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DATED 24th October 2023

THE COUNCIL OF THE CITY OF MANCHESTER

– and –

MANCHESTER CITY FOOTBALL CLUB LIMITED

AGREEMENT

pursuant to section 106 of the Town and
Country Planning Act 1990 (as amended)
relating to Etihad Stadium (North Stand) Etihad Campus Manchester M11 3FF

City Solicitor
P O Box 532
Town Hall
Albert Square
Manchester M60 2LA
L/AAD/EVD3001/4055

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THIS AGREEMENT is made the 24th day of October 2023

BETWEEN:

(1) **THE COUNCIL OF THE CITY OF MANCHESTER** of Town Hall, Albert Square, Manchester, M60 2LA (the **"Council"**),

(2) **MANCHESTER CITY FOOTBALL CLUB LIMITED** (incorporated in England and Wales with company number 40946) whose registered office is at Etihad Stadium, Etihad Campus, Manchester, M11 3FF (the **"Owner"**)

BACKGROUND

A The Council is the local planning authority for the purposes of the Act in relation to the Site and is the authority by whom the obligations hereby created are enforceable The Development will be carried out on the Site The Site is situated within the Administrative Boundaries of Manchester and this planning obligation is enforceable by the Council

B The Owner is the registered proprietor with title absolute of the leasehold of part of the Site registered under title numbers GM941964, GM972246, MAN371515 and GM973859 at the Land Registry

C Eastlands Development Company Limited is the registered proprietor with title absolute of the leasehold of part of the Site registered under title number MAN226013 at the Land Registry Due to the nature and location of the land ownership and the extent of the Owner's ownership it has been agreed with the Council that Eastlands Development Company Limited do not need to be party to this Agreement

D The Council is the owner of the freehold title of the Site including the land affected by the leasehold title of the Owner but is not entering into the Planning Obligations

E The Application was submitted to the Council for planning permission to carry out the Development in the manner set out in the plans, specifications and particulars forming part of the Application

F The Council as local planning authority is satisfied that the Development is such as may be approved by the Council under the Act and is minded to grant planning permission for the Development in accordance with the Application but having considered the Local Plan and the Regulations is desirous of the Owner entering into this Agreement without which planning permission would not be granted

G The Council has determined that the Development in order to comply with the Local Plan requires the Owner to make a financial contribution towards environmental improvements associated with improving user travel connectivity to the Tennis Centre and/or Squash Centre, to prepare and implement a Community Opportunity Plan, to prepare and implement plans to encourage the use of local labour during the construction and operational phases of the Development, to prepare and

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implement a Waste Collection Scheme and to prepare and implement a First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plans.

H The Owner has agreed to enter into this Agreement in support of the Application so as to create planning obligations in favour of the Council pursuant to section 106 of the Act and to be bound by and observe and perform the covenants hereinafter contained.

I The planning purpose of this Agreement is to improve the amenity of land in the locality of the Site with benefit for the occupiers of the Development and to mitigate the adverse impacts of the Development in accordance with the development plan for the area and other material considerations. The Council is satisfied that the obligations in this Agreement are;

(a) necessary to make the Development acceptable in planning terms (including where appropriate, obligations necessary to mitigate the adverse impacts of the Development in accordance with the development plan for the area and other material considerations);

(b) directly related to the Development; and

(c) fairly and reasonably related in scale and kind to the Development.

J The Owner has additionally agreed to enter into obligations to enhance the identification, coordination and delivery of community outreach projects across the Administrative Boundaries of Manchester. These obligations are contained in Part 7 of Schedule 3 of this Agreement and were not taken into account as material considerations in the determination of the Application.

AGREED TERMS

DEFINITIONS AND INTERPRETATION

1.1 The definitions and rules of interpretation set out in this Clause apply to this Agreement.

"2014 Agreement" means the agreement dated 14 February 2014 between the Council (1) the Owner (2) and Manchester City Investments Limited (3) containing planning obligations under section 106 of the Act that bind such part of the Stadium as specified therein;

"Acting Reasonably" shall mean at all times acting reasonably and in particular without prejudice to generality where any approval or expression of satisfaction is required by this Agreement it will not be unreasonably withheld or delayed;

"Act" the Town and Country Planning Act 1990 (as amended);

"Administrative Boundaries of Manchester" all the wards that together comprise the city of Manchester;

"Agreed Media" shall mean the Football Club's website (travel section) information included with match day programmes, social media (including by way of reference and without limitation facebook and X), billboards / posters (within the campus), supporter's club website, and one local newspaper or other

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such forms and modes of media as the Owner and the Council may agree from time to time in addition to or substitution of some or all of the identified media;

"Agreement" shall mean this agreement;

"Annual City Community Outreach Plan" means an annual plan that provides for the identification, coordination and delivery of community outreach and educational projects to be undertaken by the Football Club outside the Site and within the Administrative Boundaries of Manchester;

"Annual Programme" shall mean the annual schedule of Community Uses to be agreed in writing between the Council and the Owner and including but not by way of limitation a programme setting out:

- the list of Community Use providers;
- the timetable of Community Uses and the Community Use Areas that will take place during the first and subsequent Terms;
- the timetable for Community Outreach Work and the Community Outreach Work Areas where it will take place for the First Term and subsequent Terms;

subject always to the priority needs of the Owner and that the Owner complies with the provisions contained in Clause 19 and "Annual Programmes" shall be construed accordingly;

"Application" the application to which the Council gave the reference 136763/FO/2023 for planning permission for alterations to the Etihad Stadium North Stand and adjoining land to provide an overall increase in Stadium capacity, hospitality, and concourse facilities available for use both during and outside of event days, an ancillary TV Studio (Sui Generis), a Roof-Walk Attraction (Use Class F1(c)) together with the erection of a 9 storey, 391 bed hotel (Use Class C1) with a further 10 suites provided within the North Stand of the Etihad Stadium for hotel or hospitality space (Use Class C1 / Sui Generis); restaurant at Level 1 (Use Class C1 / Class E), erection of an 8-storey building comprising: a new Club Shop and Ticket Office (Use Class E) at Ground and Level 1, City Museum at Level 2, Leisure Attraction at Level 3 (Class F1(c)); and workspace (Class E) at Levels 4, 5, 6 and 7 and a new covered City Square fan zone and flexible event space with ground floor commercial, leisure, food and drink use (Use Class E and/ or drinking establishment (Sui Generis)) within each of the interrelated buildings adjoining the proposed square with associated landscaping and public realm works, servicing and access arrangements, and other associated works;

"Arena" means the multi-use arena as shown for identification purposes edged green on the plan appended at part 2 of Schedule 1 to this Agreement;

'**"City Centre to Etihad Campus Walk Route"** means the walking route shown for identification purposes edged red on the plan appended at part 3 of Schedule 1;

"City Hall" shall mean the area which is part of the Site as shown for identification purposes edged green on the plan appended to Part 10 of Schedule 1;

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"City Museum" means the area which is part of the Site as shown for identification purposes edged green on the plan appended to Part 12 of Schedule 1;

"Combined Ticket Initiative" shall mean an initiative to be implemented by the Football Club to explore and promote combined ticketing opportunities to encourage travelling to and from the Stadium by public transport and not by cars the details of which shall be first subject to submission by the Owner and approval by the Council as a requirement of this Agreement as part of the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plans as applicable;

"Commencement of Development" the date upon which the Development shall begin by the carrying out of a material operation in accordance with the provisions of section 56(4) of the Act PROVIDED THAT any works of or associated with site clearance, remediation works, environmental or archaeological investigations, site and soil surveys, erections of contractors work compound, erection of site office, erection of fencing to site boundaries, marking of site boundaries and laying out of access roads and services shall for the purposes of the agreement be deemed not to be material operations and **"Commence"**, **"Commencement"** and **"Commenced"** shall be construed accordingly. Commencement will be deemed to have taken place whether it takes place on the Site or on the land adjacent to the Site;

"Community Opportunity Plan" means the document submitted each Term by the Owner and approved in writing by the Council which shall be in accordance with the Community Opportunity Key Indicators Plan (unless otherwise agreed between the parties) and shall include by way of reference and without limitation details of:

- Subject to paragraphs 1, 3 and 5 of part 3 of Schedule 3 of this Agreement objectives and targets for the Community Uses and Community Outreach Work for the First Term and subsequent Terms as applicable;
- The Annual Programme;
- Access arrangements to Community Use Areas and Community Outreach Work Areas as applicable;
- Promotion and advertisement of the Community Opportunity Plan by the Owner for the Term;
- Management and monitoring arrangements of the Community Opportunity Plan for each Term;
- A mechanism to review the Community Opportunity Plan before the end of each Term and in case of emergency. This will be triggered upon written notification of either the Owner or the Council Acting Reasonably and will be submitted to and approved in writing by the Council Acting Reasonably. The procedure that will be followed will be in accordable with paragraph 10 of part 3 of Schedule 3 to this Agreement.

Provided that any such document shall relate also to other areas of the Stadium as required pursuant to the 2014 Agreement and for the avoidance of doubt the agreed Community Opportunity Plan shall

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at all times supersede any targets and/or requirements referenced in the Community Opportunity Key Indicators Plan;

Community Opportunity Key Indicators Plan" shall mean the document appended to Appendix 5 of the 2014 Agreement;

"Community Outreach Work" shall mean all the Community Uses to take place each Term at the Community Outreach Work Areas which will constitute a minimum of 120 hours per week (in relation to the Stadium as a whole) in accordance with the Community Opportunity Key Indicators Plan and paragraph 5 of part 3 of Schedule 3 to this Agreement;

"Community Outreach Work Areas" shall mean all the areas identified and submitted in writing as part of the first and subsequent Community Opportunity Plans by the Owner to the Council for its written approval where Community Outreach Work will be provided for the First Term and subsequent Terms;

"Community Use Areas" means all the areas within the Development that will be made available by the Owner for Community Uses in accordance with the Community Opportunity Plan and Part 3 of Schedule 3 of this Agreement including but not limited to:

- The North Stand's Concourses and Forecourts
- The North Stand's Lounge
- The City Hall
- The Roof-Walk Attraction
- The City Museum
- Any other areas within the Site identified in the Community Opportunity Plan in place from time to time;

"Community Uses" shall mean any sporting recreational educational social or other uses of the Community Use Areas by members of the community and **"Community Use**" shall be construed accordingly;

"Completion of Construction" the date upon which a valid certificate of completion shall have been issued in respect of the Development for the purposes of the Building Act 1984 and the Building Regulations 2010 or any amendment or replacement of the same and "Complete" and "Completion" shall be construed accordingly;

"Core Strategy" means the Manchester Core Strategy (adopted 11th July 2012) which is the key document in the Council's Local Development Framework and details the Council's vision for the development of Manchester during the period 2012 to 2027;

"Customers" shall mean those people attending a Large Scale Event or attending or using the Stadium;

"Development" the development undertaken on the Site pursuant to the Planning Permission as specified in the Application and "Developed" shall be construed accordingly;

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"East Manchester" means the wards of Ancoats and Beswick, Gorton and Abbey Hey, Clayton and Openshaw, Ardwick, Miles Platting and Newton Heath and any other such other ward or wards as may substantially replace any of them;

"Equipment" means any machinery or apparatus or facilities in general that are not fitted, fixed or located from time to time within the Development or are not provided free of charge by the Football Club, including by way of reference but without limitation audiovisual systems;

"Etihad Campus" means the land as shown for identification purposes edged red on the plan appended at part 4 of Schedule 1 to this Agreement;

"Expert" a professional expert in town planning, who is a Chartered Member of the Royal Town Planning Institute with a minimum of ten (10) years post-qualification experience;

"First Stadium Traffic & Transport Management Plan" shall mean the first document submitted by the Owner and approved by the Council in accordance with part 6 of Schedule 3 of this Agreement, which will include, not by way of limitation, information and detail of the following works, measures and other requirements designed together with the timing of implementation and duration of those works, measures and requirements to bring about a modal shift in the use of public transport and walking routes more particularly the provision of:

- Targets and objectives for encouraging Customers to use other means of transport rather than cars for the First Term
- The Stadium Travel Opportunities
- The Combined Ticket Initiative
- The Staff Travel Plan
- The Transport Promotion Measures
- Details of the periods for which and where, by reference to a plan showing their location, traffic marshalls provided by the Owner will be in place in order to facilitate and encourage Customers to use the City Centre to Etihad Campus Walk Route prior to and after any event taking place on the First Term and subsequent Terms as applicable
- Details of the Monitoring Strategy for the First Stadium Traffic & Transport Management Plan
- Details of measures to promote and advertise the approved First Stadium Traffic & Transport Management Plan prior to and during the First Term
- Annual review of the First Stadium Traffic & Transport Management Plan, including information about modes of transport used and numbers of Customers visiting the Stadium on the date when each Large Scale Event took place during the First Term and the attendances at each Large Scale Event during the First Term, conclusions and recommendations
- Provision for revision of the First Stadium Traffic & Transport Management Plan in the event that targets set out in the First Stadium Traffic & Transport Management Plan are not met and

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need to be reviewed before the end of the First Term and if appropriate having regard to all relevant circumstances at that time with a commitment to consider alternative measures to pursue and deliver those targets if and where practicable. This will be triggered upon written notification of either the Council or the Owner Acting Reasonably and will be submitted to and approved in writing by the Council, Acting Reasonably. The procedure that will then be followed will be in accordance with paragraphs 7 and 8 of part 3 of Schedule 3 to this Agreement

And the First Stadium Traffic & Transport Management Plan will apply to the Stadium as a whole;

"First Term" shall mean the period of 12 months commencing on first Occupation or such other period specified in this Agreement or agreed with the Council which may for the avoidance of doubt align with the Football Season;

"Football Club" shall mean the Owner or any other football club that uses the Stadium including, not by way of limitation, any such football club or international team using the Stadium by invitation of the Football Club or sharing the use of the Stadium with the Football Club or as a successor to the Football Club;

"Football Season" shall mean the annual football match season as sanctioned and determined each year by the Football Association Limited of England and Wales;

"Greater Manchester Authorities" means the metropolitan authorities of Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside and Trafford;

"Index Linked" adjusted on an annual basis or pro rata per diem from the date of this Agreement to the relevant date of payment in accordance with the Retail Price Index and "Index Linking" shall be construed accordingly;

"Interest" interest at 4% (four per cent) above the base lending rate of the Bank of England from time to time;

"Large Scale Event" shall mean any Football Club home match or any other event in the Stadium for which the anticipated gates are expected to exceed 47,670 (forty seven thousand six hundred and seventy) spectators (or such other capacity agreed between the Owner and the Council);

"Local Benefit Proposal Construction" a document demonstrating the Owner's commitment to recruit local labour for the construction phase of the Development, which includes.

- Measures to promote recruitment of local people for the duration of the construction of the Development (including apprenticeships) with priority being given to residents of East Manchester, then to residents of the wards within the Administrative Boundaries of Manchester, and then to residents of any of the other Greater Manchester Authorities
- Mechanisms for the implementation and delivery of these measures, and

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- Measures to monitor and review the effectiveness of the measures in achieving the objective of recruiting and supporting local labour objectives during the construction of the Development;

"Local Benefit Proposal End Use" a document outlining the approach to local recruitment for the end use of the Development, which includes

- Measures to promote recruitment of local people for the end uses of the Development (including apprenticeships) with priority being given to residents of the East Manchester, then to residents of the wards within the Administrative Boundaries of Manchester, and then to residents of any of the other Greater Manchester Authorities
- Mechanisms for the implementation and delivery of these measures, and
- Measures to monitor and review the effectiveness of the measures in achieving the objective of recruiting and supporting local labour objectives for the end uses of the Development

"Local Plan" includes the Core Strategy adopted by Manchester City Council on 11 July 2012, the extant Unitary Development Plan policies and all other relevant strategic planning documents adopted by Manchester City Council;

"**Management Company**" means Sports City Management Company Ltd or such replacement and/or successor entity appointed by the Owner and notified to the Council who is responsible for the management of the Stadium;

"Management Fee" shall mean 15% of the planning application fee which equates to £18,353.55 (eighteen thousand three hundred and fifty three pounds and fifty five pence) to be used for the purpose of monitoring and reporting on the delivery of this Agreement and the Planning Obligations contained herein;

"Monitoring Strategy" shall mean the strategy proposed by the Owner and agreed by the Council which will be submitted as part of the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plan to monitor and manage the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plan applicable from time to time;

"North Stand's Concourses and Forecourts" means the North Stand concourse area shown for identification purposes edged green on the plan marked "Plan 8A" and the North Stand Forecourt shown for identification purposes edged green on plan marked "Plan 8B" which are part of the Site, both plans being appended to Part 8 of Schedule 1

"North Stand's Lounge" shall mean the areas which are part of the Site as shown for identification purposes edged green on the plan appended to Part 9 of Schedule 1

"Occupation" means occupation of any part of the Development for the purposes permitted by the Planning Permission but does not include use by personnel whilst engaged in construction, fitting out

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or decoration of the Development or occupation for marketing or display or occupation in relation to security operations and "Occupy" and "Occupied" shall be construed accordingly;

"**Owner's Charity**" means Manchester City F.C. City in the Community Foundation (Charity number 1139229) or such other charitable foundation created and/or linked to the Owner from time to time.

"Plan" the plan attached to the Agreement at part 1 of Schedule 1;

"Planning Obligations" shall mean the obligations of the Owner specified in the Schedules;

"Planning Permission" the planning permission granted pursuant to the Application substantially in the form as appended at Schedule 2 and as may be amended by any non-material amendment;

"Regulations" the Community Infrastructure Levy Regulations 2010 (as amended);

"Retail Price Index" twelve (12) month percentage change in the All Items Retail Price Index published by the Office for National Statistics Centre and in the Monthly Digest of Statistics (or contained in any official publication substituted therefor) or such other index as may from time to time be published in substitution therefor;

"Roof-Walk Attraction" means the area which is part of the Site as shown for identification purposes edged green on the plan appended to Part 11 of Schedule 1;

"Season Ticket" means a ticket which is valid for use by the bearer to gain admission to the Stadium for all Football Club home league matches for the forthcoming Football Season and "Season Tickets" shall be construed accordingly;

"Site" the property described in part 1 of Schedule 1 and shown for the purposes of identification only edged red on the Plan;

"Squash Centre" means the National Squash Centre and Regional Athletics Arena located at the Etihad Campus as shown for identification purposes edged green on the plan with appended at Part 6 of Schedule 1 to this Agreement;

"Stadium" means the Etihad Stadium inclusive of the Development as shown for identification purposes edged green on the plan appended at Part 5 of Schedule 1 to this Agreement;

"Stadium Traffic & Transport Management Plan" shall mean the documents to be submitted each Term by the Owner and approved by the Council in accordance with paragraphs 6 to 9 of part 6 of Schedule 3 of this Agreement which not by way of limitation will:

- revise and analyse the implementation and effectives of all measures and works that have been included in the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plan;
- include based on previous reviews such targets works and measures as required to meet outstanding and ongoing objectives of the First Stadium Traffic & Transport Management Plan or other Stadium Traffic & Transport Management Plan as applicable;
- include the Monitoring Strategy for the Term;

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- include details of measures to promote and advertise each Stadium Traffic & Transport Management Plan before and for the duration of each Term that is applicable;

and "Stadium Traffic & Transport Management Plans" shall be construed accordingly and the Stadium Traffic & Transport Management Plan will apply to the Stadium as a whole;

"Stadium Travel Opportunities" shall mean the measure to be promoted by the Owner to encourage Customers to use public transport or walk to and from the Stadium and discourage them from using their cars as set out in the Transport Assessment and Travel Plan the details of which shall be subject to submission by the Owner and approval by the Council as a requirement of this Agreement as part of the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plan as applicable;

"Staff Travel Plan" shall mean the plan to be submitted by the Owner and approved by the Council for the Owner to promote more sustainable travel for staff employed at the Stadium and which shall be subject to submission by the Owner and approval by the Council as a requirement of this Agreement as part of the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plans as applicable;

"Tennis Centre" means the Manchester Tennis & Football Centre located at the Etihad Campus as shown for identification purposes edged green on the plan appended at Part 7 of Schedule 1 to this Agreement;

"Tennis Centre and Squash Centre Travel and Parking Improvements Contribution" the sum of £400,000 (four hundred thousand pounds) Index Linked towards environmental improvements associated with improving user travel connectivity to the Tennis Centre and/or Squash Centre;

"Term" shall mean a period of 12 months commencing each year on the anniversary of the First Term or such other 12 month period agreed with the Council which may for the avoidance of doubt align where practicable with the Football Season;

"Transport Assessment and Travel Plan" means the plans appended to this Agreement as Appendix 1;

"Transport Promotion Measures" shall mean measures to be promoted by the Owner to encourage the use of public transport by Customers to the Stadium utilising:

- Bus, minibus or coach
- Train
- Metrolink
- Active travel (cycling and walking)

as further specified in the Transport Assessment and Travel Plan details of which are first to be submitted to and approved by the Council pursuant to the terms of this Agreement as part of the First Stadium Traffic & Transport Management Plan and subsequent Stadium Traffic & Transport Management Plans as applicable;

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"Waste Collection Scheme" a scheme which shall include, but shall not be limited to, details of

- The area covered by the scheme;
- Specified dates and a timetable for the collection of waste;
- Contact details of the person/company employed by the Owner to implement, monitor and manage the scheme; and
- Provision for revision of the scheme (including but not limited to the area covered by the scheme) where targets are not met.

And the Owner shall submit a scheme that relates to the Stadium as a whole;

“Working Day” means any day except Saturday Sunday or a bank holiday and reference to “Working Days” shall be construed accordingly.

1.2 The Clause headings do not affect this interpretation.

1.3 Unless otherwise indicated, references to Clauses and Schedules are to Clauses of and Schedules to this Agreement and references in a Schedule to a Part or Paragraph are to a Part or Paragraph of that Schedule.

1.4 References to any statute or statutory provision include reference to:

1.4.1 all Acts of Parliament and all other legislation having legal effect in the United Kingdom as directly or indirectly amended, consolidated, extended, replaced or re-enacted by any subsequent legislation; and

1.4.2 any orders, regulations, instruments or other subordinate legislation made under that statute or statutory provision.

1.5 Except for the provisions of Clause 9 references to the Site include any part of it.

1.6 References to any party in this Agreement include the successors in title of that party. In addition, references to the Council include any successor local planning authority exercising planning powers under the Act and any successor local highway authority exercising powers under the Highways Act 1980.

1.7 **“Including”** means **“including, without limitation”**.

1.8 Any covenant by the Owner or the Council not to do any act or thing includes a covenant not to permit or allow the doing of that act or thing.

1.9 If any provision is held to be illegal, invalid or unenforceable, the legality, validity and enforceability of the remainder of this Agreement is to be unaffected.

1.10 Words importing the singular meaning where the context so admits include the plural meaning and vice versa.

1.11 Words of the masculine gender include the feminine and neuter genders and words denoting actual persons include companies, corporations and firms and all such words shall be construed interchangeable in that manner.

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2 **PLANNING OBLIGATION**

This Agreement is made pursuant to section 106 of the Act, section 111 of the Local Government Act 1972, section 1 of the Localism Act 2011 and all other enabling legislation and is a planning obligation for the purposes of section 106 of the Act, with the intent that covenants hereinafter contained shall be enforceable by the Council acting under the powers contained in section 106 or such other enabling powers against the Owner.

3 **CONDITION PRECEDENT**

This Agreement is conditional upon the grant of the Planning Permission and Commencement of Development save for the provisions of Clauses 4, 9.1, 9.2, 9.3, 11, 12, 15, 17 and 18, which shall have immediate effect.

4 **CONDITION SUBSEQUENT**

If the Planning Permission for the Development has not been implemented by the carrying out of a material operation in accordance with the provisions of sections 56, 91 and 93 of the Act or is revoked or modified in whole or in part (other than in approval of an application by or on behalf of the Owner) or quashed or declared unlawful as a result of legal proceedings then this Agreement shall absolutely determine and become null and void but without prejudice to the rights of either party against the other in respect of any antecedent breach.

5 **THE OWNER'S COVENANTS**

The Owner on behalf of themselves and any person deriving title to any part of the Site from the Owner hereafter hereby covenant with the Council so as to bind the Site to fully observe and perform the obligations on their part contained in this Agreement including those obligations set out in Schedule 3 and hereby agree that the Site shall be permanently subject to the obligations, restrictions and provisions specified herein, such obligations being planning obligations for the purpose of section 106 of the Act.

6 **THE COUNCIL'S COVENANTS**

The Council hereby covenants with the Owner to observe and perform the obligations on its part in this Agreement including those obligations set out in Schedule 3.

7 **DISPUTE RESOLUTION**

7.1 In the event of any dispute arising in connection with any of the terms of this Agreement other than a dispute involving the construction or interpretation of the terms of this Agreement or the enforcement of any decision pursuant to this Clause, the same shall, unless the Council and the Owner otherwise agree, be referred to an Expert to be appointed by agreement between the Council and the Owner.

7.2 If the Council and the Owner are unable to agree on the appointment of an Expert within thirty (30) days of one party serving notice on the other calling for the appointment of an Expert, then an Expert shall be appointed on the application of either party to the President for the time being of the Royal Town Planning Institute.

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7.3 Any reference of a dispute to an Expert shall if the parties are agreed in writing be deemed to be a reference to an expert (and not to an arbitrator) whose decision shall be final and binding (save for manifest error) but shall otherwise be deemed to be a reference to an arbitrator pursuant to the Arbitration Act 1996 and any statutory amendment variation substitution or re-enactment thereof.

7.4 Any party to this Agreement shall be entitled to submit to the Expert representations and cross-representations with such supporting evidence as they shall respectively consider necessary and the Expert shall have regard thereto in making their decision which shall be delivered in writing. The reference of any dispute shall include authority to determine in what manner all the costs of the referral shall be paid.

8 **WAIVER**

No waiver (whether expressed or implied) by the Council of any breach or default in performing or observing any of the covenants terms or conditions of this Agreement shall constitute a continuing waiver and no such waiver shall prevent the Council from enforcing any of the relevant terms or conditions or from acting upon any subsequent breach or default.

9 **CHANGE IN OWNERSHIP & LIABILITY**

9.1 The Owner agrees with the Council to give the Council immediate written notice of any change in ownership of any of their interests in the Site occurring before all the obligations under this Agreement have been discharged such notice to give details of the transferee's full name and registered office (if a company or usual address if not) together with (unless the purchase relates to the entirety of the Site) the area of the Site or unit of occupation purchased by reference to a plan.

9.2 No person shall be liable for any breach, non performance and non observance of the covenants, obligations and restrictions contained in this Agreement after it shall have parted with its entire interest in the Site but without prejudice to liability for any subsisting breach arising prior to parting with such interest nor shall this hinder or preclude the Council's rights as the Local Planning Authority to require that the breach, non performance or non observance be remedied after that person has parted with its interest in the Site.

9.3 The Planning Obligations shall not bind a statutory undertaker who is the owner of any part of the Site for the purpose of its statutory undertaking.

10 **COUNCIL'S CONSENT OR APPROVAL**

Where in this Agreement the consent, agreement or approval of the Council is required to be given by the Council, the Council confirms that such consent, agreement or approval shall not be unreasonably withheld or delayed provided that this shall not fetter the proper discretion of the Council.

11 **LOCAL LAND CHARGE**

11.1 This Agreement is a Local Land Charge and shall be registered as such by the Council.

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11.2 The Council will upon receipt of a written request of the Owner or their successors in title, at any time after the obligations set out herein have been fulfilled in their entirety, issue written confirmation thereon and thereafter cancel all related entries in the register of local land charges.

11.3 The costs of registration and cancellation pursuant to Clause 11.2 above shall be met by the Owner if requested by the Council.

12 **NON-PROHIBITION ON DEVELOPMENT**

Nothing in this Agreement shall prohibit or limit the right to develop any part of the Site in accordance with a planning permission (other than the Planning Permission) granted (whether or not on appeal) after the date of this Agreement.

13 **THE CONTRACTS ACT**

Save as provided in respect of the successors in title to the Site or any successor to the relevant statutory functions of the Council this Agreement shall not be enforceable by any third party pursuant to the Contracts (Rights of Third Parties) Act 1999 and no third party shall acquire any benefit rights or claims whatsoever pursuant thereto.

14 **COMMUNICATION**

14.1 Any notice or document to be served on or sent pursuant to this Agreement shall either be delivered personally or sent by recorded delivery service:

14.1.1 to the Council and addressed to the City Solicitor at the Council's address first above written;

14.1.2 to the Owner at their last known addresses.

15 **FEES**

15.1 The Owner shall pay to the Council on the date hereof its legal fees reasonably and properly incurred in preparation of this agreement;

15.2 Receipt by the Council of the payment of such sum shall not create any lawyer-client type contractual relationship between the Council and the Owner nor absolve the Owner from any liability or obligation imposed upon them by the terms of this Agreement or by statute or at common law;

15.2 The Owner shall pay to the Council on the date hereof the Management Fee.

16 **INTEREST**

If any payment due under this Agreement is paid late Interest will be payable from the date payment is due to the date that payment is received.

17. **JURISDICTION**

This Agreement is governed by and interpreted in accordance with the law of England.

18 **COMPLETION**

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The provisions of this Agreement (other than this Clause which shall be of immediate effect) shall be of no effect until this Agreement has been dated.

19 **COMMUNITY USES**

19.1 Without prejudice to the generality of the obligations upon the Owner in part 3 of Schedule 3 to this Agreement:

19.1.1 The Owner agrees with the Council in respect of the operation of the Community Uses not by way of limitation that when agreeing the Annual Programme with the Council the Owner will factor into the Community Opportunity Plan that is applicable from time to time all of the known dates (at that time) of required use of any of the Community Use Areas by the Owner and therefore dates that are known by the Owner at that time to not be available for Community Use in connection with the Community Opportunity Plan of that Term;

19.1.2 As part of complying with their obligations under part 3 of Schedule 3 of this Agreement the Owner further covenants with the Council that the Owner will provide the Council with details of all known or anticipated dates of use and maintenance by the Owner of any of the Community Use Areas so as to minimise any conflict with programmed dates for Community Use under the Community Opportunity Plan applicable from time to time;

19.1.3 In the event that the Owner requires that use by the Owner of any of the Community Use Areas or maintenance work to be carried out by the Owner will occur on a date that conflicts with a date of Community Use under the Community Opportunity Plan or otherwise prohibits or materially impacts upon such Community Use the Owner shall give prior written notice to the Council in accordance with Clause 14 to cancel that date of Community Use under the Community Opportunity Plan in place giving details of such conflict, prohibition or impact SUBJECT TO;

a) providing as much prior notice as is practicable in the circumstances and in any event not less than 7 (seven) days notice save in circumstances where less notice is otherwise reasonable having regard to all relevant circumstances;

b) setting out in such notice or thereafter in writing as soon as reasonable practicable the reason for cancellation and the offer of an alternative date or dates at a similar time of day to replace the date they are cancelling and where feasible on a date or dates that fall within the same Term.

EXECUTED as a deed by the parties on the day and year first hereinbefore appearing.

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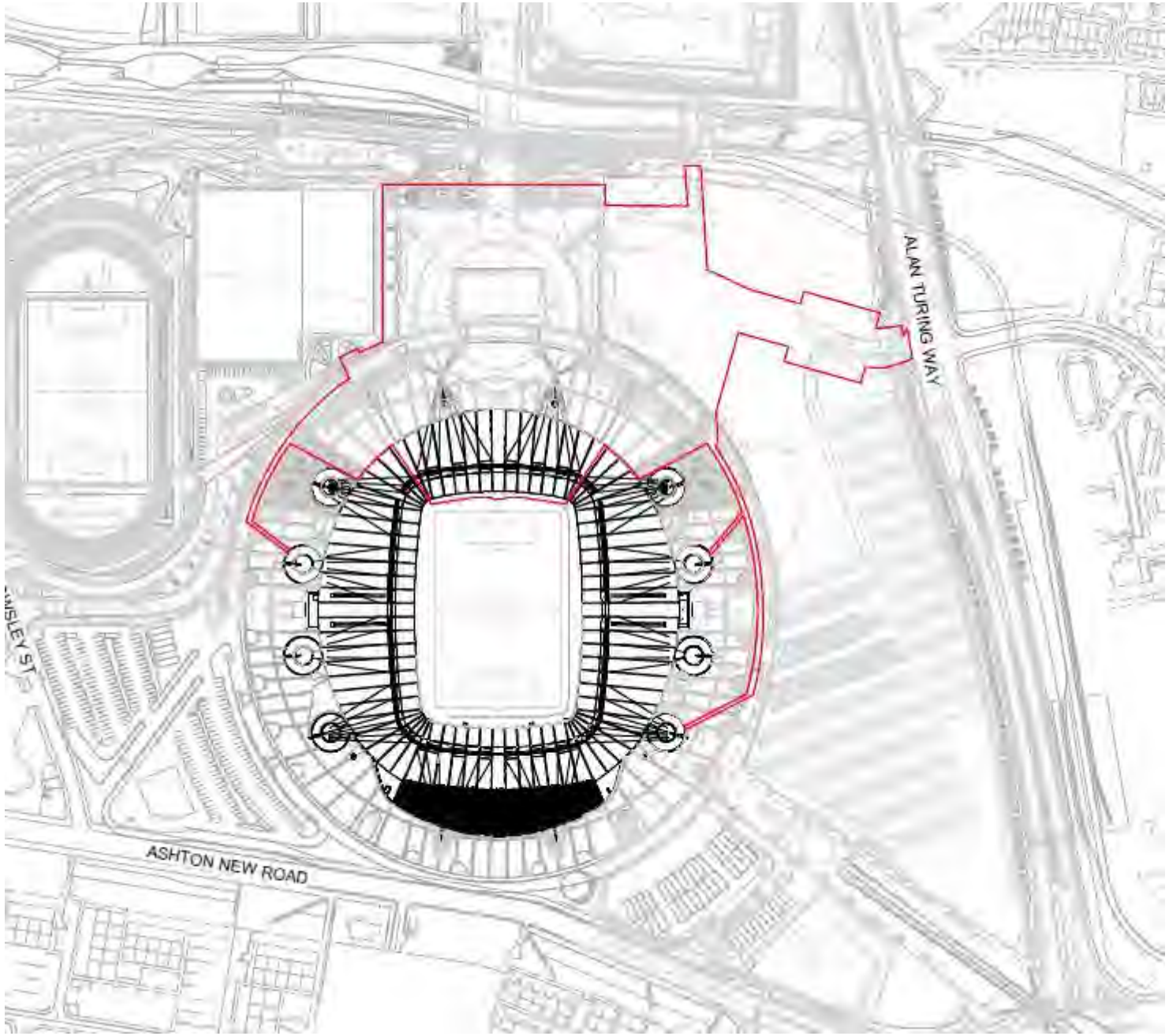
SCHEDULE 1

PART 1

The Site

Etihad Stadium (North Stand) Etihad Campus Manchester M11 3FF and shown for the purposes of identification only edged red on the Plan.

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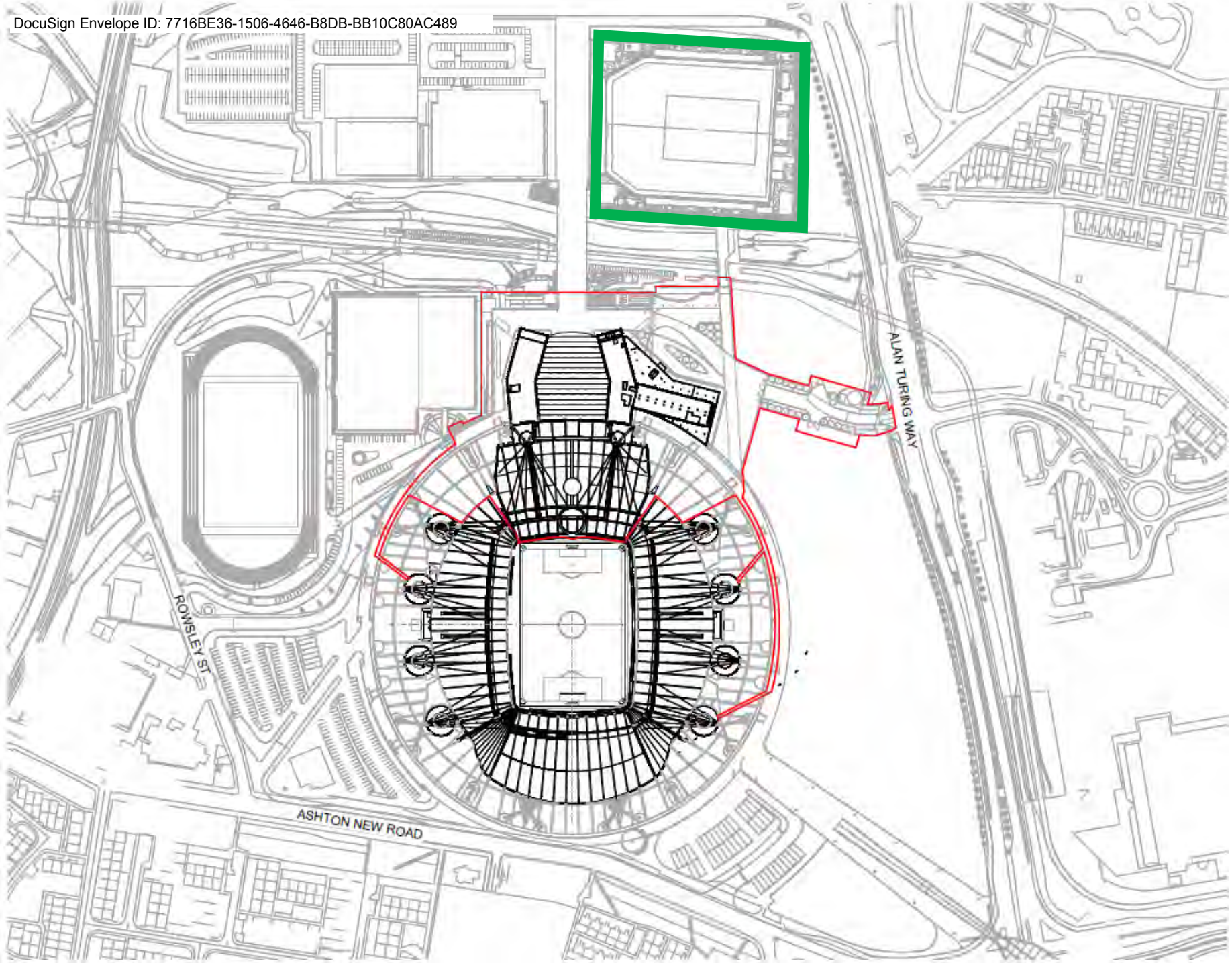
Plan 1
The Site

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PART 2

The Arena

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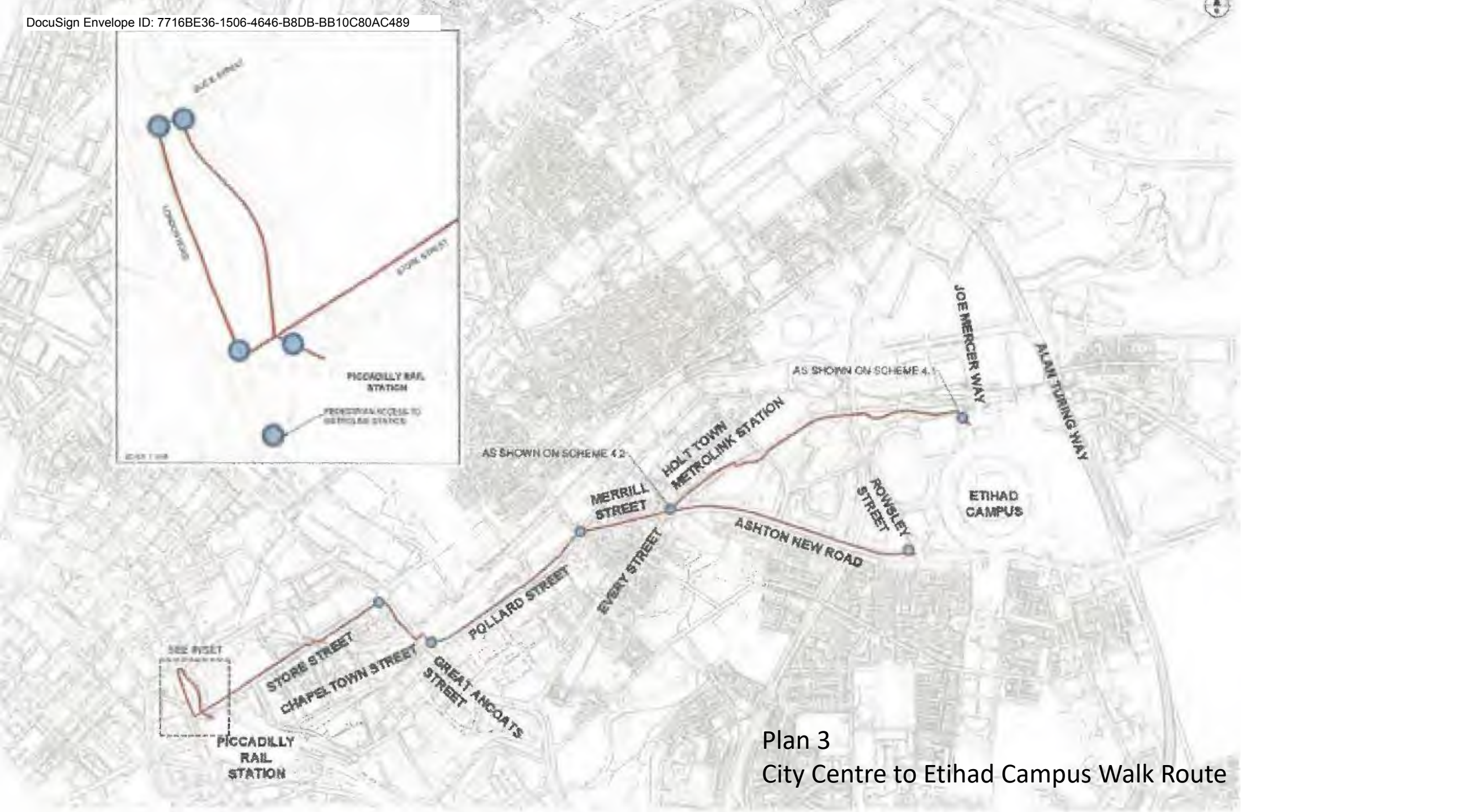
Plan 2
The Arena

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PART 3

City Centre to Etihad Campus Walk Route

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Plan 3
City Centre to Etihad Campus Walk Route

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PART 4

Etihad Campus

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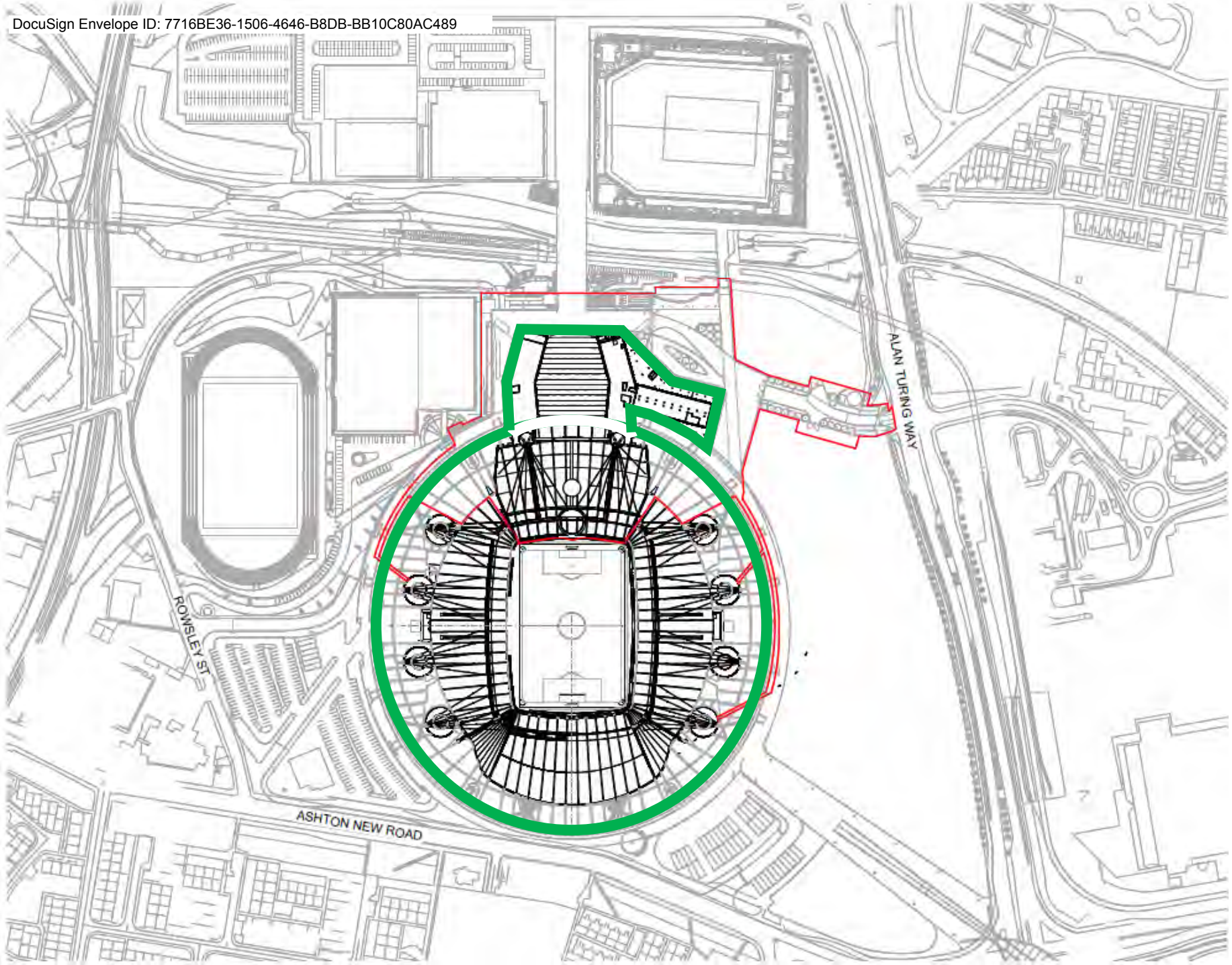
Plan 4
The Etihad Campus (Edged Red)

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PART 5

The Stadium

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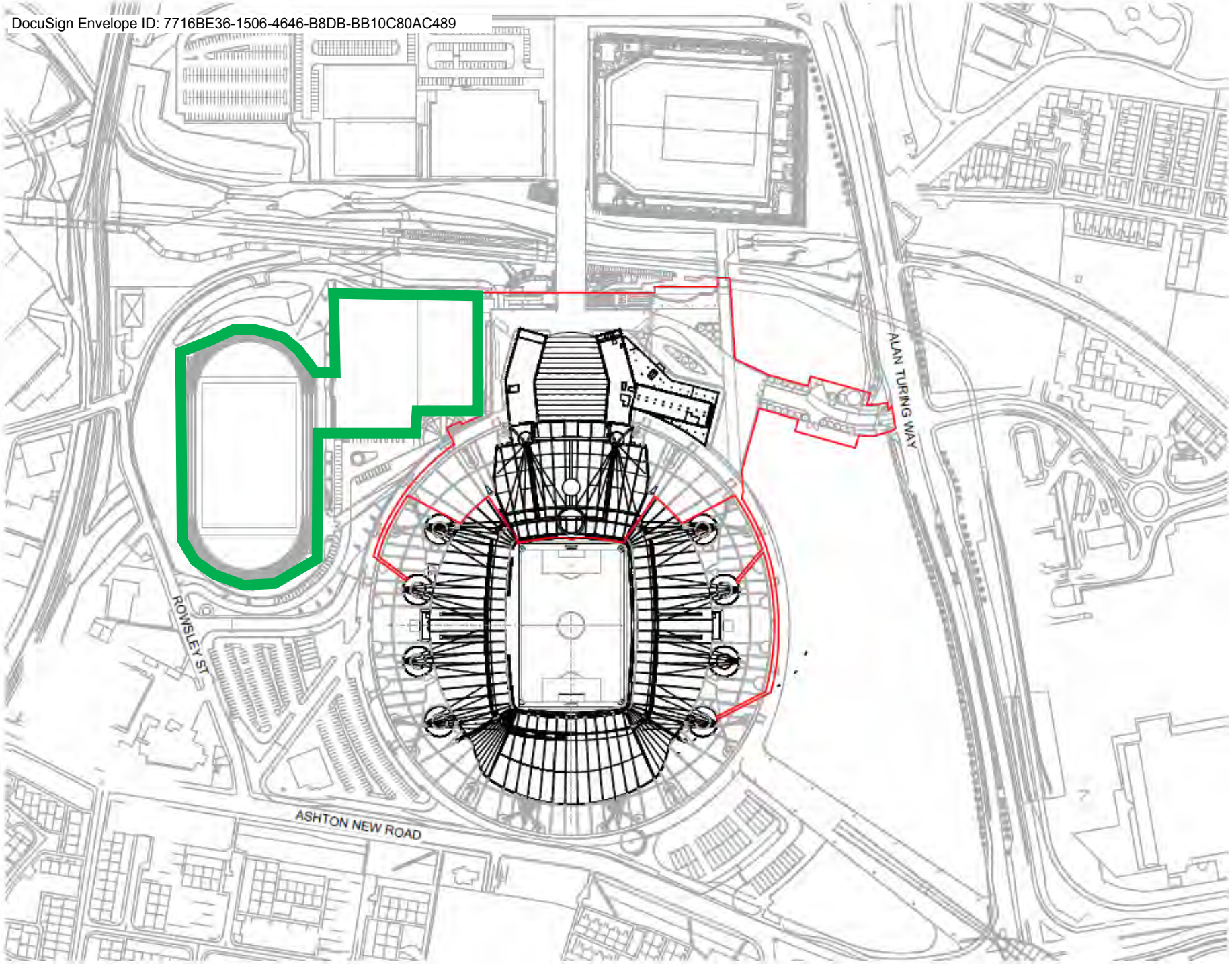
Plan 5
The Stadium

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PART 6

The Squash Centre

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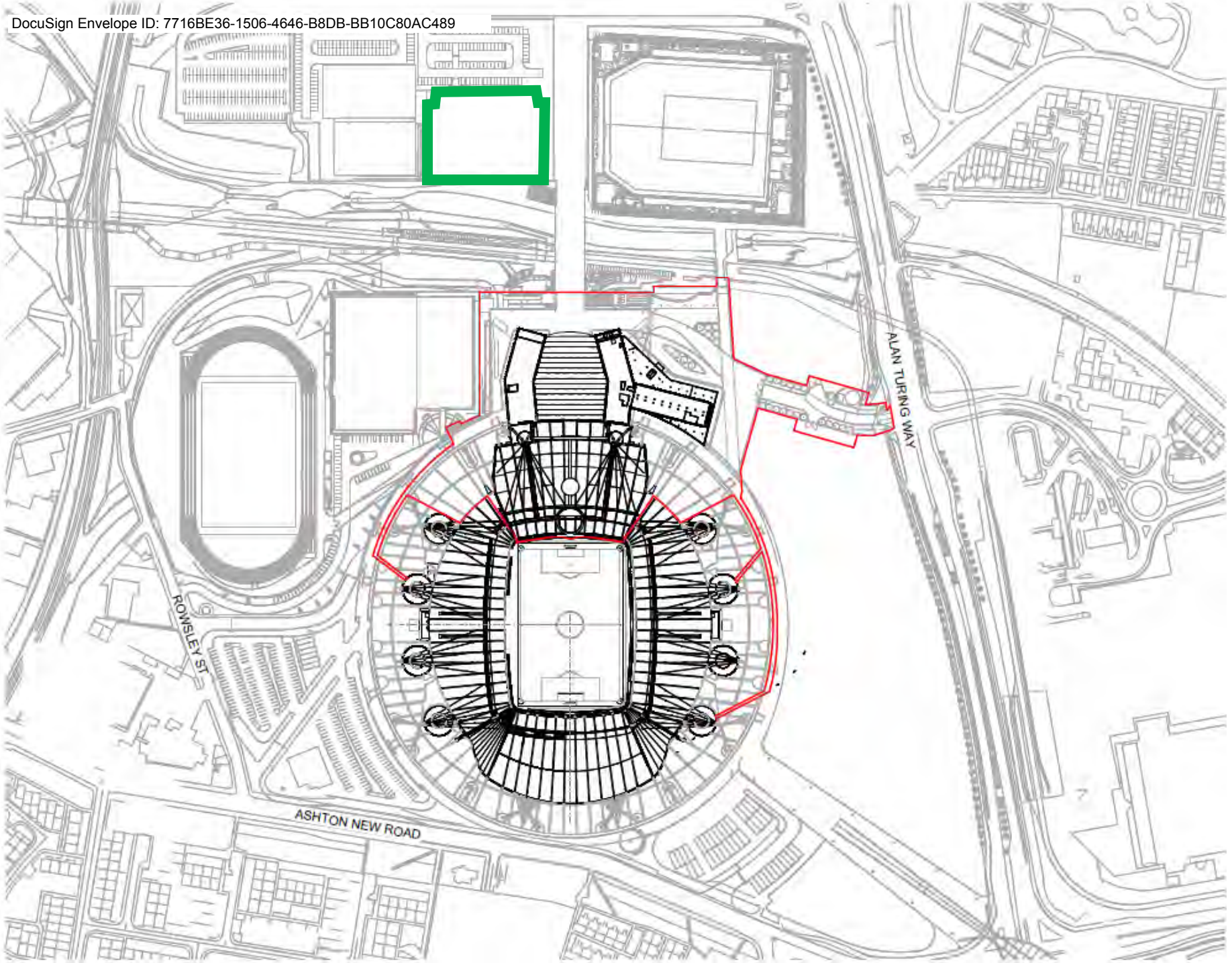
Plan 6
The Squash Centre

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PART 7

The Tennis Centre

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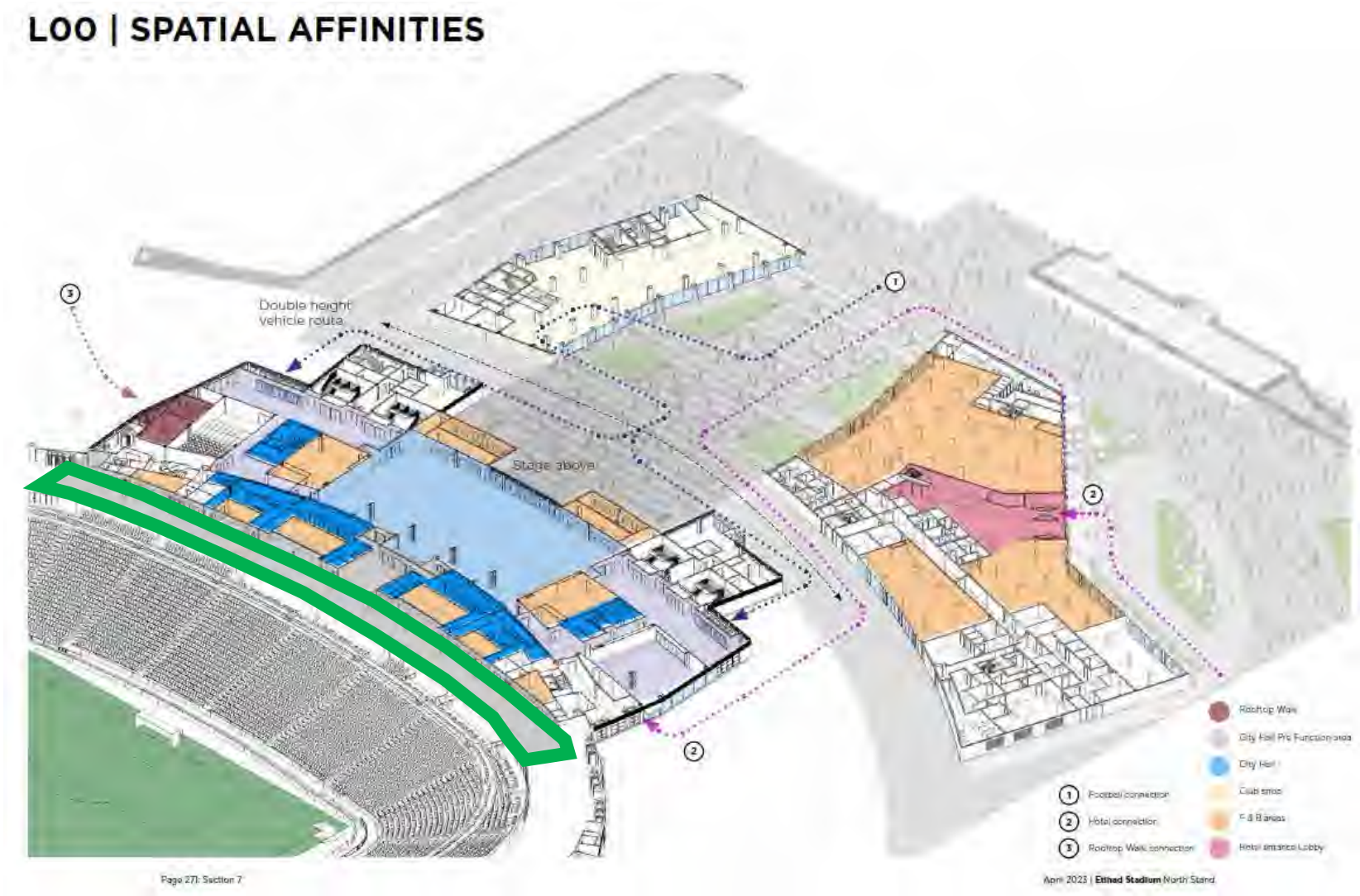
Plan 7
The Tennis Centre

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PART 8

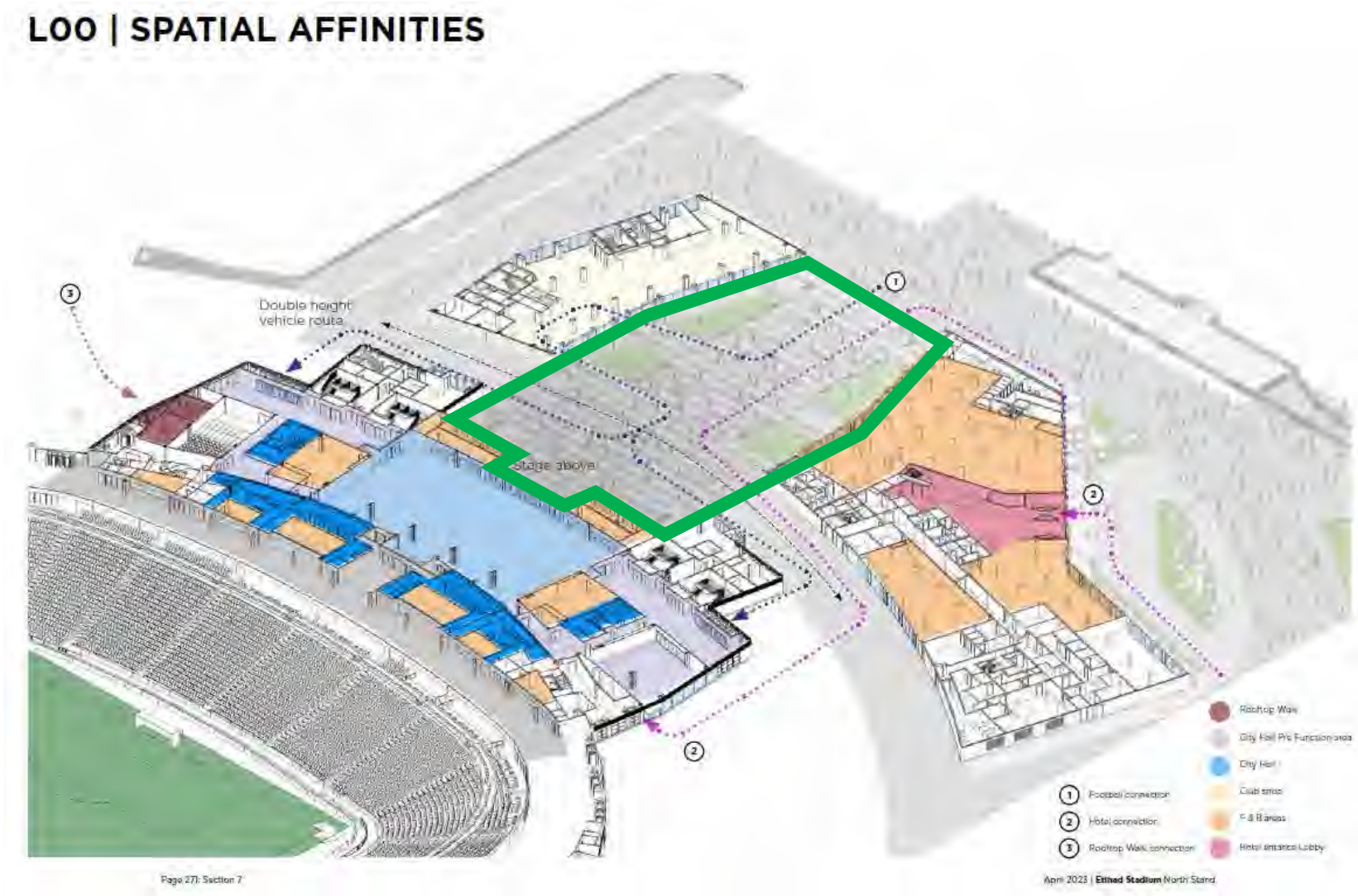
The North Stand’s Concourses and Forecourts

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Plan 8A
North Stand Concourse

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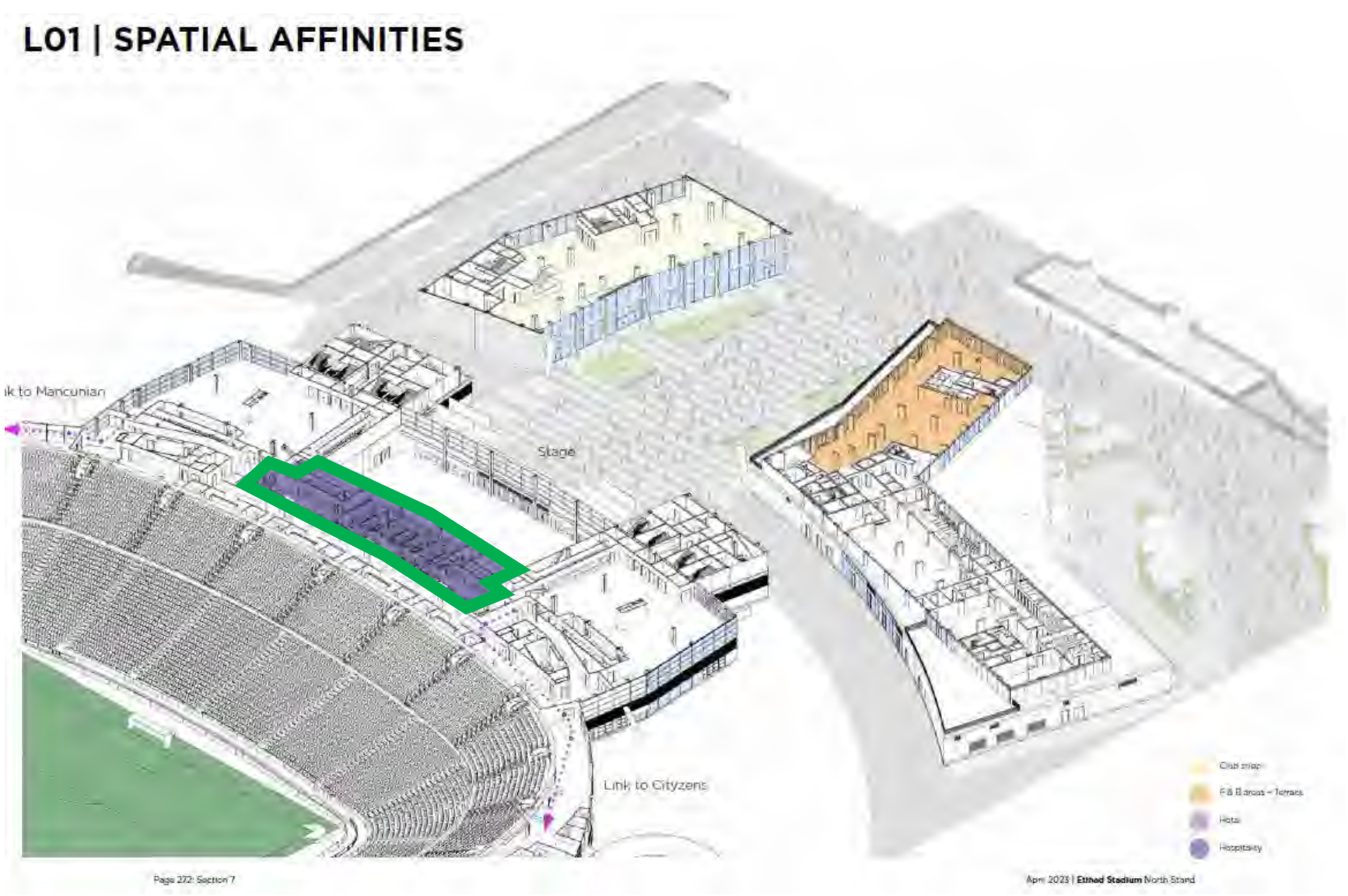
Plan 8B
North Stand Forecourt

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PART 9

North Stand’s Lounge

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Plan 9
North Stand Lounge

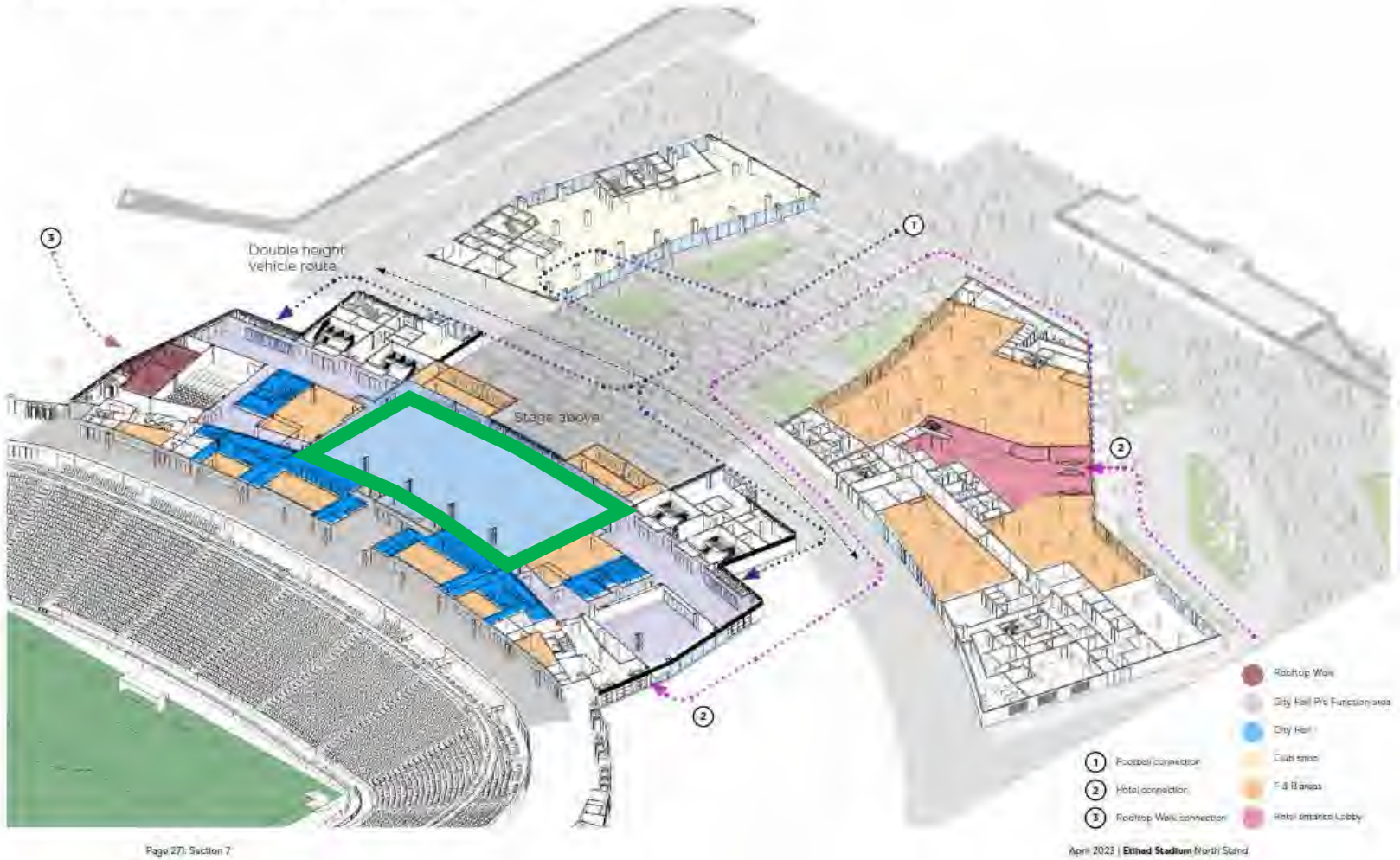
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PART 10

The City Hall

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LOO | SPATIAL AFFINITIES



Plan 10
City Hall

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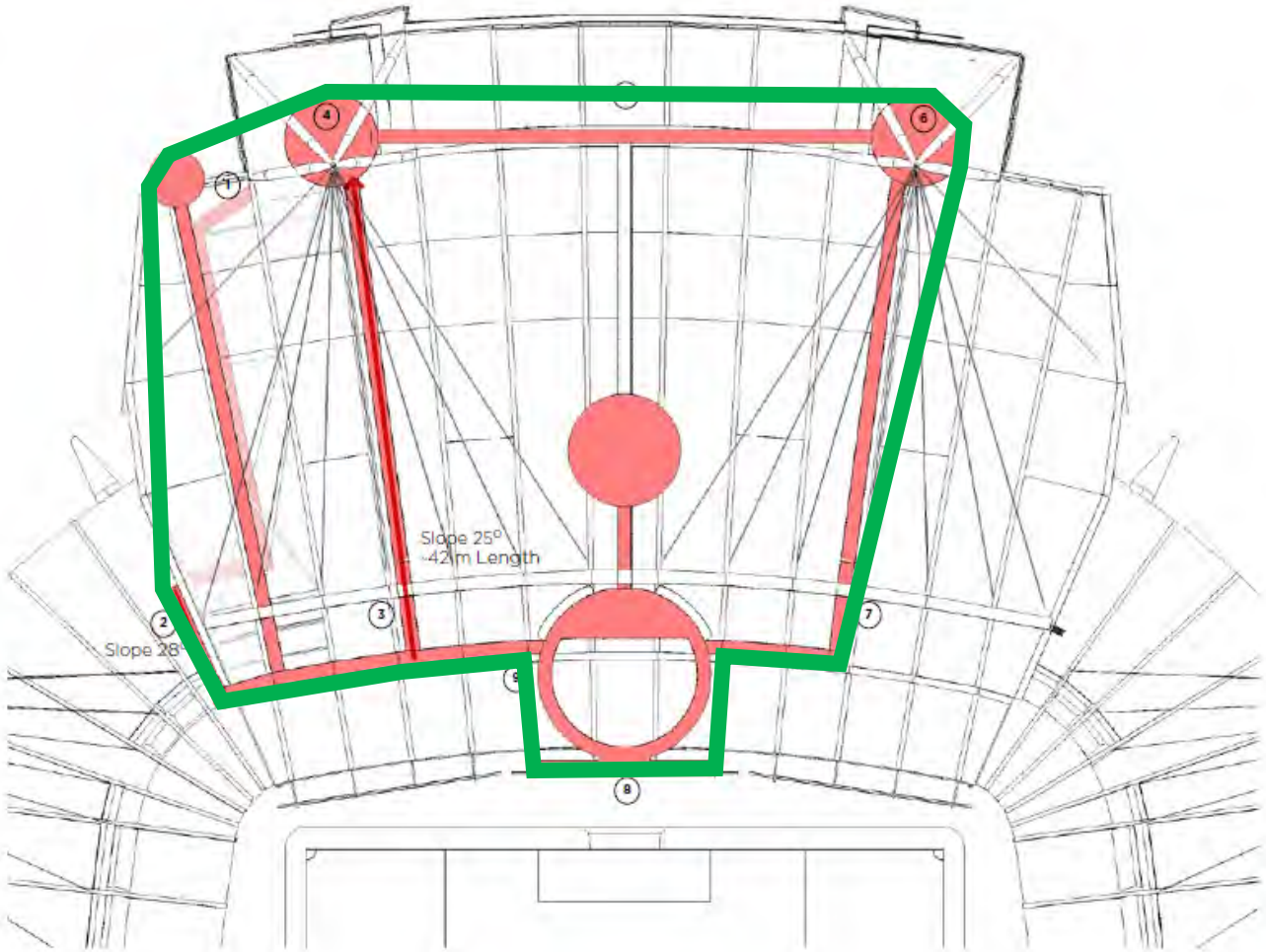
PART 11

The Roof-Walk Attraction

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AUXILIARY SPACES | ROOFTOP WALK | ROOF

Plan 11
Roof Walk Attraction



1. Access to the Rooftop Walk
2. Way out to the Existing Roof
3. Bridge Staring point
4. First Landing Platform
5. Suspension Bridge
6. Second Landing Platform
7. Bridge Landing point
8. Pitch Panorama
9. Return Route

Rooftop Walk route

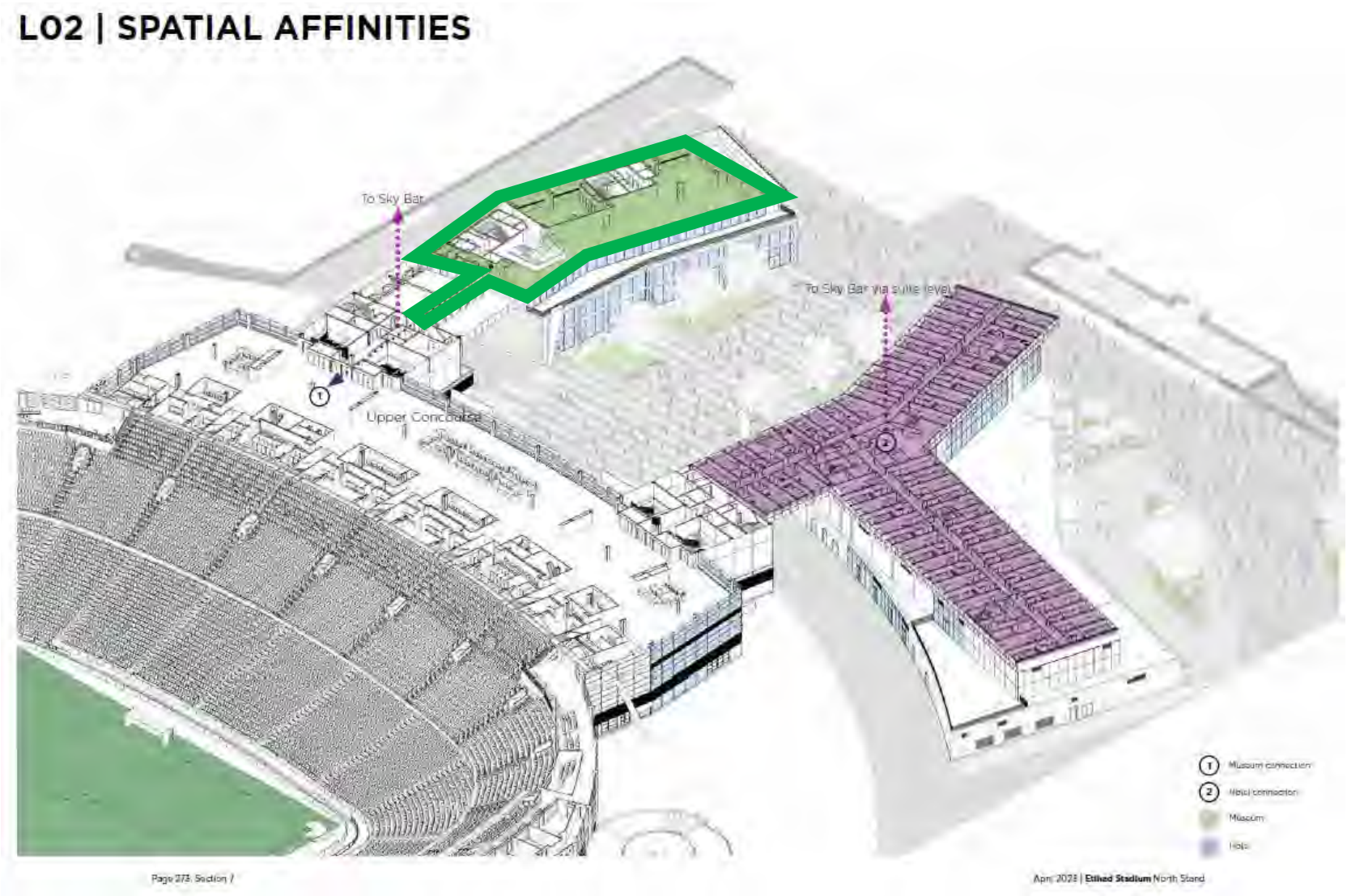
Rooftop Walk route over the bowl

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PART 12

The City Museum

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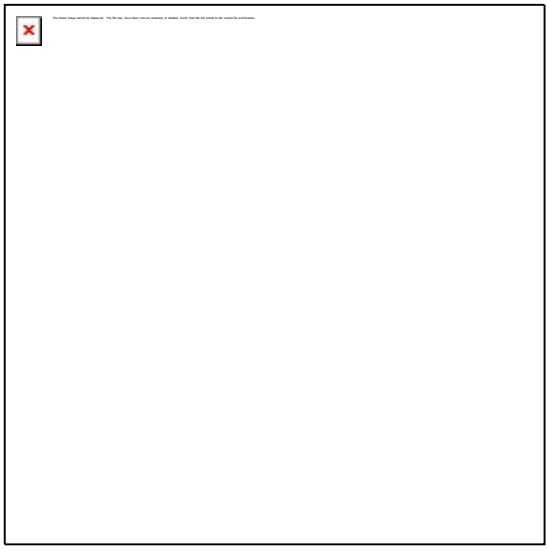
Plan 12
City Museum

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SCHEDULE 2

Draft Planning Permission

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Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

Manchester City Football Club Ltd
C/o Agent

Agent (if used)

Mr John Cooper
Deloitte LLP
Hanover Building
Corporation Street
Manchester
M4 4AH

Part 1 – Particulars of the application/development

Proposal: Alterations to the Etihad Stadium North Stand and adjoining land to provide an overall increase in Stadium capacity, hospitality, and concourse facilities available for use both during and outside of event days, an ancillary TV Studio (Sui Generis), a Roof-Walk Attraction (Use Class F1(c)) together with the erection of a 9 storey, 391 bed hotel (Use Class C1) with a further 10 suites provided within the North Stand of the Etihad Stadium for hotel or hospitality space (Use Class C1 / Sui Generis); restaurant at Level 1 (Use Class C1 / Class E), erection of an 8-storey building comprising: a new Club Shop and Ticket Office (Use Class E) at Ground and Level 1, City Museum at Level 2, Leisure Attraction at Level 3 (Class F1(c)); and workspace (Class E) at Levels 4, 5, 6 and 7 and a new covered City Square fan zone and flexible event space with ground floor commercial, leisure, food and drink use (Use Class E and/ or drinking establishment (Sui Generis)) within each of the interrelated buildings adjoining the proposed square with associated landscaping and public realm works, servicing and access arrangements, and other associated works.

Location: Etihad Stadium (North Stand), Etihad Campus, Manchester, M11 3FF

Date of application: 18 April 2023

Application number: 136763/FO/2023

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Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Minded to Approve** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

Officers have worked with the applicant in a positive and proactive manner based on seeking solutions to problems arising in relation to dealing with the planning application. Pre application advice has been sought in respect of this matter where early discussions took place regarding the siting/layout, scale, design and appearance of the development along with other matters. The proposal is considered to be acceptable and therefore determined within a timely manner.

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:

Drawings

NSE-POP-ZZ-ZZ-DR-A-000090 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009100 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009101 REV 01, NSE-POP-ZZ-ZZ-DR-A-009102 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009103 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009104 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009105 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009106 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009107 rev 01, NSE-POP-ZZ-ZZ-DR-A-009108 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009109 Rev 01, NSE-POP-ZZ-ZZ-DR-A-009110 Rev 01, NSE-POP-NS-ZZ-DR-A-000200 Rev 01, NSE-POP-NS-ZZ-DR-A-000301 Rev 01, NSE-POP-NS-ZZ-DR-A-000302 Rev 01, NSE-POP-NS-ZZ-DR-A-000303 Rev 01, NSE-POP-NS-ZZ-DR-A-000304 Rev 01, NSE-POP-NS-ZZ-DR-A-000240 Rev 02, NSE-POP-NS-ZZ-DR-A-000241 Rev 01, NSE-POP-NS-ZZ-DR-A-000243 Rev 01, NSE-POP-HT-ZZ-DR-A-000244 Rev 01, NSE-POP-CM-ZZ-DR-A-000245 Rev 01 and NSE-POP-ZZ-00-DR-A-000600 rev 04

All stamped as received by the City Council, as Local Planning Authority, on the 18 April 2023

Supporting information

Design and Access Statement (Including Signage Strategy and Landscaping and Public Realm Strategy) prepared by Populous, Planning Statement prepared by Deloitte, Archaeological Desktop Report prepared by Salford Archaeology, Archaeological Watching Brief prepared by Salford Archaeology, Statement of Consultation prepared by Deloitte, Crime Impact Statement prepared by GMP, Crowd Modelling prepared by Movement Strategies, Daylight/Sunlight Assessment prepared by Buro Happold,

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Ecology including the Preliminary Ecological Assessment prepared by Helen Hamilton Ecology, Heritage Statement prepared by Deloitte, Operating Schedule / Event Management Strategy prepared by Manchester City Football Club, Sustainability Statement prepared by Buro Happold including the following technical appendices:
1. Green and Blue Infrastructure Statement prepared by Deloitte
2. BREEAM Pre-Assessment prepared by ME Engineers
3. Energy Statement prepared by ME Engineers
4. Whole Life Carbon Assessment prepared by ME Engineers
5. Local Labour Agreement prepared by Manchester City Football Club
6. Social Value Toolkit prepared by Deloitte
7. Economic Impact Assessment prepared by Amion

Topographical Survey prepared by Survey Operations, TV Reception Survey prepared by ME Engineers, Ventilation, Extraction and Odour prepared by ME Engineers and Waste Management Strategy prepared by Buro Happold

Environmental Impact Assessment

Volume 1 - Environmental Statement

- Introductory Chapters Deloitte
- Chapter 5 Construction Management and Phasing Proposed Contractors
- Chapter 6 Air Quality BuroHappold
- Chapter 7 Climate Change BuroHappold
- Chapter 8 Water Quality, Drainage and Flood Risk BuroHappold
- Chapter 9 Ground Conditions BuroHappold
- Chapter 10 Human Health Enfusion
- Chapter 11 Noise and Vibration
- Chapter 12 Townscape and Visual Impact Planit-ie
- Chapter 13 Traffic and Transport Arup
- Chapter 14 Wind Microclimate BuroHappold
- Chapter 15 Lighting ME Engineers
- Chapter 16 Socio-Economic Deloitte
- Chapter 17 Summary of Cumulative Effects Deloitte
- Chapter 18 Type 1 Cumulative Effects Deloitte

Appendices

EIA Methodology
Appendix 2.1. EIA Scoping Report
Appendix 2.2. EIA Scoping Response (dated 12 April 2023)

Alternatives and Design Solution
No appendices

Site, Surroundings and Description of Proposals
No appendices

Construction Methodology and Programme
Appendix 5.1 Construction Management Plan - Laing O'Rourke
Appendix 5.2 Construction Management Plan and Method Statement - Sisk

Air Quality
Appendix 6.1 Construction Assessment Methodology

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Appendix 6.2 IAQM Assessment Criteria for Operational Impacts
Appendix 6.3 Traffic Data
Appendix 6.4 Model Verification
Appendix 6.5 Human Receptor Locations and Addresses
Appendix 6.6 Modelling Results - Construction
Appendix 6.7 Modelling Results - Operation
Appendix 6.8 Construction Mitigation

Greenhouse Gas Emissions
Appendix 7.1 Greenhouse Gas Calculations

Flood Risk and Drainage
Appendix 8.1: Flood Risk Assessment
Appendix 8.2: Drainage Strategy

Ground Conditions
Appendix 9.1: Geo-Environmental Assessment
Appendix 9.2: Coal Mining Assessment
Appendix 9.3: Generic Qualitative Risk Assessment
Appendix 9.4: Groundwater Risk Assessment
Appendix 9.5: Factual Ground Investigation Report

Human Health
No appendices

Noise and Vibration
Appendix 11.1. National Planning Guidance Noise Hierarchy
Appendix 11.2. Construction Data
Appendix 11.3 Operational Road Traffic Data
Appendix 11.4 Noise Survey Results
Appendix 11.5 Construction Results
Appendix 11.6 Operational Road Traffic Results

Townscape and Visual Impact
Appendix 12.1 Townscape Effects Table: Baseline and Sensitivity
Appendix 12.2. Visual Effects Table: Baseline and Sensitivity
Appendix 12.3 Townscape Figures
Appendix 12.4 Key views and Photomontage

Traffic and Transport
Appendix 13.1: Transport Assessment
Appendix 13.2: Framework Travel Plan
Appendix 13.3: Scoping Correspondence
Appendix 13.4: Construction Traffic Data
Appendix 13.5: Modal Share

Wind Microclimate
No appendices

Lighting
Appendix 15.1 Lighting Assessment

Socio-Economic
Appendix 16.1 Economic Impact Assessment

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Summary of Residual Effects
No appendices

Type 1 Cumulative Effects
No appendices

All stamped as received by the City Council, as Local Planning Authority, on the 18 April 2023

TA Addendum (ref1662023_V1.2) received by the City Council, as Local Planning Authority, on the 19 June 2023

Noise response (ref. 053810-0820-1-PN-02-P0) received by the City Council, as Local Planning Authority, on the 27 June 2023

Highway note received by the City Council, as Local Planning Authority, on the 13 July 2023

Reason - To ensure that the development is carried out in accordance with the approved plans pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

3) Prior to the commencement, a detailed construction management plan outlining working practices and highway management shall be submitted to and approved in writing by the local planning authority, which for the avoidance of doubt should include;

- Display of an emergency contact number;
- Details of Wheel Washing;
- Dust suppression measures;
- Consultation with local residents/businesses;
- Measures to prevent leakages into the Ashton Canal;
- Noise and vibration monitoring;
- Hoarding location and design;
- Compound locations where relevant;
- Location, removal and recycling of waste;
- Routing strategy and swept path analysis;
- Parking of construction vehicles and staff;
- Sheeting over of construction vehicles;
- Details to prevent any impact on tram infrastructure;
- Loading and unloading of plant and materials;
- Construction and demolition methods, including use of cranes, (which must not oversail the tramway);
- Swept path analysis;
- Dilapidation survey; and
- Traffic management strategy.

