



Manchester City Football Club

Etihad Stadium North Stand Project, Manchester

Modal Split Analysis

Reference: MSAN_001

v1.3 | 14 April 2023

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 293414-00

Arup Limited
10th Floor The Plaza
100 Old Hall Street
Merseyside
L3 9QJ
United Kingdom
arup.com

DOCUMENT CHECKING	Prepared By	Checked By	Approved By
Name	Luke Peaker	Peter Webster	Peter Webster
Signature	LP	PW	PW

1. Introduction

As part of the scoping for the Etihad North Stand planning application, Manchester City Council (MCC) requested that the Transport Assessment compares travel patterns, including modal split since the 2013 application (Planning reference: 104315/FO/2013/N2).

In particular the officer requested that *“it is key that we receive an update regarding Travel Plan data following the initial stadium expansion”*. MCC’s full scoping response is presented in **Appendix A**.

Appendix B contains a summary of the proposed sustainable transport interventions associated with the expansion of the North and South stand at that time¹. This included a number of physical interventions/measures (for example implementation of an enhanced event-day Controlled Parking Zone and improvements to walking routes) alongside supporting promotional measures (for example of Metrolink and the associated Park and Ride facilities at Ashton-under-Lyne).

It should be noted that although the Section 106 Planning Obligations associated with the 2013 stadium expansion separated out commitments into those associated with South Stand delivery (Phase 1) and North Stand delivery (Phase 2), all of these obligations have already been delivered or funded by the Club even though Phase 2 is yet to be implemented.

2. Data Sources

This note considers a range of sources of modal share information as follows:

Pre-Initial Stadium Expansion

- 2013 Traffic and Travel Survey collected for the Etihad Stadium Expansion Transport Assessment and Framework Travel Plan (Planning Ref. 104315/FO/2013/N2).

Post-Initial Stadium Expansion

- 2015 to 2019 Manchester City Football Club Supporter Surveys.
- 2019 Traffic and Travel Survey data collected for the development of the Etihad Campus Transport and Movement Strategy Transport Assessment.

¹ Phase 1 refers to the completion of the South Stand (and associated interventions presented in Appendix B). Phase 2 refers to the completion of the North Stand expansion.

- 2021-Present Manchester City Football Club Matchday Experience Insight Data.

Table 1 summaries the data that MCFC have collected relating to modal split to date.

Table 1: Data Source Summary

Source	Supporter	Staff	Summary of Approach
2011 Traffic and Travel Survey collected for the Etihad Stadium Expansion Transport Assessment and Framework Travel Plan (Planning Ref. 104315/FO/2013/N2).	✓	✓	Modal split survey undertaken for staff on non-event days.
2015 to 2019 Manchester City Football Club Supporter and Staff Surveys.	✓	✓	Annual modal split surveys were undertaken for staff and supporters for mid-week and weekend matches.
2019 Traffic and Travel Survey data collected for the development of the Etihad Campus Transport and Movement Strategy Transport Assessment.	✓	-	A series of surveys undertaken before, during and immediately after three Manchester City home games at the Etihad Stadium during the 2018/19 season. Two non-matchday surveys were also undertaken. Traffic surveys at key junctions were undertaken alongside a wider multi-modal suite of extensive surveys that included pedestrian counts, Metrolink surveys, bus surveys, Park and Ride, on- and off-street parking surveys.
2021-Present Manchester City Football Club Matchday Experience Insight Data.	✓	-	A supporter survey distributed via email to a sample of approximately 5,000 ticket holders 30 minutes after the game has finished. Includes information on modal split and parking locations.

Limitations of Data

As Table 1 demonstrates, a range of survey methods have been applied to collect the data presented in this note. As a result, the format of the travel survey data across different time periods is not consistent in terms of the survey methodology or the definitions of the categories of modes recorded. Similarly, sample size and population vary. For example, the most recent customer insight data surveys season ticket holders only whereas on-site travel surveys undertaken on matchdays, yields travel data from a range of supporter types (both home and away supporters).

3. Data Comparison – Staff Travel

This section presents the modal splits for staff travel from each data source within the relevant document.

