

Date: 27 January 2017

Subject: Metrolink Service Patterns

Report of: Tony Lloyd, GM Interim Mayor, Portfolio Lead for Transport  
and Jon Lamonte, Chief Executive, TfGM

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## PURPOSE OF REPORT

In response to representation from local authorities and the decision of the Greater Manchester Scrutiny Pool, this report offers four alternative service patterns which incorporate a direct link between Oldham, Rochdale and Piccadilly Rail Station. These options are consistent with network constraints, operating principles and future committed deliverables. All options will require additional modelling to confirm the impact on the network.

## RECOMMENDATIONS:

Members are recommended to:

- (i) note the contents of the report;
- (ii) observe the current proposed Second City Crossing (2CC) service pattern;
- (iii) following a meeting with the Interim Mayor, Leaders of Rochdale and Oldham and the Chair of TfGMC, work will commence immediately to determine, at high level, an option to service an Oldham to Piccadilly direct service and report back when complete; and
- (iv) TfGM officers will, after 6 months of 2CC operation, conduct a line(s) specific survey and a network wide modelling exercise, to inform future service pattern development.

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## RISK/ FINANCIAL/ LEGAL CONSEQUENCES/DETAILS

Risk Management – N/A

Legal Considerations – N/A

Financial Consequences – N/A

Financial Consequences – Capital - N/A

## BACKGROUND PAPERS:

TfGMC, 15 January 2016, Item 9, 'Metrolink 2017', 11 November 2016, Item 7, 'Metrolink Second City Crossing Service Patterns'.

<b>TRACKING/PROCESS</b>		
Does this report relate to a major strategic decision, as set out in the GMCA Constitution (paragraph 14.2) or in the process (paragraph 13.1 AGMA Constitution) agreed by the AGMA Executive Board:		No
<b>EXEMPTION FROM CALL IN</b>		
Are there any aspects in this report which means it should be considered to be exempt from call in by the AGMA Scrutiny Pool on the grounds of urgency?		
AGMA Commission	TfGMC	Scrutiny Pool

## **1. INTRODUCTION**

- 1.1 On 11 November 2016, a report was presented to TfGMC, informing members of the proposed service pattern following the opening of Second City Crossing (2CC) and highlighted the work undertaken to examine how the network can be optimised within operational constraints. The report also detailed popular journey types, infrastructure / network constraints and the proposed service pattern for the opening of 2CC.
- 1.2 The service pattern contained within Section 3 of this report was proposed at the November TfGMC meeting. Based upon previous work the service presented was optimised to maximise the usage of the Metrolink network.
- 1.3 In response to representation from some local authorities, this report identifies other service pattern options which could incorporate a direct link between Oldham, Rochdale and Piccadilly Rail Station. These options are consistent with existing and future committed deliverables, such as the Trafford Park Line. Alternative service patterns will require additional modelling and appraisal to assess the impact on the network.
- 1.4 The report contains the following appendices:
  - Appendix 1: 2CC Network Map; and
  - Appendix 2: Example Alternative Service Patterns / Impacts.

## **2. SERVICE PATTERN DEVELOPMENT**

- 2.1 Metrolink is a key part of a wider commitment that will see an improved public transport system across Greater Manchester to encourage and accommodate growth. A primary focus is to ensure the long-term financial sustainability of the Metrolink network as it was funded in large part by borrowing. Therefore service pattern development requires consideration of many factors.
- 2.2 Metrolink infrastructure allows a degree of flexibility in developing service patterns, more so than heavy rail. However, the network is also subject to a variety of constraints such as single line sections (where only one tram can travel on a section of route at once) and operating principles. Operating principles ensure best connectivity, efficiency and cost effectiveness for the region.
- 2.3 Service pattern development and subsequent timetables are developed jointly with the Metrolink operator and considers, amongst others:
  - passenger loadings and opportunities for future growth;
  - attracting development and regeneration;
  - network constraints and operating principles (detailed below);

- popular destinations and connections with key interchanges;
- trip length, time duration and service reliability;
- safety of customers and employees whilst on vehicles and on stops;
- human factors such as driver training and route familiarisation, comfort and fatigue;
- potential to increase frequencies on certain lines, subject to demand;
- proportion of highway interface; and
- optimum times for trams leaving and returning to the depot of origin.