Manchester City Council encourages all contractors to be 'considerate contractors' when working in the city by being aware of the needs of neighbours and the environment. Membership of the Considerate Constructors Scheme is highly recommended.

The development shall be carried out in accordance with the approved construction management plan.

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Reason - To safeguard the amenities of nearby residents, highway safety, tram safety, air quality and water quality pursuant to policies SP1, EN17, EN16, EN19 and DM1 of the Manchester Core Strategy (2012).

4) All vehicles entering and leaving the site during the construction period shall pass through a wheel wash.

Reason - To ensure that the proposed development does not cause unacceptable amounts of dust in the vicinity and to ensure that local roads are kept clear of mud pursuant to policies SP1, T1 and DM1 of the Manchester Core Strategy (2012).

5) No construction vehicle movements outside of the agreed site hoarding line shall take place immediately prior to, during or after a major event / match at the Etihad Stadium. Any construction vehicle movements outside of the agreed site hoarding line prior to, during or after a major event at any of the MCC venues on Campus shall be in strict accordance with a protocol agreed in advance with the MCC Venue responsible for the event.

Reason - In the interest of highway and pedestrian safety together with reducing congestion of the surrounding highway network pursuant to policies SP1, T1 and DM1 of the Manchester Core Strategy (2012).

6) No contractor parking will take place at the Etihad Campus immediately prior to, during or after a major event / match at the Etihad Stadium. Contractor parking will not use car parks associated with a major event at any of the MCC venues on Campus, so contractor parking will continue at the Etihad Campus when a major event is being held at any of the MCC venues.

Reason - In the interest of highway and pedestrian safety together with reducing congestion of the surrounding highway network pursuant to policies SP1, T1 and DM1 of the Manchester Core Strategy (2012).

7) Prior to the commencement of the development, a Metrolink Specific Construction Management Plan (CMP) with detailed method statements of construction and risk assessments, shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved Metrolink CMP shall include agreed safe methods of working adjacent to the Metrolink Hazard Zone including:

- the retention of 24hr unhindered access to the Metrolink equipment cabinets and chambers for the low voltage power, signalling and communications cables for Metrolink both during construction and once operational.

- storage of plant and materials used in constructing the development;

- construction and demolition methods to be used; including the use of cranes (which must not oversail the tramway or Metrolink corralling infrastructure);

- the erection and maintenance of security hoarding; and;

- measures to control the emission of dust and dirt during construction.

The approved plan shall be implemented for the duration of the construction period.

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Reasons: To ensure an appropriate plan is in place for the safe methods of working to meet the safety requirements of working above and adjacent to the Metrolink system pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

8) Prior to the commencement of the development, a strategy for a permanent corralling system to facilitate the safe queuing of Metrolink customers, including designs for, lighting, CCTV and ticket validation, shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be implemented and be in place prior to the first use of the development hereby approved.

Reason: To ensure that Metrolink customers are adequately and safely accommodated without detriment to Metrolink Operations pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

9) Prior to the commencement of the development, a crowd modelling strategy, for during both construction and when the development becomes operational shall be submitted for approval in writing by the City Council, as Local Planning Authority. This strategy shall include the worst case scenario, demonstrate that Metrolink customers are not exposed to unacceptable levels of crowding when trying to access the tram stop and the risks associated with overcrowding. The approved strategy shall be implemented as part of the development and thereafter remain in use at all times when the development is both under construction and becomes operational.

Reason: To ensure the risks associated with overcrowding are safely managed pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

10) No excavation or piling works shall be carried out until an appropriate monitoring regime of the Metrolink retaining structures and lift shaft has been submitted for approval in writing by the City Council, as Local Planning Authority. The approved strategy shall be implemented for the duration of the construction period.

Reason: To safeguard Metrolink infrastructure and operations pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

11) Prior to the commencement of the development, the method for piling, or any other foundation design using penetrative methods, for the development shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall then be implemented during the construction of the development.

Reason - Piling or any other foundation using penetrative methods can result in risks to potable supplies (pollution/turbidity, risk of mobilising contamination) drilling through different aquifers and creating preferential pathways. It is therefore necessary to demonstrate that piling will not result in contamination of groundwater. In addition, pilling can affect the adjacent railway network which also requires consideration pursuant to policies SP1, EN17 and EN18 of the Manchester Core Strategy (2012).

12) No vegetation clearance shall take place during the optimum period for bird nesting (March - September inclusive) unless nesting birds have been shown to be absent, or, a method statement for the removal works including for the protection of any nesting birds is agreed in writing by the City Council, Local Planning Authority. Any method statement shall then be implemented for the duration of the demolition works.

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Reason - In order to protect wildlife from works that may impact on their habitats pursuant to policy EN15 of the Manchester Core Strategy (2012).

13) a) Prior to the commencement of the development, details of a Local Labour Proposal, in order to demonstrate commitment to recruit local labour for the duration of the construction of the development, shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved document shall be implemented as part of the construction of the development.

In this condition a Local Labour Proposal means a document which includes:

i) the measures proposed to recruit local people including apprenticeships
ii) mechanisms for the implementation and delivery of the Local Labour Proposal
iii) measures to monitor and review the effectiveness of the Local labour Proposal in achieving the objective of recruiting and supporting local labour objectives

(b) Within one month prior to construction work being completed, a detailed report which takes into account the information and outcomes about local labour recruitment pursuant to items (i) and (ii) above shall be submitted for approval in writing by the City Council as Local Planning Authority.

Reason - The applicant has demonstrated a commitment to recruiting local labour pursuant to policies SP1, EC1 and DM1 of the Manchester Core Strategy (2012).

14) (1) A programme of archaeology works shall be carried out in accordance with the Watching Brief prepared by Salford Archaeology received by the City Council, as Local Planning Authority, on the 18 April 2023. The works are to be undertaken in accordance with the watching brief, which cover the following:

(2). A programme for post investigation assessment to include:

- analysis of the site investigation records and finds
- production of a final report on the significance of the archaeological and historical interest represented.

(3). Dissemination of the results commensurate with their significance.
(4). Provision for archive deposition of the report and records of the site investigation.
(5). Nomination of a competent person or persons / organisation to undertake the works set
out within the approved watching brief.

Reason - To record and advance understanding of heritage assets impacted on by the development and to make information about the archaeological heritage interest publicly accessible pursuant to policy EN3 of the Manchester Core Strategy.

15) Prior to the commencement of the development,

a) a scheme of intrusive investigations has been carried out on site to establish the risks posed to the development by past coal mining activity, and;

b) any remediation works and/or mitigation measures to address land instability arising from coal mining legacy, as may be necessary, have been implemented on site in full in order to ensure that the site is safe and stable for the development proposed.

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Shall be submitted for approval in writing by the City Council, as Local Planning Authority.

The approved intrusive site investigations and remedial works shall be carried out in accordance with the approved documents.

Reason - In the interest of establishing previous coal mining activity pursuant to policy DM1 of the Manchester Core Strategy (2012).

16) Prior to the first use of the development hereby approved, a signed statement or declaration prepared by a suitably competent person confirming that the site is, or has been made, safe and stable for the approved development shall be submitted for approval in writing by the City Council, as Local Planning Authority. This document shall confirm the methods and findings of the intrusive site investigations and the completion of any remedial works and/or mitigation necessary to address the risks posed by past coal mining activity.

Reason - In the interest of establishing previous coal mining activity pursuant to policy DM1 of the Manchester Core Strategy (2012).

17) The drainage strategy shall be carried out in accordance with the Project North Stand Manchester Site Improvement Works Drainage Strategy Project no 053810 (Date 25 April 2023) received by the City Council, as Local Planning Authority, on the 26 April 2023 and Email from seweradoptions@uuplc.co.uk dated 06 June 2023 (approved as part of planning permission 135764/FO/2022). The approved details shall be implemented as part of the development.

Reason - In the interest of a satisfactory drainage scheme being prepared for the site pursuant to policy EN14 of the Manchester Core Strategy (2012).

18) Notwithstanding the following information:

- Environmental Statement: Volume 1, Chapter 9, Ground Conditions, Deloitte, April 2023;
- Project North Stand Manchester, Ground Engineering Desk Study, Buro Happold, Reference: 0053810 Revision P03, 13 April 2023.
- Project North Stand Manchester, Coal Mining Risk Assessment, Buro Happold, Reference: 0053810 Revision P03, 13 April 2023.
- Project North Stand Manchester, Generic Quantitative Risk Assessment, Buro Happold, Reference: 0053810 Revision P02, 13 April 2023.
- Etihad Campus Site Improvement Works, Groundwater Risk Assessment, Buro Happold, Reference: 0053810 Revision P01, 24 February 2023
- Etihad Ground Investigation, Factual Ground Investigation Report, Geotechnical Engineering Ltd, Reference: 37349, 17 March 2023

Prior to the commencement of the development, the following information shall be submitted for approval in writing by the City Council, as Local Planning Authority:

- Updated ground gas risk assessment following additional monitoring due to no previous readings under low and falling pressure.
- Submission of an updated Remediation Strategy (if required)

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The remediation of the site shall be carried out in accordance with the approved strategy.

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to policies EN17, EN18 and DM1 of the Manchester Core Strategy (2012).

19) If, during the development, contamination or conditions not previously identified as part of the agreed documents within condition 18 are found to be present at the site (or in the monitored vicinity) then no further operations shall be carried out until a strategy which details how this unsuspected circumstance shall be dealt with has been submitted for approval in writing by the City Council, as Local Planning Authority. The approved strategy shall then be implemented and then verified as required by condition 20.

Reason - To ensure that the works to be undertaken do not contribute to, or adversely affect, unacceptable levels of water pollution from previously unidentified contamination sources pursuant to policies EN17 and EN18 of the Manchester Core Strategy (2012).

20) Prior to the development hereby approved being brought into first use, and following completion of the remediation strategy approved as part of condition (18), a Completion/Verification Report shall be submitted for approval in writing by the City Council as Local Planning Authority. This shall demonstrate that the completion of works has been carried out in accordance with the approved remediation strategy and has been effective. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

Reason - To ensure that the site has been appropriately remediated prior to the commencement of works associated with the redevelopment of the site, pursuant to policies EN17, EN18 and DM1 of the Manchester Core Strategy (2012).

21) Prior to the commencement of development, samples and specifications of all material to be used on all external elevations of the development shall be submitted for approval in writing by the City Council, as Local Planning Authority. The specification shall include the agreement of a materials panel which shall include samples and specifications of all materials to be used on all external elevations of the development along with reveals, jointing and fixing details, details of the drips to be used to prevent staining, soffits, air bricks and a strategy for quality control management.

The approved materials used shall then be implemented as part of the development.

Reason - To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Core Manchester Core Strategy (2012).

22) Prior to the commencement of development, samples and specifications of the louvre screen strategy shall be submitted for approval in writing by the City Council, as Local Planning Authority. The specification shall be included in the materials panel to be agreed as part of condition 21.

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The approved louvre strategy used shall then be implemented as part of the development.

Reason - To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Core Manchester Core Strategy (2012).

23) The stadium capacity hereby approved shall not be used by more than 61,958 spectators at any time.

Reason - To ensure no unacceptable impacts with regards to noise and operational impacts on the residential amenity pursuant to policies SP1, T2 and DM1 of the Manchester Core Strategy (2012) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

24) Notwithstanding the provisions of The Town and Country Planning (Use Classes) Order 1987 (or any order revoking and re-enacting that Order with or without modification) the development here approved shall be used as follows:

- Stadium, hospitality, and concourse facilities available for use both during and outside of event days, an ancillary TV Studio (Sui Generis),
- a Roof-Walk Attraction (Use Class F1(c))
- 391 bed hotel (Use Class C1) with a further 10 suites provided within the North Stand of the Etihad Stadium for hotel or hospitality space (Use Class C1 / Sui Generis); restaurant at Level 1 (Use Class C1 / Class E),
- Workspace Building including a new Club Shop and Ticket Office (Use Class E) at Ground and Level 1, City Museum at Level 2, Leisure Attraction at Level 3 (Class F1(c)); and workspace (Class E) at Levels 4, 5, 6 and 7 and a new covered City Square fan zone and flexible event space with ground floor commercial, leisure, food and drink use (Use Class E and/ or drinking establishment (Sui Generis))

Reason - To ensure that the development is used solely for the intended purpose to safeguard the character of the area pursuant to policies SP1, EC7 and DM1 of the Manchester Core Strategy (2012).

25) (a) Notwithstanding NSE-POP-ZZ-00-DR-A-000600 rev 04 received by the City Council, as Local Planning Authority, on the 18 April 2023, prior to the first use of the development hereby approved, details of hard and soft landscaping treatments (including tree planting, street tree planting, tree species, boundary treatments and appropriate samples of materials of hard landscaping) shall be submitted to and approved in writing by the City Council as local planning authority.

(b) The approved scheme shall be implemented prior to the first use of the development. If within a period of 5 years from the date of the planting of any tree or shrub, that tree or shrub or any tree or shrub planted in replacement for it, is removed, uprooted or destroyed or dies, or becomes, in the opinion of the local planning authority, seriously damaged or defective, another tree or shrub of the same species and size as that originally planted shall be planted at the same place.

(c) The boundary treatment shall be retained and maintained in situ thereafter and notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 2015 (or any order revoking or re-enacting that Order with or

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without modification) no boundary treatment shall be erected on site, other than that shown on the approved plans.

Reason - To ensure that a satisfactory landscaping scheme for the development and to secure appropriate wind mitigation pursuant to policies SP1, EN9 and DM1 of the Manchester Core Strategy (2012).

26) Prior to the first use of the development hereby approved, a detailed landscaped management plan shall be submitted for approval in writing by the City Council, as Local Planning Authority. This shall include details of how the hard and soft landscaping areas will be maintained including maintenance schedules and repairs. The management plan shall then be implemented as part of the development and remain in place for as long as the development remains in use.

Reason - To ensure that the satisfactory landscaping scheme for the development is maintained in the interest of the character and visual amenities of the area, in accordance with policies SP1, EN9 and DM1 of the Manchester Core Strategy (2012).

27) Prior to the first use of the development hereby approved, full details of the specification and locations of bat and bird boxes, shall be submitted for approval in writing by the City Council, as Local Planning Authority. The bat and bird boxes shall be installed prior to the first use of the development and therefore be retained and remain in situ.

Reason - To ensure the creation of new habitats and biodiversity in order to comply with policy EN15 of the Manchester Core Strategy (2012).

28) The development hereby approved shall be carried out in accordance with the Sustainability Statement prepared by Buro Happold including the following technical appendices received by the City Council, as Local Planning Authority, on the 18 April 2023.

A post construction review certificate/statement shall be submitted for approval, within a timescale that has been previously agreed in writing, to the City Council as Local Planning Authority.

Reason - In order to minimise the environmental impact of the development pursuant to policies SP1, T1-T3, EN4-EN7 and DM1 of the Manchester Core Strategy (2012) and the National Planning Policy Framework.

29) The development hereby approved shall achieve a post-construction Building Research Establishment Environmental Assessment Method (BREEAM) rating of at least an 'Very Good' rating. A post construction review certificate/statement shall be submitted for approval, within a timescale that has been previously agreed in writing, to the City Council as Local Planning Authority.

Reason - In order to minimise the environmental impact of the development, pursuant to policies SP1, T1-T3, EN4-EN7 and DM1 of the Manchester Core Strategy (2012) and the National Planning Policy Framework.

30) (a) Prior to the first use of the development hereby approved, details of any externally mounted ancillary plant, equipment and servicing shall be submitted for approval. For the avoidance of doubt, externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme

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designed so as to achieve a rating level of 5 db (Laeq) below the typical background (La90) level at the nearest noise sensitive location.

(b) The approved scheme shall be implemented and prior to the first use of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved under part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

Reason - To minimise the impact of plant noise on the local area pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

31) The testing of the emergency diesel generators hereby approved shall be restricted to the following hours and to total no more than 4 hours a year (hotel and commercial buildings) and 8 hours per year (North Stand),

Monday to Friday 09:00 to 18:00
No testing to be undertaken at the weekend or on a Bank Holiday

Reason - In the interests of residential amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

32) (a) The acoustic insulation of the North Stand hereby approved shall be implemented in accordance with the following documents:

- Noise response (ref. 053810-0820-1-PN-02-P0) received by the City Council, as Local Planning Authority, on the 27 June 2023
- Chapter and Appendices 11 of the Environmental Statement received by the City Council, as Local Planning Authority, on the 18 April 2023

(b) Prior to the first use of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved within part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.

Reason - To ensure no unacceptable noise outbreak from the development in the interest of residential amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

33) Each commercial unit, within the development, shall remain as one unit and shall not be sub divided or amalgamated without the benefit of planning permission being secured.

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Reason- In the interests of residential amenity and to ensure the future viability and vitality of the commercial units pursuant to saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies DM1, C5 and SP1 of the Manchester Core Strategy.

34) The development hereby approved shall be carried out in accordance with Waste Management Strategy prepared by Buro Happold received by the City Council, as Local Planning Authority, on the 18 April 2023. The details shall be implemented prior to the first event at the development and thereafter retained and maintained in situ.

Reason - To ensure adequate refuse arrangement are put in place for the development pursuant to policies EN19 and DM1 of the Manchester Core Strategy (2012).

35) Prior to the first use of the commercial spaces within the development, details of any external areas associated with these commercial spaces (including an Operating Schedule) shall be submitted for approval in writing by the City Council, as Local Planning Authority.

The Operating Schedule shall contain the following details:

a. A scaled layout plan showing the proposed seating area, including layout of furniture and demarcation of the area;

b. Full details of the measures proposed to ensure that the proposed seating area is fully accessible by disabled people;

c. Details of the proposed furniture, including any barriers;

d. A detailed management strategy that includes information on how the proposed external seating area would be managed in terms of potential noise disturbance, additional movement and activity, litter and storage of furniture at night;

e. days and hours of operation.

The approved plan shall be implemented upon first use of the commercial uses in and thereafter retained.

No amplified sound or any music shall be produced or played in any part of the site outside the building.

Reason - To safeguard the amenities of the occupiers of nearby properties and to ensure age friendly public realm is created, pursuant to policies SP1 and DM1 of the Core Strategy.

36) Prior to the first use of the commercial uses within the development, a schedule of opening hours shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved hours shall then be implemented and thereafter the uses shall operate in accordance with them.

There shall be no amplified sound or any amplified music at any time within these spaces unless it can be shown as part of condition 37 that there would be no unacceptable impact on residential amenity.

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Reason - In interests of residential amenity in order to reduce noise and general disturbance in accordance with saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies SP1 and DM1 of the Core Strategy.

37) (a) Notwithstanding Noise response (ref. 053810-0820-1-PN-02-P0) received by the City Council, as Local Planning Authority, on the 27 June 2023 and Chapter and Appendices 11 of the Environmental Statement received by the City Council, as Local Planning Authority, on the 18 April 2023, prior to the first use of commercial units, workspaces, hotel, gymnasium (and any other ancillary commercial spaces excluding the North Stand), a scheme of acoustic insulation for those spaces shall be submitted for approval in writing by the City Council, as Local Planning Authority.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 5dB below the LA90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63HZ and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB (Leq,5min), respectively

(b) Prior to the first use of those spaces within a relevant phase of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. A verification report and measures shall be agreed until such a time as the development complies with part (a) of this planning condition.

Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority. Any measures shall thereafter retained and maintained in situ.

Reason - In order to limit the outbreak of noise from the commercial premises pursuant to policies SP1 and DM1 of the Core Strategy (2007) and saved policy DC26 of the Unitary Development Plan for the City of Manchester (1995).

38) Prior to the first use of the development, details of a scheme to extract fumes, vapours and odours from the premises shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved scheme shall then be implemented prior to the first use of the development and thereafter retained and maintained in situ.

Reason - To ensure appropriate fume extraction is provided for the development pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

39) The development hereby approved shall include a building and site lighting scheme including details of illumination of external areas, potential impact on the tram line during the period between dusk and dawn and details of lighting being turned off when not in use. Full details of such a scheme shall be submitted for approval in writing by the City Council, as Local Planning Authority before the first use of the development hereby approved.

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The approved scheme shall be implemented in full prior to the first use of development and shall remain in operation for so long as the development is occupied.

Reason - In the interests of amenity, crime reduction, personal safety, the safety of the tram lines and impact on the canal corridor in order to comply with the requirements of policies SP1 and DM1 of the Manchester Core Strategy (2012).

40) If any lighting at the development hereby approved, when illuminated, causes glare or light spillage which in the opinion of the Council as local planning authority causes detriment to adjoining and nearby residential properties, within 14 days of a written request, a scheme for the elimination of such glare or light spillage shall be submitted to the Council as local planning authority and once approved shall thereafter be retained in accordance with details which have received prior written approval of the City Council as Local Planning Authority.

Reason - In order to minimise the impact of the illumination of the lights on the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

41) The development shall be carried out in accordance with the Crime Impact Statement (Rev D ref. 2006/0905/CIS/02) prepared by Design for Security at Greater Manchester Police received by the City Council, as Local Planning Authority, on the 18 April 2023. The development shall only be carried out in accordance with these approved details. The development hereby approved shall not be occupied or used until the Council as local planning authority has acknowledged in writing that it has received written confirmation of a Secured by Design accreditation.

Reason - To reduce the risk of crime pursuant to policies SP1 and DM1 of the Core Manchester Strategy (2012) and to reflect the guidance contained in the National Planning Policy Framework.

42) The hotel and workspace buildings hereby approved shall be carried out in accordance with the Framework Travel Plan (Appendix 13.2 of the Environmental Statement) received by the City Council, as Local Planning Authority, on the 18 April 2023.

In this condition a Travel Plan means a document which includes:

i) the measures proposed to be taken to reduce dependency on the private car by those visiting and working at the development;
ii) a commitment to surveying the travel patterns of spectators and staff during the first three months of the first use of the building and thereafter from time to time
iii) mechanisms for the implementation of the measures to reduce dependency on the private car
iv) measures for the delivery of specified travel plan services
v) measures to monitor and review the effectiveness of the Travel Plan in achieving the objective of reducing dependency on the private car

Within six months of the first use of the building, a Travel Plan which takes into account the information about travel patterns gathered pursuant to item (ii) above shall be submitted for approval in writing by the City Council as Local Planning Authority. Any Travel Plan which has been approved by the City Council as Local Planning Authority shall be implemented in full at all times when the development hereby approved is in use.

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Reason - To assist promoting the use of sustainable forms of travel for spectators, staff and visitors, pursuant to policies T1, T2 and DM1 of the Manchester Core Strategy (2012).

43) Prior to the first use of the development hereby approved, details of the location and specification of 200 covered cycle spaces within the Etihad Campus shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be implemented prior to the first use of the development and thereafter retained and maintained in situ for as long as the development remains in use.

Reason - To ensure there is sufficient cycles stand provision at the development and the occupants in order to support modal shift measures pursuant to policies SP1,T1, T2 and DM1 of the Manchester Core Strategy (2012).

44) Prior to the first use of the development hereby approved, a scheme of highway works shall be submitted for approval in writing by the City Council, as Local Planning Authority.

this shall include the following:

- Modifications to the junction of Gate 3/Alan Turing Way including widening of pedestrian footways to 2 metres, integration with Alan Turing Way and installation of tactile paving;
- Access from Gate 3 upgraded.

The approved scheme shall be implemented and be in place prior to the first use of the development hereby approved and thereafter retained and maintained in situ.

Reason - To ensure safe access to the development site in the interest of pedestrian and highway safety pursuant to policies SP1, EN1 and DM1 of the Manchester Core Strategy (2012).

45) Prior to the first use at the development hereby approved, details of a servicing and operational management plan shall be submitted for approval in writing by the City Council, as Local Planning Authority. This shall include how servicing arrangements will be managed at the development including ensuring the access road remains unrestricted. The approved plan shall be implemented upon the first use of the development and thereafter retained and maintained.

Reason - In the interest of highway and pedestrian safety pursuant to policies SP1, T2 and DM1 of the Manchester Core Strategy (2012).

46) Excluding vehicle activity associated with the operation of events at the development, and movement of waste within the Etihad Campus between the development and the existing Etihad Waste Compound, deliveries, servicing and collections including waste collections shall not take place outside the following hours:

Monday to Sunday 07:30 to 20:00

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Reason - In the interest of residential amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

47) Notwithstanding the TV reception survey prepared by ME Engineers received by the City Council, as Local Planning Authority, on the 18 April 2023, within one month of the practical completion or at any other time during the construction of the development if requested in writing by the City Council as local planning authority in response to identified television signal reception problems within the potential impact area a study shall identify such measures necessary to maintain at least the pre-existing level and quality of signal reception identified in the survey carried out above. The measures identified must be carried out either before the building is first used or within one month of the study being submitted to the City Council as local planning authority, whichever is the earlier.

Reason - To provide an indication of the area of television signal reception likely to be affected by the development to provide a basis on which to assess the extent to which the development during construction and once built, will affect television reception and to ensure that the development at least maintains the existing level and quality of television signal reception - In the interest of residential amenity, as specified in policy DM1 of Core Strategy.

48) Prior to the first use of the development, details of any external roller shutters to the ground floor of the development shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be implemented prior to the first use of the arena and thereafter retained and maintained in situ.

Reason - To ensure that the roller shutters are appropriate in visual amenity terms pursuant to policies SP1, EN1 and DM1 of the Manchester Core Strategy (2012).

49) Prior to the first use of the development, details of the siting, scale and appearance (including samples of materials) of the boundary treatments shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved scheme shall then be implemented and be in place prior to the first use of the development. The boundary treatment shall be retained and maintained in situ thereafter and notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 2015 (or any order revoking or re-enacting that Order with or without modification) no boundary treatment shall be erected on site, other than that shown on the approved plans.

Reason - To ensure that appropriate boundary treatment is put in place in the interest of visual amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

50) Prior to the first use of the development hereby approved, details of the specification, siting, scale and appearance of the solar panels to the roof (including cross sections). The approved details shall then be implemented prior to the first use of the development and thereafter retained and maintained in situ.

Reason - In the interest of ensuring the solar panels are of the appropriate specification and appearance in the interest of the overall sustainability of the building and visual amenity pursuant to polices SP1, EN1, EN6 and DM1 of the Manchester Core Strategy (2012).

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51) Prior to the first use of the development hereby approved, final details of a signage strategy for the building shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be used to inform future signage for the development.

Reason - In the interest of achieving a suitable signage solution for the development of the arena pursuant to policy DM1 of the Manchester Core Strategy (2012).

52) Prior to the first use of the development, details of the siting, scale and appearance of the air source heat pumps to the buildings hereby approved. The air source heat pumps must also comply with the noise criteria as specified in condition 30. The approved details shall then be implemented prior to the first use of the development and thereafter retained and maintained in situ.

Reason - In the interest of ensuring the air source heat pumps are installed and to ensure that they are appropriate in terms of visual amenity pursuant to polices SP1, EN1, EN6 and DM1 of the Manchester Core Strategy (2012).

53) Prior to the first use of the development, an electric vehicle car parking strategy for the provision electric car charging car parking spaces shall be submitted for approval in writing by the City Council, as Local Planning Authority. The scheme shall include the following details:

(a) Layout and location of electric vehicle charging points;
(b) Provision for 4 new 22kw EVC; in addition, a further 4 22kw EVC will replace existing 7kw chargers. The 7kw will be relocated to City Football Academy;

The electric vehicle car parking strategy shall be implemented prior to the first use of the development and retained and maintained in situ for as long as the development remains in use.

Reason - In the interest of minimise the impact on local air quality conditions pursuant to policy EN16 of the Manchester Core Strategy (2012).

54) Prior to any above ground works, details of a swept path analysis for the vehicle pick and drop off to the hotel and coach movements shall be submitted for approval in writing by the City Council, as Local Planning Authority. This shall include modifications to the layout and pick up and drop off arrangements should this be necessary. The approved details shall be implemented prior to the first use of the development and thereafter retained and maintained in situ.

Reason - In the interest of ensuring the development can accommodate the vehicle sizes pursuant to highway and pedestrian safety with policy DM1 of the Manchester Core Strategy (2012).

55) Prior to any above ground works, details of the location, size and specification of the accessible hotel bedrooms shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be implemented as part of the development and thereafter retained and maintained in situ.

Reason - In the interest of ensuring the hotel accommodation is accessible to all pursuant to policy DM1 of the Manchester Core Strategy (2012).

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56) a) Three months prior to the first occupation of the development, a Local Benefit Proposal Framework that outlines the approach to local recruitment for the end use(s), shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved document shall be implemented as part of the occupation of the development.

In this condition a Local Benefit Proposal means a document which includes:

i) the measures proposed to recruit local people including apprenticeships
ii) mechanisms for the implementation and delivery of the Local Benefit Proposal
iii) measures to monitor and review the effectiveness of the Local Benefit Proposal in achieving the objective of recruiting and supporting local labour objectives

(b) Within 6 months of the first occupation of the development, a Local Benefit Proposal which takes into account the information and outcomes about local labour recruitment pursuant to items (i) and (ii) above shall be submitted for approval in writing by the City Council, as Local Planning Authority. Any Local Benefit Proposal approved by the City Council, as Local Planning Authority, shall be implemented in full at all times whilst the use is operation.

Reason - The applicant has demonstrated a commitment to recruiting local labour pursuant to policies SP1, EC1 and DM1 of the Manchester Core Strategy (2012).

57) Prior to the first occupation of the development hereby approved, details of the implementation, maintenance and management of the sustainable drainage scheme for the development shall be submitted for approval in writing by the City Council, as Local Planning Authority.

For the avoidance of doubt the scheme shall include the following:

- Verification report providing photographic evidence of construction; and
- Management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.

The approved scheme shall then be implemented in accordance with the details and thereafter managed and maintained for as long as the development remains in use.

Reason - To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution pursuant to policies SP1, EN14 and DM1 of the Manchester Core Strategy (2012).

58) Prior to the first use of the development hereby approved, details of a coach and bus parking/servicing strategy shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved details shall be implemented prior to the first use of the development and thereafter retained and maintained in situ for as long as the development remains in use.

Reason - To ensure there adequate provision for coach parking at the development pursuant to policies SP1,T1, T2 and DM1 of the Manchester Core Strategy (2012).

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Informatives

Building Regulations 2010
This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements
Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:
http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information
The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.
Mining Information
The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

- Cranes, whilst they are temporary, can be a hazard to air safety. The developer or crane operator must therefore contact Manchester Airport's Control of Works Office using the details provided below, at least 21 days in advance of intending to erect a crane or other tall construction equipment on the site. This is to obtain a Tall Equipment Permit and to ascertain if any operating restrictions would be required. Any operating restrictions that are subsequently imposed by Manchester Airport must be fully complied with. Email: control-of-works@magairports.com Tel: 0161 489 6114

- There is a high pressure pipe line in close proximity of the site. No works should be undertaken in the vicinity of the gas pipelines and that no heavy plant, machinery or vehicles cross the route of the pipeline until detailed consultation has taken place.

- Contact the landowner and ensure any proposed works in private land do not infringe Cadent and/or National Grid's legal rights (i.e. easements or wayleaves). If the works are in the road or footpath the relevant local authority should be contacted. Ensure that all persons, including direct labour and contractors, working for you on or near Cadent and/or National Grid's apparatus follow the requirements of the HSE Guidance Notes HSG47 -'Avoiding Danger from Underground Services' and GS6 - 'Avoidance of danger from overhead electric power lines'. This guidance can be downloaded free of charge at http://www.hse.gov.uk In line with the above guidance,

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verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken.

- Works in close proximity to the Ashton Canal - The applicant/developer is advised to contact the Infrastructure Services Team on ((01782 779909)) in order to ensure that any necessary consents are obtained and that the works comply with the Canal & l & River Trust. 2) The Applicant should contact the Canal & River Trust directly to establish the position regarding the need the canal and carry out works along the Ashton Canal, including lighting, vegetation clearance and signage. The applicant is advised to contact the Trusts Estate Management Team on 0303 040 4040 or email Matthew.Hart@canalrivertrust.org.uk.

- All gates should open inwards and not impact on the adopted highway.

DRAFT DECISION

Date:

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Notes

1. This permission refers only to that required under the Town and Country Planning Act 1990 does not include any consent or approval under any other enactment, byelaw, order or regulation.

2 If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of the notice of the decision.

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/appeal-planning-decision The Inspectorate will publish details of your appeal on the internet. Alternatively If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the City Council (planning@manchester.gov.uk) and the Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority of the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

Right of challenge on planning application decision

A third party does not have a right of appeal against a decision on a planning application. Instead there is a right of challenge (a Judicial Review) which is limited to lawfulness of the procedure that we have taken in coming to that decision.

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Any challenge must be based on the following and not the merit of the decision:

- Procedural irregularity
- Irrationality
- Illegality

Any application for permission to bring such a challenge (which is through the High Court) must be made within 6 weeks of the date of the decision being issued.

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Appendix A

The Coal Authority

INFORMATIVE NOTE

The proposed development lies within an area that has been defined by the Coal Authority as containing coal mining features at surface or shallow depth. These features may include: mine entries (shafts and adits); shallow coal workings; geological features (fissures and break lines); mine gas and former surface mining sites. Although such features are seldom readily visible, they can often be present and problems can occur, particularly as a result of new development taking place.

Any form of development over or within the influencing distance of a mine entry can be dangerous and raises significant land stability and public safety risks. As a general precautionary principle, the Coal Authority considers that the building over or within the influencing distance of a mine entry should be avoided. In exceptional circumstance where this is unavoidable, expert advice must be sought to ensure that a suitable engineering design which takes into account all the relevant safety and environmental risk factors, including mine gas and mine-water. Your attention is drawn to the Coal Authority Policy in relation to new development and mine entries available at: www.gov.uk/government/publications/building-on-or-within-the-influencing-distance-of-mine-entries

Any intrusive activities which disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits) requires a Coal Authority Permit. Such activities could include site investigation boreholes, excavations for foundations, piling activities, other ground works and any subsequent treatment of coal mine workings and coal mine entries for ground stability purposes. Failure to obtain a Coal Authority Permit for such activities is trespass, with the potential for court action.

If any coal mining features are unexpectedly encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848. Further information is available on the Coal Authority website at:
www.gov.uk/government/organisations/the-coal-authority

Informative Note valid from 1st January 2023 until 31st December 2024

Appendix A

The Coal Authority

STANDING ADVICE - DEVELOPMENT LOW RISK AREA

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:

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www.gov.uk/government/organisations/the-coal-authority

Standing Advice valid from 1st January 2023 until 31st December 2024

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SCHEDULE 3

THE PLANNING OBLIGATIONS

PART ONE

GENERAL OBLIGATIONS

The Owner hereby covenants with the Council as follows:

To notify the Council in writing:

1. At least 14 (fourteen) Working Days in advance of the anticipated date of Commencement of Development.
2. Within 5 (five) Working Days of Commencement of Development.
3. At least 5 (five) Working Days before first Occupation of its intention to Occupy the Development.
4. At least 28 (twenty eight) Working Days in advance of the anticipated date of Completion of Construction.
5. Within 5 (five) Working Days following Completion of Construction.

The Council hereby covenants with the Owner as follows:

6. At the written request of the Owner to provide written confirmation of the discharge of the obligations contained in this Agreement when satisfied that such obligations have been performed within twenty (20) Working Days of receipt of the request.
7. To issue the Planning Permission within two (2) Working Days of the date hereof.

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PART 2

TENNIS CENTRE AND SQUASH CENTRE TRAVEL AND PARKING IMPROVEMENTS OBLIGATIONS

The Owner hereby covenants with the Council as follows:

1. To pay to the Council the Tennis Centre and Squash Centre Travel and Parking Improvements Contribution prior to Commencement of Development.

The Council hereby covenants with the Owner as follows:

2. To use the Tennis Centre and Squash Centre Travel and Parking Improvements Contribution for environmental improvements associated with improving user travel connectivity to the Tennis Centre and/or Squash Centre or such other parts of the Etihad Campus as the Council shall designate and for no other purpose.

3. To have due regard to any representations made to the Council by the Owner and/or the Management Company regarding how the Tennis Centre and Squash Centre Travel and Parking Improvements Contribution should be spent by the Council.

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PART 3

COMMUNITY USE OBLIGATIONS

The Owner hereby covenants with the Council and where applicable the Council covenants with the Owner as follows:

1. To make the Stadium available for Community Use in accordance with and under the terms of the other requirements of this part 3 of Schedule 3 and the 2014 Agreement for a minimum of 130 days in total each Term provided that there shall be no obligation to make the pitch within the Stadium available for Community Use where such use would have a material adverse effect on sporting use of the pitch by any person occupying or operating the Stadium.

2. To make available the Community Use Areas for Community Uses for a minimum number of days to be agreed in the Community Use Plan each Term and pro rata for the First Term in aggregate across all of the Community Use Areas.

3. Without prejudice to the generality of paragraph 1 above, to make the following Community Use Areas available for Community Uses;

   3.1. the North Stand's Concourses and Forecourts for at least 12 structured Community Uses for each Term and pro rata for the First Term;

   3.2. the North Stand's Lounge for at least 12 structured Community Uses for each Term and pro rata for the First Term;

   3.3. the City Hall for at least 2 structured Community Uses for each Term and pro rata for the First Term;

   3.4. the Roof-Walk Attraction for at least 2 structured Community Uses for each Term and pro rata for the First Term; and

   3.5. the City Museum for at least 2 structured Community Uses for each Term and pro rata for the First Term

4. Not to apply any charges for the use of the Community Use Areas for Community Uses, except for provision of food, beverages or Equipment, if it is required by the Community Use providers, which should be at the cost price to the Owner.

5. To provide for Community Outreach Work for a minimum of 120 hours per week (in relation to the Stadium as a whole) at the Community Outreach Work Areas for each Term and pro rata for the First Term in aggregate across all of the Community Outreach Work Areas PROVIDED THAT the Council and the Owner acknowledge that the Community Use Areas and Community Outreach Work Areas will be available for Community Uses and Community Outreach Work respectively only when there is no conflict with the Football Club's first team fixtures (for both men and women teams) or any other event to be held in the Stadium, which will be identified by the Owner in accordance with Clause 19 of this Agreement.

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6. Before first Occupation to submit in writing to the Council the Community Opportunity Plan for the First Term (the "**First Community Opportunity Plan'**). Within 28 (twenty eight) days from submission of the First Community Opportunity Plan the Council shall give written notice to the Owner:

   6.1. Stating that it accepts it; or

   6.2. Correcting or challenging it, giving reasons and Acting Reasonably.

7. In the event that the Council shall have served a notice on the Owner pursuant to paragraph 6.2 of part 3 of this Schedule 3 the Owner and the Council Acting Reasonably shall use all endeavours to reach agreement over the First Community Opportunity Plan but if the Owner and the Council shall have failed to agree within 28 Working Days of the notice served by the Council pursuant to paragraph 6.2 of part 3 of this Schedule 3, then the matter in dispute shall be referred to the Expert, in accordance with the provisions of Clause 7, with the Expert being requested that he/she should as soon as practicable issue a written determination as to the matter in dispute and a written determination of the First Community Opportunity Plan, which both the Owner and the Council hereby agree that they will accept and shall be implemented in accordance with the terms of this Agreement.

8. Not to Occupy nor to permit nor to allow the Occupation of the Development until the First Community Opportunity Plan is approved pursuant to paragraphs 6 or 7 of this part 3 of Schedule 3 of this Agreement. The Owner further covenants with the Council to implement the First Community Opportunity Plan from first Occupation in accordance with its terms and to comply with it for the First Term and as long as it is applicable, unless and until a revised or subsequent Community Opportunity Plan becomes operative with the Council's written approval.

9. To arrange a meeting between the Owner and the Council's Strategic Director for Neighbourhood Services (or such successor or replacement role) to discuss the performance of the Owner against the Community Opportunity Plan for the current Term at least four months before the beginning of each following Term and prior to the submission of the Community Opportunity Plan for the forthcoming Term as required under paragraph 10 of this part 3 of Schedule 3 of this Agreement.

10. To submit to the Council for approval at least three months before the beginning of each following Term a Community Opportunity Plan in respect of that forthcoming Term.

11. Within 28 (twenty eight) days from submission of the Community Opportunity Plan the Council shall give written notice to the Owner:

    11.1. Stating that it accepts it;

    11.2. or correcting or challenging it, giving reasons and Acting Reasonably.

12. In the event that the Council shall have served a notice on the Owner pursuant to paragraph 11.2 of this part 3 of Schedule 3 the Owner and the Council Acting Reasonably shall use all endeavours to reach agreement over a Community Opportunity Plan for the relevant Term but if the Owner and the Council shall have failed to agree within 28 Working Days of the notice served by the Council

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pursuant to paragraph 11.2 of part 3 of this Schedule, then the matter in dispute shall be referred to the Expert, accordance with the provisions of Clause 7, with the Expert being requested that he/she should as soon as practicable issue a written determination as to the matter in dispute and a written determination of the Community Opportunity Plan, which both the Owner and the Council hereby agree that they will accept and shall be implemented in accordance with the terms of this Agreement.

13. To implement and comply with each Community Opportunity Plan as approved from the first day of the relevant Term and for the duration of that Term, unless and until a subsequent or revised Community Opportunity Plan becomes operative with the Council's written approval.

14. To use reasonable endeavours to promote and advertise the First Community Opportunity Plan via the Agreed Media before first Occupation and for the duration of the First Term and thereafter in respect of each Community Opportunity Plan form and for the duration of each relevant Term.

15. In the event that the Council considers that the Owner is in material breach of any of its obligations in the First Community Opportunity Plan or any subsequent Community Opportunity Plan in force from time to time:

    15.1. The Council Acting Reasonably shall give written notice to the Owner to notify them of the alleged breach providing particulars of the alleged breach;

    15.2. Within two weeks from the date of the Council's written notification, the Owner shall either reply in writing stating that they will rectify the breach within two weeks thereafter or such other period of time as the Owner may agree with the Council or state Acting Reasonably that they challenge the Council's alleged breach providing summary reasons;

    15.3. In the event that the Owner serves a notice on the Council pursuant to paragraph 15.2 of part 3 of this Schedule 3 challenging the Council's alleged breach, the Owner and the Council shall use all reasonable endeavours to resolve the allegation and if the Owner and the Council Acting Reasonably shall fail to reach agreement within 28 (twenty eight) Working Days of the Owner’s notice served to the Council pursuant to paragraph 15.2 of part 3 of this Schedule 3 then the matter in dispute shall be referred to the Expert, in accordance with the provisions of Clause 7 with the Expert being requested that he/she should as soon as practicable issue a written determination as to the matter in dispute and if appropriate provide details of any necessary or consequential amendment to the First Community Opportunity Plan or Community Opportunity Plan, as relevant, and both the Owner and the Council agree that they will observe and comply with the decision of the Expert;

    15.4. In event that the Owner fails to reply within two weeks from the Council's written notification, in accordance with paragraph 15.2 of part 3 of Schedule 3 or fails to comply with any recommendations from the Expert, in accordance with paragraph 15.3 above, the Owner shall cease to operate the Development for the purposes permitted by the Planning Permission within two weeks from the date of the Council's written notification or the date by which it

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should have complied with the Expert's written determination until such time as the breach is rectified.

16. It is hereby acknowledged by the Council that the Community Opportunity Plan and, for the avoidance of doubt, the Community Outreach Work may be implemented by the Owner's Charity on behalf of the Owner.

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PART 4

LOCAL LABOUR

The Owner hereby covenants with the Council as follows:

1 Prior to the Commencement of Development, to submit the Local Benefit Proposal Construction to the Council for its written approval.

2 To implement the approved Local Benefit Proposal Construction as part of the construction phase of the Development.

3 Within one calendar month prior to Completion of Construction, to submit a detailed written report which considers the outcomes of the Local Benefit Proposal Construction to the Council.

4 At least three months prior to Occupation, to submit the Local Benefit Proposal End Use to the Council for its written approval.

5 To operate the Development in accordance with the Local Benefit Proposal End Use.

6 On the first anniversary of Occupation, and on each subsequent anniversary, to submit a report on the effectiveness of the Local Benefit Proposal End Use and an updated Local Benefit Proposal End Use (if appropriate) to the Council within 1 (one) month of the relevant anniversary. In the event that updates to the Local Benefit Proposal End Use are agreed, to implement the revised Local Benefit Proposal End Use.

7 It is agreed by the Council and the Owner that the covenants contained in this part 4 shall:

(a) be subject to any domestic or international laws relating to employment and procurement, and

(b) not restrict the Owner's legal right to employ or use whichever staff, employees, contractors, sub-contractors or agents from whatever location it considers to be the most suitable to be employed or used at or in connection with the construction, use and/or operation of the Development provided always that it has implemented the Local Benefit Proposal Construction and the Local Benefit Proposal End Use (as appropriate).

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PART 5

COLLECTION OF WASTE

1 Prior to first Occupation, to submit the Waste Collection Scheme to the Council for approval.

2 To implement the approved Waste Collection Scheme from the date of first Occupation for the lifetime of the Development.

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PART 6

STADIUM TRAFFIC & TRANSPORT MANAGEMENT PLAN

The Owner covenants with the Council and where relevant the Council covenants with the Owner:

1 To submit in writing to the Council no less than 3 months prior to first Occupation of the Development the First Stadium Traffic & Transport Management Plan.

2 Within 56 (fifty six) days from submission of the First Stadium Traffic & Transport Management Plan the Council shall give written notice to the Owner:

2.1 Stating that it accepts it; or

2.2 Correcting or challenging any of its contents, giving reasons and Acting Reasonably.

3 In the event that the Council shall have served a notice on the Owner pursuant to paragraph 2.2 of part 6 of this Schedule 3 the Owner and the Council Acting Reasonably shall use all endeavours to reach agreement over the First Stadium Traffic & Transport Management Plan but if the Parties fail to agree within 28 Working Days of the notice served by the Council pursuant to paragraph 2.2 of part 6 of this Schedule 3 then the matter in dispute shall be referred to the Expert, in accordance with the provisions of Clause 7, with the Expert being requested that he/she should as soon as practicable issue a written determination as to the matter in dispute and a written determination of the First Stadium Traffic & Transport Management Plan, which both the Owner and the Council agree that they will accept and shall be implemented in accordance with the terms of this Agreement.

4 Not to Occupy, not to permit nor to allow Occupation of the Development until the First Stadium Traffic & Transport Management Plan is approved. The Owner further covenant to implement the First Stadium Traffic & Transport Management Plan from first Occupation in accordance with its terms and to comply with it for the duration of the First Term, unless and until a revised or subsequent Stadium Traffic & Transport Management Plan becomes operative with the Council's written approval.

5 To promote and advertise the First Stadium Traffic & Transport Management Plan once approved via the Agreed Media before and until not less than the end of the First Term in accordance with the approved First Stadium Traffic & Transport Management Plan.

6 Irrespective of when the First Stadium Traffic & Transport Management Plan is approved during the course of a Football Season pursuant to paragraphs 2 or 3 of part 6 of this Schedule 3, the Owner shall, prior to the commencement of the next Football Season, submit in writing to the Council, the Stadium Traffic & Transport Management Plan for the forthcoming Term and for the avoidance of doubt the “First Term” shall be deemed to have concluded at the commencement of the next Football Season.

7 Within 56 (fifty six) days from submission of each Stadium Traffic & Transport Management Plan the Council shall give written notice to the Owner:

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7.1 Stating that it accepts it or

7.2 Correcting or challenging any of its contents, giving reasons and Acting Reasonably.

8 In the event that the Council shall have served a notice on the Owner pursuant to paragraph 7.2 of part 6 of this Schedule 3 the Owner and the Council Acting Reasonably shall use all endeavours to reach agreement over the Stadium Traffic & Transport Management Plan but if the Owner and the Council shall have failed to agree within 28 Working Days of the notice served by the Council pursuant to paragraph 7.2 of part 6 of this Schedule 3, then the matter in dispute shall be referred to the Expert, in accordance with the provisions of Clause 7, with the Expert being requested that he/she should as soon as practicable issue a written determination as to the matter in dispute and a written determination of the Stadium Traffic & Transport Management Plan, which both the Owner and the Council agree that they will accept and will implement in accordance with the terms of this Agreement.

9 To implement and comply with each approved Stadium Traffic & Transport Management Plan for the duration of the Term for which it is approved pursuant to paragraphs 7 and 8 of part 6 of this Schedule 3 of this Agreement, unless and until a revised or subsequent Stadium Traffic & Transport Management Plan becomes operative with the Council's written approval.

10 To promote and advertise each Stadium Traffic & Transport Management Plan once approved via the Agreed Media before and for the duration of the Term that it will be applicable in accordance with the approved Stadium Traffic & Transport Management Plan.

11 In the event that the Council considers that the Owner is in material breach of any of its obligations to comply with the First Stadium Traffic & Transport Management Plan or any Stadium Traffic & Transport Management Plan applicable from time to time:

11.1 The Council Acting Reasonably shall give written notice to the Owner to notify them of the alleged breach providing particulars of the alleged breach.

11.2 Within two weeks from the date of the Council's written notification, the Owner shall either reply in writing stating that they will rectify the breach within two weeks thereafter or such other period of time as the Owner may agree with the Council or state Acting Reasonably that it challenges the Council's alleged breach providing summary reasons.

11.3 In the event that the Owner serves a notice on the Council pursuant to paragraph 11.2 of part 6 of this Schedule 3 challenging the Council's alleged breach, the Owner and the Council Acting Reasonably shall use all reasonable endeavours to resolve the allegation and if the Owner and the Council shall fail to agree within 28 Working Days of the Owner’s notice served to the Council pursuant to paragraph 11.2 of part 6 of this Schedule 3, then the matter in dispute shall be referred to the Expert, in accordance with the provisions of Clause 7, with the Expert being requested that he/she should as soon as practicable issue a written determination as to the matter in dispute and if appropriate provide details of any necessary or consequential amendment to the Stadium Traffic & Transport Management Plan, as appropriate, which both the Owner and the Council agree that they will observe and comply with the decision of the Expert.

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11.4 In the event that the Owner fails to reply within two weeks from the Council's written notification, in accordance with paragraph 11.2 of part 6 of this Schedule 3 or fails to comply with any recommendations from the Expert, in accordance with paragraph 11.3 above, the Owner shall cease to operate the Development for the purposes permitted by the Planning Permission within two weeks from the date of the Council's written notification or the date by which it should have complied with the Expert's written determination until such time as the breach is rectified.

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PART 7

ANNUAL CITY COMMUNITY OUTREACH PLAN

The Owner covenants with the Council:

1. Prior to first Occupation of the Development to submit the Annual City Community Outreach Plan to the Council for written approval and thereafter to work with the Council to implement the Annual City Community Outreach Plan.
2. Not to Occupy the Development until the Annual City Community Outreach Plan has been submitted to the Council for written approval.
3. On each subsequent yearly anniversary of the approval of the Annual City Community Outreach Plan, to submit an updated Annual City Community Outreach Plan for the forthcoming year to the Council for written approval and thereafter to work with the Council to implement the Annual City Community Outreach Plan.
4. It is hereby acknowledged by the Council that the Annual City Community Outreach Plan may be implemented by the Owner's Charity on behalf of the Owner.

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APPENDIX 1

Transport Assessment and Travel Plan

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ARUP

Manchester City Football Club

Etihad Stadium North Stand Project, Manchester

Framework Travel Plan

Reference: EtihadNS_FTP

B | 17 April 2023

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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

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Document title	Framework Travel Plan
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Document ref	EtihadNS_FTP
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			Prepared by	**Checked by**	**Approved by**
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		Signature	LP	PW	PW
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		Name	Sonia Wong	Luke Peaker	Peter Webster
		Signature	SW	LP	PW
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		Name	Sonia Wong	Luke Peaker	Peter Webster
		Signature	SW	LP	PW

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1. Introduction

1.1 Overview

This Framework Travel Plan (FTP) has been prepared by Arup on behalf of Manchester City Football Club in support of the planning application for the expansion of the Etihad Stadium North Stand, including commercial workspace and hotel development, which is due to be complete in 2026 ('The Proposed Development'). A full description of the Proposed Development is provided within the Planning Statement.

The requirement for an FTP has been agreed in scoping discussions with MCC and TfGM. Relevant scoping correspondence is presented in Appendix A.

Notwithstanding this requirement, the FTP has been developed to demonstrate and support Manchester City Football Club's desire to continue to maximise opportunities for sustainable travel across the Etihad Campus. The club has set out its aims with regards to movement and access in the Strategic Vision for Transport (appended).

The club continues to implement sustainable transport measures to, from and across the Etihad Campus in the form of agreed obligations and self-motivated initiatives to encourage staff, visitors, and spectators to travel sustainably to the site wherever possible in line with these strategic aims. This FTP therefore complements committed existing and future planned activities and will ensure that the Proposed Development aligns with these wider goals. Appendix B sets out some of the campus-wide sustainable travel initiatives that are being implemented beyond the scope of this planning application.

1.1.1 Purpose and Scope

This Framework Travel Plan has been developed for the commercial elements of the Proposed Development, namely the Hotel and Workspace uses. Travel to and from the stadium by staff, supporters and visitors will continue to be addressed through the Club's existing commitments and measures.

The overall objective of a Framework Travel Plan is to outline practical measures and initiatives which organisations can adopt to reduce the impact of their travel on the environment and to encourage the use of sustainable modes of transport by staff and visitors.

The Hotel and Workspace uses delivered as part of the Proposed Development will be required to prepare and manage their own travel plans within the objectives and targets set out within this FTP.

The FTP outlines a long-term strategy with a clear set of objectives and targets. As a 'living document' it will require monitoring, review and revision over the timescales set out in the below section, subject to performance against targets.

1.1.2 Background

In 2014 planning consent was granted to expand the Etihad Stadium to provide an additional 12,500 seats. (Planning Ref. 104315/FO/2013/N2). This consent has been partially implemented through the expansion of the South Stand by 6,250 seats. The permission for an additional 6,250 seats in the North Stand was previously consented but is yet to be implemented.

The 2014 consent was supported by a Transport Assessment and Staff Travel Plan. These documents considered baseline travel patterns and modal splits, future targets, and measures required to deliver on these targets. With regard to the latter, packages of interventions were agreed to be delivered on completion of the South Stand expansion ('Phase 1') and North Stand expansion ('Phase 2'). Although the expansion of the North Stand has not yet been implemented, all of these initiatives have since been delivered or funded.

There are already overarching plans for sustainability at the Etihad Campus including the Etihad Campus Strategic Vision – Movement & Transport and a Strategic Sustainability Framework.

The transport strategy for the consented stadium that underpins the 2014 consent is based upon a modal shift in which any trips that are new to the network will be encouraged by a variety of measures to use sustainable modes of transport such as public transport, walking, and cycling. Surveys undertaken as part of this work,

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supported by data from previous studies, indicates that this modal shift is being achieved and, since the surveys undertaken as part of the 2014 application, recorded car numbers on site have reduced.

The overarching aim of the transport strategy for the stadium expansion is to maintain and not increase existing levels of parking. New journeys generated by the stadium expansion would use alternative modes to the car. No additional parking supply, junction capacity improvements, or other schemes that might encourage additional traffic are proposed as part of the strategy.

Any measures or initiatives that are proposed as part of the Proposed Development should be fully aligned and supportive of these overarching plans. This FTP is therefore informed by these strategies and associated club-led initiatives that are planned to help deliver the wider strategy for the campus. Proposed measures are discussed in more detail in Section 6 of this FTP. This FTP outlines measures and initiatives that could be promoted to both reduce the dependency on car travel and to promote the use of alternative modes of transport. These measures will look to either adopt, build on or complement measures within the overarching plans.

1.2 Timescales

The period of this FTP is five years. As part of the management of the plan, there will be a requirement to report annually on the progress of the FTP against targets. Where there are departures from the agreed targets set within the full Travel Plans for the Hotel and Workspace uses, corrective measures may be implemented. This could include the extension of the FTP and Travel Plan period beyond this initial five years, until targets are met.

1.3 Travel Plan Structure

The remainder of this FTP is structured as follows:

Section 2: Travel Plan Policy and Guidance

Section 3: Site Context

Section 4: Travel Plan Management

Section 5: Travel Plan Objectives and Targets

Section 6: Travel Plan Measures and Initiatives; and

Section 7: Monitoring and Review

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2. Travel Plan Policy and Guidance

2.1 Overview

This section illustrates the national, regional and local policy context that underpins the approach to travel planning that has been developed for the Proposed Development.

2.2 National Planning Policy

2.2.1 National Planning Policy Framework 2021

The National Planning Policy Framework (NPPF) was adopted in 2018 and revised in July 2021. It sets out the Government's planning policies for England and how these should be applied and provides a framework within which locally prepared plans for housing and other development can be produced. At its heart the NPPF sets out a presumption in favour of sustainable development (Paragraph 11).

With specific reference to transport, the NPPF states that "*transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*

- *The potential impacts of development on transport networks can be addressed;*
- *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places."*

The NPPF states that "all developments that will generate significant amounts of movement should be required to provide a Travel Plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."

2.2.2 Ministry of Housing, Communities and Local Government: Travel Plans, Transport Assessments, and Statements (2014)

The guidance states that '*Travel Plans should identify the specific required outcomes, targets and measures, and set out clear future monitoring and management arrangement all of which should be proportionate. They should also consider what additional measures may be required to offset unacceptable impacts if the targets should not be met*".

It goes on to state that "*Travel Plans should set explicit outcomes rather than just identify processes to be followed (such as encouraging active travel of supporting the use of low emission vehicles). They should address all journeys resulting from a proposed development by anyone who may need to visit or stay, and they should seek to fit in with wider strategies for transport in the area*".

This FTP includes specific outcomes, which are aligned to the wider strategies for the local area and in particular the strategic vision for the Etihad Campus.

2.3 Local Planning Policy

2.3.1 Greater Manchester Transport Strategy 2040

TfGM has developed the Greater Manchester Transport Strategy 2040 on behalf of the Greater Manchester Combined Authority (GMCA) and Greater Manchester Local Enterprise Partnership (LEP).

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Informed by key trends that will influence transport infrastructure requirements between now and 2040, the Strategy sets out long-term proposals to create a cleaner, greener more prosperous city region through better connections and simpler travel.

The overall vision as set out in the Strategy is for Greater Manchester to have 'World class connections that support long-term, sustainable economic growth and access to opportunity for all'.

The four key elements of TfGM's Vision, which represent the goals of their strategy, are as follows:

- Supporting sustainable economic growth;
- Improving the quality of life;
- Developing an innovative City Region; and
- Protecting our environment.

The elements of TfGM's Vision reflect some of the critical challenges for Greater Manchester. These challenges also apply at a more local level to the Etihad Campus.

The Greater Manchester Transport Strategy recognises the growing regional centre of Manchester, including the Etihad Campus, as a major driver for economic growth and identifies leisure, retail and tourism as being critical to the future economic success of Greater Manchester.

Improved connectivity between the City Centre and the Etihad Campus is identified as a focus area within the Strategy.

The relative proximity of the Etihad Campus to the City Centre is identified as a particular opportunity to promote higher levels of walking and cycling, through investment in pedestrian and cycle networks supported by comprehensive and consistent on-street and digital wayfinding infrastructure. Potential improvements to rapid transit to the Etihad Campus are also identified.

2.3.2 Manchester City Council Core Strategy (2012-2027)

MCC's Core Strategy is the key Development Plan Document in the Local Development Framework. It sets out the long-term strategic policies for Manchester's future development and forms the framework that planning applications will be assessed against.

Transport forms one of the six spatial objectives within the Core Strategy. The overriding objective for transport is to "*improve the physical connectivity of the city, through sustainable and accessible transport networks, to enhance its functioning and competitiveness and provide access to jobs, education, service, leisure and recreation'.*

Within the Core Strategy there are several policies that set out how this objective will be achieved. These are discussed in greater detail below.

Policy T1 relates to sustainable transport. It states that:

"To deliver a sustainable, high quality, integrated transport system to encourage modal shift away from car travel to public transport, cycling and walking, to support the needs of residents and businesses and to prepare for carbon free modes of transport, the Council will support proposals that: -

- *Improve choice by developing alternatives to the car.*
- *Promote regeneration and economic vitality by relieving traffic congestion and improving access to jobs and services, particularly for those most in need and for those without a car.*
- *Improve access to transport services and facilities in order to enable disabled people and people with mobility impairments to participate fully in public life.*
- *Improve pedestrian routes and the pedestrian environment.*
- *Improve and develop further Manchester's cycle network (for example the Manchester Cycleway and the Trans Pennine Trail).*

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- *Contribute to improvements to the extent and reliability of the public transport network through safe and attractive waiting and interchange facilities, better priority, improved services and information provision.*
- *Improve and develop appropriate road, rail and water freight transport routes and associated intermodal freight transport facilities in order to assist in the sustainable and efficient movement of goods.*
- *Facilitate modes of transport that reduce carbon emissions e.g. by incorporating charging points for electric vehicles, subject to their appropriate design and location.*
- *Would reduce the negative impacts of road traffic, for example, congestion, air pollution and road accident casualties.*
- *Take account of the needs of road users according to a broad hierarchy consisting of, in order of priority:*
    - *Pedestrians and disabled people*
    - *Cyclists, public transport*
    - *Commercial access*
    - *General off-peak traffic*
    - *General peak time traffic"*

Policy T2 relates to accessible areas of opportunity and need. It states that:

"The Council will actively manage the pattern of development to ensure that new development: -

- *Is located to ensure good access to the City's main economic drivers, including the Regional Centre, the Oxford Road Universities and Hospitals and the Airport and to ensure good national and international connections.*
- *Is easily accessible by walking, cycling and public transport; connecting residents to jobs, centres, health, leisure, open space and educational opportunities. Particular priority will be given to providing all residents access to strategic employment sites including: -*
    - *Links between North Manchester residents and key employment locations, including the City Centre, Central Park, Salford Quays and Chadderton Industrial Estate and Trafford Park.*
    - *Links within East Manchester to employment locations, Central Park and Eastlands in particular.*
    - *Links within Central Area between residents and employment, the Corridor in particular and east/west connectivity for residents in Central Area to employment areas in Trafford and East Manchester.*
    - *Maintaining strong links between residential areas in the South and the Regional Centre and improving connectivity with the Airport.*
    - *Ensuring good links between Wythenshawe residents and the Airport and further employment opportunities in Stockport, Trafford and the Regional Centre.*
- *Within the City Centre, provides a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development. Elsewhere, all new development should provide appropriate car parking facilities, taking account of the guidance in appendix B, which reflects policy in the Regional Strategy (RS). In all parts of the City proposals should have regard to the need for disabled and cycle parking, in line with appendix B. If the RS is revoked the Council will continue to use these standards when applying this policy. Standards are set for two different area types:*
    - *District Centres; and*
    - *Areas not within the City Centre or District Centres.*
- *The car parking standards are maximums, and the cycle and disabled car parking standards are minimums. However, the Council will take the circumstances of each proposal into account to establish what level of parking is appropriate.*

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- *Includes proportionate Traffic Impact Assessments and Travel Plans for all major applications and for any proposals where there are likely to be access or transport issues."*

As demonstrated through this transport assessment, the proposed development is in accordance with this policy and in particular seeks to enhance access to strategic employment opportunities within East Manchester and to improve east/west connectivity between the Central Area and East Manchester by walking, cycling, and public transport. It is therefore considered to be in line with policy T2 of the Core Strategy.

2.3.3 Greater Manchester Five Year Transport Delivery Plan

The Greater Manchester Five Year Transport Delivery Plan 2021-2026 is developed as part of the Greater Manchester Transport Strategy 2040 to detail what Greater Manchester wants to achieve in the next five years as the first steps towards delivering TfGM's vision for transport.

The Five-Year Transport Delivery Plan supports the implementation of Our Network, a ten-year plan to create a world-class, modern, integrated and reliable transport system for Greater Manchester. It brings together different modes of public transport – bus, tram, rail, tram-train and cycling and walking – in an integrated, easy-to-use system with seamless connections, and simplified ticketing and fares.

The plan is structured around five themes:

- Our Bus
- Our Metrolink
- Our Rail
- Our Streets
- Our Integrated Network

These themes are related to promoting more sustainable modes of transport in Greater Manchester such as public transport as well as walking and cycling.

2.3.4 Greater Manchester Active Travel Mission, TfGM (2022)

Active travel includes all kinds of human-powered movement to reach a destination and is fundamental to enabling the success of other key agendas for Greater Manchester, including improved health, decarbonisation, educational attainment and the economy. Greater Manchester has already built the strong foundations of an active travel system, but as our travel habits have changed since the pandemic, the cost-of-living crisis and rising awareness of healthy lifestyles, now is the right time to revisit existing priorities and refresh the mission for Greater Manchester.

So far, 92 km of active travel routes were delivered, and by the end of 2023, 15 fully protected CYCLOPS junctions will be completed. Greater Manchester's first publicly operated cycle hire scheme were launched and provides over 100,000 people with access to an affordable, reliable and convenient public bike share service.

There are five key priorities that will drive the work and focus of active travel over the coming years. The aim is to develop some core principles of delivery and engagement that will make the biggest difference to every community and area of our region:

- Infrastructure Delivery – four principles to a connected network
- Home to School Travel
- Cycle Hire and access to cycles
- Integration with Public Transport
- Road Danger Reduction

The active travel infrastructure of the Etihad Campus development will particularly be developed with consideration of the key priorities stated above.

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2.3.5 City Centre Transport Strategy 2040, Manchester City Council

The City Centre Transport Strategy 2040 is a sub-strategy to the Greater Manchester Transport Strategy 2040. This City Centre Transport Strategy will enable the city-region to realise the 'Our Network' vision.

The vision, set out in the City Centre Transport Strategy, is for "a well-connected, zero-carbon city centre at the heart of the North, offering our residents, employees and visitors a great place to work, live and visit". To deliver the vision, seven ambitions have been set out:

- Walking is the main way of getting around the city centre
- The city centre is cleaner, greener and less congested
- More people choose to cycle to destinations within the city centre
- The city centre benefits from better public transport connections
- Parking in the city centre is smarter and integrated with other modes
- Goods are moved and delivered sustainably and efficiently into and within the city centre
- Innovation is embraced where it benefits the city centre and its users

Improved connectivity between the City Centre and the Etihad Campus is in line with the focus area within the Strategy.

The relative proximity of the Etihad Campus to the City Centre is identified as a particular opportunity to promote higher levels of walking and cycling, through investment in pedestrian and cycle networks supported by comprehensive and consistent on-street and digital wayfinding infrastructure. Potential improvements to rapid transit to the Etihad Campus are also identified.

2.3.6 Eastlands Regeneration Framework (2019)

The overall vision for the Etihad Campus is set out in the Eastlands Regeneration Framework. This vision is to develop a place that can successfully host a globally competitive sport, leisure and recreation offer.

As such the Etihad Campus aims to be:

- The home of a new destination where residents and visitors will come to spend their time on leisure and recreation related activities
- The home of global and national sports organisations which can thrive and develop global best practice. In doing so the Etihad Campus can become the home to new sports related businesses in a new "Sports-Tech" cluster for the city-region
- The home of a Manchester exemplar stimulating a change in behaviours towards the zero-carbon agenda, creating employment opportunities for local people and driving innovation and economic growth across the city.

The Etihad Campus has the capacity to respond to and host significant new opportunities for a globally competitive leisure and recreation offer. If secured this would deliver key benefits to residents and the wider Greater Manchester economy through investment and jobs.

In promoting any such opportunity, it is recognised that there must be a robust and comprehensive movement and transport strategy, together with supporting mitigation measures encompassing a range of infrastructure interventions and behavioural changes.

2.3.7 Zero Carbon Manchester

To make Manchester a healthy, green, socially just city where everyone can thrive, MCC has targeted to make Manchester a zero-carbon city by 2038 at the latest, 12 years ahead of the Government's target for the UK of 2050.

To achieve this target, the Climate Change Action Plan is developed alongside the citywide framework, splitting into actions to support the city to achieve its climate change ambitions:

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- Reducing direct emissions
- Supporting and influencing others in the city to decarbonise
- Rebalance the current use of city centre space
- Promote sustainable and active travel
- Improve air quality
- Plant more trees
- End fuel poverty
- Improve the environment across all the city's neighbourhoods.

The relative proximity of the Etihad Campus to the City Centre is identified as a particular opportunity to promote sustainable and active travel, hence directly reduces emissions and improve air quality. Through investment in pedestrian and cycle networks and rapid transit to the Etihad Campus, the city can be decarbonised with less use of vehicles, improving the environment across the neighbourhood in vicinity of the site.

2.3.8 Greater Manchester Infrastructure Framework 2040

Greater Manchester has experienced major change over the past decades, and this is anticipated to continue, if not accelerate, in the future – particularly as a result of population and employment growth, environmental & climate change and technological advances. The Framework has set out the key trends affecting infrastructure up to 2040, how those trends will affect each infrastructure network and the responses needed.

The infrastructure sectors covered within this Framework focuses on the physical infrastructure broadly in line with the National Infrastructure Commission of:

- Energy
- Transport
- Digital
- Flooding, surface and wastewater management
- Green and blue infrastructure
- Potable (drinking) water

The Transport Infrastructure, changes in travel patterns will occur due to demographic changes (aging population), changing working practices and the prominence of online retail. These changes have the potential to increase congestion and delays across all modes of transport without further action. Also, Greater Manchester requires the associated infrastructure to support a shift to ultra-low emission forms of transport this change to move towards decarbonisation and improving air quality.

Through investment in pedestrian and cycle networks supported by comprehensive and consistent on-street and digital wayfinding infrastructure, the relative proximity of the Etihad Campus to the City Centre is favourable to promote higher levels of active travel hence easing the congestions and delays anticipated. Also, improvement of public transport network and green infrastructure in vicinity of the Etihad Campus would potentially induce mode shift from private cars to walking/ cycling and public transport.

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3. Site Context

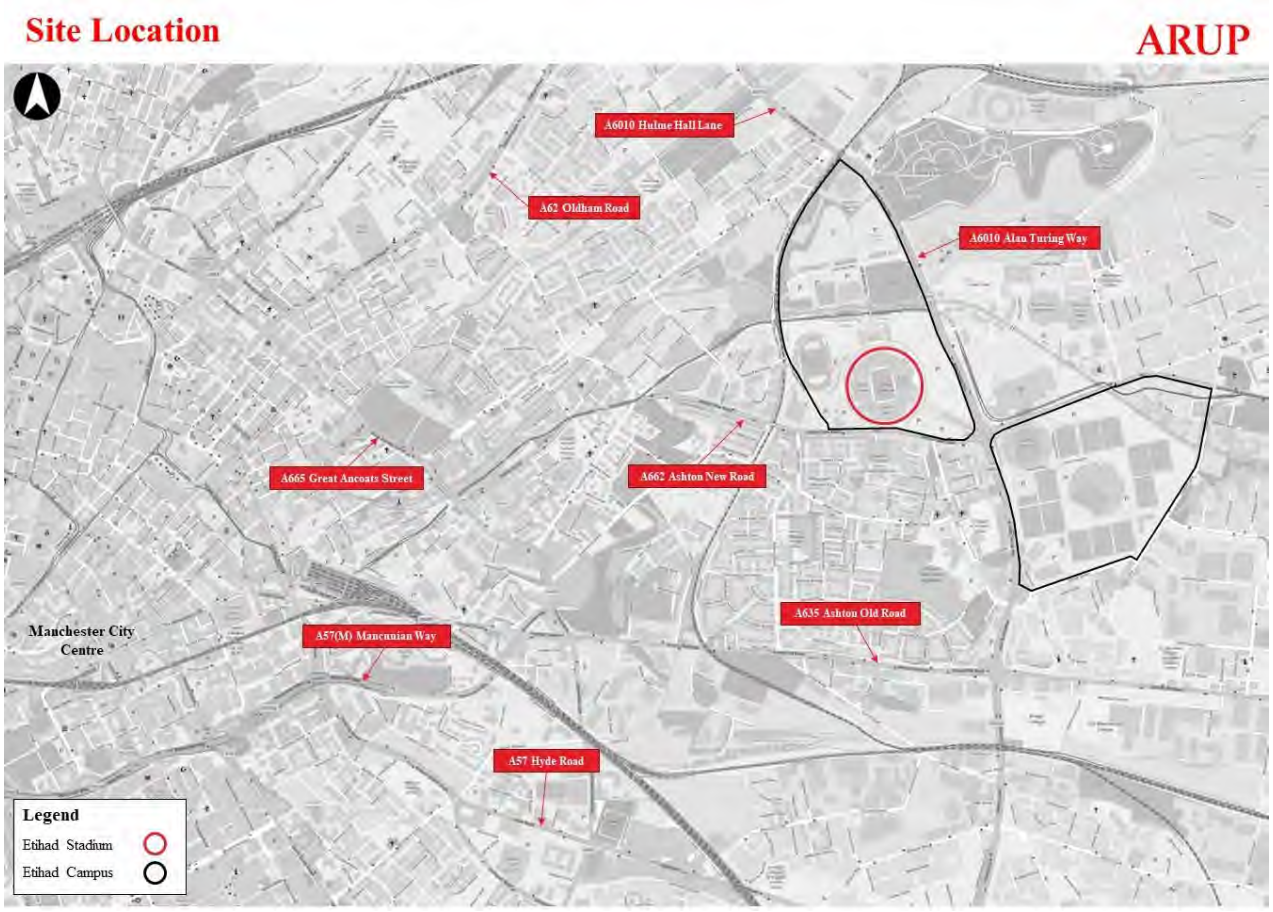


Figure 1: Site Location

3.1 Public Transport

The Etihad Campus is highly accessible by public transport with Metrolink, bus and heavy rail all serving the site. The existing services to and from the Etihad Campus are described below.

3.1.1 Metrolink

The Etihad Campus benefits from having a Metrolink stop located centrally within the site. The Etihad Campus stop has supporting crowd-control infrastructure to enable it to deal with high volumes of passengers before, and particularly following an event at the Stadium. There are additional Metrolink stops to the west and east of the Etihad Campus (Holt Town and Velopark respectively) that serve the areas immediately surrounding the Etihad Campus (and also serve some parts of the Etihad Campus more conveniently than the main stop).

The Etihad Campus stop is on the Ashton-under-Lyne to Eccles/MediaCityUK Metrolink line, which currently has a timetabled 12-minute frequency (i.e. five trams per hour) in both directions. These services call at key City Centre stops including Piccadilly, Piccadilly Gardens, St Peter's Square and Deansgate Castlefield. Interchange onto all other Metrolink lines is possible at these City Centre stops. Three Park and Ride facilities are located on the line providing a total of 845 parking spaces at Ashton West (195 spaces), Ashton Moss (200 spaces) and Ladywell (450 spaces). Other Park and Ride facilities are located across the Metrolink network, providing a further total of over 2,300 spaces.

TfGM currently has a timetabled 'enhanced service' on Metrolink to serve football matches and other major events at the Etihad Campus. This enhanced service is specifically tailored to the requirements of each event based on TfGM intelligence, previous experience and anticipated demand. It is typically intended to operate

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such that the service frequency is increased to every 6 minutes in each direction and trams operate as ‘double units’ (i.e. two connected tram units) (subject to vehicle availability) for a period before and after the event.

3.1.2 Rail

The closest heavy rail station to the Etihad Campus is Ashburys. This is approximately 15-minutes’ walk from the southern edge of the Etihad Campus. Ashburys station is served by the following services:

- Between Manchester Piccadilly and Hadfield/Glossop (via Guide Bridge/Newton for Hyde /Broadbottom) – approximately 40 trains per day in each direction;
- Between Manchester Piccadilly and Rose Hill/New Mills Central (via Bredbury/Guide Bridge/Hyde North & Central/Marple) – approximately 30 trains per day in each direction; and
- Between Manchester Piccadilly and Sheffield - two trains per day in each direction.

Whilst there are frequent services to Ashburys station, it has limitations in terms of its capacity to accommodate the large volumes of passengers that may wish to use the station immediately following an event due to the infrastructure. The station can, however, play an important role during non-event times (e.g. for staff access to the Etihad Campus).

Manchester Piccadilly is the main station serving the City Centre. There is a signed walking route between the Etihad Campus and Piccadilly Station. Piccadilly has rail services to a wide range of local and national destinations as well as interchange to other modes including Metrolink, bus and taxi. The Etihad Campus is an 8-minute journey from Piccadilly via a direct Metrolink service

Manchester Victoria is located slightly further from the Etihad Campus but still within the City Centre. Victoria has services to a wide range of local destinations and other locations across the North of England including Leeds, Liverpool and Newcastle.

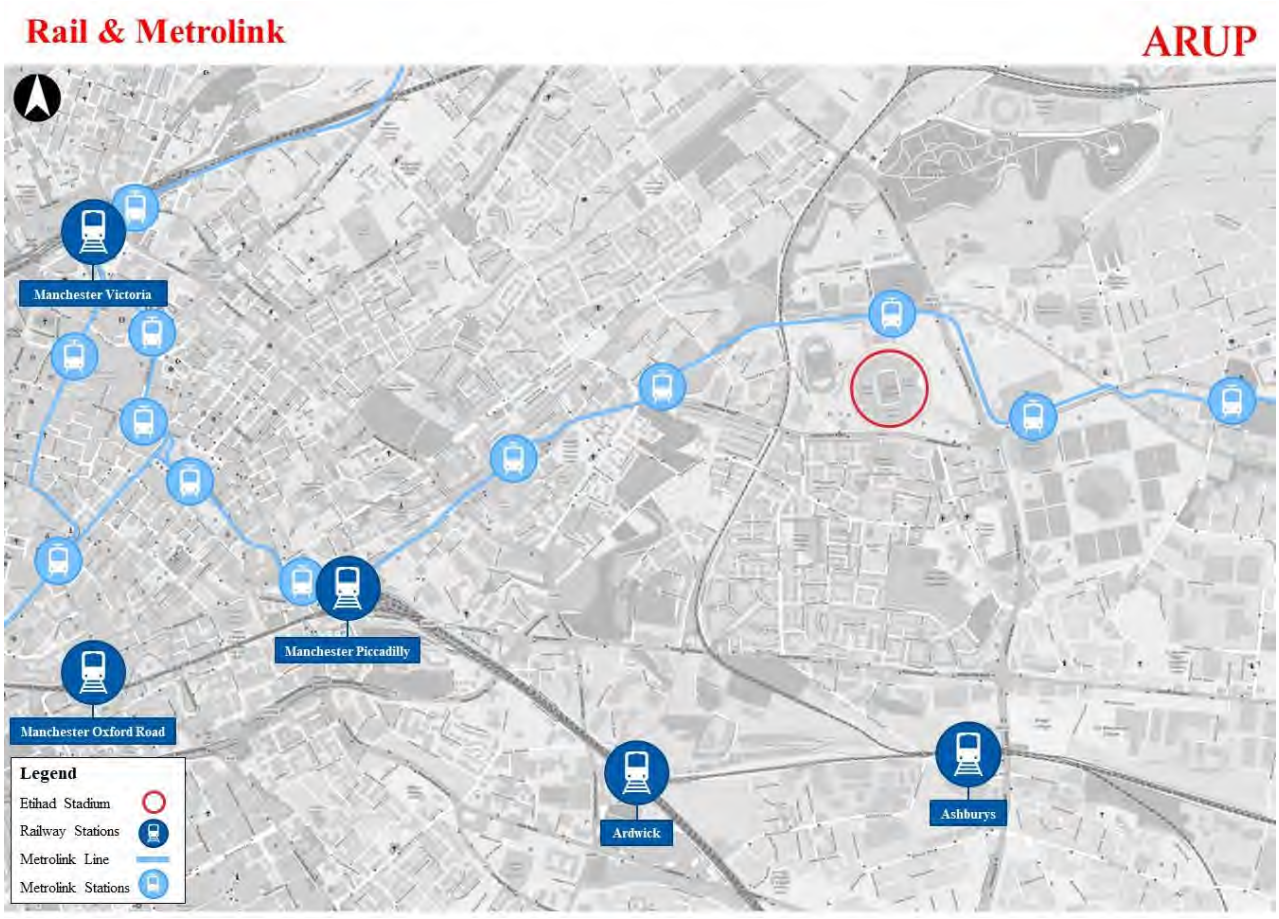


Figure 2: Rail and Metrolink

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3.1.3 Bus

The Etihad Campus is currently well served by high frequency radial bus services between Manchester City Centre and both Ashton-under-Lyne /Stalybridge (services 216, 217 230, and 231) and Oldham (services 76 and 76A). These services stop close to the Etihad Campus along Ashton New Road and Bradford Road respectively. There is also a radial bus service that operates between Cheetham Hill and Salford Quays/Pendleton (service 53), stopping on Alan Turing Way. Table 1 summarises the frequency of the services.

