leeds and Sheffield. As a result, many people in the Manchester catchment have multiple arena choices.

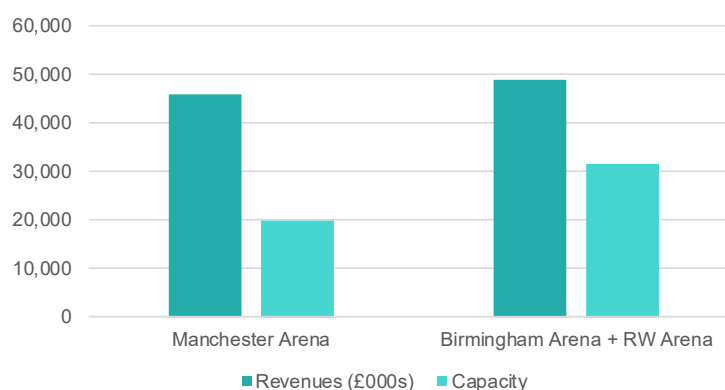
Deloitte further claims that based on our analysis, Birmingham has c.10 seats per 1,000 persons (Resorts World plus Birmingham Arena) as does London (the O2 plus Wembley) whilst by comparison Manchester only has one arena with 6 seats per 1,000 people.

This flawed conclusion is due to the same lack of understanding of our analysis. Again, we do account for both venues' capacities in London or in Birmingham. However, our analysis is more precise than just crudely "adding" both capacities. Taking London as an example: our analysis considers – for each person located in a given catchment (The O2's or Wembley's catchment) – the different options available i.e. The O2 only, Wembley only, or both venues. If both venues are "within range", then both venues capacities will be added in our calculations. Deloitte's argument is thus misplaced again due to a lack of understanding of what is presented in CRA 1.

Deloitte claims that PwC's report does not identify Birmingham as an example of supply-led growth, given that both have been open for 19+ years. Instead, it is identified as an example of a city which successfully operates two arenas e.g. the Birmingham Arena has a revenue CAGR of 9.8% and Resorts World at 10.2% last year.

PwC and ekosgen argue indeed that Birmingham is a good example of a successful two-arena region. However, Manchester generated in 2018 £46M in revenues, closely matching the revenues generated by two-arena Birmingham (£49M), despite having lower absolute capacity and a similar catchment area. This comparison suggests that, contrary to what PwC argued, the Birmingham two-arena experience is not indicative of a particularly successful example of a city which successfully operates two arenas. Actually, it just generates what Manchester Arena achieves alone. PwC acknowledge this weakness in their argument when they concede that a "step up would be required from what Birmingham currently delivers (p.50)".

Figure 5: Revenue and capacity comparison between Manchester Arena and Birmingham arenas



Source: CRA analysis of PwC data.

Moreover, the growth in revenues in Birmingham was achieved in part thanks to common ownership of the two venues which allowed for, as PwC remark, "more efficient, complementary, programming offers". This type of synergies would not occur in a

hypothetical two-arena Manchester so PwC overestimate potential growth accruing from one additional venue. Also, the Birmingham arenas do not pay landlord rent and do not have to return on redevelopment or investment cost.

Deloitte further notes that Glasgow would support more events than Manchester and that cities Sheffield and Leeds as an example that two separately operated arenas can embrace changing and more diverse market successfully.

The Glasgow comparison is not compelling. A higher number of events could be driven by demand since there is spare capacity or by a higher number of performances. As demonstrated above, MA could accommodate twice as many events if demand was there.

Leeds and Liverpool cases do not evidence supply-led effects and are not compelling either. PwC argue that the openings in Liverpool and Leeds had no material impact on the MA and that, as such, the New Arena will not have any material impact either. This argument omits to take any proper account of: (i) the very close proximity of the MA and the New Arena; (ii) the overlapping catchment areas of the MA and the New Arena; (iii) similar capacities of MA and the New Arena (which are both much larger than Leeds and Liverpool).

