



Integrating commercial development with existing sustainable transport provision

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Contents

- 1 Introduction
- 2 Methodology Overview
- 3 Analysis of Findings
- 4 Lessons Learnt & Conclusion

Appendices

Appendix A - Employee Travel Survey Copy

1 Introduction

Context

An increasing number of commercial occupiers are looking north to grow their business presence. This has led to the need of an additional 3 million sqft of office space in Manchester over the next decade to meet demand¹.

The number of office workers based in Greater Manchester set to grow by around 36,000 by 2025. If we fail to successfully integrate the commuter habits of this influx with Manchester's existing sustainable transport provision, the city's ongoing growth prospects could be jeopardised by an even more car-dominant and congested environment.

The Study

This report provides a comparison of the stated objectives for the development with what has actually happened in relation to integrating commercial end-users with the surrounding area's sustainable transport provision. The report then analyses to what extent these objectives were delivered using various methods. There are a number of key aspects that this report aims to investigate, as listed in Chapter 3. Beforehand, the need for this research is explained.

Why this research is important

It is vital that we gain an underlining understanding of how city centre commercial developments can be successfully integrated with surrounding sustainable transport provision. At present the understanding of transport infrastructure when being used as a starting point for land use planning is "*strikingly limited*" (Taylor & Sloman 2011)².

Therefore, we're at risk of future cities becoming congested with vehicles making journeys that a more integrated transport vision would've evaded and instead enabled effective use of existing sustainable travel provision.

As a profession, Transport Planning Consultants often lack knowledge of how well city centre commercial developments perform when up and running. Transport Planning Consultants often set the foundations when providing advice on sustainable travel provision e.g. pre-occupation Framework Travel Plans. However, research on how developments of this nature perform when in operation is fundamental in order to enhance the knowledge of the transport planning profession.

Future project teams including transport professionals should be aware of how this concept can be achieved. This report aims to deliver such knowledge and answer the following questions:

- How can we integrate an improved choice of travel with the wider public transport network for commercial end-users?
- To what extent can the location of commercial development encourage access to surrounding sustainable travel opportunities?
- How can we encourage a modal shift away from car travel to sustainable modes and change future commercial end-user travel habits?
- To what extent can we deliver city centre commercial developments that are not dominated by the car?
- How can we deliver a truly pedestrian-friendly environment for commercial end-users?

Although small in scale, it is hoped that this report will provide a precursor for the likely need of future studies in this research field.

The Location

The report focusses on the recently developed First Street Neighbourhood located in Manchester city centre. The regeneration of First Street was originally endorsed by Manchester City Council in response to a requirement for significant additional Grade A office space³. In 2015, an application for the erection of a 7 storey office building including ground floor ancillary uses and public realm was granted. This building was named Tony Wilson Place and is shown in **Figure 1.1**.

¹ Savills Manchester Office Market Watch 2017

² Taylor & Sloman - Thriving Cities 2011

³ Manchester City Council Report for Resolution (4/11/2015) First St Updated Development Framework Consultation



Figure 1.1 - Location of Tony Wilson Place

2 Methodology Overview

Introduction

To investigate what extent commercial development at Tony Wilson Place has been integrated with surrounding sustainable transport infrastructure, research has been based on the following as shown in **Figure 2.1**:

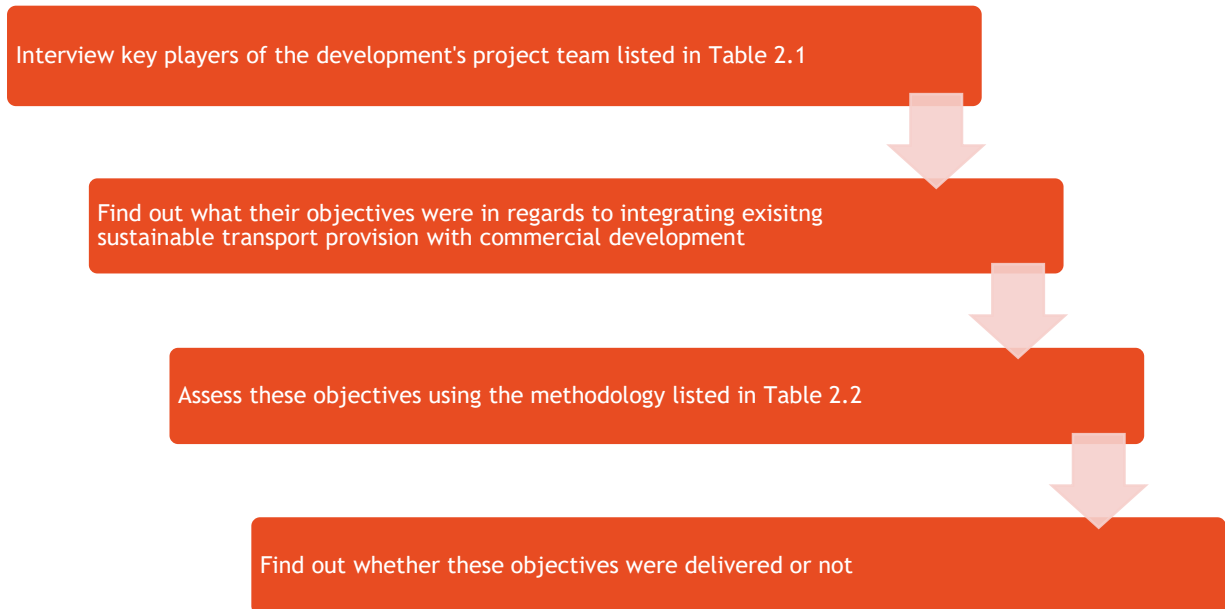


Figure 2.1: Methodology Flow Chart

The objectives for commercial development at the First Street Neighbourhood during the planning stage were investigated by interviewing each of the development's key players, as shown in **Table 2.1**.

The Developer	The Consultants		The Local Public Transport Body
Leon Guyett Development Director Ask Real Estate	Niall Alcock Assistant Director Deloitte	Pamela Hibbert Principal Consultant Aecom	Richard Clowes Transport Strategy Officer Transport for Greater Manchester

Table 2.1: Interviewees

To investigate whether objectives were realised, research was then based on the following:

- **A**ccessibility - GIS mapping investigated employee accessibility;
- **B**ehaviour - An Employee Travel Survey across a range of commercial occupiers within Tony Wilson Place, investigated travel behaviour and yielded 178 responses (Appendix A)⁴; and
- **C**onnectivity - A pedestrian route survey at the First Street Neighbourhood during the typical morning and evening peak periods investigated connectivity.

⁴ The overall capacity of employees at TWP is unknown, though 178 responses has been deemed sufficient for a report of this scale.