Pre-Initial Stadium Expansion

A staff travel survey was carried out in April 2011 as part of the development of the wider Area Travel Plan for the Etihad Campus Area. The modal split results are summarised in **Table 2**.

Table 2: 2013 Staff Travel Plan Surveys: 2011 Mode Share and Target Mode Share

Mode	2011 Mode Share	2013 Target	2016 Target
Car Driver	86%	80%	74%

Mode	2011 Mode Share	2013 Target	2016 Target
Car Driver with Passenger(s)	1%	1%	1%
Car as Passenger (Including Taxi)	2%	2%	2%
Bus	4%	9%	12%
Train (Including Metrolink)	2%		
Walk	1%	6%	8%
Cycle	3%		
Motorcycle	1%	1%	1%

Post-Initial Stadium Expansion

2017 Travel Survey data recorded at the Etihad Stadium provided by Manchester City Football Club is presented in **Table 3** Table 3. This data was used to inform both the 2020 Buro Happold TA and the supporting Etihad Campus Movement Strategy TA.

Table 3: 2017 Staff Modal Split Survey Results (as presented in 2020 Buro Happold TA)

Mode	Matchday (Weekday)	Matchday (Weekend)
Car Driver	45.3%	49.3%
Car Driver with Passenger(s)		
Car as Passenger (including Taxi)		
Bus	3.2%	1.5%
Train (Including Metrolink)	39.0%	32.4%
Walk	8.4%	12.3%
Cycle	3.2%	1.5%
Motorcycle	1.1%	3.1%

Comparison Against Targets

Table 4 presents a comparison of the pre-expansion modal splits from and the post-expansion matchday modal splits.

Table 4: Staff Modal Split: Comparison to 2013 Targets

Mode	Pre-expansion Target (for 2016) ²	Post-expansion Modal Split (2017)	Difference (2017 vs Target)
Car Driver	74%	47%	-30%
Car Driver with Passenger(s)	1%		

² Matchday and non-matchday average

Mode	Pre-expansion Target (for 2016) ²	Post-expansion Modal Split (2017)	Difference (2017 vs Target)
Car as Passenger (Including Taxi)	2%		
Bus	12%	2%	+26%
Train (Including Metrolink)		36%	
Walk	8%	11%	+5%
Cycle		2%	
Motorcycle	1%	2%	+1%

The data demonstrates that significant modal shift has been achieved for staff at the site, ahead of the 2016 targets.

4. Data Comparison – Supporter Travel

Pre-Initial Stadium Expansion

As part of the Transport Assessment for the Stadium Expansion (produced in 2013 by Mott MacDonald), surveys were undertaken with home supporters for three hours prior to two home fixtures; one on a weekday and one on a Saturday. The purpose of the surveys was to understand how supporters travelled to the stadium at that time. The results are summarised in **Table 5**.

A total of around 3,000 surveys were undertaken during the weekday, with approximately 2,000 on the weekend. This represented 6.8% and 4.3% of the stadium capacity at the time.

Table 5: 2013 Mode Split: Matchday (Mott MacDonald 2013 TA Table 7.4)

Mode	2013 Mode Split Weekday Match	2013 Mode Split Weekend Match
Car Driver	57.3%	68.2%
Car Driver with Passenger(s)		
Drop off	1.9%	4.0%
Taxi	6.0%	3.2%
Bus	5.8%	4.0%
Train	5.7%	5.4%
Metrolink	12.9%	11.3%
Walk	6.9%	1.6%
Cycle	0.3%	0.2%
Motorcycle	0.4%	0.0%
Coach	2.9%	2.0%

Post-Initial Stadium Expansion

Supporter Surveys (2015-2019)

Following the completion of the construction of the South Stand, ‘snapshot’ surveys were issued to supporter groups following each home game. Amongst other aspects of the matchday experience, these surveys captured information on matchday travel. Data for the surveys between 2015 and 2019 on weekdays and weekends is shown in **Table 6** and **Table 7** respectively.