Regarding catchment overlaps difference, and as PwC themselves explain, Leeds and Liverpool have very limited overlap with the MA (25% and 44% respectively). By contrast the New Arena is to be located a mere 2.9 miles away from the MA resulting in nearly perfectly overlapping catchments. Naturally, these differences in location do matter when comparing the potential impact of the opening of a new venue. With limited overlaps, the impact is expected to be limited too. Thus this cannot serve as a ground to claim “supply-led” effects. Even less so in Manchester where the New Arena is to be located next to the MA.

As for venue capacity differences, equipped with a capacity of around double that of Liverpool and Leeds, the proposed venue will attract more similar events to those currently hosted by the MA than Liverpool and Leeds ever did.

Table 8: Capacity comparison across Manchester, Leeds and Liverpool venues

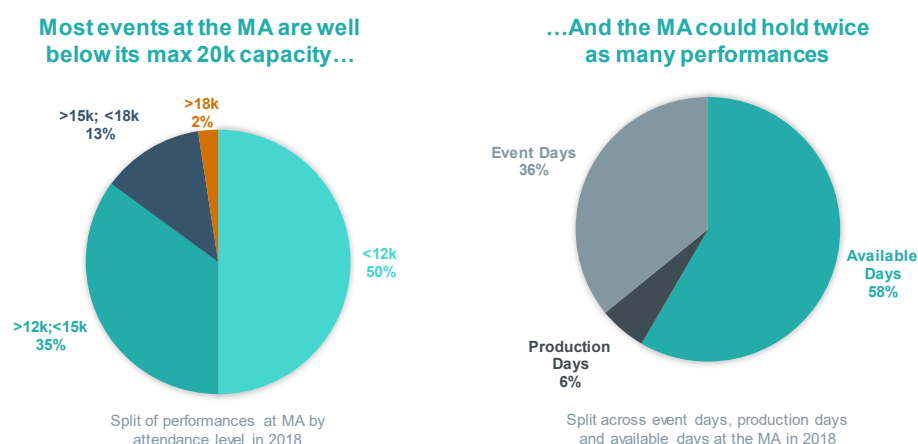
Arena	Capacity
Manchester Arena	21,000
OVG's proposed New Arena (Manchester)	23,500
First Direct Arena (Leeds)	13,781
M&S bank Arena (Liverpool)	11,000

Source: CRA analysis.

Deloitte asserts that our capacity utilisation analysis is not sound as it is not true that promoters would seek to reduce the number of tickets available in order to maximise the face utilisation rate i.e. the utilisation rate obtained *given the capacity that has been decided by the promoter/artist* (anticipating a certain level of demand/attendance per night). Deloitte also claims that The O2 achieved higher attendances on the majority of comparable acts (an average of 2,500 more tickets per event), despite having a lower nameplate capacity than the existing Manchester Arena.

This is incorrect. First, we recap that the PwC “utilisation” rate analysis is severely flawed and misleading. PwC claim the MA has 95-100% capacity utilisation, but this is based on a flawed understanding of what the term “capacity” means in this industry. PwC use capacity data comparing tickets sold to the number of tickets made available for sale, which is not a real capacity constraint. Promoters often select a capacity format which is lower than the available maximum to suit a particular event and expected audience, so limiting the tickets available for sale. This is not a true capacity constraint as a promoter can put more tickets on sale as long as the arena has available space.

Indeed, the Manchester Arena has spare capacity both in terms of spare days to accommodate additional performances and in being able to accommodate more eventgoers at the events it currently holds.