### **Short Term Service Changes and Strengthening**

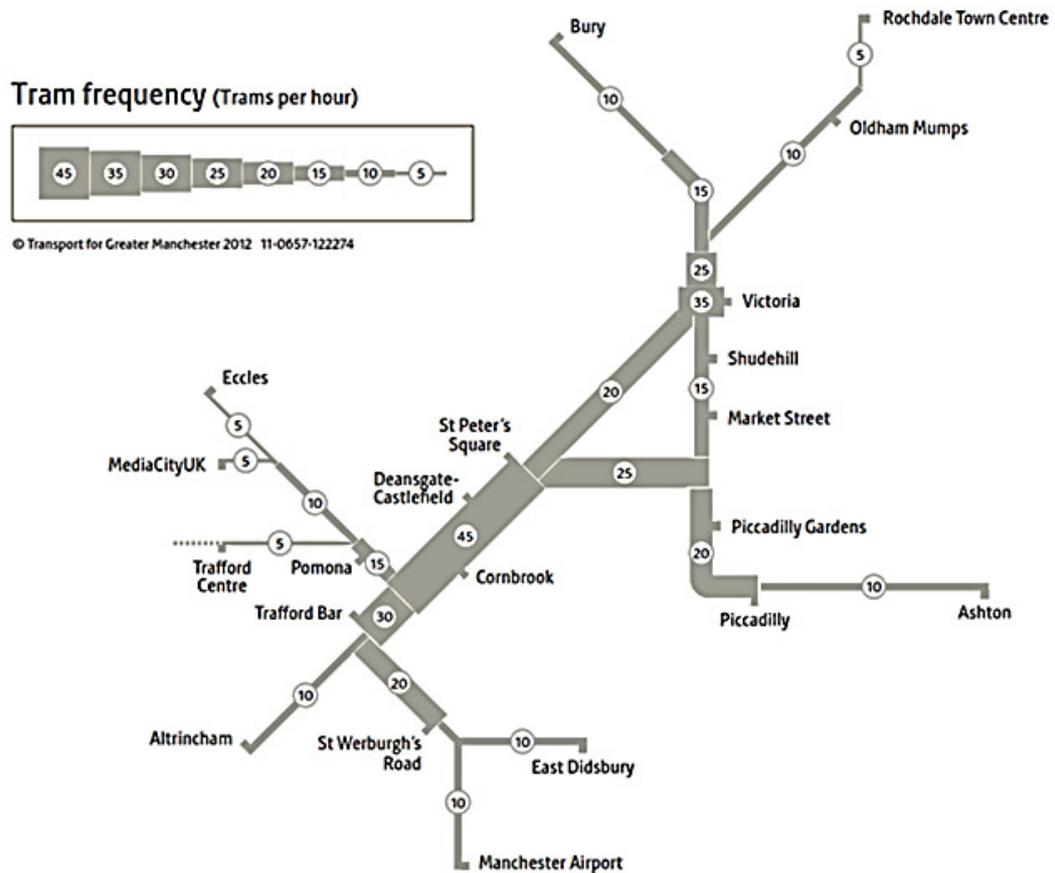
- 2.4 TfGM and the Metrolink operator are able to make short term changes to services to enable thousands of customers to attend events including football matches, Parklife, other concerts and the Manchester Marathon. Successful execution of any multi-modal transport plan by TfGM and the Metrolink operator enables the region to attract and retain these events.

### **Operational Constraints**

- 2.5 Operational constraints are mainly created by the physical limitations of the infrastructure that impact the routing and the number of services which can operate through the Regional Centre in particular. Key factors are summarised below:
- number of services that can be turned (to form a return service) at Piccadilly and Victoria rail stations without affecting headways of through services;
  - capacity of single line sections; and
  - number of trams per hour that can operate on each route across the network (figure 2.0).
- 2.6 Other specific locational constraints include:
- two services can be turned at Piccadilly rail station without affecting the performance of the through services to Ashton-under-Lyne or Etihad Campus;
  - one service can be turned at Etihad Campus without affecting the performance of the through services to Ashton-under-Lyne;
  - one service can operate into MediaCityUK via the single line from Harbour City without affecting the services to and from Eccles;
  - two services can be turned at Victoria station without affecting the performance of the through services to Bury and Oldham/ Rochdale; and

- Regional Centre network capacity cannot exceed 45 services per hour in one direction. To illustrate the demand, this results in 90 services per hour (every 40 seconds) having to cross the A34 at Peters St / Oxford St and maintain traffic flows. Figure 2.0 illustrates network capacity.