The following 5 objectives were explored as they were outlined by the project team and the First Street Development Framework⁵, as shown in **Table 2.2**:

Investigation Area	Objective(s)	Method of Investigation			
		Interview the Project Team	GIS Accessibility Mapping	Employee Travel Survey	Pedestrian Route Survey
Accessibility	Integrate an improved choice of travel with the wider public transport network. The location of the First Street Neighbourhood will encourage access to surrounding sustainable travel opportunities for commercial occupiers.	✓	✓	✓	
Behaviour	Encourage a modal shift away from car travel to sustainable modes and change future employee travel habits. The First Street Neighbourhood should not be dominated by use of the car.	✓		✓	
Connectivity	Deliver a pedestrian-friendly environment.	✓		✓	✓

Table 2.2: Investigation of Objective Methods

⁵ Deloitte First Street Development Framework 2015

3 Analysis of Findings

Introduction

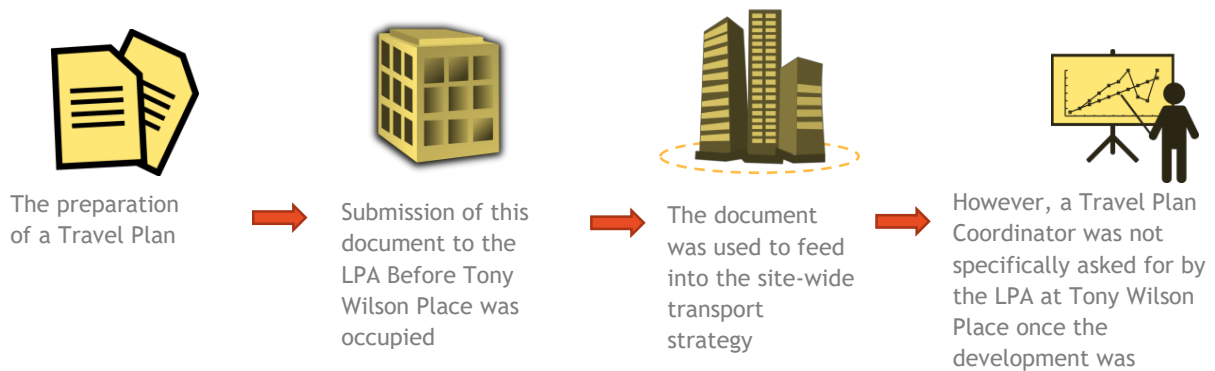
The objectives outlined in the Methodology Overview are now investigated and analysed.

The analysis of each objective will include a brief summary of their inclusion within the First Street Development Framework, before summarising research findings.

Accessibility

Objective - Integrate an improved choice of travel with the wider public transport network

The First Street Development Framework showed particular emphasis towards ensuring First Street was fully integrated with wider transport network. To what extent this has contributed to an improved choice of sustainable travel has therefore been investigated. A key fundamental before this objective was investigated was to examine whether what was instructed by the LPA was actually done in relation to the integration of sustainable travel. Measures to support sustainable travel modes set out by the LPA included the following, as stated in the development’s decision notice⁶:



In keeping with the MCC’s⁷ sustainable travel policies⁸, the promotion of a choice of means of transport was the reason behind this condition. The LPA didn’t state a requirement for a Travel Plan Coordinator⁹ to be appointed in writing at TWP and instead asked for the promotion of sustainable travel measures to be identified to improve the effectiveness of the overall site-wide strategy.

Project Team Responses

A summary of responses from interviewing the development’s key players on this objective is shown below.

Summary of Responses		
The Developer	The Consultants	The Local Transport Body
<p><i>“We aimed to deliver a development that would improve the choice of travel for future commercial occupants”.</i></p>	<p><i>“Integration with existing public transport was aimed for in order to help the development integrate with its surroundings and attract genuine inward investment”.</i></p> <p><i>“Interaction with existing public transport was therefore key”.</i></p>	<p><i>“We often see Developers providing very little in terms of provision of public transport for future occupants which can lead to issues in the future. Maybe our policies aren’t strong enough in this respect”.</i></p>

Table 3.1: Project Team Response Summary

⁶ App Ref: 108963/FO/2015/C1

⁷ Manchester City Council

⁸ Manchester’s Local Development Framework - Core Strategy Development Plan Document (2012)