Using accurate measures of capacity shows that the MA is not capacity constrained. The MA is rarely at capacity on individual nights. In addition, we understand that new egress routes with the redevelopment Doubling the radius will facilitate even larger capacity on the floor (as well as large productions) if there is demand for such events. The MA could accommodate materially more event dates: we understand from ASM that the MA only hosts an event on 42% of days where an event could in principle be hosted. Moreover, with the redevelopment, the MA will be able to increase capacity for big productions thus increasing even further the spare capacity. In light of this spare capacity, the fact that the MA has not experienced material attendance growth since 2008 suggests that demand in Manchester can be accommodated and is further evidence that Manchester is not able to accommodate a second large venue.

3. BREAK-EVEN ANALYSIS: HOW MUCH DEMAND INCREASE IS REQUIRED FOR TWO LARGE ARENAS TO CO-EXIST PROFITABLY IN MANCHESTER?

3.1. Overview of results presented in CRA 1

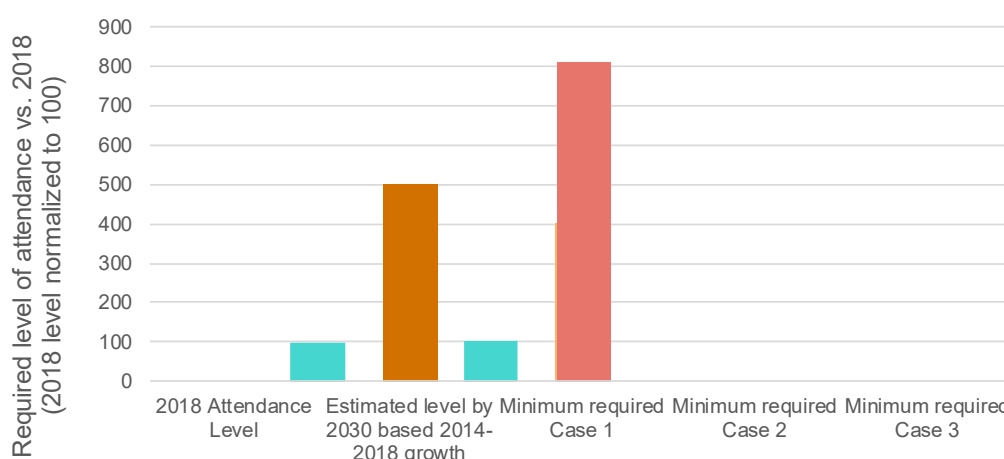
As demonstrated in CRA 1, current events coming to Manchester cannot support two venues of this size.³⁹ Dividing the current “pie” (i.e. MA attendance based on 2018 figures) would mean one or both venues being unable to break even. This is particularly so because

³⁹ See CRA 1, slide 15.

OVG would need to earn a return on its £350m investment and investment of up to £100m is proposed to redevelop the Manchester Arena.

Analysis (summarised in the chart below) shows attendance 4-8 times the current level would be needed for both venues to operate profitably taking account of OVG's £350m investment. The chart indexes 2018 attendance at Manchester Arena to 100 and asks how much higher attendance would have to be based on our financial modelling for both the Manchester Arena and New Arena to break even over a 30-year period. In Case 1 attendance of 400 (4 times the 2018 level) would be needed. Accounting for the planned investment of up to £100m in the Manchester Arena and using a more stringent break-even threshold increases this to 800 (8 times the 2018 level would be needed).

Figure 6: How much bigger would attendance need to be vs. 2018 level for both venues to break even (2018 level indexed to 100)



Case 1: Minimum required for two arenas to break even in *aggregate*, without redevelopment costs of up to £100M for the Manchester Arena.

Case 2: Minimum required for two arenas to break even in *aggregate*, with redevelopment costs of up to £100M for the Manchester Arena.

Case 3: Minimum required for two arenas to break even *individually* (redevelopment costs do not make a difference, threshold determined by the New Arena).

Source: CRA analysis of NAA data and ekosgen reports.