Bus routes near the site are presented in Figure 3.

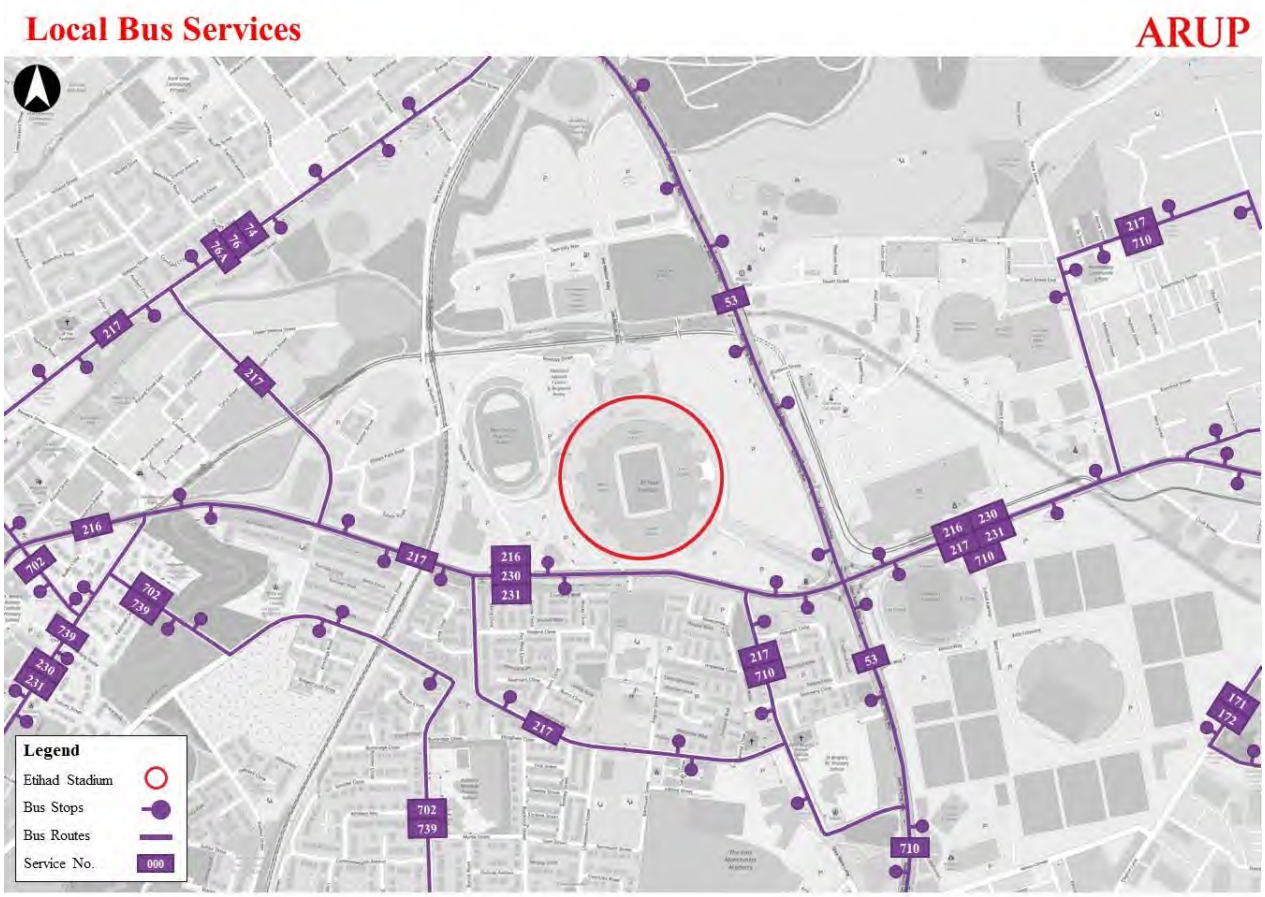


Figure 3: Local Bus Services

Table 1: Local Bus Services

Service Route	Origin - Destination	Frequency
216	Piccadilly Gardens↔Ashton-under-Lyne↔Stalybridge	6/hr/bound
217	Piccadilly Gardens↔Droylsden↔Ashton-under-Lyne	1/hr/bound
230	Piccadilly Gardens↔Droylsden↔Ashton-under-Lyne	1/hr/bound
231	Piccadilly Gardens↔Droylsden↔Hurst↔Ashton-under-Lyne	2/hr/bound
76	Piccadilly Garden↔Failsworth↔Hollinwood↔Oldham Mumps	4/hr/bound
76A	Piccadilly Garden↔Failsworth↔Limeside↔Oldham	1/hr/bound
53	Cheetham Hill↔Higher Crumpsall↔Old Trafford↔Pendleton	2/hr/bound

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3.2 Walking Network

The Etihad Stadium is surrounded by heavily trafficked roads on its eastern and southern boundaries however formal crossings are in place at the following locations:

- The junction of Hulme Hall Lane/Bradford Road;
- The junction of Alan Turing Way/Briscoe Lane;
- The junction of Alan Turing Way/Sportcity Way;
- The junction of Alan Turing Way/Gibbon Street;
- The junction of Alan Turing Way/Ashton New Road;
- Ashton New Road (between Grey Mare Lane and Swallow Street); and
- Ashton New Road (between Rowsley Street and Swallow Street).

In addition to the at-grade pedestrian crossings at the junction of Alan Turing Way/Ashton New Road, a pedestrian overbridge provides connectivity between the Etihad Campus, City Football Academy and the communities to the south and east.

The Ashton Canal Towpath provides connections to the communities east and west of the Etihad Campus. Joe Mercer Way provides a grade-separated crossing of the canal itself to allow internal north-south movements within the Etihad Campus. To the west of the Etihad Campus, Philips Park Road/Rowsley Street and the City Link connection provides pedestrian connectivity over and under (respectively) the potential barrier to movement of the railway corridor.

There are a number of alternative walking routes from the City Centre available. The most direct route, known as the ‘City Link’ is via the A662 Pollard Street/Merrell Street/Ashton New Road. The ‘City Link’ was initially developed for the 2002 Commonwealth Games. This route is signed between the Etihad Campus and the City Centre and is lit with footways on either side and controlled crossings at junctions with major roads of which there are only two (Carruthers Street and Every Street). A branch of this route connects from Every Street to the centre of the Etihad Campus via a traffic-free route.

An alternative traffic-free walking route between the City Centre and the Etihad Campus is available via the Ashton Canal towpath. This route takes approximately 20-minutes to walk to the edge of the City Centre (as defined by Great Ancoats Street). This route passes beneath Great Ancoats Street alongside the canal.

3.2.1 Access to other modes on foot

Other key transport interchanges can also be accessed on foot from the Etihad Campus. These include the following locations:

- Ashton Old Road bus corridor - approximately 900m south of the Etihad Campus – accessed directly along Alan Turing Way/Pottery Lane. Controlled crossing facilities are provided at the main junctions with Ashton New Road and Ashton Old Road;
- Oldham Road bus corridor - approximately 1,000m north of the Etihad Campus – accessed directly along Alan Turing Way/Hulme Hall Lane. Controlled crossing facilities are provided at the main junctions with Bradford Road and Oldham Road;
- Ashburys Station – approximately 1,100m south of the Etihad Campus – accessed directly along Alan Turing Way/Pottery Lane. Controlled crossing facilities are provided at the main junctions with Ashton New Road and Ashton Old Road;
- Central Park Metrolink stop – approximately 2km north of the Etihad Campus accessed along Briscoe Lane and Ten Acres Lane. This stop is on the Rochdale-East Didsbury line. Controlled crossing facilities are provided at the main junctions with Briscoe Lane and Oldham Road; and

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- Queens Road Metrolink stop – approximately 2.5km north-west of the Etihad Campus accessed along Hulme Hall Lane. This stop is on the Bury-Altrincham line. Controlled crossing facilities are provided at the main junctions along the route.

3.2.2 Access to existing amenities

Developments in close proximity of, and accessible to, local amenities can help to enable reductions in car journeys and, therefore, congestion and CO_2 emissions over the life of the building.

Within 500m of the site existing accessible amenities includes the following:

- Food outlets (existing within the Etihad Campus and within/surrounding the Asda Superstore and new outlets proposed as part of the Coop Live development);
- Access to cash (ATM available at the Asda Superstore)
- Access to an outdoor open space (public or private, suitably sized and accessible to building users) in the form of Philips Park;
- Access to a recreation or leisure facility for fitness or sports (multiple facilities across Etihad Campus that are available to the general public);
- Publicly available postal facility (at Asda Superstore); and
- Over the counter services associated with a pharmacy (at Asda Superstore).

3.3 Cycling Network

National Cycle Route 60 runs adjacent to the site along Alan Turing Way. This route starts in North Manchester and then along Queens Road/ Hulme Hall Lane/Alan Turing Way before joining the Ashton Canal east of Alan Turing Way and travelling south to join the Fallowfield Loop in South Manchester. Adjacent to the site, the route is a combination of on-street segregated and unsegregated cycle lanes.

Regional Route 86 is a largely traffic-free route that runs east-west through the site. It connects from Ducie Street within the City Centre along the Ashton Canal towpath through the Etihad Campus and then through Philips Park. A branch of this route runs south from the Etihad Campus alongside the River Medlock down to Ashton Old Road and Pin Mill Brow. There are also cycle lanes on Ashton New Road from a point close to the entrance to City Football Academy through to Holt Town. These lanes are on-street and not segregated from traffic.

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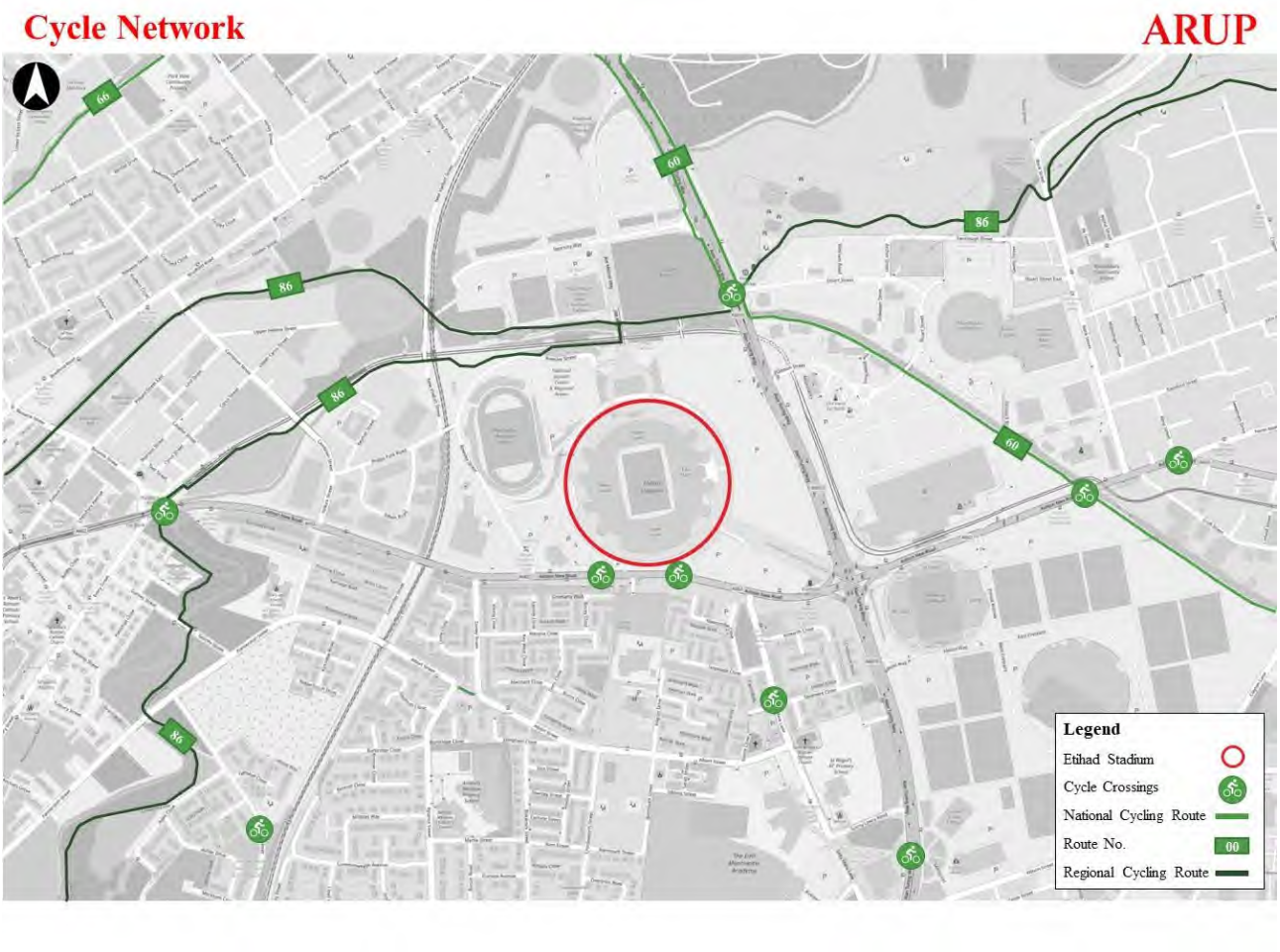


Figure 4: Cycle Network

3.4 Other cycle Infrastructure

3.4.1 Cycle Parking

There are 272 cycle parking stands located around the Etihad Campus. There are also five cycle stands (10 spaces) at the Etihad Campus Metrolink stop. A further 240 cycle parking spaces are being installed at the Etihad Campus as part of the Coop Live development. These cycle parking spaces will be available for all users of the Etihad Campus in accordance with the wider strategy for shared transport infrastructure provision across the Campus.

3.4.2 Cycle Hire

Additional cycle parking facilities, including public hire bikes forming part of the Beryl GM cycle hire scheme are being installed at key locations across the Etihad Campus as part of the supporting infrastructure for Co-op Live development and in accordance with wider strategic plans for sustainable transport at the Etihad Campus.

The Bike Hire Scheme operates across Manchester, Salford and Trafford and the Etihad Campus is within its area of operation. There will be a total of 1,500 bikes, including 300 e-bikes. There are cycle hiring stations around the Stadium at the Etihad Campus:

- On Rowsley Street
- At the junction of Darley Street / Ashton New Road
- Holt Town Tram Stop

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- Southern end of Pollard Street.

There are also plans in process with Beryl to bring the Bee Bike stands to another 4 locations within the Campus.

Cyclists can download the Beryl mobile app to locate their nearest cycle hiring stations and see their availability of bikes.

3.5 Highway Network

The site is well situated to the 'A' road network with onward connections to the strategic road network; namely the orbital M60 route to the east. The area is surrounded by a number of routes including:

- A62 Oldham Road – a single-carriageway four-lane road that connects Manchester to the M62 motorway, passing through Failsworth and Oldham. It intersects A6010, which bounds the site at the east.
- A6010 Queens Road – a dual-carriageway two lane road that connects Higher Broughton to Chorlton-cum-Hardy, passing through Bradford, Gorton and Rusholme. It bounds the site at the east.
- A662 Ashton New Road – a single-carriageway two-lane road that connects Manchester to Audenshaw, passing through Droylsden. It bounds the site at the south.
- A635 Ashton Old Road – a single-carriageway four-lane/ dual-carriageway two-lane road that connects Manchester to Doncaster, passing through Stalybridge, Holmfirth and Barnsley. It is parallel to the A662 and intersects the A6010.
- New Viaduct Street – a single-carriageway two-lane road that between its junction with Broxton Street and its junction with Philips Park Road. It bounds the site at the west.

The routes link the site to the Strategic Road Network (M60) and Manchester City Centre and the Inner Ring Road, and radial connections from the city centre towards other regional destinations. The local area is also comprised of a number of residential areas served by more lightly trafficked local distributor roads, and access roads. Furthermore, there are commercial interest in the surrounding communities including warehousing, industrial sites, and local shops and services.

3.6 Car Parking

3.6.1 On-site parking

Once the Co-op Live Arena is complete there will be capacity for approximately 3,700 on-site parking spaces within the Etihad Campus (excluding those spaces dedicated to the Manchester Tennis and Football Centre and the Manchester Regional Arena). This capacity is split across a number of car parks within the Etihad Campus.

Existing on-site parking at the Etihad Campus is presented in Figure 5. Parking associated with the hotel part of the Proposed Development would be accessed via Gate 3 (opposite Gibbon Street) and allocated from existing parking provision on the Etihad Campus. No further parking will be provided for the Proposed Development.

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Figure 5: Etihad Campus Site Map
Source: https://www.mancity.com/etihad-stadium/visiting-the-etihad-stadium

3.6.2 Off-site car parking

A resident parking scheme operates within the area surrounding the Etihad Campus on Stadium event days. The scheme is enforced from two hours before the event until it ends (if the times of the event fall between 10am to 10pm). Although there are several resident parking schemes in operation across Manchester, the one at the Etihad is unique in that it only operates on Stadium event days. The dates of these events must therefore be advertised on signs within the area that the scheme operates and changed after each event. Local residents and businesses must therefore check when the scheme is due to operate and plan accordingly.

During that time, only people with permits can park. Outside of these hours anyone can park for any time. The normal rules apply for double yellow lines (i.e. permit holders cannot park on them).

Within a radius of approximately 800m from the centre of Campus there are an estimated 1,500 off-street parking spaces. This includes parking at the National Cycling Centre and sites to the east, south and west of the Etihad Campus. Within a radius of approximately 1500m from the centre of Campus there are an estimated further 4,500 off-street parking spaces. These are primarily located towards the north of the Etihad Campus around the industrial areas north-east of Hulme Hall Lane. Beyond 1500m of the Etihad Campus there is additional parking, the majority of which is within Manchester City Centre, but which also includes on-street parking beyond the extent of the current residents parking scheme.

In 2020, the Etihad Campus Movement and Transport Strategy was produced, to plan transport and movement to, from and around all of the future development outlined in the Eastlands Regeneration Framework. This Strategy included for further expansion of the Etihad Stadium (as defined by the capacity expansion permitted by the extant planning permission from 2014), the Co-op Live arena and the other use classes now included within this application. A key recommendation of the Strategy in 2020 was that the

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existing 'event day' Resident Parking Schemes should be extended in area and operate on all days to protect resident parking and support the development of the Campus.

In line with the Etihad Campus movement and Transport Strategy 2002, a revised Resident Parking Scheme (known as the Eastlands Resident Parking Scheme) is being implemented. The revised RPS area will fully cover the existing RPS zones in addition to some areas not currently covered by the existing scheme. The new RPS will operate on all days from midday to 11pm. There are two types of proposed restrictions in the proposed RPS area; ‘Permit Holders Only’ and ‘Permit Holders or 90 minutes for non-Permit Holders’. It is anticipated that the scheme will be implemented in late 2023.

3.7 Summary

The Etihad Stadium site is highly accessible by a range of modes, including the car, which regularly facilitate many thousands of people travelling to the Etihad Campus for major events. As such, these modes have significant spare capacity to support day-time uses such as the hotel, workspace and F&B spaces included within the Proposed Development. Given this accessibility by car, the supply and management of car parking for the Proposed Development is critical to achieving the objectives of the FTP, alongside the promotion of non-car modes within the overarching Movement Strategy for the campus. Measures set out to achieve this are presented in Section 6.

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4. Travel Plan Management

4.1 Overview

In order to maximise the chances of success of the FTP, it is important to have an implementation strategy with clearly identified roles and responsibilities to maintain momentum.

The most successful Travel Plans have management support and dedicated staff resource to manage and oversee them. It follows that the decision to develop and implement a Travel Plan should be a formal commitment at the highest level of the organisation in liaison with TfGM and Manchester City Council.

This section summarises the proposed framework for managing the FTP and subsequent full Travel Plans for both the hotel and Workspace uses.

4.2 Travel Plan Co-ordinator

A Travel Plan Co-ordinator (TPC) will be appointed to take responsibility for development and management of the plan and for ensuring its delivery. The role of the TPC will be fulfilled by a representative of Manchester City Football Club. The roles and responsibilities of the TPC are set out below:

- Ensuring the structures for the ongoing management of the plan are set up and run effectively;
- Identifying key milestones, deliverables and a programme to oversee the development and implementation of specific initiatives and measures;
- Overseeing implementation of the FTP measures in a timely manner;
- Liaising with public transport operators and other service providers (e.g. car club operators);
- Developing and disseminating appropriate marketing and information materials, considering the use of social media, smartphone and tablet applications;
- Monitoring and reviewing progress and identify targets for taking the Travel Plan forward on a yearly basis;
- Overseeing the travel surveys which will inform the ongoing development of the plan;
- If need be, and in consultation with MCC and TfGM, making further decisions with regards to which measures to maintain and which to revise or replace with alternatives;
- Regularly liaising with any appropriate groups and organisations (e.g. MCC and TfGM officers) to ensure co-ordinated working and notably to agree new, bespoke targets to be set as appropriate, following collection and review of the travel survey results;
- Ensuring that work on the FTP is co-ordinated with other activities of the Development and between each of its land uses; and
- Administration of the Travel Plan, involving the maintenance of necessary systems, data and paperwork, consultation and promotion. These duties are permanent for the duration of the plan.
- Providing personalised advice and information on transport-related subjects to the occupiers and visitors of the Site; and
- Co-ordination of travel survey data collection for the Travel Plan.

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5. Travel Plan Objectives and Targets

5.1 Overview

A set of objectives and preliminary targets has been developed for the site using the baseline mode shares outlined later on in this document and informed by the wider strategic vision for transport and movement across the campus.

As the FTP is an evolving document these initial targets will be continually reviewed and revised in agreement with MCC and TfGM.

5.2 Objectives

This FTP has been prepared in alignment with the wider Movement and Transport strategy for the Etihad Campus. Manchester City Football Club has defined its objectives with regards to transport as the campus continues to change and expand in line with the Eastland Regeneration Strategy.

The objectives set out within this document therefore draw on these wider objectives; ensuring consistency with and alignment to the overall vision. Specific targets are identified to meet these objectives, reflecting known transport challenges and opportunities, and the changes required to deliver on the strategic vision.

This is discussed further in the following sub-sections.

5.2.1 The Etihad Campus Strategic Vision: Movement and Transport

This document sets out a strategic vision for movement and transport to, from, and within the Etihad Campus. This document sets out the following objectives with regard to ‘Managing the Transport Network”:

- Seek to improve the reliability of journey times to the campus;
- Influencing demand to minimise peaks and spread demand;
- A well-maintained and resilient transport network.
- Encourage safe means of access by all modes of transport.

It goes on to highlight the role transport will play in supporting its vision for a ‘Sustainable Campus’. The strategy will

- Prioritise the utilisation of existing transport infrastructure;
- Promote and encourage walking, cycling, and public transport use as a means of access;
- Minimise congestion on the surrounding networks; and
- Support the increased use of low (and ultra-low) emission vehicles

5.2.2 The Etihad Campus Movement and Transport Strategy

City Football Group commissioned a Transport Assessment to assess the impacts of future development across the campus as part of its Strategic Vision and the Eastlands Regeneration Framework. The Etihad Campus Movement and Transport Strategy provides an overall plan for movement and transport to, from and across the Etihad Campus, for all future developments encouraged within the Eastlands Regeneration Framework, within the overall Strategic Vision. This document planned for the Stadium expansion, the hotel, the workspace and F&B uses etc, now brought forward as part of this Proposed Development. Of particular relevance to this FTP is the role the strategy plays in setting out the forward plan for initiatives and infrastructure interventions associated with the site in a way that will manage large movements of goods and vehicles now and in the future.

A key element of this is the reliance on existing highways infrastructure and parking. The Campus will seek to rely on sustainable modes and demand management measures to minimise the impacts of staff,

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visitor/spectator, and goods traffic. The development of travel plans for each development will play an important role in ensuring that this strategy and the overarching principles are adhered to and supported through each phase of the ongoing expansion of the campus.

Measures such as car-sharing initiatives, improved wayfinding, promotion of public transport services, and use of travel apps for example, already form part of the club-led initiatives being rolled out or planned for the Campus. This framework travel plan will identify any relevant measures and how they can be adopted, supported, or expanded for the Proposed Development.

5.2.3 Objectives and Targets Summary

On the basis of the objectives defined in the strategic vision the following objectives have been identified, which are specific to this FTP and the hotel and Workspace uses:

1. Minimise the number of single occupancy car trips by staff and visitors
2. Promote and encourage walking, cycling, and public transport use as a means of access.

Section 5.3 and 5.4 consider the baseline modal share and detail the specific SMART (specific, measurable, achievable, relevant, time-bound) targets which will be set to achieve this.

5.3 Baseline mode share and car occupancy

Surveys undertaken as part of this work, supported by data from previous studies, indicates that this is being achieved and, since the surveys undertaken as part of the 2014 application, recorded car numbers on site have reduced.

The baseline modal share for each land use are presented in Table 2. The baseline modal shares presented for are taken from the Campus Movement Strategy TA.

Table 2: Baseline Modal Share

Land Use	Walk	Cycle	Bus	Metrolink	Car	Drop Off	Coach	Taxi	Train	Total
Hotel (Visitors)	2.0%	0.0%	11.0%	21.0%	66.0%	0.0%	0.0%	0.0%	0.0%	100%
Hotel (Staff)	0.0%	1.0%	2.0%	15.0%	69.0%	3.0%	0.0%	3.0%	7.0%	100%
Workspace	2.0%	1.0%	13.0%	26.0%	58.0%	0.0%	0.0%	0.0%	0.0%	100%

The Campus Movement Strategy also identified the car occupancy by land use. These are as follows:

- Workspace – 1.12 people per vehicle;
- Hotel – 1.3 people per vehicle;

Given the nature of hotel use and travel it would not be realistic to expect customers to consider lift sharing. The aim would therefore not be to increase car occupancy. Instead, the target would seek to reduce car trips in favour of alternative, more sustainable, modes.

5.4 Preliminary Targets

The suggested targets and their indicators for the Travel Plan will be determined from annual travel surveys carried out at the Proposed Development. The mode shares set out in Table 2 will form the basis for the initial Travel Plan(s) for each use. The first-year surveyed mode share will be used to establish the revised target level as part of the first annual review of the Travel Plan measures and travel mode targets.

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It is the intention that the Travel Plan shall be an evolving plan that will be reviewed and updated regularly and refined where necessary. The draft targets are provided in Table 3 and Table 4.

All targets identified in Tables 4 and Table 5 have been designed to be SMART, namely Specific, Measurable, Achievable, Realistic and Time-Bound. The final targets will be reviewed and agreed with MCC and TfGM once Full Travel Plans for each use have been prepared.

Table 4 sets out the preliminary targets for hotel and Workspace staff.

Table 3: Preliminary Targets: Staff (Hotel and Commercial)

Ref.	Target	Land Use	Baseline	Year 1	Year 3	Year 5
A1	Reduce single occupancy car trips by 20%	Workspace and Hotel	TBC*	-5%	-15%	-20%
A2	Increase walking and cycling mode share to 10%	Workspace	2.0%	4.0%	6.0%	10.0%
		Hotel	1.0%	3.0%	7.0%	10.0%
A3	Increase Public Transport (Bus, Metrolink, Rail) Use to 50%	Workspace	39.0%	42%	45%	50%
A4	Increase Public Transport (Bus, Metrolink, Rail) Use to 40%	Hotel	24.0%	30.0%	35.0%	40.0%
*Subject to baseline survey outcomes.						

Table 4 sets out the preliminary targets for hotel customers and visitors.

Table 4: : Preliminary Targets: Customers and Visitors (Hotel)

Ref.	Target	Baseline	Year 1	Year 3	Year 5
B1	Increase Metrolink Use by 14%	21.0%	24.0%	30.0%	35.0%
B2	Increase Bus use by 9.0%	11.0%	14.0%	17.0%	20.0%
*Subject to baseline survey outcomes.					

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6. Travel Plan Measures and Initiatives

This section outlines the design measures and travel plan initiatives that will be delivered as part of the full Travel Plans. This is a non-exhaustive list and the TPC will be required to identify and implement new measures as part of their management and co-ordination responsibilities.

6.1 Travel Plan Initiatives – Workspace and Hotel Use

Table 5 sets out the initiatives proposed to support the FTP objectives and targets as introduced in section 5.4.

Table 5: Workspace and Hotel Initiatives

Measure/ Initiative	Relevant Target(s)
Provide cycle parking, showers and changing facilities	A1, A2
Develop car parking strategies for the Hotel and Workspace sites (including permit schemes, incentives for car sharing, and minimising supply for single occupancy travel)	All.
Prepare and distribute travel information packs	All.
Provide personalised journey planning service for employees	A1, A2, A3, A4
Prepare and distribute a Travel Plan newsletter to employees	A1, A2, A3, A4
Prepare a sustainable travel page for the Hotel website	B1, B2
Offer season ticket loans (interest free) for employees	A1, A3, A4
Adopt and promote the cycle to work scheme	A2
Develop and promote a staff car sharing initiative	A1, A2, A3, A4

6.1.1 Cycle Parking and Changing Facilities

The Design and Access Statement presents the existing cycle parking strategy and facilities. Currently across the site there are 272 cycle parking spaces, with an additional 240 being provided as part of the Co-op Live Arena development. As part of the Proposed Development, it is proposed to provide a further 200 covered spaces to the southeast of stadium. This will bring the total parking provision available to users of the Proposed Development to over 700 spaces.

It is noted that LTN 1/20 requires that a range of facilities, including short-stay cycle parking, is located in close proximity to the entrance to the development. There are currently a number of Sheffield stands located next to the entrances to the proposed hotel and workspace use available for this purpose. Existing and proposed cycle parking locations are presented in Figure 6, extracted from the Design and Access Statement.

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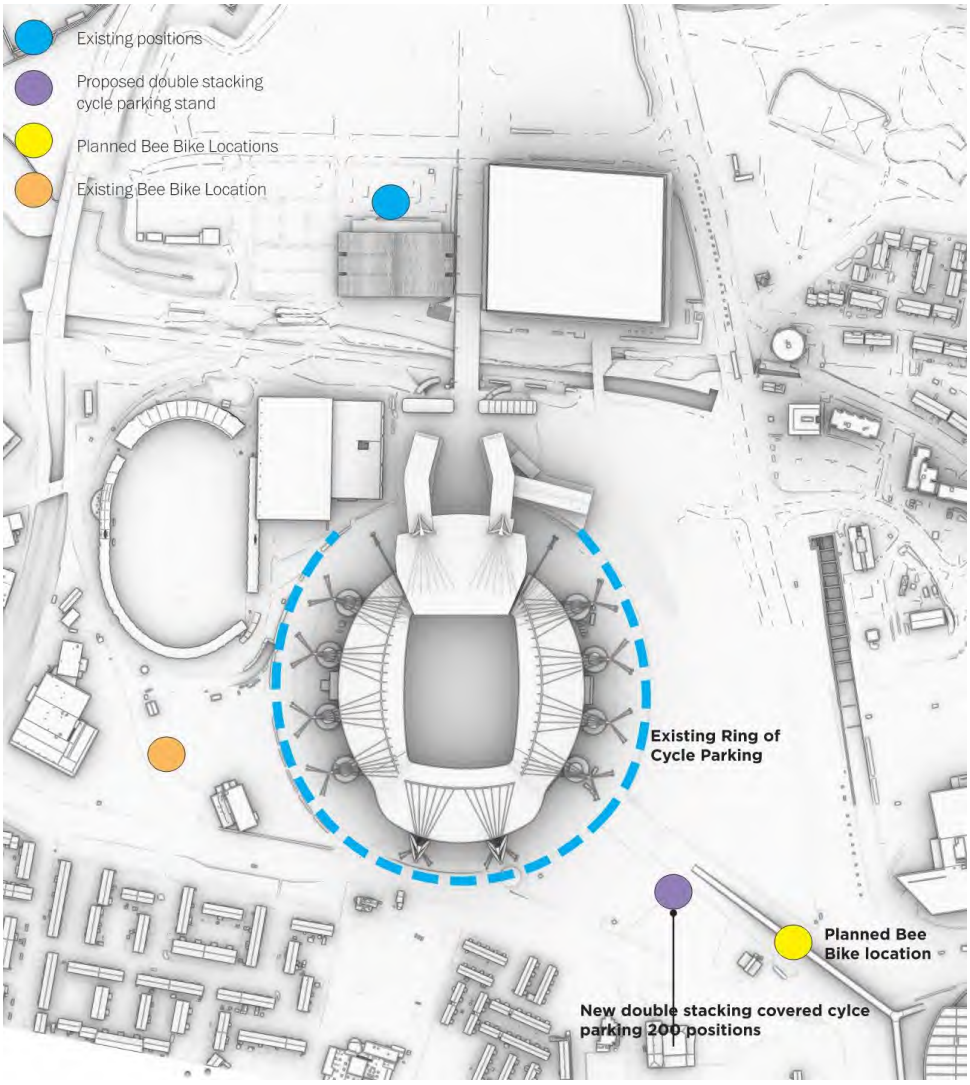


Figure 6: Proposed Cycle Parking Locations

6.1.2 Car Parking Strategy

Parking capacity at the Etihad Campus would not be increased as a result of the Proposed Development. By constraining parking capacity and therefore the ability of visitors to park either on-site or on the surrounding streets, the strategy will discourage people from travelling to the Etihad Campus by car on a matchday.

This is, and will continue to be, supported by communication from the Club that all matchday on-site parking must be pre-booked, that there is a revised RPS in operation and directing people to the alternative sustainable transport modes available.

No additional parking will be made available for the hotel or workspace use and staff and visitors will be required to use existing on-site parking.

6.1.3 Electric Vehicle Charging

As part of the Proposed Development, four new 22kw electric vehicle chargers will be provided within the Etihad Campus. In addition, a further four 22kw chargers will replace existing 7kw chargers. The 7kw chargers will be relocated to City Football Academy.

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6.2 Travel Plan Initiatives – Campus-wide Strategy

There are a range of club-led initiatives that have been implemented, trialled, or are being considered irrespective of the development taking place across the campus. These are summarised in Table 6.

Table 6: Campus-wide Initiatives

Measure/ Initiative	Status
Improvements to Ashton New Road, CityLink, and Ashton Canal Towpath Walking routes	Currently being implemented as part of the Coop Live Section 106 Agreement
Additional wayfinding on the existing 'city link' walking route to the city centre	Currently being implemented as part of the Coop Live Section 106 Agreement
Promotion of travel plan measures, participation in national initiatives, and incentivisation of sustainable modes	Ongoing
Working with TfGM and bus operators to develop and improved bus network to serve the Etihad Campus, including improved orbital bus services	Ongoing – additional shuttle bus measures to be trialled privately by MCFC in the coming months
Supporting the development of travel apps to promote and encourage sustainable transport journeys	Ongoing
Introduction of electric vehicle charging on the site	Ongoing
Promoting the use and expansion of cycle hire hubs servicing the Etihad Campus	Initial hubs being delivered on site – plans to expand these in line with future developments within the Etihad Campus

These measures will support shared objectives for developments and organisations across the Etihad Campus and encourage modal shift away from the private car for Workspace and hotel staff.

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7. Monitoring and Review

7.1 Overview

Travel Plans are continuously evolving live strategy documents which require regular monitoring and reviewing. This ensures that continuous improvements are implemented to achieve the targets and objectives the document sets out. It is understood that the FTP and subsequent full Travel Plans will be secured via condition to ensure that it is implemented effectively and funded appropriately.

7.2 Monitoring Schedule

Within six months of first occupation of the Proposed Development, a Travel Plan monitoring survey will be undertaken. The aim of this survey will be to confirm the baseline mode shares and adjust the targets as required. The surveys will be analysed against several indicators to establish how well the FTP measures are achieving their aims. Monitoring of the Travel Plans will be based upon questionnaires which will have been distributed to employees annually. Data will be obtained in a qualitative and quantitative format to allow for detailed feedback and for site-specific travel characteristics to be established, to which the target set can be reviewed and adjusted accordingly.

7.3 Reporting

The TPC will prepare a summary monitoring statement, which will be issued to MCC and TfGM and any relevant stakeholders. This statement will contain all survey data as well as any measures that have been implemented.

Most importantly the report will compare the surveyed mode shares against the original targets set. The purpose of this is so that if the targets have not been met then the report will consider why that is the case and where necessary will recommend steps to resolve this.

The contents of the annual monitoring reports are summarised below:

- A summary of the measures and initiatives implemented in the previous 12 months period;
- Information regarding any changes to transport infrastructure and/or services;
- Detailed travel survey results, setting out modal splits, car occupation for staff/ customers, and analysis;
- Updated SMART targets for the next 12-month period; and
- an updated Action Plan

The TPC will review and monitor the plan annually with milestone targets at years one, three, and five (as per Table 4 and Table 5).

7.4 Preliminary Action Plan

The programme for the development and implementation of the Travel Plan will be dependent on clear communication with employees, spectators, and other stakeholders. A preliminary Action Plan is shown in Table 7.

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Table 7: Preliminary Action Plan

Action	Responsibility	Timescales
Appoint Travel Plan Coordinator	Applicant	One month prior to occupation
Arrange Kick-off meeting with TPC and MCC/ TfGM officers	Applicant	One month prior to occupation. Note: Campus working group have already started meeting regularly with MCC / TfGM officers – this provides a forum for travel plan discussions to be structured around.
Update preliminary Action Plan	TPC	Within one months of first occupation
Develop full Travel Plans for the hotel and Workspace uses	Occupier/ TPC	Within 6 months of first occupation
Produce monitoring framework	TPC	Within 6 months of first occupation
Undertake monitoring in accordance with the framework	TPC	Ongoing
Identify and agree initial measures for implementation at the site	Applicant/ TPC	Within 6 months of first occupation
Complete baseline travel surveys	TPC	Within 6 months of first occupation
Update modal shift targets	TPC	Within 12 months of first occupation
Produce monitoring report	TPC	Annually
Implement corrective measures	TPC/ Occupier	End of Year 5 (where targets not met)

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Appendix A

Scoping Note and MCC/ TfGM Response

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ARUP

Subject	North Stand Manchester
Job No/Ref	
Date	21 October 2022

1. Introduction

The purpose of this note is to assist in the agreement between Manchester City Council (MCC), Transport for Greater Manchester (TfGM) and Arup of the scope for a Transport Assessment (TA) and Travel Plan Framework (TPF) to support a planning application for an expansion of the North Stand and associated commercial uses at the Etihad Campus.

A meeting between Arup, highway and planning officers from MCC and an officer from TfGM was held on 18 October 2022 where the proposed development was explained to officers and an agreement in principle of the level and type of assessment required was reached. This document sets out further details of the proposed scope of assessment and will be submitted to MCC and TfGM for their agreement.

2. Transport Assessment

A Transport Assessment (TA) will be produced and submitted as part of the planning application. The Transport Assessment will assess the impact and acceptability of the development in relation to traffic and car parking, sustainable modes of transport, servicing and demonstrate appropriate accessibility.

The proposed scope of the assessment is set out below.

2.1 Relevant Guidance and Legislation

The TA will be produced in line with relevant national and local policy including:

- National Planning Policy Framework;
- Manchester City Council Core Strategy (2012-27);
- Greater Manchester Transport Strategy 2040;
- Greater Manchester Five Year Transport Delivery Plan 2021-2026; and
- Eastlands Regeneration Framework.

2.2 Stadium Expansion

The proposed stadium expansion would result in an overall capacity that is within the parameters already approved by the 2014 North and South Stand consent. This expanded capacity was also the basis for subsequent assessments that supported the consented Coop Live scheme in 2020.

The basis and underlying strategy for both the original stadium expansion consent and the Coop Live scheme is that the overall level of car parking onsite would not be increased and that no measures to increase highway capacity would be implemented so as to help promote alternative more sustainable modes of transport to the Etihad Campus.

A range of measures to promote these sustainable modes of transport were agreed for the two applications and have subsequently been implemented (or are in the process of being in the case of Coop Live). The Transport Assessment will set out the measures that have been (or are in the

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process of being implemented) to support sustainable transport modes. This will include both the measures required as part of the extant planning consents but also additional measures that are part of the wider activities being undertaken to promote sustainable transport to/from and within the Etihad Campus.

Evidence will be provided of the impact of these measures in increasing the use of sustainable transport modes. It must be recognised that as many of the measures have been implemented at the same or similar times (alongside other external factors) and therefore it may not be possible to disaggregate the impact on travel behaviours to identify the specific impact of individual measures.

It is proposed that a timeline is developed which maps changes in overall travel behaviours against the implementation of measures and initiatives in order to present an overall 'direction of travel' in changing travel behaviour over time since the original stadium expansion consent.

2.3 Modelling

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.

We will liaise with MCC and TfGM to agree appropriate growth factors to be applied to these surveyed traffic flows in order to reflect any changes to traffic patterns that may have occurred since this time. These factors will be based upon locally based evidence using TfGM-held survey data for the local network. We will agree factors to be applied with MCC and TfGM in advance of submission of the Transport Assessment.

Traffic signal timing data has been supplied previously by TfGM. We will use this data unless advised by TfGM that these timings have changed subsequently.

The modelling will focus on the impact of the commercial uses (office and hotel). As it is not proposed to increase the capacity of the car park at the Campus, the volume of traffic accessing the site to use the stadium itself would not increase from that already assessed and approved under previous applications. Indeed, the likely result of the additional commercial uses at the Campus would be to spread the arrival and departure of this same volume of traffic, thus potentially reducing the peak impacts at the junction before and after a stadium event.

Based on anticipated profiles of traffic arrival and departure at the site it is proposed to assess the midweek evening peak period as the worst-case impact. A 'with' and 'without' stadium event scenario would be considered. Consideration will be given the overlap between the peak period of traffic generation associated with the commercial uses and arrival of vehicles prior to a stadium event. It is proposed that four scenarios are considered as follows (exact times to be confirmed following a review of traffic surveys and traffic generation forecasts):

1. Midweek evening development peak without stadium event (representing the peak traffic generation of the proposed development and likely to be around 16:00-17:00);

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2. Midweek evening development peak with stadium event (representing the peak traffic generation of the proposed development and likely to be around 16:00-17:00);
3. Network peak without stadium event (representing the busiest period on the local highway network and likely to be around 17:00-18:00); and
4. Network peak with stadium event (representing the busiest period on the local highway network and likely to be around 18:30-19:30).

It is not proposed to model a midweek morning scenario. No stadium-related traffic would be using the network at this time, hotel-related traffic would be minimal and the traffic generated by the office development would be much lower than the levels of traffic that use the site/junction during matchday conditions. The TA will present traffic generation forecasts for the morning period to support this assumption.

No assessment of the weekend is proposed as the office component would generate minimal traffic at this time and therefore a midweek evening represents the worst-case assessment. The assessment will present weekend traffic generation forecasts to support this assumption.

2.4 Trip Generation

Person trip rates for office and hotel land uses will be obtained from the TRICS database. Mode split data derived from Census Data will be applied to the person trip generation to estimate the anticipated trip generation by mode.

The proposed redevelopment of the club shop and food and drink uses are considered to be ancillary and are therefore not anticipated to generate any significant levels of trips in their own right as they will be linked to the other components of the proposed development.

2.5 Trip Distribution

Census ‘Travel to Work’ data will be used to derive a vehicle trip distribution on the local highway network.

2.6 Committed Development

We request that MCC/TfGM provide a list of committed developments that should be considered as part of the assessment.

At this stage we propose to include the Coop Live development and the Rugby Football League head quarters off Bell Crescent. Details of any further developments to be considered should be provided by MCC/TfGM.

2.7 Mitigation

Any appropriate mitigation required to facilitate the delivery of the proposed development will be identified as part of the TA.

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2.8 Delivery and Servicing Plan

This plan will include details of the proposed servicing (deliveries, collection and maintenance etc.) to the main works. This will include a plan demonstrating how the servicing would operate, what size of vehicles would be anticipated used and the anticipated frequency of servicing.

3. Travel Plan Framework

It is noted that there are already overarching plans for sustainability at the Etihad Campus including the Etihad Campus Strategic Vision – Movement & Transport NS and the Strategic Sustainability Framework. Any measures or initiatives that are proposed as part of this development should be fully aligned and supportive of these overarching plans.

A Framework Travel Plan will be developed for the commercial (office and hotel uses). This will outline measures and initiatives that could be promoted to both reduce the dependency on car travel and to promote the use of alternative modes of transport. These measures will look to either adopt, build on or complement measures within the overarching plans.

Should any new measures or initiatives that are bespoke to this development be identified then these could then feed into future updates to the overarching plans.

4. Environmental Statement

A separate scoping report will be submitted for the project that sets out the proposed scope for Environmental Impact Assessment. The requirement for any assessment of Traffic and Transport environmental impacts will be covered separately in this report.

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Subject: FW: Etihad Stadium North Stand

From: Neil Bayliss-Rowe <neil.bayliss-rowe@manchester.gov.uk>
Sent: 10 November 2022 16:20
To: Peter Webster <Peter.Webster@arup.com>
Cc: Richard Dolphin <richard.dolphin@tfgm.com>; Rebecca Hesketh <Rebecca.Hesketh@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.

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- 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

Neil Bayliss-Rowe
Highways Development Control & Flood Risk Manager
Internal Tel: 801 31171
External Tel: 0161 234 1171
Mobile: 07971384537
Email: neil.bayliss-rowe@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: Neil Bayliss-Rowe <neil.bayliss-rowe@manchester.gov.uk>; Richard Dolphin <richard.dolphin@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

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Arup
6th Floor, 3 Piccadilly Place
Manchester, M1 3BN
d +44 161 602 9274
m +44 7884 585 296
arup.com

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Appendix B

Existing and Planned Campus-Wide Sustainable Transport Initiatives

Mode	Initiative
Cycle	Providing additional facilities in terms of cycle parking hubs (including Beryl bike hire)
Public transport and walk	Investment in walking routes between city centre and Etihad Campus
Taxi	Working with taxi groups to improve pick up and drop off provision and facilities at the Etihad Campus
Bus	Implementing pilot of increased capacity shuttle services Increasing the prominence of bus stops as hubs within the Campus and enhancing facilities Working with TfGM to explore franchising/longer-term opportunities
Metrolink	Working alongside TfGM to operate more double tram services pre and post match Encouraging longer arrival/dwell time to maximise service capacity Improved queuing facilities at Etihad Campus stop
Coach	Working with supporters clubs to review the number of services and destinations served
Drop-off	Implementing the RPS to create additional on-street drop off capacity Review and enhance matchday traffic management operations on an ongoing basis
Park on-site	Providing no additional capacity Implementing a system whereby pre-booking of parking is mandatory Advising supporters not to try to park if not- pre-booked
Park and walk (within RPS)	Implementing the enhanced RPS will prevent non-permit holders ability to legally park on-street in this area for events. People can park within RPS in off-street car parks. These need to be better enforced and managed.
Park and walk (outside RPS)	Delivery and subsequent promotion of city centre walking routes Working alongside cark park owners and managers to offer initiatives to utilise city centre parking and walk to the Etihad Campus

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ARUP

Etihad Stadium North Stand Project, Manchester

Transport Assessment

Reference: EtihadNS_TA

A | 17 April 2023

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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

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ARUP

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		Name	Sonia Wong	Luke Peaker	Pete Webster
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		Signature	SW	LP	PW

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Pictures

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Photographs

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Attachments

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1. Introduction

Ove Arup and Partners Ltd (Arup) has been commissioned by Manchester City Football Club ('the Club') to prepare a Transport Assessment (TA) to support a planning application for an expansion of the North Stand of the Etihad Stadium and interrelated commercial uses at the Etihad Campus.

This TA assesses the impact and acceptability of the Proposed Development in relation to traffic and car parking, sustainable modes of transport, servicing and demonstrates appropriate accessibility for all modes. The TA also forms a technical appendix to the Environmental Statement (ES) and its outputs inform the calculated and reported residual environmental effects relating to Traffic and Transport.

1.1 Background

In 2014 planning consent was granted to expand the Etihad Stadium to provide an additional 12,500 seats. (Planning Ref. 104315/FO/2013/N2). This consent has been partially implemented through the expansion of the South Stand by 6,250 seats. Consent for an additional 6,250 seats in the North Stand is extant but is yet to be implemented. **The Proposed Development would result in an expanded stadium capacity that is within the parameters of the extant consent.**

The 2014 consent was supported by a separate TA and a Staff Travel Plan. These documents considered baseline travel patterns and modal splits, future targets, and measures required to deliver on these targets. With regard to the latter, packages of interventions were agreed to be delivered on completion of the South Stand expansion ('Phase 1') and North Stand expansion ('Phase 2') by way of mitigation of any potential impacts. Although the expansion of the North Stand has not yet been implemented, all of the applicant's commitments relating to these packages of interventions have since been funded and/or delivered.

1.1.1 Campus-Wide Strategy

There are overarching plans for transport and sustainability at the Etihad Campus including the Etihad Campus Strategic Vision – Movement & Transport and a Strategic Sustainability Framework. A Campus-wide Transport Assessment was also prepared and submitted alongside the 2020 planning application for the Coop Live arena. This TA tested the vision for the Etihad Campus as a whole – including an expanded North Stand and the proposed hotel and workspace uses. This assessment also included a range of other uses and developments across the remainder of the campus masterplan.

The transport strategy that underpins both the 2014 consent for the stadium expansion and the Campus-wide assessment is based upon a modal shift in which any trips that are new to the network will be encouraged to use sustainable modes of transport such as public transport, walking, and cycling by a variety of measures and interventions. Surveys undertaken as part of this work, supported by data from previous studies, indicates that since the 2014 application recorded car numbers on site on matchdays have reduced.

The overarching aim of the transport strategy for the stadium expansion remains not to increase existing levels of parking on-site. New journeys generated by the stadium expansion would use alternative modes of transport to the car. No additional parking supply, junction capacity improvements, or other measures that might encourage additional traffic are proposed as part of the strategy.

In addition, amendments to the resident parking scheme surrounding the Etihad Stadium are currently being implemented. This will mean that the availability of off-site parking for visitors will be under tighter control, further supporting the shift to sustainable transport modes to access the Etihad Campus. These changes to the resident parking scheme are above and beyond the measures set out in the 2014 consent.

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1.2 Proposed Development

The Proposed Development comprises the redevelopment of the Etihad Stadium North Stand, which includes a number of interrelated and connected components (the "Proposed Development"), including:

- Expansion of the Etihad Stadium North Stand to provide an additional capacity of 7,910 and an increase in the overall capacity of the Etihad Stadium to 61,958, including the provision of a roof Sky-Walk;
- Creation of City Square, a covered outdoor fan zone area, with year-round Ground and First Floor F&B provision;
- A nine-storey hotel;
- An eight-storey new commercial building comprising a Club Shop, Museum and interactive football experience venue, and circa 4,000 sq.m. of workspace.
- A new site vehicular access route and drop-off point via an existing junction with Alan Turing Way; and
- Landscaping and other associated works.

The description of development is as follows:

"Full planning permission for interrelated development components comprising: alterations to the Etihad Stadium North Stand to allow an overall increase in Stadium capacity by 7,910 seats with associated expansion of ancillary hospitality and concourse facilities; construction of a new 400 bed hotel (use Class C1); construction of an 8-storey building component comprising a new Club Shop (Class E) and City Museum (Use Class F1(c)) at Ground and First Floor levels with workspace (Class E) above; a new covered City Square fan zone with ground floor commercial, leisure, food and drink uses (Use Class E and/ or drinking establishment (Sui Generis)); with landscaping and public realm works, servicing and access arrangements, highways alterations and other associated works."

1.3 Scoping

The project team has undertaken scoping discussions with both Manchester City Council (MCC) and Transport for Greater Manchester (TfGM) in preparation of this TA. A summary of scoping discussions is presented in Table 1.

Table 1: Summary of Scoping Discussions

Consultee	Date and Form of Consultation	Summary and Outcome of Consultation
MCC/ TfGM	Virtual Meeting (Microsoft Teams) 18th October 2022 1400-1500	Arup outline the proposed scope for the TA. Arup to issue a Scoping Note to MCC/TfGM.
	Scoping Note Issued Via Email Friday 21st October.	Arup set out proposed scope of TA based on the discussions held during the meeting of 18th October.
	TA Scoping Response received 10th November	Presented in Annex TBC of the TA (Appendix 12.1)
	EIA Scoping Report	The project team issued an EIA Scoping Report on 2 March 2023. Comments were received back from MCC on 12 April 2023.
	Pre-application meeting 14th February 2023	Presentation of initial findings of TA and overview of approach
	Pre-application meeting 12th April 2023	Presentation of draft TA and summary findings

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The Scoping Note referred to in Table 1 which was issued to MCC and TfGM in October 2022 is presented in **Appendix A** alongside MCC and TfGM's combined response. The latter is summarised in Table 2 below for ease of reference and to demonstrate how the TA has responded to each comment.

Table 2: Response to Scoping Comments

Item Ref.	MCC/ TfGM Scoping Comment	TA Response
1	"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".	Traffic has been distributed based on 2011 census 'Journey to Work' data as per the Etihad Campus Movement Strategy and as described in the Arup Scoping Note.
2	"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".	2022 traffic flow data has been obtained from TfGM's Urban Traffic Control team for the purposes of assessment. A comparison of this against the 2019 baseline is presented in Section 6.
3	"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".	Arup has contacted GMUTC to confirm that the latest signal timings and FOC monitoring logs have been used to develop the LinSig models for each junction.
4	"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".	The busiest evening peak has been assessed for the non-event test based on 2019 traffic flows data and compared to 2022 flows provided by TfGM's UTC team.
5	"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)".	Section 5 of this TA describes planned walking improvement around the Etihad Stadium that will be implemented as part of the Strategic Vision and Movement strategy.
6	"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".	Delivery of transport improvements at the Campus is now planned, managed and prioritised by the Sports City Management Company, which includes representation from all Campus Stakeholders and is set up to work closely with transport authorities and operators. This project has offered a contribution towards this group's 'Transport and Movement Fund' for ongoing transport improvements.
7	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.	Reference is included to the Traffic Management Plan amongst the mitigation proposed in Section 5.
8	"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".	Section 3 describes existing walking and cycling conditions around the stadium. Section 5 describes proposed initiatives including walking and cycling improvements around the Campus.
9	"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".	This is noted and an extension to the existing Metrolink queuing area is proposed. The Campus Movement Strategy considers the impact of this increased frequency which is referenced in this TA.
10	"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".	Noted. Cycle parking and other cycle infrastructure reflects LTN 1/20 guidance and standards.

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1.4 Transport Assessment Structure

This TA follows the below structure:

- Section 2 – Relevant Policy and Guidance
- Section 3 – Site Context
- Section 4 – Proposed Development
- Section 5 – Stadium Expansion
- Section 6 – Junction Impact Assessment
- Section 7 – Highway Safety
- Section 8 – Proposed Mitigation
- Section 9 – Summary and Recommendations

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2. Relevant Policy and Guidance

2.1 Overview

This section sets out relevant national and local policy and how the proposed development align with these policies:

National Planning Policy:

- National Planning Policy Framework 2021
- Ministry of Housing, Communities and Local Government: Travel Plans, Transport Assessments, and Statements (2014)

Local Planning Policy:

- Greater Manchester Transport Strategy 2040
- Manchester City Council Core Strategy (2012-2027)
- Greater Manchester Five Year Transport Delivery Plan
- Greater Manchester Active Travel Mission, TfGM (2022)
- City Centre Transport Strategy 2040, Manchester City Council
- Eastlands Regeneration Framework (2019)
- Zero Carbon Manchester
- Greater Manchester Infrastructure Framework 2040

2.2 National Planning Policy

2.2.1 National Planning Policy Framework 2021

The National Planning Policy Framework (NPPF) was adopted in 2018 and revised in July 2021. It sets out the Government's planning policies for England and how these should be applied and provides a framework within which locally prepared plans for housing and other development can be produced. At its heart the NPPF sets out a presumption in favour of sustainable development (Paragraph 11).

With specific reference to transport, the NPPF states that "*transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*

- *The potential impacts of development on transport networks can be addressed;*
- *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places."*

The NPPF states that "all developments that will generate significant amounts of movement should be required to provide a Travel Plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."

Critically, it sets out the requirements for development with regard to traffic and transport. Paragraph 111 of the NPPF states that "*Development should only be prevented or refused on highway grounds if there would*

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be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".

2.2.2 Ministry of Housing, Communities and Local Government: Travel Plans, Transport Assessments, and Statements (2014)

The guidance states that: *'the scope and level of detail in a Transport Assessment or Statement will vary from site to site but the following should be considered when settling the scope of the proposed assessment:*

- *information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport)*
- *information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;*
- *data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;*
- *a qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;*
- *an assessment of trips from all directly relevant committed development in the area (i.e. development that there is a reasonable degree of certainty will proceed within the next 3 years);*
- *data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;*
- *an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent 3-year period, or 5-year period if the proposed site has been identified as within a high accident area;*
- *an assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);*
- *measures to improve the accessibility of the location (such as provision/enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;*
- *a description of parking facilities in the area and the parking strategy of the development;*
- *ways of encouraging environmental sustainability by reducing the need to travel; and*
- *measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads.'*

The guidance also states that *'it may be necessary to consider the implications for any regular peak traffic and usage periods (such as rush hours). Projections should use local traffic forecasts such as TEMPRO drawing where necessary on National Road Traffic Forecasts for traffic data.'*

This TA includes information of the proposed development, description of existing site conditions and carrying out analysis mentioned above. Conclusions of the traffic impact caused by the development and associated mitigation is also included.

2.3 Local Planning Policy

2.3.1 Greater Manchester Transport Strategy 2040

TfGM has developed the Greater Manchester Transport Strategy 2040 on behalf of the Greater Manchester Combined Authority (GMCA) and Greater Manchester Local Enterprise Partnership (LEP).

Informed by key trends that will influence transport infrastructure requirements between now and 2040, the Strategy sets out long-term proposals to create a cleaner, greener more prosperous city region through better connections and simpler travel.

The overall vision as set out in the Strategy is for Greater Manchester to have 'World class connections that support long-term, sustainable economic growth and access to opportunity for all'.

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The four key elements of TfGM's Vision, which represent the goals of their strategy, are as follows:

- Supporting sustainable economic growth;
- Improving the quality of life;
- Developing an innovative City Region; and
- Protecting our environment.

The elements of TfGM's Vision reflect some of the critical challenges for Greater Manchester. These challenges also apply at a more local level to the Etihad Campus.

The Greater Manchester Transport Strategy recognises the growing regional centre of Manchester, including the Etihad Campus, as a major driver for economic growth and identifies leisure, retail and tourism as being critical to the future economic success of Greater Manchester.

Improved connectivity between the City Centre and the Etihad Campus is identified as a focus area within the Strategy.

The relative proximity of the Etihad Campus to the City Centre is identified as a particular opportunity to promote higher levels of walking and cycling, through investment in pedestrian and cycle networks supported by comprehensive and consistent on-street and digital wayfinding infrastructure. Potential improvements to rapid transit to the Etihad Campus are also identified.

2.3.2 Manchester City Council Core Strategy (2012-2027)

MCC's Core Strategy is the key Development Plan Document in the Local Development Framework. It sets out the long-term strategic policies for Manchester's future development and forms the framework that planning applications will be assessed against.

Transport forms one of the six spatial objectives within the Core Strategy. The overriding objective for transport is to "*improve the physical connectivity of the city, through sustainable and accessible transport networks, to enhance its functioning and competitiveness and provide access to jobs, education, service e, leisure and recreation'.*

Within the Core Strategy there are several policies that set out how this objective will be achieved. These are discussed in greater detail below.

Policy T1 relates to sustainable transport. It states that:

"To deliver a sustainable, high quality, integrated transport system to encourage modal shift away from car travel to public transport, cycling and walking, to support the needs of residents and businesses and to prepare for carbon free modes of transport, the Council will support proposals that: -

- *Improve choice by developing alternatives to the car.*
- *Promote regeneration and economic vitality by relieving traffic congestion and improving access to jobs and services, particularly for those most in need and for those without a car.*
- *Improve access to transport services and facilities in order to enable disabled people and people with mobility impairments to participate fully in public life.*
- *Improve pedestrian routes and the pedestrian environment.*
- *Improve and develop further Manchester's cycle network (for example the Manchester Cycleway and the Trans Pennine Trail).*
- *Contribute to improvements to the extent and reliability of the public transport network through safe and attractive waiting and interchange facilities, better priority, improved services and information provision.*
- *Improve and develop appropriate road, rail and water freight transport routes and associated intermodal freight transport facilities in order to assist in the sustainable and efficient movement of goods.*

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- *Facilitate modes of transport that reduce carbon emissions e.g. by incorporating charging points for electric vehicles, subject to their appropriate design and location.*
- *Would reduce the negative impacts of road traffic, for example, congestion, air pollution and road accident casualties.*
- *Take account of the needs of road users according to a broad hierarchy consisting of, in order of priority:*
    - *Pedestrians and disabled people*
    - *Cyclists, public transport*
    - *Commercial access*
    - *General off-peak traffic*
    - *General peak time traffic"*

Policy T2 relates to accessible areas of opportunity and need. It states that:

"The Council will actively manage the pattern of development to ensure that new development: -

- *Is located to ensure good access to the City's main economic drivers, including the Regional Centre, the Oxford Road Universities and Hospitals and the Airport and to ensure good national and international connections.*
- *Is easily accessible by walking, cycling and public transport; connecting residents to jobs, centres, health, leisure, open space and educational opportunities. Particular priority will be given to providing all residents access to strategic employment sites including: -*
    - *Links between North Manchester residents and key employment locations, including the City Centre, Central Park, Salford Quays and Chadderton Industrial Estate and Trafford Park.*
    - *Links within East Manchester to employment locations, Central Park and Eastlands in particular.*
    - *Links within Central Area between residents and employment, the Corridor in particular and east/west connectivity for residents in Central Area to employment areas in Trafford and East Manchester.*
    - *Maintaining strong links between residential areas in the South and the Regional Centre and improving connectivity with the Airport.*
    - *Ensuring good links between Wythenshawe residents and the Airport and further employment opportunities in Stockport, Trafford and the Regional Centre.*
- *Within the City Centre, provides a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development. Elsewhere, all new development should provide appropriate car parking facilities, taking account of the guidance in appendix B, which reflects policy in the Regional Strategy (RS). In all parts of the City proposals should have regard to the need for disabled and cycle parking, in line with appendix B. If the RS is revoked the Council will continue to use these standards when applying this policy. Standards are set for two different area types:*
    - *District Centres; and*
    - *Areas not within the City Centre or District Centres.*
- *The car parking standards are maximums, and the cycle and disabled car parking standards are minimums. However, the Council will take the circumstances of each proposal into account to establish what level of parking is appropriate.*
- *Includes proportionate Traffic Impact Assessments and Travel Plans for all major applications and for any proposals where there are likely to be access or transport issues."*

As demonstrated through this TA, the proposed development is in accordance with this policy and in particular seeks to enhance access to strategic employment opportunities within East Manchester and to improve east/west connectivity between the Central Area and East Manchester by walking, cycling, and public transport. It is therefore considered to be in line with policy T2 of the Core Strategy.

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2.3.3 Greater Manchester Five Year Transport Delivery Plan

The Greater Manchester Five Year Transport Delivery Plan 2021-2026 is developed as part of the Greater Manchester Transport Strategy 2040 to detail what Greater Manchester wants to achieve in the next five years as the first steps towards delivering TfGM's vision for transport.

The Five-Year Transport Delivery Plan supports the implementation of Our Network, a ten-year plan to create a world-class, modern, integrated and reliable transport system for Greater Manchester. It brings together different modes of public transport – bus, tram, rail, tram-train and cycling and walking – in an integrated, easy-to-use system with seamless connections, and simplified ticketing and fares.

The plan is structured around five themes:

- Our Bus
- Our Metrolink
- Our Rail
- Our Streets
- Our Integrated Network

These themes are related to promoting more sustainable modes of transport in Greater Manchester such as public transport as well as walking and cycling.

2.3.4 Greater Manchester Active Travel Mission, TfGM (2022)

Active travel includes all kinds of human-powered movement to reach a destination and is fundamental to enabling the success of other key agendas for Greater Manchester, including improved health, decarbonisation, educational attainment and the economy. Greater Manchester has already built the strong foundations of an active travel system, but as our travel habits have changed since the pandemic, the cost-of-living crisis and rising awareness of healthy lifestyles, now is the right time to revisit existing priorities and refresh the mission for Greater Manchester.

So far, 92 km of active travel routes were delivered, and by the end of 2023, 15 fully protected CYCLOPS junctions will be completed. Greater Manchester's first publicly operated cycle hire scheme were launched and provides over 100,000 people with access to an affordable, reliable and convenient public bike share service.

There are five key priorities that will drive the work and focus of active travel over the coming years. The aim is to develop some core principles of delivery and engagement that will make the biggest difference to every community and area of our region:

- Infrastructure Delivery – four principles to a connected network
- Home to School Travel
- Cycle Hire and access to cycles
- Integration with Public Transport
- Road Danger Reduction

The active travel infrastructure of the Etihad Campus development will particularly be developed with consideration of the key priorities stated above.

2.3.5 City Centre Transport Strategy 2040, Manchester City Council

The City Centre Transport Strategy 2040 is a sub-strategy to the Greater Manchester Transport Strategy 2040. This City Centre Transport Strategy will enable the city-region to realise the 'Our Network' vision.

The vision, set out in the City Centre Transport Strategy, is for "a well-connected, zero-carbon city centre at the heart of the North, offering our residents, employees and visitors a great place to work, live and visit". To deliver the vision, seven ambitions have been set out:

- Walking is the main way of getting around the city centre
- The city centre is cleaner, greener and less congested

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- More people choose to cycle to destinations within the city centre
- The city centre benefits from better public transport connections
- Parking in the city centre is smarter and integrated with other modes
- Goods are moved and delivered sustainably and efficiently into and within the city centre
- Innovation is embraced where it benefits the city centre and its users

Improved connectivity between the City Centre and the Etihad Campus is in line with the focus area within the Strategy.

The relative proximity of the Etihad Campus to the City Centre is identified as a particular opportunity to promote higher levels of walking and cycling, through investment in pedestrian and cycle networks supported by comprehensive and consistent on-street and digital wayfinding infrastructure. Potential improvements to rapid transit to the Etihad Campus are also identified.

2.3.6 Eastlands Regeneration Framework (2017)

The overall vision for the Etihad Campus is set out in the Eastlands Regeneration Framework. This vision is to develop a place that can successfully host a globally competitive sport, leisure and recreation offer.

As such the Etihad Campus aims to be:

- The home of a new destination where residents and visitors will come to spend their time on leisure and recreation related activities
- The home of global and national sports organisations which can thrive and develop global best practice. In doing so the Etihad Campus can become the home to new sports related businesses in a new "Sports-Tech" cluster for the city-region
- The home of a Manchester exemplar stimulating a change in behaviours towards the zero-carbon agenda, creating employment opportunities for local people and driving innovation and economic growth across the city.

The Etihad Campus has the capacity to respond to and host significant new opportunities for a globally competitive leisure and recreation offer. If secured this would deliver key benefits to residents and the wider Greater Manchester economy through investment and jobs.

In promoting any such opportunity, it is recognised that there must be a robust and comprehensive movement and transport strategy, together with supporting mitigation measures encompassing a range of infrastructure interventions and behavioural changes.

2.3.7 Zero Carbon Manchester

To make Manchester a healthy, green, socially just city where everyone can thrive, MCC has targeted to make Manchester a zero-carbon city by 2038 at the latest, 12 years ahead of the Government's target for the UK of 2050.

To achieve this target, the Climate Change Action Plan is developed alongside the citywide framework, splitting into actions to support the city to achieve its climate change ambitions:

- Reducing direct emissions
- Supporting and influencing others in the city to decarbonise
- Rebalance the current use of city centre space
- Promote sustainable and active travel
- Improve air quality
- Plant more trees
- End fuel poverty

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- Improve the environment across all the city's neighbourhoods.

The relative proximity of the Etihad Campus to the City Centre is identified as a particular opportunity to promote sustainable and active travel, hence directly reduces emissions and improve air quality. Through investment in pedestrian and cycle networks and rapid transit to the Etihad Campus, the city can be decarbonised with less use of vehicles, improving the environment across the neighbourhood in vicinity of the site.

2.3.8 Greater Manchester Infrastructure Framework 2040

Greater Manchester has experienced major change over the past decades, and this is anticipated to continue, if not accelerate, in the future – particularly as a result of population and employment growth, environmental & climate change and technological advances. The Framework has set out the key trends affecting infrastructure up to 2040, how those trends will affect each infrastructure network and the responses needed.

The infrastructure sectors covered within this Framework focuses on the physical infrastructure broadly in line with the National Infrastructure Commission of:

- Energy
- Transport
- Digital
- Flooding, surface and wastewater management
- Green and blue infrastructure
- Potable (drinking) water

For Transport Infrastructure, changes in travel patterns will occur due to demographic changes (aging population), changing working practices and the prominence of online retail. These changes have the potential to increase congestion and delays across all modes of transport without further action. Also, Greater Manchester requires the associated infrastructure to support a shift to ultra-low emission forms of transport this change to move towards decarbonisation and improving air quality.

Through investment in pedestrian and cycle networks supported by comprehensive and consistent on-street and digital wayfinding infrastructure, the relative proximity of the Etihad Campus to the City Centre is favourable to promote higher levels of active travel hence easing the congestions and delays anticipated. Also, improvement of public transport network and green infrastructure in vicinity of the Etihad Campus would potentially induce mode shift from private cars to walking/ cycling and public transport.

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3. Site Context

3.1 Site Location

The site location is presented in Figure 1.

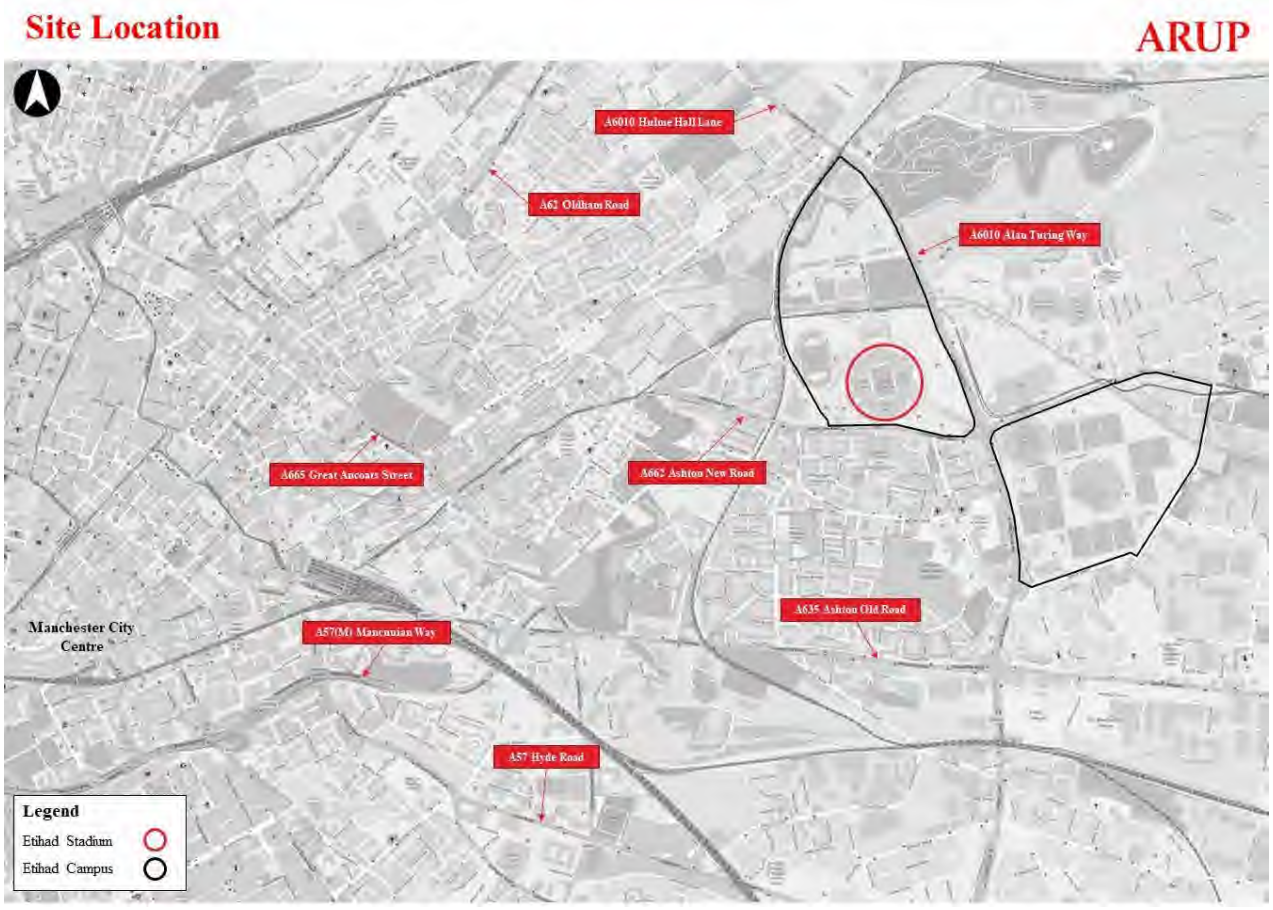


Figure 1: Site Location

3.2 Public Transport

The Etihad Campus is highly accessible by public transport with Metrolink, bus and heavy rail all serving the site. The existing services to and from the Etihad Campus are described below.

3.2.1 Metrolink

The Etihad Campus benefits from having a Metrolink stop located centrally within the site. The Etihad Campus stop has supporting crowd-control infrastructure to enable it to deal with high volumes of passengers before, and particularly following an event at the Etihad Stadium. There are additional Metrolink stops to the west and east of the Etihad Campus (Holt Town and VeloPark respectively) that serve the areas immediately surrounding the Etihad Campus (and also serve some parts of the Etihad Campus more conveniently than the main stop) though these are closed following major events for safety reasons.

The Etihad Campus stop is on the Ashton-under-Lyne to Eccles/MediaCityUK Metrolink line which currently has a timetabled 12 -minute frequency (i.e. five trams per hour) in both directions. These services call at key City Centre stops including Piccadilly, Piccadilly Gardens, St Peter's Square and Deansgate Castlefield. Interchange onto all other Metrolink lines is possible at these City Centre stops.

Three Park and Ride facilities are located on the line providing a total of 845 parking spaces at Ashton West (195 spaces), Ashton Moss (200 spaces) and Ladywell (450 spaces). Other Park and Ride facilities are located across the Metrolink network, providing a further total of over 2,300 spaces.

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TfGM currently has a timetabled 'enhanced service' on Metrolink to serve football matches and other major events at the Etihad Campus. This enhanced service is specifically tailored to the requirements of each event based on TfGM intelligence, previous experience and anticipated demand. It is typically intended to operate such that the service frequency is increased to every 6 minutes in each direction and trams operate as 'double units' (i.e. two connected tram units) (subject to vehicle availability) for a period before and after the event.

3.2.2 Rail

The closest heavy rail station to the Etihad Campus is Ashburys. This is approximately 15-minutes' walk from the southern edge of the Etihad Campus. Ashburys station is served by the following services:

- Between Manchester Piccadilly and Hadfield/Glossop (via Guide Bridge/Newton for Hyde /Broadbottom) – approximately 40 trains per day in each direction;
- Between Manchester Piccadilly and Rose Hill/New Mills Central (via Bredbury/Guide Bridge/Hyde North & Central/Marple) – approximately 30 trains per day in each direction; and
- Between Manchester Piccadilly and Sheffield - two trains per day in each direction.

Whilst there are frequent services to Ashburys station, it has limitations in terms of its capacity to accommodate the large volumes of passengers that may wish to use the station immediately following an event due to the infrastructure. The station can, however, play an important role during non-event times (e.g. for staff access to the Etihad Campus).

Manchester Piccadilly is the main station serving the City Centre. There is a signed walking route between the Etihad Campus and Piccadilly Station. Piccadilly has rail services to a wide range of local and national destinations as well as interchange to other modes including Metrolink, bus and taxi. The Etihad Campus is an 8-minute journey from Piccadilly via a direct Metrolink service

Manchester Victoria is located slightly further from the Etihad Campus but still within the City Centre. Victoria has services to a wide range of local destinations and other locations across the North of England including Leeds, Liverpool and Newcastle.



Figure 2: Rail and Metrolink

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3.2.3 Bus

The Etihad Campus is well served by high frequency radial bus services between Manchester City Centre and both Ashton-under-Lyne /Stalybridge (services 216, 217 230, and 231) and Oldham (services 76 and 76A). These services stop close to the Etihad Campus along Ashton New Road and Bradford Road respectively. There is also a radial bus service that operates between Cheetham Hill and Salford Quays/Pendleton (service 53), stopping on Alan Turing Way.

Bus routes near the site are presented in Figure 3.

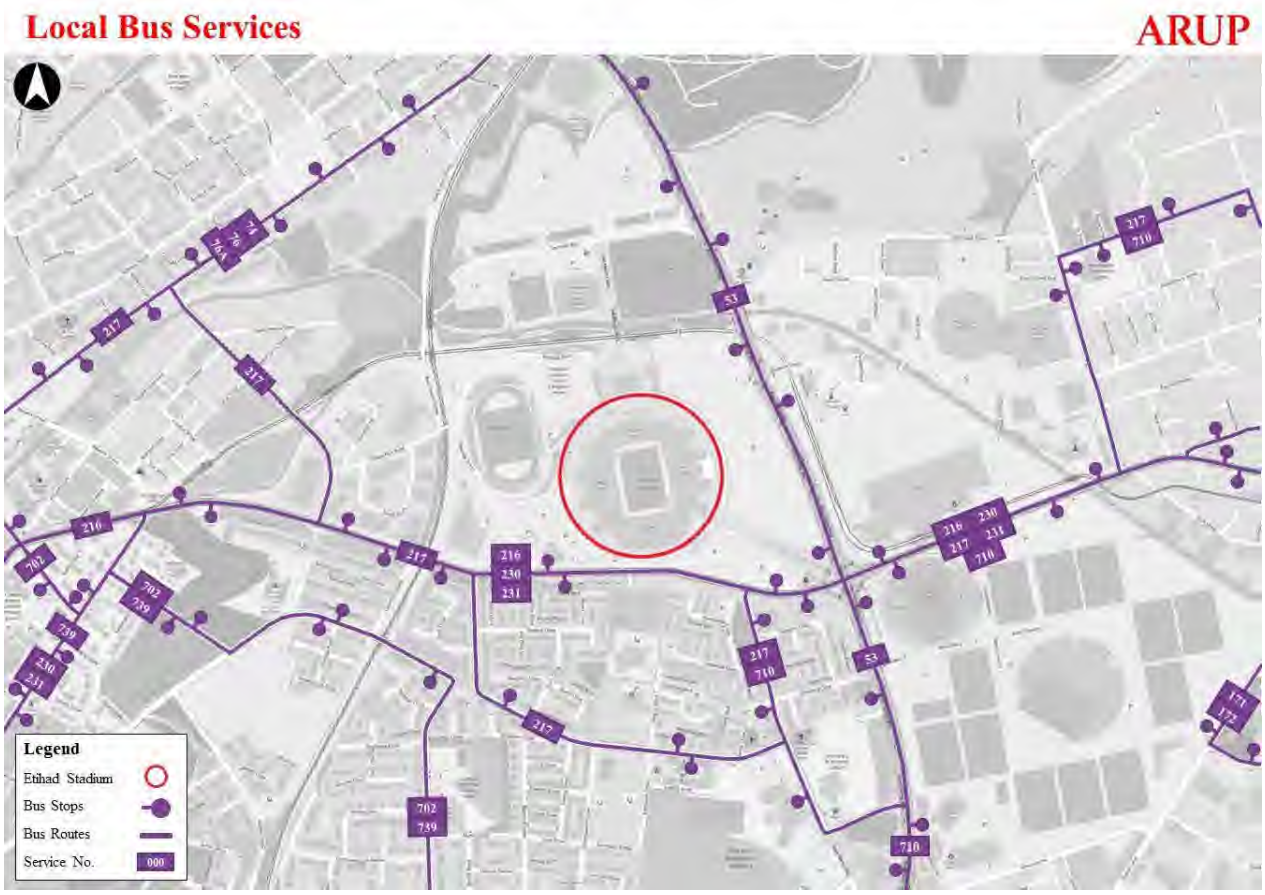


Figure 3: Local Bus Services

Table 3 summarises the frequency of the services on local bus routes.

Table 3: Local Bus Services

Service Route	Origin - Destination	Frequency
216	Piccadilly Gardens↔Ashton-under-Lyne↔Stalybridge	6/hr
217	Piccadilly Gardens↔Droylsden↔Ashton-under-Lyne	1/hr
230	Piccadilly Gardens↔Droylsden↔Ashton-under-Lyne	1/hr
231	Piccadilly Gardens↔Droylsden↔Hurst↔Ashton-under-Lyne	2/hr
76	Piccadilly Garden↔Failsworth↔Hollinwood↔Oldham Mumps	4/hr
76A	Piccadilly Garden↔Failsworth↔Limeside↔Oldham	1/hr
53	Cheetham Hill↔Higher Crumpsall↔Old Trafford↔Pendleton	2/hr

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3.3 Walking Network

The Etihad Stadium is surrounded by heavily trafficked roads on its eastern and southern boundaries however formal crossings are in place at the following locations:

- The junction of Hulme Hall Lane/Bradford Road;
- The junction of Alan Turing Way/Briscoe Lane;
- The junction of Alan Turing Way/Sportcity Way;
- The junction of Alan Turing Way/Gibbon Street;
- The junction of Alan Turing Way/Ashton New Road;
- Ashton New Road (between Grey Mare Lane and Swallow Street); and
- Ashton New Road (between Rowsley Street and Swallow Street).

In addition to the at-grade pedestrian crossings at the junction of Alan Turing Way/Ashton New Road, a pedestrian overbridge provides connectivity between the Etihad Campus, City Football Academy and the communities to the south and east.

The Ashton Canal Towpath provides connections to the communities east and west of the Etihad Campus. Joe Mercer Way provides a grade-separated crossing of the canal itself to allow internal north-south movements within the Etihad Campus, including access to venues located within the Etihad Campus to the north of the canal. To the west of the Etihad Campus, Philips Park Road/Rowsley Street and the City Link connection provide pedestrian connectivity over and under (respectively) the potential barrier to movement of the railway corridor.

There are a number of alternative walking routes from the City Centre available. The most direct route, known as the 'City Link' is via the A662 Pollard Street/Merrell Street/Ashton New Road. The 'City Link' was initially developed for the 2002 Commonwealth Games. This route is signed between the Etihad Campus and the City Centre and is lit with footways on either side and controlled crossings at junctions with major roads of which there are only two (Carruthers Street and Every Street). A branch of this route connects from Every Street to the centre of the Etihad Campus via a traffic-free route.

An alternative traffic-free walking route between the City Centre and the Etihad Campus is available via the Ashton Canal towpath. This route takes approximately 20-minutes to walk to the edge of the City Centre (as defined by Great Ancoats Street). This route passes beneath Great Ancoats Street alongside the canal.