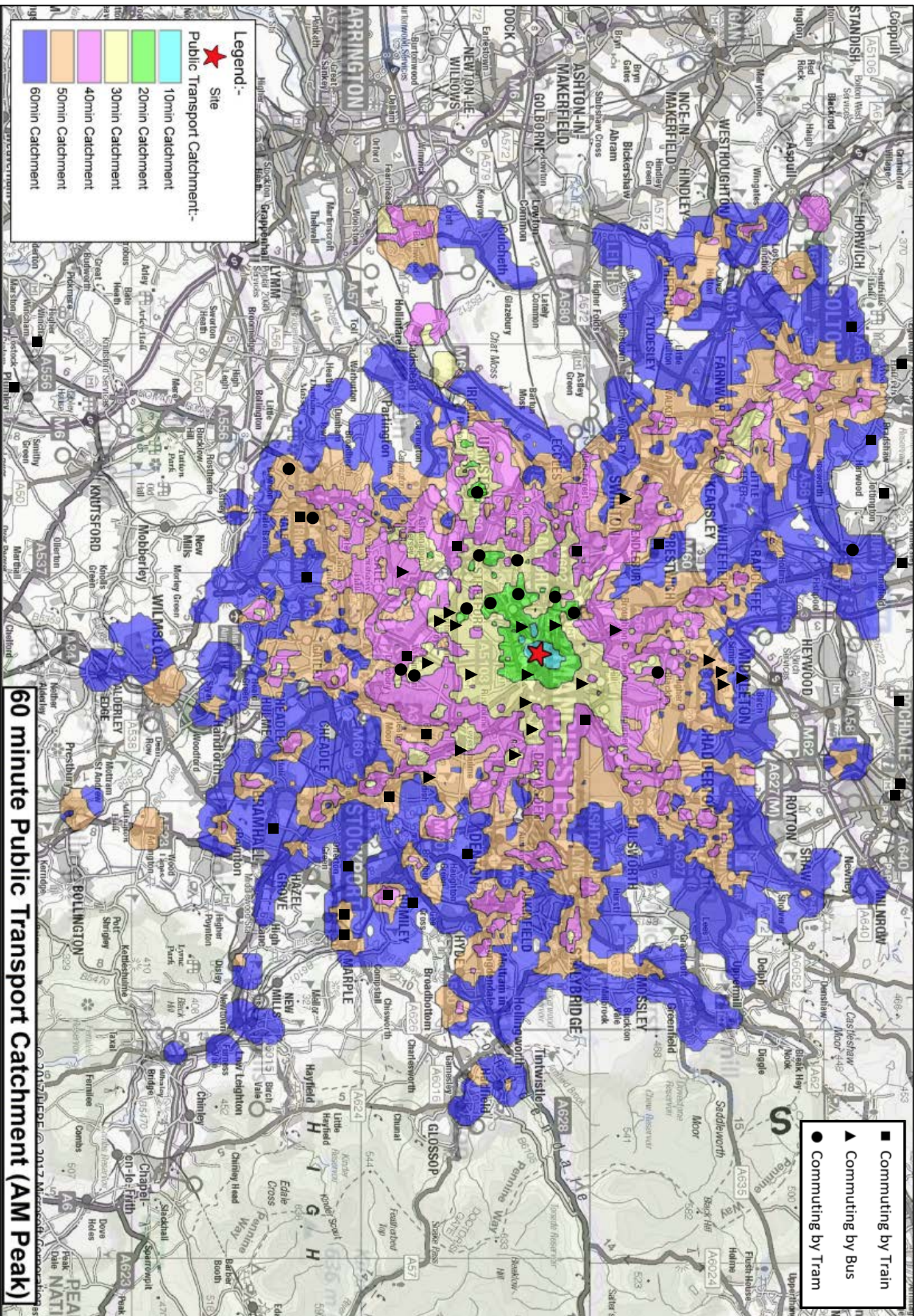
⁹ TPC

Further Investigation

Employees surveyed whose main mode of travel when commuting was by public transport have had their home postcodes plotted using GIS software TRACC. A 60-minute public transport commute catchment has been produced from the First Street Neighbourhood in order to demonstrate whether those commuting to the development are using the wider public transport network and to what extent they are doing so¹⁰. Accessibility plans for the typical morning and evening peak period are presented in **Figure 3.1** and **3.2**.

¹⁰ A 60-minute public transport catchment has been applied via use of DfT Transport Statistic Great Britain Table TSGB0111.

Figure 3.1: Public Transport Accessibility and Postcode Analysis of Surveyed Employees Commuting by Public Transport (Morning Peak Period)

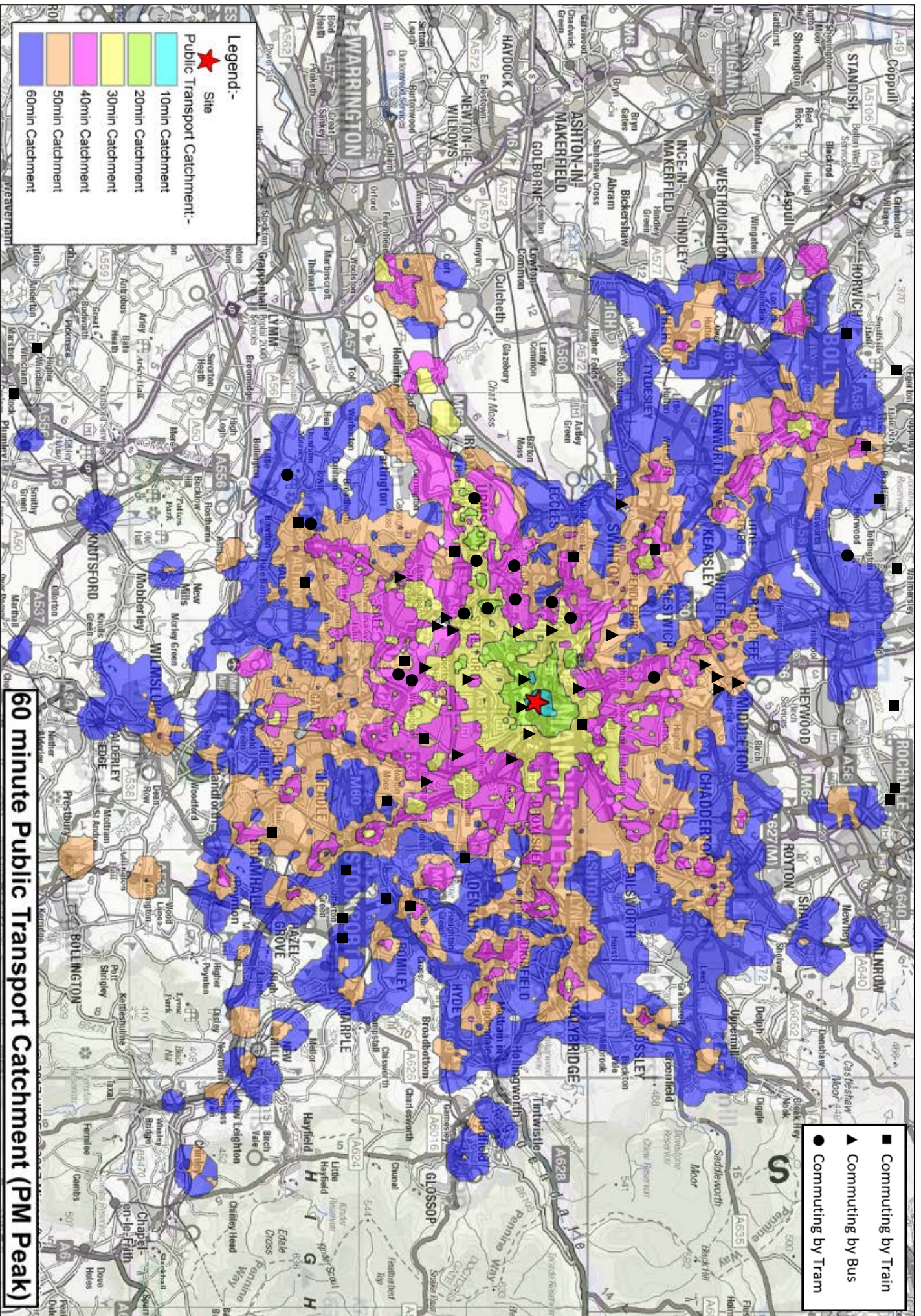


60 minute Public Transport Catchment (AM Peak)

- Commuting by Train
- ▲ Commuting by Bus
- Commuting by Tram

- Legend:-
- ★ Site
 - Public Transport Catchment:-
 - 10min Catchment
 - 20min Catchment
 - 30min Catchment
 - 40min Catchment
 - 50min Catchment
 - 60min Catchment

Figure 3.2: Public Transport Accessibility and Postcode Analysis of Surveyed Employees Commuting by Public Transport (Evening Peak Period)



The accessibility plans show that surveyed employees have a wide choice of public transport opportunities available to them both in the morning and evening peaks, with those commuting by train from as far as Rochdale, Bolton and Northwich.