The PwC report acknowledges that, if the New Arena and the MA were to simply split the events that currently come to Manchester, one or both venues would fail to cover even their day to day running costs. But PwC argue “there would only need to be limited growth in the total event numbers from existing for both arenas to be at breakeven or better and therefore remain viable – at least in the short-term”.⁴⁰

PwC's analysis is incomplete:

OVG's business plan presumably does not just require its venue to cover its day to day running costs (i.e. to be profitable day to day once constructed). It presumably needs to foresee a return to cover its £350m investment.

The required growth in event volume to allow the MA to cover its running costs and allow the New Arena to make a reasonable return on investment will be substantially larger than suggested by PWC.

To fill the gap in PwC's analysis we conducted in CRA 1⁴¹ a fuller "breakeven analysis" and determined the level of event growth required for both Arenas to operate profitably (including OVG paying back its capital investment in a reasonable period). This confirms that extremely high levels of event growth would be required for both arenas to operate profitably.

Full details of this analysis along with details of the sensitivity analysis we have performed is provided in CRA 1.⁴²

3.2. Response to Deloitte report

Deloitte main arguments in response to our analysis are very limited. Deloitte responds that:⁴³

- Two of the key drivers for the proposed development are to attract new events and artists, not existing ones.
- It would be impossible for us to run a break-even analysis because funding requirements and business plan of OVG Manchester's proposal have not been provided to us.
- It is nonsensical to suggest that a growth in attendances of 3-7 times is required merely to break-even.
- The proposed £100 million investment in MA would be incompatible with the market growth assessments presented in the summarised representation and would render these allegedly undeveloped proposals as almost certainly unviable.

We respond to those arguments in turn below:

Attracting new events: It has not been demonstrated that the New Venue would attract sufficient new events and artists to break even. As shown in section 3 above, Amion's analysis is severely flawed and the premise that artists did not play Manchester because the venue was not attractive enough is unfounded.

Financial data availability: we do not have access to OVG's financial information, but our analysis and assumptions are reasonable and transparent, and accord with expected commercial assumptions (e.g. we assume a 30 years payback period and a WACC of 10%) and Deloitte would have been free to question or correct aspects of our assumptions with actual OVG data if these materially altered our assessment. They have done so.

Our analysis is robust: it shows that at current levels of demand and profitability per event, Manchester cannot support two venues of this size. Very significant and wholly unrealistic growth of between 4-8 times the attendance levels in 2018 (growth of 300-700%) would be needed if both venues are to operate profitably.

41 See CRA 1, Part 1, slide 11.

42 See CRA 1, Part 1, slide 11.

43 Deloitte report, page 13.

Break-even levels: the claim that it is “nonsensical to suggest that a growth in attendances of 3-7 times is required merely to break-even” seems to us to be a purely rhetorical statement with no supporting evidence. Again, our calculations are fully transparent. So if our calculations are inaccurate, Deloitte should have been able to demonstrate it. Claiming that our estimations are “nonsensical” because they are too high is not an argument in itself. Second, this is indeed what the analysis shows under transparent methodology and assumptions. The reason is that fixed costs in the new venue need to be accounted for.

We re-explain below our reasoning to alleviate any misconceptions.

We first observe that current levels of demand would not support a new venue in Manchester. Splitting in half the current demand in Manchester would cause the MA and the New Arena to make losses. This is not disputed by PwC or ekosgen.⁴⁴ The bare minimum level of growth in attendance for the Manchester Arena to break even is 10%. But, growth at this level would not be sufficient to render both venues viable. It would allow the MA to make a profit, but it would not be sufficient for the New Arena to make a return on its investment. In addition, the estimated 10% is conservative because this would be the absolute minimum level of demand required to be profitable in one given year. It does not account for buffers that would secure profitability if demand were to vary across different years. These results take no account of Covid-19 and its impact on the entertainment industry.