3.3.1 Access to other modes on foot

Other key transport interchanges can also be accessed on foot from the Etihad Campus. These include the following locations:

- Ashton Old Road bus corridor - approximately 900m south of the Etihad Campus – accessed directly along Alan Turing Way/Pottery Lane. Controlled crossing facilities are provided at the main junctions with Ashton New Road and Ashton Old Road;
- Oldham Road bus corridor - approximately 1,000m north of the Etihad Campus – accessed directly along Alan Turing Way/Hulme Hall Lane. Controlled crossing facilities are provided at the main junctions with Bradford Road and Oldham Road;
- Ashburys Station – approximately 1,100m south of the Etihad Campus – accessed directly along Alan Turing Way/Pottery Lane. Controlled crossing facilities are provided at the main junctions with Ashton New Road and Ashton Old Road;
- Central Park Metrolink stop – approximately 2km north of the Etihad Campus accessed along Briscoe Lane and Ten Acres Lane. This stop is on the Rochdale-East Didsbury line. Controlled crossing facilities are provided at the main junctions with Briscoe Lane and Oldham Road; and

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- Queens Road Metrolink stop – approximately 2.5km north-west of the Etihad Campus accessed along Hulme Hall Lane. This stop is on the Bury-Altrincham line. Controlled crossing facilities are provided at the main junctions along the route.

3.4 Cycling Network

National Cycle Route 60 runs adjacent to the site along Alan Turing Way. This route starts in North Manchester and then along Queens Road/ Hulme Hall Lane/Alan Turing Way before joining the Ashton Canal east of Alan Turing Way and travelling south to join the Fallowfield Loop in South Manchester. Adjacent to the site, the route is a combination of on-street segregated and unsegregated cycle lanes.

Regional Route 86 is a largely traffic-free route that runs east-west through the site. It connects from Ducie Street within the City Centre along the Ashton Canal towpath through the Etihad Campus and then through Philips Park. A branch of this route runs south from the Etihad Campus alongside the River Medlock down to Ashton Old Road and Pin Mill Brow. There are also cycle lanes on Ashton New Road from a point close to the entrance to City Football Academy through to Holt Town. These lanes are on-street and not segregated from traffic.

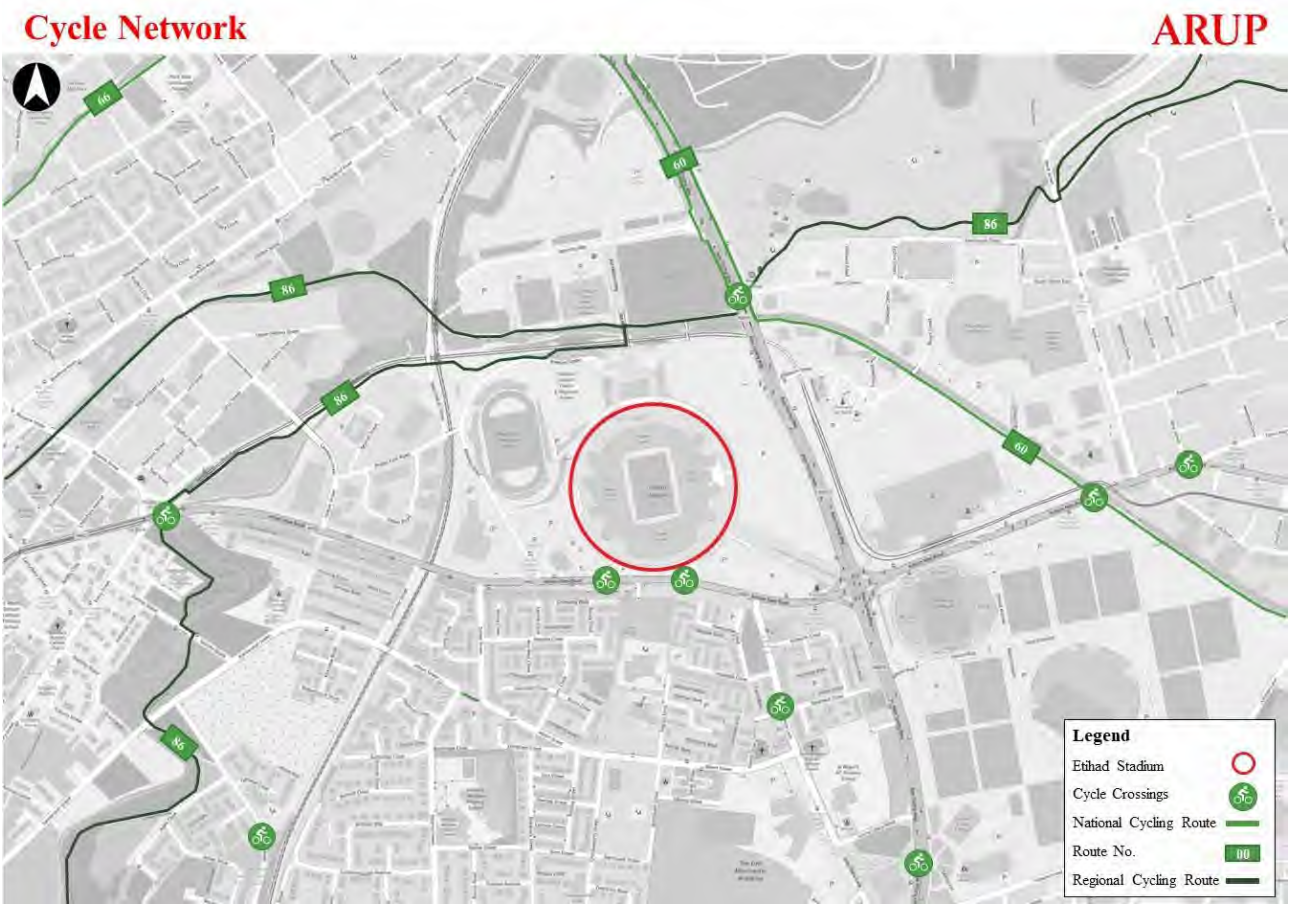


Figure 4: Cycle Network

3.5 Other cycle Infrastructure

3.5.1 Cycle Parking

There are 272 cycle parking stands located around the Etihad Campus. There are also five cycle stands (10 spaces) at the Etihad Campus Metrolink stop. A further 240 cycle parking spaces are being installed at the Etihad Campus as part of the Coop Live development. These cycle parking spaces will be available for all users of the Etihad Campus in accordance with the wider strategy for shared transport infrastructure provision across the Campus.

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3.5.2 Cycle Hire

Additional cycle parking facilities, including public hire bikes forming part of the Beryl GM cycle hire scheme are being installed at key locations across the Etihad Campus as part of the supporting infrastructure for Coop Live development and in accordance with wider strategic plans for sustainable transport at the Etihad Campus.

The Bike Hire Scheme operates across Manchester, Salford and Trafford and the Etihad Campus is within its area of operation. There will be a total of 1,500 bikes, including 300 e-bikes. here are cycle hiring stations around the Stadium at the Etihad Campus:

- On Rowsley Street
- At the junction of Darley Street / Ashton New Road
- Holt Town Tram Stop
- Southern end of Pollard Street.

There are also plans in process with Beryl to bring the Bee Bike stands to another 4 locations within the Campus.

Cyclists can download the Beryl mobile app to locate their nearest cycle hiring stations and see their availability of bikes.

3.6 Highway Network

The site is well situated to the 'A' road network with onward connections to the strategic road network; namely the orbital M60 route to the east. The area is surrounded by a number of routes including:

- A62 Oldham Road – a single-carriageway four-lane road that connects Manchester to the M62 motorway, passing through Failsworth and Oldham. It intersects A6010, which bounds the site at the east.
- A6010 Queens Road – a dual-carriageway two lane road that connects Higher Broughton to Chorlton-cum-Hardy, passing through Bradford, Gorton and Rusholme. It bounds the site at the east.
- A662 Ashton New Road – a single-carriageway two-lane road that connects Manchester to Audenshaw, passing through Droylsden. It bounds the site at the south.
- A635 Ashton Old Road – a single-carriageway four-lane/ dual-carriageway two-lane road that connects Manchester to Doncaster, passing through Stalybridge, Holmfirth and Barnsley. It is parallel to the A662 and intersects the A6010.
- New Viaduct Street – a single-carriageway two-lane road that between its junction with Broxton Street and its junction with Philips Park Road. It bounds the site at the west.

The routes link the site to the Strategic Road Network (M60) and Manchester City Centre and the Inner Ring Road, and radial connections from the city centre towards other regional destinations. The local area is also comprised of a number of residential areas served by more lightly trafficked local distributor roads, and access roads. Furthermore, there are commercial interest in the surrounding communities including warehousing, industrial sites, and local shops and services.

3.7 Car Parking

3.7.1 On-site parking

There is currently capacity for approximately 3,700 on-site parking spaces within the Etihad Campus (excluding those spaces dedicated to the Manchester Tennis and Football Centre and the Manchester Regional Arena). This capacity is split across a number of car parks within the Etihad Campus.

Existing on-site parking at the Etihad Campus is presented in Figure 5. Parking capacity at the Etihad Campus would not be increased as a result of the Proposed Development.

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Figure 5: Etihad Campus Site Map
Source: https://www.mancity.com/etihad-stadium/visiting-the-etihad-stadium

3.7.2 Off-site car parking

The Etihad Resident Parking Scheme operates within the area surrounding the Etihad Campus on Stadium event days. The scheme is enforced from two hours before the event until it ends (if the times of the event fall between 10am to 10pm). Although there are several resident parking schemes in operation across Manchester, the one at the Etihad is unique in that it currently only operates on Stadium event days. The dates of these events must therefore be advertised on signs within the area that the scheme operates and changed after each event. Local residents and businesses must therefore check when the scheme is due to operate and plan accordingly.

During that time, only people with permits can park. Outside of these hours anyone can park for any time. The normal rules apply for double yellow lines (i.e. permit holders cannot park on them).

Within a radius of approximately 800m from the centre of Campus there are an estimated 1,500 off-street parking spaces. This includes parking at the National Cycling Centre and sites to the east, south and west of the Etihad Campus. Within a radius of approximately 1500m from the centre of Campus there are an estimated further 4,500 off-street parking spaces. These are primarily located towards the north of the Etihad Campus around the industrial areas north-east of Hulme Hall Lane. Beyond 1500m of the Etihad Campus there is additional parking, the majority of which is within Manchester City Centre, but which also includes on-street parking beyond the extent of the current residents parking scheme.

In 2020, the Etihad Campus Movement and Transport Strategy was produced, to plan transport and movement to, from and around all of the future development outlined in the Eastlands Regeneration Framework. This Strategy included for further expansion of the Etihad Stadium (as defined by the capacity expansion permitted by the extant planning permission from 2014), the Co-op Live arena and the other use classes now included within this application. A key recommendation of the Strategy in 2020 was that the

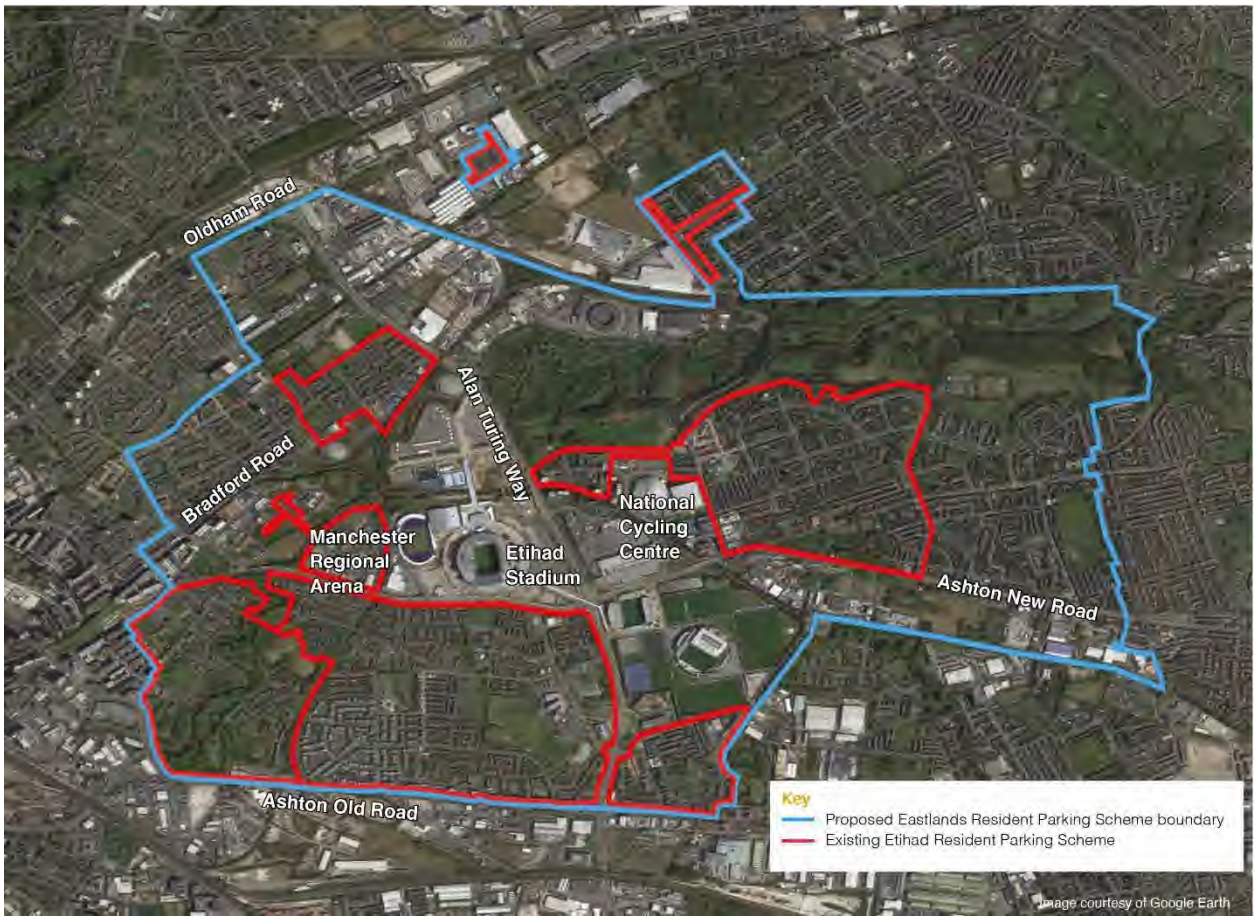
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existing 'event day' Resident Parking Schemes should be extended in area and operate on all days to protect resident parking and support the development of the Campus.

In line with the Etihad Campus Movement and Transport Strategy 2020, a revised Resident Parking Scheme (known as the Eastlands Resident Parking Scheme) is currently being implemented. The revised RPS area will fully cover the existing RPS zones in addition to areas not currently covered by the existing scheme. Once implemented, the scheme will restrict on-street parking within an approximate 20-minute walk of the Etihad Campus. The new RPS will operate on all days from midday to 11pm. There are two types of restrictions proposed; 'Permit Holders Only' and 'Permit Holders or 90 minutes for non-Permit Holders'. As such, supporters who are not permit holders would not be able to park within the RPS on matchdays.

As shown in Figure 6 the geographic extent of the proposed Eastlands RPS (blue) is significantly larger than the current Etihad RPS (red). This reflects and demonstrates the commitment of the Etihad Campus organisations to discourage event-related a parking in the area and to preserve the amenity of nearby residents and businesses.

Figure 6: Comparison of Existing and Proposed RPS Boundaries



The extent of the RPS is presented in **Appendix B**.

One of the key recommendations of the Etihad Campus Movement and Transport Strategy 2020 was that car parking provision available at that time should not be increased going forward. Instead, the Etihad Campus would focus on maximising efficient utilisation of available car parking provision, both on and off the Campus. Currently, a number of unofficial off-site car parks spring up on parcels of land in the vicinity of the Campus on an event day. Egress from these spaces after events is often unmanaged, meaning large numbers of cars can emerge from them onto areas of the highway network which are not designed to receive them. These cars then contribute significantly to local congestion as a result.

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4. Proposed Development

4.1 Introduction

This section provides an overview of the Proposed Development, with particular regard to vehicular access, parking, and delivery/servicing.

4.1.1 Project Description

The Proposed Development comprises the expansion of the North Stand, development of a hotel, a 4,000 m2 GFA workspace and commercial developments including a redevelopment of the Club Shop and Club Museum.

The Proposed Development provides a total of 7,910 new seats at the Club Level, Upper Concourse, Suite Level and the Sky Bar, increasing the gross number of seats in the Stadium to 61,966.

The proposed hotel development is a 9-level building which consists of 400 beds. Guestrooms are on levels 2 to level 8, City Square food and beverage services on the ground floor and Hotel F&B services on the 1st floor.

The food and beverage uses are considered to be ancillary to the commercial development and stadium expansion as they will not generate ‘primary trips' to the Etihad Campus and therefore have not been assessed.

The opening year for all parts of the proposed Development is 2026, with construction anticipated to start in 2023.

4.2 Vehicular Access

The Proposed Development would be accessed primarily via the existing Gate 3 access, opposite Gibbon Street. Some servicing access will be via other existing accesses to the Etihad Campus. The junction is a 4-arm signal-controlled junction with pedestrian phases on its northern and eastern arms (A6010 Alan Turing Way and Gibbon Street, respectively). No changes to the junction are proposed as part of the Proposed Development.

The junction will cater for customer and staff vehicular access. Further information relating to access for delivering and servicing is provided in **Section 8.7**.

4.3 Parking

4.3.1 Vehicular Parking

Parking capacity at the Etihad Campus would not be increased as a result of the Proposed Development. By constraining parking capacity and therefore the ability of visitors to park either on-site or on the surrounding streets (via the Eastlands Resident Parking Scheme), the strategy will discourage people from travelling to the Etihad Campus by car on a matchday.

This is, and will continue to be, supported by communication from the Club that all matchday on-site parking must be pre-booked, that there is a revised RPS in operation and directing people to the alternative sustainable transport modes available.

No additional parking will be provided for the hotel or workspace use and those staff and visitors wishing to park on site will be required to use existing on-site parking. Around 150no. spaces will be allocated for users of the Hotel.

4.3.2 Electric Vehicle Charging

As part of the Proposed Development, four new 22kw electric vehicle chargers will be provided within the Etihad Campus. In addition, a further four 22kw chargers will replace existing 7kw chargers. The existing 7kw chargers will be relocated to City Football Academy.

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4.3.3 Cycle Parking

The Design and Access Statement presents the cycle parking strategy and facilities. Currently across the site there are 272 cycle parking spaces, with an additional 240 spaces being provided as part of the Co-op Live Arena development.

As part of the Proposed Development, it is proposed to provide a further 200 covered spaces to the southeast of stadium. This will bring the total parking provision available to users of the Proposed Development to over 700 spaces. All cycle parking spaces will be available and accessible to all users of the Etihad Campus. This will help to ensure flexibility in the use of the cycle parking provision across the wide range of existing and future users of the Etihad Campus.

It is noted that LTN 1/20 requires that a range of facilities, including short-stay cycle parking, is located in close proximity to the entrance to the development. There are currently a number of Sheffield stands located surrounding the Etihad Stadium next to the entrances to the proposed hotel and workspace use available for this purpose. Existing and proposed cycle parking locations are presented in Figure 6, extracted from the Design and Access Statement.

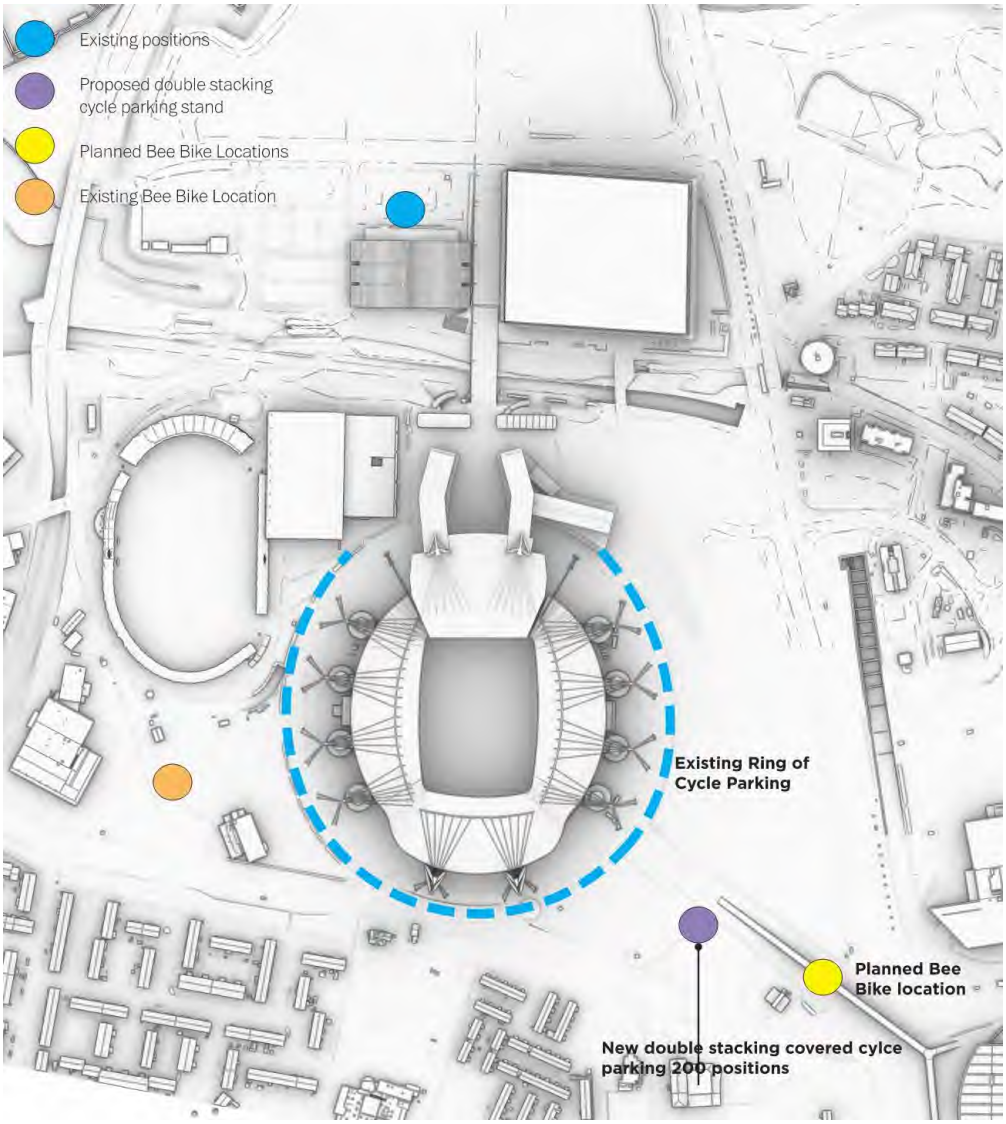


Figure 7: Proposed Cycle Parking Locations

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5. Stadium Expansion

5.1 Overview

The proposals for the expansion of the Etihad Stadium North Stand sit within a wider transport and movement strategy for the future development of the Etihad Campus (discussed in Section 1.1.1 of this TA). This strategy seeks to make better use of existing transport infrastructure and promote any additional trips generated to be undertaken by sustainable transport modes.

There are two key components of the strategy that will help to achieve this.

1. There will not be an increase in car parking on the site; and
2. An enhanced Resident Parking Scheme will be implemented that operates every day, for longer periods and covering an increased geographic area.

These two measures are complemented by supporting interventions to promote and increase the use of sustainable transport options to access the Etihad Campus on matchdays including Metrolink, service and dedicated shuttle buses and walking from the city centre. This will help to ensure that local residents are not affected by additional traffic movements and that users of existing venues within the Etihad Campus are not impacted by additional delays accessing and egressing the site.

By constraining parking capacity and therefore the ability of visitors to park either on-site or on the surrounding streets, the strategy will discourage people from travelling to the Etihad Campus by car on a matchday. This is, and will continue to be, supported by communication from the Club that all matchday on-site parking must be pre-booked, that there is a revised RPS in operation and directing people to the alternative sustainable transport modes available.

It is recognised that there are informal, off-street car parks in the area surrounding the Etihad Campus that currently operate on matchdays. These are outside the control of the club. It is considered that any sites that could be used for off-street parking are already being used as such, and therefore the stadium expansion would not result in an increase in the availability or use of such sites. Indeed, many of these sites are temporary uses on land that is awaiting future development opportunities and will be built on over time, particularly as the Etihad Campus and surrounding areas develop and land-values of the surrounding area increase.

Some drivers may choose to park beyond the Resident Parking Scheme boundary (approximately 20-minutes' walk from the Etihad Campus). The local impact of this in any location will be diluted as the scheme boundary is large and will increase as a result of the enhanced Eastlands Resident Parking Scheme as shown in Figure 6.

The western boundary of the proposed Eastlands Resident Parking Scheme effectively corresponds to the edge of the City Centre. There are currently large volumes of commuter parking within this area that are not fully utilised at the time of matches at the Etihad Stadium (i.e. weekday evenings and weekends). Recognising the potential for this existing parking capacity to be used to appropriately accommodate any demand that is not currently accommodated off-street (either on- or off-site), improvements are being delivered along three key walking routes between the City Centre and the Etihad Campus. This will also help to increase the attractiveness and experience of walking to the Etihad Campus from key public transport nodes and hotels within the City Centre.

Sections 5.2 and 5.3 describe how people currently travel to the stadium and how, based on the strategy described above, people will travel to the stadium in future.

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5.2 Current Travel to the Etihad Stadium

The current estimated mode split of the Etihad Stadium based on matchday surveys is set out in Table 4 below:

Table 4: Current Travel to the Etihad Stadium (Supporter)

Mode	Percentage	People*	Cars
Cycle	1%	540	-
Walk entire journey	1%	540	-
Public transport and walk	10%	5,405	-
Park and walk (within RPS – mostly off-street)	30%	16,214	6,756
Park and walk (from outside RPS)	9%	4,864	2,027
Taxi	6%	3,243	-
Bus	6%	3,243	-
Metrolink	12%	6,486	-
Coach	4%	2,162	-
Drop-off	2%	1,081	-
Park on-site	19%	10,269	3,423
Total	**100%**	**54,048**	**12,206**

* based on a capacity 54,048 crowd

5.3 Future Travel to the Etihad Stadium

The additional 7,910 seats at the Etihad Stadium will generate additional trips to and from the Etihad Campus. The capped capacity of the on-site parking on the Etihad Campus alongside the implementation of the enhanced Eastlands Resident Parking Scheme will mean that these trips cannot be undertaken by cars parking either on-site or on-street within the locality of the Etihad Stadium.

Following the granting of the Stadium Expansion planning consent in 2014 (which included both the North and South Stand expansion), the Club has already delivered on its commitments that were set out in the accompanying transport strategy and planning application. This included a range of infrastructure measures and accompanying promotional initiatives. In addition the Club has piloted and implemented a range of further measures and initiatives of its own accord as part of its ambition to increase sustainable travel to and from the Etihad Campus.

On the basis of the measures that have been implemented and that are currently being delivered, it is forecast that the additional trips will arrive using the following modes, set out in Table 5.

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Table 5: Future Travel to the Stadium (Additional Supporters generated by Stadium Expansion)

Mode	Existing Mode Split (%)	Additional Capacity	
		People	Percentage
Cycle	1%	81	1%
Walk entire journey	1%	81	1%
Public transport and walk	10%	2,829	36%
Park and walk (within RPS – mainly off-street)	30%	-	0%
Park and walk (from outside RPS)	9%	1,010 (c.400 vehicles)	13%
Taxi	6%	525	7%
Bus	6%	808	10%
Metrolink	12%	1,919	24%
Coach	4%	404	5%
Drop-off	2%	253	3%
Park on-site	19%	-	0%
Total	**100%**	**7,910**	**100%**

As shown in Table 5, the proposed levels of 'public transport and walk', bus and Metrolink use for the additional supporters travelling to the Etihad Campus are ambitious and well above the existing mode shares for these modes of travel to the Etihad Stadium.

No additional supporters would park on-site or within the RPS boundary, meaning that there would not be additional vehicles coming to the area surrounding the Etihad Campus (within an approximate 20-minute walk distance) in order to park. This means that the proposed mode share for additional supporters using these modes (park on-site and 'park and walk within RPS') is 0%, compared with 49% which is the share of existing supporters using these modes.

Whilst the mode shares for the additional capacity are ambitious, it must be recognised that the proposed increase in the stadium capacity is less than 15%. Therefore, the impact on the overall mode shares for a full capacity crowd will be more modest. This is demonstrated in Table 6. However, the mitigation measures proposed as part of this development will also help to support wider ongoing measures and initiatives being undertaken by the Etihad Campus to deliver mode shift across existing supporters.

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Table 6: Future Travel to the Stadium (Supporters)

Mode	Current Capacity		Additional Capacity		Future Capacity		
	People*	Percentage	Additional people	Percentage	People*	Percentage	Change in mode share
Cycle	540	1%	81	1%	621	1%	0%
Walk entire journey	540	1%	81	1%	621	1%	0%
Public transport and walk	5,405	10%	2,829	36%	8,234	13%	3%
Park and walk (within RPS – mainly off-street)[1]	16,214	30%	-	0%	16,214	26%	-4%
Park and walk (from outside RPS)[2]	4,864	9%	1,010 (c.400 vehicles)	13%	5,874	9%	0%
Taxi	3,243	6%	525	7%	3,768	6%	0%
Bus	3,243	6%	808	10%	4,051	7%	1%
Metrolink	6,486	12%	1,919	24%	8,405	14%	2%
Coach	2,162	4%	404	5%	2,566	4%	0%
Drop-off	1,081	2%	253	3%	1,334	2%	0%
Park on-site	10,269	19%	-	0%	10,269	17%	-2%
Total	**54,048**	**100%**	**7,910**	**100%**	**61,958**	**100%**	**-**

[1] The table considers the existing RPS area for the 'Current' figures and the expanded RPS area (currently proposed by MCC) for the 'Future' figures. The only supporter parking permitted within the RPS is either in one of the unofficial off-street car parks (inside the RPS) or on-street with a valid permit (intended primarily for use of residents, businesses and their visitors). Limited Waiting bays within the expanded RPS are expected to be limited to 90 minutes, meaning these are not a viable option for fans attending events. The unofficial off-street car parks are outside the control of the club. The number and location of these unofficial off-street sites varies over time. Some of these sites are temporary uses on land that is awaiting future development. As this happens, history suggests that other unofficial off-street sites may emerge to take their place. Overall it is anticipated that the overall supply of unofficial off-site parking sites within the expanded RPS will remain broadly the same as that within the existing RPS. Importantly in the context of this application, the proposed stadium expansion would not result in an increase in the availability or use of such sites and none of the additional people visiting the Etihad Stadium are anticipated to park within either the existing or expanded RPS.

[2] As the boundary of the RPS expands, those vehicles that currently park outside the existing RPS (but within the boundary of the expanded RPS) may be required to park further from the Etihad Campus. The table assumes that all of these people continue to 'Park and Walk', but in reality some are likely to consider making the shift to more sustainable modes. An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years to promote managed parking opportunities outside of the expanded RPS boundary (e.g. Park & Ride / city centre car parks).

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* assuming a capacity crowd

The overarching aim of the transport strategy for the proposed stadium expansion is not to increase vehicle trips to/from the Etihad Campus and surrounding area. This will help to ensure that local residents are not affected by additional traffic movements and that users of existing venues within the Etihad Campus are not impacted by additional delays accessing and egressing the site. New journeys generated by the stadium expansion would use alternative modes to the car. No additional parking supply, junction capacity improvements, or other schemes that might encourage additional traffic are proposed as part of the strategy.

To support the strategy and deliver the modal shift presented in Table 5, the Club will build upon the existing multi-modal transport initiatives that are already being successfully implemented. Section 8 of this TA presents this mitigation by mode, demonstrating how they will support the trips associated with the stadium expansion.

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6. Junction Impact Assessment

6.1 Overview

The scope of the Junction Impact Assessment has been agreed with MCC and TfGM (**Appendix A**) and reflects the comments received.

As it is not proposed to increase the capacity of the car park at the Etihad Campus, and the enhanced Eastlands Resident Parking Scheme will prevent additional vehicles from parking close to the area, the volume of traffic accessing the site to use the stadium would not increase from that already doing so in the baseline conditions. This approach has also been assessed and approved under previous applications, where the North Stand Expansion has been taken into consideration.

Indeed, it is anticipated that the additional proposed commercial uses would be likely to spread the arrival and departure of traffic that currently accesses the Etihad Campus on a matchday. In particular, guests using the hotel on a matchday (who would likely be attending the match) would be expected to arrive well in advance of kick-off. This would be likely to have the effect of reducing the peak impacts on the highway network before and after a stadium event, providing some benefit to local users of the highway network, including people using other existing venues at the Etihad Campus.

The modelling therefore focuses on the impact of the proposed commercial uses (workspace and hotel) only as agreed with MCC and TfGM during scoping meetings. It has been agreed that the assessment should focus on the midweek evening peak period as the worst case where there could be some overlap between commercial uses and stadium traffic arriving.

No assessment of the weekend is proposed as the workspace component would generate minimal traffic at this time and therefore a midweek evening represents the worst-case assessment.

6.2 Junctions Models

Models have been prepared for each of the junctions in LinSig. In preparation of the models, updated junction layouts, controller specifications and signal monitoring logs have been sought and received from TfGM's Urban Traffic Control (UTC) team. This information is presented in **Appendix C**.

6.3 Traffic Data Sources

6.3.1 Survey Data

A series of surveys have been undertaken across a range of transport modes in order to understand existing conditions on the transport networks serving the Etihad Campus during both matchday and non-matchday conditions.

The scopes for these surveys are presented in Appendix B, but included the following vehicular surveys:

- Shuttle bus surveys – boarding surveys of post-match special service buses on Ashton New Road after match to understand the operation and utilisation of the service (undertaken on matchdays only);
- Car park entry/exit surveys – fully classified vehicular in/out counts at on-site car parks on the Etihad Campus and the off-site Metrolink park and ride facilities at Ashton-under-Lyne to understand their utilisation across the survey periods;
- Junction surveys – classified turning counts and queue length surveys across a wide range of junctions across the highway network to provide an understanding of traffic movements across the area and to inform junction modelling for the TA at key locations.

Matchday survey dates

The matchday traffic and movement surveys were undertaken before, during and immediately after the following Manchester City home games at the Etihad Stadium during the 2018/19 season:

- vs West Ham United (Wednesday 27th February 2019 – 20:00 kick-off);

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

Midweek surveys were undertaken between 16:00 and 23:00 to ensure that the network peak, pre-match and post-match periods were covered. Saturday surveys were undertaken between 10:00 and 17:00 to ensure that the pre-match and post-match periods were covered.

Non Matchday survey dates

In order to provide a comparison of the conditions on the transport networks when there was not a match taking place at the Stadium, a similar range of surveys were undertaken on both a weekday and Saturday non-matchday for the same time periods. There were some matchday surveys that were not appropriate or not possible to replicate on a non-matchday (e.g. the post-match shuttle bus survey as this service only operates on matchdays).

The dates of the non-matchday surveys were as follows:

- Thursday 07 November 2019; and
- Saturday 09 November 2019.

6.3.2 Comparison of 2019 and 2022 Traffic Flows

The scoping response provided by MCC, and TfGM (**Appendix A**) requested a comparison of 2019 and 2022 traffic survey data to ensure that the use of the 2019 data remains relevant, given the impact of the pandemic on travel and working patterns.

In preparation of this TA the project team has compared the data collected in 2019 against data held by TfGM for 2022 at the following location. TfGM advised that this was the only available ATC data held for the equivalent survey period in 2022 that fell within the study area.

The results of this review are presented in Table 7 below.

Table 7: Comparison of 2019 and 2022 Traffic Flows: A635 East of Chancellors Lane

Item	AADT Weekday	AADT 7 Day
2019 Data	25,900	25,315
GMUTC 2022	23,027	22,786
Difference (2019 v 2022)	-11%	-10%

On the basis of this assessment it is considered that weekday traffic flows on the network have decreased since the 2019 traffic data was collected; likely due to post-pandemic changes in travel patterns across the network, including increases in flexible and home working.

Notwithstanding this observed change in traffic flows, to ensure a robust ‘stress-test’ of junction performance in future years, and to account for, for example, an increase in workers returning to the office in future years, traffic growth factors have been applied to future year forecasts.

6.3.3 Traffic Growth

The Proposed Development is anticipated to be complete in 2026. Forecasts of background traffic growth has been applied to baseline traffic to derive future year baselines.

TEMPro v7.2 has been used to forecast the future year background traffic growth on the road network. This software provides locally adjusted traffic growth factors which have been applied to the 2019 surveyed flows, giving a forecast of the likely increase in traffic on the network by 2023 in the baseline year and in the anticipated completion year 2026. Despite the decrease in traffic flow likely due to post-pandemic changes over the period 2019-2022 discussed in section 6.3.2, the growth factor from TEMPro has been adopted in

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forecasting the future network traffic as a conservative approach. Table 8 shows the growth factor used to obtain the 2023 baseline flows and 2026 future flow from the 2019 surveyed flows.

The PM peak in TEMPro refers to the time period of 1600 – 19:00.

Table 8: TEMPro Traffic Growth Factor

Base	Future	Growth Factor
2019	2023	1.0621
2023	2026	1.0373

6.4 Vehicular Trip Generation

As discussed in Section 5, this TA is underpinned by a strategy that the increase in stadium capacity will not generate new vehicular trips on the network surrounding the Etihad Campus. This section therefore only considers the trip generation of the workspace and hotel uses.

Furthermore, the redevelopment of the club shop and proposed food and drink uses are considered to be ancillary and are therefore not anticipated to generate any significant levels of trips in their own right as they will be linked to the other components of the Proposed Development and supporters attending matches.

6.4.1 Daily Hotel Trip Rates

Total vehicular trips associated with the proposed hotel development with 400 hotel rooms are set out in 8 below.

The majority of the users of the hotel are anticipated to be those attending events or using facilities at the Etihad Campus. These users are therefore anticipated to, on the whole, arrive outside of the peak time associated with the wider network and prior to matchday or other events. As no additional car parking is proposed, the vehicles accessing the hotel on a matchday would have already been included as part of the existing on-site surveyed traffic movements.

Nonetheless, in the interests of providing a robust ‘stress-test’ of these junctions, it has been assumed that these factors would not influence the arrival and departure profiles of hotel customers. In reality it is therefore anticipated that the actual impacts would be notably lower than those reported.

Table 9: Hotel Trips

Time Period	Trip Rate (Trip per room)		Trips Generated		
	Arrival	Departure	Arrival	Departure	Total
07:00-08:00	0.069	0.134	28	54	81
08:00-09:00	0.131	0.186	52	74	127
09:00-10:00	0.149	0.123	60	49	109
10:00-11:00	0.112	0.096	45	38	83
11:00-12:00	0.052	0.093	21	37	58
12:00-13:00	0.102	0.073	41	29	70
13:00-14:00	0.103	0.09	41	36	77
14:00-15:00	0.074	0.087	30	35	64
15:00-16:00	0.098	0.111	39	44	84

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Time Period	Trip Rate (Trip per room)		Trips Generated		
	Arrival	Departure	Arrival	Departure	Total
16:00-17:00	0.108	0.112	43	45	88
17:00-18:00	0.127	0.102	51	41	92
18:00-19:00	0.128	0.104	51	42	93
19:00-20:00	0.102	0.082	41	33	74
20:00-21:00	0.071	0.046	28	18	47
21:00-22:00	0.049	0.043	20	17	37

6.4.2 Daily Workspace Trip Rates

Total vehicular trips associated with the proposed workspace development of 4,000m2 are set out in Table 9

Table 10: Workspace Trips

Time Period	Trip Rate (Trip per 100sq m)		Trips Generated		
	Arrival	Departure	Arrival	Departure	Total
07:00-08:00	0.822	0.145	33	6	39
08:00-09:00	1.87	0.253	75	10	85
09:00-10:00	1.006	0.284	40	11	52
10:00-11:00	0.349	0.256	14	10	24
11:00-12:00	0.306	0.223	12	9	21
12:00-13:00	0.359	0.417	14	17	31
13:00-14:00	0.384	0.353	15	14	29
14:00-15:00	0.255	0.342	10	14	24
15:00-16:00	0.204	0.375	8	15	23
16:00-17:00	0.23	0.966	9	39	48
17:00-18:00	0.152	1.533	6	61	67
18:00-19:00	0.033	0.65	1	26	27
19:00-20:00	0	0	0	0	0

As might be anticipated, the workspace use is forecast to have a largely ‘tidal’ profile of trips with employees arriving and departing in the traditional network peak hours (0800-0900 and 1700-1800).

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6.4.3 Combined Development Trips

Table 11 presents the combined trips arising from the workspace and hotel development.

Table 11: Combined Development Trips

Time Period	Trips Generated		
	Arrival	Departure	Total
07:00-08:00	60	59	120
08:00-09:00	127	85	212
09:00-10:00	100	61	160
10:00-11:00	59	49	107
11:00-12:00	33	46	79
12:00-13:00	55	46	101
13:00-14:00	57	50	107
14:00-15:00	40	48	88
15:00-16:00	47	59	107
16:00-17:00	52	83	136
17:00-18:00	57	102	159
18:00-19:00	53	68	120
19:00-20:00	41	33	74

As Table 11 demonstrates, the combined Proposed Development traffic is forecast to have peaks in each of the traditional peak hours. In the AM peak (0800-0900) it is forecast to generate approximately 4 trips per minute. In the PM peak (1700-1800) it is forecast to generate around 3 trips per minute. As noted earlier, the levels of activity from existing uses at the Etihad Campus are low in the AM peak. As such, the assessment is focussed on the evening peak, when activity levels at the Etihad Campus are higher (including both the Stadium and other existing leisure uses) as are activity levels at nearby major attractors on the local highway network such as the Asda Superstore.

6.4.4 Committed Development

As part of scoping discussions the project team requested a list of committed development to be considered by the TA.

The following committed developments have been considered in the assessment:

- Co-op Live Arena Development (Planning Ref. 132588/FO/2021)
- Rugby Football League headquarters off Bell Crescent (Planning Ref. 132588/FO/2021)

Network diagrams for the above committed developments are presented in Appendix B.

6.5 Trip Distribution

In accordance with the Scoping Note (Appendix A), 2011 Census ‘Travel to Work’ data has been used to derive a vehicle trip distribution on the local highway network. Network Diagrams are presented in **Appendix B**. Individual O-D matrices for each junction are presented in **Appendix E** (Modelling Outputs).

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6.6 Junctions

It has been agreed with MCC and TfGM officers that any traffic modelling should 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 utilises existing traffic survey data collected in 2019 as part of the Campus Strategy TA.

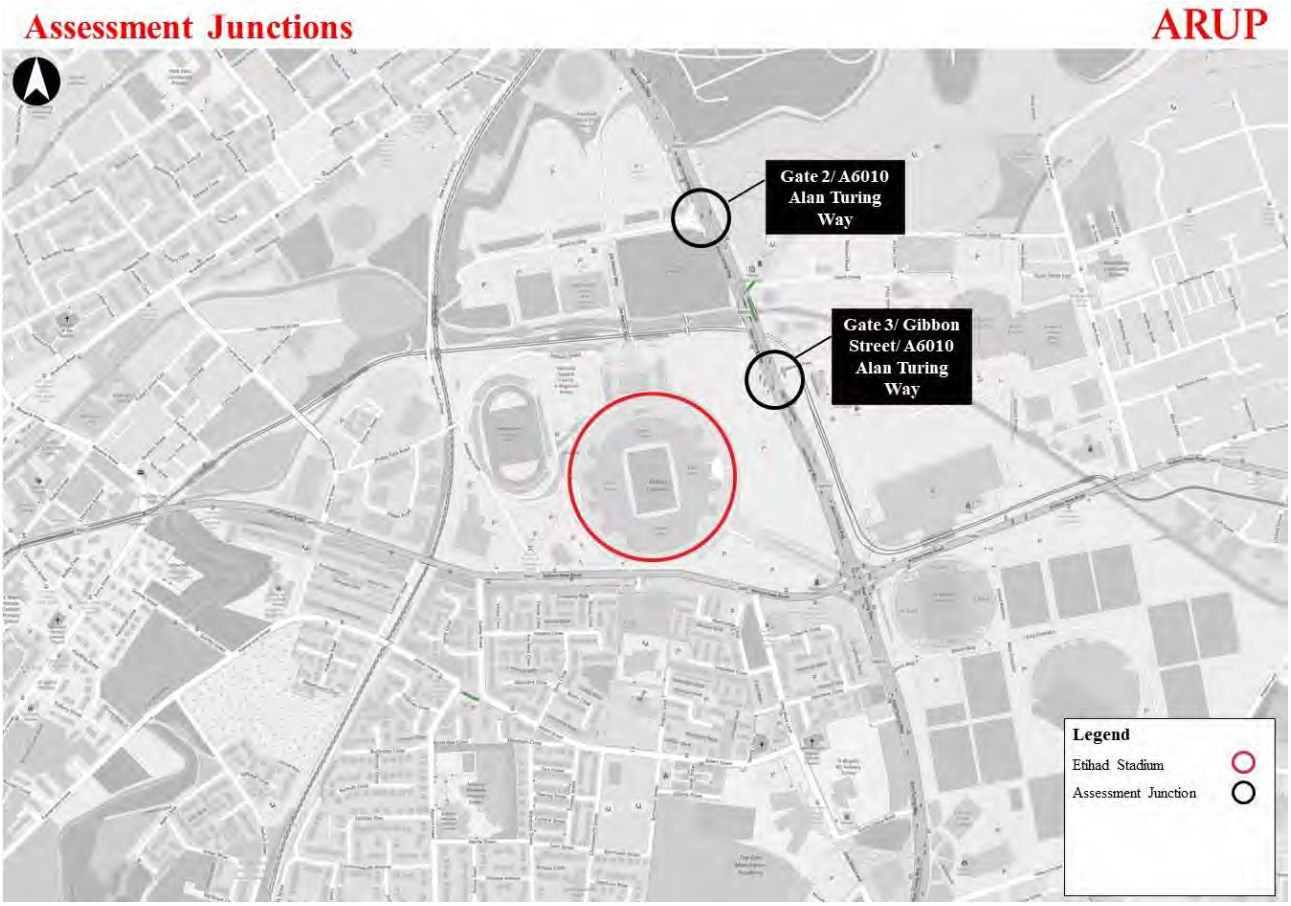


Figure 8: Assessment Junctions

6.6.1 Gate 2 (Forge Lane)/ A6010 Alan Turing Way

A summary of this junction is presented in Table 12 below.

Table 12: Gate 2 (Forge Lane)/ A6010 Alan Turing Way Junction

Image	Description
	As Figure 6 shows this junction lies approximately 350m northeast of the Proposed Development. It is a 3-arm signal-controlled junction. Alan Turing Way A6010 represents the major arm and runs in a north south alignment. The A6010 acts as an inner orbital route from Bury New Road north of the city centre in a clockwise direction to the A56, providing onwards connections to the M60 orbital route to its south. It has 3 lanes on the northbound approach and 3 lanes on the southbound approach, including a dedicated right turn lane into Forge Lane and the Etihad Campus. Forge Lane is the access to Sports City Way and elements of the Etihad Campus including car parking areas, Tennis and Football Centre and the Co-op Live Arena. **Arm A –** A6010 Alan Turing Way North **Arm B –** A6010 Alan Turing Way South **Arm C –** Forge Lane

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6.6.2 Gate 3/ A6010 Alan Turning Way/ Gibbon Street

A summary of this junction is presented in Table 12, below.

Table 13: Gate 3 / A6010 Alan Turning Way/ Gibbon Street Junction

Image	Description
	As Figure 6 shows this junction is located approximately 200m east of the Proposed Development. This junction will act as the main point of access for the Proposed Development. It is a 4-arm signal-controlled junction. Alan Turing Way A6010 represents the major arm and runs in a north south alignment. Gibbon Street East provides access to the National Cycle Centre, a supermarket, and residential areas to the north. Gate 3 provides access to car park 'O' (Figure 5). **Arm A –** A6010 Alan Turing Way North **Arm B –** Gibbon Street East **Arm C –** A6010 Alan Turing Way South **Arm D –** Gibbon Street West (Gate 3)

6.7 Assessment Scenarios

This section presents the scenarios that have been assessed to consider the impact of the Proposed Development on their operation.

The three core scenarios are as follows:

- 2023 Baseline (Do Nothing)
- 2026 Future Year Baseline + Committed Development (Do Minimum)
- 2026 Future Year Do Something + Committed Development + Proposed Development (Do Something)

Within each of the core scenarios above, scenarios are considered as presented in Table 14 below. At scoping it was agreed to assess the PM peak hours only (Appendix A). As Table 11 demonstrates, the weekday PM peak period for the Proposed Development coincides with the network peak hour.

Table 14: Assessment Scenarios

Reference	Scenario	Time Period	Description
1	Weekday PM Peak (Non-matchday, no Arena event)	1700-1800	Midweek PM development peak without stadium event (representing the peak traffic generation of the Proposed Development AND Network Peak). This assessment scenario assumes no traffic associated with an event at the Coop Live Arena.
2	Weekday PM Peak (Non-matchday, Arena event)	1700-1800	Midweek PM development peak without stadium event (representing the peak traffic generation of the Proposed Development AND Network Peak). This assessment scenario includes traffic associated with an event at the Coop Live Arena.
3	Weekday PM Peak (Stadium Event)	1830-1930	Midweek PM peak with stadium event (representing network peak during stadium event).

No additional parking is proposed within the Etihad Campus as part of the Proposed Development. During stadium and arena events, existing car parking on the Etihad Campus will therefore be allocated for use of the hotel. In the pre-event period, it is assumed that arrivals at the hotel will be attendees of events taking place at the Etihad Campus. These hotel visitors will therefore utilise a parking space that would have otherwise been used by an attendee of the event taking place. As such, there would not be any net increase in vehicle arrivals onto the site in these scenarios.

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It is assumed that the forecast workspace vehicle movements as shown in Table 10 and departures from the hotel would not be affected by the fact that an event was taking place.

As Table 13 demonstrates, 'With' and 'without' stadium event scenarios have been assessed. Consideration has been given the overlap between the peak period of traffic generation associated with the commercial uses and arrival of vehicles prior to a stadium event. No AM assessment has been considered for the 'with' stadium event scenarios given there will be negligible traffic at this time associated with an event.

6.8 Modelling Results

The results from each modelled scenario are presented below with commentary. Results are presented for Degree of Saturation (DoS), Mean Maximum Queue Length, and Percentage Reserve Capacity (PRC).

6.8.1 Scenario 1 - Weekday PM Peak (Non-matchday, no Arena event)

This section presents the results for Scenario 1. This represents the day-to-day operation of the network when there is no event at the Etihad Stadium or the Coop Live Arena.

Table 15: Scenario 1 - Weekday PM Peak (Non-matchday, no Arena event)

Ref.	Scenario	Junction					
		Gate 2			Gate 3		
		PRC (%)	DoS (Max % All Arms)	MMQ (PCU)	PRC (%)	DoS (Max % All Arms)	MMQ (PCU)
2023 Baseline (Do Nothing)		47.4	61.0	13.7	-9.0	98.1	31.8
2026 Future Baseline + Committed Development (Do Minimum)		43.5	62.7	14.4	-14.3	102.9	51.0
2026 Future Year Baseline + Committed Development + Proposed Development (Do Something)		43.5	62.7	14.4	-14.3	102.9	52.1

Gate 2 (Forge Lane/ A6010 Alan Turing Way)

During the network peak hours on non-matchdays and when no arena event is taking place the junction is anticipated to operate well within capacity in the 2023 and 2026 baseline scenarios.

The junction models indicate that the Proposed Development is forecast to have no material impact on the operation of the Gate 2 junction.

Gate 3 (Gibbon Street West/ A6010 Alan Turing Way)

During the network peak hours on non-matchdays and when no arena event is taking place the junction is currently operating slightly over capacity with arms of Alan Turing Way (NB and SB) and Gibbon Street (WB) operating having a degree of saturation of up to 98.1%. Increases to baseline traffic flows to 2026 will mean that the junction is anticipated to operate slightly over capacity with both arms of Alan Turing Way and each turning movements to Gibbon Street operating with a maximum DoS of 102.9%.

It is forecast that the Proposed Development will have minimal impact (1 PCU increase in MMQ) and no change in PRC and no increase in DoS on the arms of the junction that are over capacity.

6.8.2 Scenario 2 - Weekday PM Peak (Non-matchday, Arena event)

This section presents the results for Scenario 2. This represents the operation of the network when there is no event at the Etihad Stadium but there is an evening event at the Coop Live Arena.

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Table 16: Scenario 2 - Weekday PM Peak (Non-matchday, Arena event)

Ref.	Scenario	Junction					
		Gate 2			Gate 3		
		PRC (%)	DoS (Max % All Arms)	MMQ (PCU)	PRC (%)	DoS (Max % All Arms)	MMQ (PCU)
2023 Baseline (Do Nothing)		-34.8	121.3	142.6	-25.2	112.7	109.5
2026 Future Baseline + Committed Development (Do Minimum)		-37.1	123.4	154.6	-27.9	115.1	123.6
2026 Future Year Baseline + Committed Development + Proposed Development (Do Something)		-37.1	123.4	154.6	-27.9	115.1	123.6

Gate 2 (Forge Lane/ A6010 Alan Turing Way)

When arena events are taking place, the junction is forecast to operate over its capacity on the northbound left ahead and southbound right ahead movements, arising from those accessing the campus car parks. Background traffic growth to 2026 and committed developments are forecast to have a minor impact on the junction, resulting in increases in MMQ length of around 11 PCU.

It is forecast that the traffic associated with the Proposed Development would result in no change in the operation of the junction when compared to the Do Minimum scenario.

Gate 3 (Gibbon Street West/ A6010 Alan Turing Way)

When arena events are taking place, the junction is forecast to operate over its capacity, with the critical arms operating with a maximum DoS of 112.7% arising from traffic along Alan Turing Way and Gibbon Street to access the site. Background traffic growth to 2026 and committed developments are forecast result in increases in MMQ length of around 14 PCU.

It is forecast that the traffic associated with the Proposed Development would result in no change in the operation of the junction when compared to the Do Minimum scenario. No additional parking is to be provided on-site and as a result there will not be an increase in movements onto the Etihad Campus during this period in this scenario. Whilst there would be a small increase in vehicle movements departing the Etihad Campus (e.g. due to pre-event departures from some of the commercial uses) this will not adversely impact the operation of the junction as the as the majority of existing traffic flows are inbound towards the Etihad Campus.

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6.8.3 Scenario 3 - Weekday PM Peak (Non-matchday, Stadium event)

This sections presents the results for Scenario 2. This represents the operation of the network when there is an event at the Etihad Stadium but no evening event at the Coop Live Arena.

Table 17: Scenario 3 - Weekday PM Peak (Matchday, no Arena event)

Ref.	Scenario	Junction					
		Gate 2			Gate 3		
		PRC (%)	DoS (Max % All Arms)	MMQ (PCU)	PRC (%)	DoS (Max % All Arms)	MMQ (PCU)
2023 Baseline (Do Nothing)		-16.3	104.7	52.1	-84.2	165.8	38.0
2026 Future Baseline + Committed Development (Do Minimum)		-18.8	107.0	61.0	-98.6	178.7	42.3
2026 Future Year Baseline + Committed Development + Proposed Development (Do Something)		-18.8	107.0	61.0	-98.6	178.7	42.3

Gate 2 (Forge Lane/ A6010 Alan Turing Way)

During the weekday PM matchday peak the junction currently operates over capacity on the north and southbound approaches on Alan Turing Way. This results in a forecast MMQ of 52.1 PCU over this period. Growth in baseline traffic to 2026 is forecast to result in the junction operating over capacity on the north and southbound approaches on Alan Turing Way in future. This is anticipated to increase the forecast MMQ to 61 PCU over this period.

It is forecast that the traffic associated with the Proposed Development would result in no change in the operation of the junction when compared to the Do Minimum scenario.

Gate 3 (Gibbon Street West/ A6010 Alan Turing Way)

During the weekday PM matchday peak the junction currently operates over capacity on the southbound approach on Alan Turing Way and westbound approach of Gibbon Street. This results in a forecast MMQ of 38.0 PCU over this period. Growth in baseline traffic to 2026 is forecast to result in the junction operating over capacity on the southbound approaches on Alan Turing Way and westbound direction of Gibbon Street by vehicles accessing the Stadium. This is anticipated increase the forecast MMQ by 4 PCU over this period.

It is forecast that the traffic associated with the Proposed Development would result in no change in the operation of the junction when compared to the Do Minimum scenario.

6.8.4 Conclusions

Key conclusions arising from the modelling results presented above are summarised below.

- Both junctions operate over capacity at times when arena events are taking place, and on matchdays. This results in significant queuing. Traffic growth to 2026 and committed developments are expected to exacerbate this situation;
- The impact of the Proposed Development on a non-matchday and non-arena day is shown to be negligible;
- During the pre-event period for both an arena event (Scenario 2) and a Stadium event (Scenario 3) it is forecast that the traffic associated with the Proposed Development would result in no change in the operation of the junction when compared to the Do Minimum scenario;
- No additional parking is to be provided on-site and as a result there will not be an increase in movements onto the Etihad Campus during this period in these scenarios (2 & 3). Whilst there could

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be a small increase in vehicle movements departing the Etihad Campus (e.g. due to pre-event departures from some of the commercial uses) this will not adversely impact the operation of the junction as the as the majority of existing traffic flows are inbound towards the Etihad Campus.

- Whilst both junctions experience pressures during arena events and on matchdays, the overall impact of the Proposed Development is therefore not considered to be significant.
- Continued work by the club and across the campus, including the delivery of the residents parking scheme will continue to be delivered to minimise pressures on the surrounding highway network. The transport strategy, underpinned by the provision of no additional parking alongside the residents parking scheme, has been identified to prevent additional car trips to the site and transfer to other modes. These measures are discussed in more detail in Section 8.

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7. Highway Safety

7.1 Accident Analysis

Personal injury accident data for the latest available five-year period (2017-21) has been obtained from Crashmap (www.crashmap.co.uk). The study area comprises the local highway network in the vicinity of the proposed development; on A6010 Alan Turing Way to the east, and A662 Ashton New Road to the south.

Figure 9 shows the overview of incidents occurring within the study area during the specified study period.

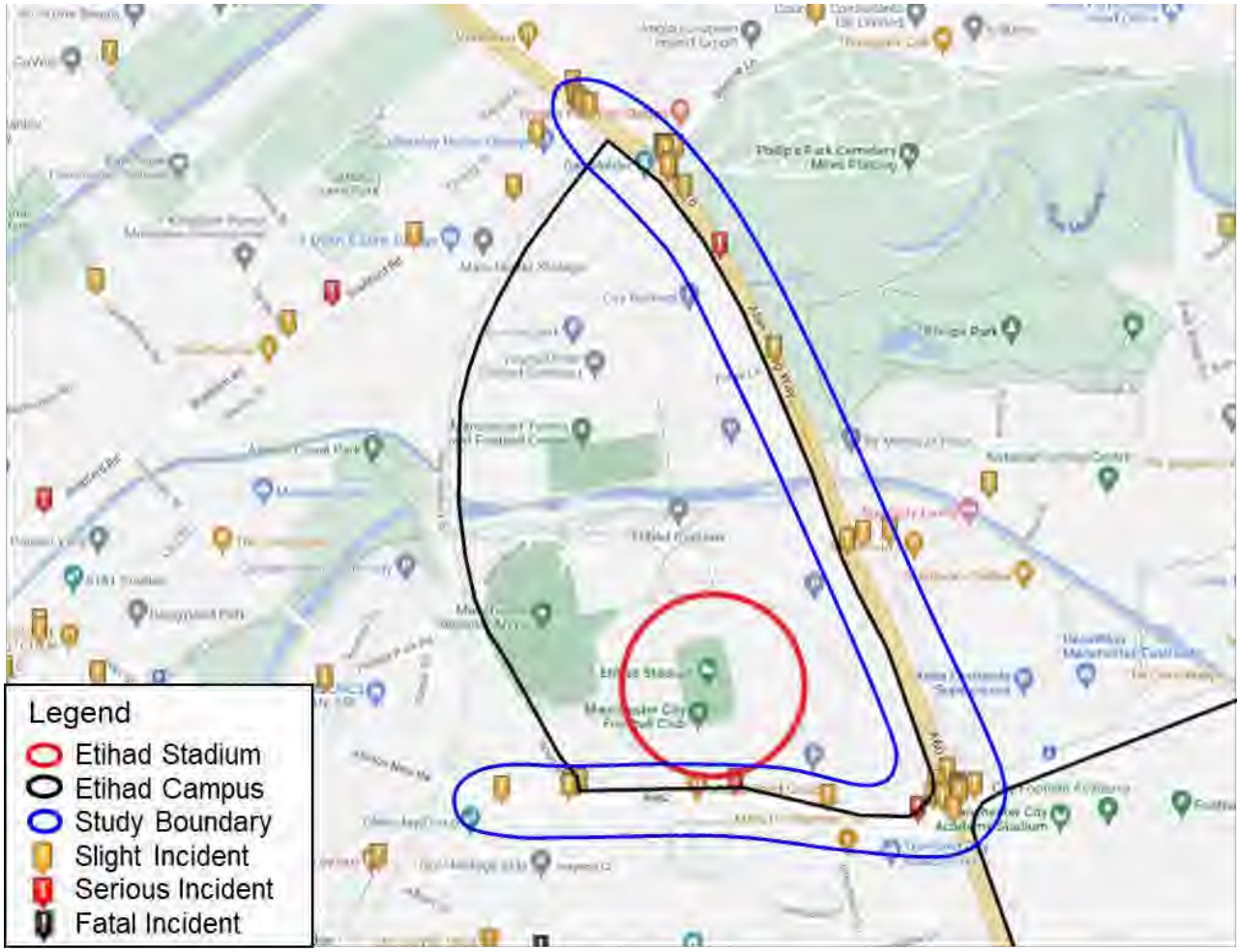


Figure 9: Recorded collisions within the study area (2017-21)

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A total of 36 collisions were recorded within the study period, including five collisions involving pedal cycles and six involving pedestrian casualties. A breakdown of collisions by location and severity is shown in Table 18.

Table 18: Recorded collisions by severity

Location	No. of recorded collisions	No. of recorded collisions involving pedal cycles	No. of recorded collisions involving pedestrians	Severity		
				Slight	Serious	Fatal
A6010/ Bradford Road	5	1	0	5	0	0
A6010/ Briscoe Lane	9	1	1	8	1	0
Run-in/out on A6010 60m south of junction of A6010/ Briscoe Lane	1	0	0	1	0	0
115m south of run-in/out along A6010	1	0	0	0	1	0
A6010/ Forge Lane	1	0	0	1	0	0
A6010/ Gibbon Street	2	0	2	2	0	0
A6010/ A662	11	1	2	9	2	0
A662/ Grey Mare Lane	1	0	0	1	0	0
A662 (120m west of its junction with Grey Mare Lane)	1	0	1	0	1	0
A662/ Rowsley Street	3	1	0	3	0	0
A662/ Darley Street	1	1	0	1	0	0

Many of these collisions are concentrated around major local junctions such as the A6010/ Bradford Road, A6010/ Briscoe Lane and A6010/ A662 junctions. These have a slightly higher number of recorded collisions than other junctions in the study area. However, these junctions experience high traffic flows, and the rate of collisions is therefore not considered to be indicative of an underlying safety issue when compared to the total volume of traffic utilising the junctions.

The number of collisions involving pedestrians and cyclists are distributed across junctions and do not indicate any particular areas of concern. The number of serious accidents (over a five-year period and a significant geographical area) is not considered to be indicative of an underlying safety issue in these locations. No fatalities were recorded within the study area over this period.

7.2 Summary

Overall, the total number of collisions recorded within a study area of this size is not considered to suggest any underlying safety issues on the adjacent highway network. The analysis demonstrates that there are no significant areas of concern which may indicate underlying issues within the layout of the surrounding highway network, and no existing highway safety issues which would be likely to be exacerbated by an increase in traffic due to the Proposed Development.

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8. Proposed Mitigation

The junction impact assessment has demonstrated that the workspace and hotel use would have a marginal impact on the operation of each junction. On this basis, no specific mitigation is proposed on the highway network. The Hotel, workspace, F&B included in this development should allow and encourage more every-day use of the public transport and active travel routes available around the Campus at times when they have significant spare capacity.

The Proposed Development will be supported by a Framework Travel Plan (FTP) to help minimise vehicular trips, and to promote alternative sustainable modes of transport.

8.1 North Stand Expansion: Planned Mitigation for Supporter Travel

This section considers the mitigation required in order to achieve the modal shift targets presented in Table 6 associated with supporter travel to the expanded stadium alongside measures that will provide wider benefit for sustainable travel to and from the Etihad Campus (including movements associated with the proposed workspace and hotel uses).

Table 19 sets out the desired change in the proportion of trips by modes and how this will be achieved.

Table 19: Proposed Measures (Supporter Travel)

Mode	Aim	Existing/committed initiatives	Proposed Additional Mitigation
Public transport and walk	Increase mode share by 3%	Investment in walking routes between city centre and Etihad Campus	Promotion of existing excellent public transport accessibility to city centre from across Greater Manchester and beyond. An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years (Campus working group with full support from transport stakeholders / operators) to promote public transport to get to the city centre, then multi-agency work to improve promotion, signalling, lighting, security and activation of routes from city centre to Campus. As planned regeneration takes place in this part of the city, these routes will become part of the fabric of the built environment. Additional stewarding and active promotion of enhanced walking routes from city centre
Park and walk (from outside RPS)	Retain existing mode share	Delivery of enhanced city centre walking routes	'An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years (Campus working group with full support from transport stakeholders / operators) to promote managed parking opportunities (Park & Ride / city centre car parks) where visitors can park easily, without contributing to congestion around Campus. Campus events in evenings and at weekends often take place at times when these car parks have lots of capacity. Multi-agency group to then work to improve promotion, signalling, lighting, security and activation of routes from these spaces to Campus. As planned regeneration takes place in this part of the city, these routes will become part of the fabric of the built environment. Additional stewarding, pop-up activities and promotion of enhanced walking routes from city centre Working alongside existing car park owners and managers to offer initiatives for supporters to utilise available city centre parking and walk to the Etihad Campus

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Mode	Aim	Existing/committed initiatives	Proposed Additional Mitigation
Park and walk (within RPS)	Reduce existing mode share by 4%	Implementing the enhanced RPS will prevent non-permit holders' ability to legally park in this area for events	Currently, a number of unofficial off-site car parks spring up on parcels of land in the vicinity of the Campus on an event day. Egress from these spaces after events is often unmanaged, meaning large numbers of cars can emerge from them onto areas of the highway network which are not designed to receive them. These cars then contribute significantly to local congestion as a result. An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years (Authorities with full support from Campus working group) to identify, control and manage operation of off-site car parks within RPS area. The Club propose to explore with authorities / landowners how these sites can be properly managed so they interface properly with the Campus access/egress strategy to reduce congestion
Walk entire journey	Retain existing mode share	-	Opportunity to increase this mode is limited by where matchday attendees live. Community-based initiatives led by Club may help to increase accessibility/attendance for local residents.
Metrolink	Increase mode share by 2%	Work alongside TfGM to provide advanced customer data by-event and support TfGM to deliver higher frequency of double tram services pre- and post-match	Currently, Metrolink services around events do not always achieve timetabled frequencies. This causes longer queues to manage on Campus and can erode passenger confidence for repeat visits to the Campus using this mode. The development has been designed to encourage longer arrival/dwell time at the Stadium (i.e. arriving earlier and/or departing later on a matchday) by providing more facilities for supporters to use at the Etihad Campus. This will help to maximise the ability to draw on the enhanced matchday Metrolink service capacity over a longer period Improved queuing facilities at Etihad Campus stop An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years (TfGM with full support from Campus working group) to strengthen network resilience to changing demands, including ensuring timetable frequencies are consistently delivered and network capacity managed effectively, to enable visitors to stay longer at the Campus after events, with confidence about travelling home.
Bus	Increase mode share by 1%		Implementing pilots of increased capacity shuttle services to public transport hubs pre- and post-match Increasing the prominence of on-site bus stops as hubs within the Campus and enhancing quality of facilities provided Work alongside TfGM to explore franchising/longer-term opportunities
Coach	Retain existing mode share		Working with supporter's clubs to review the number of coach services and destinations served
Taxi	Retain existing mode share	Working with taxi groups to improve pick up and drop off provision and	Unmanaged pick up and drop off on public highways surrounding the Campus, followed by U-turns in busy traffic currently contributes significantly to traffic congestion, prolonging disruption in local neighbourhoods.

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Mode	Aim	Existing/committed initiatives	Proposed Additional Mitigation
		facilities at the Etihad Campus	An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years (Authorities with full support from Campus working group) to plan, manage and enforce taxi and private hire operations at the Etihad Campus and in neighbouring streets.
Drop-off	Retain existing mode share	Implementing the RPS will create additional on-street drop off capacity	An Etihad Campus Working Group involving all stakeholders has recently been established. This group will work with authorities in coming years (Authorities with full support from Campus working group) to plan, manage and enforce drop off operations at the Etihad Campus and in neighbouring streets. Unmanaged pick up and drop off on public highways surrounding the Campus, followed by U-turns in busy traffic would contribute significantly to traffic congestion, prolonging disruption in local neighbourhoods.
Cycling	Retain or increase existing mode share	Providing additional facilities in terms of cycle parking hubs across the Etihad Campus (including Beryl bike hire docks)	Provision of 200 additional cycle parking spaces at the Etihad Campus. Continued work with Beryl bike hire scheme to firmly embed Campus within the city centre cycling network Promotion of cycle parking facilities at the Etihad Campus (recognised that cycling is unlikely to be a major contributor to matchday mode shift)
Park on-site	Reduce existing mode share by 2%	Pre-booking of parking is mandatory and advising supporters not to try to park if not- pre-booked	Providing no additional on-site parking capacity as part of the development proposals Continued and enhanced promotion of messaging not to arrive at Etihad Campus by car unless tickets are pre-booked Management of car parking/access on matchdays to minimise delays on the wider network

The main modes of transport where an increase in mode share is targeted to prevent additional vehicles from arriving at the Etihad Campus will be as follows:

- Public transport and walk (primarily from city centre public transport hubs);
- Park and walk from locations outside of the Resident Parking Scheme boundary;
- Travel by bus; and
- Travel by Metrolink.

The first two of these are unlikely to be constrained in terms of their capacity. The ability to achieve the estimated increase in mode split will be determined by the level of promotion of these modes undertaken by the Club (‘carrot’) and the restrictions placed on other alternative modes of transport (i.e. no increase in parking on-site and implementation of the expanded Eastlands Resident Parking Scheme will mean that supporters must seek alternatives means of travelling to the Etihad Stadium on a matchday) (‘stick’).

The ability for supporters to travel by the latter two modes (i.e. bus and Metrolink) will be influenced by the available capacity of services that are available. Also, with the enhanced food, drink and entertainment offer in the proposed development, more gradual arrival/ departure is anticipated, hence potentially increasing the capacity of the Metrolink / bus services available to supporters. The following sections demonstrate that there is forecast to be sufficient capacity within these modes on the wider network to achieve the estimated mode split.

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8.2 Public Transport and Walk

The ability to increase the number of supporters travelling to the Etihad Campus by public transport and then walking the final part of their journey will be dependent upon:

- The provision of accessible, affordable and reliable public transport services to the key transport nodes within a walking distance of the Etihad Campus (including those within the City Centre); and
- The accessibility and attractiveness of walking routes from these nodes to the Etihad Campus.

The Etihad Campus has limited direct control over the former of these, but has well-established structures in place that enable it to work alongside the authorities and operators to ensure that public transport and walk is promoted and encouraged as a key mode of transport for supporters. The walking routes to and from the Etihad Campus are more directly under the influence of the Etihad Campus and significant work has been undertaken in recent years (and continuing forward) to improve the matchday experience of using these routes.

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.

In the coming years, focus by this multi-agency group (i.e. the Campus working group with full support from transport stakeholders / operators) will be placed on promoting public transport to get to city centre, then multi-agency work will improve the promotion, signalling, lighting, security and activation of routes from city centre to Campus. As planned regeneration takes place in this part of the city, these routes will become part of the fabric of the built environment.

8.3 Park and Walk from Outside RPS Boundary

As noted in Section 3.7.2, the new Eastlands Resident Parking Scheme will significantly increase the size of the RPS that operates around the Etihad Campus. Once implemented later this year, this will restrict on-street parking within the RPS boundary to short-stay parking and permit holders only. Non-permit holders (other than those parking within existing informal off-street car parks within the boundary) will therefore have to park some distance from the Etihad Campus (approximately 20-minute walk) and complete their journey on foot (or other alternative mode).

The revised RPS boundary covers all directions of approach to the Etihad Campus and has a perimeter of approximately 15km with over 40 vehicular points of entry into the scheme boundary. It is recognised that, regardless of the efforts made by the Etihad Campus for supporters to travel sustainably, some supporters may choose to drive and park outside of the RPS boundary. There is little that the Etihad Campus can do to directly prevent this. However, the scale of the revised RPS boundary and large number of streets that are just outside the perimeter of the scheme mean that any such parking would be dispersed across a large area and would not be concentrated in specific locations.

Large amounts of commercial parking facilities are located in Manchester City Centre, within a walkable distance of the Campus. It is estimated that there are approximately 3,500 existing off-street parking spaces within the eastern edge of the city centre (including Piccadilly, Northern Quarter and Ancoats/New Islington). This existing car parking predominantly serves as commuter parking for the City Centre. A significant proportion of these spaces will therefore be available prior to and during Etihad Campus times (i.e. weekday evenings and at weekends).

It is therefore considered that there will be more than sufficient car parking capacity within the City Centre to accommodate the demand for additional Park and Walk journeys. As with other car-based trips parking outside of the RPS boundary, these are likely to be spread across multiple locations and would not result in any concentrated impact on the wider highway network. Given the distance from the Etihad Campus it is also likely that these journeys will be spread over a longer period of arrival and departure (i.e. to allow sufficient onward walking time to/from the Etihad Campus). The trips may also form part of longer-stay multi-purpose trips to the city centre (e.g. shopping or leisure trips within the city prior to attending a match).

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8.4 Travel by Bus

There is already a well-established bus service that operates following events at the Stadium. This service is operated by Stagecoach to transport passengers into the City Centre, with services stopping in Piccadilly Gardens. This service is operated on a commercial basis and typically consists of 10-15 buses (subject to anticipated demand and bus availability), which are boarded at a managed bus stop on Ashton New Road.

Due to the available space on the highway network in this location and the post-event traffic management measures that are implemented, buses that are unable to queue within the westbound lay-by can stack further along Ashton New Road and are called forward via radio when space within the layby becomes available.

Based upon survey data and anecdotal evidence the service is well used and provides a good connection into the City Centre from the Etihad Campus to support the operation of the Metrolink and those who choose to walk back into the city.

The Campus Strategy Transport Assessment (produced in 2020 in advance of the planning application for Coop Live) recommended the continued and expanded use of shuttle-bus services to the City Centre to support Metrolink as the primary mode of public transport for the Etihad Campus both before and after matches at the Etihad Stadium. This was noted as a key component of a 'special event operational plan' that would be implemented both when concurrent events at the Stadium and Coop Live are programmed on the same day but also on days when the Etihad Stadium was operating independently. In line with this strategy, the Club will be privately trialling a number of bus shuttle routes to transport hubs and further afield later this year to inform how additional shuttles could operate regularly / when required for multiple event days.

The enhanced shuttle-bus service would provide an opportunity for passengers to interchange onto other public transport modes on the rail, Metrolink and bus network at key nodes within the city. It would also serve passengers wishing to travel between the Etihad Campus and the wide range of hotels and accommodation within the City Centre.

The westbound bus stops on Ashton New Road are already established as the main boarding point for services to the City Centre following a Stadium event. Notwithstanding localised issues relating to the management of large volumes of pedestrians leaving the Stadium and bus movements along Ashton New Road, it is considered that this operation works well and that this should continue to be the location for City Centre bound shuttle buses.

Following a Stadium event, road closures are implemented on Ashton New Road which makes the crossing of the road easier for pedestrians. Currently, shuttle buses make a single journey to the city centre following a match at the Etihad Stadium. However, as an example of how existing shuttle services could develop, if buses were to return to the Etihad Campus to make a further journey to the City Centre, then it is envisaged that vehicles could return via Ashton Old Road and Alan Turing Way such that they could approach the bus stop from the east and re-enter the bus lay-by in a forward gear to make further pick-up of passengers.

The estimated increase in mode split by bus would result in an additional demand of approximately 800 passengers. Whilst some of this could be accounted for by greater use of regular service buses, the use of buses could be significantly increased through an enhanced shuttle-bus service before and after a match. Based on a capacity of 80 passengers per bus, this would equate to a requirement of approximately 10 buses.

It is considered that operating an additional five buses with each making a return journey to the Etihad Campus could provide a more effective solution than having 10 buses making single journeys. This is reliant upon passengers having confidence that buses will return, which could be achieved initially through promotion and commitments and subsequently by establishing a track-record of delivery throughout the season. Once confidence was established that passengers could dwell within the Stadium and associated facilities for a period and that bus services would return for a second round of journeys, then supporter behaviours could change to stagger passenger arrivals more effectively and reduce queuing at the bus stop.

In terms of the time of departure from the Campus, despite buses having to return from the City Centre, the time of the last departure from the Campus is estimated to be approximately 30minutes after full-time (and subsequently the time of arrival of the last service in the City Centre would be approximately 45minutes after full-time). This would typically be compatible with onward journeys from the city centre by public transport.

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8.5 Travel by Metrolink

The Etihad Campus benefits from having a Metrolink stop located centrally within the site. The Etihad Campus stop has supporting crowd-control infrastructure to enable it to deal with high volumes of passengers before, and particularly following an event at the Stadium.

TfGM currently has a timetabled 'enhanced service' on Metrolink to serve football matches and other major events at the Etihad Campus. This enhanced service is specifically tailored to the requirements of each event based on TfGM intelligence, previous experience and anticipated demand. It is typically intended to operate such that the service frequency is increased to every 6 minutes in each direction and trams operate as 'double units' (i.e. two connected tram units) (subject to vehicle availability) for a period before and after the event.

Currently, Metrolink services around events do not always achieve timetabled frequencies. This causes longer queues to manage on Campus and can erode passenger confidence for repeat visits to the Campus using this mode.

Surveys of matchday Metrolink usage have been analysed to demonstrate the numbers of passengers transported between Piccadilly and the Etihad Campus over the period prior to kick-off.

The consented Stadium expansion would result in additional matchday demand for Metrolink use. It is estimated that an additional 1,700 passengers may seek to travel from Piccadilly to the Etihad Campus using Metrolink (with the remaining 200 additional passengers arriving from Ashton-under-Lyne). These trips have been added to the surveyed flows in proportion to the existing alighting numbers at the Etihad Campus stop between 18:00 and 20:00 as follows.

Table 20 - Forecast additional Metrolink trips on midweek Stadium event day due to consented expansion

Time Period	Matchday Surveyed	Factored to current capacity crowd	Additional Passengers following Stadium Expansion	Future Estimate
17:30-18:00	797	887	232	1,119
18:00-18:30	1,047	1,165	305	1,470
18:30-19:00	1,095	1,218	319	1,537
19:00-19:30	1,833	2,039	534	2,573
19:30-20:00	1,059	1,178	309	1,487
Total Period	**5,831**	**6,486**	**1,700**	**8,186**

The Metrolink capacity for a 30-minute period can be estimated on the basis of a six-minute frequency (i.e. five services over a period of 30 minutes) with a tram unit capacity of 200 passengers. Enhanced service tram capacities based a double-tram operation would be 2,000 passengers per half-hour.

The number of additional passengers that could be transported from Piccadilly to the Etihad Campus is as follows.

Table 21 - Forecast available Metrolink capacity on matchday post-expansion

Time Period	Matchday Surveyed	Available Capacity	Future Estimate	Available capacity
17:30-18:00	797	1,203	1,119	881

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Time Period	Matchday Surveyed	Available Capacity	Future Estimate	Available capacity
18:00-18:30	1,047	953	1,470	530
18:30-19:00	1,095	905	1,537	463
19:00-19:30	1,833	167	2,573	-573
19:30-20:00	1,059	941	1,487	513
Total Period	**5,831**	**4,169**	**8,100**	**1,814**

Whilst the capacity of the Metrolink service is forecast to be exceeded during the period 19:00-19:30, overall a 6-minute frequency service of double-unit trams would provide more than sufficient capacity to transport the forecast number of supporters during the pre-match period. Spreading of the peak period of arrival of supporters over the period leading up to kick-off (by the provision of an enhanced entertainment/food and drink offer) would help to spread demand across the period and enable the forecast volume of passengers to utilise the service.

The same exercise could be applied to Metrolink capacity between Ashton-under-Lyne and the Etihad Campus. However, the availability of car parking at the park and ride sites at Ashton Moss and Ashton West is likely to restrict the ability to achieve the full potential of available Metrolink service capacity.

Based on survey data, it is estimated that there are approximately 40 spaces available during the midweek match at Ashton Moss with a further 120 spaces at Ashton West. A total of 160 park and ride spaces are therefore potentially available for additional use on a midweek matchday. The numbers surveyed on a Saturday are broadly consistent with these numbers.

Based on an assumed vehicle occupancy of 2.4 people per vehicle, this number of spaces could potentially accommodate 384 additional passengers by fully utilising the existing parking capacity. This would be constant across all days and all tram operating patterns. Tram capacity in this direction is not observed to be a constraint (based on survey data). As such, the anticipated 200 additional supporters using Metrolink to/from Ashton-under-Lyne could do so within the existing Metrolink service capacity.

From the Metrolink surveys, there is a noticeable post-match demand peak. Observed data shows that this peak dissipates relatively quickly, but that overall use of Metrolink is lower than pre-match. This is likely to be due to supporters preferring to seek alternative means of travelling back to the city centre rather than waiting for a tram that they can board. This will include walking back to the city centre, using the high-frequency post-match shuttle bus services that operate along Ashton New Road and using taxi services.

The Club will continue to work alongside TfGM to try to provide anticipated attendee arrival and departure data to maximise the efficiency and capacity of the tram service as part of the special event operational plan for the Etihad Campus.

As part of the Proposed Development, improvements to the departure queueing system for Metrolink will be implemented. Whilst the capacity of Metrolink services is constrained by the Metrolink track and rolling stock infrastructure, 'the Proposed Development has been orientated to provide significantly more queue space than currently available, which will enhance the management of the queue (and may result in increased efficiency of the loading of trams post-match).

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8.6 Framework Travel Plan (Workspace and Hotel Uses)

This Transport Assessment is supported by a Framework Travel Plan (FTP).

The Framework Travel Plan has been developed for the commercial elements of the Proposed Development, namely the Hotel and Workspace uses. Travel to and from the stadium by staff, supporters and visitors will continue to be addressed through the Club's existing commitments and measures alongside the additional measures outlined in Table 19.

The Etihad Campus is already served by a variety of public transport and active travel options which have been developed to allow large numbers of people to travel to the Campus for major events. The hotel, workspace and supporting F&B uses will therefore be very well served for travel by these modes and should help to activate and further support these routes in the periods between events.

The overall objective of a Framework Travel Plan is to outline practical measures and initiatives which organisations can adopt to reduce the impact of their travel on the environment and to encourage the use of sustainable modes of transport by staff and visitors.

The Hotel and Workspace uses delivered as part of the Proposed Development will be required to prepare and manage their own travel plans within the objectives and targets set out within the FTP. The FTP outlines a long-term strategy with a clear set of objectives and targets.

A set of objectives and preliminary targets has been developed for the site using baseline mode shares derived from 2019 traffic surveys and informed by the wider strategic vision for transport and movement across the campus. On the basis of the objectives defined in the strategic vision the following objectives have been identified, which are specific to this FTP and the hotel and workspace uses:

1. Minimise the number of single occupancy car trips by staff and visitors
2. Promote and encourage walking, cycling, and public transport us as a means of access.