**Figure 2.0: Network Capacity**



The above image outlines these network line capacities. Five trams per hour is the equivalent of a 12 minute frequency.

## Principles

- 2.7 In order to ensure the best connectivity to key locations during all hours of operation, seven days per week, the following principles were adopted within the regional centre. A connection between:
- Victoria and Piccadilly Rail Station must operate during all hours of operation;
  - Piccadilly Rail Station and St Peter's Square must operate during all hours of operation;
  - Victoria Station and St Peter's Square via Market Street must operate during all hours of operation; and
  - Victoria Station and St Peter's Square via Exchange Square must operate during all hours of operation.

2.8 The above connections are considered to be the minimum central core services. These are supplemented by additional daytime services to cater for demand. Connections between Metrolink, rail and bus are illustrated in figure 2.1.

**Figure 2.1: City Zone Connections**



### 3. PROPOSED 2CC SERVICE PATTERN

3.1 The proposed service pattern on opening 2CC is detailed in Table 3.0. The table shows the core, day time services and cross city connectivity. Appendix 2 contains the revised network map when 2CC is operational.

3.2 2CC will open for passenger services in early 2017 (ahead of the new operating and maintenance contract). The proposed service pattern optimises the network for the maximum number of passengers, taking into account operational constraints, available fleet, the most popular destinations in the regional centre and the principles identified in Section 2.

**Table 3.0: 2CC Opening Service Patterns**

From	To	Via
<b>Core Services</b>		
Altrincham	Etihad Campus	
Bury	Piccadilly Rail Station	
Eccles	Ashton-under-Lyne	
East Didsbury	Rochdale Town Centre	2CC
Manchester Airport	Deansgate-Castlefield / Victoria <sup>1</sup>	1CC
<b>Additional Daytime Services</b>		
Altrincham	Bury	1CC
East Didsbury	Shaw and Crompton	2CC
MediaCityUK	Piccadilly Rail Station	

1. Manchester Airport to Deansgate-Castlefield will extend to Victoria upon completion of infrastructure works.

- 3.3 Currently Bury and Altrincham lines have the highest passenger flows to the regional centre, as forecast within the 1989 LRT Extension Priority Study, and earlier studies used to build the business case. Other line predictions are expected to follow.
- 3.4 Analysis of passenger counts and a sample of Ticket Vending Machine (TVM) data were used to provide context in terms of proportional demand to Piccadilly Rail Station. Services with high patronage per period continue to have a direct connection to Piccadilly Rail Station, as follows: Altrincham (24,600 journeys per period), Bury (21,800) and Eccles (21,800). The current patronage from the Rochdale and Oldham line with one connection to Piccadilly Rail Station is 5,200. The current patronage from the East Didsbury Line with one connection to Piccadilly Rail Station is 5,860. The passenger counts validate the relative TVM data compared with the overall network usage.
- 3.5 Whilst there is demand from all lines to Piccadilly Rail Station, Bury and Altrincham customers represent the largest flows. Data analysis suggests that the market is not deterred by interchanging which customers from all lines can do. TfGM will continue to monitor this as it is too soon to identify trends subsequent to the re-opening St Peter's Square tram stop in August 2016.
- 3.6 Models show that with the proposed service patterns, given operational constraints, a sufficient operating surplus will be generated to meet the pay back requirements of the GM Transport Fund. In future, TfGM may be required to tailor services in such a way as to optimise revenue against costs. Therefore service pattern decisions must take current and predicted patronage growth into account.

#### **4. ALTERNATIVE SERVICE PATTERNS**

- 4.1 TfGM will continue to be responsive to changes in travel demands from and between the Local Authorities and the Regional Centre. As a consequence, any line changes will have broader implications for other established routes across the network.
- 4.2 To illustrate these impacts, officers have investigated further alternative service patterns, detailed within this section, which require further financial and operational modelling. Any sub-optimal use of current infrastructure and assets could result in:
- service imbalance and reduced reliability;
  - disestablishment of popular routes;
  - a requirement for additional trams at a cost of between £2.5 million and £3 million each; and
  - recruitment of additional drivers / customer service representatives.
- 4.3 The options and resulting line impacts, including a description of capacity change are detailed within Appendix 3. As per the proposed option, the

Manchester Airport service will extend to Victoria Rail Station upon completion of infrastructure works and additional daytime services to Etihad Campus have the potential to be extended to Ashton-under-Lyne, when demand requires.