This first scenario does not account for the fact that a return would need to be made on the initial investment of £350m. In further scenarios, we therefore recalculate the level of demand growth that would be required for the two venues to break even taking account of their upfront investments i.e. have a positive ROI (Return on Investment) assuming a payback period of 30 years and a cost of capital of 10%. The purpose of this scenario is to consider the investment rationale, i.e. from the Manchester area perspective. In practice both venues would actually need to make a profit individually thus the level of profit generated in the New Arena would need to cover the whole investment costs of £350m on its own. It is that high upfront investment cost that leads to high break-even estimates.

Last, we show that results do not materially change even if profits per attendee are allowed to be 25% higher for the new arena (i.e. this still required 3 to 6 time's growth against current levels) for both venues to breakeven and cover their investments.

Rationale for the £100m investment: this is a completely different rationale: the purpose is not to double the capacity in Manchester which would require significant attendance growth. Attendance can remain relatively flat for the investment still be rational. The main purpose of that investment is rather to generate additional sales per event, which is consistent with our scenarios where we assume that the contribution per attendee could increase by 25% compared with current levels.

In conclusion, our breakeven analysis robustly shows that the New Arena and the MA can only profitably co-exist if there is substantial and unrealistic growth in event attendance in Manchester (growth up to 8 times the 2018 level would be required). The only way such growth could come about would be if there was significant underlying growth in demand and/or good reason to think that the opening of a new

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See page 29 of the PwC report.

venue would, in itself, stimulate sizeable event/attendance growth (“supply-led growth” in PwC’s terminology).

PwC, ekosgen, Amion and Deloitte argue for substantial underlying growth and for substantial supply-led growth. As we have demonstrated in section 2, their analyses are overstated and flawed. Our analysis demonstrates there is no credible basis for the levels of growth they forecast. In any event, the level of growth they forecast is below the levels required to support both venues and cover the required investments.

APPENDIX A

Table 9: Population growth rate in the UK and Manchester is positive but mostly declining with years

Year	UK	Manchester (city)
2013	0.63%	0.70%
2014	0.76%	0.73%
2015	0.79%	0.75%
2016	0.82%	0.82%
2017	0.59%	0.74%
2018	0.60%	0.69%
2019	0.54%	0.60%
2020	0.59%	0.56%
2021	0.50%	0.53%
2022	0.46%	0.53%
2023	0.43%	0.55%
2024	0.40%	0.58%
2025	0.37%	0.61%
2026	0.36%	0.59%
2027	0.35%	0.60%
2028	0.34%	0.57%
2029	0.33%	0.55%
2030	0.31%	0.52%
2031	0.30%	0.54%
2032	0.30%	0.50%
2033	0.29%	0.50%
2034	0.28%	0.46%
2035	0.28%	0.49%

Source: CRA analysis of ONS data.



Climate Change Responses: OVG Arena, Manchester

August 2020



Experts in air quality
management & assessment

Document Control

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1 OVG Climate Change Response

- 1.1 The applicants of the OVG Arena have provided some brief responses on the content and robustness of their climate change assessment as provided within the Environmental Statement submitted with the application. The responses can be found at pages 50-52 of the applicants Response to Representations Volume 1 document¹. This note provides some responses/rebuttal to the applicants' comments.

Transport Emissions and EIA Regulations

- 1.2 The applicants have not included transport emissions in their assessment, which has resulted in a significant (3 – 5 times) underestimation of the lifetime greenhouse gas emissions (GHGs) associated with the project.
- 1.3 The applicants claim that *“building scale climate change assessment do not typically include transport emissions”*. This completely misses the point that they have produced a greenhouse gas assessment as part of an Environmental Impact Assessment (EIA), and the under the EIA Regulations² there is a need to consider all direct and indirect environmental effects. By excluding transport emissions from their GHG assessment, their EIA is thus not presenting the likely significant effects and is thus not compliant with EIA regulations.
- 1.4 The applicants claim they are not aware of any precedent studies that include transport as part of a building scale assessment. Again, this misses the point, as there is a necessity to comply with the EIA Regulations, the scope of which extends well beyond building-scale effects. Some examples of projects which include a GHG assessment as part of an EIA planning application where transport emissions have been quantified and assessed include:
- North Quay (Tower Hamlets): PA/20/01421/A1. Outline planning application for a mixed use residential and office development in London. GHG assessment in Chapter 10 of the Environmental Statement.
 - The Tulip (City of London): 18/01213/FULEIA. Planning application for construction of a new commercial tower building in the City of London comprising a visitor attraction with viewing gallery, educational facility, restaurant/bar and retail uses. GHG assessment in Environmental Statement – Vol 3 – Technical Appendices – Part 1.5 (Annex 4).
 - Nicholson Shopping Centre (Windsor and Maidenhead): 20/01251/OUT. Outline planning application for the redevelopment of a shopping centre in Maidenhead to provide a mixture