The majority of journey-times of surveyed employees commuting to the development is within 60-minutes. However, a total of 31% of those commuting by public transport have a journey-time of over 60-minutes.

There is significant variation in journey times between different types of public transport. Some travel for 60 minutes from Middleton, yet others will travel for only 20 minutes from Eccles for example.

The journey origins (commuter home locations) of public transport trips to the development cover a substantial proportion of Greater Manchester's public transport network, from areas of central Manchester to areas located in the outer regions of Greater Manchester and Cheshire. Employees are able to use an extensive public transport network from up to 21km to the south and 15km to the north of the development.

Figures 3.1 and **3.2** show that First Street employees who live in close proximity to one another commute using different modes of sustainable transport, demonstrating an effective choice of public travel from home locations.

Has this objective been delivered?

This objective has been delivered as an improved choice of travel has been demonstrated amongst surveyed employees, which has contributed to the use of the wider public transport network.

Objective - The location of the First Street Neighbourhood will encourage access to surrounding sustainable travel opportunities for commercial occupiers

Featured within the First Street Development Framework was the aim to create a business location that will appeal to a wide range of commercial occupiers, particularly those seeking the benefits of a central and highly accessible location. Whether the location of the development has encouraged access to surrounding sustainable travel opportunities for commercial occupiers has been investigated.

Project Team Responses

A summary of responses from interviewing the development’s key players is shown below.

Summary of Responses		
The Developer	The Consultants	The Local Transport Body
<i>“This development had to be bespoke given its location. We wanted to go down the road of providing an area where all types of sizes of businesses could occupy”.</i>	<i>“Due to the site’s accessible location, it was expected that staff belonging to commercial end-users would have flexible working hours”.</i>	<i>“Live travel data displays were installed within the reception of Tony Wilson Place which is helpful towards keeping employees aware of public transport updates.</i>

Table 3.2: Project Team Response Summary

The project team recognised that a central location was pivotal in attracting tenants to a new commercial destination. In order to deliver a bespoke offer to commercial occupiers, the accessibility of the site was used as a tool in supporting flexible working patterns. Flexible working patterns were supported by the provision of live travel displays in communal areas that would aid the working practices of commercial end-users.

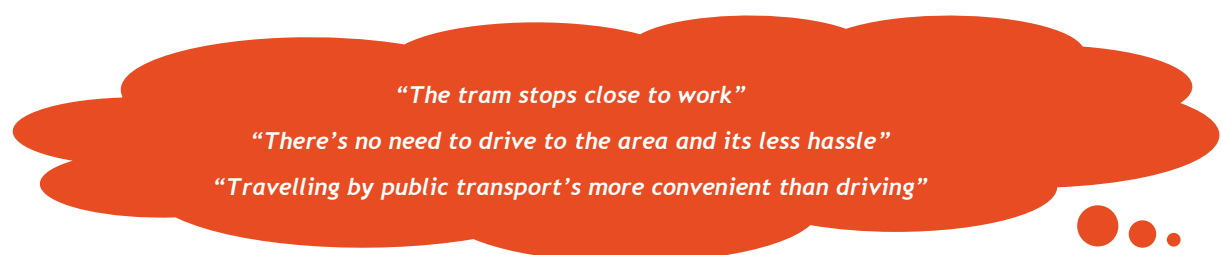
Further Investigation

A selection of responses by employees who use active transport included:



A reoccurring reason why employees choose active transport when commuting is for the health benefits it offers. However, no employee mentioned they commute this way as a result of the pedestrian/cyclist provision provided by the developer to encourage travelling by these modes.

A selection of responses by employees who use public transport included:



A large proportion of responses stated that they commute using the tram, due to the convenient location of the tram stop to the development. As the development is situated in such an accessible location in regards to public transport, the idea of driving was seen as inopportune to many.

Has this objective been delivered?

Although the research has highlighted a couple of areas which may require further improvements, it can be concluded that this objective has been delivered.

Travel Behaviour

Objective - Encourage a modal shift away from car travel to sustainable modes and change future employee travel habits.

The First Street Development Framework outlined an objective to integrate with the wider city transport strategy e.g. Metroshuttle.

Whether modal shift has been encouraged and to what extent travel habits have changed for those now working at the development has therefore been investigated.

Project Team Responses

A summary of responses from interviewing the development’s key players is shown below.

Summary of Responses		
The Developer	The Consultants	The Local Transport Body
<p><i>“We aimed to encourage a modal shift away from car use to sustainable modes of travel and to integrate the development with public transport around First Street”.</i></p> <p><i>“We aimed to develop the area in order to attract new businesses. The businesses we managed to attract that occupy the building include Autotrader, Jacobs and Amaze. I think these companies have are more active in promoting sustainable travel to their staff”.</i></p> <p><i>“We’re not aware whether a TPC was appointed to promote sustainable travel now”.</i></p>	<p><i>“We applied specific focus towards integrating the site with the surrounding footfall”.</i></p> <p><i>“Integration between existing infrastructure and creating new routes within the development was always an important factor, along with improving accessibility for pedestrians”.</i></p>	<p><i>“We find more opportunities to encourage sustainable travel outside the city centre, but we’ll generally write to the building and ensure they’re aware of the sustainable travel options around them for their employees”.</i></p> <p><i>“We’re not aware if a TPC is operating at the building”.</i></p>

Table 3.3: Project Team Response Summary

It became apparent when interviewing the project team that to attract new occupiers and integrate the development with the existing transport infrastructure, achieving modal shift was key.

Although not specifically targeted, the Developer brought in some occupiers that are more active in promoting sustainable travel habits to their staff, e.g. employee green strategies at Jacobs which promote alternative transportation options¹¹.

Integrating the site with surrounding footfall and creating usable pedestrian routes were used by the project team to ensure modal shift occurred. However, ensuring this was achieved through a TPC was not undertaken by either the project team or local public transport body.

Further Investigation

Surveyed employees were asked what their main mode of travel was when commuting to work. The modal split for all surveyed employees is presented in **Figure 3.3**.

¹¹ Jacobs Sustainability Report 2016

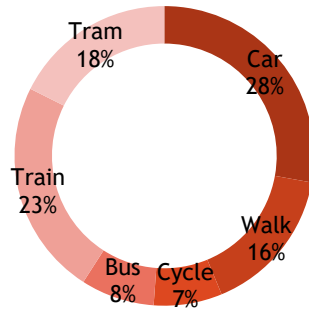


Figure 3.3: Employee Modal Share

Analysis of Change in Travel Habits

Surveyed employees were also asked whether the mode of transport they use to commute to work has changed since their employer had occupied commercial space within the development¹². Researching the change in travel habits was focused on those who have switched from car use to the following modes of sustainable travel:

- A. Public Transport (train, tram & bus)
- B. Active Transport (walking & cycling)

A) Public Transport

As shown in **Figure 3.3**, 49% of surveyed employees commute to the First Street Neighbourhood by public transport. A total of 40% of surveyed employees who now travel by public transport previously travelled by car before their employer relocated to the First Street Neighbourhood, as presented in **Figure 3.4**.