- 4.4 Comparison between the proposed service pattern and four alternative options will be subject to additional detailed modelling, subject to Leaders' agreement.

**Table 4.0: Proposed Service Pattern Comparison with Option 1 and 2**

Line	Proposed Service Pattern		Option 1		Option 2	
	Core	Daytime	Core	Daytime	Core	Daytime
Altrincham	Etihad Campus	Bury (Via 1CC)	Etihad Campus	Bury (Via 1CC)	Bury (Via both 1CC and 2CC)	
Bury	Piccadilly Rail Station	Altrincham Bury (Via 1CC)	East Didsbury (Via 2CC)	Altrincham (Via 1CC)	Altrincham (Via both 1CC and 2CC)	
Rochdale and Oldham	East Didsbury (Via 2CC)	East Didsbury to Shaw and Crompton (Via 2CC)	Ashton-under-Lyne	East Didsbury (from Shaw and Crompton only – Via 2CC)	Etihad Campus	East Didsbury (from Shaw and Crompton only – Via 2CC)
Ashton-under-Lyne	Eccles and MediaCityUK #1		Rochdale and Oldham		East Didsbury	
Eccles and MediaCityUK #1	Ashton-under-Lyne		Piccadilly Station		Piccadilly Station	
MediaCityUK #2	Piccadilly Rail Station		Piccadilly Rail Station		Piccadilly Rail Station	
East Didsbury	Rochdale and Oldham (Via 2CC)	East Didsbury to Shaw and Crompton (Via 2CC)	Bury (Via 2CC)	Shaw and Crompton (Via 2CC)	Ashton-under-Lyne	Shaw and Crompton (Via 2CC)
Manchester Airport	Deansgate-Castlefield/Victoria (Via 1CC)		Deansgate-Castlefield/Victoria (Via 1CC)		Deansgate-Castlefield/Victoria (Via 1CC)	

#1 Eccles/Ashton services do not call at MediaCityUK between 07:15 and 20:00

#2 Only operates between 07:15 and 20:00

### Option 1

- 4.5 When compared to the proposed pattern, Option 1 also offers good connectivity across the city. Bury loses a direct connection to Piccadilly Rail Station, equating to an hourly capacity loss of five services. This change

results in 28%, (67,600 per 4 week period) of current Bury line / regional centre customers having to interchange or walk. This figure is based on daily regional centre alighting counts. Additionally, due to the trip length of both routes, operational reliability will be reduced. This could result in greater difficulty maintaining even headways (timetabled gap between services).

- 4.6 The Rochdale and Oldham line gains a direct service to Piccadilly Rail Station, equating to an increase in hourly capacity of five trams, benefitting 13.1% (5,078) of customers to the regional centre. This figure is based on an outbound ticket sales sample.
- 4.7 The connection to employment centres at St Peter's Square and Deansgate-Castlefield stops is weakened by a doubling of headways (6 to 12 minutes). This accounts for 18% (28,800) of all customers to the regional centre from the Rochdale and Oldham line. This figure is based on daily regional centre alighting counts.
- 4.8 Operational reliability will be worsened as the Rochdale and Ashton-under-Lyne services have significant road running sections and contain three single line sections. Option 1 will create some issues as more vehicles are likely to be required to accommodate trams turning prior to timetabled termini points.

## **Option 2**

- 4.9 When compared to the proposed pattern, Option 2 also offers good cross city connectivity. Customers travelling on the East Didsbury Line get a direct Piccadilly Rail Station connection and a 2CC connected route via Victoria Rail Station.
- 4.10 Option 2 has the optimum operational configuration for Altrincham and Bury headways, the two largest generators of revenue. However, significant proportions of Bury and Altrincham line customers, 29% (57,600) and 28% (67,600) respectively, are inconvenienced by the removal of the established direct services to Piccadilly Station. This figure is based on daily regional centre alighting counts.
- 4.11 This equates to an hourly capacity loss of five trams per hour to this destination from each of these lines.
- 4.12 This pattern allows a Rochdale and Oldham service and an East Didsbury service to be routed via Piccadilly Station, equating to an increase in hourly capacity of five trams. Ticket sales show that this will benefit 13.1% (5,078) and 14.2% (5,860) of Rochdale and Oldham and East Didsbury customers respectively. This figure is based on an outbound ticket sales sample.