¹ Deloitte Real Estate, OVG Manchester, Proposed New Arena, Responses to Representations - Application Ref. 126431/FO/2020. Volume 1: Main Report.

² HMSO (2017) Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Available: <https://www.legislation.gov.uk/uksi/2017/571/made>

of office, retail and residential uses and a multi-storey car park. GHG assessment in Environmental Statement Volume 3 Tech appendices part 23.

- Woking Stadium (Woking): PLAN/2019/1176. Planning application for the redevelopment of Woking Football Stadium to provide a new stadium facility, retail space, a medical facility and circa 1,000 residential dwellings. GHG assessment in Environmental Statement Vol 3 App 01 Part 02 (EIA Methodology) Annex 4.
- Crossharbour District Centre (Tower Hamlets): PA/19/02534/A1. A hybrid planning application for a mixed-use development comprising residential dwellings, a food superstore, commercial space, a primary school and a petrol filling station. GHG assessment in Chapter 17 of the Environmental Statement.

- 1.5 The applicants acknowledge there will be greenhouse gas emissions from transport associated with the Arena, but claim that because they can only influence transport emissions, not control them, they cannot be realistically mitigated. This seems contradictory to their own energy mitigation strategy which seeks to manage unregulated energy use (arguably this can only be influenced and not controlled) as well as the fact that they are presenting a travel plan and other measures which they suggest will mitigate an effect that they can only influence. In other words, they have put forward mitigation for effects that they do not directly control and thus this is not a valid argument. Furthermore, they have control of the number of car parking places they are proposing and this has a direct effects on GHGs. The substantial GHG emissions associated with transport of visitors to and from the Arena is related to it's out of city location, where a large proportion of Arena users will be reliant on private car access. This is an effect that needs to be presented within the EIA.

Commitment to Net Zero Carbon

- 1.6 The installation of gas boilers for space heating within the Arena is not fully aligned with Manchester City Council's (MCC) commitment to net zero carbon emissions in the city by 2038.
- 1.7 The applicants have reiterated the energy efficiency of the building and confirmed they are willing to secure a commitment to phase out gas heating by 2038 and continually monitor and reduce unregulated energy use. The initial reliance on gas heating is unambitious, and 2038 is a long time ahead to plan a phase out when they could open the Arena in 2023 without the gas boilers. The applicants have not explained or made clear how the gas heating could be phased out or explored what the viable alternatives to gas heating are.
- 1.8 The applicants offer a commitment to transition to net zero operation by 2038. This is not the same as committing to net zero operation.
- 1.9 MCC's net zero target also no doubt includes GHGs from transport. The applicants need to demonstrate the overall GHG effects of the development, including transport emissions, in relation to MCC targets.

Conclusion

- 1.10 Overall, the criticism remains that by excluding transport emissions from the GHG assessment, the applicants have not properly assessed and thus have clearly and materially understated the significance of the Arena's effects with respect to climate change and the assessment does not comply with EIA regulations and accepted guidance on GHG assessment.
- 1.11 The applicants have not demonstrated the full GHG effects of the Arena in relation to MCC's net zero carbon targets.