It can be seen from these tables that the categorisation of travel modes differs from those in Table 5. The survey method and sample size also differs and therefore making direct comparison between the two sets of data should be done with care. However, for the purpose of this note, an estimate of the combined mode split for 2013 has been included within the tables.

Table 6: 2015-19 Supporter Modal Split Survey Results: Weekday

Mode	2013 TA	2015	2016	2017	2018	2019
Car Driver	65.2%	57.4%	63.0%	59.4%	65.9%	66.4%
Car Driver with Passenger(s)						
Car as Passenger (including Taxi)						
Bus/coach	8.7%	5.5%	5.5%	8.3%	7.1%	6.8%
Train (Including Metrolink)	18.6%	18.3%	22.5%	25.8%	23.3%	19.2%
Walk	6.9%	5.2%	8.0%	6.3%	5.2%	6.6%
Cycle	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%
Motorcycle	0.4%	0.1%	0.1%	0.1%	0.0%	0.1%

Table 7: 2015-19 Supporter Modal Split Survey Results: Weekend

Mode	2013 TA	2015	2016	2017	2018	2019
Car Driver	75.4%	59.4%	58.7%	58.0%	62.3%	62.4%
Car Driver with Passenger(s)						
Car as Passenger (including Taxi)						
Bus/coach	6.0%	6.6%	7.7%	9.7%	8.2%	8.0%
Train (Including Metrolink)	16.7%	23.4%	30.0%	30.3%	27.0%	23.3%
Walk	1.6%	8.5%	11.1%	8.4%	6.3%	9.2%
Cycle	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%
Motorcycle	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%

In general, it is observed that the share for each of the travel modes has fluctuated throughout the period, though care must be taken on drawing any significant conclusions from changes over time given what is understood to be a relatively small sample size for the snapshot surveys.

The following points are noted:

- Car use (including passengers and taxis) is consistently in the order of 60%;
- Train (including Metrolink) is the second most popular mode (this is understood to include supporters using city centre rail stations);
- Bus and coach use has been relatively steady at just under 10%; and
- Walking represents a substantial percentage of supporter travel (this is understood to include people walking from the city centre as well as walking from home locations closer to the Etihad Campus).

2019 Multi-Modal Surveys

In support of the 2020 Co-op Live planning application, a series of bespoke matchday traffic and movement surveys were commissioned before, during and immediately after the following Manchester City home games at the Etihad Stadium during the 2018/19 season including:

- vs West Ham United (Wednesday 27th February 2019 – 20:00 kick-off);
- vs Tottenham Hotspur (Saturday 20th April 2019 – 12:30 kick-off); and
- vs Leicester City (Monday 6th May 2019 – 20:00 kick-off).

Non-matchday surveys were also undertaken (on Thursday 7th November 2019 and Saturday 9th November 2019) to provide an understanding of transport network conditions on dates when there was no event taking place at the Etihad Stadium.

These surveys provide a more comprehensive picture than the snapshot annual surveys as they are based on observed data (for example surveyed pedestrians walking along key routes to the Stadium before/after matches, matchday boarding/alighting data for Metrolink stops and traffic counts at entries to on-site parking) for long-periods before and after matches and cover extended geographies and multiple matches.

Again, as the survey methods and sample sizes differ considerably from the previous surveys, making direct comparison between the sets of data is not recommended. The definition of each mode of travel is also not consistent between the surveys (due to the different methodologies used).

The 2019 Multi-Modal Surveys also breaks the data down into a more refined set of travel modes. For example – people walking to the Stadium are included across four different categories depending on their use of other prior modes alongside walking. Earlier surveys only captured a single mode of travel per respondent with the walking category also including people who had travelled into the city centre by a different mode and completed their journey on foot.

The estimated mode split for a matchday based on this survey data is presented in **Table 8**.