**Table 4.1: Proposed Service Pattern Comparison with Option 3 and 4**

Line	Proposed Service Pattern (as table 4.0)		Option 3		Option 4	
	Core	Daytime	Core	Daytime	Core	Daytime
Altrincham	Etihad Campus	Bury (Via 1CC)	Ashton-under-Lyne	Bury (Via 1CC)	Shaw and Crompton (Via 2CC)	Bury (Via 2CC)
Bury	Piccadilly Rail Station	Altrincham Bury (Via 1CC)	East Didsbury (Via 2CC)	Altrincham (Via 1CC)	Altrincham (Via 2CC)	Piccadilly Rail Station
Rochdale and Oldham	East Didsbury (Via 2CC)	East Didsbury to Shaw and Crompton (Via 2CC)	Piccadilly Station	East Didsbury (from Shaw and Crompton only – Via 2CC)	Etihad Campus	Altrincham (Via 2CC)
Ashton-under-Lyne	Eccles and MediaCityUK #1		Altrincham		Eccles (Via 1CC)	
Eccles and MediaCityUK #1	Ashton-under-Lyne		Etihad Campus		Ashton-under-Lyne	
MediaCityUK #2	Piccadilly Rail Station		Piccadilly Rail Station		Piccadilly Rail Station	
East Didsbury	Rochdale and Oldham (Via 2CC)	East Didsbury to Shaw and Crompton (Via 2CC)	Bury (Via 2CC)	Shaw and Crompton (Via 2CC)	Victoria (Via 1CC)	Deansgate-Castlefield
Manchester Airport	Deansgate-Castlefield/Victoria (Via 1CC)		Deansgate-Castlefield/Victoria (Via 1CC)		Deansgate-Castlefield/Victoria (Via 1CC)	

#1 Eccles/Ashton services do not call at MediaCityUK between 07:15 and 20:00

#2 Only operates between 07:15 and 20:00

### Option 3

- 4.13 When compared to the proposed pattern, Option 3 also offers good cross city connectivity. Altrincham retains the Piccadilly Station connection.
- 4.14 The direct Bury to Piccadilly Rail Station service is removed, equating to an hourly capacity of five trams to this destination, meaning 28% (67,440) of customers travelling to the regional centre will have to interchange or walk. This figure is based on daily regional centre alighting counts.
- 4.15 The Rochdale and Oldham line gains a direct service to Piccadilly Rail Station equating to an increase in hourly capacity of five trams, benefitting 13.1% (5,078) of customers to the regional centre.

- 4.16 Option 3 will require additional drivers to be trained on route variations and would require technical changes to the control system. The trip length of both Altrincham services will potentially import operational risks and likely impact upon service reliability.

#### **Option 4**

- 4.17 When compared to the proposed pattern, Option 4 also offers good cross city connectivity. Bury Line customers will retain a direct link to Market Street and Piccadilly Rail Station. Headways to Market Street and Shudehill double to 12 minutes, inconveniencing 39% (94,368) of Bury line customers travelling to the city centre. This figure is based on daily regional centre alighting counts.
- 4.18 The Rochdale and Oldham line gains a direct service to Piccadilly Rail Station benefitting 13.1% (5,078) of passengers to the city centre, equating to an increase in hourly capacity of five trams per hour. This figure is based on an outbound ticket sales sample.
- 4.19 The direct Altrincham to Piccadilly Rail Station is removed, equating to an hourly capacity loss of five trams per hour, resulting in 29% (57,500) of passengers travelling to the city centre will have to interchange or walk. This figure is based on daily regional centre alighting counts.
- 4.20 Services within Option 4 are highly dependent on 1CC. Daytime services from East Didsbury continue to terminate at Deansgate-Castlefield for onward connections through St Peter's Square. Eccles and Ashton-under-Lyne lines are connected (these lines have significant highway interface and therefore create increased operational risk due to reduced service reliability).
- 4.21 This option will import serious risk to maintaining a reliable Bury line service, unless Manchester Airport line services are terminated south of regional centre e.g. Cornbrook.