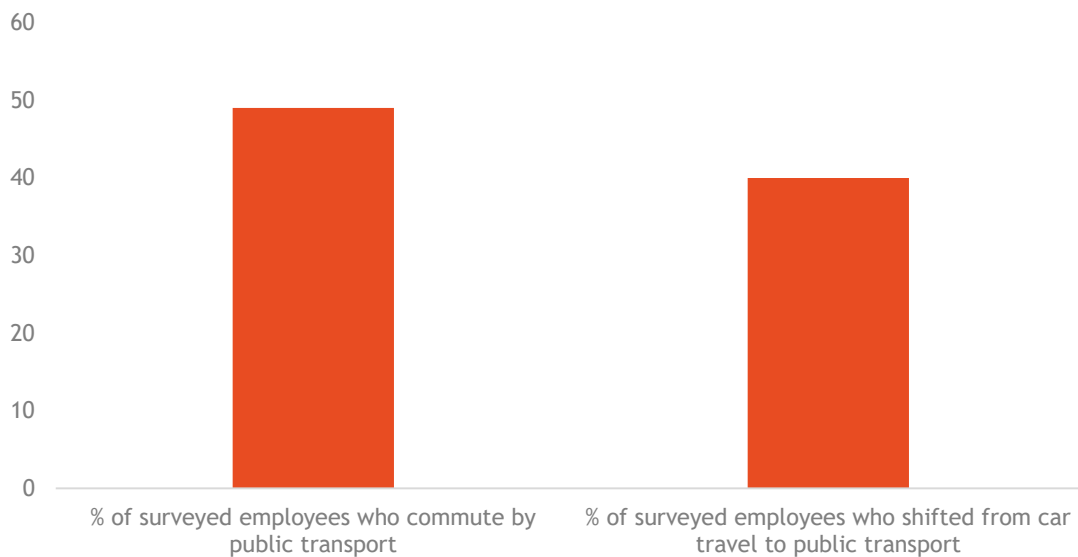


Figure 3.4: Modal Share/Shift (Car to Public Transport)

¹² Note: this analysis removed all employees who started working at First Street after their employer relocated to the First Street Neighbourhood and all employees who had moved addresses as a result of their employers relocated to the First Street Neighbourhood.

B) Active Transport

As shown in **Figure 3.5**, 23% of surveyed employees commute by ‘active transport’ as their main mode of travel. A total of 14% of all employees surveyed now travel by this mode having previously travelled by car before their employer relocated to the First Street Neighbourhood.

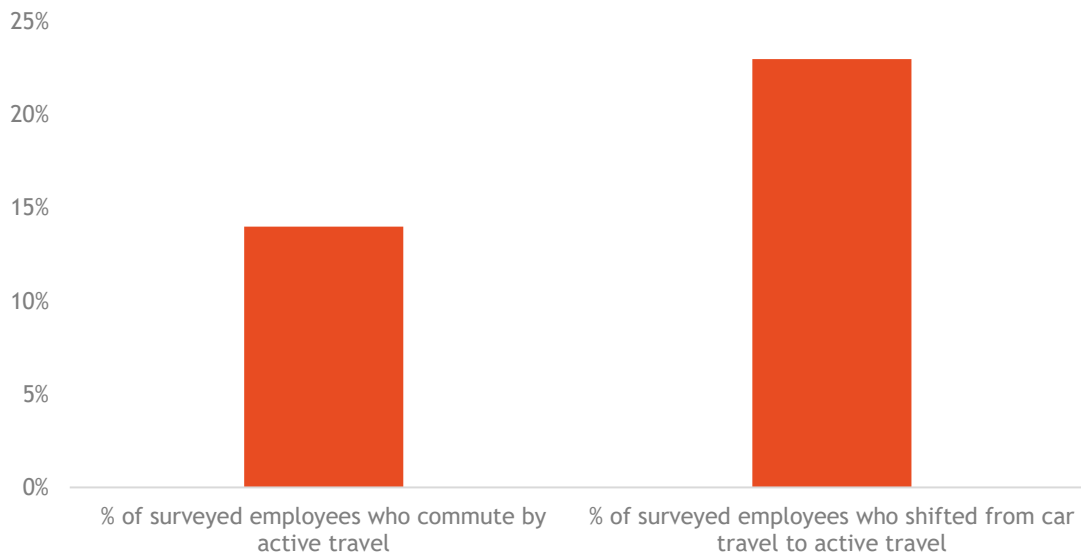


Figure 3.5: Modal Share/Shift (Car to Active Transport)

Has this objective been delivered?

The project team aimed for a change in travel behaviour from employees who were going to occupy commercial development at the First Street Neighbourhood and the above analysis shows that this objective has been delivered. A total of 54% of all surveyed employees who previously commuted by car now use sustainable modes of transport (public and active transport).

Objective - The First Street Neighbourhood should not be dominated by use of the car

A key aspect within the First Street Development Framework was to ensure that the development should not be dominated by car use and that pedestrian activity should take priority over vehicular activity. To what extent the First Street Neighbourhood has delivered this objective has been investigated.

Project Team Responses

A summary of responses from the development’s key players is shown below.

Summary of Responses		
The Developer	The Consultants	The Local Transport Body
<p><i>“The development is in a sustainable location and you can see Deansgate/Castlefield Station from its northern boundary, which hopefully encourages employees to use sustainable modes of travel”.</i></p>	<p><i>“It was important that the First Street Neighbourhood wasn’t developed in a way that would see the use of the car dominate and destroy pedestrian routes”.</i></p> <p><i>“We needed to balance the requirement for private vehicles whilst integrating existing public transport infrastructure.”</i></p>	<p><i>“Historically, the area was dominated by the car because of its location. This is clearly not the case now.”</i></p>

Table 3.4: Project Team Response Summary

A reoccurring aspect when interviewing the project team was the aim to deliver a development that would avoid making car-travel dominant as the main mode of transport for future employees. However, the project team were cautious about the provision of parking in relation to discouraging trips on foot and harming the deliverance of a truly pedestrian-friendly development.

Further Investigation

The responses to this question have been analysed from surveyed employees who are more vulnerable to vehicle travel such as those commuting on foot or cycling. A total of 55% of those commuting on foot or cycling stated that the First Street environment is in fact dominated by car use, with the remaining 45% stating that it wasn’t, as shown in **Figure 3.6**.