Table 8: 2019 Spectator Modal Split Survey Results (from Etihad Campus Movement Strategy TA)

Mode	Matchday (Weekday)
Park on-site	19%
Drop off	2%
Park and walk (from inside RPS)	30%
Park and walk (from outside RPS)	9%

Mode	Matchday (Weekday)
Public transport and walk	10%
Walk from home	1%
Bus & coach	10%
Metrolink	12%
Cycle	1%
Motorcycle	0%
Taxi	6%

The following points are noted:

- The survey data broadly aligns with the previous snapshot surveys and provides some validation for the recorded mode splits in these surveys;
- Car use (including passengers and taxis) is broadly consistent with the 2019 snapshot survey with in the order of 66% of supporters travelling by car (though more granularity on parking location is provided in this instance);
- The combined ‘walking’ and ‘public transport and walk’ percentage is 11% which is higher than, but broadly similar to, the ‘walk’ totals in previous surveys. This further supports the assumption that the previous surveys included those walking from the city centre (having previously used another mode) within the ‘walk’ category;
- Bus and coach use was observed to be higher than in previous surveys;
- Unlike the previous surveys (which solely included home supporters), the above observed data was for the stadium as a whole.

– 2021 Onwards

During the Covid-19 pandemic there was a period where no supporters were allowed to attend matches. At this time the regular snapshot surveys were paused.

Since 2021 MCFC has been collecting ‘insight data’ on a regular basis. This is a more extensive survey than the previous snapshot surveys and is distributed by email to a sample of ~5,000 ticket holders 30-mins after each match game has finished. In 2021/2022 a total of 7,166 responses were collected. In 2022/23 to date a total of 10,097 have been received.

The results are shown in **Table 9** for all home games.

Table 9: 2021/22 and 2022/23 Supporter Modal Split Survey Results

Mode	2021/22	2022/23
Car Driver	66.4%	64.5%
Car Driver with Passenger(s)		
Car as Passenger (including Taxi)		
Bus	2.3%	2.6%
Coach	4.5%	5.5%

Mode	2021/22	2022/23
Train (Including Metrolink)	22.5%	19.7%
Walk	3.6%	3.4%
Cycle	0.2%	0.2%
Other	2.2%	1.8%

In addition to this data, the Club is working alongside TfGM to collect bespoke matchday travel data for every game which can be analysed on either a match-by-match or aggregate basis.

Conclusions

Data has been collected via a range of sources and methods since the original 2013 application (Planning reference: 104315/FO/2013/N2). As a result the format of the travel survey data across different time periods is inconsistent in terms of the categories of modes recorded. This note compares modal split data obtained from these surveys, noting the limitations of comparing data from a number of sources.

Data collected by the club from supporters and season ticket holders indicates that car use by supporters has been broadly similar over the period over which data has been collected. However, the inconsistency of methods of data collection, small sample sizes and lack of well-defined travel modes makes any comparison and/or establishing of trends difficult to draw out. It is likely that travel patterns (in favour of the private car and away from public transport) established during the Covid-19 pandemic will have had an impact on more recent travel patterns. Notwithstanding that, in terms of staff travel, the data demonstrates that significant modal shift has been achieved for staff at the site, ahead of the Travel Plan targets.

In any case, the data presented does indicate that there has been good progress in terms of a shift away from the car, when comparing 2013 and 2019 data; which collected on-site survey data for all supporters (both home and away fans) across a range of modes at a large sample size. In 2013, 65.2% of supporters travelled by car (Table 5). In 2019 this had reduced to 60% (Table 8).

Critically, travel to the Etihad Stadium involves supporters travelling long distance nationally and internationally across a range of modes. Travel patterns are informed by wider national transport services, which vary significantly and often make it difficult, or impossible to travel to and from matches by non-car modes only. Notwithstanding that, the club has consistently delivered changes to offer fans a choice over the ‘last mile’ of their journey to the stadium. As a result the evidence collected suggests that supporters choose to minimise car use, where services and facilities allow. In 2019, 10% of supporters were parking and travelling to the stadium using public transport, with a further 9% parking outside the existing residents parking scheme, and walking to the stadium.

The club is committed to improving mode choice where they are able to influence supporter travel, particularly across the last leg of their journey. Initiatives implemented by the Club and wider Etihad Campus, alongside committed measures, such as the introduction of the Eastlands Residents Parking Scheme and improvement of walking routes through Section 106 contributions from Coop Live, are anticipated to reduce the use of car to the site and encourage a shift to alternative modes.