## **5. CONCLUSIONS**

- 5.1 Any change to a Metrolink line will have both network wide and multi-modal implications. Implications include; additional costs (e.g. where additional vehicles are required to maintain advertised frequencies); and tram services turning elsewhere and therefore disestablishing existing popular routes. Network resilience will also be impacted as the distance between termini points are likely to be longer, therefore making it more difficult to recover from unplanned disruptions.

## **6. FUTURE WORK**

- 6.1 TfGM are committed to monitoring and reviewing services to help ensure the service patterns optimise the network for passengers and revenue against operating costs and risks. We will continue to monitor patronage and report back to TfGMC after six months of operating services through 2CC.

6.2 In parallel, if it is agreed that further detailed modelling is required, TfGM officers will conduct a line specific survey and a network wide modelling exercise. The analysis will help to inform future service pattern development at that review point.

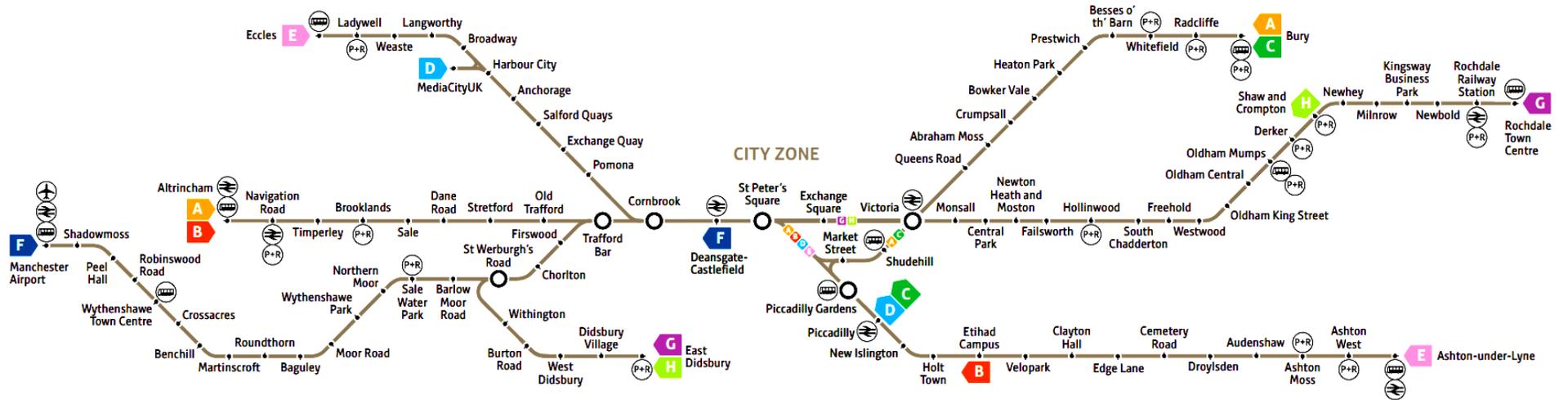
## **7. RECOMMENDATIONS**

7.1 Recommendations are set out at the front of this report.

**Dr Jon Lamonte**

**Chief Executive, TfGM**

# Appendix 1: 2CC Network Map



- A Altrincham – Bury A B Altrincham – Etihad Campus B C Bury – Piccadilly C D MediaCityUK – Piccadilly D E Ashton-under-Lyne – Eccles E
- F Manchester Airport – Deansgate-Castlefield F G East Didsbury – Rochdale Town Centre G H East Didsbury – Shaw and Crompton H

Metrolink stop   
  G H Service travels via   
  Change with other services   
  Bus interchange   
  Rail interchange   
  Park + Ride   
 Check your tram times at [www.metrolink.co.uk](http://www.metrolink.co.uk) before travelling

## Appendix 2: 2CC Opening and Alternative Service Patterns

The following tables provide a summary of the service impacts of the four options identified in this report. Upon completion of works at Victoria, Manchester Airport Services will extend beyond Deansgate-Castlefield to Victoria. These services will provide a connection between Victoria and St Peter's Square via 1CC but for the present time are shown as not applicable (N/A).