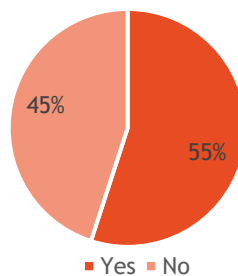


Figure 3.6: Thoughts towards car domination from employees commuting on foot or by cycle

In order to understand why the development is deemed car dominant, those who commute by car were asked why they do so. A total of 64% stated they do so because of the ease of parking at the First Street Neighbourhood.

Has this objective been delivered?

Those who use the more vulnerable modes of travel consider that the development is in fact dominated by car use, demonstrating that this objective has not been delivered.

Connectivity

Objective - Deliver a pedestrian-friendly environment

Another aim within the Framework was to offer a pedestrian-friendly environment, specifically the notion that pedestrian linkages and connections should support improved accessibility to/through the First Street Neighbourhood. The Framework also discussed that opening up and reusing the railway arches will strengthen connectivity and improve permeability through the First Street Neighbourhood. Whether this has been delivered and to what extent this has contributed to a pedestrian-friendly environment has been investigated.

Project Team Responses

A summary of responses from interviewing the development's key players is shown below.

Summary of Responses		
The Developer	The Consultants	The Local Transport Body
<i>"The Council wanted to retain the arches on Whitworth Street West. We recognised this and incorporated them into the development, helping pedestrian permeability and overall sense of place".</i>	<i>"Pedestrian activity was aimed to take priority over vehicular activity within the First Street Neighbourhood. The planned pedestrian routes have minimal interaction with vehicles which has been particularly successful".</i>	<i>"We provided comments on the First Street Development Framework and wanted to ensure attractive pedestrian routes and the arches on Whitworth Street acted as a way of achieving this. A lot of city centre developments have small footprints, but First Street has a lot of public realm which is important in delivering this".</i>

Table 3.5: Project Team Response Summary

A key point in aiming to deliver a pedestrian-friendly development was opening up the arches on Whitworth Street West and incorporating them into the development. The main aim by doing this was to ensure both attractive and usable pedestrian routes, as well as creating improved access from the north of the site which is situated adjacent to the city centre.

Further Investigation

A total of 77% of surveyed employees felt that there are pedestrian and cycle routes from their workplace to a public transport mode, with 23% disagreeing. A total of 74% of surveyed employees felt that they feel safe navigating to/from the First Street Neighbourhood in areas where cars are present.

In a separate analysis, pedestrians were recorded walking to and from the site in both the typical morning and evening weekday peak periods, as shown in **Figure 3.7** and **3.8**¹³. These routes were along the following roads, as numbered on the figures:

1. Whitworth Street West (West);
2. Whitworth Street West (East);
3. Albion Street; and
4. Jack Rosenthal Street.

The overall percentage of two-way pedestrian movements is displayed in the morning and evening peak periods.

¹³ When undertaking the pedestrian surveys, it was noticed that the marked area on Figure 3.7 and 3.8 was inaccessible to pedestrians due to ground works.