The club recognises that there is a need to continue the good progress made and work with stakeholders collectively to review existing operations and travel behaviours, and plan for transport as the Etihad Campus masterplan continues to be delivered.

Next Steps

Given the variations in methodology, sample size, and subsequent findings between surveys it is recommended that further travel surveys for staff and supporters are undertaken following the completion of the North Stand expansion (and on an ongoing basis) as part of the Travel Plan monitoring regime for this application. This has been considered in the updated Travel Plan submitted as part of this planning application.

It is recommended that future monitoring of supporter travel is more consistent, working to agreed definitions of travel modes and enabling year-on-year comparisons to be undertaken in a fair and robust manner. Existing targets were established more than 10 years ago. It is considered that alongside the adoption of consistent and robust data collection methods, targets should be refined to reflect current travel patterns, wider transport services and infrastructure, and the club and its stakeholders' collective aims.

Of particular importance going forward, will be the drive to understand both legs of a visitor's journey to the Campus - how they travelled to Manchester if they are coming from outside of the city and then how they then travelled the last mile to the Campus. Only by understanding both parts of this journey can mitigation and improvement be properly planned. The collective ambition by both Campus Stakeholders and transport authorities / operators should be to:

1. Encourage those visitors coming from within Greater Manchester to travel by public transport / active travel.
2. Encourage those visitors coming from outside of Greater Manchester to travel at least the last mile by public transport / active travel.

Data collection methods will be refined to properly inform this ambition. This will enable trends to be identified, the need for mitigation/improvement to be identified and the impact of implemented measures to be assessed to ensure that the Club's sustainable transport ambitions are realised in accordance with MCC and other stakeholder requirements.

It is considered that the data collection currently underway through the 'Insights' project will put the Club in a strong position to achieve this, supported by increased levels of engagement with Manchester City Council and the continued support of Transport for Greater Manchester.

In recent months, the Etihad Campus has established an inclusive governance structure to enable all Campus Stakeholders to work together and with authorities to effectively manage and continue to improve all aspects of the Etihad Campus. Transport and Movement are a critical component of Campus operations and minimising disruption to local communities. This Stakeholder group has established working relations with city authorities and transport operators, so that areas where transport and movement can be improved are now tackled holistically.

The club has established new ways of working to maximise this engagement and work towards a planned, phased approach to transport and supporter travel. This will bring together Etihad campus operators, the club, and MCC, TfGM, the emergency services, and public transport operators to agree a direction of travel and realise the vision for the campus.

Appendix A: MCC/ TfGM Relevant Scoping Response

Subject: FW: Etihad Stadium North Stand

From: [REDACTED]@manchester.gov.uk>
Sent: 10 November 2022 16:20
To: Peter Webster <Peter.Webster@arup.com>
Cc: [REDACTED]@tfgm.com> [REDACTED]@manchester.gov.uk>
Subject: Re: Etihad Stadium North Stand

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Hi Pete,

Please see TfGM & UTC comments below. In terms of additional comments can I emphasise that it is key that we receive an update regarding Travel Plan data following the initial stadium expansion.

Colleagues within TfGM HFAS and UTC have reviewed the scoping note for the expansion of the North Stand at the Etihad Stadium and have provided the following comments:

- The raw data and calculations for the distribution and turning counts (once collected) will need to be provided to TfGM for review. Strategic model flows should NOT be used for any of the assessments.
- The scoping information provided states that, *"It has been agreed with MCC and TfGM officers that any traffic modelling can be limited to the local junctions used to access the site from the A6010 Alan Turing Way (i.e. Gate 2 and Gate 3). This modelling will utilise existing traffic survey data collected in 2019 as part of the Campus Strategy Transport Assessment."* It should be highlighted that whilst the junctions to be assessed have been agreed the traffic flows used in the modelling weren't agreed. Therefore the suitability of the 2019 flows should be demonstrated. Any existing data sources should be used to justify the use of the 2019 flows. Please note that TfGM have an ATC on Pottery Lane near the Sports City Way junction.
- Although signal timings have not been changed since the 2019 application, UTC advice regarding correctly modelling the appearance of demand dependent stages has changed. TfGM are able to provide FOC signal monitoring logs for the two sites to ensure that the junctions are modelled as correctly as possible.
- The 'busiest' evening peak should be used for the non-event test. This can be determined from the TfGM ATC and not based on an assumption.
- With respect to Paragraph 2.7, mitigation is welcome, however this should help address existing problems with the walking route (reflecting the mitigation provided for the Co-Op Arena).
- Management of events by the TfGM travel teams is made more difficult by lack of visibility from the TfGM control room. It is suggested that extra TfGM CCTV cameras are funded to help better manage events.