A range of measures are proposed within the FTP to achieve these aims, summarised below:

- Provide cycle parking, showers and changing facilities;
- Develop car parking strategies for the Hotel and Workspace sites (including permit schemes, incentives for car sharing, and minimising supply for single occupancy travel);
- Prepare and distribute travel information packs;
- Provide personalised journey planning service for employees;
- Prepare a sustainable travel page for the Hotel website;
- Offer season ticket loans (interest free) for employees;
- Adopt and promote the cycle to work scheme; and
- Develop and promote a staff car sharing initiative.

As part of the monitoring and evaluation procedures for the FTP, the operators of the workspace and hotel uses will be required to monitor performance against modal shifts targets and, where necessary, identify further measures to minimise vehicular traffic associated with the Proposed Development.

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8.7 Delivery and Servicing Strategy

Deliveries and servicing of the Etihad Stadium would remain as per the existing arrangements with the circular route around the stadium being used for delivery and service vehicles. This route would also be used for the food and drinks units within City Square, the revised club shop and the workspace uses. Access would be controlled through the existing control systems and gates that are already used for Stadium access via Gate 11 off Ashton New Road.

Servicing and deliveries to the hotel would be via Gate 3 off Alan Turing Way with a dedicated service yard provided to the east of the hotel. This access (from Gate 3) may also be used by some food and drinks units depending upon their location and the most appropriate route. All servicing would be remote from the public highway.

When considering potential measures to reduce the impact of delivery vehicles on the development and surrounding areas the following measures have been considered only for commercial tenants and the deliveries that are within the control of the facilities management team.

All commercial tenants will be encouraged to adopt the following measures to reduce vehicle trips and the impact of deliveries on the local environment:

- Use a booking system for their anticipated deliveries to control the flow of vehicles and ensure they arrive at specific times
- Agree to a code of conduct for deliveries
- Provide information to their suppliers i.e., a delivery point assessment

Additional measures that could be considered by the facilities management team and individual commercial tenants in order to reduce the number of daily deliveries include:

- Use a consolidated waste collection service
- Deploy stock optimisation techniques, such as the bunching of orders so that they arrive at the same time every week
- Provide a list of preferred suppliers and ensure that tenants only order through them to allow collective procurement
- Install click and collect lockers in communal areas within the buildings and estate for deliveries
- For workspace staff, companies should consider promoting the collection of personal deliveries on the way home from work, as opposed to having packages delivered to the development
- Promote the use of sustainable freight and delivery methods with suppliers

8.7.1 Delivery booking system

Commercial deliveries to the development will be managed by the facilities management team using a delivery management and booking system. All delivery and servicing vehicles will be registered on the system and allocated a delivery slot according to the delivery location and vehicle size. A booking system allows the facilities management team to actively manage the arrivals to the development during the day and could have the following benefits:

- Online appointment scheduling could enable carriers and suppliers to easily book a loading slot;
- Appointments and arrivals could be monitored in real time;
- The ability for the facilities management team to accept requests, prioritise specific deliveries and refuse requests;
- Appointment audit trail and reporting;
- Historical data analysis and compliance tracking; and

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- Control over the number of deliveries arriving on site and the times of those arrivals.

8.7.2 Code of Conduct

Tenants and their suppliers will be expected to agree to a delivery code of conduct when operating within the development. These rules will be established prior to the development being opened, and could be collaboratively agreed by the on-site management team and the tenants. This may be a requirement included in the leases. The code of conduct could include the following:

- To use the delivery booking system for all deliveries and ensure their suppliers do the same;
- Ensure suppliers switch off engines, refrigeration units and radios when making deliveries;
- Communicate the delivery locations and access points to the supplier prior to the delivery arriving;
- Ensure all equipment used to move deliveries is maintained and in good working order.

In turn the facilities management team should ensure that in the areas they are responsible for:

- There are no obstructions to delivery routes and within manoeuvring spaces;
- Floor surfaces are maintained to ensure easy use of manual handling aids such as trolleys.

8.7.3 Delivery point assessment (DPA)

To assist deliveries to the development, suppliers and their logistics providers could be given a DPA. This document would provide drivers with clear instructions on where and how to access the development to avoid causing disruption to other road users and pedestrians and how to ensure the development is a considerate neighbour. This should also be provided to commercial waste collection contractors and the local authority residential waste collection team. The content of these guidance notes could include the following:

- Provide the contact details for the facilities management team;
- Outline of the correct route to the delivery premises;
- Details of access time restrictions;
- Provision of a detailed parking map of the area, including restrictions;
- Risk rating for manoeuvring;
- Risk rating for loading;
- Advice to the driver about special restrictions (e.g., the need to turn off refrigeration units);
- Health and safety risks to their employees and third parties; and
- Penalty system for non-compliance such as temporary or permanent removal of access to the development.

8.7.4 Delivery & servicing vehicles

Most delivery and servicing trips to the development will be made by Light Goods Vehicles (small vans and transit vans), with the remainder of the deliveries by Medium Goods Vehicles and Heavy Goods Vehicles. Some deliveries and collections will be made by cycle and motorcycle couriers. There may be occasional deliveries by articulated vehicles, but this will be by prior arrangement and no dedicated loading bay spaces will be provided for these vehicles.

8.7.5 Delivery types

Arup survey data shows that the type of products being delivered, and the containers used, vary for the different occupiers at the development. Some of the delivery types and container types anticipated at the Proposed Development are shown in Table 22.

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Table 22: Typical delivery types and containers by use class

Occupier (Use Class)	Delivery container	Delivery type
Workspace	Boxes Bags Roll cages	Food Stationery Parcels
Retail	Pallets Cages Boxes	Clothes Equipment Parcels
Hotel/Restaurant/Cafe	Boxes Cartons Cages	Food Linen Drinks Cleaning materials

8.7.6 Vehicle generation

The estimated daily delivery and servicing trips to the development have been forecast using an Arup in-house vehicle generation tool developed to utilise Arup research. The generation tool applies a delivery and servicing vehicle trip rate for each of the proposed building uses to the relevant gross internal area (GIA) for that building. The trip rates, which are expressed as vehicles per 100m² per day, have been derived from survey data at office, retail, residential and other facilities, as well as relevant design guidelines and local authority regulations. The surveys recorded vehicle arrival and departure times, vehicle type and size of goods vehicle use to make the delivery.

Key assumptions used to calculate the delivery requirements for the site are:

- Waste collection vehicle trips are included in the trip rates and calculations;
- Café/restaurant deliveries are calculated by the application of a trip rate of 1.8 trips per 100 m^2 GIA to the total café/restaurant floor area;
- Retail (non-restaurant/café retail space) deliveries are calculated by the application of a trip rate of 0.52 trips per 100 m^2 GIA to the total retail floor area;
- Workspace deliveries are calculated by the application of a trip rate of 0.20 trips per 100m^2 GIA to the total workspace floor area
- Hotel deliveries are calculated by the application of a trip rate of 0.25 trips per 100m^2 GIA to the total hotel floor area.

The anticipated number of delivery and servicing trips for the site is shown in Table 23.

Table 23: Development daily delivery and servicing trips

Land Use	GIA (m²)	Trip Rate (per 100m2)	Daily Vehicle Generation
Retail	2,323	0.52	12
Café/Restaurant	2,229	1.8	40
Workspace	4,000	0.2	8
Hotel	17,000	0.25	43
Total	26,052		103

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9. Summary and Recommendations

Arup has been commissioned by Manchester City Football Club to prepare a Transport Assessment (TA) to support a planning application for an expansion of the North Stand and associated commercial uses at the Etihad Campus.

This TA assesses the impact and acceptability of the development in relation to traffic and car parking, sustainable modes of transport, servicing and demonstrate appropriate accessibility for all modes. The TA also forms a technical appendix to the Environmental Statement (ES) and its outcomes inform the calculated and reported residual environmental effects relating to Traffic and Transport.

In 2014 planning consent was granted to expand the Etihad Stadium to provide an additional 12,500 seats. (Planning Ref. 104315/FO/2013/N2). This consent has been partially implemented through the expansion of the South Stand by 6,250 seats. The permission for an additional 6,250 seats in the North Stand was previously consented but is yet to be implemented.

The transport strategy for the consented stadium that underpins the 2014 consent is based upon a modal shift in which any trips that are new to the network will be encouraged by a variety of measures to use sustainable modes of transport such as public transport, walking, and cycling.

There are two key components of the strategy that will help to achieve this.

1. There will not be an increase in car parking on the site; and
2. An enhanced Resident Parking Scheme will be implemented that operates every day, for longer periods and covers an increased geographic area.

These two measures are supported by supporting interventions to promote and increase the use of sustainable transport options to access the Etihad Campus including Metrolink, service and dedicated shuttle buses and walking from the city centre. This will help to ensure that local residents are not affected by additional traffic movements and that users of existing venues within the Etihad Campus are not impacted by additional delays accessing and egressing the site.

By constraining capacity and therefore the ability of visitors to park either on-site or on-street, the strategy will discourage people from travelling to the Etihad Campus by car. This is and will continue to be supported by communication from the Club that all on-site parking must be pre-booked, that there is a revised RPS in operation and directing people to the alternative sustainable transport modes available.

In addition to this, the TA sets out the mitigation required to prevent additional car trips to the Etihad Stadium. Measures are proposed across a range of modes which are presented in Table 19.

Mitigation measures and the newly established 'mechanisms for change' at the Etihad Campus are set out for each mode in Table 22. Some of the proposed measures will be implemented as a next stage in the ongoing programme of continuous improvement at the Campus. Perhaps the most impactful measures however will rely on active, progressive partnerships between the Club and key transport providers and authorities. By strengthening the management of the overall transport network, so that visitors to the Campus can come to rely on service standards and a consistent delivery of timetabled services, then measurable and continuing modal shift can be realised

On this basis, this TA has considered the impact of the Proposed Development on the local highways network. The assessment is based on a scope agreed with key stakeholders (MCC and TfGM) and in accordance with national planning policy and guidance.

The NPPF (2021) states that "*Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe"*.

The assessment acknowledges that the surrounding highway network experiences spikes of demand and pressures at junction associated with events and matchdays. This assessment has demonstrated that the Proposed Development would have only a modest impact on the operation of surrounding junctions. Whilst

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no mitigation is considered to be required on the surrounding highway network, other forms of mitigation are proposed including the implementation of an enhanced shuttle bus service and a Travel Plan for the proposed commercial uses.

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.

Considering the outcomes of this TA, MCFC club's wider movement strategy and initiatives, and the mitigation set out above it is considered that the Proposed Development would not have an unacceptable impact on highway safety and the residual cumulative impacts on the road network would not be severe.

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Appendix A: Scoping Correspondence

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ARUP

Subject	North Stand Manchester
Job No/Ref	
Date	21 October 2022

1. Introduction

The purpose of this note is to assist in the agreement between Manchester City Council (MCC), Transport for Greater Manchester (TfGM) and Arup of the scope for a Transport Assessment (TA) and Travel Plan Framework (TPF) to support a planning application for an expansion of the North Stand and associated commercial uses at the Etihad Campus.

A meeting between Arup, highway and planning officers from MCC and an officer from TfGM was held on 18 October 2022 where the proposed development was explained to officers and an agreement in principle of the level and type of assessment required was reached. This document sets out further details of the proposed scope of assessment and will be submitted to MCC and TfGM for their agreement.

2. Transport Assessment

A Transport Assessment (TA) will be produced and submitted as part of the planning application. The Transport Assessment will assess the impact and acceptability of the development in relation to traffic and car parking, sustainable modes of transport, servicing and demonstrate appropriate accessibility.

The proposed scope of the assessment is set out below.

2.1 Relevant Guidance and Legislation

The TA will be produced in line with relevant national and local policy including:

- National Planning Policy Framework;
- Manchester City Council Core Strategy (2012-27);
- Greater Manchester Transport Strategy 2040;
- Greater Manchester Five Year Transport Delivery Plan 2021-2026; and
- Eastlands Regeneration Framework.

2.2 Stadium Expansion

The proposed stadium expansion would result in an overall capacity that is within the parameters already approved by the 2014 North and South Stand consent. This expanded capacity was also the basis for subsequent assessments that supported the consented Coop Live scheme in 2020.

The basis and underlying strategy for both the original stadium expansion consent and the Coop Live scheme is that the overall level of car parking onsite would not be increased and that no measures to increase highway capacity would be implemented so as to help promote alternative more sustainable modes of transport to the Etihad Campus.

A range of measures to promote these sustainable modes of transport were agreed for the two applications and have subsequently been implemented (or are in the process of being in the case of Coop Live). The Transport Assessment will set out the measures that have been (or are in the

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process of being implemented) to support sustainable transport modes. This will include both the measures required as part of the extant planning consents but also additional measures that are part of the wider activities being undertaken to promote sustainable transport to/from and within the Etihad Campus.

Evidence will be provided of the impact of these measures in increasing the use of sustainable transport modes. It must be recognised that as many of the measures have been implemented at the same or similar times (alongside other external factors) and therefore it may not be possible to disaggregate the impact on travel behaviours to identify the specific impact of individual measures.

It is proposed that a timeline is developed which maps changes in overall travel behaviours against the implementation of measures and initiatives in order to present an overall 'direction of travel' in changing travel behaviour over time since the original stadium expansion consent.

2.3 Modelling

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.

We will liaise with MCC and TfGM to agree appropriate growth factors to be applied to these surveyed traffic flows in order to reflect any changes to traffic patterns that may have occurred since this time. These factors will be based upon locally based evidence using TfGM-held survey data for the local network. We will agree factors to be applied with MCC and TfGM in advance of submission of the Transport Assessment.

Traffic signal timing data has been supplied previously by TfGM. We will use this data unless advised by TfGM that these timings have changed subsequently.

The modelling will focus on the impact of the commercial uses (office and hotel). As it is not proposed to increase the capacity of the car park at the Campus, the volume of traffic accessing the site to use the stadium itself would not increase from that already assessed and approved under previous applications. Indeed, the likely result of the additional commercial uses at the Campus would be to spread the arrival and departure of this same volume of traffic, thus potentially reducing the peak impacts at the junction before and after a stadium event.

Based on anticipated profiles of traffic arrival and departure at the site it is proposed to assess the midweek evening peak period as the worst-case impact. A 'with' and 'without' stadium event scenario would be considered. Consideration will be given the overlap between the peak period of traffic generation associated with the commercial uses and arrival of vehicles prior to a stadium event. It is proposed that four scenarios are considered as follows (exact times to be confirmed following a review of traffic surveys and traffic generation forecasts):

1. Midweek evening development peak without stadium event (representing the peak traffic generation of the proposed development and likely to be around 16:00-17:00);

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2. Midweek evening development peak with stadium event (representing the peak traffic generation of the proposed development and likely to be around 16:00-17:00);
3. Network peak without stadium event (representing the busiest period on the local highway network and likely to be around 17:00-18:00); and
4. Network peak with stadium event (representing the busiest period on the local highway network and likely to be around 18:30-19:30).

It is not proposed to model a midweek morning scenario. No stadium-related traffic would be using the network at this time, hotel-related traffic would be minimal and the traffic generated by the office development would be much lower than the levels of traffic that use the site/junction during matchday conditions. The TA will present traffic generation forecasts for the morning period to support this assumption.

No assessment of the weekend is proposed as the office component would generate minimal traffic at this time and therefore a midweek evening represents the worst-case assessment. The assessment will present weekend traffic generation forecasts to support this assumption.

2.4 Trip Generation

Person trip rates for office and hotel land uses will be obtained from the TRICS database. Mode split data derived from Census Data will be applied to the person trip generation to estimate the anticipated trip generation by mode.

The proposed redevelopment of the club shop and food and drink uses are considered to be ancillary and are therefore not anticipated to generate any significant levels of trips in their own right as they will be linked to the other components of the proposed development.

2.5 Trip Distribution

Census ‘Travel to Work’ data will be used to derive a vehicle trip distribution on the local highway network.

2.6 Committed Development

We request that MCC/TfGM provide a list of committed developments that should be considered as part of the assessment.

At this stage we propose to include the Coop Live development and the Rugby Football League head quarters off Bell Crescent. Details of any further developments to be considered should be provided by MCC/TfGM.

2.7 Mitigation

Any appropriate mitigation required to facilitate the delivery of the proposed development will be identified as part of the TA.

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2.8 Delivery and Servicing Plan

This plan will include details of the proposed servicing (deliveries, collection and maintenance etc.) to the main works. This will include a plan demonstrating how the servicing would operate, what size of vehicles would be anticipated used and the anticipated frequency of servicing.

3. Travel Plan Framework

It is noted that there are already overarching plans for sustainability at the Etihad Campus including the Etihad Campus Strategic Vision – Movement & Transport NS and the Strategic Sustainability Framework. Any measures or initiatives that are proposed as part of this development should be fully aligned and supportive of these overarching plans.

A Framework Travel Plan will be developed for the commercial (office and hotel uses). This will outline measures and initiatives that could be promoted to both reduce the dependency on car travel and to promote the use of alternative modes of transport. These measures will look to either adopt, build on or complement measures within the overarching plans.

Should any new measures or initiatives that are bespoke to this development be identified then these could then feed into future updates to the overarching plans.

4. Environmental Statement

A separate scoping report will be submitted for the project that sets out the proposed scope for Environmental Impact Assessment. The requirement for any assessment of Traffic and Transport environmental impacts will be covered separately in this report.

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Subject: FW: Etihad Stadium North Stand

From: Neil Bayliss-Rowe <neil.bayliss-rowe@manchester.gov.uk>
Sent: 10 November 2022 16:20
To: Peter Webster <Peter.Webster@arup.com>
Cc: Richard Dolphin <richard.dolphin@tfgm.com>; Rebecca Hesketh <Rebecca.Hesketh@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.

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- 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

Neil Bayliss-Rowe
Highways Development Control & Flood Risk Manager
Internal Tel: 801 31171
External Tel: 0161 234 1171
Mobile: 07971384537
Email: neil.bayliss-rowe@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: Neil Bayliss-Rowe <neil.bayliss-rowe@manchester.gov.uk>; Richard Dolphin <richard.dolphin@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

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Arup
6th Floor, 3 Piccadilly Place
Manchester, M1 3BN
d +44 161 602 9274
m +44 7884 585 296
arup.com

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****
The Scoping Report states that the effects of construction and operational traffic will be assessed in consideration of the predicted net change in traffic flows by comparing the likely trip generation of construction and operational traffic against future baseline traffic conditions based on the following IEMA Guideline rules:

- Rule 1 - Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2 - Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

Any road links that meet these criteria indicate the potential for significant effects and will be scoped into the assessment, however at this stage, the volume/distribution of development traffic for the construction and operational phases (and list of committed developments) are not yet confirmed and are subject to the outcomes of the Transport Assessment (TA) scoping.

At this stage, it is therefore not to determine with certainty which links could experience traffic volumes in excess of the IEMA thresholds. It is therefore proposed to scope in all of the potential environmental effects relating to Traffic and Transport into the ES and assess the magnitude of traffic increases against the IEMA thresholds at the outset of the ES Chapter.

The Scoping Report states that the assessment for the TA will focus on the impact of the commercial uses (office and hotel). As it is not proposed to increase parking provision, the volume of traffic accessing the stadium would not increase from that already assessed/approved under previous applications. It is however requested that the EIA assesses the full development proposals (regardless of extant permissions) in order to ensure the full effects of the proposals in terms of Traffic & Transport are assessed and appropriate mitigation measures are taken forward.

Whilst the proposals will have no additional parking provision, the operational phase would still generate a number of daily vehicular trips associated with servicing/deliveries, taxis/drop-offs (utilising the potential new drop-off provision) and car trips with drivers utilising alternative nearby car-parks which should also be taken into consideration.

Other highways impacts (including multi-modal trip generation and accessibility) would be assessed further within the submitted TA, with mitigation measures where necessary and measures to promote access by sustainable modes identified within a supporting Travel Plan.

There will be a requirement management and coordination of construction activities with reference to ongoing/imminent construction works in the locality within the supporting Construction Environmental Management Plan/Construction Management Plan with the cumulative effects of construction considered in terms of other construction activity occurring concurrently as part of the Traffic & Transport ES chapter.

The following points should also be taken into consideration as part of the Traffic & Transport assessment:
- Assessment should not only consider construction trip generation but also traffic redistribution impacts associated with any required traffic management/temporary road closures during the construction phase; and
- Assessment should consider any required traffic management/temporary road closure impacts on pedestrians during the construction phase.

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Whilst it is noted that a number of the IEMA environmental effects would be considered within other technical assessments of the ES (including noise, vibration, visual impacts, air pollution, dust and dirt, ecological impact and heritage and conservation), appropriate traffic data should be provided to inform the associated assessments.
The following receptors have therefore been identified as having the potential to be subject to likely significant effects: severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation and accidents and safety which is acceptable.

The raw data and calculations for the distribution and turning counts (once collected) will need to be provided 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 has not. 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, 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 scoping document of the management of events; reference to the existing Traffic Management plan and implementation should be referred to and addressed.
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.

The ES chapter should also include the following:
- A description of current baseline traffic conditions in the area.
- An analysis of injury accidents during a recent five-year period, commenting on whether there are any underlying patterns of injury accidents that might be affected by the development.

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- Traffic surveys and queue surveys (weekdays) - scope to be agreed with the Local Highway Authority (LHA), TfGM UTC and HFAS. TfGM UTC can be contacted in respect of the availability of any traffic counts in the area that could be used for the assessment.
- A clear estimate of the level of new traffic likely to be associated with the development, based on an inspection of similar (and similarly-located) developments across the UK (excluding London) via the TRICS (or similar) database. The assessment work should be undertaken using a person-trip approach and applying the appropriate modal share percentages from local Census data. Other methodologies to determine trip rates are acceptable but these should be fully explained in the TA.
- A clearly defined methodology for determining the distribution /assignment of development trips onto the network i.e. understanding of where such new traffic is likely to distribute to/from, based on data sources such a Census Journey-to-Work statistics and/or vehicle turning proportions at nearby junctions.
- An assessment of traffic levels and impacts at the specified year of opening of the development, and at a future year at least five years later, with due regard for traffic growth (if any).
- An understanding of the likely impacts of the proposed development considered alongside any other nearby committed developments.
- In the relevant TA, clear diagrams should be provided illustrating the following elements, each individually:
    - Base Flows
    - Committed Development Flows
    - Proposed Flows
    - Proposed Distribution
    - Base plus Committed plus proposed development
    - Future plus Committed plus proposed development
- TfGM HFAS recommends an increase of about 30vehs/hr at a junction a an appropriate threshold for considering the necessity of a traffic impact assessment; this is in preference to a percentage-increase threshold, which tends to favour development in already heavily-trafficked areas.
- The scope of the junctions to be assessed by detailed modelling should be agreed with TfGM (UTC) and the LHA in advance and will depend upon the outcome of the trip assessment and distribution exercise. For this reason, TfGM would advise that a trip generation and distribution exercise should be issued before submission of the planning application. Once this is undertaken it will be possible to finalise TfGM requirements in terms of the TA. This will largely depend on the amount of trip generation.
- Traffic modelling should be undertaken using demand flows to ensure that results are realistic and representative of existing conditions. For congested junctions, demand flows can be derived using traffic count and queue survey data.
- Clear details of proposed vehicular access arrangements including general servicing arrangements. An engineering drawing should be supplied showing the changes to the road network to fully understand the impact of the proposed development.
- A swept path analysis should be provided for any vehicular access.
- A review of Traffic Regulation Orders on the surrounding streets in the vicinity of the development.
- An assessment of the likely environmental/traffic impacts of HGVs during the construction process.

Site Accessibility by Sustainable Modes

Walking and cycling should form the natural mode choice for shorter trips, and also provide a viable option to facilitate longer trips through providing easy access to public transport. New developments should connect with, and enhance, existing walking and cycling networks in their vicinity, and also provide high quality facilities and networks for walking and cycling within development sites.

The TA should include a comprehensive review of the existing provision in the vicinity of the site for all pedestrians including those with disabilities. In addition to walking distances and pedestrian

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desire lines, pedestrian environment (including footway condition and widths) and pedestrian safety and security should be considered. An audit of the footways in the vicinity of the development should be undertaken and improvements identified.

A comprehensive review of the cycling infrastructure in the vicinity of the proposed development should also be undertaken. This should include an assessment of the connectivity of the site with existing cycle routes. The quality and condition of existing infrastructure, cyclist safety and security should also be considered.

The catchment area for cycling, walking and public transport should be captured in maps. The quality of the routes for pedestrians and cyclists should be described and this should include a description of any signing for cycle routes as appropriate.

The TA should provide a review of existing public transport services (including service frequency and location of nearest stations/stops), with a view to supporting improvements to existing public transport services as required, in particular, assess the quality of the surrounding bus infrastructure i.e. upgrade to shelters etc.

The TA should include a plan clearly showing details of the proposed pedestrian and cycle access points serving the site and linkages into the surrounding area. Connectivity with local public transport networks should be highlighted. The applicant should consider measures to encourage access by sustainable modes. Possible measures include but are not limited to the provision of pedestrian crossings, cycleways, cycle parking, new/improved footway ensuring that there are linkages into existing cycle and pedestrian facilities, as well as upgrades to existing bus stops (where appropriate).
TfGM would suggest that a pedestrian survey is carried out in the vicinity of the site, as per guidance https://www.livingstreets.org.uk/media/1434/street-reviewguidance- for-web.pdf and included as part of the TA.

It should be highlighted that LTN/120 has been introduced by the DfT and this has changed the requirements for the design of cycling provision.

Details of cycle parking facilities for the proposed development (e.g., number of spaces, location and type) should be provided and shown on plan.

Mitigation Measures
Impacts of the development should be identified through the above assessment work. The applicant should identify appropriate mitigation to accommodate any increases in traffic generation and increased pedestrian and cyclist movements.

Any appropriate mitigation should be identified in conjunction with TfGM UTC and the LHA who will be happy to work with the developer to agree an approach.
The TA should consider the impact of the development on the existing public transport networks in terms of extension of bus services, additional person trips. Mitigation measures should be considered where appropriate.
A Framework Travel Plan for the development should accompany any future planning application.

If there are any changes planned for bus infrastructure, for example relocation of existing bus stops or the creation of new bus parking areas, TfGM would request that the applicant liaise directly with TfGM's bus infrastructure which can be contacted at Shelters@tfgm.com.

In relation to walking, the importance of providing and maintaining good quality footways, free from obstruction and wide enough for when they are at their busiest, is critical to encourage and maximise walking levels associated with new developments. Useful guidance on street layouts

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which encourage walking is provided in Manual for Streets (Department for Transport, 2007). MfS provides guidance on lightly trafficked residential streets, and Manual for Streets 2 (CIHT, 2010) further develops the principles of the first Manual for Streets for application in wider circumstances on busier streets, including town and district centres.
In relation to cycling, infrastructure should be designed in accordance with current Greater Manchester Cycling Design Standards, the latest version of which is available from the TfGM website or by emailing cycling@tfgm.com. In particular, connections to/from and within developments should be designed in accordance with the Key Design Criteria of Safety, Coherence, Directness, Attractiveness and Comfort. A general principle is that infrastructure should be designed to be attractive to those who do not currently cycle, in order to drive the increase in cycling's mode share.

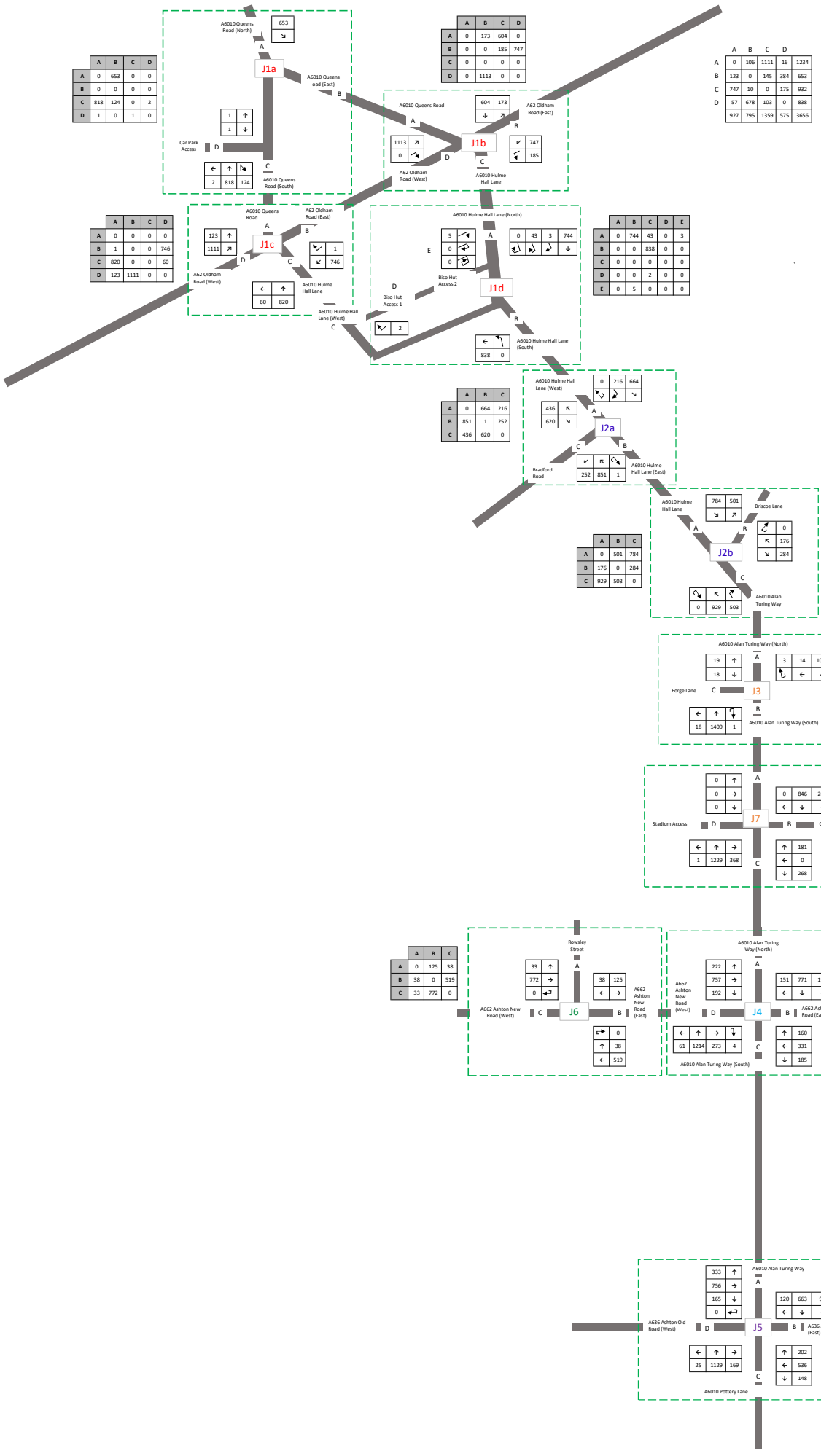
The Bee Network will be the largest joined-up system of walking and cycling routes in the UK and has been developed with all 10 Greater Manchester local authorities. More information on this is available on https://www.tfgm.com and TfGM would encourage the applicant to review the map online to determine whether there is an opportunity for this development to connect into the proposed Bee Network.

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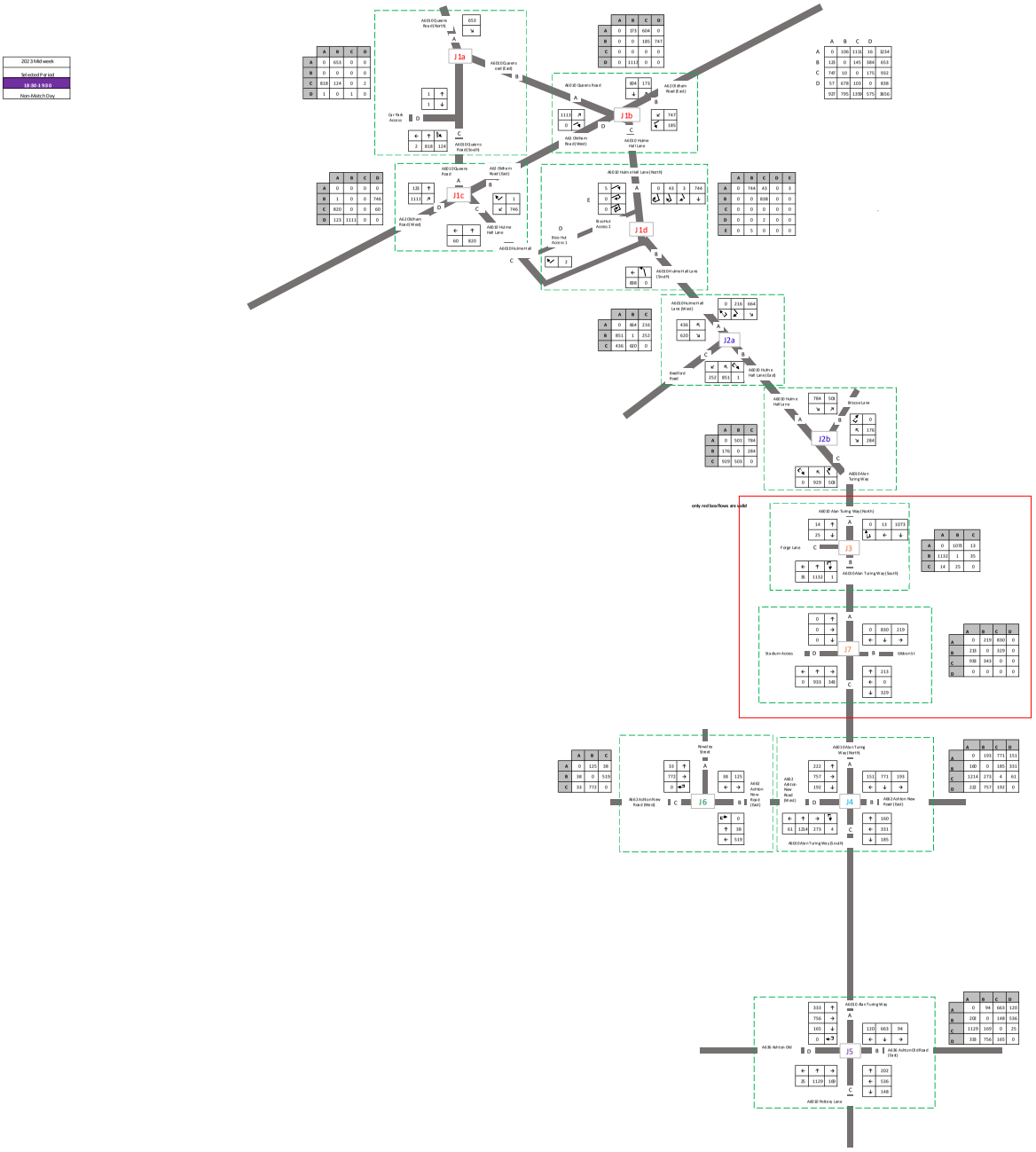
Appendix B: Figures and Drawings

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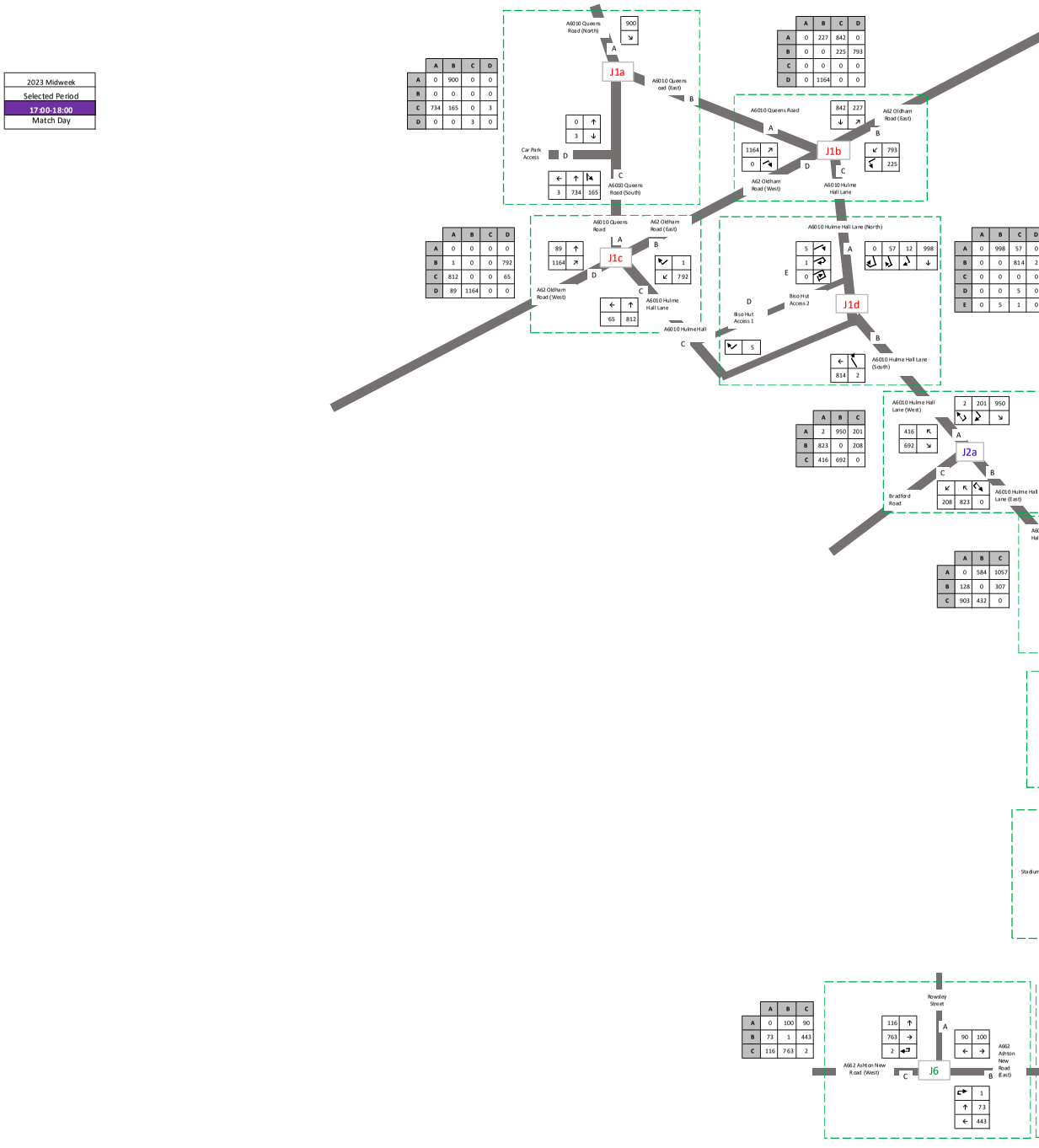
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Selected Period
17:00-18:00
Non-Match Day



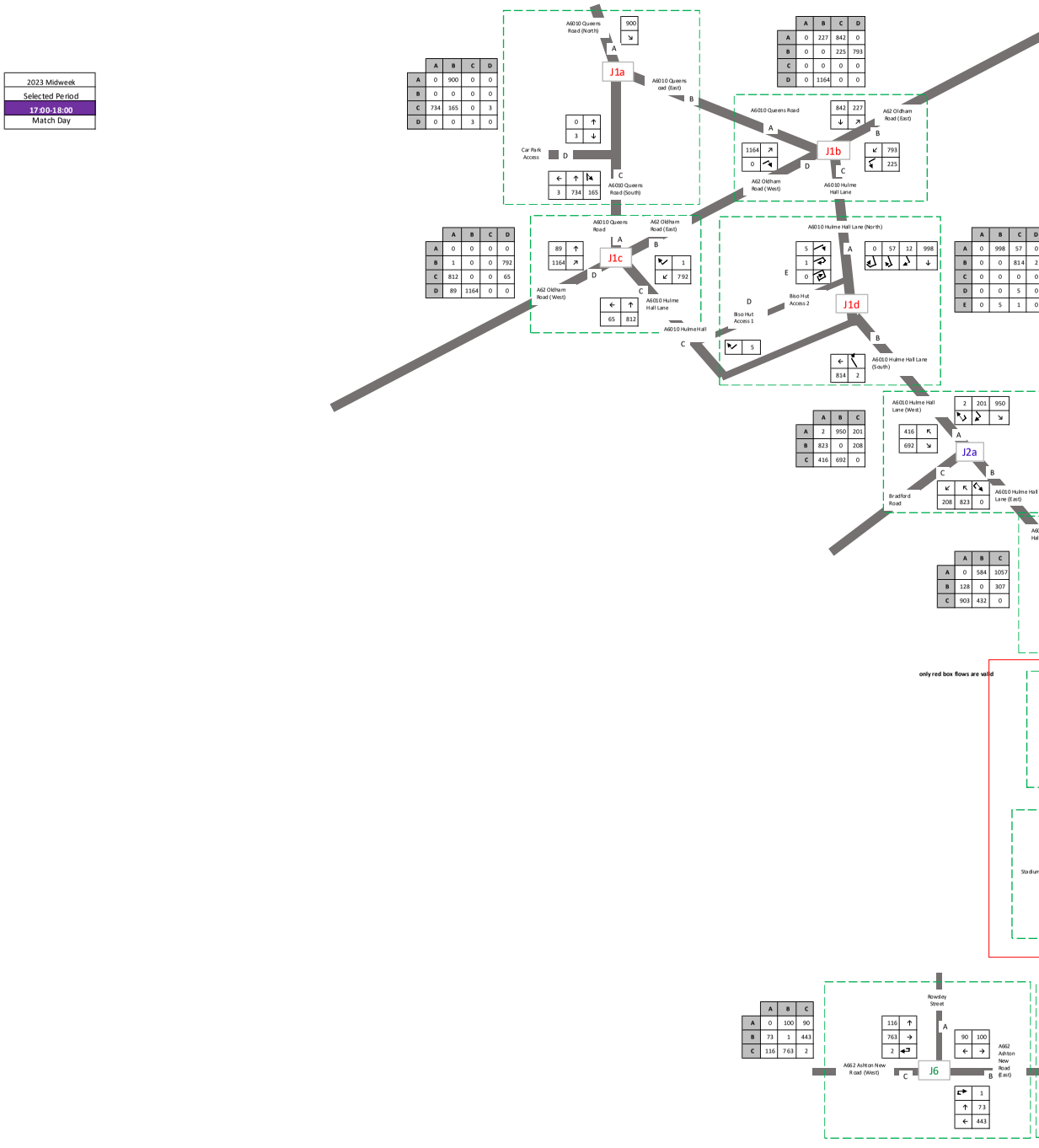
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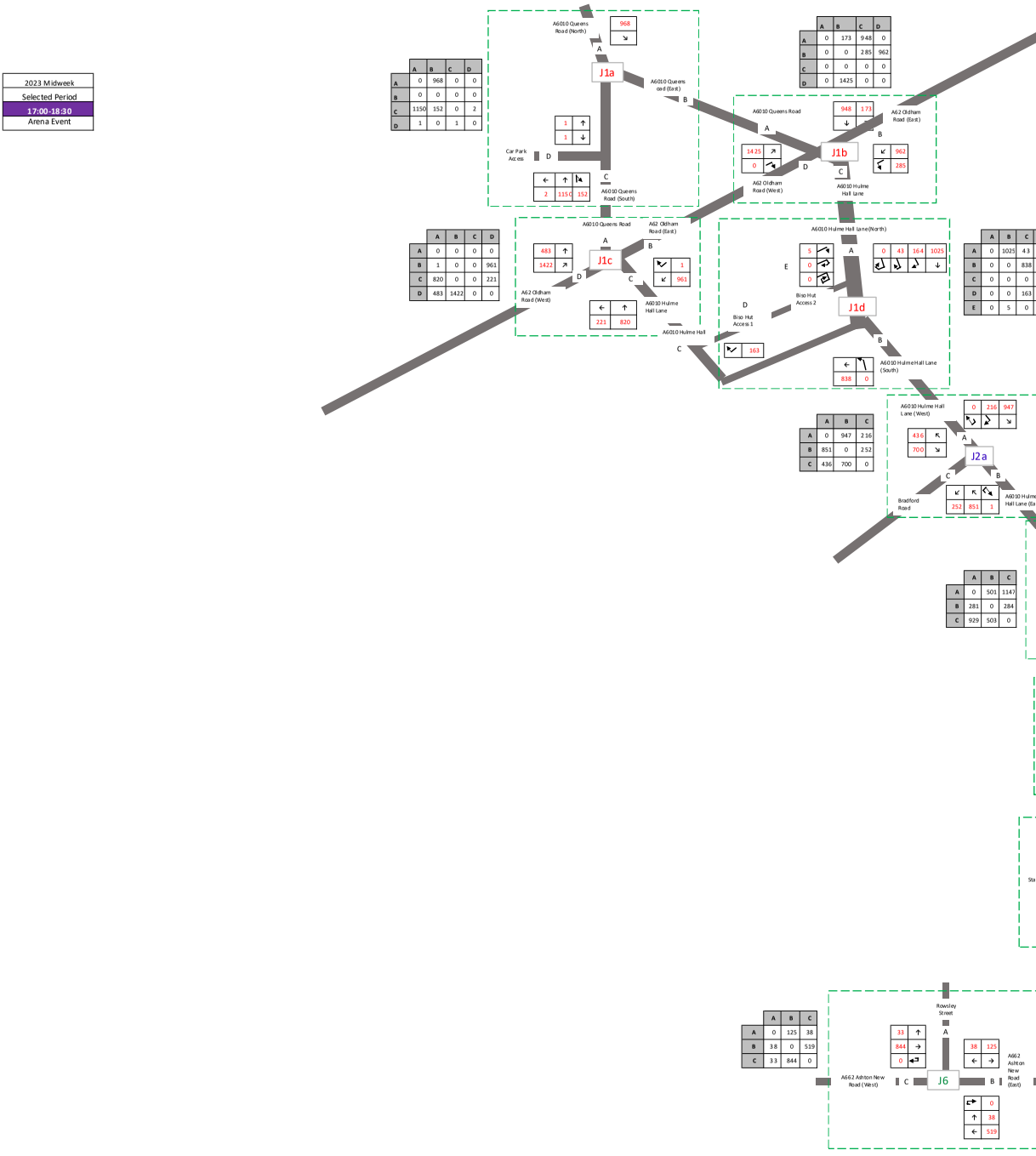
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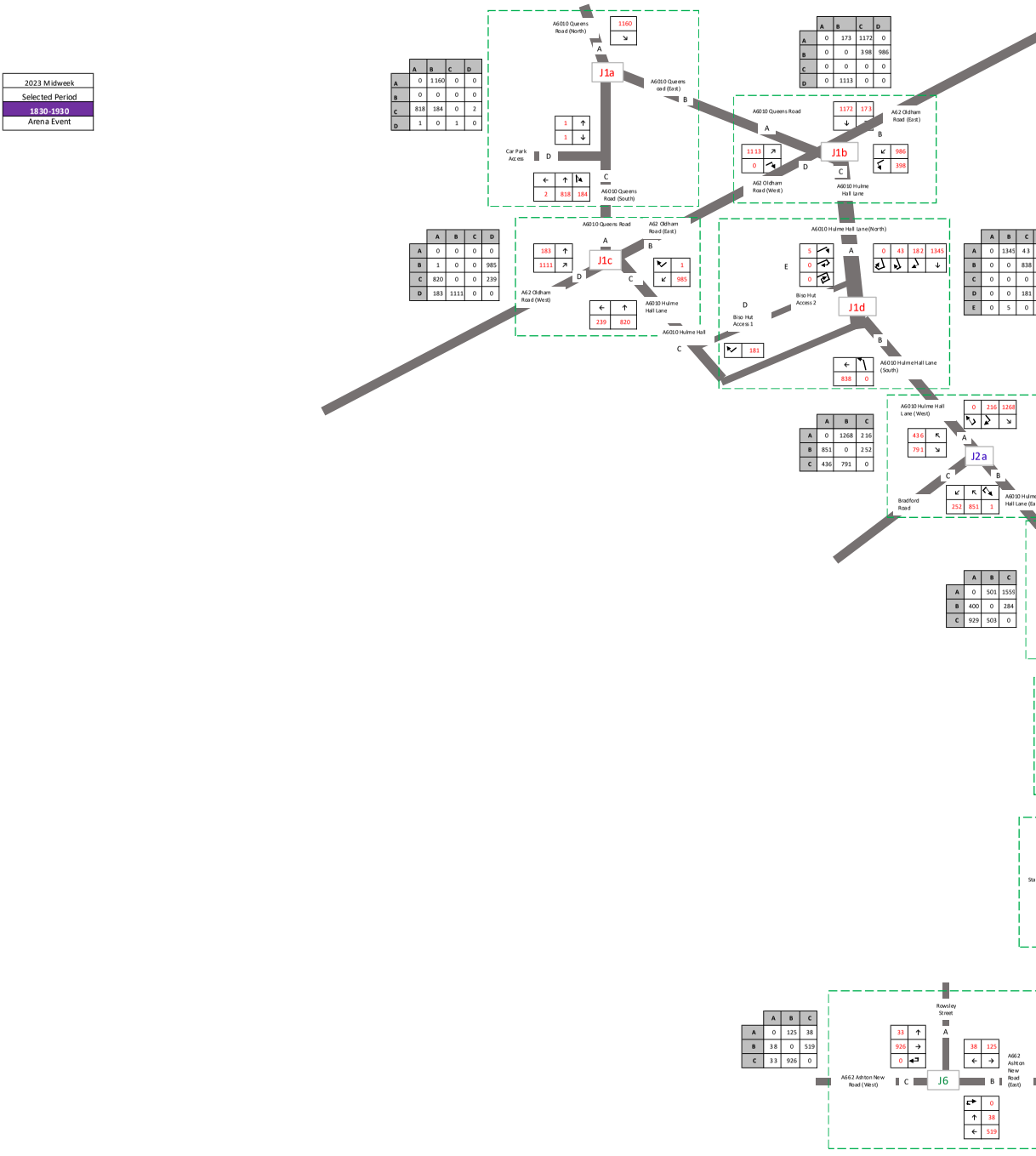
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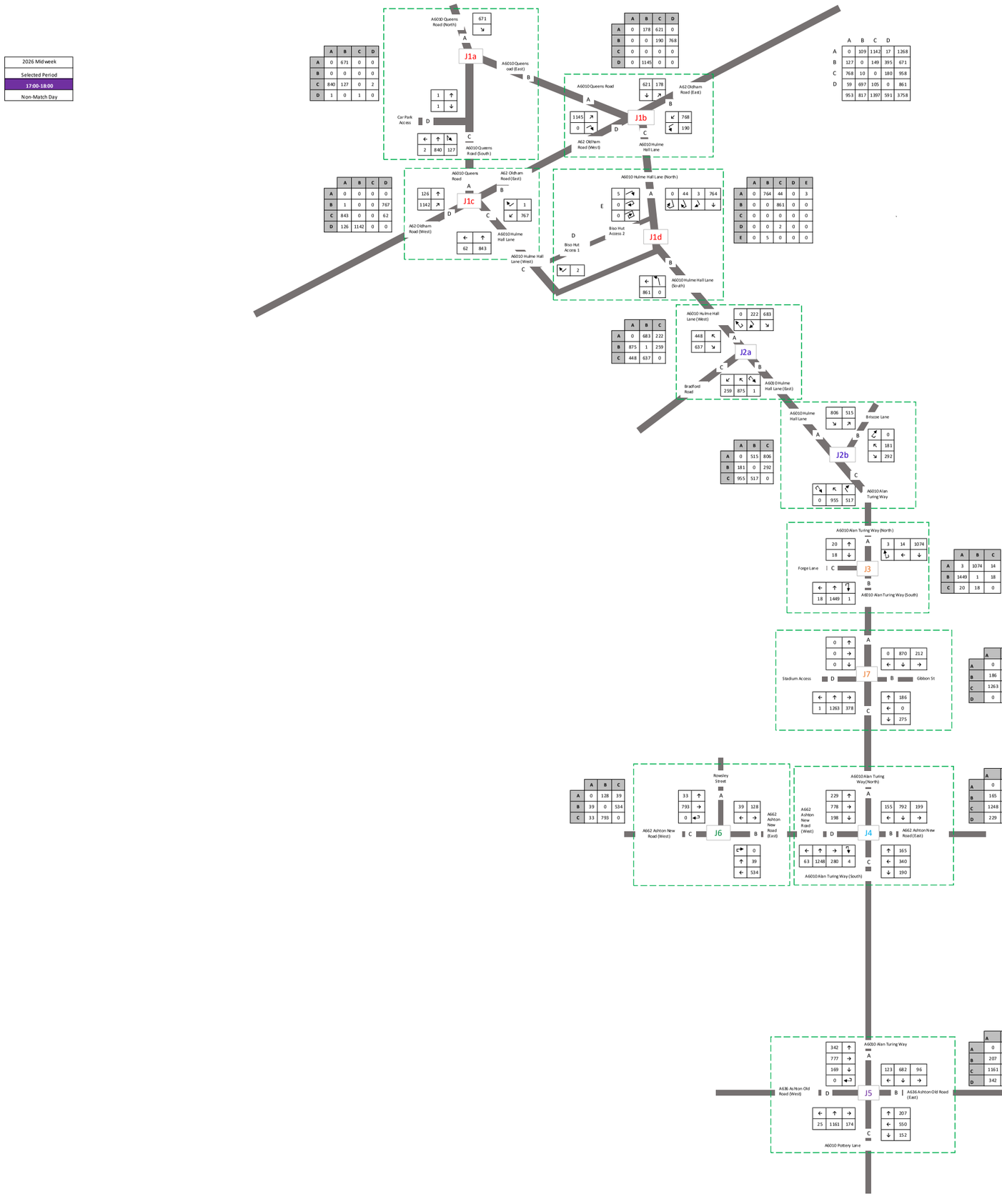


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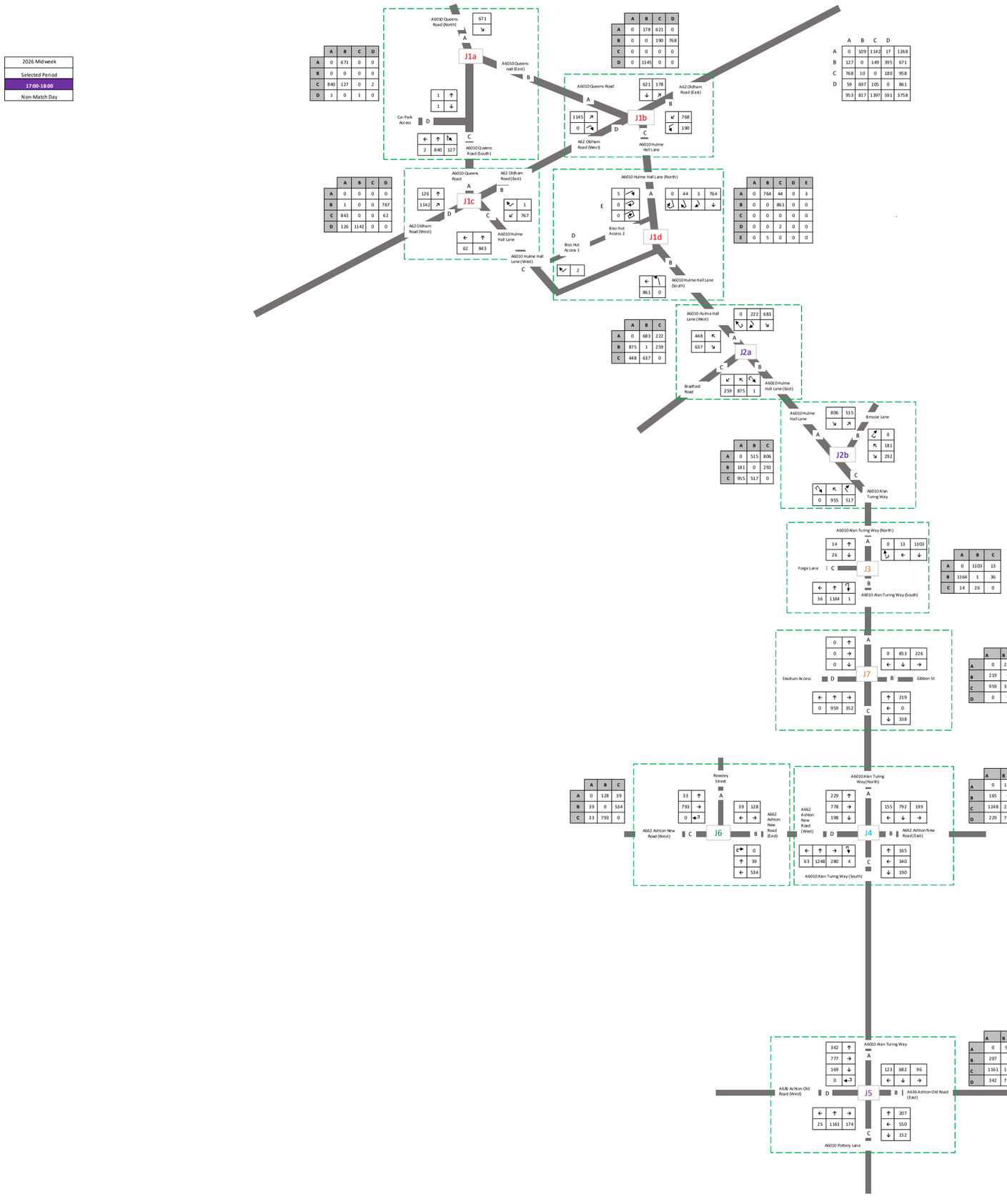


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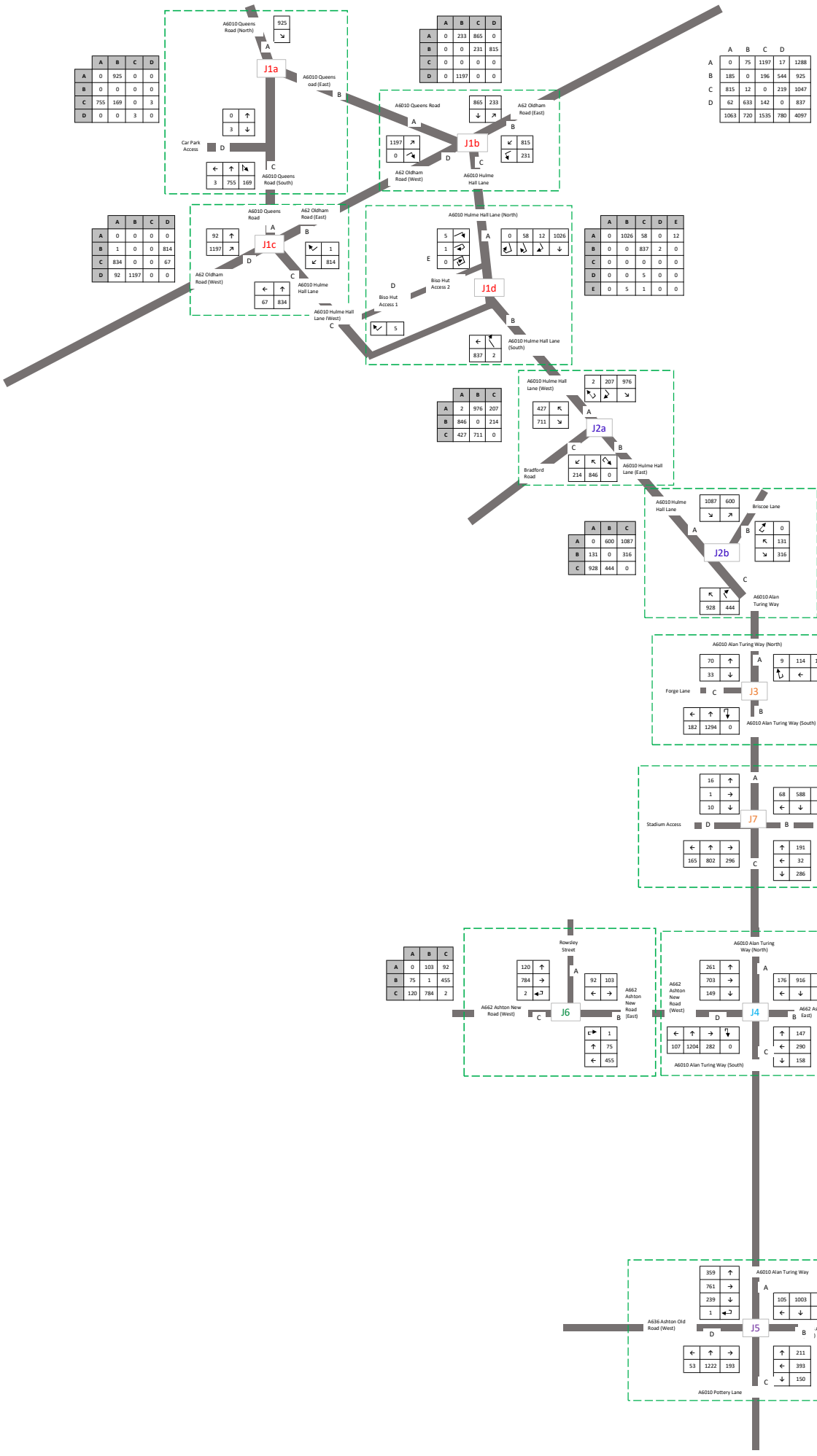



2026 Mid week
Selected Period
17:00-18:00
Non-Match Day
J1a
A6030 Queens Road (North)
A6010 Queens oad (East)
A6010 Queens Road (South)
Car Park Access
J1b
A6010 Queens Road
A62 Oldham Road (East)
A62 Oldham Road (West)
A6010 Hulme Hall Lane
J1c
A6010 Queens Road
A62 Oldham Road (East)
A62 Oldham Road (West)
A6010 Hulme Hall Lane
A6010 Hulme Hall Lane (West)
J1d
A6010 Hulme Hall Lane (North)
Biso Hut Access 1
Biso Hut Access 2
A6010 Hulme Hall Lane (South)
J2a
A6010 Hulme Hall Lane (West)
Bradford Road
A6010 Hulme Hall Lane (East)
J2b
A6010 Hulme Hall Lane
Briscoe Lane
A6010 Alan Turing Way
J3
A6010 Alan Turing Way (North)
Forge Lane
A6010 Alan Turing Way (South)
J7
Stadium Access
Gibbon St
J6
Rowsley Street
A662 Ashton New Road (West)
A662 Ashton New Road (East)
J4
A6010 Alan Turing Way(North)
A662 Ashton New Road (West)
A662 Ashton New Road (East)
A6010 Alan Turing Way (South)
J5
A6010 Alan Turing Way
A636 Ashton Old Road (West)
A636 Ashton Old Road (East)
A6010 Pottery Lane

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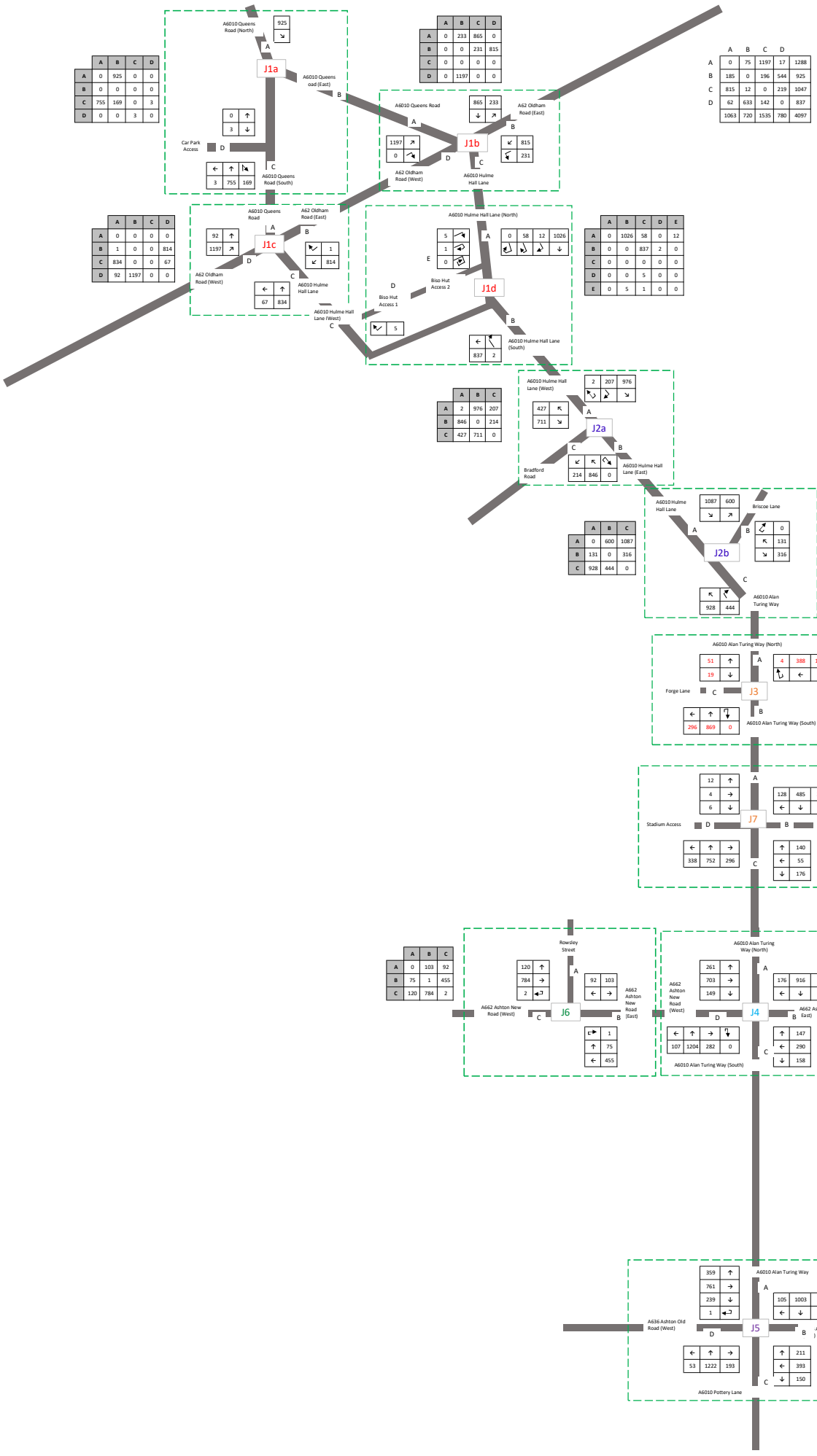


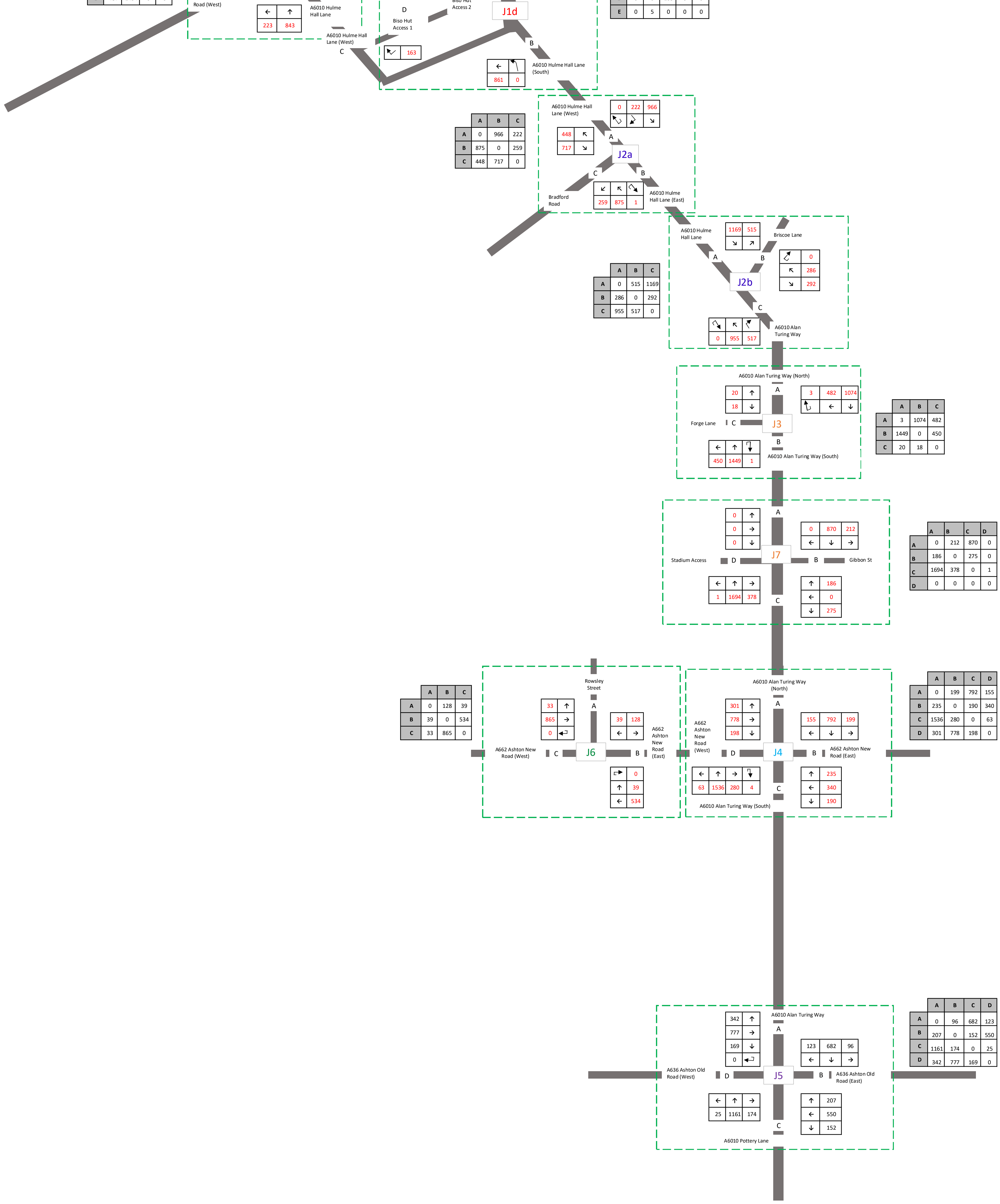
2026 Midweek
Selected Period
17:00-18:00
Match Day



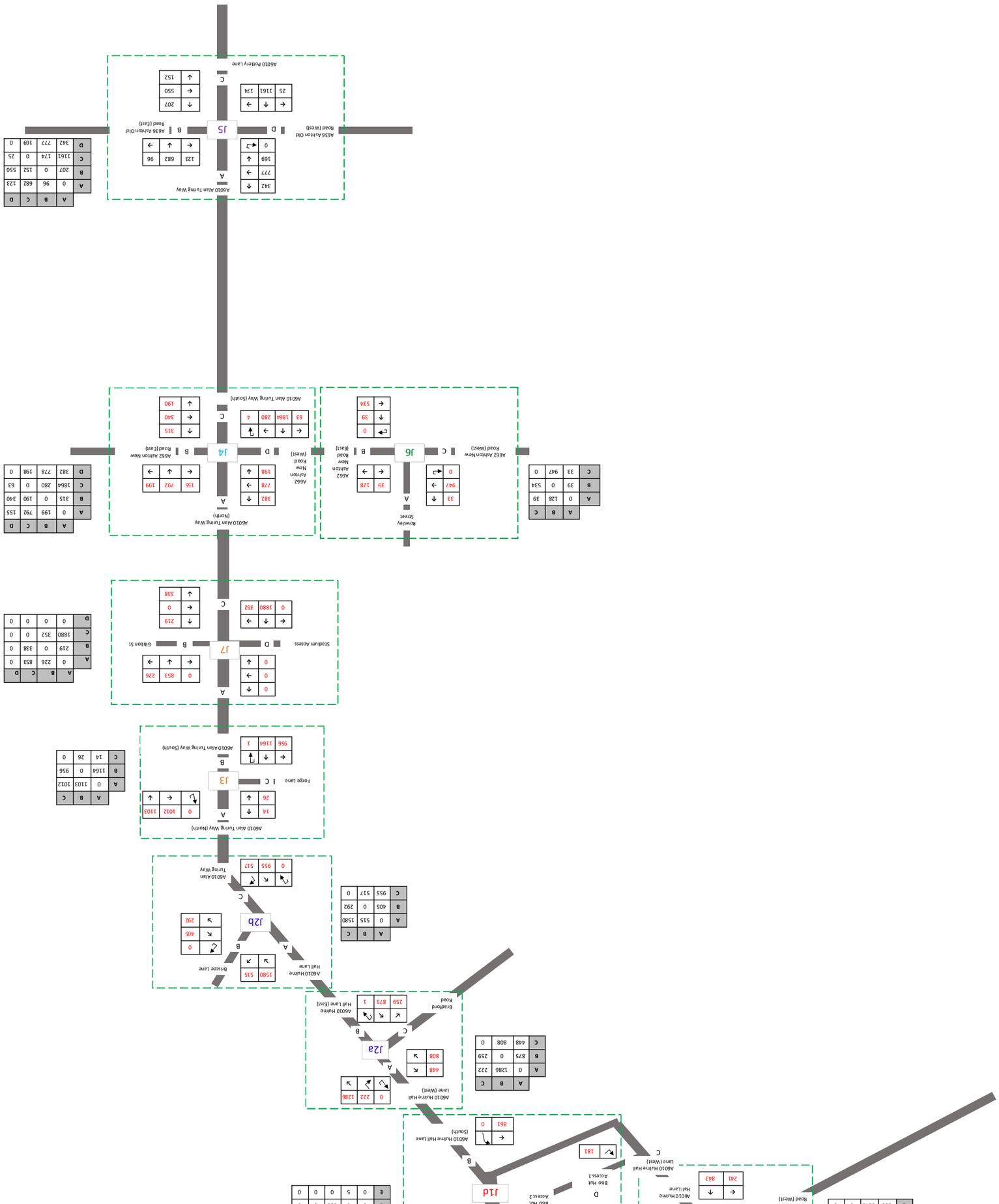
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2026 Midweek
Selected Period
18:30-19:30
Match Day

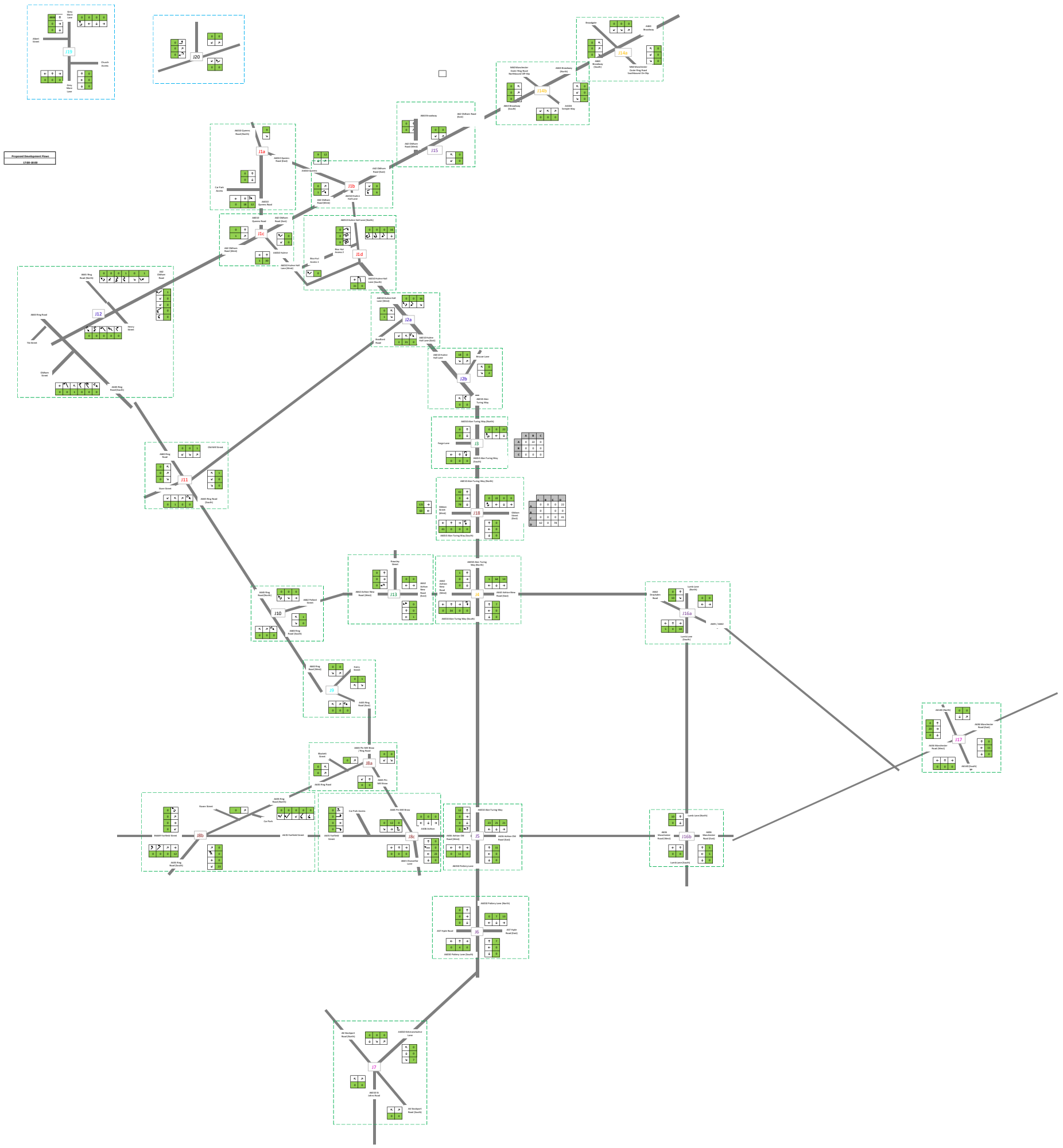




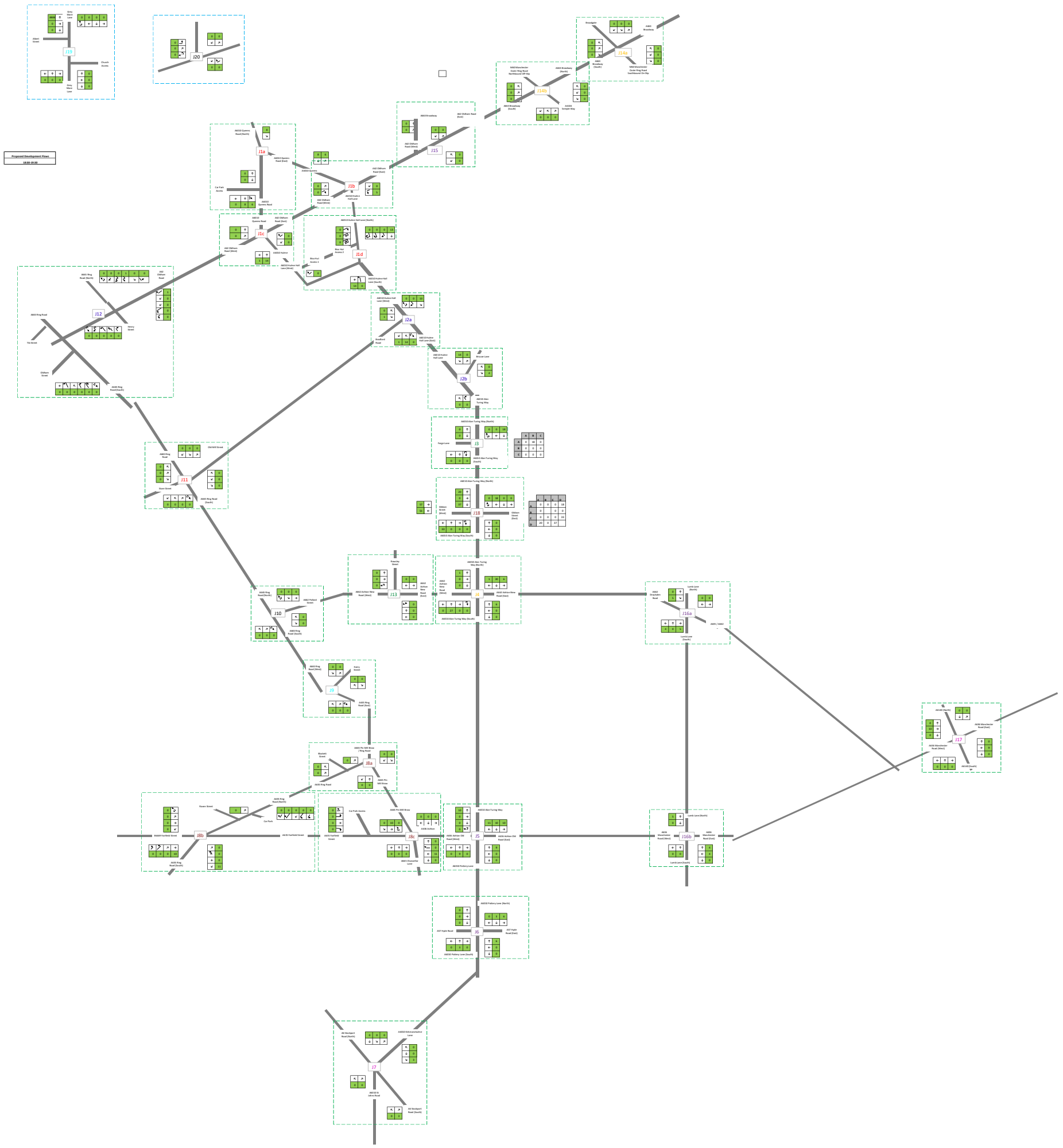
J1d
Road (West)
A6010 Hulme Hall Lane
A6010 Hulme Hall Lane (West)
Biso Hut Access 1
Biso Hut Access 2
A6010 Hulme Hall Lane (South)
J2a
A6010 Hulme Hall Lane (West)
Bradford Road
A6010 Hulme Hall Lane (East)
J2b
A6010 Hulme Hall Lane
Briscoe Lane
A6010 Alan Turing Way
J3
A6010 Alan Turing Way (North)
Forge Lane
A6010 Alan Turing Way (South)
J7
Stadium Access
Gibbon St
J6
Rowsley Street
A662 Ashton New Road (West)
A662 Ashton New Road (East)
J4
A6010 Alan Turing Way (North)
A662 Ashton New Road (West)
A662 Ashton New Road (East)
A6010 Alan Turing Way (South)
J5
A6010 Alan Turing Way
A636 Ashton Old Road (West)
A636 Ashton Old Road (East)
A6010 Pottery Lane


A6010 Alan Turing Way (North)
A6010 Alan Turing Way (South)
A6010 Potlery Lane
A635 Ashton Old Road (West)
A636 Ashton Old Road (East)
A662 Ashton New Road (West)
A662 Ashton New Road (East)
Fudge Lane
Stadium Access
Gibbon St
Roxley Street
A6010 Hulme Hall Lane (West)
A6010 Hulme Hall Lane
A6010 Hulme Hall Lane (East)
Bradford Road
Briscoe Lane
Bio Hut Access 1
Bio Hut Access 2
J1d
J2a
J2b
J3
J4
J5
J6
J7