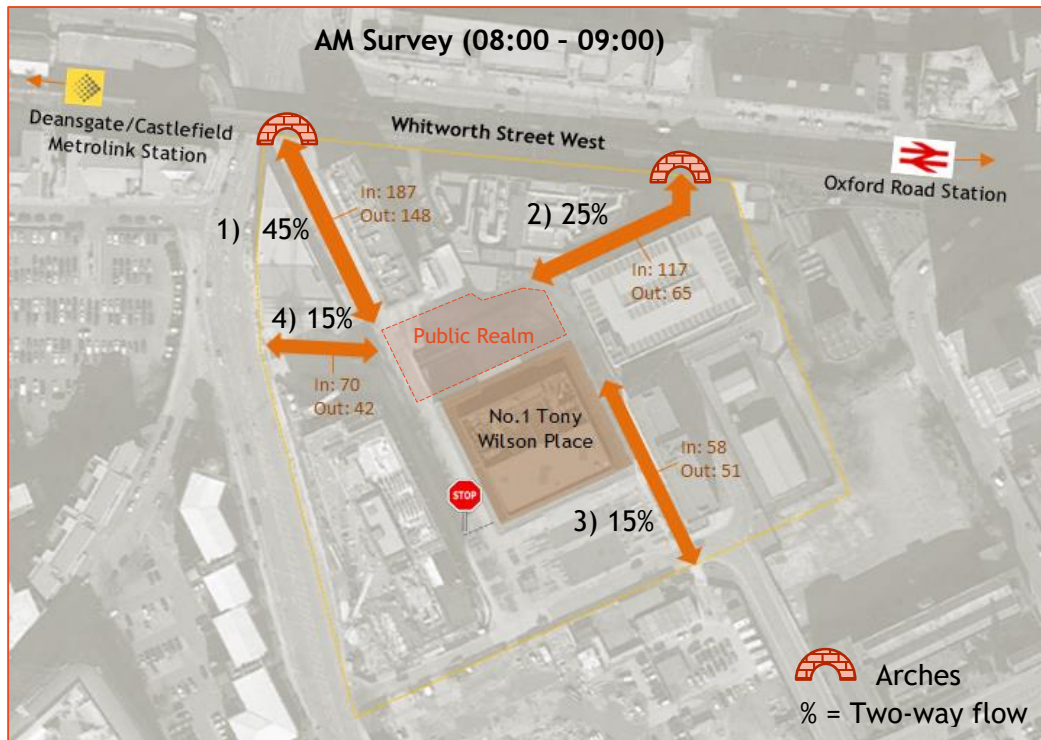


Figure 3.7: Morning Peak Pedestrian Route Survey

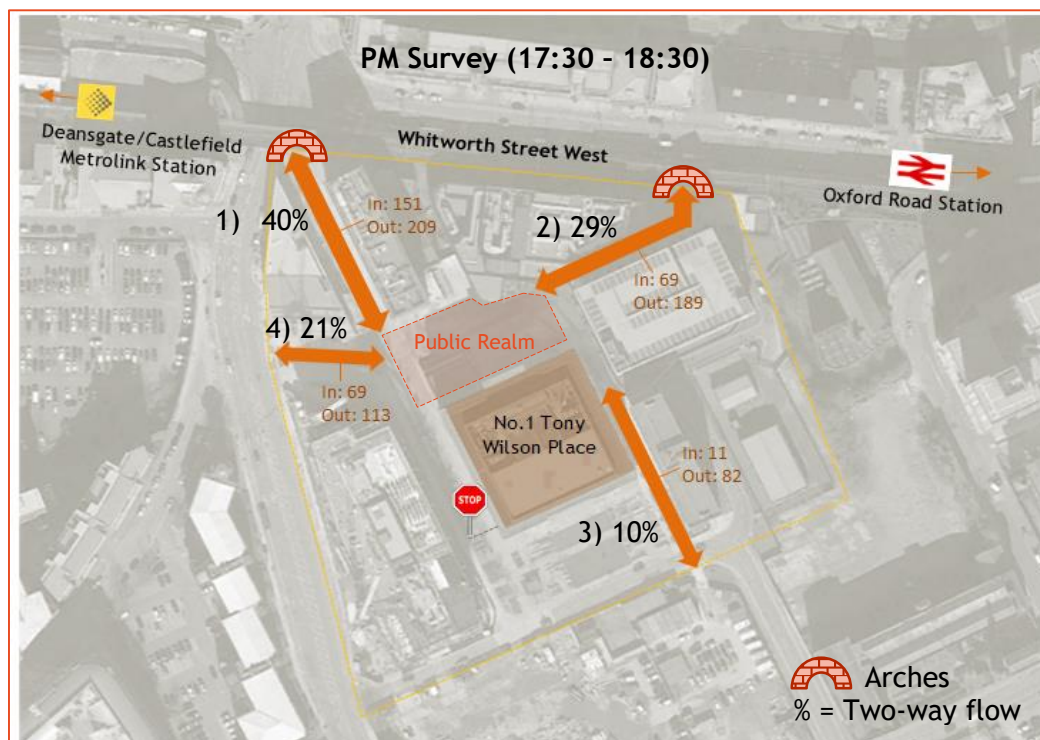


Figure 3.8: Evening Peak Pedestrian Route Survey

As shown in **Figures 3.7** and **3.8**, the site is being accessed by pedestrians from all available routes.

However, in both the morning and evening peak, the majority of two-way pedestrian movement occurs to the north of the site under the opened-up arches. This equates to 70% of all recorded pedestrian travel in the morning peak and 69% of all recorded pedestrian travel in the evening peak. This represents a large proportion of usage via these opened-up attractive pedestrian routes. The opened-up railway arches are featured in **Figure 3.9**.

Main opened-up railway arch located on Whitworth Street South



Pedestrian link from the main opened-up arch located on Whitworth Street South to commercial development

Additional opened-up railway arch located on Whitworth Street South



Figure 3.9: Pedestrian Links

Has this objective been delivered?

The site's pedestrian permeability has aided pedestrian movement to a huge degree by embracing the opening of the arches on Whitworth Street. The First Street Neighbourhood has strengthened the surrounding area's pedestrian flow and has contributed towards creating a pedestrian-friendly environment. As a result, it can be concluded that this objective has been delivered.

4 Lessons Learnt & Conclusion

Introduction

This chapter discusses what lessons we can learn from the report's findings in relation to the three areas researched and the initial questions asked in the report's introduction.

General Comments

Accessibility

Project teams should always focus on the delivery of a tighter relationship between commercial buildings and surrounding public transport. The report's findings demonstrated that employees belonging to city-centre commercial end-users are prepared to use the wider public transport network during day-to-day commutes. In some cases, they're also prepared to undertake a lengthy journey time by sustainable modes of travel.

The large proportion of footfall recorded at the opened-up arches shows that providing visible and attractive linkages between the development site and existing public transport nodes can work effectively.

Research has demonstrated that an improved take-up of sustainable travel alternatives can be achieved without in-house promotion that is often required as a condition once planning consent is gained for commercial developments.

Behaviour

Travel behaviour amongst commercial end-users has the ability to significantly improve when employees gain newfound access to sustainable travel opportunities. However, we should still be wary of the effects that car travel has on encouraging the take-up of active transport in particular, as the report found that those travelling this way were concerned the area was dominated by car use.

This leads to a concern surrounding the over-provision of parking at city-centre commercial developments. The report's findings have shown that the majority of those commuting by car was because the developer catered for such travel.

The report has demonstrated that discouraging trips on foot is harming the delivery of a truly pedestrian-friendly commercial development. Project teams should emphasise a clear strategy in using existing transport infrastructure to maximise modal shift that commercial end-users can help achieve. Local Authorities should consider the production of a framework of specific strategies to realise a less car dominant and healthier commercial environment¹⁴.

Connectivity

Embracing a site's surroundings is key in delivering commercial development that has the ability to integrate with the surrounding city-centre footfall. The report's findings have shown that in some cases smaller initiatives such as creating an attractive pedestrian link can bring disproportionately high benefits for their actual cost.

The arches' design e.g. attractive paving/lighting, has had a visible influence on their use and may be a reason why the northern pedestrian links from the site were used more than those to the south. The joint effort between the Local Authority and Developer in creating the opened-up arch pedestrian link ensured meaningful infrastructure significantly contributed to an integrated development. The report's findings demonstrate that if we recycle existing infrastructure to produce attractive pedestrian links then it's highly likely that a significant proportion of commercial end-users will seek the benefits of such initiatives.

The Deliverance of Objectives

The objectives listed in **Table 2.2** are echoed in **Table 4.1** with a summary of why they were delivered/undelivered. A summary of what didn't go well and principles that should be applied elsewhere is presented in **Table 4.2**.

¹⁴ Healthy Streets for London TfL (2017)

Objective	Was the objective delivered?	Reasoning for this outcome
Accessibility		
Integrate an improved choice of travel with the wider public transport network	✓	<ul style="list-style-type: none"> ▪ Commercial end-users of the development were able to take advantage of an improved choice of travel that was available to them. ▪ Substantial use of the wider public transport network was also demonstrated where no obvious limit to the length of commuter journey-time was seen. ▪ Although no TPC is in place, employees are clearly still taking advantage of a variety of public transport opportunities available to them from their home locations showing that even with limited promotion, commercial end-users are still likely to use sustainable initiatives.
The location of the First Street Neighbourhood will encourage access to surrounding sustainable travel opportunities for commercial occupiers	✓	<ul style="list-style-type: none"> ▪ The location of the development enabled commercial end-users to be encouraged to use sustainable travel opportunities due to the ease of accessibility towards nearby public transport.
Behaviour		
Encourage a modal shift away from car travel to sustainable modes and change future employee travel habits.	✓	<ul style="list-style-type: none"> ▪ Analysing the modal split of those working at the development showed that a large proportion of employees were using sustainable modes of travel for their daily commute to the development with a relatively small amount driving to work. ▪ A substantial proportion of employees had changed their travel habits from car use to sustainable transport alternatives once their employer relocated to the site.
The First Street Neighbourhood should not be dominated by use of the car	✗	<ul style="list-style-type: none"> ▪ The development hasn't balanced the requirement for private vehicles whilst integrating active travel. ▪ It's alarming that the majority of those who commuted to the site by car are doing because it's easy to park and not the necessity of travelling by this mode. ▪ The ease of commuting by car amongst surveyed employees has been a contributing factor to the reasoning behind why the majority of those using active transport believe the First Street environment is dominated by this mode of travel.
Connectivity		
Deliver a pedestrian-friendly environment	✓	<ul style="list-style-type: none"> ▪ The vast majority of employees surveyed at the First Street Neighbourhood felt safe when using pedestrian routes from their workplace to a public transport mode and whilst navigating to and from the site. ▪ Pedestrian infrastructure is therefore performing successfully in regards to pedestrian safety and usability. This encourages pedestrian movement not just within the site's boundary but to/from the wider city centre. ▪ The site's pedestrian permeability has aided pedestrian movement to a huge degree by embracing the opening of the arches on Whitworth Street. The First Street Neighbourhood has strengthened the surrounding area's pedestrian flow and has contributed towards creating a pedestrian-friendly environment. ▪ With almost 1 in 5 surveyed employees commuting by foot, it can be seen that in regards to travel behaviour, the development has integrated commuter movement with the area's surrounding footfall.