### Opening Service Pattern

Ref	Core	Journey time (min)
1	Altrincham – Etihad Campus	37
2	Bury – Piccadilly Rail Station	32
3	East Didsbury – Rochdale 2CC	75
4	Eccles – Ashton-under-Lyne	62
5	Manchester Airport – Deansgate-Castlefield	45
	<b>Daytime</b>	<b>Journey time (min)</b>
6	Altrincham – Bury 1CC	55
7	East Didsbury – Shaw and Crompton 2CC	60
8	MediaCityUK – Piccadilly Rail Station	22
	<b>Connectivity (Core)</b>	<b>Service Ref</b>
	Piccadilly - Victoria	2
	Victoria - St Peter's Square via 1CC	N/A
	Victoria - St Peter's Square via 2CC	3
	Piccadilly - St Peter's Square	1,4

### Core Inbound Services (Doubles or Single Units) Between Termini and City Centre Destinations

Hourly Capacity	Deansgate-Castlefield and St Peter's Square	Piccadilly Rail Station and Piccadilly Gardens	Market Street and Shudehill	Victoria	Exchange Square
Altrincham	10	5	5	5	0
Eccles	10	10	0	0	0
Bury	5	5	10	10	0
East Didsbury	10	0	0	10	10
Rochdale and Oldham	10	0	0	10	10
Ashton-under-Lyne	5	5	0	0	0

## Option 1

Ref	Core	Journey time (min)
1	Altrincham - Etihad	37
2	Bury – East Didsbury 2CC	52
3	Eccles - Piccadilly	34
4	Rochdale – Ashton-under-Lyne	83
5	Manchester Airport - Deansgate-Castlefield	45
	<b>Daytime</b>	<b>Journey time (min)</b>
6	Altrincham - Bury 1CC	55
7	East Didsbury - Shaw and Crompton 2CC	60
8	MediaCityUK – Piccadilly Rail Station	22
	<b>Connectivity (Core)</b>	<b>Service Ref</b>
	Piccadilly - Victoria	4
	Victoria - St Peter's Square via 1CC	N/A
	Victoria - St Peter's Square via 2CC	2
	Piccadilly - St Peter's Square	1,3

## Option 1: Impact Summary

Customers	Effect
Altrincham	No change
Bury	28% (67,600) of users travelling to the city centre have to walk or interchange to Piccadilly.
Rochdale and Oldham	Rochdale and Oldham customers gain a 12 minute services to Piccadilly. Ticket sales demonstrate that 13.1% (5,078) wish to travel to Piccadilly directly. 18% (28,800) of customers travelling to St Peter's Square and Deansgate-Castlefield are inconvenienced by doubling of headway.
Ashton-under-Lyne	Ashton-under-Lyne customers lose connection to St Peter's Square and Deansgate Castlefield which accounts for 28% (21,200) of all customers.
Eccles	Eccles line customers – Eccles line customers lose connection to Ashton-under-Lyne line destinations.
East Didsbury	East Didsbury customers gain link to Bury line destinations.

## Option 2

Ref	Core	Journey time (min)
1	Altrincham - Bury 2CC	53
2	East Didsbury – Ashton-under-Lyne	58
3	Eccles - Piccadilly	34
4	Rochdale - Etihad Campus	61
5	Manchester Airport - Deansgate-Castlefield	45
<b>Daytime</b>		<b>Journey time (min)</b>
6	Altrincham - Bury 1CC	55
7	East Didsbury - Shaw and Crompton 2CC	60
8	MediaCityUK – Piccadilly Rail Station	22
<b>Connectivity (Core)</b>		<b>Service Ref</b>
Piccadilly - Victoria		4
Victoria - St Peter's Square via 1CC		N/A
Victoria - St Peter's Square via 2CC		1
Piccadilly - St Peter's Square		3

## Option 2: Impact Summary

Customers	Effect
Altrincham	29% (57,600) of Altrincham line customers travelling to the city centre currently alight at either Piccadilly Gardens or Piccadilly Station. They will have to walk or interchange.  Customers gain a direct link to Exchange Square.
Bury	28% (67,200) of Bury line customers travelling to the city centre currently alight at either Piccadilly Gardens or Piccadilly Station. They will have to walk or interchange.  Customers gain a direct link to Exchange Square.
Rochdale and Oldham	Rochdale and Oldham customers gain a 12 minute services to Piccadilly. Ticket sales demonstrate that 13.1% (5,078) customers, based on outbound ticket sales sample, wish to travel to Piccadilly directly. 18% (28,800) based on alighting surveys of customers travelling to St Peter's Square and Deansgate-Castlefield are inconvenienced by doubling of headway.
Ashton-under-Lyne	Ashton-under-Lyne line customers gain a direct service to East Didsbury but lose link to Eccles and MediaCityUK.
Eccles	Eccles line customers lose a direct link to Ashton-under-Lyne line destinations.
East Didsbury	East Didsbury line customers gain a direct link to Piccadilly. Ticket sales demonstrate that 14.2% (5,860) customers based on outbound ticket sales sample of customers wish to travel to Piccadilly directly.