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Gate 2 with CLA Traffic

2023

network peak (1700-1800)
Weekday w/o stadium event

2023 Baseline

	A	B	C	D
A	0	1045	482	
B	1409	0	449	
C	19	18	0	
D				

2023 Committed Development

	A	B	C	D
A				
B	18			
C				
D				

2023 Proposed Development

	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Committed Development

	A	B	C	D
A	0	1045	482	
B	1427	0	449	
C	19	18	0	
D				

	A	B	C	D
A				
B				
C				
D				

network peak (1830-1930)
Weekday w/ stadium event

2023 Baseline

	A	B	C	D
A	4	1259	544	
B	846	0	442	
C	50	19	0	
D				

no RFL flows considered after 1800

2023 Committed Development

	A	B	C	D
A				
B				
C				
D				

2023 Proposed Development

	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Committed Development

	A	B	C	D
A	4	1259	544	
B	846	0	442	
C	50	19	0	
D				

	A	B	C	D
A				
B				
C				
D				

Year of Opening 2026

network peak (1700-1800)
Weekday w/o stadium event

2026 Baseline

	A	B	C	D
A	3	1074	482	
B	1449	0	450	
C	20	18	0	
D				

2026 Committed Development

	A	B	C	D
A				
B	18			
C				
D				

2026 Proposed Development

	A	B	C	D
A	0	22	0	
B	0	0	0	
C	0	0	0	
D				

2026 Baseline with Committed Development

	A	B	C	D
A	3	1074	482	
B	1467	0	450	
C	20	18	0	
D				

2026 Baseline + Proposed

	A	B	C	D
A	3	1096	482	
B	1467	0	450	
C	20	18	0	
D				

network peak (1830-1930)
Weekday w/ stadium event

2026 Baseline

	A	B	C	D
A	4	1294	555	
B	869	0	450	
C	51	19	0	
D				

no RFL flows considered after 180

2026 Committed Development

	A	B	C	D
A				
B				
C				
D				

2026 Proposed Development

	A	B	C	D
A	0	18	0	
B	0	0	0	
C	0	0	0	
D				

2026 Baseline with Committed Development

	A	B	C	D
A	4	1294	555	
B	869	0	450	
C	51	19	0	
D				

	A	B	C	D
A	4	1312	555	
B	869	0	450	
C	51	19	0	
D				



A A6010 North
B A6010 South
C Car Park

Scenarios 2 and 3 (Weekday PM Peak Arena Event 1700-1800) and Weekday PM Peak Stadium Event)

No additional parking is proposed within the Etihad Campus as part of the Proposed Development. During stadium and arena events, existing car parking on the Etihad Campus will therefore be allocated for use of the hotel. In the pre-event period, it is assumed that arrivals at the hotel will be attendees of events taking place at the Etihad Campus. These hotel visitors will therefore utilise a parking space that would have otherwise been used by an attendee of the event taking place. As such, there would not be any net increase in vehicle arrivals onto the site in these scenarios. Development flows shown here are therefore for info only and have not been included in LinSig OD Matrices

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Gate 2 without CLA Traffic

2023

network peak (1700-1800)
Weekday w/o stadium even

2023 Baseline

	A	B	C	D
A	0	1045	14	
B	1409	0	18	
C	19	18	0	
D				

2023 Committed Develop

	A	B	C	D
A				
B	18			
C				
D				

2023 Proposed Developn

	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Comr

	A	B	C	D
A	0	1045	14	
B	1427	0	18	
C	19	18	0	
D				

[blank]

	A	B	C	D
A				
B				
C				
D				

network peak (1830-1930)
Weekday w/ stadium even

2023 Baseline

	A	B	C	D
A	8	1243	111	
B	1259	0	177	
C	68	33	0	
D				

no RFL flows considered after 1800

2023 Committed Develop

	A	B	C	D
A				
B				
C				
D				

2023 Proposed Developn

	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Comr

	A	B	C	D
A	8	1243	111	
B	1259	0	177	
C	68	33	0	
D				

[blank]

	A	B	C	D
A				
B				
C				
D				

Year of Opening 2026

network peak (1700-1800)
Weekday w/o stadium even

2026 Baseline

	A	B	C	D
A	3	1074	14	
B	1449	1	18	
C	20	18	0	
D				

2026 Committed Develop

	A	B	C	D
A				
B	18			
C				
D				

2026 Proposed Developn

	A	B	C	D
A	0	22	0	
B	0	0	0	
C	0	0	0	
D				

2026 Baseline with Comr

	A	B	C	D
A	3	1074	14	
B	1467	1	18	
C	20	18	0	
D				

2026 Baseline + Propose

	A	B	C	D
A	3	1096	14	
B	1467	1	18	
C	20	18	0	
D				

network peak (1830-1930)
Weekday w/ stadium even

2026 Baseline

	A	B	C	D
A	9	1278	114	
B	1294	0	182	
C	70	33	0	
D				

no RFL flows considered after 180

2026 Committed Develop

	A	B	C	D
A				
B				
C				
D				

2026 Proposed Developn

	A	B	C	D
A	0	18	0	
B	0	0	0	
C	0	0	0	
D				

2026 Baseline with Comr

	A	B	C	D
A	9	1278	114	
B	1294	0	182	
C	70	33	0	
D				

2026 Baseline + Propose

	A	B	C	D
A	9	1296	114	
B	1294	0	182	
C	70	33	0	
D				



A A6010 North
B A6010 South
C Car Park

Scenarios 2 and 3 (Weekday PM Peak Arena Event 1700-1800) and Weekday PM Peak Stadium Event)

No additional parking is proposed within the Etihad Campus as part of the Proposed Development. During stadium and arena events, existing car parking on the Etihad Campus will therefore be allocated for use of the hotel. In the pre-event period, it is assumed that arrivals at the hotel will be attendees of events taking place at the Etihad Campus. These hotel visitors will therefore utilise a parking space that would have otherwise been used by an attendee of the event taking place. As such, there would not be any net increase in vehicle arrivals onto the site in these scenarios. Development flows shown here are therefore for info only and have not been included in LinSig OD Matrices

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Gate 3 with CLA Traffic

2023

weekday peak (1600-1700)
Weekday w/o stadium event

2023 Baseline

	A	B	C	D
A	0	203	1448	0
B	192	0	239	0
C	1222	365	0	1
D	0	0	0	0

2023 Committed Developm

	A	B	C	D
A				
B				
C	18			
D				

2023 Proposed Developme

	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Commit

	A	B	C	D
A	0	203	1448	0
B	192	0	239	0
C	1240	365	0	1
D	0	0	0	0

	A	B	C	D
A				
B				
C				
D				

weekday peak (1600-1700)
Weekday w/ stadium event

2023 Baseline

	A	B	C	D
A	0	197	1124	28
B	246	0	338	9
C	856	341	0	66
D	13	4	6	0

2023 Committed Developm

	A	B	C	D
A				
B				
C	18			
D				

2023 Proposed Developme

	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Commi

	A	B	C	D
A	0	197	1124	28
B	246	0	338	9
C	874	341	0	66
D	13	4	6	0

	A	B	C	D
A				
B				
C				
D				

Year of Opening 2026

network peak (1700-1800)
Weekday w/o stadium event

2026 Baseline

	A	B	C	D
A	0	212	870	0
B	186	0	275	0
C	1694	378	0	1
D	0	0	0	0

2026 Committed Developr

	A	B	C	D
A				
B				
C	18			
D				

2026 Proposed Developm

	A	B	C	D
A	0	0	0	22
B	0	0	0	0
C	0	0	0	41
D	39	0	73	0

2026 Baseline with Comm

	A	B	C	D
A	0	212	870	0
B	186	0	275	0
C	1712	378	0	1
D	0	0	0	0

2026 Baseline + Proposed

	A	B	C	D
A	0	212	870	22
B	186	0	275	0
C	1712	378	0	42
D	39	0	73	0

network peak (1830-1930)
Weekday w/ stadium event

2026 Baseline

	A	B	C	D
A	0	225	485	128
B	140	0	176	55
C	906	296	0	338
D	12	4	6	0

no RFL flows considered after 1800

2026 Committed Develop

	A	B	C	D
A				
B				
C				
D				

2026 Proposed Developr

	A	B	C	D
A	0	0	0	18
B	0	0	0	0
C	0	0	0	33
D	19	0	36	0

2026 Baseline with Comr

	A	B	C	D
A	0	225	485	128
B	140	0	176	55
C	906	296	0	338
D	12	4	6	0

2026 Baseline + Propose

	A	B	C	D
A	0	225	485	146
B	140	0	176	55
C	906	296	0	371
D	31	4	42	0



A A6010 North
B Gibbon St (East)
C A6010 South
D Gibbon St (West)

Scenarios 2 and 3 (Weekday PM Peak Arena Event 1700-1800) and Weekday PM Peak Stadium Event)

No additional parking is proposed within the Etihad Campus as part of the Proposed Development. During stadium and arena events, existing car parking on the Etihad Campus will therefore be allocated for use of the hotel. In the pre-event period, it is assumed that arrivals at the hotel will be attendees of events taking place at the Etihad Campus. These hotel visitors will therefore utilise a parking space that would have otherwise been used by an attendee of the event taking place. As such, there would not be any net increase in vehicle arrivals onto the site in these scenarios. Development flows shown here are therefore for info only and have not been included in LinSig OD Matrices

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Gate 3 without CLA Traffic

2023

network peak (1700-1800)
Weekday w/o stadium even

2023 Baseline	A	B	C	D
A	0	206	846	0
B	181	0	268	0
C	1229	368	0	1
D	0	0	0	0

2023 Committed Developr	A	B	C	D
A				
B				
C	18			
D				

2023 Proposed Developm	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Comm	A	B	C	D
A	0	206	846	0
B	181	0	268	0
C	1247	368	0	1
D	0	0	0	0

	A	B	C	D
A				
B				
C				
D				

network peak (1830-1930)
Weekday w/ stadium even

2023 Baseline	A	B	C	D
A	0	218	472	124
B	137	0	171	54
C	732	288	0	329
D	12	4	6	0

no RFL flows considered after 1800

2023 Committed Develop	A	B	C	D
A				
B				
C				
D				

2023 Proposed Developr	A	B	C	D
A				
B				
C				
D				

2023 Baseline with Comr	A	B	C	D
A	0	218	472	124
B	137	0	171	54
C	732	288	0	329
D	12	4	6	0

2023 Proposed Developr	A	B	C	D
A				
B				
C				
D				

Year of Opening 2026

network peak (1700-1800)
Weekday w/o stadium even

2026 Baseline	A	B	C	D
A	0	212	870	0
B	186	0	275	0
C	1263	378	0	1
D	0	0	0	0

2026 Committed Developr	A	B	C	D
A				
B				
C	18			
D				

2026 Proposed Developm	A	B	C	D
A	0	0	0	22
B	0	0	0	0
C	0	0	0	41
D	39	0	73	0

2026 Baseline with Comm	A	B	C	D
A	0	212	870	0
B	186	0	275	0
C	1281	378	0	1
D	0	0	0	0

	A	B	C	D
A				
B				
C				
D				

network peak (1830-1930)
Weekday w/ stadium even

2026 Baseline	A	B	C	D
A	0	225	485	128
B	140	0	176	55
C	752	296	0	338
D	12	4	6	0

no RFL flows considered after 1800

2026 Committed Develop	A	B	C	D
A				
B				
C				
D				

2026 Proposed Developr	A	B	C	D
A	0	0	0	18
B	0	0	0	0
C	0	0	0	33
D	19	0	36	0

2026 Baseline with Comr	A	B	C	D
A	0	225	485	128
B	140	0	176	55
C	752	296	0	338
D	12	4	6	0

2026 Proposed Developr	A	B	C	D
A				
B				
C				
D				

2026 Baseline + Proposec	A	B	C	D
A	0	212	870	22
B	186	0	275	0
C	1281	378	0	42
D	39	0	73	0

2026 Baseline + Propose	A	B	C	D
A	0	225	485	146
B	140	0	176	55
C	752	296	0	371
D	31	4	42	0



A A6010 North
B Gibbon St (East)
C A6010 South
D Gibbon St (West)

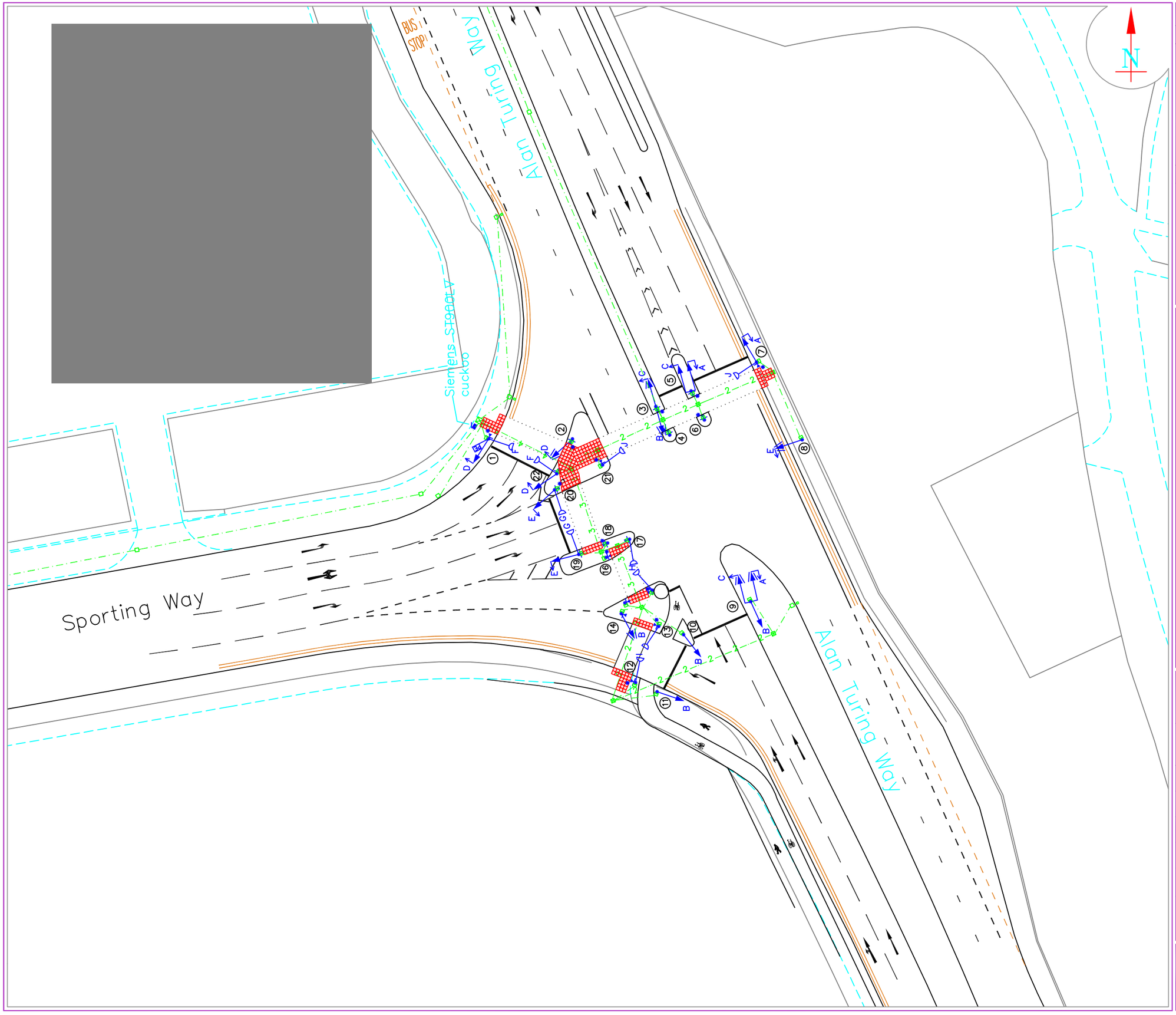
Scenarios 2 and 3 (Weekday PM Peak Arena Event 1700-1800) and Weekday PM Peak Stadium Event)

No additional parking is proposed within the Etihad Campus as part of the Proposed Development. During stadium and arena events, existing car parking on the Etihad Campus will therefore be allocated for use of the hotel. In the pre-event period, it is assumed that arrivals at the hotel will be attendees of events taking place at the Etihad Campus. These hotel visitors will therefore utilise a parking space that would have otherwise been used by an attendee of the event taking place. As such, there would not be any net increase in vehicle arrivals onto the site in these scenarios. Development flows shown here are therefore for info only and have not been included in LinSig OD Matrices

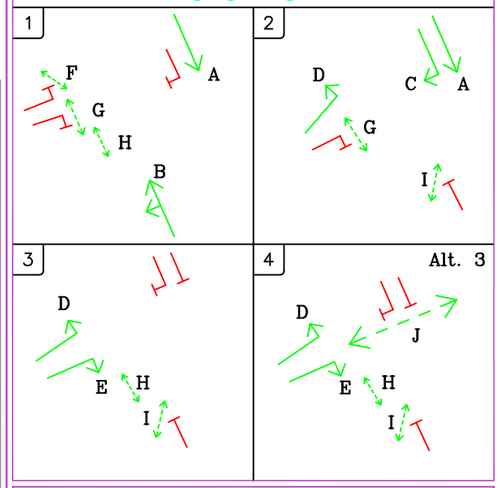
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Appendix C: GMUTC Data

DocuSign Envelope ID: 7716BE36-1506-4646-B8DB-BB10C80AC489



Staging Diagrams



C	ARP Controller Upgrade	15/01/13	DJ	LW
B	SCOOT duct and loops added	29/12/08	SLC	
A	Site survey	10/03/05	PM	
	REVISIONS	DATE	BY	APP

Alan Turing Way - Development Access, Stadium
Manchester (1148)

SCALE 1:500

0.0 5 10 15 20 25 30 metres

OS-REF	SJ8798	CHECKED ON SITE BY	
DATE	14/11/2006	CHECKED BY	
STATUS	As Built	DRAWN BY	HS
ORIGINAL DRAWING SIZE	A3	CAD FILE	Sig1148.dwg
XREF	X3_ALAN-TURING-WAY_SCOOT		REV
DRAWING No.	A3/03/1148/3		C

ASSOCIATION OF GREATER MANCHESTER AUTHORITIES
GREATER MANCHESTER URBAN TRAFFIC CONTROL UNIT
AGMA

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Transport for Greater Manchester

Urban Traffic Control Unit

Client: ARUP

Subject: Controller data and traffic signal timings information

Doc: 1148_info_jan-23_JW

Author: Joe Whitfield

Location: Alan Turing Way / Sportcity Way / School Lane – Manchester: [1148]

Contact:	**E-Mail:**	**Tel:**
Joe Whitfield	Joe.Whitfield@TfGM.com	+44 7867 158395
Richard Dolphin	Richard.Dolphin@TfGM.com	0161 244 1800

This Site Operates under UTC Control

Staging & Phases

1.	Alan Turing Way Southbound Ahead (Phase A) Alan Turing Way Northbound (Phase B) Pedestrians across Phase D (Phase F) Pedestrians across Phase E (Phase G)
2.	Alan Turing Way Southbound Ahead (Phase A) Alan Turing Way Southbound Right Turn (Phase C) Stadium Exit Left Turn (Phase D) Pedestrians across Phase E (Phase G)
3.	Stadium Exit Left Turn (Phase D) Stadium Exit Right Turn (Phase E) Pedestrians across Stadium Entrance (Phase H) Pedestrians across Alan Turing Way (Phase J)

Phase I is not used.

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Phase Minimum Green & Intergreen Times

Minimum phase green	To / From	A	B	C	D	E	F	G	H	I	J
7	A		-	-	-	6	-	-	-	-	8
7	B	-		5	9	5	-	-	7	-	8
7	C	-	5		-	5	-	-	8	-	8
7	D	-	3	-		-	5	-	-	-	-
7	E	6	6	6	-		-	5	-	-	-
5	F	-	-	-	7	-		-	-	-	-
5	G	-	-	-	-	7	-		-	-	-
6	H	-	8	6	-	-	-	-		-	-
5	I	-	-	-	-	-	-	-	-		-
9	J	12	12	12	-	-	-	-	-	-	

Note: The attached drawing shows a detailed staging diagram. Note that this layout is based on Ordnance Survey data and is not taken from a topographical survey. The geometry and lane markings are correct to the best of our knowledge, however, changes may have been implemented by the Highway Authority without the involvement of the UTC Unit. The UTC Unit cannot be held responsible for any omissions or errors on the drawing.

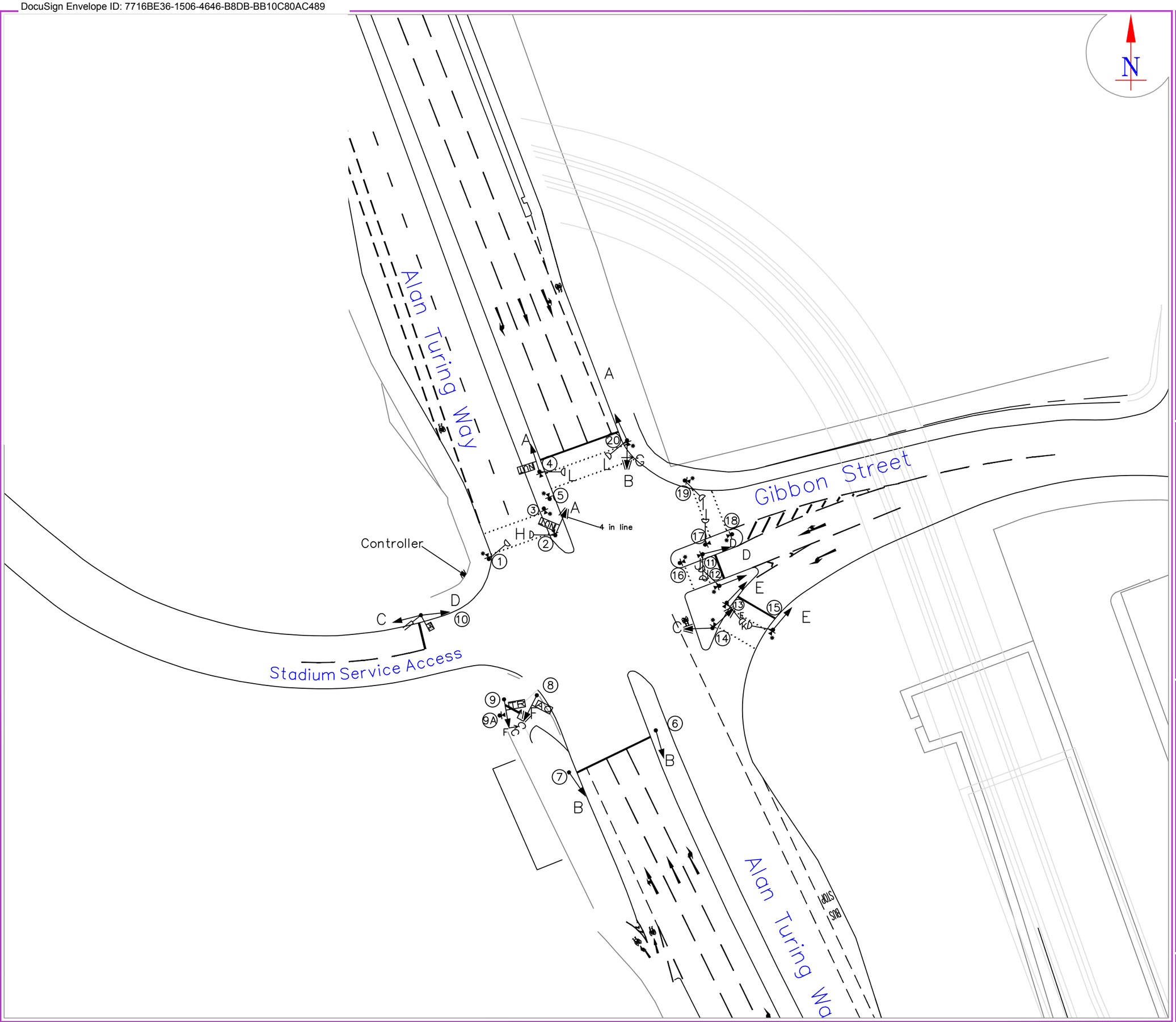
Phase Delays

Phase	A	runs on for an additional	1	seconds on the change from stage	1	to	3
Phase	A	runs on for an additional	1	seconds on the change from stage	2	to	3
Phase	D	runs on for an additional	7	seconds on the change from stage	3	to	1
Phase	E	runs on for an additional	6	seconds on the change from stage	3	to	1

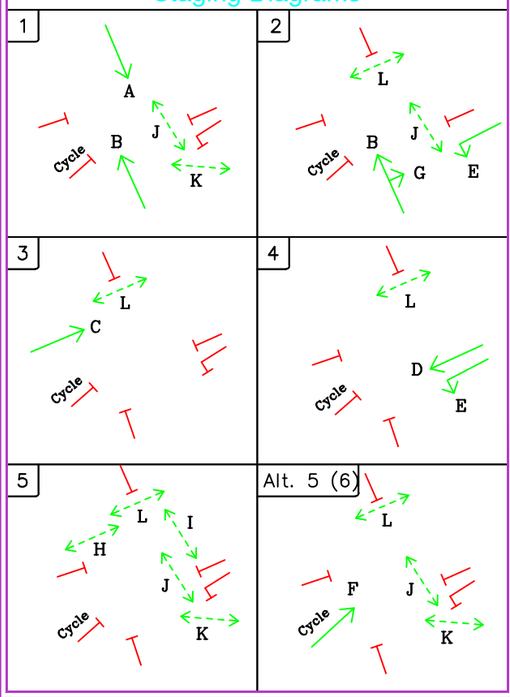
Stage Lengths

This site operates under SCOOT Control. The green-time are variable throughout the day depending on traffic condition on site. The SCOOT maximum cycle time for this region is 104 seconds.

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Staging Diagrams



Note: Stage 5 and Stage 6 are alternate stages

B	SCOOT duct and loops added	29/12/08	SLC
A	Railing and Tactile Added	04/10/02	DGS
	REVISIONS	DATE	BY APP

Alan Turing Way/Gibbon Street/Stadium Service Access

Manchester (1149)

SCALE 1:500

0.0 5 10 15 20 25 30 metres

OS-REF	SJ8798	CHECKED ON SITE BY	
DATE	14/11/2006	CHECKED BY	
STATUS	Draft	DRAWN BY	HS
ORIGINAL DRAWING SIZE	A3	CAD FILE	
XREF	X3_ALAN-TURING-WAY_SCOOT		REV
DRAWING No.	A3/03/1149/3		B

ASSOCIATION OF GREATER MANCHESTER AUTHORITIES
GREATER MANCHESTER URBAN TRAFFIC CONTROL UNIT
·A·G·M·A·

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Transport for Greater Manchester

Urban Traffic Control Unit

Client: Arup

Subject: Controller data and traffic signal timings information

Doc: UTC35/ORN-1149/ALD

Author: Alan Dhahir

Location: Alan Turing Way/Gibbon Street/Stadium Service Access

Contact:	**E-Mail:**	**Tel:**
Alan Dhahir	Alan.Dhahir@TfGM.com	0161 244 1667
Richard Dolphin	Richard.Dolphin@TfGM.com	0161 244 1800

This Site Operates under SCOOT Control

Staging

1.	Alan Turing Way Northside (Phase A) Alan Turing Way Southside (Phase B) Pedestrians across Gibbon Street Ahead (Phase J) Pedestrians across Gibbon Street Left Turn (Phase K)
2.	Alan Turing Way Southside (Phase B) Gibbon Street Left Turn (Phase E) Alan Turing Way Southside Right Turn Green Arrow (Phase G) Pedestrians across Gibbon Street Ahead (Phase J) Pedestrians across Alan Turing Way Northside (Phase L)
3.	Stadium Service Access (Phase C) Pedestrians across Alan Turing Way Northside (Phase L)
4.	Gibbon Street (Phase D) Gibbon Street Left Turn (Phase E) Pedestrians across Alan Turing Way Northside (Phase L)
5.	Pedestrians across Alan Turing Way Northside Exit (Phase H) Pedestrians across Gibbon Street Exit (Phase I) Pedestrians across Gibbon Street Ahead (Phase J) Pedestrians across Gibbon Street Left Turn (Phase K) Pedestrians across Alan Turing Way Northside (Phase L)

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6.	Cycle Alan Turing Way Southside (Phase F) Pedestrians across Gibbon Street Ahead (Phase J) Pedestrians across Gibbon Street Left Turn (Phase K) Pedestrians across Alan Turing Way Northside (Phase L)

Stages 5 and 6 are alternative to each other in any controller cycle. If a demand for phase H or I exists but none for phase F then stage 5 will appear. If a demand for phase F but no demand for phase H or I then stage 6 will appear. If the controller has demands for both phase H or I and Phase F then the controller will alternate between stage 5 and stage 6 appearance every complete cycle.

Note: The attached drawing shows a detailed staging diagram. Note that this layout is based on Ordnance Survey data and is not taken from a topographical survey. The geometry and lane markings are correct to the best of our knowledge, however, changes may have been implemented by the Highway Authority without the involvement of the UTC Unit. The UTC Unit cannot be held responsible for any omissions or errors on the drawing.

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Controller phase minimum greens and intergreens

Minimum phase green	To / From	A	B	C	D	E	F	G	H	I	J	K	L
7	A		-	6	6	7	5	5	-	8	-	-	5
7	B	-		6	6	-	5	-	8	11	-	-	-
7	C	7	5		6	7	5	5	8	11	-	-	-
7	D	5	7	6		-	6	5	10	-	5	-	-
7	E	5	-	6	-		-	-	-	-	-	5	-
7	F	8	8	7	8	-		6	10	12	-	-	-
4	G	7	-	6	6	-	5		-	11	-	-	-
5	H	-	8	8	8	-	8	-		-	-	-	-
4	I	5	5	5	-	-	5	5	-		-	-	-
2	J	-	-	-	5	-	-	-	-	-		-	-
3	K	-	-	-	-	5	-	-	-	-	-		-
6	L	11	-	-	-	-	-	-	-	-	-	-	

Phase Delays

Phase	H	runs on for an additional 3	seconds on the change from stage	5	to	1
Phase	I	runs on for an additional 6	seconds on the change from stage	5	to	1
Phase	I	runs on for an additional 2	seconds on the change from stage	5	to	2
Phase	K	runs on for an additional 2	seconds on the change from stage	5	to	2
Phase	I	runs on for an additional 2	seconds on the change from stage	5	to	3
Phase	J	runs on for an additional 3	seconds on the change from stage	5	to	3
Phase	K	runs on for an additional 2	seconds on the change from stage	5	to	3
Phase	I	runs on for an additional 2	seconds on the change from stage	5	to	4
Phase	J	runs on for an additional 3	seconds on the change from stage	5	to	4
Phase	K	runs on for an additional 2	seconds on the change from stage	5	to	4
Phase	K	runs on for an additional 2	seconds on the change from stage	1	to	2
Phase	J	runs on for an additional 1	second on the change from stage	1	to	3
Phase	K	runs on for an additional 1	second on the change from stage	1	to	3
Phase	C	runs on for an additional 4	seconds on the change from stage	3	to	1
Phase	D	runs on for an additional 4	seconds on the change from stage	4	to	1
Phase	E	runs on for an additional 6	seconds on the change from stage	4	to	1
Phase	F	runs on for an additional 3	seconds on the change from stage	6	to	1
Phase	H	runs on for an additional 3	seconds on the change from stage	5	to	1
Phase	J	runs on for an additional 3	seconds on the change from stage	6	to	3
Phase	K	runs on for an additional 3	seconds on the change from stage	6	to	3
Phase	K	runs on for an additional 3	seconds on the change from stage	5	to	4

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Stage Lengths

SCOOT

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle time for this region is 104 seconds and the site will run up to this cycle time during the peak periods.

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Appendix D: TRICS Data

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TRICS 7.6.3
Trip Rate F Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 02 - EMPLOYMENT
Category A - OFFICE
MULTI-MODAL VEHICLES

Selected regions and areas:

2	SOUTH EAST		
	ES	EAST SUSS	1 days
	HF	HERTFORD	1 days
	KC	KENT	2 days
	SC	SURREY	1 days
4	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
8	NORTH WEST		
	GM	GREATER M	1 days
	LC	LANCASHII	1 days
9	NORTH		
	DH	DURHAM	1 days
	TW	TYNE & WI	1 days
10	WALES		
	CO	CONWY	1 days
	MT	MERTHYR	1 days
	PS	POWYS	1 days
	SW	SWANSEA	2 days
11	SCOTLAND		
	DU	DUNDEE C	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.
Parameter Gross floor area
Actual Ran 2000 to 9368 (units: sqm)
Range Sele 2000 to 10000 (units: sqm)

Public Transport Provision:
Selection t Include all surveys

Date Rang 01/01/11 to 19/10/18

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.
Selected survey days:
Monday 2 days
Tuesday 5 days
Wednesda 2 days
Thursday 5 days
Friday 3 days
This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual co 17 days
Directiona 0 days
This data d the total a whilst ATC surveys are undertaking using machines.

Selected Locations:
Town Cent 0
Edge of To 11
Suburban / 3
Edge of To 3
Neighbour 0
Free Stand 0
Not Known 0
This data d Edge of Tc Suburban Neighbourhood Centre Edge of Tc Town Centre and Not Known.

Selected Location Sub Categories:
Industrial / 2
Commerci 3
Developm 3
Residentia 3
Retail Zone 0
Built-Up Z 5
Village 0
Out of Tow 0
High Stree 0

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No Sub Cat 1
This data c Industrial Developm Residential Zone Retail Zon Built-Up Z Village Out of Tov High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
B1 17 days
This data c which can be found within the Library module of TRICS®.

Population within 1 mile:
5,001 to 1 6 days
10,001 to : 2 days
15,001 to : 2 days
20,001 to : 1 days
25,001 to ! 6 days
This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
5,001 to : 1 days
25,001 to 1 days
50,001 to 1 days
75,001 to 2 days
100,001 to 1 days
125,001 to 8 days
250,001 to 1 days
500,001 or 2 days
This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
0.6 to 1.0 6 days
1.1 to 1.5 11 days
This data c within a radius of 5-miles of selected survey sites.

Travel Plan:
Yes 6 days
No 11 days
This data c and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:
No PTAL Pi 17 days
This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CO-02-A-0 GOVERNM CONWY
NARROW LANE

LLANDUDNO JUNCTION
Edge of Town
Commercial Zone
Total Gross floor area 6186 sqm
Survey dat WEDNESD. 28/03/2018 Survey Typ MANUAL

2 DH-02-A-0 CONSTRUC DURHAM
DURHAM ROAD
BOWBURN
NEAR DURHAM
Edge of Town
Industrial Zone
Total Gross floor area 2000 sqm
Survey dat TUESDAY 27/11/2012 Survey Typ MANUAL

3 DU-02-A-0 OFFICES DUNDEE CITY
GREENMARKET

DUNDEE
Edge of Town Centre
Development Zone
Total Gross floor area 3200 sqm
Survey dat THURSDAY 27/04/2017 Survey Typ MANUAL

4 ES-02-A-1: COUNCIL C EAST SUSSEX
VICARAGE LANE

HAILSHAM
Edge of Town Centre
Built-Up Zone
Total Gross floor area 3640 sqm
Survey dat THURSDAY 26/11/2015 Survey Typ MANUAL

5 GM-02-A-(LEASED OF GREATER MANCHESTER
NEW MOUNT STREET

DocuSign Envelope ID: 7716BE36-1506-4646-B8DB-BB10C80AC489

MANCHESTER
Edge of Town Centre
Built-Up Zone
Total Gross floor area 2500 sqm
Survey dat MONDAY 26/09/2016 Survey Typ MANUAL
6 HF-02-A-0 OFFICES HERTFORDSHIRE
STATION WAY

ST ALBANS
Edge of Town Centre
Residential Zone
Total Gross floor area 5000 sqm
Survey dat THURSDA 02/10/2014 Survey Typ MANUAL
7 KC-02-A-0 KCC HIGH KENT
ST MICHAEL'S CLOSE
CLAY WOOD
AYLESFORD
Edge of Town
Industrial Zone
Total Gross floor area 3168 sqm
Survey dat MONDAY 28/11/2011 Survey Typ MANUAL
8 KC-02-A-1 COUNCIL C KENT
SANDLING ROAD

MAIDSTONE
Edge of Town Centre
Built-Up Zone
Total Gross floor area 2900 sqm
Survey dat WEDNESD 19/10/2011 Survey Typ MANUAL
9 LC-02-A-0 OFFICES LANCASHIRE
FURTHERGATE

BLACKBURN
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Gross floor area 2600 sqm
Survey dat TUESDAY 04/06/2013 Survey Typ MANUAL
10 MT-02-A-0 COUNCIL C MERTHYR TYDFIL
CASTLE STREET

MERTHYR TYDFIL
Edge of Town Centre
Built-Up Zone
Total Gross floor area 5250 sqm
Survey dat THURSDA 17/10/2013 Survey Typ MANUAL
11 NF-02-A-0 OFFICES NORFOLK
NORTH QUAY

GREAT YARMOUTH
Edge of Town Centre
Commercial Zone
Total Gross floor area 5500 sqm
Survey dat TUESDAY 12/09/2017 Survey Typ MANUAL
12 PS-02-A-0 COUNCIL C POWYS
SEVERN ROAD

WELSHPOOL
Edge of Town Centre
No Sub Category
Total Gross floor area 3920 sqm
Survey dat TUESDAY 12/05/2015 Survey Typ MANUAL
13 SC-02-A-1 PHARMAC SURREY
ST GEORGE'S AVENUE
THE HEATH
WEYBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area 10293 sqm
Survey dat TUESDAY 18/10/2011 Survey Typ MANUAL
14 SF-02-A-0 OFFICES SUFFOLK
BATH STREET

IPSWICH
Edge of Town Centre
Commercial Zone
Total Gross floor area 6505 sqm
Survey dat FRIDAY 19/07/2013 Survey Typ MANUAL
15 SW-02-A-0 OFFICES SWANSEA
LANGDON ROAD

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SWANSEA
Edge of Town Centre
Development Zone
Total Gross floor area 6630 sqm
Survey dat FRIDAY 25/10/2013 Survey Typ MANUAL

16 SW-02-A-0 OFFICE SWANSEA
KINGS ROAD

SWANSEA
Edge of Town Centre
Development Zone
Total Gross floor area 2225 sqm
Survey dat THURSDA 24/10/2013 Survey Typ MANUAL

17 TW-02-A-0 HOUSING TYNE & WEAR
BENTON PARK ROAD
LONGBENTON
NEWCASTLE UPON TYNE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area 4800 sqm
Survey dat FRIDAY 19/10/2018 Survey Typ MANUAL

This sectio it displays the select the day of the week and date of each survey and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
Calculation Factor: 100 sqm
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Rang	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-00:30									
00:30-01:00									
01:00-01:30									
01:30-02:00									
02:00-02:30									
02:30-03:00									
03:00-03:30									
03:30-04:00									
04:00-04:30									
04:30-05:00									
05:00-05:30									
05:30-06:00									
06:00-06:30									
06:30-07:00									
07:00-07:3	17	4255	0.151	17	4255	0.019	17	4255	0.17
07:30-08:0	17	4255	0.671	17	4255	0.126	17	4255	0.797
08:00-08:3	17	4255	0.843	17	4255	0.124	17	4255	0.967
08:30-09:0	17	4255	1.027	17	4255	0.129	17	4255	1.156
09:00-09:3	17	4255	0.658	17	4255	0.126	17	4255	0.784
09:30-10:0	17	4255	0.348	17	4255	0.158	17	4255	0.506
10:00-10:3	17	4255	0.187	17	4255	0.137	17	4255	0.324
10:30-11:0	17	4255	0.162	17	4255	0.119	17	4255	0.281
11:00-11:3	17	4255	0.135	17	4255	0.112	17	4255	0.247
11:30-12:0	17	4255	0.171	17	4255	0.111	17	4255	0.282
12:00-12:3	17	4255	0.152	17	4255	0.212	17	4255	0.364
12:30-13:0	17	4255	0.207	17	4255	0.205	17	4255	0.412
13:00-13:3	17	4255	0.192	17	4255	0.182	17	4255	0.374
13:30-14:0	17	4255	0.192	17	4255	0.171	17	4255	0.363
14:00-14:3	17	4255	0.151	17	4255	0.151	17	4255	0.302
14:30-15:0	17	4255	0.104	17	4255	0.191	17	4255	0.295
15:00-15:3	17	4255	0.106	17	4255	0.169	17	4255	0.275
15:30-16:0	17	4255	0.098	17	4255	0.206	17	4255	0.304
16:00-16:3	17	4255	0.111	17	4255	0.438	17	4255	0.549
16:30-17:0	17	4255	0.119	17	4255	0.528	17	4255	0.647
17:00-17:3	17	4255	0.106	17	4255	0.966	17	4255	1.072
17:30-18:0	17	4255	0.046	17	4255	0.567	17	4255	0.613
18:00-18:3	17	4255	0.026	17	4255	0.477	17	4255	0.503
18:30-19:0	17	4255	0.007	17	4255	0.173	17	4255	0.18
19:00-19:30									
19:30-20:00									
20:00-20:30									
20:30-21:00									
21:00-21:30									
21:30-22:00									
22:00-22:30									
22:30-23:00									

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23:00-23:30			
23:30-24:00			
Daily Trip Rates:	5.97	5.797	11.767

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TRICS 7.6.3
Trip Rate F Number of bedrooms

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 06 - HOTEL FOOD & DRINK
Category A - HOTELS
MULTI-MODAL VEHICLES

Selected regions and areas:

2	SOUTH EAST		
	BU	BUCKINGH	1 days
3	SOUTH WEST		
	DV	DEVON	1 days
	GS	GLOUCEST	1 days
	WL	WILTSHIRE	1 days
5	EAST MIDLANDS		
	DS	DERBYSHIF	1 days
	LE	LEICESTER	1 days
	NT	NOTTINGH	1 days
7	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YO	1 days
	WY	WEST YOR	1 days
8	NORTH WEST		
	GM	GREATER M	1 days
9	NORTH		
	TV	TEES VALL	1 days
10	WALES		
	CF	CARDIFF	2 days
11	SCOTLAND		
	HI	HIGHLAND	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.
Parameter Number of bedrooms
Actual Ran 51 to 227 (units:)
Range Sele 30 to 227 (units:)

Public Transport Provision:
Selection b Include all surveys

Date Rang 01/01/11 to 23/10/18

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.
Selected survey days:
Monday 5 days
Tuesday 2 days
Wednesda 3 days
Thursday 4 days
This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual co 14 days
Directiona 0 days
This data d the total a whilst ATC surveys are undertaking using machines.

Selected Locations:
Town Cent 5
Edge of To 5
Suburban / 1
Edge of To 3
Neighbour 0
Free Stand 0
Not Known 0
This data d Edge of Tc Suburban Neighbourhood Centre Edge of Tc Town Centre and Not Known.

Selected Location Sub Categories:
Industrial Z 1
Commerci 3
Developm 1
Residentia 3
Retail Zone 0
Built-Up Z 5
Village 0
Out of Tow 1
High Stree 0
No Sub Cat 0

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This data c Industrial Developm Residential Zone Retail Zon Built-Up Z Village Out of Tov High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
C1 13 days
This data c which can be found within the Library module of TRICS®.

Population within 1 mile:
5,001 to 1 4 days
15,001 to : 2 days
25,001 to ! 6 days
50,001 to : 1 days
100,001 or 1 days
This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
25,001 to 2 days
75,001 to 2 days
100,001 to 1 days
125,001 to 1 days
250,001 to 6 days
500,001 or 2 days
This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
0.6 to 1.0 6 days
1.1 to 1.5 8 days
This data c within a radius of 5-miles of selected survey sites.

Travel Plan:
No 14 days
This data c and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:
No PTAL Pı 14 days
This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 BU-06-A-0 HOLIDAY II BUCKINGHAMSHIRE
NEW ROAD
WESTON TURVILLE
AYLESBURY
Edge of Town
Out of Town
Total Number of bedr 139
Survey dat WEDNESD. 01/10/2014 Survey Tyr MANUAL

2 CF-06-A-0: HOLIDAY II CARDIFF
LONGUEIL CLOSE

CARDIFF
Edge of Town Centre
Residential Zone
Total Number of bedr 87
Survey dat MONDAY 16/07/2012 Survey Tyr MANUAL

3 CF-06-A-0- TRAVELOD CARDIFF
THE FRIARY

CARDIFF
Town Centre
Built-Up Zone
Total Number of bedr 96
Survey dat MONDAY 16/07/2012 Survey Tyr MANUAL

4 DS-06-A-0: JURY'S INN DERBYSHIRE
KING STREET

DERBY
Town Centre
Commercial Zone
Total Number of bedr 213
Survey dat TUESDAY 19/07/2011 Survey Tyr MANUAL

5 DV-06-A-0 FUTURE IN DEVON
WILLIAM PRANCE ROAD

PLYMOUTH
Edge of Town
Industrial Zone
Total Number of bedr 110

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	Survey dat WEDNESD.			18/07/2012	Survey Tyg MANUAL
6	GM-06-A-(IBIS	GREATER MANCHESTER			
	PORTLAND STREET				
	MANCHESTER				
	Town Centre				
	Built-Up Zone				
	Total Number of bedr		127		
	Survey dat MONDAY			26/09/2016	Survey Tyg MANUAL
7	GS-06-A-0: PREMIER I	GLOUCESTERSHIRE			
	GLOUCESTER ROAD				
	SAINT MARKS				
	CHELTENHAM SPA				
	Suburban Area (PPS6 Out of Centre)				
	Residential Zone				
	Total Number of bedr		67		
	Survey dat THURSDAY			28/11/2013	Survey Tyg MANUAL
8	HI-06-A-05 BEST WES	HIGHLAND			
	NESS WALK				
	INVERNESS				
	Edge of Town Centre				
	Built-Up Zone				
	Total Number of bedr		89		
	Survey dat THURSDAY			19/04/2018	Survey Tyg MANUAL
9	LE-06-A-01 MARRIOTT	LEICESTERSHIRE			
	SMITH WAY				
	ENDERBY				
	LEICESTER				
	Edge of Town				
	Commercial Zone				
	Total Number of bedr		227		
	Survey dat THURSDAY			12/07/2018	Survey Tyg MANUAL
10	NT-06-A-0: PREMIER I	NOTTINGHAMSHIRE			
	LONDON ROAD				
	NOTTINGHAM				
	Edge of Town Centre				
	Built-Up Zone				
	Total Number of bedr		87		
	Survey dat MONDAY			24/06/2013	Survey Tyg MANUAL
11	NY-06-A-0 ASCEND H	NORTH YORKSHIRE			
	PARK PARADE				
	HARROGATE				
	Edge of Town Centre				
	Residential Zone				
	Total Number of bedr		100		
	Survey dat TUESDAY			23/10/2018	Survey Tyg MANUAL
12	TV-06-A-04 THISTLE	TEES VALLEY			
	FRY STREET				
	MIDDLESBROUGH				
	Town Centre				
	Commercial Zone				
	Total Number of bedr		132		
	Survey dat THURSDAY			03/10/2013	Survey Tyg MANUAL
13	WL-06-A-0 HOLIDAY I	WILTSHIRE			
	BRIDGE STREET				
	SWINDON				
	Town Centre				
	Built-Up Zone				
	Total Number of bedr		134		
	Survey dat WEDNESD.			27/11/2013	Survey Tyg MANUAL
14	WY-06-A-(TRAVELOD	WEST YORKSHIRE			
	DEAN CLOUGH				
	HALIFAX				
	Edge of Town Centre				
	Development Zone				
	Total Number of bedr		51		
	Survey dat MONDAY			22/10/2018	Survey Tyg MANUAL

This sectio it displays the select the day of the week and date of each survey and whether the survey was a manual classified count or an ATC count.

TRIP RATE FOOD & DRINK/A - HOTELS
Calculation Factor: 1 BEDRMS

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Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Rang	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:0	14	119	0.069	14	119	0.134	14	119	0.203
08:00-09:0	14	119	0.131	14	119	0.186	14	119	0.317
09:00-10:0	14	119	0.149	14	119	0.123	14	119	0.272
10:00-11:0	14	119	0.112	14	119	0.096	14	119	0.208
11:00-12:0	14	119	0.052	14	119	0.093	14	119	0.145
12:00-13:0	14	119	0.102	14	119	0.073	14	119	0.175
13:00-14:0	14	119	0.103	14	119	0.09	14	119	0.193
14:00-15:0	14	119	0.074	14	119	0.087	14	119	0.161
15:00-16:0	14	119	0.098	14	119	0.111	14	119	0.209
16:00-17:0	14	119	0.108	14	119	0.112	14	119	0.22
17:00-18:0	14	119	0.127	14	119	0.102	14	119	0.229
18:00-19:0	14	119	0.128	14	119	0.104	14	119	0.232
19:00-20:0	14	119	0.102	14	119	0.082	14	119	0.184
20:00-21:0	14	119	0.071	14	119	0.046	14	119	0.117
21:00-22:0	14	119	0.049	14	119	0.043	14	119	0.092
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			1.475			1.482			2.957

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Appendix E: Modelling Outputs

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Full Input Data And Results

User and Project Details

Project:	**Etihad Stadium North Stand Project**
Title:	**Transport Assessment**
Location:	
Additional detail:	
File name:	Gate 2_v2.lsg3x
Author:	Sonia Wong
Company:	Arup
Address:	

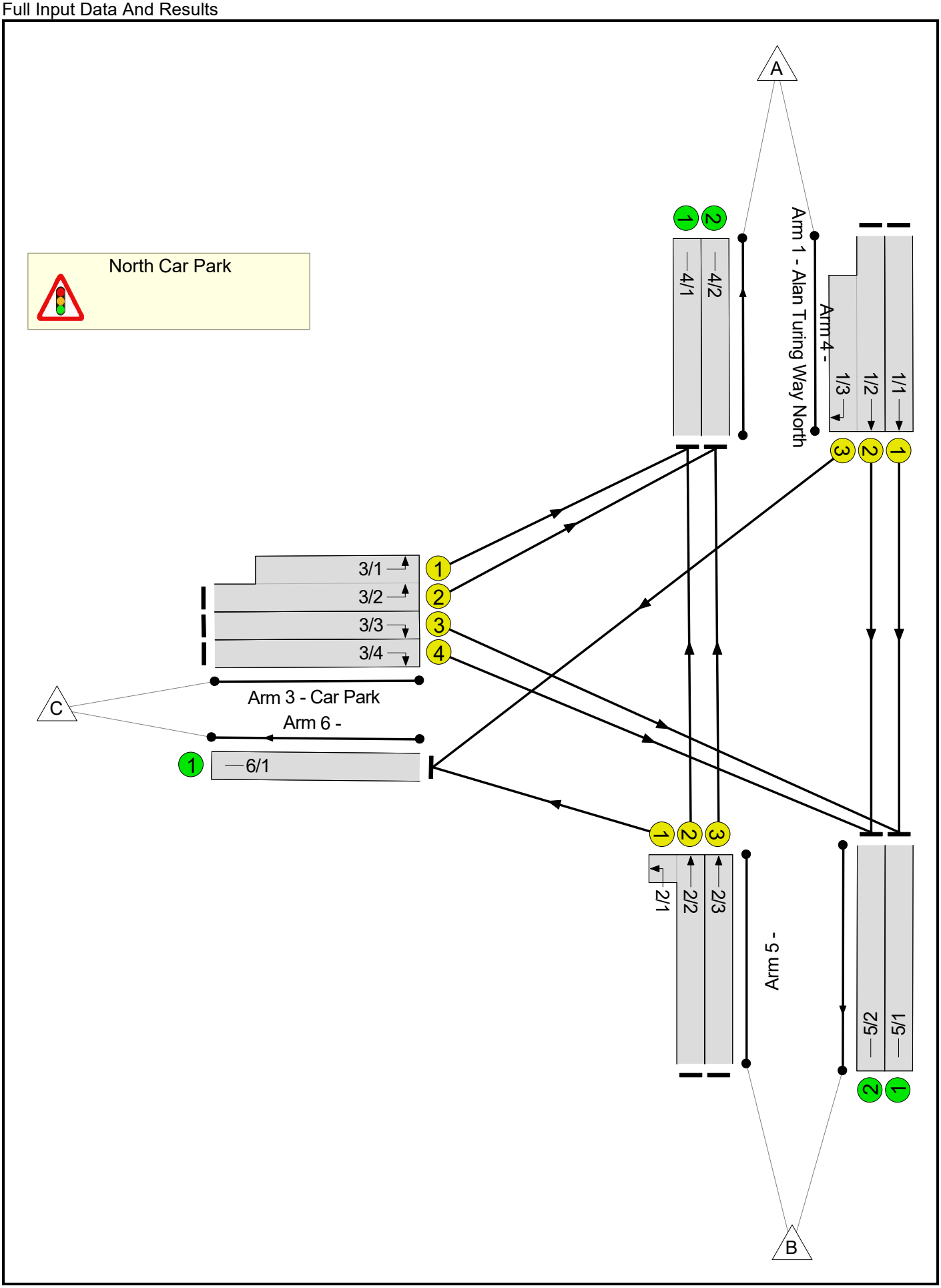
DocuSign Envelope ID: 7716BE36-1506-4646-B8DB-BB10C80AC489

Full Input Data And Results

Network Layout Diagram

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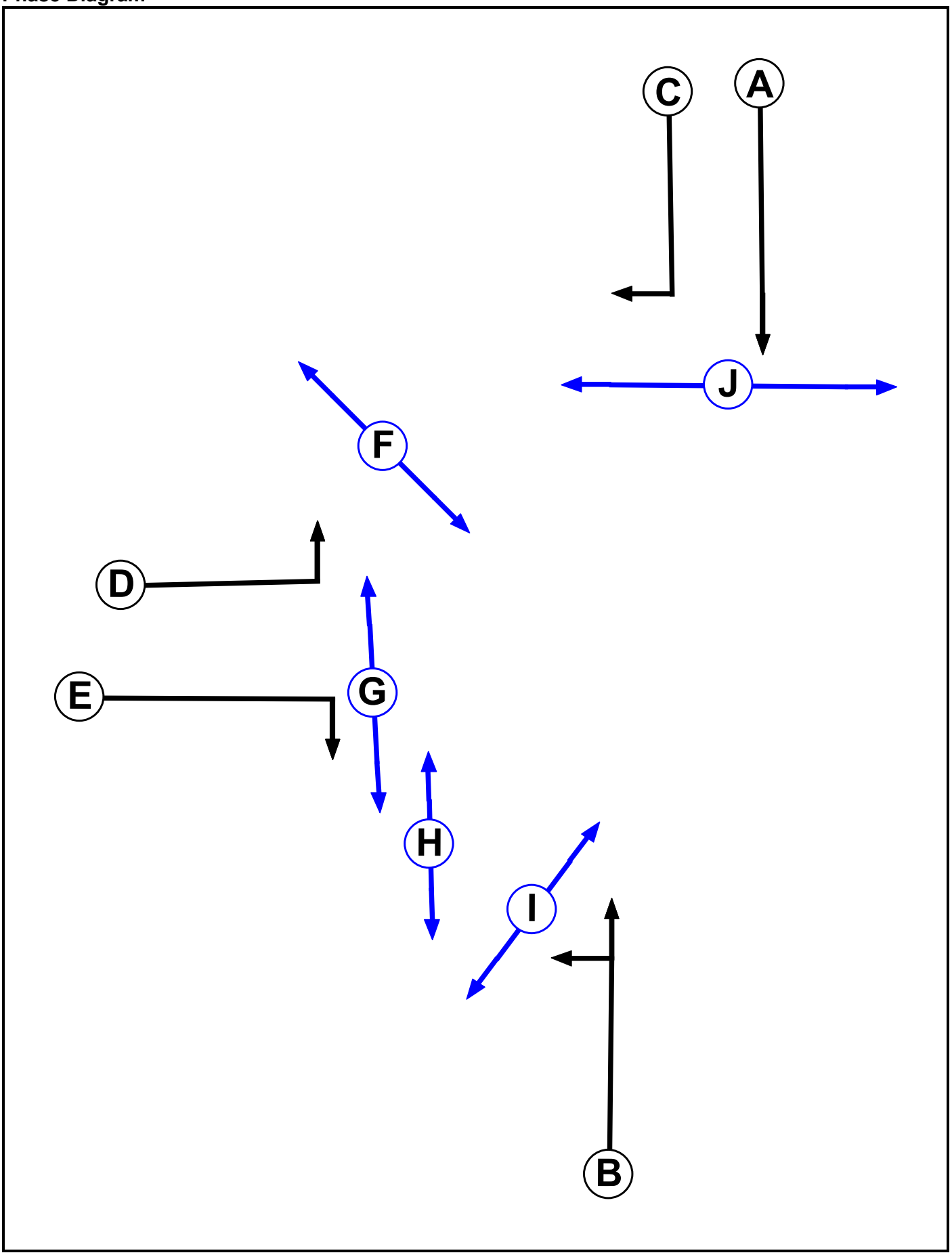
Full Input Data And Results



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Full Input Data And Results

Phase Diagram



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Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	6
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		5	5
G	Pedestrian		5	5
H	Pedestrian		6	6
I	Pedestrian		5	5
J	Pedestrian		9	9

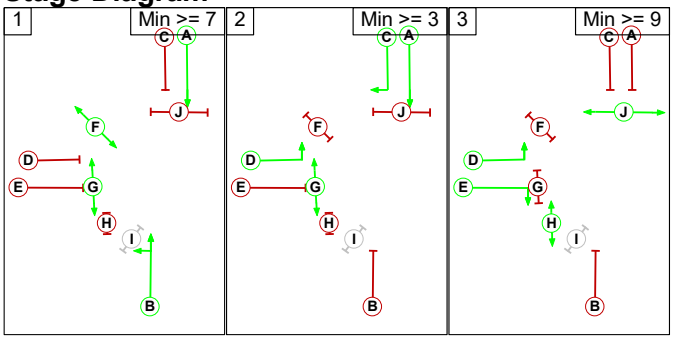
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J
A		-	-	-	6	-	-	-	-	8
B	-		5	9	5	-	-	7	-	8
C	-	5		-	5	-	-	8	-	8
D	-	3	-		-	5	-	-	-	-
E	6	6	6	-		-	5	-	-	-
F	-	-	-	7	-		-	-	-	-
G	-	-	-	-	7	-		-	-	-
H	-	8	6	-	-	-	-		-	-
I	-	-	-	-	-	-	-	-		-
J	12	12	12	-	-	-	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B F G
2	A C D G
3	D E H J

Stage Diagram



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Full Input Data And Results

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	1	1
2	3	A	Losing	1	1
3	1	D	Losing	7	7
3	1	E	Losing	6	6

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		9	9
	2	5		9
	3	12	12	

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Full Input Data And Results

Give-Way Lane Input Data

Junction: North Car Park
There are no Opposed Lanes in this Junction

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Full Input Data And Results

Lane Input Data

Junction: North Car Park

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Alan Turing Way North)	U	A	2	3	52.2	Geom	-	4.75	0.00	Y	Arm 5 Ahead	Inf
1/2 (Alan Turing Way North)	U	A	2	3	52.2	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
1/3 (Alan Turing Way North)	U	C	2	3	15.7	Geom	-	3.50	0.00	Y	Arm 6 Right	16.00
2/1 (Alan Turing Way South)	U	B	2	3	1.5	Geom	-	5.00	0.00	Y	Arm 6 Left	45.00
2/2 (Alan Turing Way South)	U	B	2	3	46.3	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
2/3 (Alan Turing Way South)	U	B	2	3	46.3	Geom	-	3.30	0.00	Y	Arm 4 Ahead	Inf
3/1 (Car Park)	U	D	2	3	22.6	Geom	-	4.30	0.00	Y	Arm 4 Left	31.50
3/2 (Car Park)	U	D	2	3	2.0	Geom	-	4.50	0.00	Y	Arm 4 Left	35.00
3/3 (Car Park)	U	E	2	3	52.2	Geom	-	3.50	0.00	Y	Arm 5 Right	24.00
3/4 (Car Park)	U	E	2	3	60.0	Geom	-	5.00	0.00	Y	Arm 5 Right	20.00
4/1	U		2	3	52.2	Geom	-	3.25	0.00	Y		
4/2	U		2	3	52.2	Geom	-	3.25	0.00	Y		
5/1	U		2	3	43.5	Geom	-	3.30	0.00	Y		
5/2	U		2	3	43.5	Geom	-	3.20	0.00	Y		
6/1	U		2	3	34.8	Geom	-	4.25	0.00	Y		

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Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: '2023 Baseline Network w/o stadium event'	17:00	18:00	01:00	
4: '2023 Baseline Network (no arena) w/o stadium event'	17:00	18:00	01:00	
5: '2023 Baseline Network w/ stadium event'	18:30	19:30	01:00	
8: '2026 Baseline Network w/o stadium event'	17:00	18:00	01:00	
9: '2026 Baseline Network (no arena) w/o stadium event'	17:00	18:00	01:00	
10: '2026 Baseline Network w/ stadium event'	18:30	19:30	01:00	
12: '2026 Proposed Dev 1700-1800'	17:00	18:00	01:00	
13: '2026 Proposed Dev 1830-1930'	18:30	19:30	01:00	
16: '2026 Baseline Network w/o stadium event + Proposed Dev'	17:00	18:00	01:00	F8+F12
17: '2026 Baseline Network (no arena) w/o stadium event + Proposed Dev'	17:00	18:00	01:00	F9+F12
18: '2026 Baseline Network w/ stadium event + Proposed Dev'	18:30	19:30	01:00	F10+F13

Scenario 5: '2026 Baseline Network w/o stadium event DS' (FG16: '2026 Baseline Network w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	1096	482	1578
	B	1467	0	450	1917
	C	20	18	0	38
	Tot.	1487	1114	932	3533

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2026 Baseline Network w/o stadium event DS
Junction: North Car Park	
1/1	548
1/2 (with short)	1030(In) 548(Out)
1/3 (short)	482
2/1 (short)	450
2/2 (with short)	1183(In) 733(Out)
2/3	734
3/1 (short)	10
3/2 (with short)	20(In) 10(Out)
3/3	9
3/4	9
4/1	743
4/2	744
5/1	557
5/2	557
6/1	932

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Full Input Data And Results

Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 6: '2026 Baseline Network w/o stadium event DM' (FG8: '2026 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	1074	482	1556
	B	1467	0	450	1917
	C	20	18	0	38
	Tot.	1487	1092	932	3511

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2026 Baseline Network w/o stadium event DM
Junction: North Car Park	
1/1	537
1/2 (with short)	1019(In) 537(Out)
1/3 (short)	482
2/1 (short)	450
2/2 (with short)	1183(In) 733(Out)
2/3	734
3/1 (short)	10
3/2 (with short)	20(In) 10(Out)
3/3	9
3/4	9
4/1	743
4/2	744
5/1	546
5/2	546
6/1	932

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Full Input Data And Results

Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 7: '2026 Baseline Network w/ stadium event DS' (FG18: '2026 Baseline Network w/ stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	4	1294	555	1853
	B	888	0	450	1338
	C	51	19	0	70
	Tot.	943	1313	1005	3261

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: 2026 Baseline Network w/ stadium event DS
Junction: North Car Park	
1/1	647
1/2 (with short)	1202(In) 647(Out)
1/3 (short)	555
2/1 (short)	450
2/2 (with short)	894(In) 444(Out)
2/3	444
3/1 (short)	25
3/2 (with short)	51(In) 26(Out)
3/3	10
3/4	9
4/1	469
4/2	470
5/1	657
5/2	656
6/1	1005

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Full Input Data And Results

Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 8: '2026 Baseline Network w/ stadium event DM' (FG10: '2026 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	4	1294	555	1853
	B	869	0	450	1319
	C	51	19	0	70
	Tot.	924	1313	1005	3242

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2026 Baseline Network w/ stadium event DM
Junction: North Car Park	
1/1	647
1/2 (with short)	1202(In) 647(Out)
1/3 (short)	555
2/1 (short)	450
2/2 (with short)	884(In) 434(Out)
2/3	435
3/1 (short)	25
3/2 (with short)	51(In) 26(Out)
3/3	10
3/4	9
4/1	459
4/2	461
5/1	657
5/2	656
6/1	1005

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Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 11: '2023 Baseline Network w/o stadium event DM' (FG3: '2023 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	1045	482	1527
	B	1427	0	449	1876
	C	19	18	0	37
	Tot.	1446	1063	931	3440

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 11: 2023 Baseline Network w/o stadium event DM
Junction: North Car Park	
1/1	523
1/2 (with short)	1004(In) 522(Out)
1/3 (short)	482
2/1 (short)	449
2/2 (with short)	1162(In) 713(Out)
2/3	714
3/1 (short)	9
3/2 (with short)	19(In) 10(Out)
3/3	9
3/4	9
4/1	722
4/2	724
5/1	532
5/2	531
6/1	931

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Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 12: '2023 Baseline Network w/ stadium event DM' (FG5: '2023 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	4	1259	544	1807
	B	846	0	442	1288
	C	50	19	0	69
	Tot.	900	1278	986	3164

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 12: 2023 Baseline Network w/ stadium event DM
Junction: North Car Park	
1/1	630
1/2 (with short)	1173(In) 629(Out)
1/3 (short)	544
2/1 (short)	442
2/2 (with short)	865(In) 423(Out)
2/3	423
3/1 (short)	25
3/2 (with short)	50(In) 25(Out)
3/3	10
3/4	9
4/1	448
4/2	448
5/1	640
5/2	638
6/1	986

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Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 13: '2023 Baseline Network (no arena) w/o stadium event DM' (FG4: '2023 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	1045	14	1059
	B	1427	0	18	1445
	C	19	18	0	37
	Tot.	1446	1063	32	2541

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 13: 2023 Baseline Network (no arena) w/o stadium event DM
Junction: North Car Park	
1/1	523
1/2 (with short)	536(In) 522(Out)
1/3 (short)	14
2/1 (short)	18
2/2 (with short)	731(In) 713(Out)
2/3	714
3/1 (short)	9
3/2 (with short)	19(In) 10(Out)
3/3	9
3/4	9
4/1	722
4/2	724
5/1	532
5/2	531
6/1	32

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Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 14: '2026 Baseline Network (no arena) w/o stadium event DM' (FG9: '2026 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	3	1074	14	1091
	B	1467	1	18	1486
	C	20	18	0	38
	Tot.	1490	1093	32	2615

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 14: 2026 Baseline Network (no arena) w/o stadium event DM
Junction: North Car Park	
1/1	537
1/2 (with short)	551(In) 537(Out)
1/3 (short)	14
2/1 (short)	18
2/2 (with short)	751(In) 733(Out)
2/3	734
3/1 (short)	10
3/2 (with short)	20(In) 10(Out)
3/3	9
3/4	9
4/1	743
4/2	744
5/1	546
5/2	546
6/1	32

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Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 15: '2026 Baseline Network (no arena) w/o stadium event DS' (FG17: '2026 Baseline Network (no arena) w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	3	1096	14	1113
	B	1467	1	18	1486
	C	20	18	0	38
	Tot.	1490	1115	32	2637

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Traffic Lane Flows

Lane	Scenario 15: 2026 Baseline Network (no arena) w/o stadium event DS
Junction: North Car Park	
1/1	548
1/2 (with short)	562(In) 548(Out)
1/3 (short)	14
2/1 (short)	18
2/2 (with short)	751(In) 733(Out)
2/3	734
3/1 (short)	10
3/2 (with short)	20(In) 10(Out)
3/3	9
3/4	9
4/1	743
4/2	744
5/1	557
5/2	557
6/1	32

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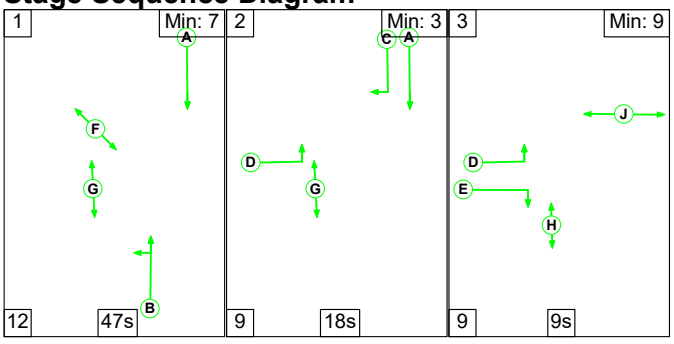
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Lane Saturation Flows

Junction: North Car Park								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way North)	4.75	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2090	2090
1/2 (Alan Turing Way North)	3.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1940	1940
1/3 (Alan Turing Way North)	3.50	0.00	Y	Arm 6 Right	16.00	100.0 %	1797	1797
2/1 (Alan Turing Way South)	5.00	0.00	Y	Arm 6 Left	45.00	100.0 %	2047	2047
2/2 (Alan Turing Way South)	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
2/3 (Alan Turing Way South)	3.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1945	1945
3/1 (Car Park)	4.30	0.00	Y	Arm 4 Left	31.50	100.0 %	1952	1952
3/2 (Car Park)	4.50	0.00	Y	Arm 4 Left	35.00	100.0 %	1980	1980
3/3 (Car Park)	3.50	0.00	Y	Arm 5 Right	24.00	100.0 %	1849	1849
3/4 (Car Park)	5.00	0.00	Y	Arm 5 Right	20.00	100.0 %	1967	1967
4/1	3.25	0.00	Y				1940	1940
4/2	3.25	0.00	Y				1940	1940
5/1	3.30	0.00	Y				1945	1945
5/2	3.20	0.00	Y				1935	1935
6/1	4.25	0.00	Y				2040	2040

Scenario 5: '2026 Baseline Network w/o stadium event DS' (FG16: '2026 Baseline Network w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



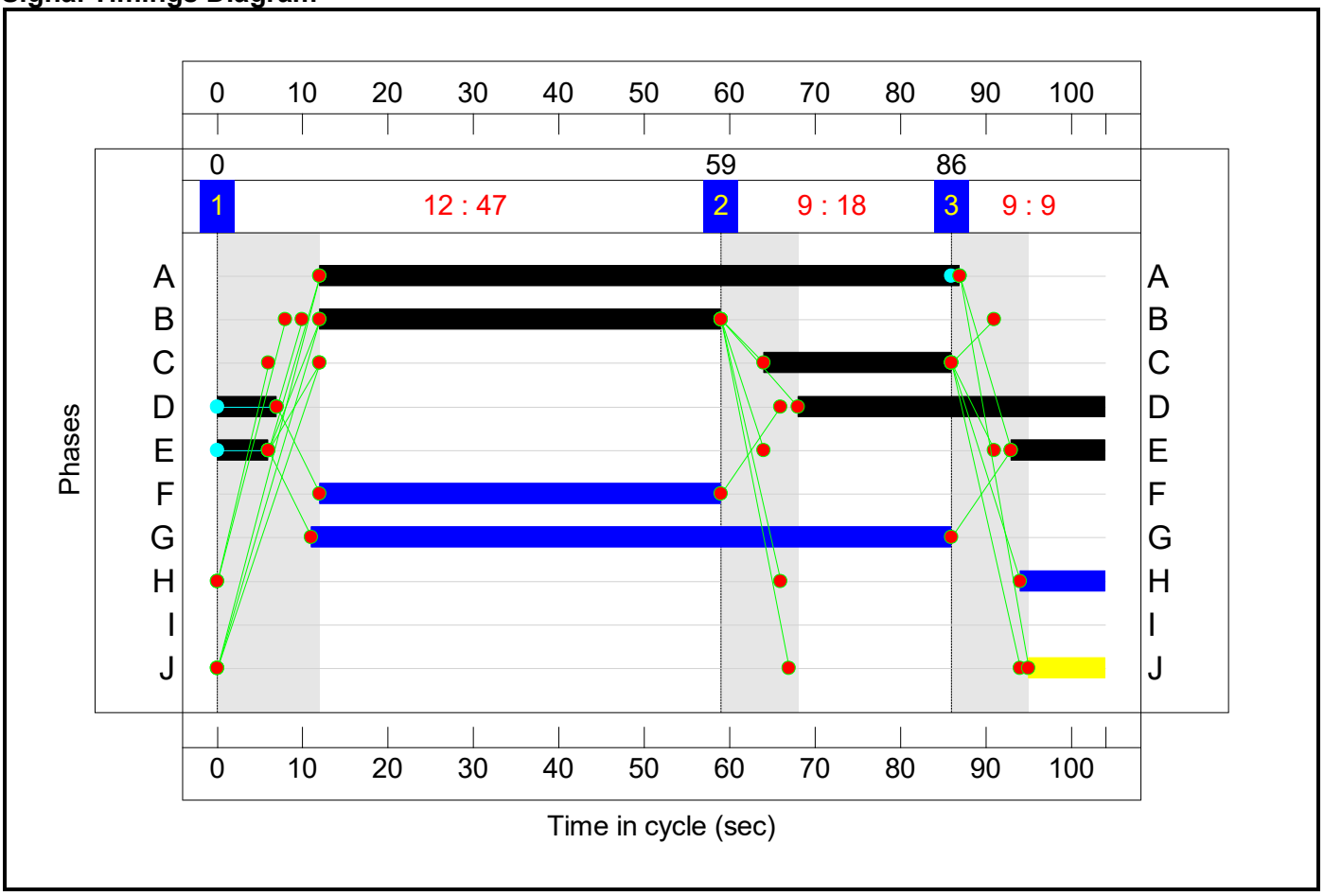
Stage Timings

Stage	1	2	3
Duration	47	18	9
Change Point	0	59	86

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Full Input Data And Results

Signal Timings Diagram



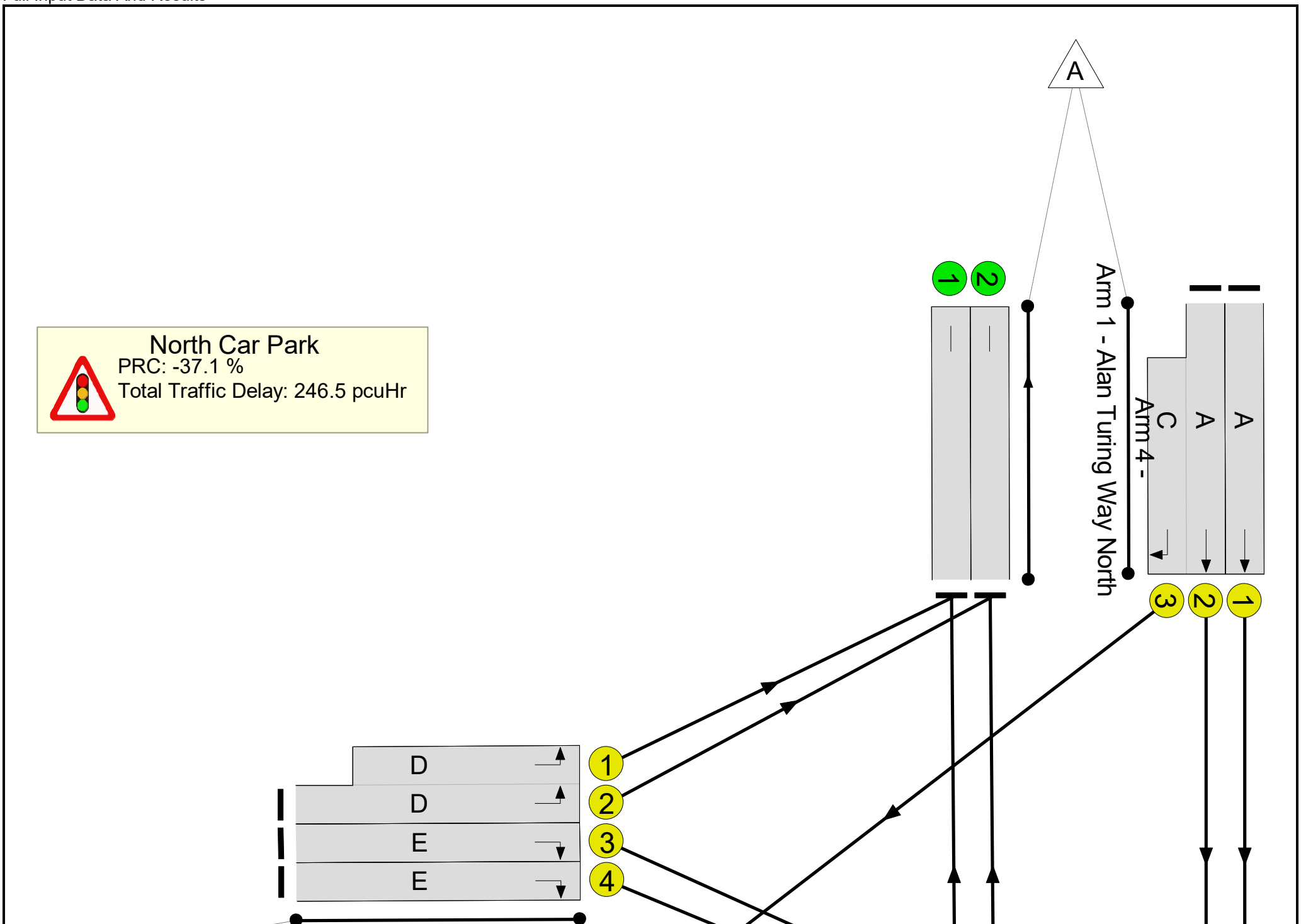
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.4%**
North Car Park	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.4%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	548	2090	1527	35.9%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:22	-	1030	1940:1797	452+397	121.3 : 121.3%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	47	-	1183	1965:2047	594+365	123.4 : 123.4%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	47	-	734	1945	898	81.8%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	43	-	20	1980:1952	807+807	1.2 : 1.2%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	9	1849	320	2.8%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	743	1940	1940	31.1%
4/2		U	N/A	N/A	-		-	-	-	744	1940	1940	38.4%
5/1		U	N/A	N/A	-		-	-	-	557	1945	1945	28.6%
5/2		U	N/A	N/A	-		-	-	-	557	1935	1935	26.6%
6/1		U	N/A	N/A	-		-	-	-	932	2040	2040	37.4%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**35.1**	**211.5**	**0.0**	**246.5**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**35.1**	**211.5**	**0.0**	**246.5**	**-**	**-**	**-**	**-**
1/1	548	548	-	-	-	0.8	0.3	-	1.1	6.9	5.6	0.3	5.9
1/2+1/3	1030	903	-	-	-	9.5	93.1	-	102.7	358.8	22.0	93.1	115.1
2/2+2/1	1183	959	-	-	-	19.6	114.6	-	134.2	408.3	40.1	114.6	154.6
2/3	734	734	-	-	-	4.9	2.2	-	7.1	34.9	18.1	2.2	20.3
3/2+3/1	20	20	-	-	-	0.1	0.0	-	0.1	18.7	0.2	0.0	0.2
3/3	9	9	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.2
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
4/2	744	744	-	-	-	0.0	0.3	-	0.3	1.5	12.4	0.3	12.7
5/1	557	557	-	-	-	0.0	0.2	-	0.2	1.3	3.4	0.2	3.6
5/2	515	515	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	762	762	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3

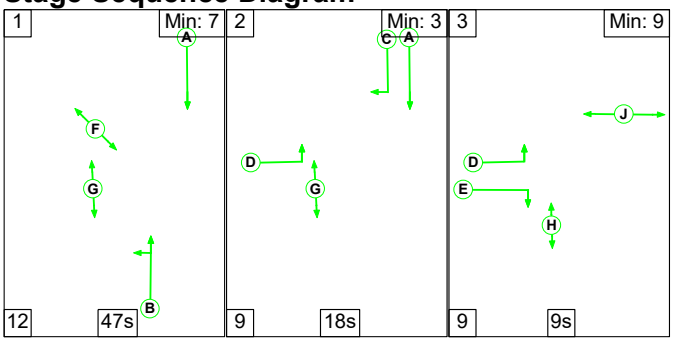
C1 PRC for Signalled Lanes (%): -37.1 PRC Over All Lanes (%): -37.1 Total Delay for Signalled Lanes (pcuHr): 245.31 Total Delay Over All Lanes(pcuHr): 246.54 Cycle Time (s): 104

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Full Input Data And Results

Scenario 6: '2026 Baseline Network w/o stadium event DM' (FG8: '2026 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

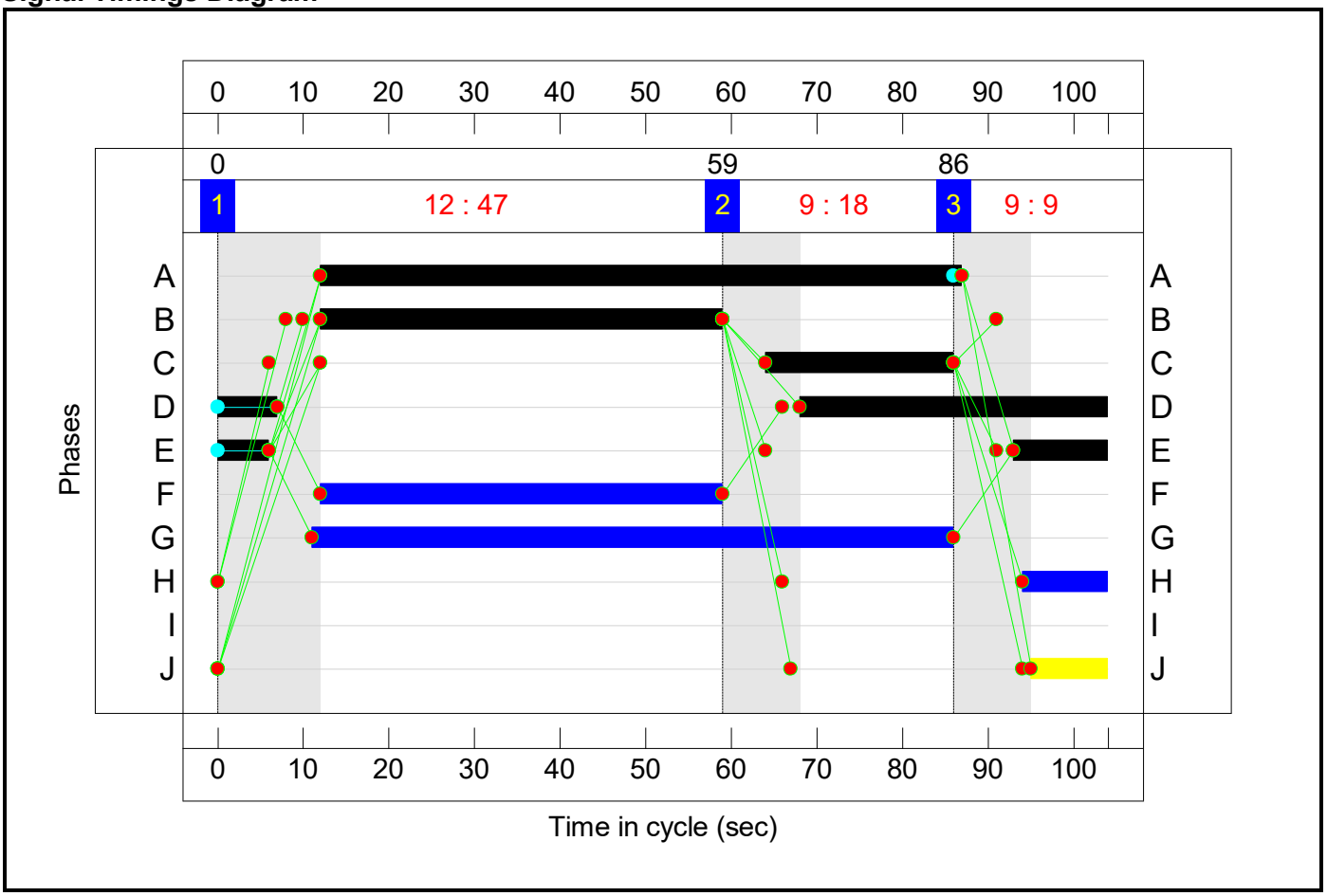
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	47	18	9
Change Point	0	59	86