- There is no mention in the TA to the management of events; reference to the existing Traffic Management plan and implementation should be referred to and addressed.
- Also the existing pre- and post- event conditions for transport to and from the stadium should be provided. This should particularly cover the walking and cycling trips to and from the stadium to the city centre.
- It would be hoped that the application to extend the stadium provides the potential to significantly improve the walking and cycling trips to and from the stadium. The mitigation should address the existing problems.
- It should be highlighted that since 2014 the frequency of the tram service has increased and hence the interaction between the tram and walking trips has increased.
- With respect to Paragraph 2.1, the guidance used in the TA should include changes in design guidance for cycling facilities issues by DfT in 2020 – LTN1/20.

Thanks,

Neil

[REDACTED]
 Highways Development Control & Flood Risk Manager
 Internal Tel: [REDACTED]
 External Tel: [REDACTED]
 Mobile: [REDACTED]
 Email: [REDACTED]@manchester.gov.uk

Highways Service,
 Growth and Neighbourhoods Directorate
 Manchester City Council
 PO Box 532
 Town Hall
 Manchester
 M60 2LA
 Web: <http://www.manchester.gov.uk>

From: Peter Webster <Peter.Webster@arup.com>

Sent: 07 November 2022 14:27

To: [REDACTED]@manchester.gov.uk; [REDACTED]@tfgm.com>

Subject: RE: Etihad Stadium North Stand

Hi both

Hope you are well. Further to our meeting and my email below I would be grateful if you could confirm by reply that you are satisfied with our suggested scope of assessment as proposed.

Many thanks

Peter

Peter Webster
 Associate Director
 MEng CEng MICE MCIHT

Arup

6th Floor, 3 Piccadilly Place
Manchester, M1 3BN

d +44 161 602 9274

m +44 7884 585 296

arup.com

Connect with us on [LinkedIn](#)

Follow us on [Instagram](#)

Appendix B: 2013 Proposed Interventions by Phase

Table 11.3: Summary of measures and implementation phase

	Scheme / Measure	Phase 1	Phase 2
1.0	CPZ / On-street Waiting Restrictions	✓	✓
2.0	Completion of the Metrolink line to Ashton-under-Lyne	✓	✓
3.0	Park and Ride facilities adjacent to the Ashton-under-Lyne Metrolink	✓	✓
4.0	Improvements to walk routes between Manchester city centre and the Etihad Stadium	✓	✓
4.1	City Link Walk Route, Stadium North	✓	
4.2	City Link Walk Route, Holt Town Metrolink	✓	
4.3	Pollard Street Pedestrian Route	✓	
4.4	Great Ancoats Street Pedestrian Crossing	✓	
4.5	City Centre / Etihad Campus Walk Route Branding	✓	
4.6	Increased Stewarding	✓	✓
5.0	Additional secure cycle stands around the stadium	✓	✓
6.0	Improved Walk Route along Grey Mare Lane and links to Ashbury rail station	✓	
7.0	Improvements to bus facilities on Ashton New Road		✓
8.0	Improved usage of Central Park and Monsall Metrolink stations	✓	✓
9.0	Increased promotion of home coach parking	✓	
10.0	Gate 1 Pedestrian Walk route Improvements	✓	
11.0	Promotion of Stadium Travel Opportunities	✓	✓
12.0	Rowsley Street Taxi Rank		✓
13.0	Combined Ticketing Initiative	✓	✓
14.0	Staff Travel Plan	✓	✓

✓ Physical measures;

✓ Promotional measures