### Option 3

Ref	Core	Journey time (min)
1	Altrincham – Ashton-under-Lyne	59
2	East Didsbury - Bury 2CC	52
3	Eccles - Etihad Campus	40
4	Rochdale – Piccadilly Rail Station	55
5	Manchester Airport - Deansgate-Castlefield	45
	<b>Daytime</b>	<b>Journey time (min)</b>
6	Altrincham - Bury 1CC	55
7	East Didsbury - Shaw and Crompton 2CC	60
8	MediaCityUK – Piccadilly Rail Station	22
	<b>Connectivity (Core)</b>	<b>Service Ref</b>
	Piccadilly - Victoria	4
	Victoria - St Peter's Square via 1CC	N/A
	Victoria - St Peter's Square via 2CC	2
	Piccadilly - St Peter's Square	1,3

### Option 3: Impact Summary

Customers	Effect
Altrincham	Altrincham line customers gain a direct service to Ashton-under-Lyne line destinations.
Bury	28% (67,600) of Bury line customers travelling to the regional centre currently alight at either Piccadilly Gardens or Piccadilly Station. They will have to walk or interchange.  Customers gain a direct link to Exchange Square.
Rochdale and Oldham	Rochdale and Oldham customers gain a 12 minute services to Piccadilly. Ticket sales demonstrate that 13.1% (5,078) of customers wish to travel to Piccadilly directly.
Ashton-under-Lyne	Ashton-under-Lyne line customers gain a direct service to Eccles line destinations but lose a direct connection to Eccles and MediaCityUK.
Eccles	Eccles line customers lose a direct connection to Ashton-under-Lyne line destinations.
East Didsbury	East Didsbury line customers gain a direct service to Bury line destinations but headway to Oldham Rochdale destination double to 12 minutes.

## Option 4

Ref	Core	Journey time (min)
1	Altrincham – Shaw and Crompton (2CC)	61
2	Bury – Piccadilly Rail Station	32
3	East Didsbury – Queens Road (1CC)	36
4	Rochdale – Etihad Campus	67
5	Manchester Airport - Deansgate-Castlefield	45
6	Eccles – Ashton-under-Lyne	63
	<b>Daytime</b>	<b>Journey time (min)</b>
7	Bury – Altrincham (2CC)	55
8	East Didsbury – Deansgate-Castlefield	20
9	MediaCityUK - Piccadilly Rail Station	22
	<b>Connectivity (Core)</b>	<b>Service Ref</b>
	Piccadilly – Victoria	2,4
	Victoria – St Peter’s Square via 1CC	3
	Victoria – St Peter’s Square via 2CC	1
	Piccadilly – St Peter’s Square	6

## Option 4: Impact Summary

Customers	Effect
Altrincham	<p>29% (57,600) of Altrincham line customers travelling to the regional centre currently alight at either Piccadilly Gardens or Piccadilly Station. They will have to walk or interchange.</p> <p>Altrincham line customers gain a direct service to Shaw and Crompton but headways to Bury destination stops double to 12 minutes.</p>
Bury	<p>Headways to Market Street and Shudehill from the Bury line double to 12 minutes. This will inconvenience 39% (94,368) of Bury customers travelling who currently alight at these stops.</p>
Rochdale and Oldham	<p>Rochdale and Oldham customers lose their direct 6 minute service to East Didsbury, but gain a 12 minute service to Piccadilly. Ticket sales demonstrate that 13.1% (5,078) of customers based on outbound ticket sales sample) wish to travel to Piccadilly directly.</p>
Ashton-under-Lyne	No change
Eccles	No change
East Didsbury	<p>One East Didsbury service now terminates at Deansgate-Castlefield, severely limiting access to regional centre destinations and significantly increasing end to end journey time of this busy line.</p> <p>The second service now terminates at Victoria completely severing the link to the Rochdale and Oldham line.</p>