Signal Timings Diagram



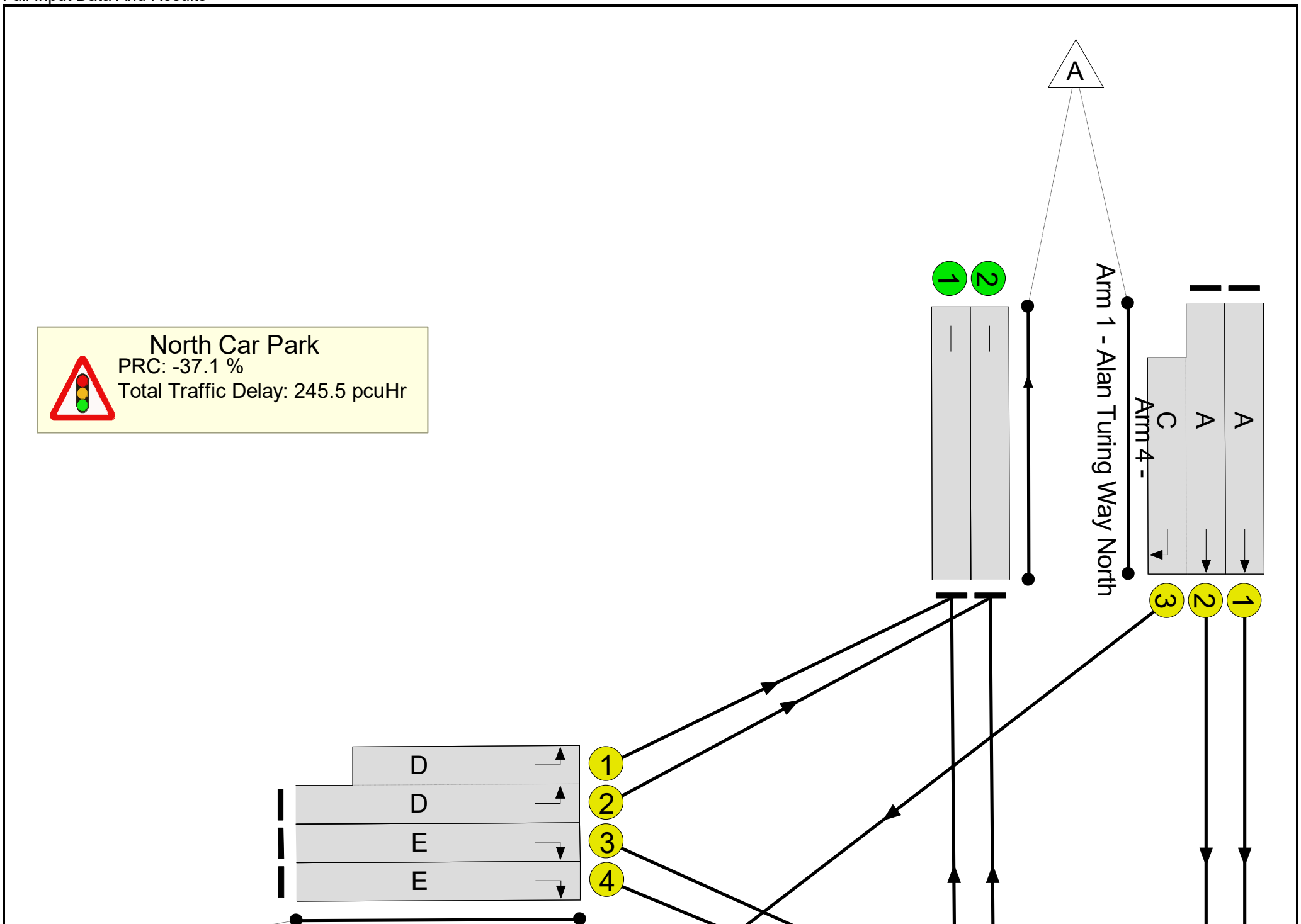
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.4%**
North Car Park	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.4%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	537	2090	1527	35.2%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:22	-	1019	1940:1797	443+397	121.3 : 121.3%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	47	-	1183	1965:2047	594+365	123.4 : 123.4%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	47	-	734	1945	898	81.8%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	43	-	20	1980:1952	807+807	1.2 : 1.2%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	9	1849	320	2.8%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	743	1940	1940	31.1%
4/2		U	N/A	N/A	-		-	-	-	744	1940	1940	38.4%
5/1		U	N/A	N/A	-		-	-	-	546	1945	1945	28.1%
5/2		U	N/A	N/A	-		-	-	-	546	1935	1935	26.1%
6/1		U	N/A	N/A	-		-	-	-	932	2040	2040	37.4%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**35.0**	**210.5**	**0.0**	**245.5**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**35.0**	**210.5**	**0.0**	**245.5**	**-**	**-**	**-**	**-**
1/1	537	537	-	-	-	0.8	0.3	-	1.0	6.9	5.5	0.3	5.8
1/2+1/3	1019	893	-	-	-	9.5	92.2	-	101.7	359.2	21.9	92.2	114.1
2/2+2/1	1183	959	-	-	-	19.6	114.6	-	134.2	408.3	40.1	114.6	154.6
2/3	734	734	-	-	-	4.9	2.2	-	7.1	34.9	18.1	2.2	20.3
3/2+3/1	20	20	-	-	-	0.1	0.0	-	0.1	18.7	0.2	0.0	0.2
3/3	9	9	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.2
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
4/2	744	744	-	-	-	0.0	0.3	-	0.3	1.5	12.4	0.3	12.7
5/1	546	546	-	-	-	0.0	0.2	-	0.2	1.3	3.3	0.2	3.5
5/2	505	505	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	762	762	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3

C1

PRC for Signalled Lanes (%): -37.1
PRC Over All Lanes (%): -37.1

Total Delay for Signalled Lanes (pcuHr): 244.29
Total Delay Over All Lanes(pcuHr): 245.51

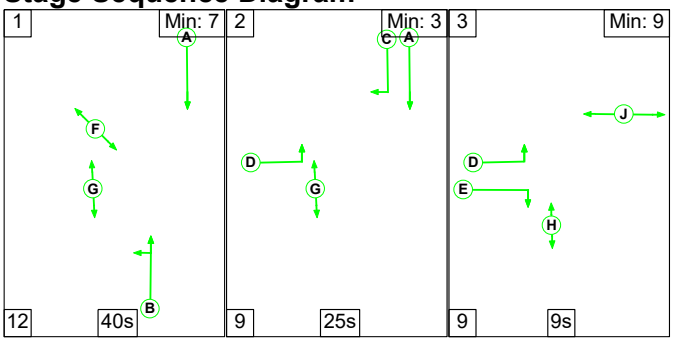
Cycle Time (s): 104

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Full Input Data And Results

Scenario 7: '2026 Baseline Network w/ stadium event DS' (FG18: '2026 Baseline Network w/ stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

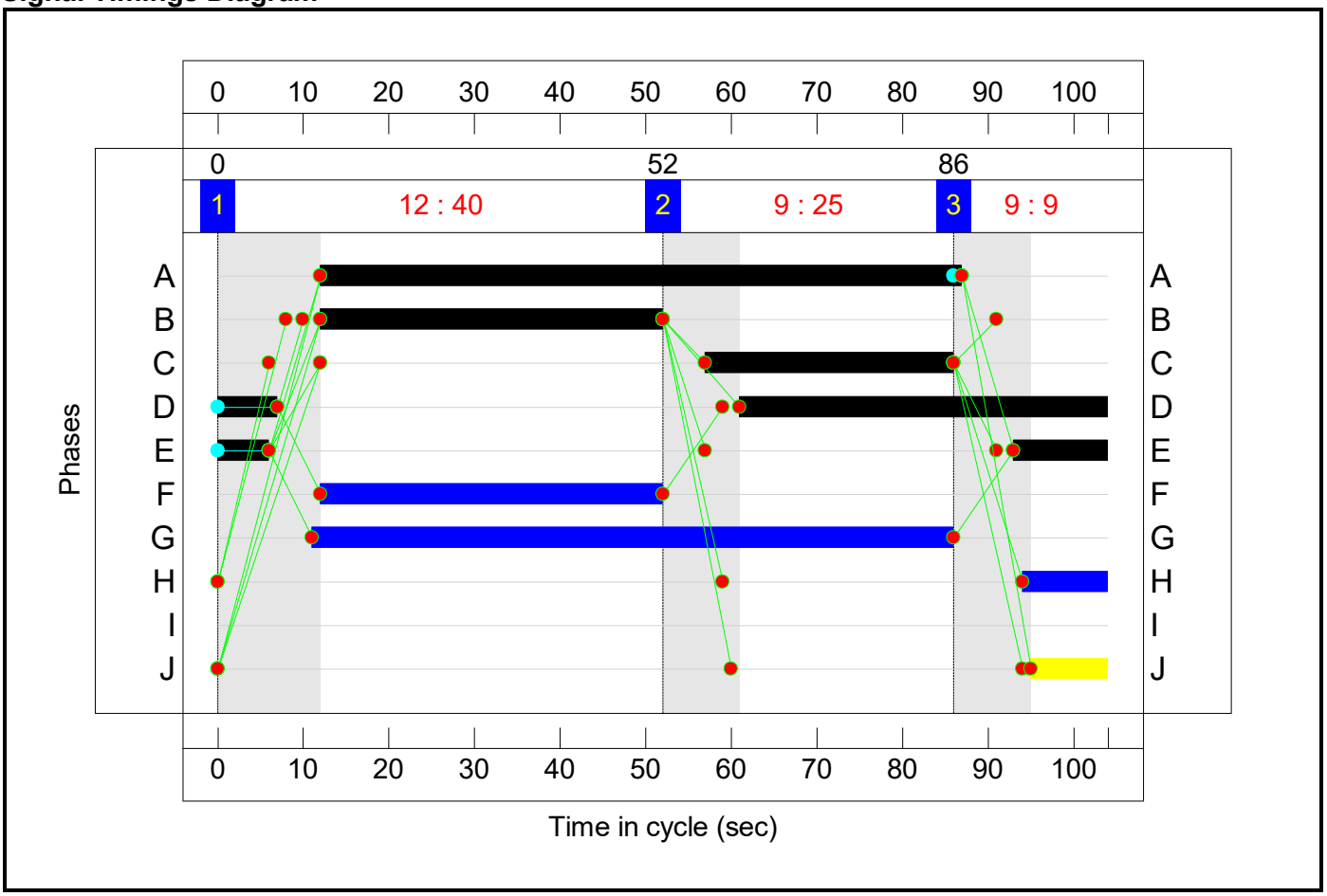
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	40	25	9
Change Point	0	52	86

Signal Timings Diagram



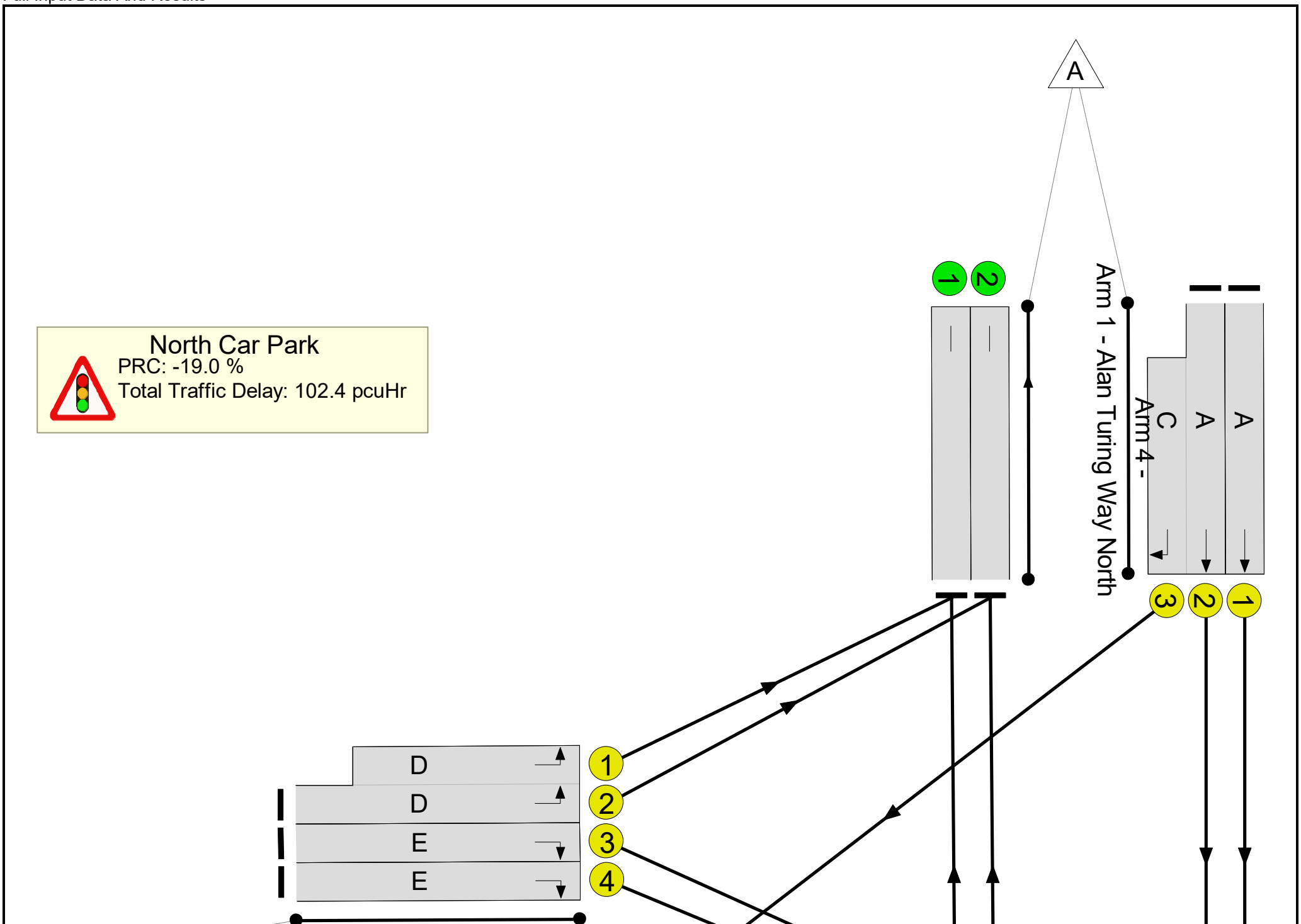
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**107.1%**
North Car Park	-	-	**N/A**	-	-		-	-	-	-	-	-	**107.1%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	647	2090	1527	42.4%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:29	-	1202	1940:1797	604+518	107.1 : 107.1%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	40	-	894	1965:2047	420+426	105.7 : 105.7%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	40	-	444	1945	767	57.9%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	50	-	51	1980:1952	884+850	2.9 : 2.9%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	10	1849	320	3.1%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	469	1940	1940	23.0%
4/2		U	N/A	N/A	-		-	-	-	470	1940	1940	24.2%
5/1		U	N/A	N/A	-		-	-	-	657	1945	1945	33.8%
5/2		U	N/A	N/A	-		-	-	-	656	1935	1935	31.7%
6/1		U	N/A	N/A	-		-	-	-	1005	2040	2040	46.3%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**22.7**	**79.6**	**0.0**	**102.4**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**22.7**	**79.6**	**0.0**	**102.4**	**-**	**-**	**-**	**-**
1/1	647	647	-	-	-	1.0	0.4	-	1.3	7.5	7.2	0.4	7.6
1/2+1/3	1202	1123	-	-	-	8.5	46.2	-	54.7	163.7	24.4	46.2	70.6
2/2+2/1	894	846	-	-	-	9.8	31.1	-	41.0	165.0	26.0	31.1	57.1
2/3	444	444	-	-	-	3.1	0.7	-	3.7	30.3	10.0	0.7	10.7
3/2+3/1	51	51	-	-	-	0.2	0.0	-	0.2	14.8	0.4	0.0	0.4
3/3	10	10	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.3
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	445	445	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
4/2	470	470	-	-	-	0.0	0.2	-	0.2	1.2	3.8	0.2	3.9
5/1	657	657	-	-	-	0.0	0.3	-	0.3	1.5	5.4	0.3	5.7
5/2	613	613	-	-	-	0.0	0.2	-	0.2	1.4	1.6	0.2	1.8
6/1	944	944	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4

C1

PRC for Signalled Lanes (%): -19.0
PRC Over All Lanes (%): -19.0

Total Delay for Signalled Lanes (pcuHr): 101.14
Total Delay Over All Lanes(pcuHr): 102.38

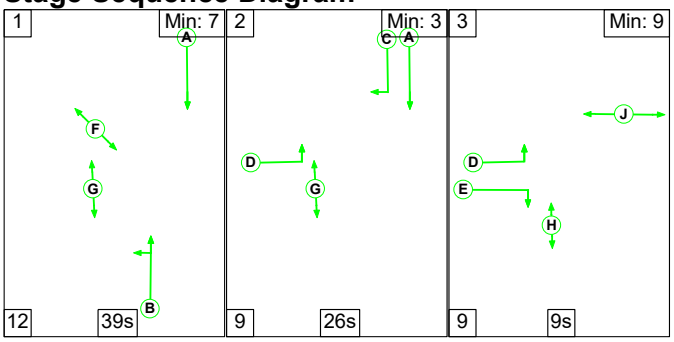
Cycle Time (s): 104

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Full Input Data And Results

Scenario 8: '2026 Baseline Network w/ stadium event DM' (FG10: '2026 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

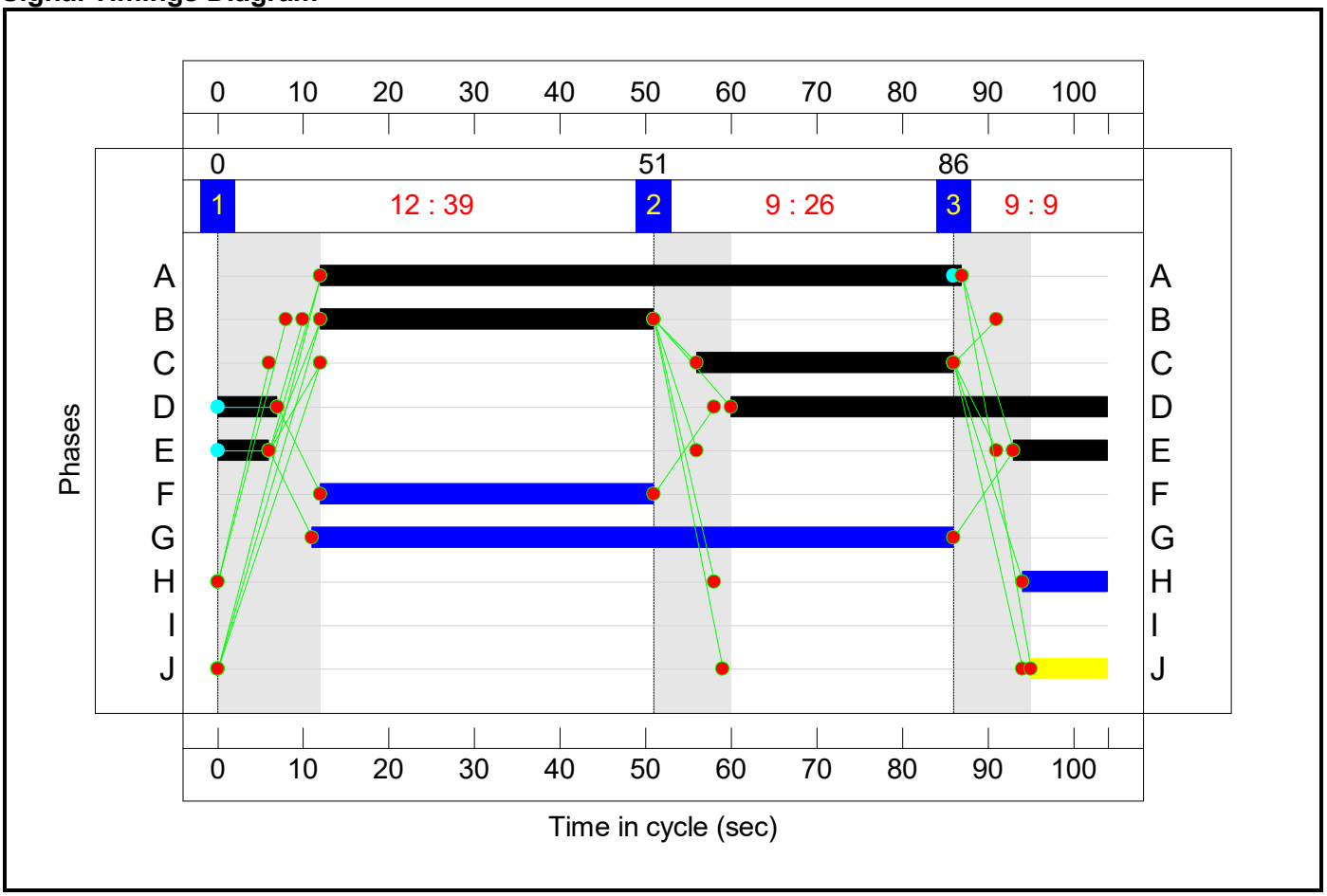
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	39	26	9
Change Point	0	51	86

Signal Timings Diagram



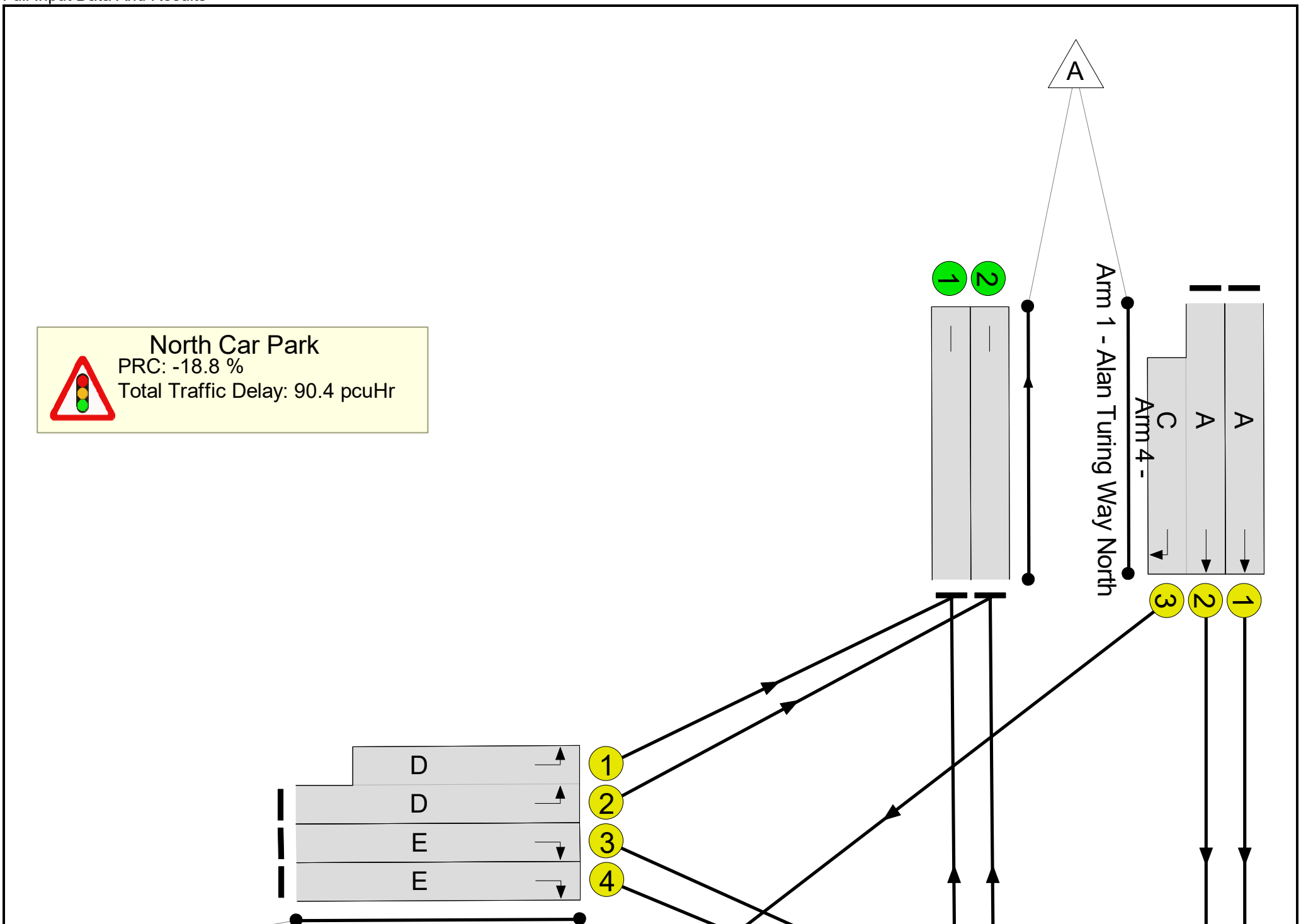
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**107.0%**
North Car Park	-	-	**N/A**	-	-		-	-	-	-	-	-	**107.0%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	647	2090	1527	42.4%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:30	-	1202	1940:1797	624+536	103.6 : 103.6%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	39	-	884	1965:2047	406+421	107.0 : 107.0%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	39	-	435	1945	748	58.1%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	51	-	51	1980:1952	894+859	2.9 : 2.9%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	10	1849	320	3.1%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	459	1940	1940	22.2%
4/2		U	N/A	N/A	-		-	-	-	461	1940	1940	23.8%
5/1		U	N/A	N/A	-		-	-	-	657	1945	1945	33.8%
5/2		U	N/A	N/A	-		-	-	-	656	1935	1935	32.8%
6/1		U	N/A	N/A	-		-	-	-	1005	2040	2040	46.9%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**22.3**	**68.1**	**0.0**	**90.4**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**22.3**	**68.1**	**0.0**	**90.4**	**-**	**-**	**-**	**-**
1/1	647	647	-	-	-	1.0	0.4	-	1.3	7.5	7.2	0.4	7.6
1/2+1/3	1202	1162	-	-	-	7.5	30.7	-	38.2	114.5	20.7	30.7	51.4
2/2+2/1	884	827	-	-	-	10.3	35.0	-	45.4	184.8	26.0	35.0	61.0
2/3	435	435	-	-	-	3.1	0.7	-	3.8	31.1	9.9	0.7	10.6
3/2+3/1	51	51	-	-	-	0.2	0.0	-	0.2	14.3	0.4	0.0	0.4
3/3	10	10	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.3
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	431	431	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
4/2	461	461	-	-	-	0.0	0.2	-	0.2	1.2	3.8	0.2	3.9
5/1	657	657	-	-	-	0.0	0.3	-	0.3	1.5	5.4	0.3	5.7
5/2	635	635	-	-	-	0.0	0.2	-	0.2	1.4	1.6	0.2	1.9
6/1	957	957	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4

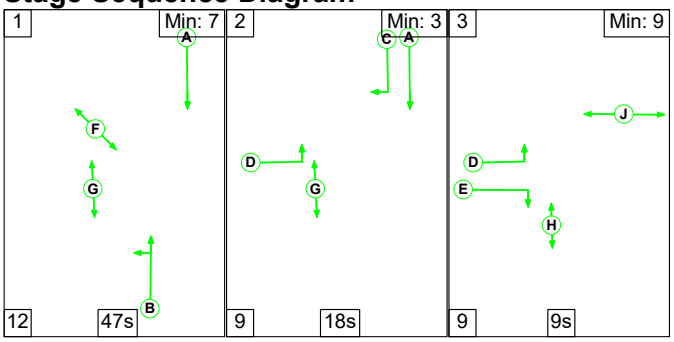
C1 PRC for Signalled Lanes (%): -18.8 PRC Over All Lanes (%): -18.8 Total Delay for Signalled Lanes (pcuHr): 89.14 Total Delay Over All Lanes(pcuHr): 90.39 Cycle Time (s): 104

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Full Input Data And Results

Scenario 11: '2023 Baseline Network w/o stadium event DM' (FG3: '2023 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

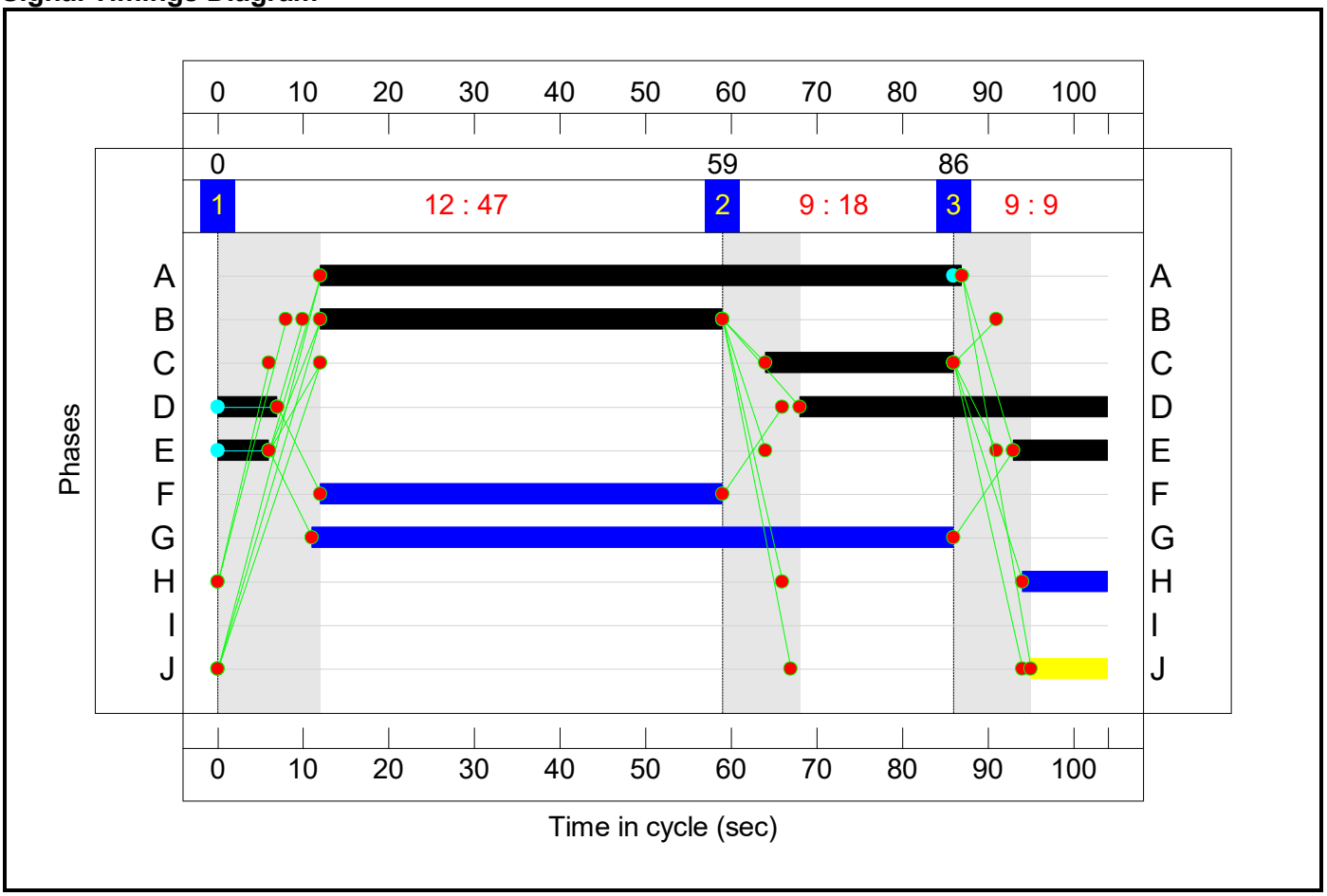
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	47	18	9
Change Point	0	59	86

Signal Timings Diagram



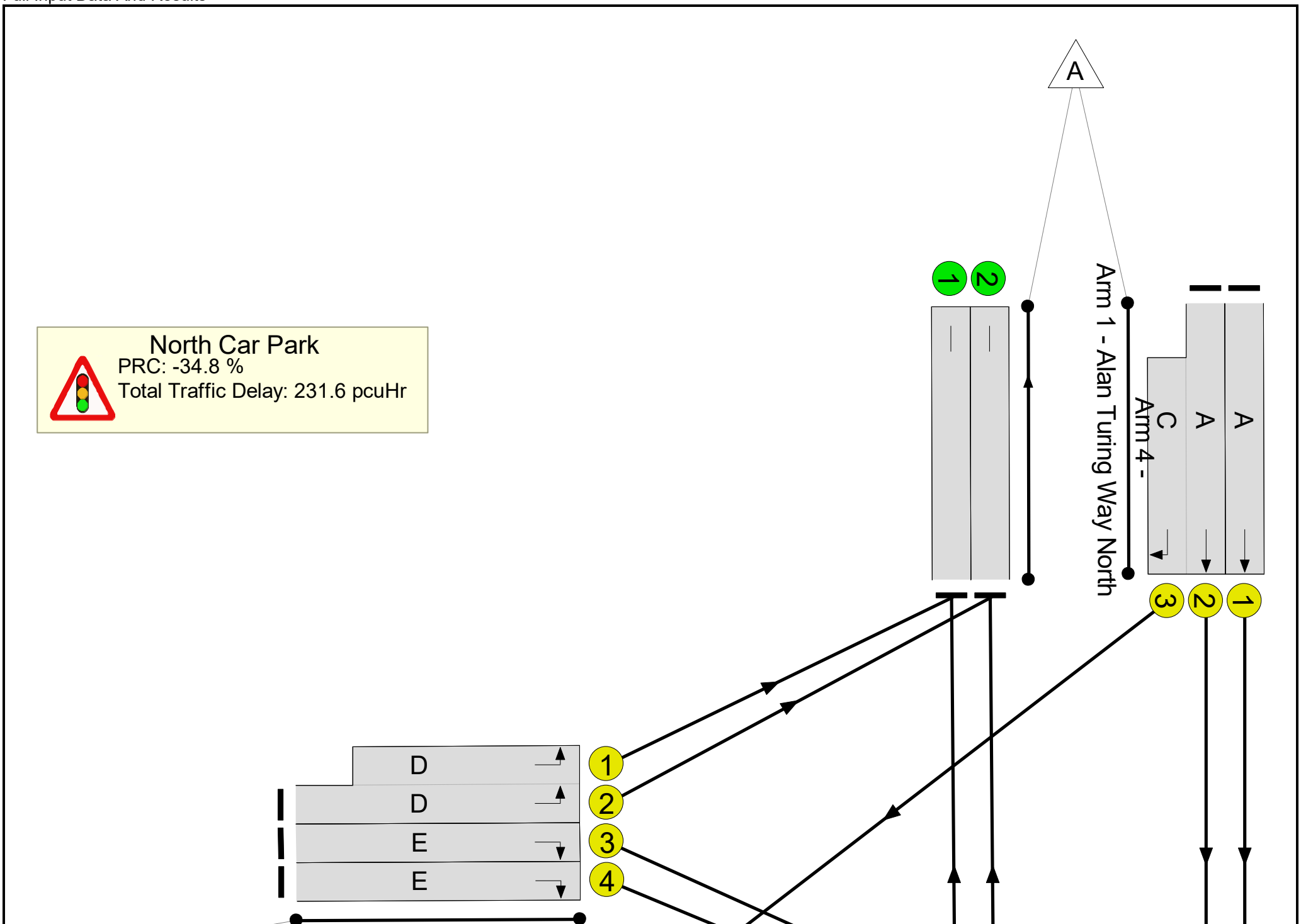
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**121.3%**
North Car Park	-	-	**N/A**	-	-		-	-	-	-	-	-	**121.3%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	523	2090	1527	34.2%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:22	-	1004	1940:1797	430+397	121.3 : 121.3%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	47	-	1162	1965:2047	589+371	121.0 : 121.0%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	47	-	714	1945	898	79.5%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	43	-	19	1980:1952	818+736	1.2 : 1.2%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	9	1849	320	2.8%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	722	1940	1940	30.8%
4/2		U	N/A	N/A	-		-	-	-	724	1940	1940	37.3%
5/1		U	N/A	N/A	-		-	-	-	532	1945	1945	27.4%
5/2		U	N/A	N/A	-		-	-	-	531	1935	1935	25.4%
6/1		U	N/A	N/A	-		-	-	-	931	2040	2040	37.7%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**33.5**	**198.0**	**0.0**	**231.6**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**33.5**	**198.0**	**0.0**	**231.6**	**-**	**-**	**-**	**-**
1/1	523	523	-	-	-	0.7	0.3	-	1.0	6.8	5.4	0.3	5.6
1/2+1/3	1004	879	-	-	-	9.5	90.9	-	100.3	359.7	21.8	90.9	112.7
2/2+2/1	1162	960	-	-	-	18.4	103.8	-	122.1	378.4	38.8	103.8	142.6
2/3	714	714	-	-	-	4.7	1.9	-	6.6	33.4	17.5	1.9	19.4
3/2+3/1	19	19	-	-	-	0.1	0.0	-	0.1	18.8	0.2	0.0	0.2
3/3	9	9	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.2
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	598	598	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
4/2	724	724	-	-	-	0.0	0.3	-	0.3	1.5	11.3	0.3	11.6
5/1	532	532	-	-	-	0.0	0.2	-	0.2	1.3	3.3	0.2	3.5
5/2	491	491	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/1	768	768	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3

C1

PRC for Signalled Lanes (%): -34.8
PRC Over All Lanes (%): -34.8

Total Delay for Signalled Lanes (pcuHr): 230.37
Total Delay Over All Lanes(pcuHr): 231.56

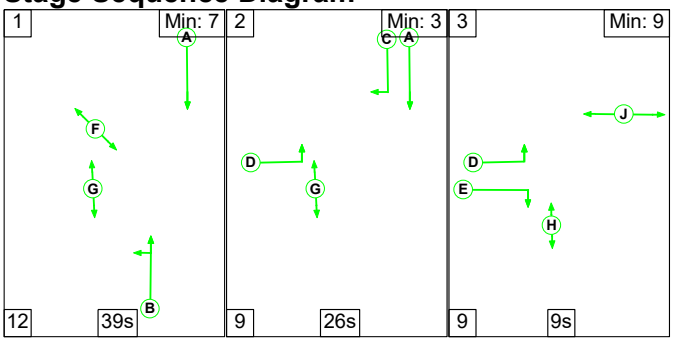
Cycle Time (s): 104

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Full Input Data And Results

Scenario 12: '2023 Baseline Network w/ stadium event DM' (FG5: '2023 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

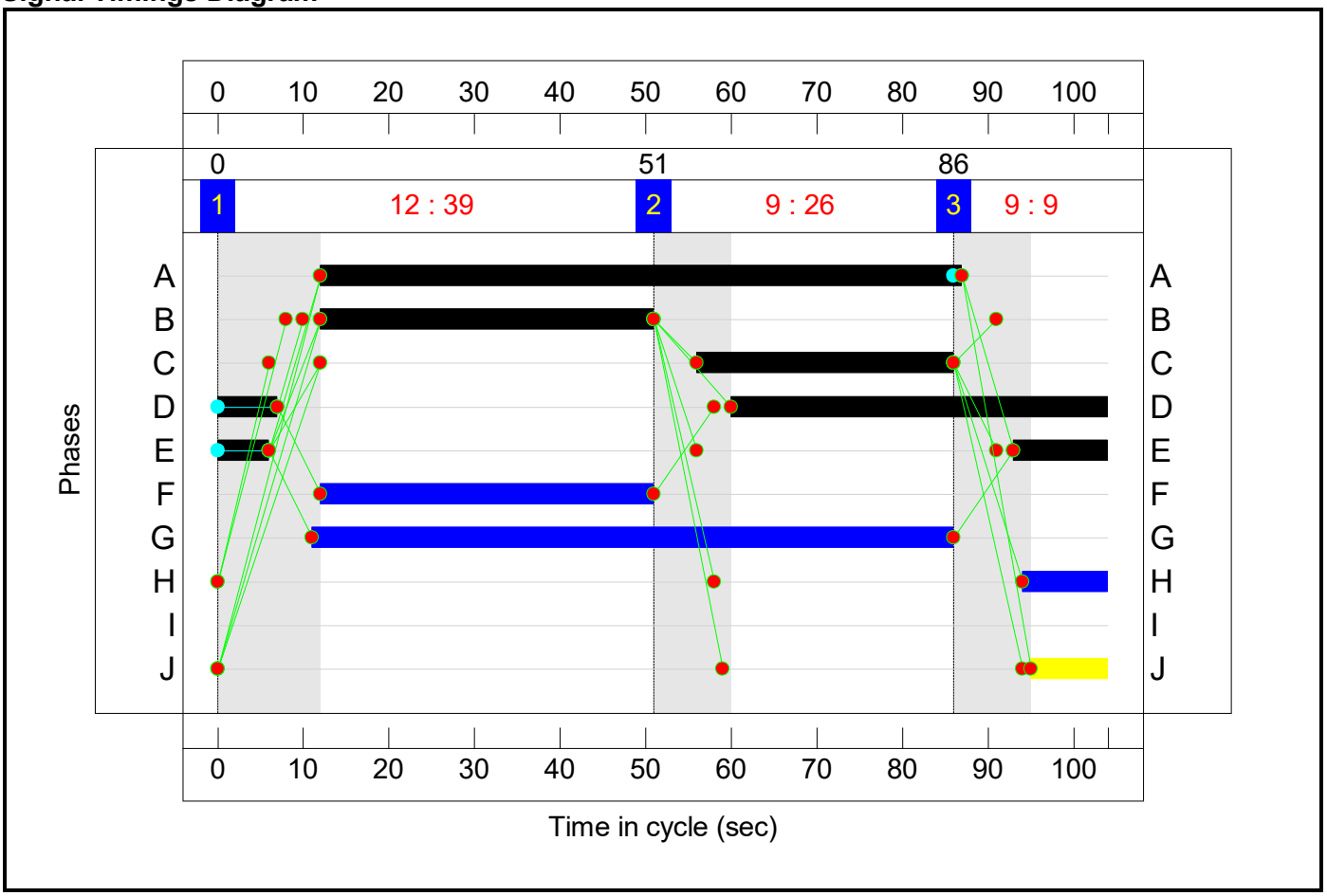
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	39	26	9
Change Point	0	51	86

Signal Timings Diagram



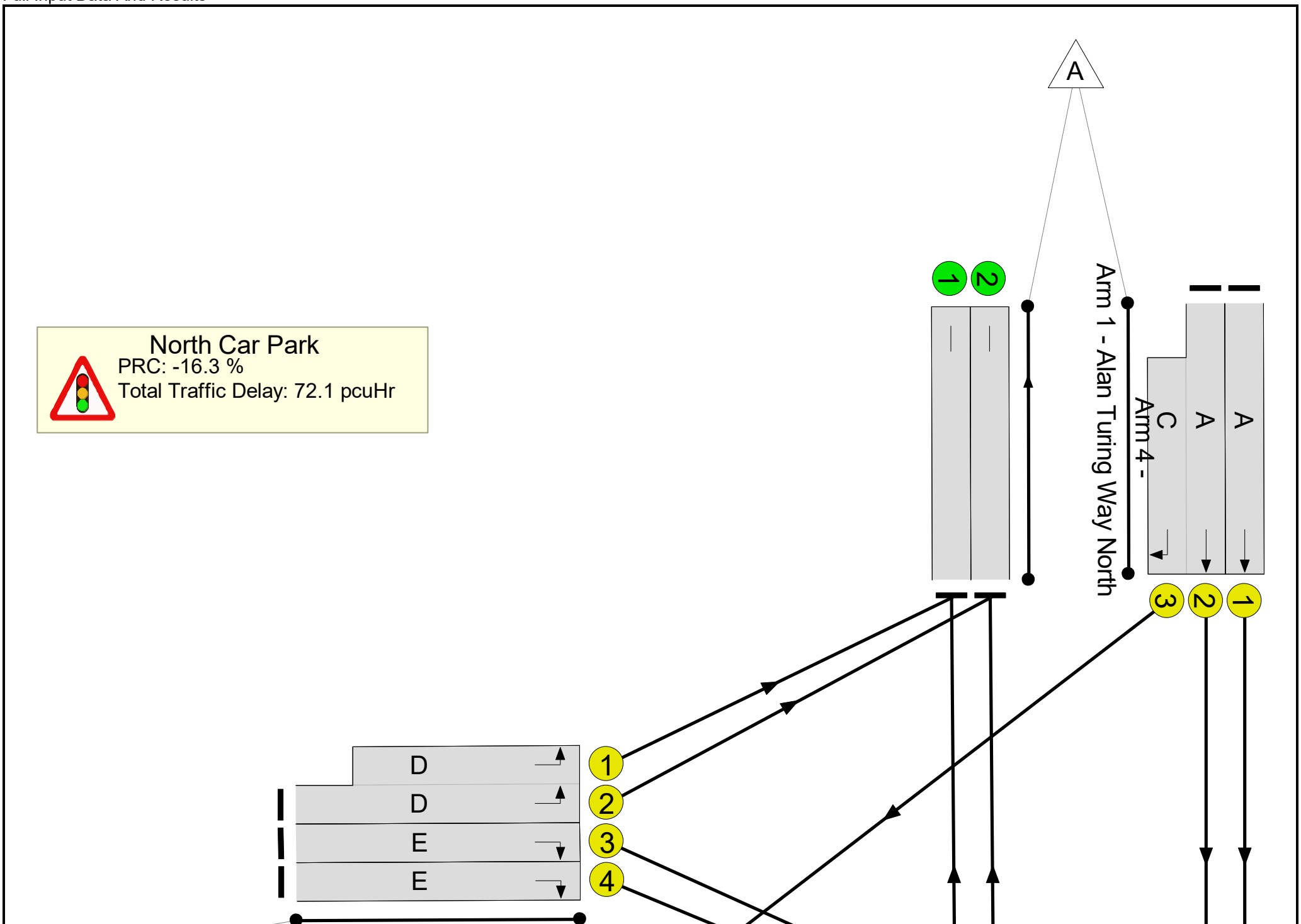
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**104.7%**
North Car Park	-	-	**N/A**	-	-		-	-	-	-	-	-	**104.7%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	630	2090	1527	41.2%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:30	-	1173	1940:1797	619+536	101.6 : 101.6%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	39	-	865	1965:2047	404+422	104.7 : 104.7%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	39	-	423	1945	748	56.5%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	51	-	50	1980:1952	882+882	2.8 : 2.8%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	10	1849	320	3.1%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	448	1940	1940	22.1%
4/2		U	N/A	N/A	-		-	-	-	448	1940	1940	23.1%
5/1		U	N/A	N/A	-		-	-	-	640	1945	1945	32.9%
5/2		U	N/A	N/A	-		-	-	-	638	1935	1935	33.0%
6/1		U	N/A	N/A	-		-	-	-	986	2040	2040	47.0%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**20.3**	**51.7**	**0.0**	**72.1**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**20.3**	**51.7**	**0.0**	**72.1**	**-**	**-**	**-**	**-**
1/1	630	630	-	-	-	0.9	0.4	-	1.3	7.4	7.0	0.4	7.4
1/2+1/3	1173	1165	-	-	-	6.8	22.2	-	29.0	89.1	17.0	22.2	39.2
2/2+2/1	865	827	-	-	-	9.3	27.2	-	36.5	151.8	24.9	27.2	52.1
2/3	423	423	-	-	-	3.0	0.6	-	3.6	30.7	9.5	0.6	10.2
3/2+3/1	50	50	-	-	-	0.2	0.0	-	0.2	14.3	0.4	0.0	0.4
3/3	10	10	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.3
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	429	429	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
4/2	448	448	-	-	-	0.0	0.2	-	0.2	1.2	3.2	0.2	3.4
5/1	640	640	-	-	-	0.0	0.2	-	0.3	1.4	5.0	0.2	5.2
5/2	638	638	-	-	-	0.0	0.2	-	0.2	1.4	1.1	0.2	1.3
6/1	958	958	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4

C1

PRC for Signalled Lanes (%): -16.3
PRC Over All Lanes (%): -16.3

Total Delay for Signalled Lanes (pcuHr): 70.82
Total Delay Over All Lanes(pcuHr): 72.05

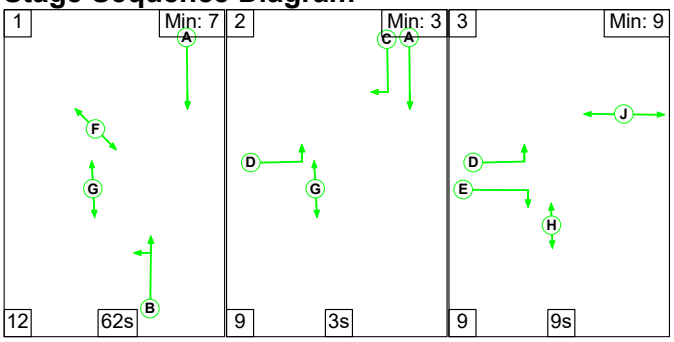
Cycle Time (s): 104

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Full Input Data And Results

Scenario 13: '2023 Baseline Network (no arena) w/o stadium event DM' (FG4: '2023 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

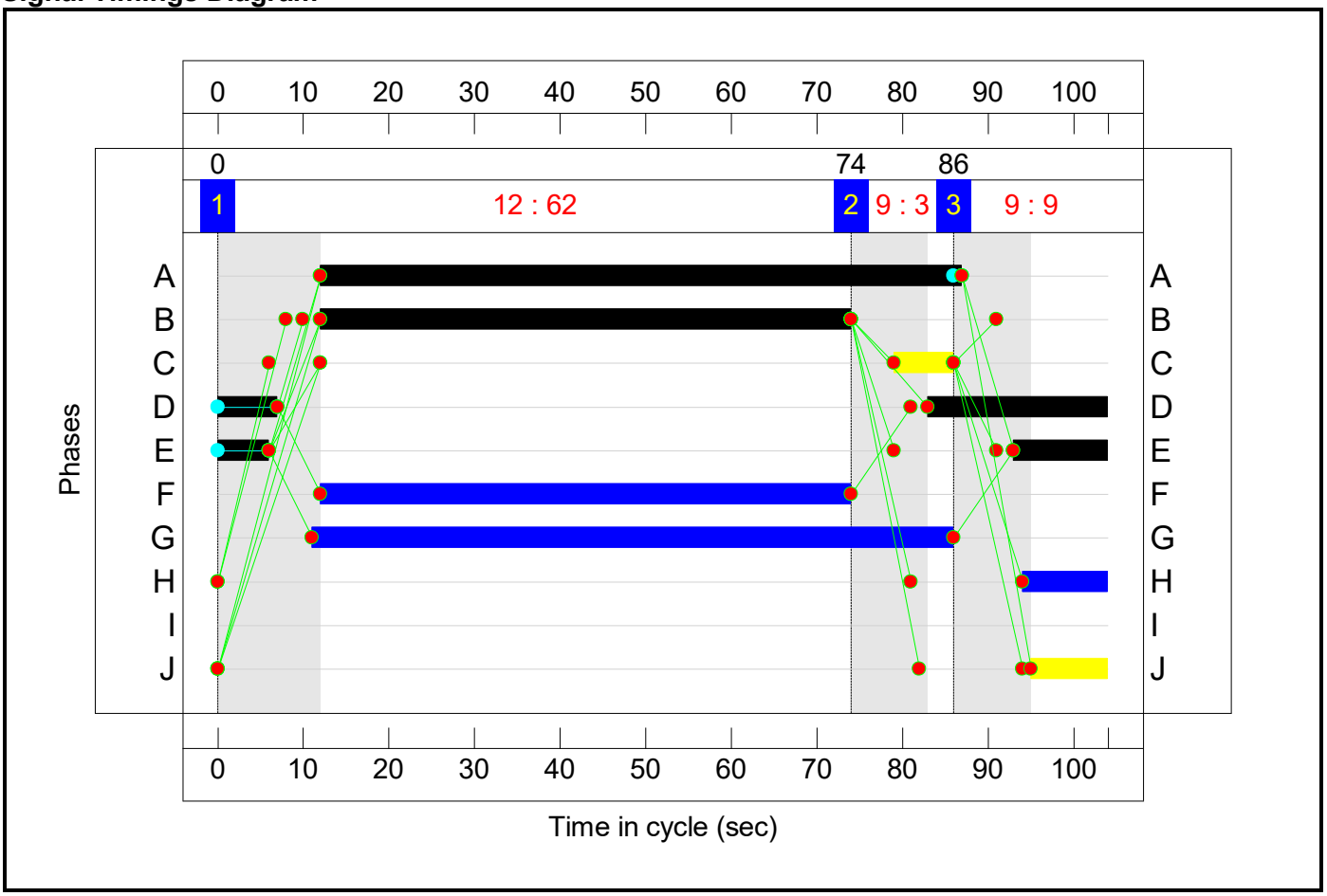
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	62	3	9
Change Point	0	74	86

Signal Timings Diagram



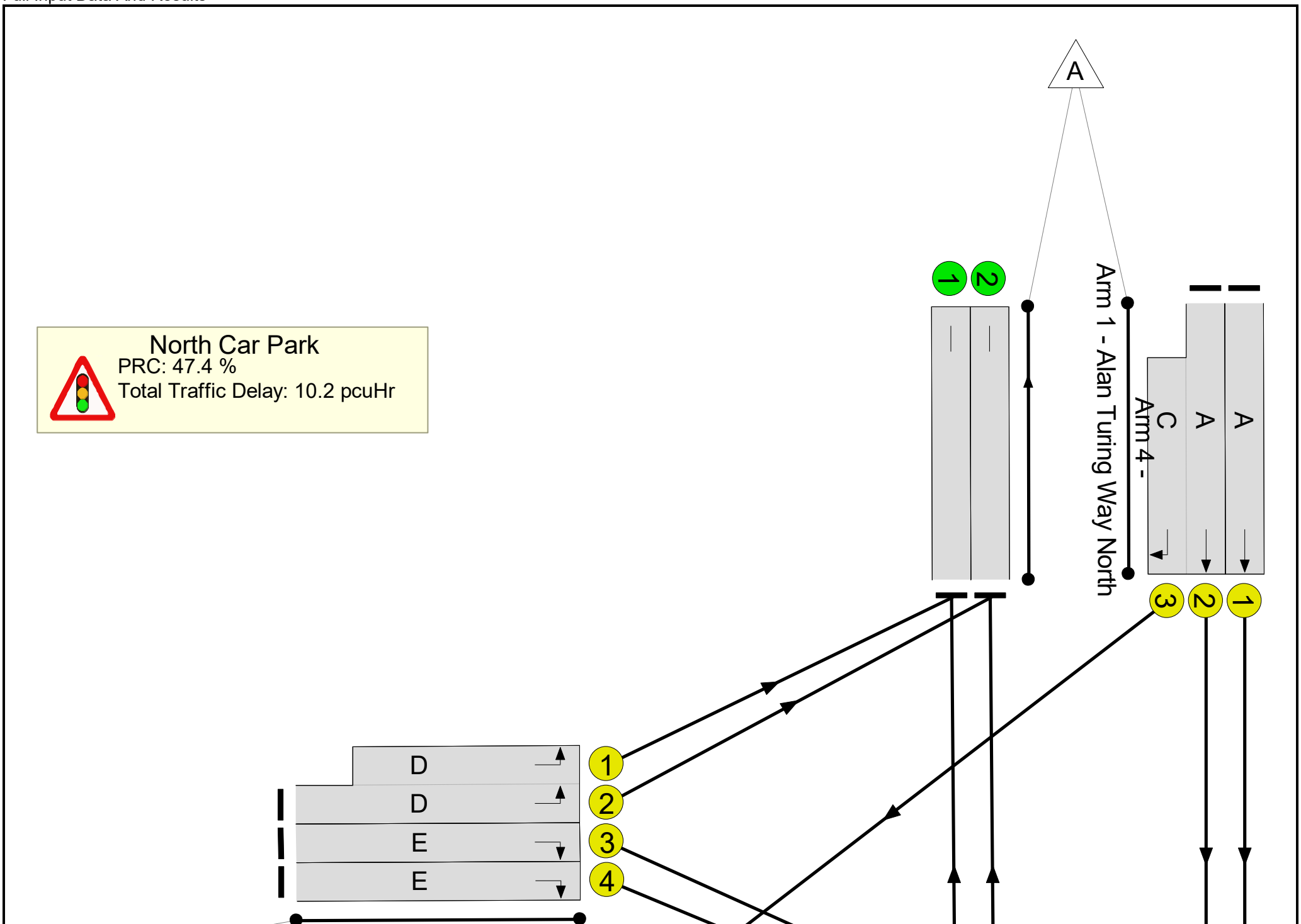
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**
North Car Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	523	2090	1527	34.2%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:7	-	536	1940:1797	1401+38	37.3 : 37.3%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	62	-	731	1965:2047	1168+29	61.0 : 61.0%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	62	-	714	1945	1178	60.6%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	28	-	19	1980:1952	552+544	1.8 : 1.7%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	9	1849	320	2.8%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	722	1940	1940	37.2%
4/2		U	N/A	N/A	-		-	-	-	724	1940	1940	37.3%
5/1		U	N/A	N/A	-		-	-	-	532	1945	1945	27.4%
5/2		U	N/A	N/A	-		-	-	-	531	1935	1935	27.4%
6/1		U	N/A	N/A	-		-	-	-	32	2040	2040	1.6%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.1**	**3.1**	**0.0**	**10.2**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**7.1**	**3.1**	**0.0**	**10.2**	**-**	**-**	**-**	**-**
1/1	523	523	-	-	-	0.7	0.3	-	1.0	6.8	5.4	0.3	5.6
1/2+1/3	536	536	-	-	-	0.9	0.3	-	1.2	8.2	5.5	0.3	5.8
2/2+2/1	731	731	-	-	-	2.6	0.8	-	3.4	16.6	13.0	0.8	13.7
2/3	714	714	-	-	-	2.5	0.8	-	3.3	16.6	12.7	0.8	13.5
3/2+3/1	19	19	-	-	-	0.1	0.0	-	0.2	29.1	0.2	0.0	0.2
3/3	9	9	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.2
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	722	722	-	-	-	0.0	0.3	-	0.3	1.5	6.5	0.3	6.8
4/2	724	724	-	-	-	0.0	0.3	-	0.3	1.5	6.5	0.3	6.8
5/1	532	532	-	-	-	0.0	0.2	-	0.2	1.3	3.3	0.2	3.5
5/2	531	531	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	32	32	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

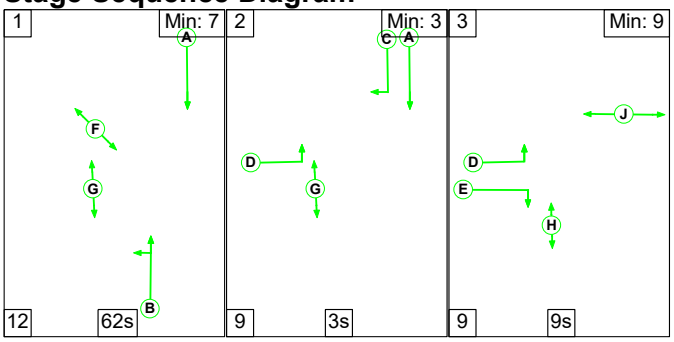
C1 PRC for Signalled Lanes (%): 47.4 Total Delay for Signalled Lanes (pcuHr): 9.23 Cycle Time (s): 104
PRC Over All Lanes (%): 47.4 Total Delay Over All Lanes(pcuHr): 10.22

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Full Input Data And Results

Scenario 14: '2026 Baseline Network (no arena) w/o stadium event DM' (FG9: '2026 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

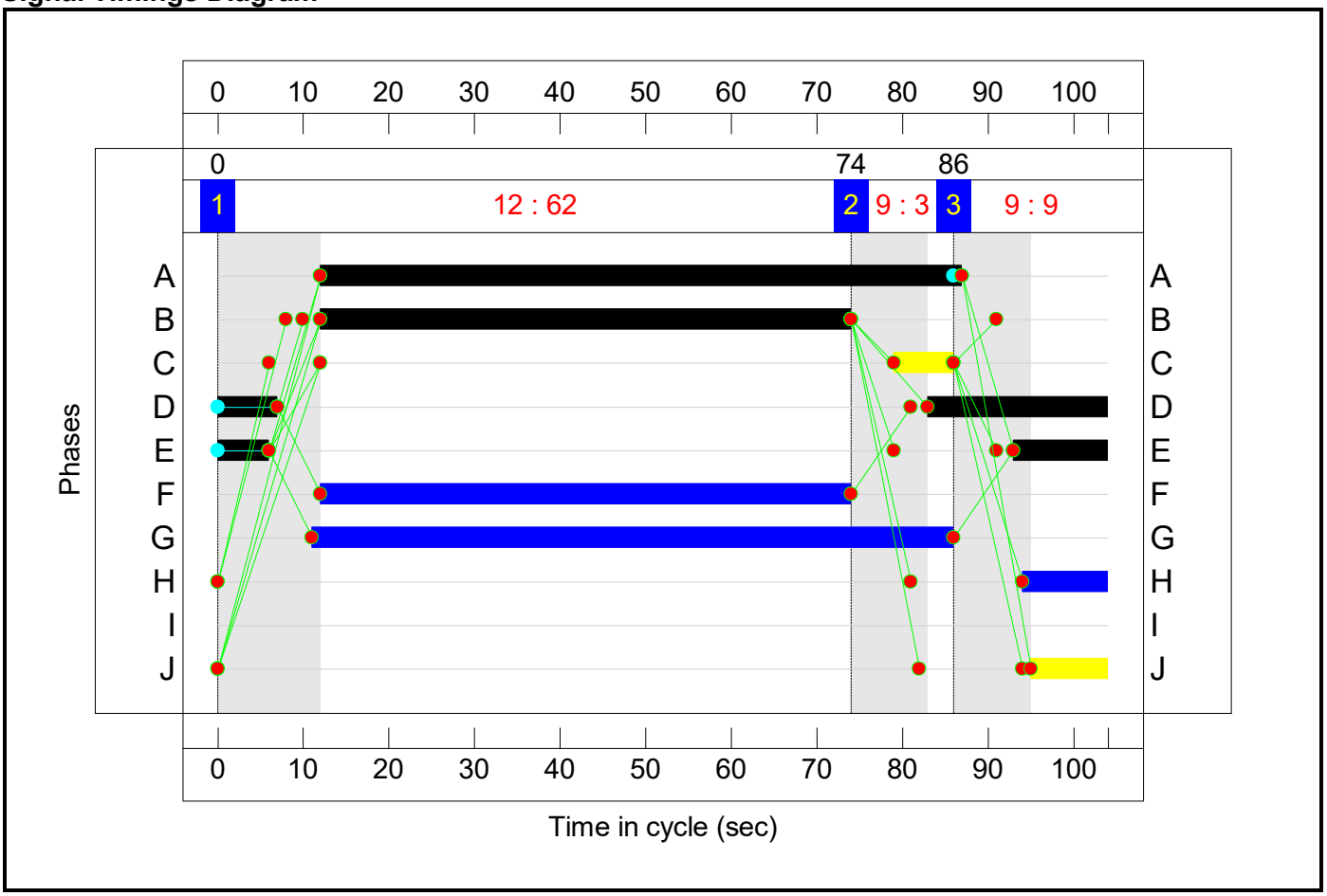
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	62	3	9
Change Point	0	74	86

Signal Timings Diagram



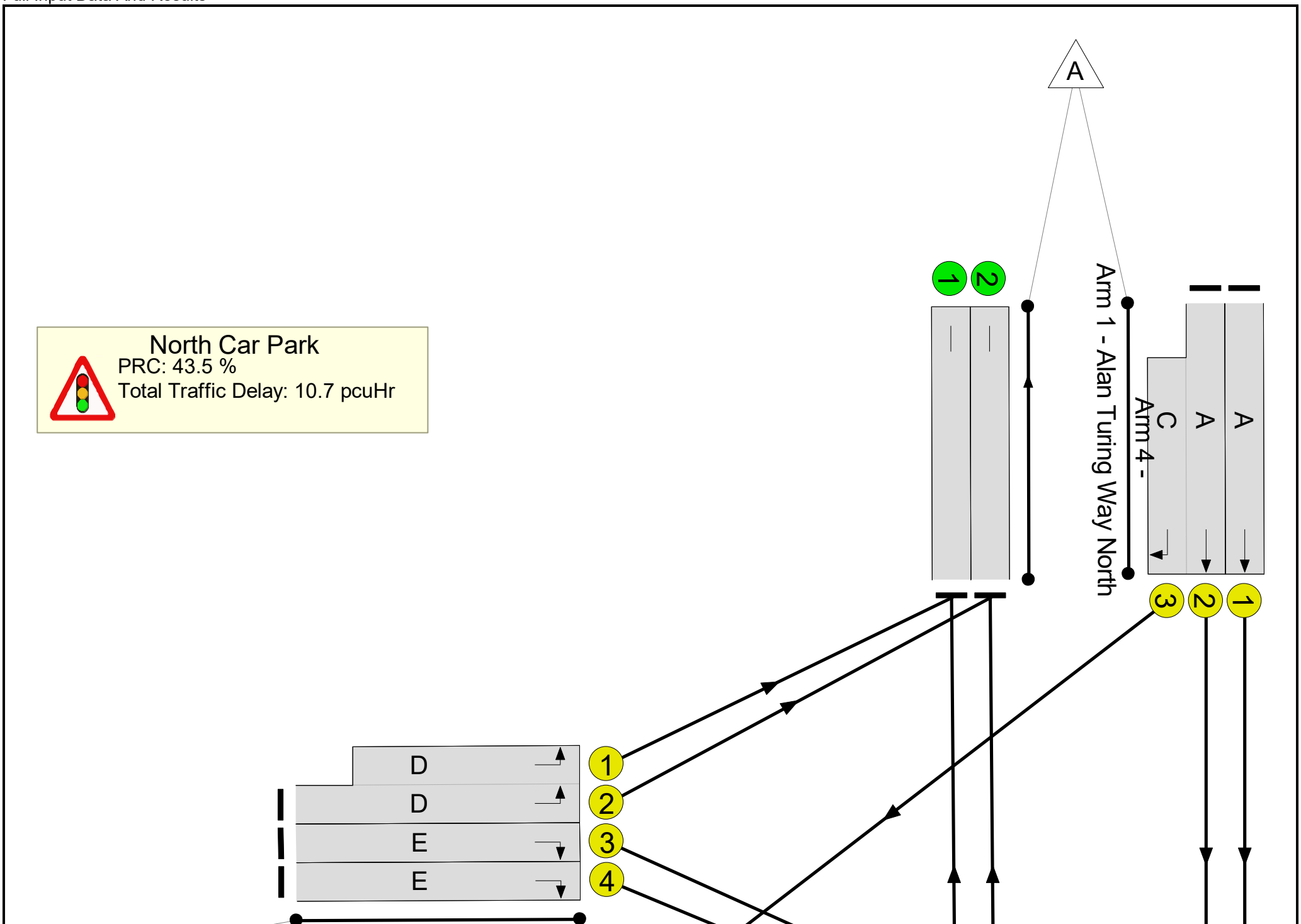
DocuSign Envelope ID: 7716BE36-1506-4646-B8DB-BB10C80AC489

Full Input Data And Results

Network Layout Diagram

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Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.7%**
North Car Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.7%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	537	2090	1527	35.2%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:7	-	551	1940:1797	1402+37	38.3 : 38.3%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	62	-	751	1965:2047	1169+29	62.7 : 62.7%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	62	-	734	1945	1178	62.3%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	28	-	20	1980:1952	552+544	1.8 : 1.8%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	9	1849	320	2.8%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	743	1940	1940	38.3%
4/2		U	N/A	N/A	-		-	-	-	744	1940	1940	38.4%
5/1		U	N/A	N/A	-		-	-	-	546	1945	1945	28.1%
5/2		U	N/A	N/A	-		-	-	-	546	1935	1935	28.2%
6/1		U	N/A	N/A	-		-	-	-	32	2040	2040	1.6%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.4**	**3.3**	**0.0**	**10.7**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**7.4**	**3.3**	**0.0**	**10.7**	**-**	**-**	**-**	**-**
1/1	537	537	-	-	-	0.8	0.3	-	1.0	6.9	5.5	0.3	5.8
1/2+1/3	551	551	-	-	-	1.0	0.3	-	1.3	8.2	5.7	0.3	6.0
2/2+2/1	751	751	-	-	-	2.7	0.8	-	3.5	16.9	13.5	0.8	14.4
2/3	734	734	-	-	-	2.6	0.8	-	3.5	17.0	13.3	0.8	14.1
3/2+3/1	20	20	-	-	-	0.2	0.0	-	0.2	29.1	0.2	0.0	0.2
3/3	9	9	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.2
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	743	743	-	-	-	0.0	0.3	-	0.3	1.5	7.0	0.3	7.3
4/2	744	744	-	-	-	0.0	0.3	-	0.3	1.5	7.0	0.3	7.3
5/1	546	546	-	-	-	0.0	0.2	-	0.2	1.3	3.3	0.2	3.5
5/2	546	546	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	32	32	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

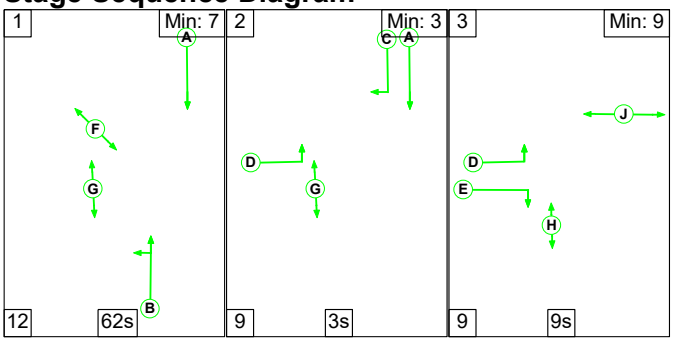
C1 PRC for Signalled Lanes (%): 43.5 Total Delay for Signalled Lanes (pcuHr): 9.66 Cycle Time (s): 104
PRC Over All Lanes (%): 43.5 Total Delay Over All Lanes(pcuHr): 10.69

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Full Input Data And Results

Scenario 15: '2026 Baseline Network (no arena) w/o stadium event DS' (FG17: '2026 Baseline Network (no arena) w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

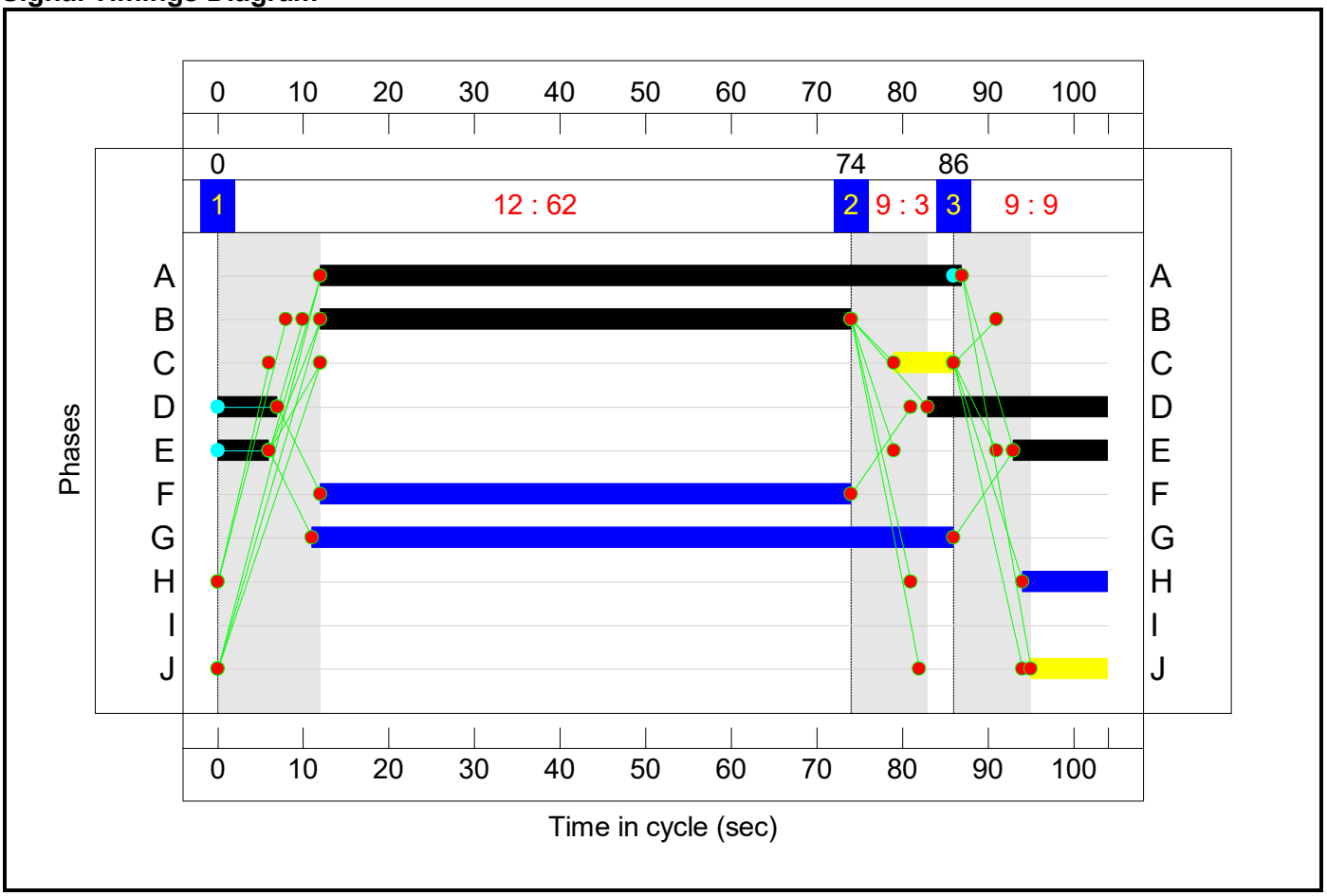
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	62	3	9
Change Point	0	74	86

Signal Timings Diagram



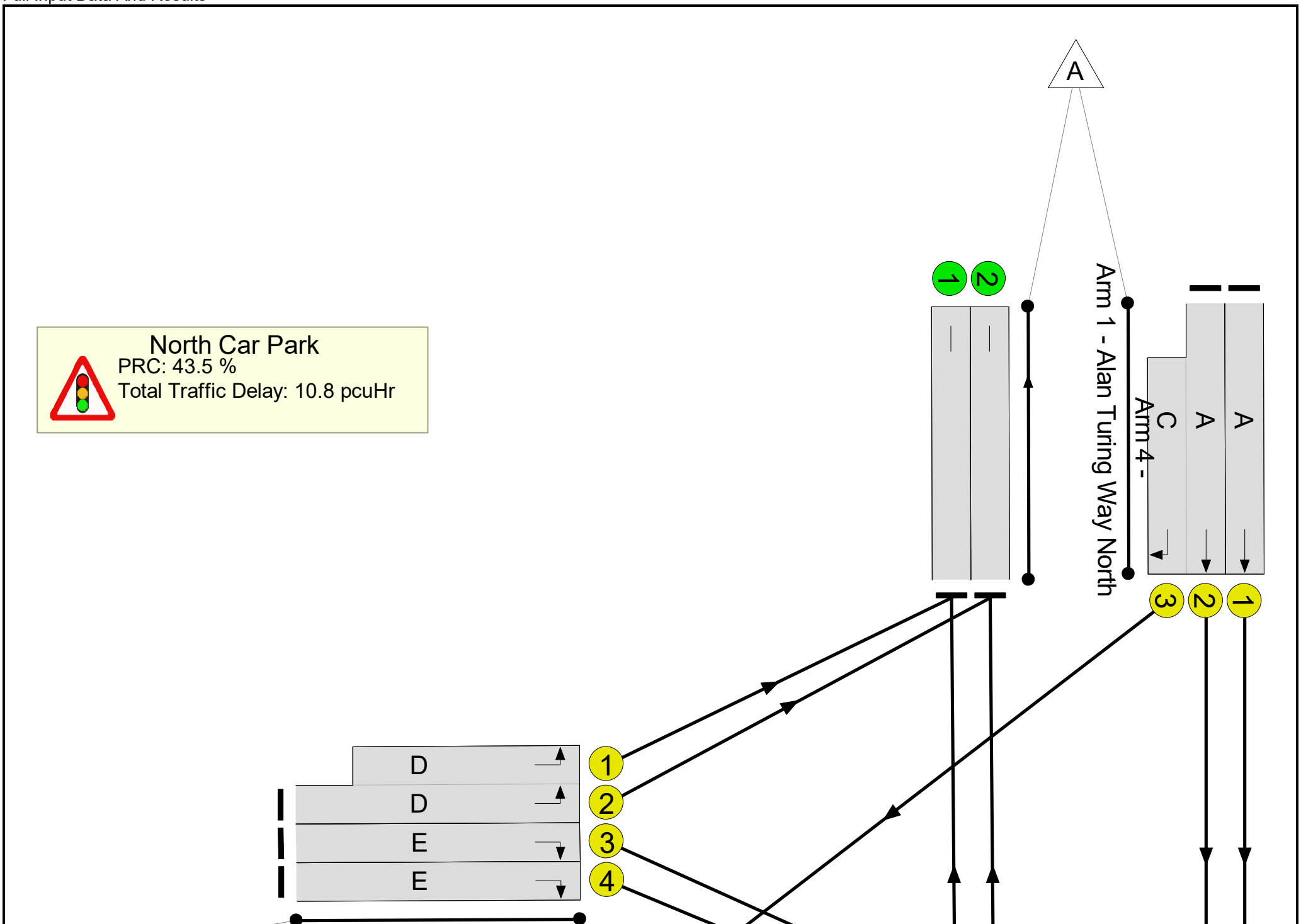
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.7%**
North Car Park	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.7%**
1/1	Alan Turing Way North Ahead	U	N/A	N/A	A		1	75	-	548	2090	1527	35.9%
1/2+1/3	Alan Turing Way North Ahead Right	U	N/A	N/A	A C		1	75:7	-	562	1940:1797	1402+36	39.1 : 39.1%
2/2+2/1	Alan Turing Way South Ahead Left	U	N/A	N/A	B		1	62	-	751	1965:2047	1169+29	62.7 : 62.7%
2/3	Alan Turing Way South Ahead	U	N/A	N/A	B		1	62	-	734	1945	1178	62.3%
3/2+3/1	Car Park Left	U	N/A	N/A	D		1	28	-	20	1980:1952	552+544	1.8 : 1.8%
3/3	Car Park Right	U	N/A	N/A	E		1	17	-	9	1849	320	2.8%
3/4	Car Park Right	U	N/A	N/A	E		1	17	-	9	1967	340	2.6%
4/1		U	N/A	N/A	-		-	-	-	743	1940	1940	38.3%
4/2		U	N/A	N/A	-		-	-	-	744	1940	1940	38.4%
5/1		U	N/A	N/A	-		-	-	-	557	1945	1945	28.6%
5/2		U	N/A	N/A	-		-	-	-	557	1935	1935	28.8%
6/1		U	N/A	N/A	-		-	-	-	32	2040	2040	1.6%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.4**	**3.3**	**0.0**	**10.8**	**-**	**-**	**-**	**-**
North Car Park	**-**	**-**	**0**	**0**	**0**	**7.4**	**3.3**	**0.0**	**10.8**	**-**	**-**	**-**	**-**
1/1	548	548	-	-	-	0.8	0.3	-	1.1	6.9	5.6	0.3	5.9
1/2+1/3	562	562	-	-	-	1.0	0.3	-	1.3	8.3	5.9	0.3	6.3
2/2+2/1	751	751	-	-	-	2.7	0.8	-	3.5	16.9	13.5	0.8	14.4
2/3	734	734	-	-	-	2.6	0.8	-	3.5	17.0	13.3	0.8	14.1
3/2+3/1	20	20	-	-	-	0.2	0.0	-	0.2	29.1	0.2	0.0	0.2
3/3	9	9	-	-	-	0.1	0.0	-	0.1	41.8	0.2	0.0	0.2
3/4	9	9	-	-	-	0.1	0.0	-	0.1	41.4	0.2	0.0	0.2
4/1	743	743	-	-	-	0.0	0.3	-	0.3	1.5	7.0	0.3	7.3
4/2	744	744	-	-	-	0.0	0.3	-	0.3	1.5	7.0	0.3	7.3
5/1	557	557	-	-	-	0.0	0.2	-	0.2	1.3	3.4	0.2	3.6
5/2	557	557	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	32	32	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 43.5 Total Delay for Signalled Lanes (pcuHr): 9.73 Cycle Time (s): 104
PRC Over All Lanes (%): 43.5 Total Delay Over All Lanes(pcuHr): 10.76

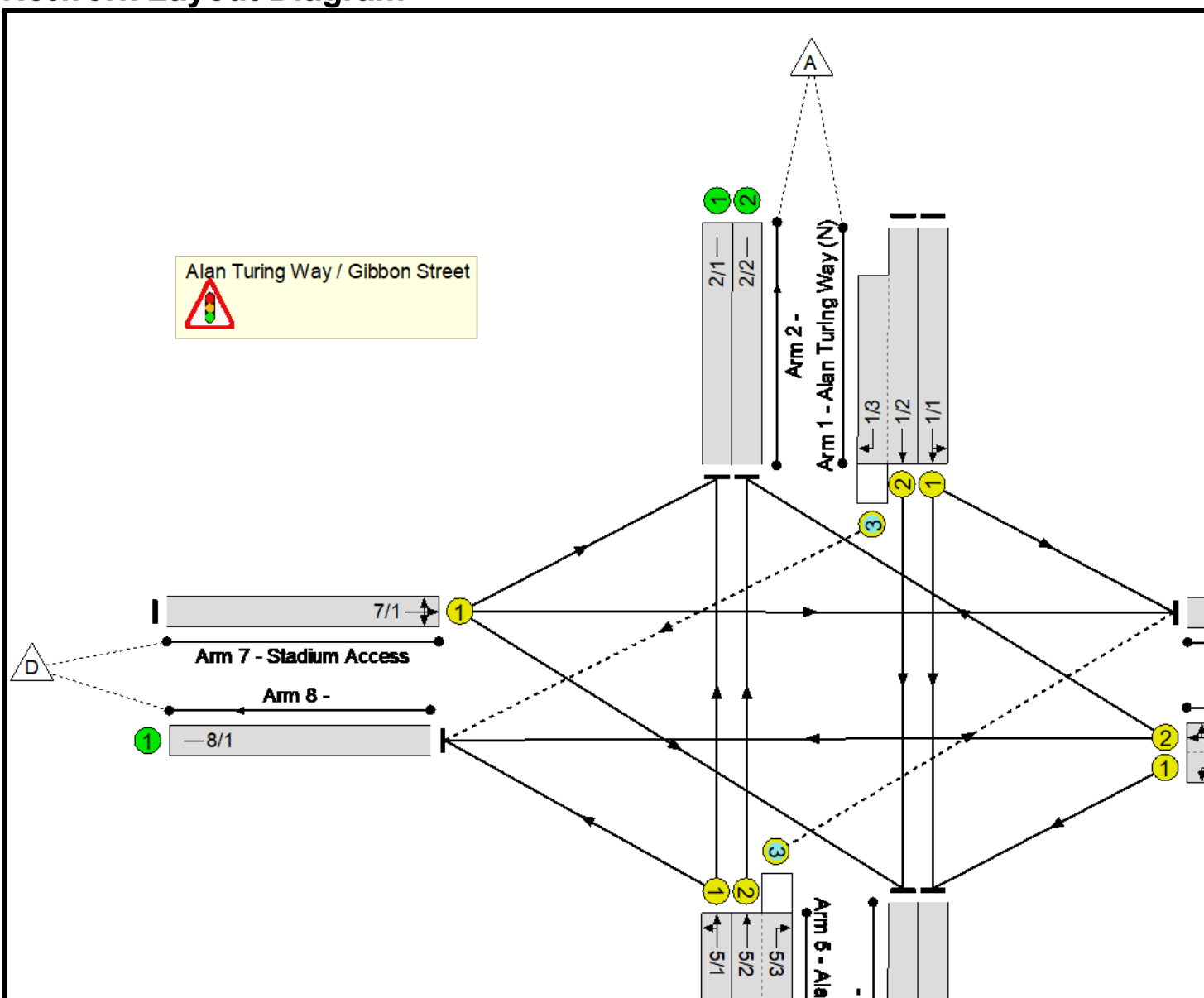
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Full Input Data And Results