Figure 4.1 - Results Against Objectives

Objective	Summary of what could've been done better	Principles that should be applied in future
	<p>Accessibility</p> <ul style="list-style-type: none"> To make the development more successful, the LPA should've been more rigorous regarding the appointment of day to day TPC in the development's decision notice to further enhance promotion of sustainable travel. 	<ul style="list-style-type: none"> LPAs shouldn't just rely on Local Plan policies to ensure sustainable travel is integrated with commercial land-use. The submission of a Travel Plan before occupation provides a baseline for initiatives to be introduced, but without in-house coordination, developments run the risk of not becoming as integrated with existing sustainable transport provision as they perhaps could be.
<p>The location of the First Street Neighbourhood will encourage access to surrounding sustainable travel opportunities for commercial occupiers</p>	<ul style="list-style-type: none"> Flexible working patterns could've been promoted more to further encourage the use of sustainable travel opportunities. The project teams aimed for flexible working practices to take place due to the accessible location of the development, but this was not achieved and could've encouraged a higher take-up of public transport services. 	<ul style="list-style-type: none"> Flexible working patterns should be considered to be promoted from the off-set when city-centre commercial developments are first occupied. Future city-centre commercial developments should consider installing live travel data displays in communal areas of developments, e.g. receptions which has provided beneficial at Tony Wilson Place.
Behaviour		
<p>Encourage a modal shift away from car travel to sustainable modes and change future employee travel habits.</p>	<ul style="list-style-type: none"> Those shifting from driving to active travel (23%) represented a figure almost half of that recorded for those shifting from car to public transport (40%). This large difference shows that there's scope to improve the number of employees shifting from car use to active transport. 	<ul style="list-style-type: none"> By way of condition of planning approval, the LPA should ensure that all major commercial occupiers of city-centre developments should implement employee sustainable travel strategies to ensure alternative transportation options are promoted not just by relying on a TPC. When ensuring commercial end-users are aware of sustainable travel opportunities, the Local Public Transport Body should take further consideration towards the number of new inhabitants rather than the central location when deciding how much input to provide in regards to promoting sustainable travel alternatives.
<p>The First Street Neighbourhood should not be dominated by use of the car</p>	<ul style="list-style-type: none"> There's room for improvement as those who are most susceptible to the negative impacts of the car feel that the development is dominated by this mode of transport. 	<ul style="list-style-type: none"> Commercial end-users may not use their cars to such a degree if parking at the developments like this wasn't made so easy. LPAs covering city-centre areas may need to tighten up parking standards perhaps for such developments to help alleviate this issue.
Connectivity		
<p>Deliver a pedestrian-friendly environment</p>	<ul style="list-style-type: none"> The Developer may have provided too many pedestrian routes from the development to its surroundings, which has the potential to create inefficient use of certain new routes (south of the site) as recorded in the pedestrian route survey. 	<ul style="list-style-type: none"> The vast majority of which Developers can often overlook city-centre sites already that already possess the potential for high level pedestrian accessibility by providing additional routes at other sites. A site's pedestrian permeability has the potential to aid pedestrian movement massively by embracing existing surrounding infrastructure, as can be seen with the pedestrian arches on Whitworth St West.

Figure 4.2: Improvements and Future Principles

Scope for Further Research

Going forward, there is a gap in research concerning why employees still drive to commercial developments that can clearly demonstrate high accessibility in regards to sustainable travel opportunities. In relation to this report, an opportunity exists for a follow-up study to investigate to what extent surveyed drivers who's reasoning for travelling was the ease of parking live in locations within the 60-minute public transport catchment.

Conclusion

This report has demonstrated a number of manifestations that have the ability to contribute to successfully integrating commercial commuter habits with existing sustainable transport provision.

In order to gain an underlining understanding of how city centre commercial developments can be successfully integrated with surrounding sustainable transport provision. This report has provided both findings and lessons in relation to ensuring that successful integration is delivered by assessing accessibility, travel behaviour and connectivity.

Going forward it should be a focus that these three key aspects (A,B,C) are used in order to ensure effect use of existing sustainable transport provision. This will contribute to safeguarding a city's ongoing transport growth prospects when coping with imminent demand for commercial space.

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Appendices


Appendix A


Copy of Employee Travel Survey

Transport Planning Society First St Survey


Elliot Read 2017 Bursary Award


1. Please provide your home postcode (this will be used for this Transport Planning Society study only) 


2. In a typical week, what is your main mode of travel to work? 


3. Why do you currently travel by this mode? 

- Its my cheapest option
- It shortens my journey time
- Personal circumstances
- Work circumstances
- Ease of parking
- Travelling by this mode is promoted at First St
- Other (please specify)

4. If you drive to work, where do you usually park? 

5. What mode of travel did you use before you worked at First Street? 

6. Is information on sustainable travel options available to you from your employer or the wider First Street neighbourhood? 

7. Do you feel that your place of work's surrounding environment is dominated by the car? 

8. Do you agree with the following statements about your place of work? 

	Strongly Disagree	Disagree	Agree	Strongly Agree
The location of your place of work has encouraged you to travel sustainably	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You can easily access amenities by using sustainable modes of travel from your place of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adequate cycle parking facilities are available at your place of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your place of work is located in an environment that isn't dominated by the car	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pedestrian and cyclist activity is prioritized around your place of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You have flexible working hours and therefore don't get stuck in traffic during peak hours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel that you work in a cultural hub within Manchester city centre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are pedestrian and cycle routes from your place of work to accessible public transport options	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a pedestrian, you would feel safe navigating to/from the site in areas where cars are present	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for completing the survey! 

Done