User and Project Details

Project:	**Etihad Stadium North Stand Project**
Title:	**Transport Assessment**
Location:	
Additional detail:	
File name:	Gate 3_v2.lsg3x
Author:	Sonia Wong
Company:	Arup
Address:	

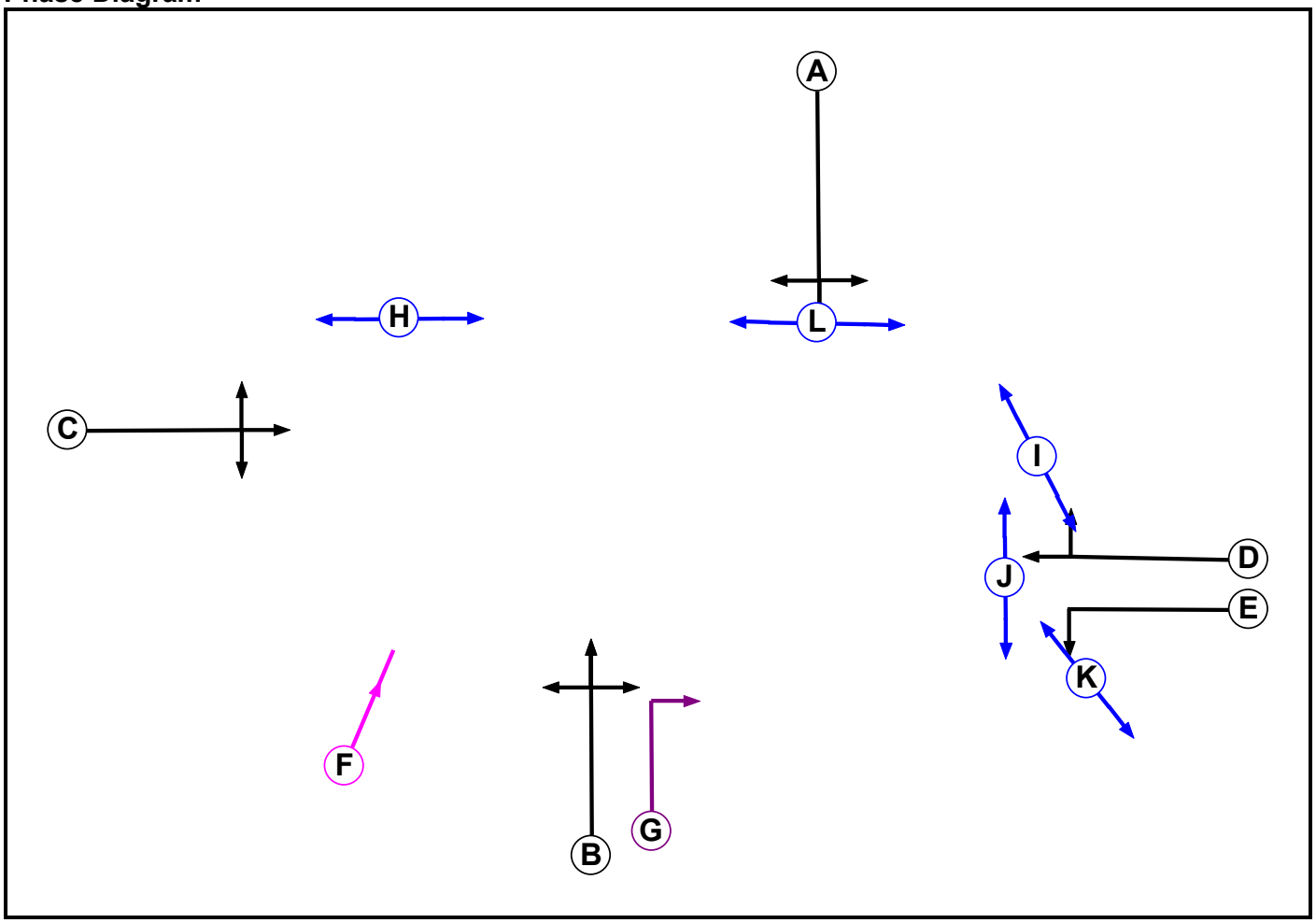
Network Layout Diagram



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Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Cycle		7	7
G	Ind. Arrow	B	4	4
H	Pedestrian		5	5
I	Pedestrian		4	4
J	Pedestrian		2	2
K	Pedestrian		3	3
L	Pedestrian		6	6

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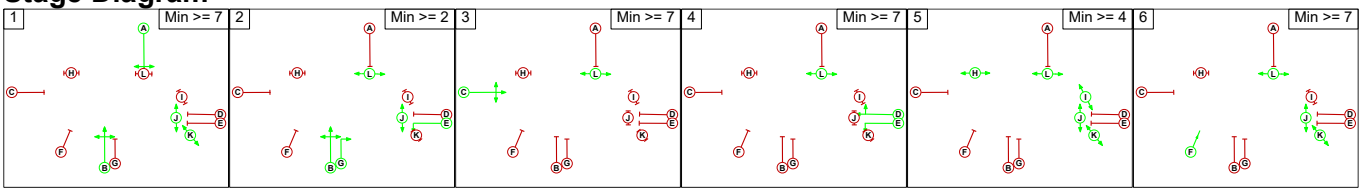
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L
A		-	6	6	7	5	5	-	8	-	-	5
B	-		6	6	-	5	-	8	11	-	-	-
C	7	5		6	7	5	5	8	11	-	-	-
D	5	7	6		-	6	5	10	-	5	-	-
E	5	-	6	-		-	-	-	-	-	5	-
F	8	8	7	8	-		6	10	12	-	-	-
G	7	-	6	6	-	5		-	11	-	-	-
H	-	8	8	8	-	8	-		-	-	-	-
I	5	5	5	-	-	5	5	-		-	-	-
J	-	-	-	5	-	-	-	-	-		-	-
K	-	-	-	-	5	-	-	-	-	-		-
L	11	-	-	-	-	-	-	-	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B J K
2	B E G J L
3	C L
4	D E L
5	H I J K L
6	F J K L

Stage Diagram



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Full Input Data And Results

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	K	Losing	2	2
1	3	J	Losing	1	1
1	3	K	Losing	1	1
3	1	C	Losing	4	4
4	1	D	Losing	4	4
4	1	E	Losing	6	6
5	1	H	Losing	3	3
5	1	I	Losing	6	6
5	2	I	Losing	2	2
5	2	K	Losing	2	2
5	3	I	Losing	2	2
5	3	J	Losing	3	3
5	3	K	Losing	2	2
5	4	I	Losing	2	2
5	4	J	Losing	3	3
5	4	K	Losing	2	2
6	1	F	Losing	3	3
6	3	J	Losing	3	3
6	3	K	Losing	3	3

Prohibited Stage Change

From Stage \ To Stage	1	2	3	4	5	6
1		7	6	7	11	5
2	11		6	6	11	5
3	11	7		7	11	5
4	11	X	6		10	6
5	11	X	8	8		8
6	11	X	7	8	12	

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Full Input Data And Results

Give-Way Lane Input Data

Junction: Alan Turing Way / Gibbon Street											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/3 (Alan Turing Way (N))	8/1 (Right)	1439	0	5/1	1.09	All	2.00	-	0.50	2	2.00
				5/2	1.09	All					
5/3 (Alan Turing Way (S))	4/1 (Right)	1439	0	1/2	1.09	All	2.00	-	0.50	2	2.00
				1/1	1.09	All					

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Full Input Data And Results

Lane Input Data

Junction: Alan Turing Way / Gibbon Street												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Alan Turing Way (N))	U	A	2	3	43.5	Geom	-	3.60	0.00	Y	Arm 4 Left	24.00
											Arm 6 Ahead	Inf
1/2 (Alan Turing Way (N))	U	A	2	3	43.5	Geom	-	3.50	0.00	Y	Arm 6 Ahead	Inf
1/3 (Alan Turing Way (N))	O	A	2	3	12.0	Geom	-	3.50	0.00	Y	Arm 8 Right	13.00
2/1	U		2	3	41.7	Geom	-	4.25	0.00	Y		
2/2	U		2	3	41.7	Geom	-	4.25	0.00	Y		
3/1 (Gibbon Street)	U	E	2	3	6.1	Geom	-	4.50	0.00	Y	Arm 6 Left	29.00
3/2 (Gibbon Street)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 2 Right	20.00
											Arm 8 Ahead	Inf
4/1	U		2	3	29.6	Geom	-	4.50	0.00	Y		
5/1 (Alan Turing Way (S))	U	B	2	3	57.4	Geom	-	3.10	0.00	Y	Arm 2 Ahead	Inf
											Arm 8 Left	15.00
5/2 (Alan Turing Way (S))	U	B	2	3	57.4	Geom	-	3.10	0.00	Y	Arm 2 Ahead	Inf
5/3 (Alan Turing Way (S))	O	B G	2	3	8.5	Geom	-	3.10	0.00	Y	Arm 4 Right	27.00
6/1	U		2	3	50.4	Geom	-	3.90	0.00	Y		
6/2	U		2	3	50.4	Geom	-	3.90	0.00	Y		
7/1 (Stadium Access)	U	C	2	3	17.4	Geom	-	3.80	0.00	Y	Arm 2 Left	15.00
											Arm 4 Ahead	Inf
											Arm 6 Right	16.00
8/1	U		2	3	17.4	Geom	-	3.80	0.00	Y		

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Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: '2023 Baseline Network w/o stadium event'	17:00	18:00	01:00	
4: '2023 Baseline Network (no arena) w/o stadium event'	17:00	18:00	01:00	
5: '2023 Baseline Network w/ stadium event'	18:30	19:30	01:00	
8: '2026 Baseline Network w/o stadium event'	17:00	18:00	01:00	
9: '2026 Baseline Network (no arena) w/o stadium event'	17:00	18:00	01:00	
10: '2026 Baseline Network w/ stadium event'	18:30	19:30	01:00	
12: '2026 Proposed Dev 1700-1800'	17:00	18:00	01:00	
13: '2026 Proposed Dev 1830-1930'	18:30	19:30	01:00	
16: '2026 Baseline Network w/o stadium event + Proposed Dev'	17:00	18:00	01:00	F8+F12
17: '2026 Baseline Network (no arena) w/o stadium event + Proposed Dev'	17:00	18:00	01:00	F9+F12
18: '2026 Baseline Network w/ stadium event + Proposed Dev'	18:30	19:30	01:00	F10+F13

Scenario 5: '2026 Baseline Network w/o stadium event DS' (FG16: '2026 Baseline Network w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	212	870	0	1082
	B	186	0	275	0	461
	C	1712	378	0	1	2091
	D	39	0	73	0	112
	Tot.	1937	590	1218	1	3746

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2026 Baseline Network w/o stadium event DS
Junction: Alan Turing Way / Gibbon Street	
1/1	541
1/2 (with short)	541(In) 541(Out)
1/3 (short)	0
2/1	895
2/2	1042
3/1 (short)	275
3/2 (with short)	461(In) 186(Out)
4/1	590
5/1	857
5/2 (with short)	1234(In) 856(Out)
5/3 (short)	378
6/1	604
6/2	614
7/1	112
8/1	1

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	39.2 %	1928	1928
				Arm 6 Ahead	Inf	60.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	0.0 %	1965	1965
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	100.0 %	1828	1828
				Arm 8 Ahead	Inf	0.0 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	99.9 %	1925	1925
				Arm 8 Left	15.00	0.1 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	34.8 %	1820	1820
				Arm 4 Ahead	Inf	0.0 %		
				Arm 6 Right	16.00	65.2 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 6: '2026 Baseline Network w/o stadium event DM' (FG8: '2026 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	212	870	0	1082
	B	186	0	275	0	461
	C	1712	378	0	1	2091
	D	0	0	0	0	0
	Tot.	1898	590	1145	1	3634

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2026 Baseline Network w/o stadium event DM
Junction: Alan Turing Way / Gibbon Street	
1/1	541
1/2 (with short)	541(In) 541(Out)
1/3 (short)	0
2/1	856
2/2	1042
3/1 (short)	275
3/2 (with short)	461(In) 186(Out)
4/1	590
5/1	857
5/2 (with short)	1234(In) 856(Out)
5/3 (short)	378
6/1	604
6/2	541
7/1	0
8/1	1

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	39.2 %	1928	1928
				Arm 6 Ahead	Inf	60.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	0.0 %	1965	1965
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	100.0 %	1828	1828
				Arm 8 Ahead	Inf	0.0 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	99.9 %	1925	1925
				Arm 8 Left	15.00	0.1 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	0.0 %	1995	1995
				Arm 4 Ahead	Inf	0.0 %		
				Arm 6 Right	16.00	0.0 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 7: '2026 Baseline Network w/ stadium event DS' (FG18: '2026 Baseline Network w/ stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	225	485	128	838
	B	140	0	176	55	371
	C	906	296	0	338	1540
	D	31	4	42	0	77
	Tot.	1077	525	703	521	2826

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: 2026 Baseline Network w/ stadium event DS
Junction: Alan Turing Way / Gibbon Street	
1/1	355
1/2 (with short)	483(In) 355(Out)
1/3 (short)	128
2/1	315
2/2	762
3/1 (short)	176
3/2 (with short)	371(In) 195(Out)
4/1	525
5/1	622
5/2 (with short)	918(In) 622(Out)
5/3 (short)	296
6/1	306
6/2	397
7/1	77
8/1	521

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	63.4 %	1900	1900
				Arm 6 Ahead	Inf	36.6 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	100.0 %	1762	1762
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	71.8 %	1865	1865
				Arm 8 Ahead	Inf	28.2 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	45.7 %	1826	1826
				Arm 8 Left	15.00	54.3 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	40.3 %	1828	1828
				Arm 4 Ahead	Inf	5.2 %		
				Arm 6 Right	16.00	54.5 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 8: '2026 Baseline Network w/ stadium event DM' (FG10: '2026 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	225	485	128	838
	B	140	0	176	55	371
	C	906	296	0	338	1540
	D	12	4	6	0	22
	Tot.	1058	525	667	521	2771

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2026 Baseline Network w/ stadium event DM
Junction: Alan Turing Way / Gibbon Street	
1/1	355
1/2 (with short)	483(In) 355(Out)
1/3 (short)	128
2/1	296
2/2	762
3/1 (short)	176
3/2 (with short)	371(In) 195(Out)
4/1	525
5/1	622
5/2 (with short)	918(In) 622(Out)
5/3 (short)	296
6/1	306
6/2	361
7/1	22
8/1	521

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	63.4 %	1900	1900
				Arm 6 Ahead	Inf	36.6 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	100.0 %	1762	1762
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	71.8 %	1865	1865
				Arm 8 Ahead	Inf	28.2 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	45.7 %	1826	1826
				Arm 8 Left	15.00	54.3 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	54.5 %	1847	1847
				Arm 4 Ahead	Inf	18.2 %		
				Arm 6 Right	16.00	27.3 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 11: '2023 Baseline Network w/o stadium event DM' (FG3: '2023 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	206	846	0	1052
	B	181	0	268	0	449
	C	1678	368	0	1	2047
	D	0	0	0	0	0
	Tot.	1859	574	1114	1	3548

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 11: 2023 Baseline Network w/o stadium event DM
Junction: Alan Turing Way / Gibbon Street	
1/1	526
1/2 (with short)	526(In) 526(Out)
1/3 (short)	0
2/1	839
2/2	1020
3/1 (short)	268
3/2 (with short)	449(In) 181(Out)
4/1	574
5/1	840
5/2 (with short)	1207(In) 839(Out)
5/3 (short)	368
6/1	588
6/2	526
7/1	0
8/1	1

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	39.2 %	1928	1928
				Arm 6 Ahead	Inf	60.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	0.0 %	1965	1965
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	100.0 %	1828	1828
				Arm 8 Ahead	Inf	0.0 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	99.9 %	1925	1925
				Arm 8 Left	15.00	0.1 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	0.0 %	1995	1995
				Arm 4 Ahead	Inf	0.0 %		
				Arm 6 Right	16.00	0.0 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 12: '2023 Baseline Network w/ stadium event DM' (FG5: '2023 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	218	472	124	814
	B	137	0	171	54	362
	C	885	288	0	329	1502
	D	12	4	6	0	22
	Tot.	1034	510	649	507	2700

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 12: 2023 Baseline Network w/ stadium event DM
Junction: Alan Turing Way / Gibbon Street	
1/1	345
1/2 (with short)	469(In) 345(Out)
1/3 (short)	124
2/1	290
2/2	744
3/1 (short)	171
3/2 (with short)	362(In) 191(Out)
4/1	510
5/1	607
5/2 (with short)	895(In) 607(Out)
5/3 (short)	288
6/1	298
6/2	351
7/1	22
8/1	507

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	63.2 %	1900	1900
				Arm 6 Ahead	Inf	36.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	100.0 %	1762	1762
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	71.7 %	1865	1865
				Arm 8 Ahead	Inf	28.3 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	45.8 %	1826	1826
				Arm 8 Left	15.00	54.2 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	54.5 %	1847	1847
				Arm 4 Ahead	Inf	18.2 %		
				Arm 6 Right	16.00	27.3 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 13: '2023 Baseline Network (no arena) w/o stadium event DM' (FG4: '2023 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	206	846	0	1052
	B	181	0	268	0	449
	C	1247	368	0	1	1616
	D	0	0	0	0	0
	Tot.	1428	574	1114	1	3117

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 13: 2023 Baseline Network (no arena) w/o stadium event DM
Junction: Alan Turing Way / Gibbon Street	
1/1	526
1/2 (with short)	526(In) 526(Out)
1/3 (short)	0
2/1	623
2/2	805
3/1 (short)	268
3/2 (with short)	449(In) 181(Out)
4/1	574
5/1	624
5/2 (with short)	992(In) 624(Out)
5/3 (short)	368
6/1	588
6/2	526
7/1	0
8/1	1

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	39.2 %	1928	1928
				Arm 6 Ahead	Inf	60.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	0.0 %	1965	1965
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	100.0 %	1828	1828
				Arm 8 Ahead	Inf	0.0 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	99.8 %	1925	1925
				Arm 8 Left	15.00	0.2 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	0.0 %	1995	1995
				Arm 4 Ahead	Inf	0.0 %		
				Arm 6 Right	16.00	0.0 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 14: '2026 Baseline Network (no arena)w/o stadium event DM' (FG9: '2026 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	212	870	0	1082
	B	186	0	275	0	461
	C	1281	378	0	1	1660
	D	0	0	0	0	0
	Tot.	1467	590	1145	1	3203

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 14: 2026 Baseline Network (no arena)w/o stadium event DM
Junction: Alan Turing Way / Gibbon Street	
1/1	541
1/2 (with short)	541(In) 541(Out)
1/3 (short)	0
2/1	640
2/2	827
3/1 (short)	275
3/2 (with short)	461(In) 186(Out)
4/1	590
5/1	641
5/2 (with short)	1019(In) 641(Out)
5/3 (short)	378
6/1	604
6/2	541
7/1	0
8/1	1

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Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	39.2 %	1928	1928
				Arm 6 Ahead	Inf	60.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	0.0 %	1965	1965
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	100.0 %	1828	1828
				Arm 8 Ahead	Inf	0.0 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	99.8 %	1925	1925
				Arm 8 Left	15.00	0.2 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	0.0 %	1995	1995
				Arm 4 Ahead	Inf	0.0 %		
				Arm 6 Right	16.00	0.0 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 15: '2026 Baseline Network (no arena)w/o stadium event DS' (FG17: '2026 Baseline Network (no arena) w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	212	870	0	1082
	B	186	0	275	0	461
	C	1281	378	0	1	1660
	D	39	0	73	0	112
	Tot.	1506	590	1218	1	3315

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Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 15: 2026 Baseline Network (no arena)w/o stadium event DS
Junction: Alan Turing Way / Gibbon Street	
1/1	541
1/2 (with short)	541(In) 541(Out)
1/3 (short)	0
2/1	679
2/2	827
3/1 (short)	275
3/2 (with short)	461(In) 186(Out)
4/1	590
5/1	641
5/2 (with short)	1019(In) 641(Out)
5/3 (short)	378
6/1	604
6/2	614
7/1	112
8/1	1

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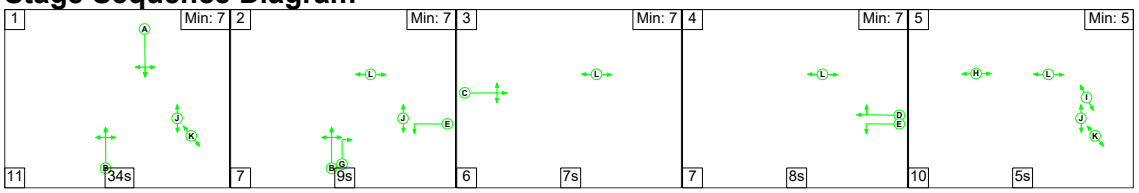
Full Input Data And Results

Lane Saturation Flows

Junction: Alan Turing Way / Gibbon Street								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Alan Turing Way (N))	3.60	0.00	Y	Arm 4 Left	24.00	39.2 %	1928	1928
				Arm 6 Ahead	Inf	60.8 %		
1/2 (Alan Turing Way (N))	3.50	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1965	1965
1/3 (Alan Turing Way (N))	3.50	0.00	Y	Arm 8 Right	13.00	0.0 %	1965	1965
2/1	4.25	0.00	Y				2040	2040
2/2	4.25	0.00	Y				2040	2040
3/1 (Gibbon Street)	4.50	0.00	Y	Arm 6 Left	29.00	100.0 %	1963	1963
3/2 (Gibbon Street)	3.50	0.00	Y	Arm 2 Right	20.00	100.0 %	1828	1828
				Arm 8 Ahead	Inf	0.0 %		
4/1	4.50	0.00	Y				2065	2065
5/1 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	99.8 %	1925	1925
				Arm 8 Left	15.00	0.2 %		
5/2 (Alan Turing Way (S))	3.10	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1925	1925
5/3 (Alan Turing Way (S))	3.10	0.00	Y	Arm 4 Right	27.00	100.0 %	1824	1824
6/1	3.90	0.00	Y				2005	2005
6/2	3.90	0.00	Y				2005	2005
7/1 (Stadium Access)	3.80	0.00	Y	Arm 2 Left	15.00	34.8 %	1820	1820
				Arm 4 Ahead	Inf	0.0 %		
				Arm 6 Right	16.00	65.2 %		
8/1	3.80	0.00	Y				1995	1995

Scenario 5: '2026 Baseline Network w/o stadium event DS' (FG16: '2026 Baseline Network w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



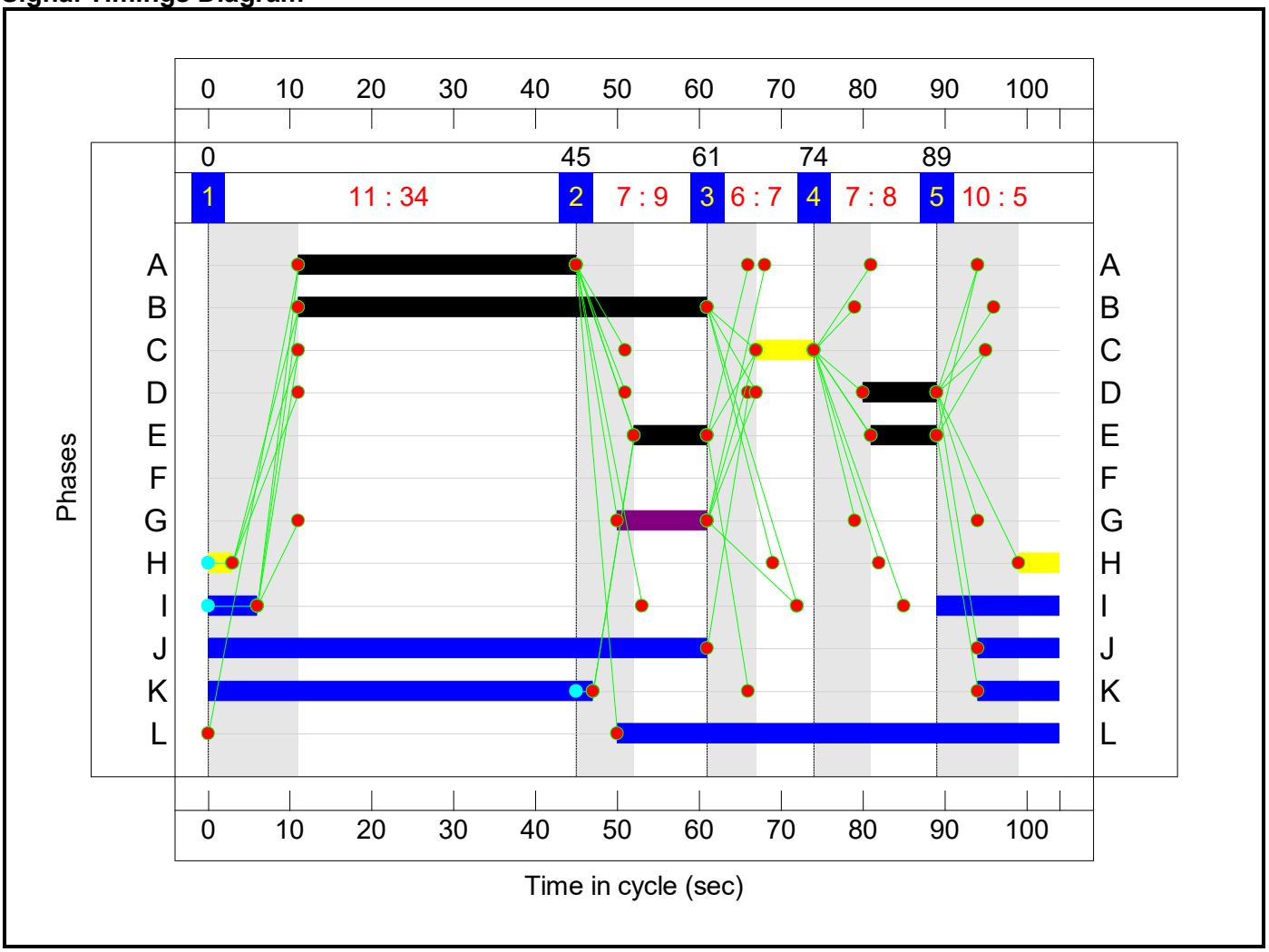
Stage Timings

Stage	1	2	3	4	5
Duration	34	9	7	8	5
Change Point	0	45	61	74	89

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Full Input Data And Results

Signal Timings Diagram



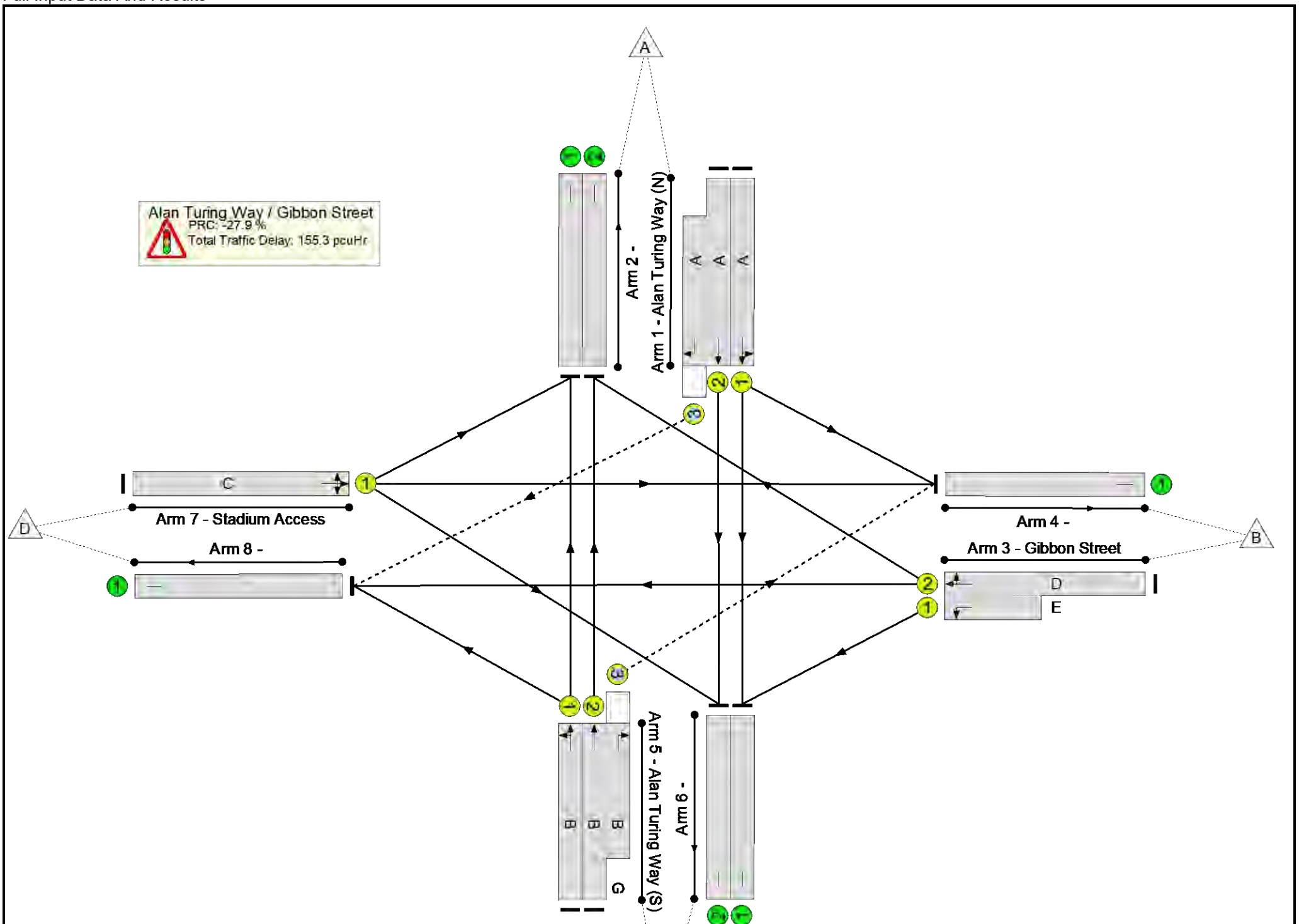
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.1%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.1%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	34	-	541	1928	649	83.4%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	34	-	541	1965:1965	661+0	81.8 : 0.0%
2/1		U	N/A	N/A	-		-	-	-	895	2040	2040	43.9%
2/2		U	N/A	N/A	-		-	-	-	1042	2040	2040	45.1%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	9:17	-	461	1828:1963	176+260	105.8 : 105.8%
4/1		U	N/A	N/A	-		-	-	-	590	2065	2065	26.2%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	50	-	857	1925	944	90.8%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	50	11	1234	1925:1824	744+328	115.1 : 115.1%
6/1		U	N/A	N/A	-		-	-	-	604	2005	2005	30.1%
6/2		U	N/A	N/A	-		-	-	-	614	2005	2005	30.6%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	112	1820	140	80.0%
8/1		U	N/A	N/A	-		-	-	-	1	1995	1995	0.1%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**20**	**246**	**63**	**38.8**	**115.7**	**0.8**	**155.3**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**20**	**246**	**63**	**38.8**	**115.7**	**0.8**	**155.3**	**-**	**-**	**-**	**-**
1/1	541	541	-	-	-	4.8	2.4	-	7.2	47.8	14.3	2.4	16.7
1/2+1/3	541	541	0	0	0	4.7	2.2	0.0	6.9	46.1	14.4	2.2	16.6
2/1	895	895	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
2/2	919	919	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
3/2+3/1	461	451	-	-	-	4.9	18.8	-	23.7	184.8	5.8	18.8	24.6
4/1	540	540	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	857	857	-	-	-	5.8	4.5	-	10.3	43.1	22.6	4.5	27.1
5/2+5/3	1234	1072	20	246	63	17.1	84.6	0.8	102.6	299.2	39.0	84.6	123.6
6/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/2	614	614	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
7/1	112	112	-	-	-	1.5	1.8	-	3.2	104.3	3.2	1.8	4.9
8/1	1	1	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

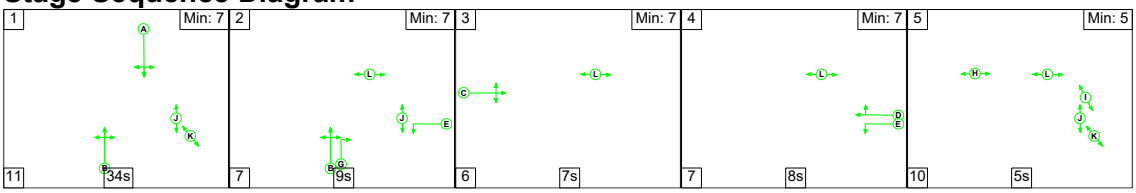
C1 PRC for Signalled Lanes (%): -27.9 Total Delay for Signalled Lanes (pcuHr): 153.84 Cycle Time (s): 104
PRC Over All Lanes (%): -27.9 Total Delay Over All Lanes(pcuHr): 155.25

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Full Input Data And Results

Scenario 6: '2026 Baseline Network w/o stadium event DM' (FG8: '2026 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

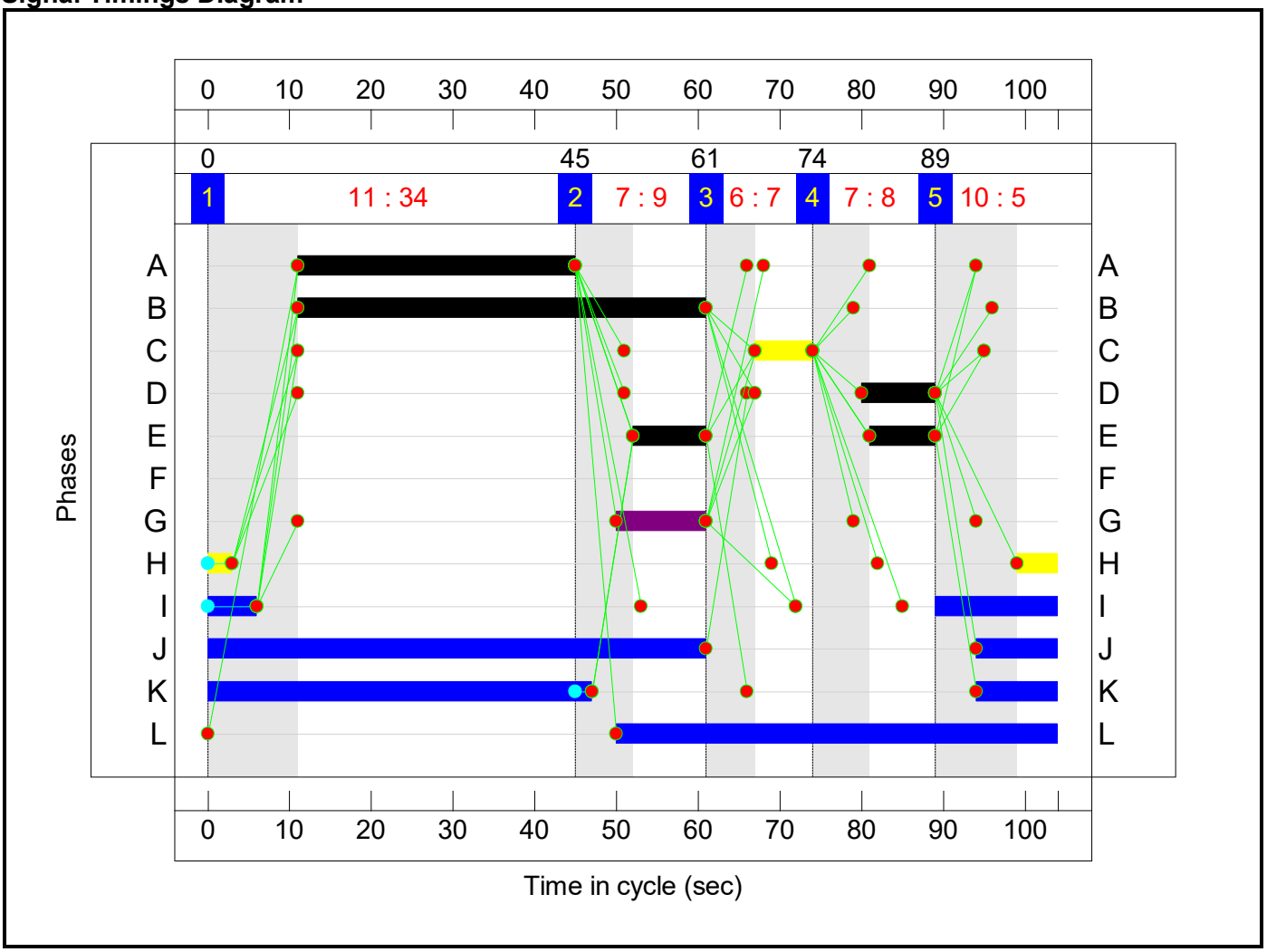
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	34	9	7	8	5
Change Point	0	45	61	74	89

Signal Timings Diagram



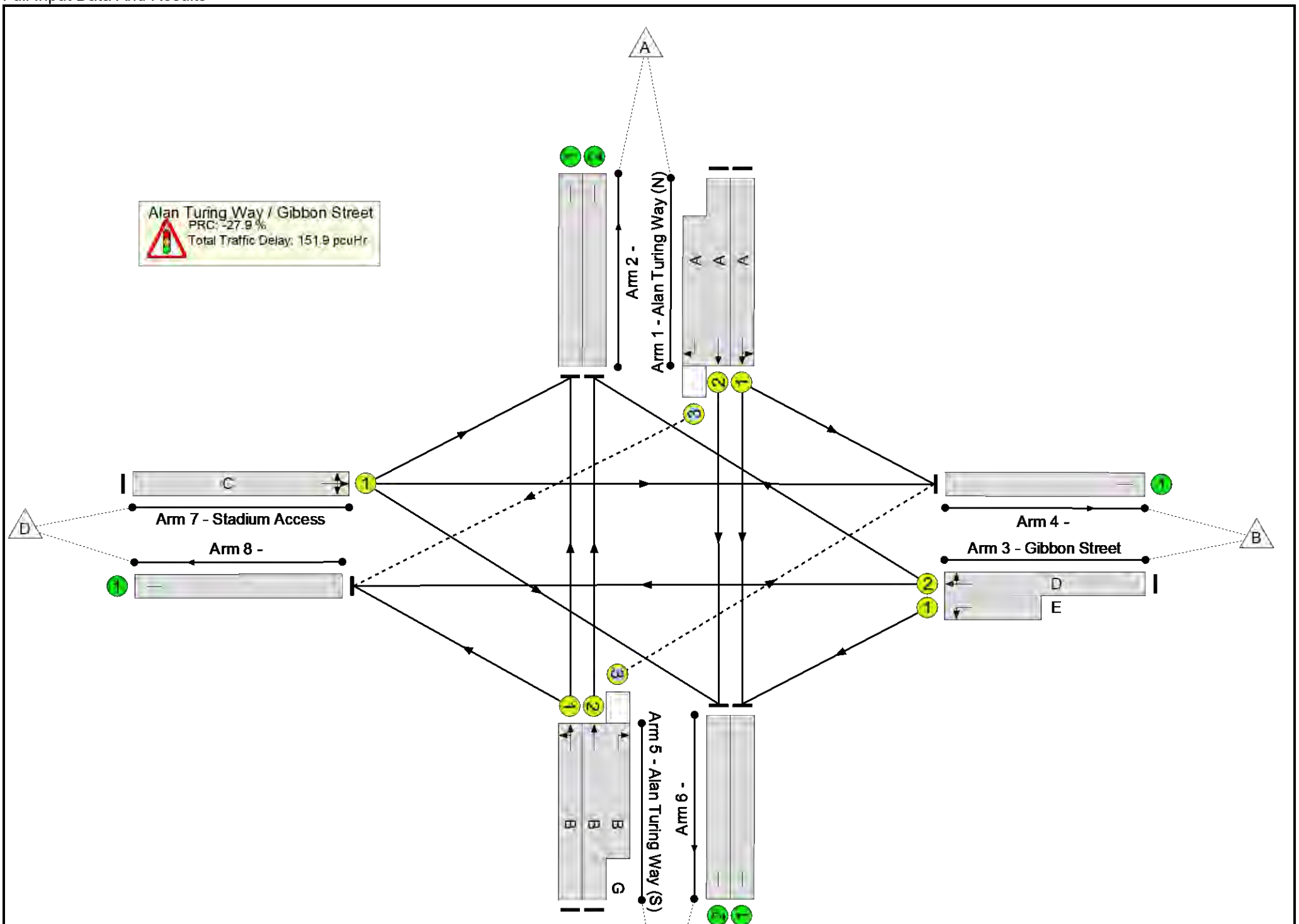
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.1%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.1%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	34	-	541	1928	649	83.4%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	34	-	541	1965:1965	661+0	81.8 : 0.0%
2/1		U	N/A	N/A	-		-	-	-	856	2040	2040	42.0%
2/2		U	N/A	N/A	-		-	-	-	1042	2040	2040	45.1%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	9:17	-	461	1828:1963	176+260	105.8 : 105.8%
4/1		U	N/A	N/A	-		-	-	-	590	2065	2065	26.2%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	50	-	857	1925	944	90.8%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	50	11	1234	1925:1824	744+328	115.1 : 115.1%
6/1		U	N/A	N/A	-		-	-	-	604	2005	2005	30.1%
6/2		U	N/A	N/A	-		-	-	-	541	2005	2005	27.0%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	0	1995	153	0.0%
8/1		U	N/A	N/A	-		-	-	-	1	1995	1995	0.1%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**20**	**246**	**63**	**37.3**	**113.8**	**0.8**	**151.9**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**20**	**246**	**63**	**37.3**	**113.8**	**0.8**	**151.9**	**-**	**-**	**-**	**-**
1/1	541	541	-	-	-	4.8	2.4	-	7.2	47.8	14.3	2.4	16.7
1/2+1/3	541	541	0	0	0	4.7	2.2	0.0	6.9	46.1	14.4	2.2	16.6
2/1	856	856	-	-	-	0.0	0.4	-	0.4	1.5	0.0	0.4	0.4
2/2	919	919	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
3/2+3/1	461	451	-	-	-	4.9	18.8	-	23.7	184.8	5.8	18.8	24.6
4/1	540	540	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	857	857	-	-	-	5.8	4.5	-	10.3	43.1	22.6	4.5	27.1
5/2+5/3	1234	1072	20	246	63	17.1	84.6	0.8	102.6	299.2	39.0	84.6	123.6
6/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/2	541	541	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1	1	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

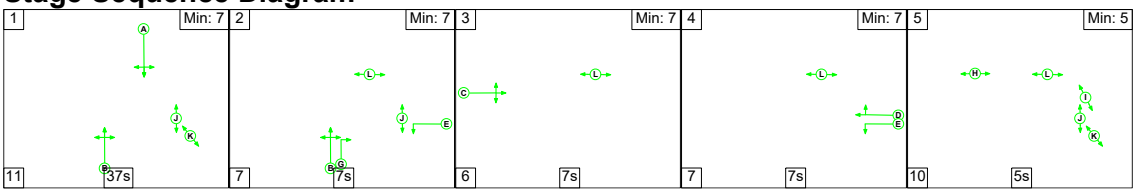
C1 PRC for Signalled Lanes (%): -27.9 Total Delay for Signalled Lanes (pcuHr): 150.59 Cycle Time (s): 104
PRC Over All Lanes (%): -27.9 Total Delay Over All Lanes(pcuHr): 151.94

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Full Input Data And Results

Scenario 7: '2026 Baseline Network w/ stadium event DS' (FG18: '2026 Baseline Network w/ stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

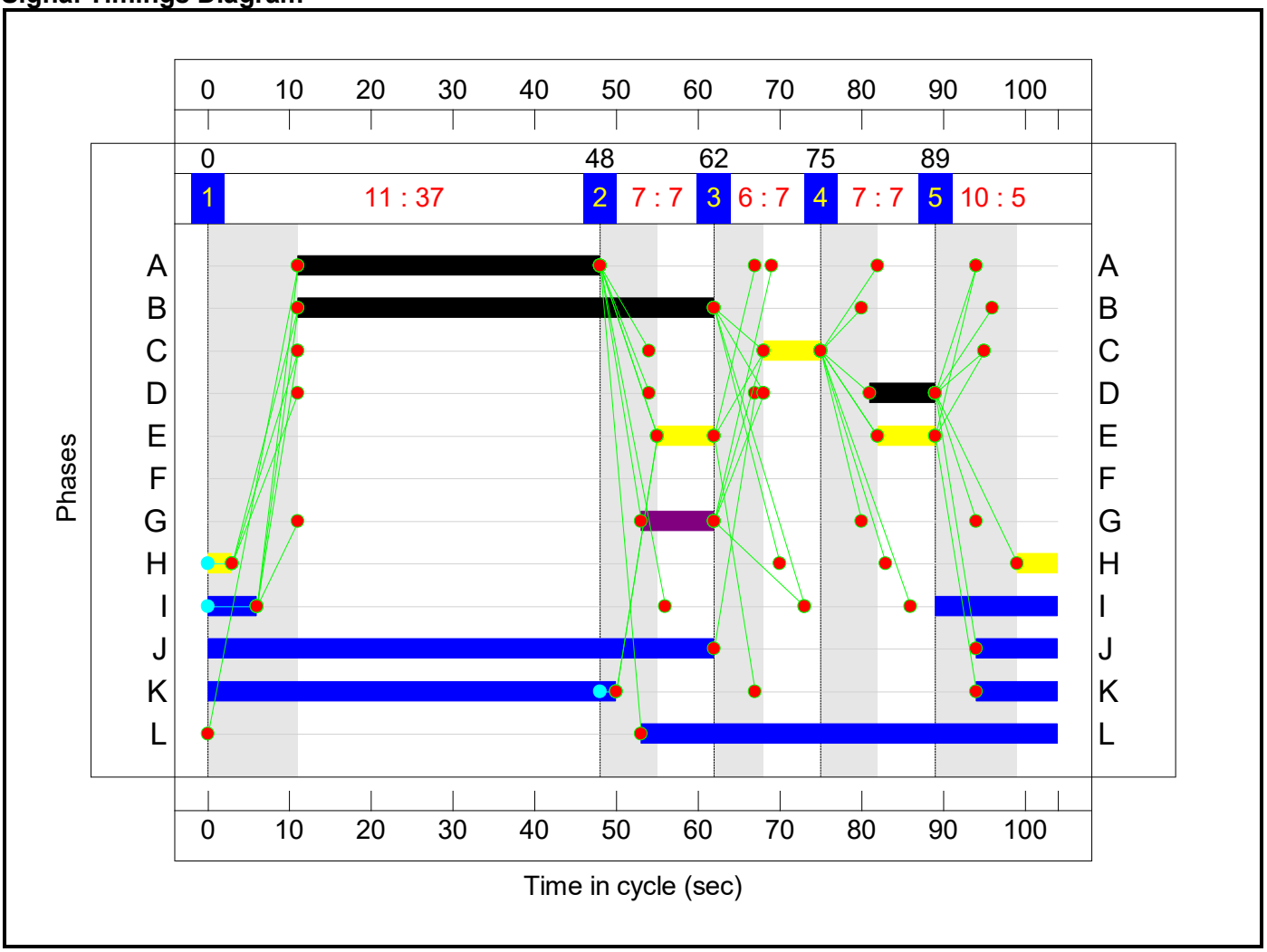
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	37	7	7	7	5
Change Point	0	48	62	75	89

Signal Timings Diagram



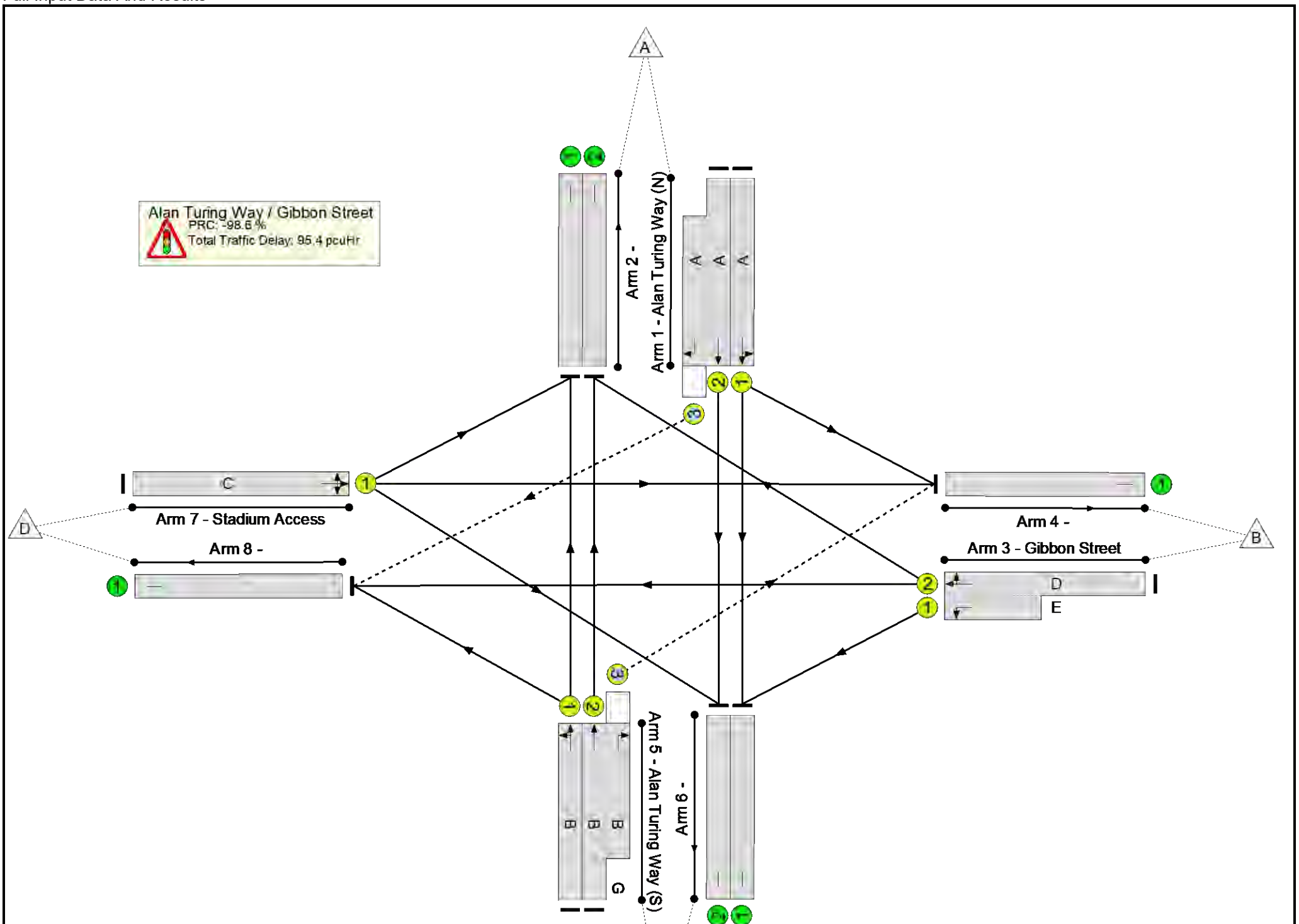
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**178.7%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**178.7%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	37	-	355	1900	694	51.1%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	37	-	483	1965:1762	558+72	63.6 : 178.7%
2/1		U	N/A	N/A	-		-	-	-	315	2040	2040	15.4%
2/2		U	N/A	N/A	-		-	-	-	762	2040	2040	36.2%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	8:14	-	371	1865:1963	161+146	120.8 : 120.8%
4/1		U	N/A	N/A	-		-	-	-	525	2065	2065	25.4%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	51	-	622	1826	913	68.1%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	51	9	918	1925:1824	745+355	83.5 : 83.5%
6/1		U	N/A	N/A	-		-	-	-	306	2005	2005	14.4%
6/2		U	N/A	N/A	-		-	-	-	397	2005	2005	19.8%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	77	1828	141	54.8%
8/1		U	N/A	N/A	-		-	-	-	521	1995	1995	22.8%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**160**	**146**	**62**	**23.8**	**70.0**	**1.6**	**95.4**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**160**	**146**	**62**	**23.8**	**70.0**	**1.6**	**95.4**	**-**	**-**	**-**	**-**
1/1	355	355	-	-	-	2.5	0.5	-	3.1	31.0	8.0	0.5	8.5
1/2+1/3	483	427	15	0	56	6.1	29.8	1.0	36.9	275.1	7.9	29.8	37.7
2/1	315	315	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
2/2	738	738	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
3/2+3/1	371	320	-	-	-	5.1	34.6	-	39.8	385.7	7.7	34.6	42.3
4/1	525	525	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	622	622	-	-	-	3.4	1.1	-	4.5	25.9	13.5	1.1	14.5
5/2+5/3	918	918	144	146	6	5.6	2.5	0.7	8.8	34.3	17.4	2.5	19.8
6/1	289	289	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
6/2	397	397	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/1	77	77	-	-	-	1.0	0.6	-	1.6	74.1	2.1	0.6	2.7
8/1	455	455	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1

C1 PRC for Signalled Lanes (%): -98.6 Total Delay for Signalled Lanes (pcuHr): 94.52 Cycle Time (s): 104

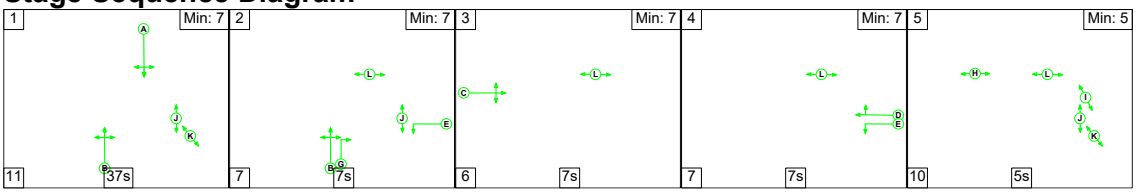
PRC Over All Lanes (%): -98.6 Total Delay Over All Lanes(pcuHr): 95.42

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Full Input Data And Results

Scenario 8: '2026 Baseline Network w/ stadium event DM' (FG10: '2026 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

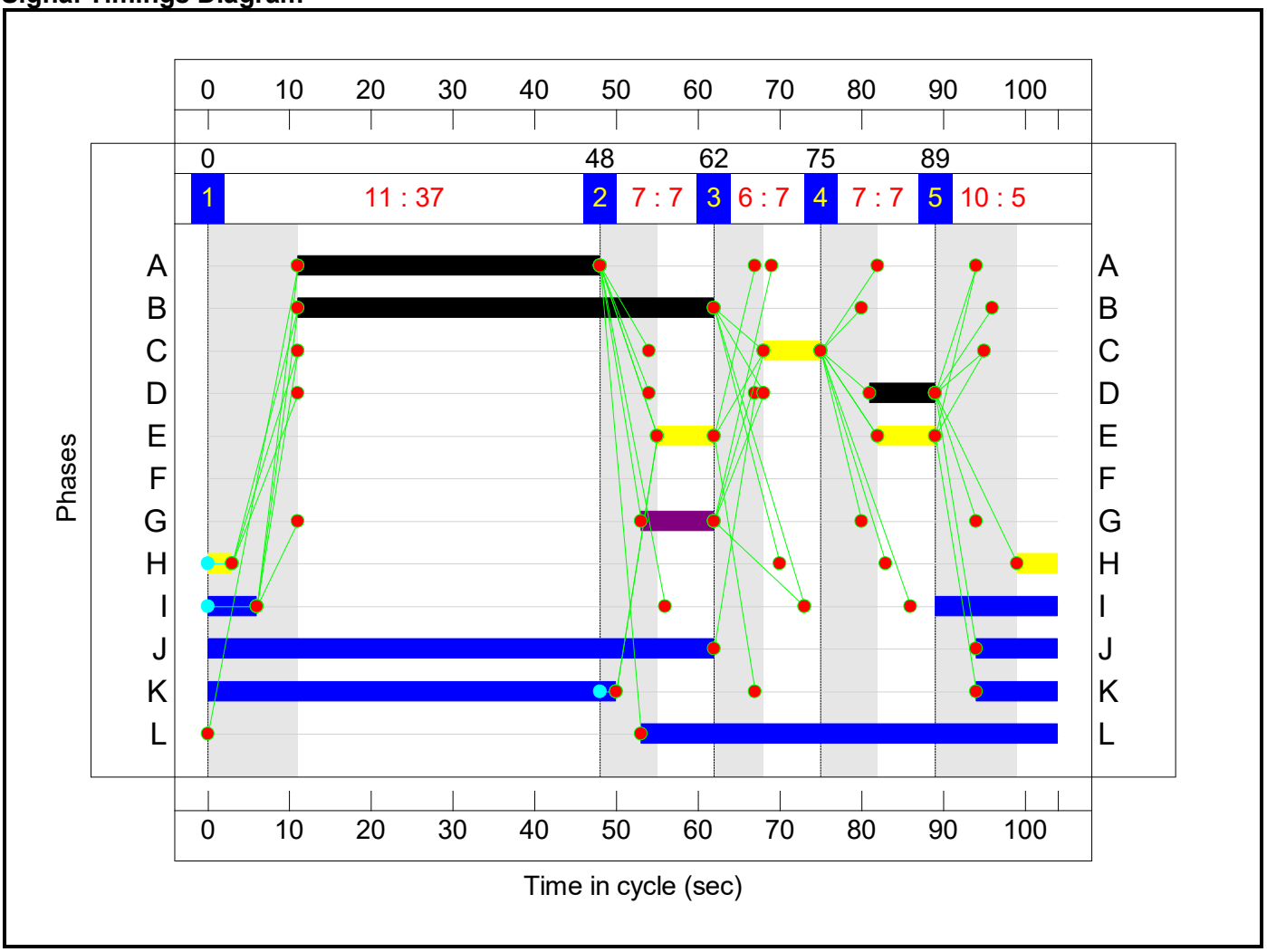
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	37	7	7	7	5
Change Point	0	48	62	75	89

Signal Timings Diagram



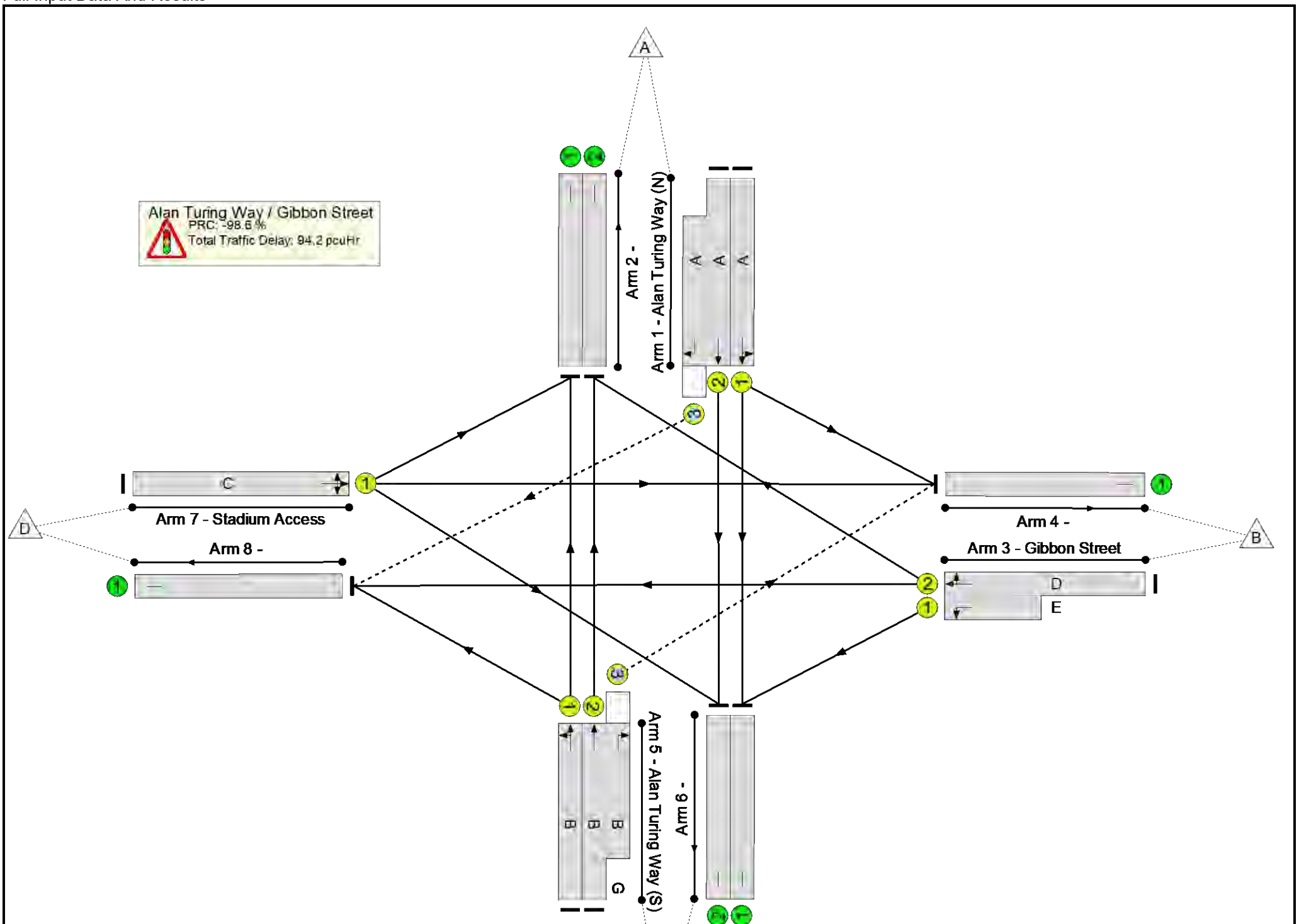
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**178.7%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**178.7%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	37	-	355	1900	694	51.1%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	37	-	483	1965:1762	558+72	63.6 : 178.7%
2/1		U	N/A	N/A	-		-	-	-	296	2040	2040	14.5%
2/2		U	N/A	N/A	-		-	-	-	762	2040	2040	36.2%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	8:14	-	371	1865:1963	161+146	120.8 : 120.8%
4/1		U	N/A	N/A	-		-	-	-	525	2065	2065	25.4%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	51	-	622	1826	913	68.1%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	51	9	918	1925:1824	745+355	83.5 : 83.5%
6/1		U	N/A	N/A	-		-	-	-	306	2005	2005	14.4%
6/2		U	N/A	N/A	-		-	-	-	361	2005	2005	18.0%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	22	1847	142	15.5%
8/1		U	N/A	N/A	-		-	-	-	521	1995	1995	22.8%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**160**	**146**	**62**	**23.1**	**69.5**	**1.6**	**94.2**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**160**	**146**	**62**	**23.1**	**69.5**	**1.6**	**94.2**	**-**	**-**	**-**	**-**
1/1	355	355	-	-	-	2.5	0.5	-	3.1	31.0	8.0	0.5	8.5
1/2+1/3	483	427	15	0	56	6.1	29.8	1.0	36.9	275.1	7.9	29.8	37.7
2/1	296	296	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
2/2	738	738	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
3/2+3/1	371	320	-	-	-	5.1	34.6	-	39.8	385.7	7.7	34.6	42.3
4/1	525	525	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	622	622	-	-	-	3.4	1.1	-	4.5	25.9	13.5	1.1	14.5
5/2+5/3	918	918	144	146	6	5.6	2.5	0.7	8.8	34.3	17.4	2.5	19.8
6/1	289	289	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
6/2	361	361	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/1	22	22	-	-	-	0.3	0.1	-	0.4	59.9	0.6	0.1	0.7
8/1	455	455	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1

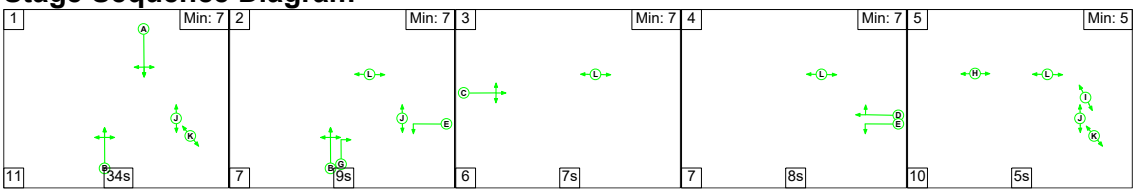
C1 PRC for Signalled Lanes (%): -98.6 Total Delay for Signalled Lanes (pcuHr): 93.30 Cycle Time (s): 104
PRC Over All Lanes (%): -98.6 Total Delay Over All Lanes(pcuHr): 94.18

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Full Input Data And Results

Scenario 11: '2023 Baseline Network w/o stadium event DM' (FG3: '2023 Baseline Network w/o stadium event', Plan 1: 'Network Control Plan 1')

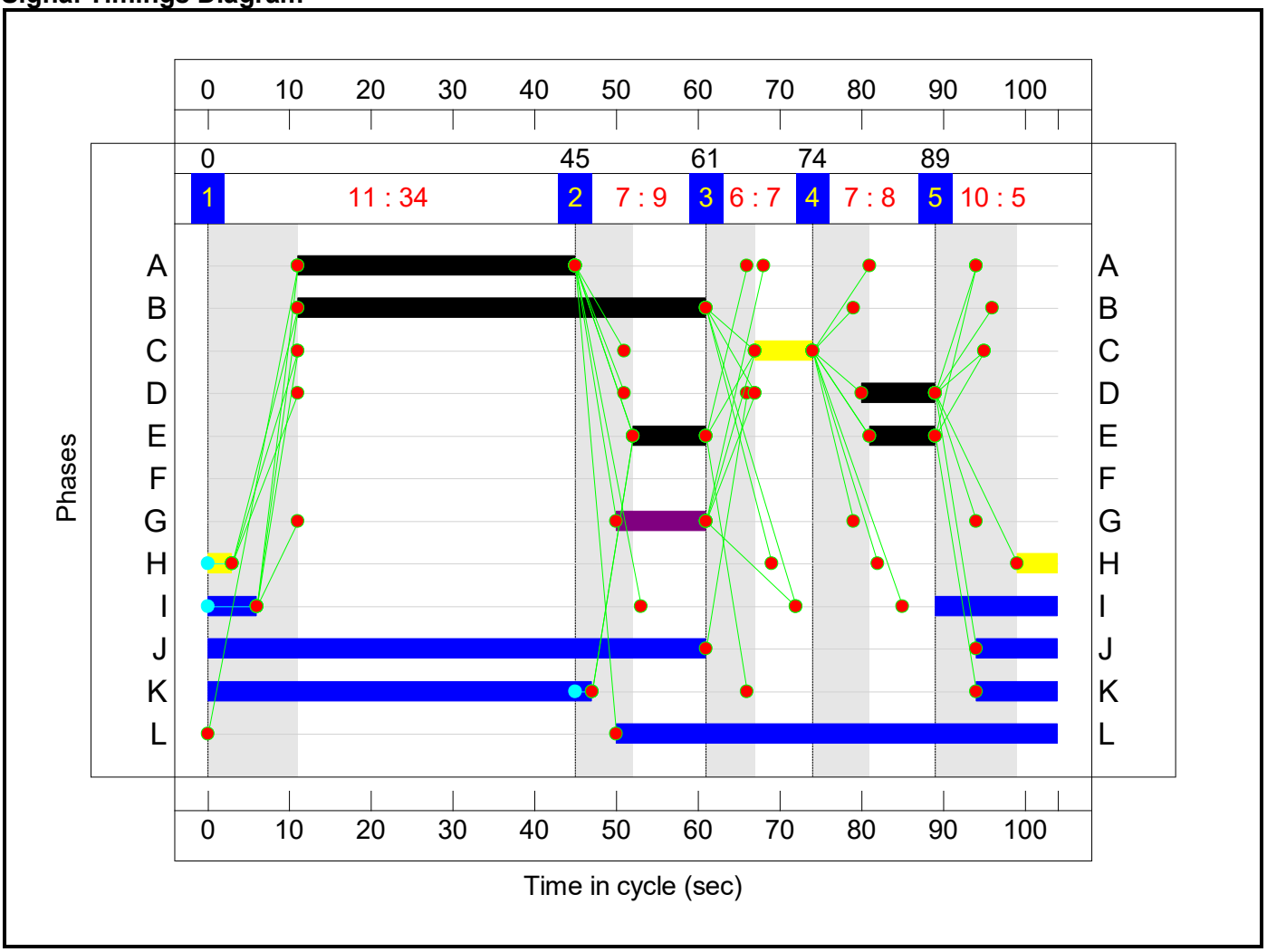
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	34	9	7	8	5
Change Point	0	45	61	74	89

Signal Timings Diagram



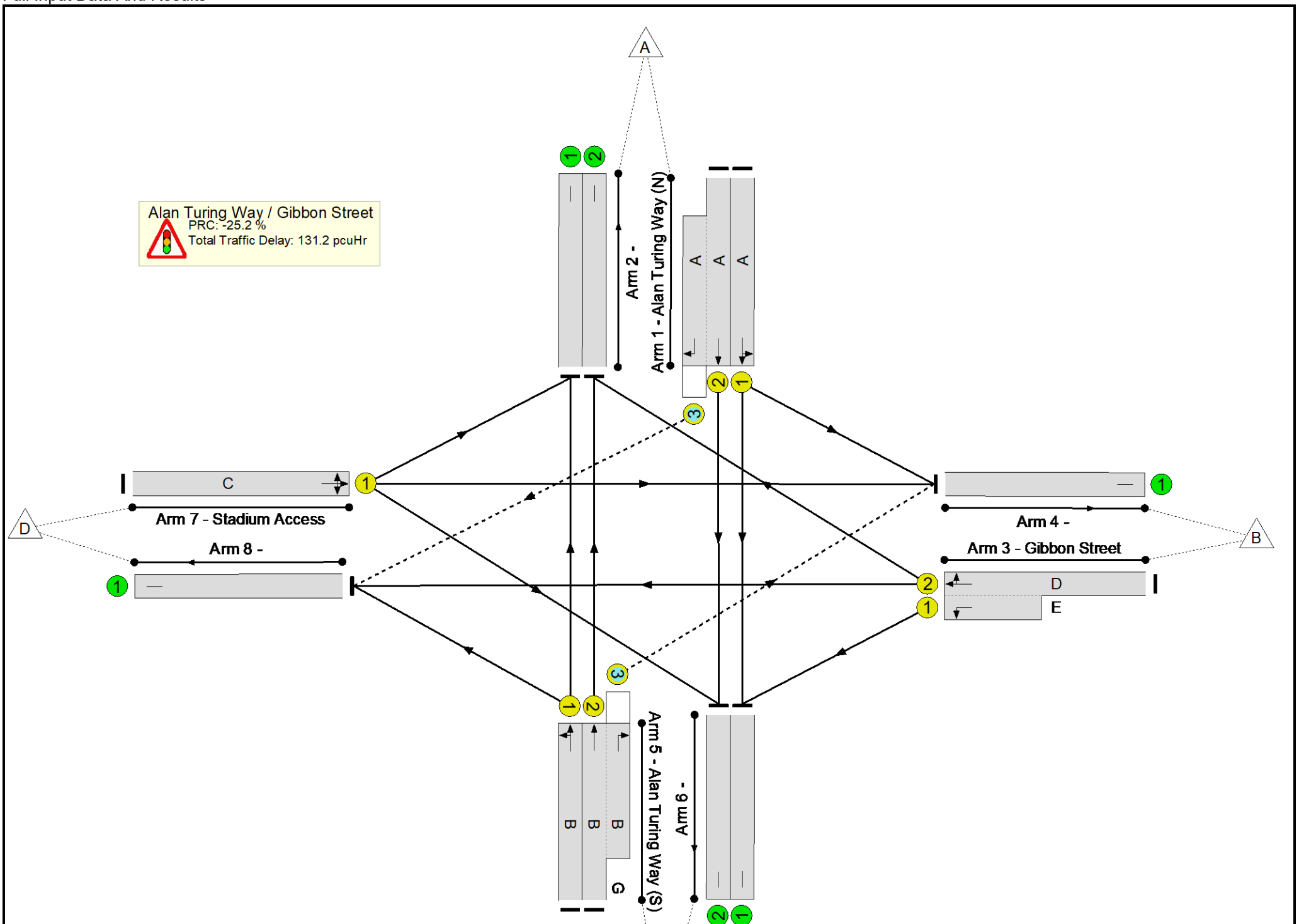
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.7%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.7%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	34	-	526	1928	649	81.1%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	34	-	526	1965:1965	661+0	79.6 : 0.0%
2/1		U	N/A	N/A	-		-	-	-	839	2040	2040	41.1%
2/2		U	N/A	N/A	-		-	-	-	1020	2040	2040	45.1%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	9:17	-	449	1828:1963	176+260	103.0 : 103.0%
4/1		U	N/A	N/A	-		-	-	-	574	2065	2065	25.8%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	50	-	840	1925	944	89.0%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	50	11	1207	1925:1824	745+327	112.7 : 112.7%
6/1		U	N/A	N/A	-		-	-	-	588	2005	2005	29.3%
6/2		U	N/A	N/A	-		-	-	-	526	2005	2005	26.2%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	0	1995	153	0.0%
8/1		U	N/A	N/A	-		-	-	-	1	1995	1995	0.1%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**25**	**246**	**56**	**35.0**	**95.5**	**0.8**	**131.2**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**25**	**246**	**56**	**35.0**	**95.5**	**0.8**	**131.2**	**-**	**-**	**-**	**-**
1/1	526	526	-	-	-	4.6	2.1	-	6.7	45.7	13.7	2.1	15.8
1/2+1/3	526	526	0	0	0	4.6	1.9	0.0	6.5	44.2	13.8	1.9	15.6
2/1	839	839	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
2/2	920	920	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
3/2+3/1	449	444	-	-	-	4.5	14.3	-	18.9	151.2	5.7	14.3	20.0
4/1	533	533	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	840	840	-	-	-	5.6	3.8	-	9.4	40.1	21.9	3.8	25.7
5/2+5/3	1207	1071	25	246	56	15.7	72.1	0.8	88.5	264.1	37.4	72.1	109.5
6/1	588	588	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/2	526	526	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1	1	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

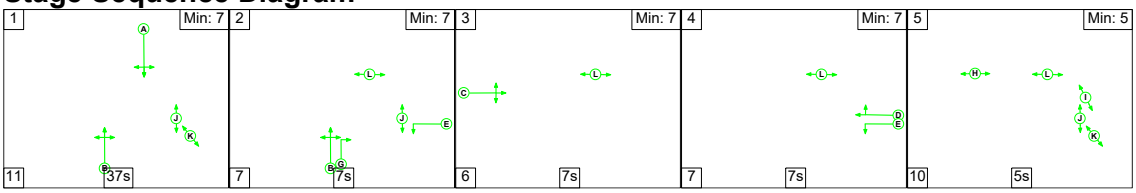
C1 PRC for Signalled Lanes (%): -25.2 Total Delay for Signalled Lanes (pcuHr): 129.89 Cycle Time (s): 104
PRC Over All Lanes (%): -25.2 Total Delay Over All Lanes(pcuHr): 131.20

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Full Input Data And Results

Scenario 12: '2023 Baseline Network w/ stadium event DM' (FG5: '2023 Baseline Network w/ stadium event', Plan 1: 'Network Control Plan 1')

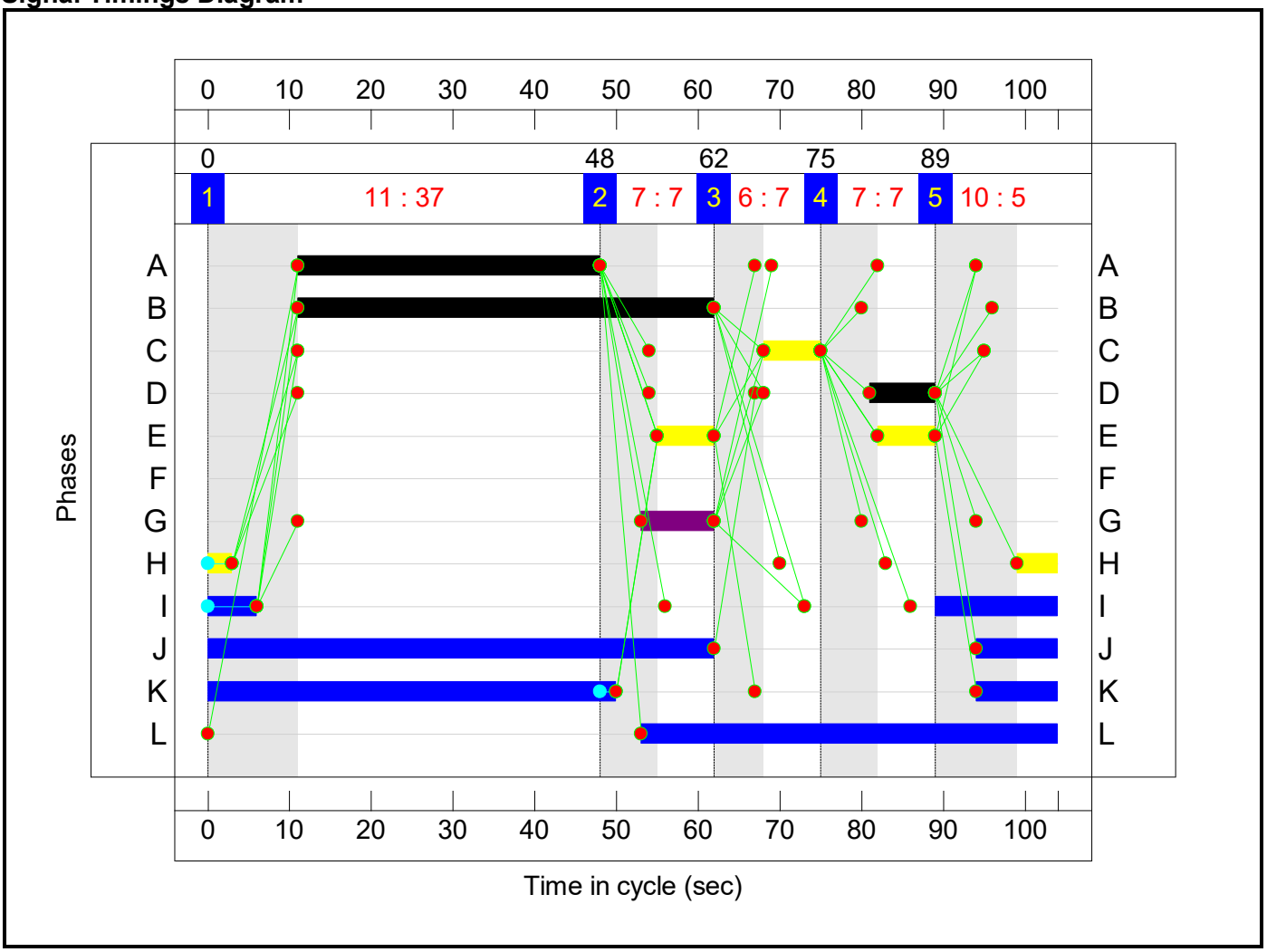
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	37	7	7	7	5
Change Point	0	48	62	75	89

Signal Timings Diagram



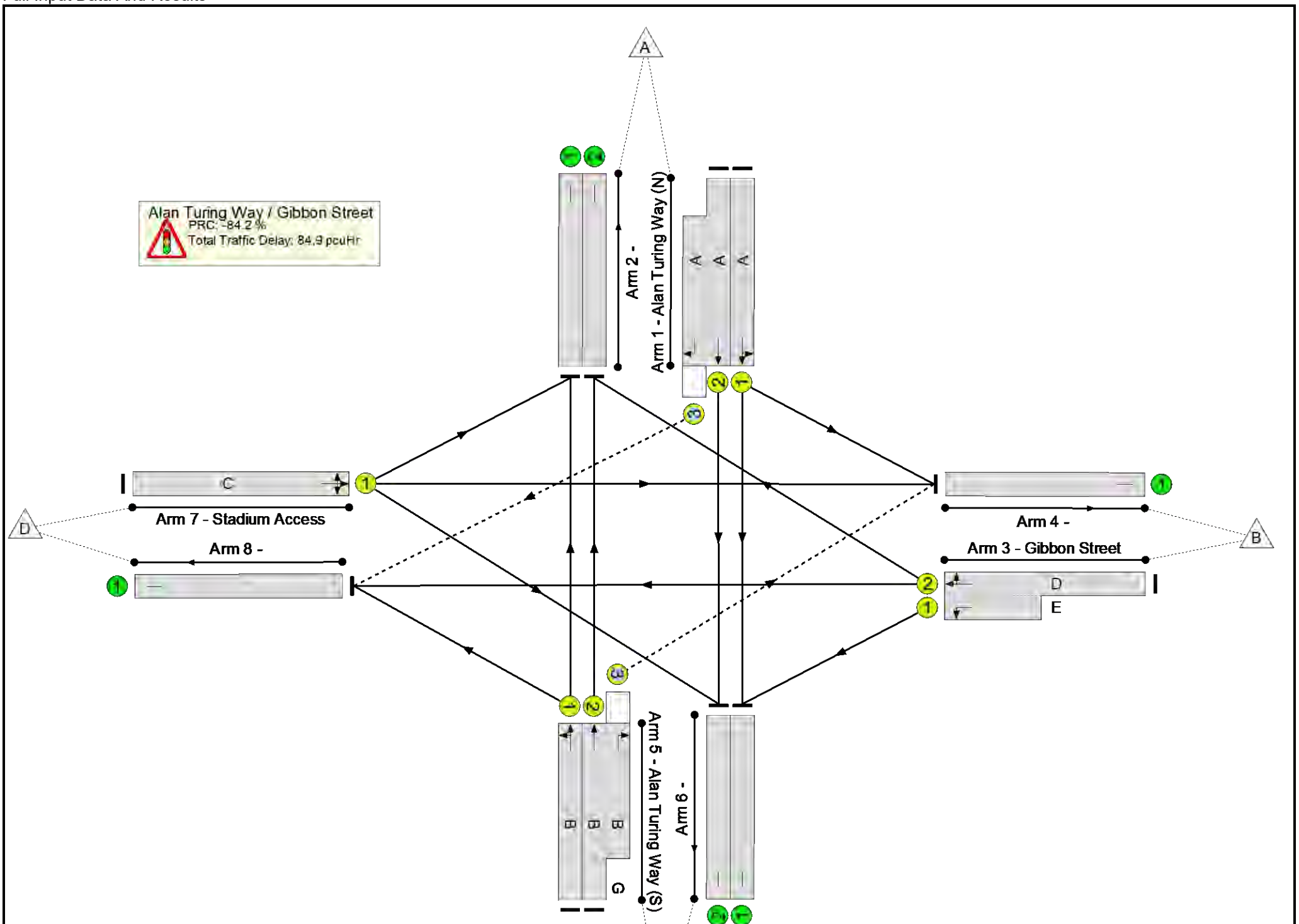
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**165.8%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**165.8%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	37	-	345	1900	694	49.7%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	37	-	469	1965:1762	580+75	59.5 : 165.8%
2/1		U	N/A	N/A	-		-	-	-	290	2040	2040	14.2%
2/2		U	N/A	N/A	-		-	-	-	744	2040	2040	35.4%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	8:14	-	362	1865:1963	161+144	118.3 : 118.3%
4/1		U	N/A	N/A	-		-	-	-	510	2065	2065	24.7%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	51	-	607	1826	913	66.5%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	51	9	895	1925:1824	746+354	81.4 : 81.4%
6/1		U	N/A	N/A	-		-	-	-	298	2005	2005	14.4%
6/2		U	N/A	N/A	-		-	-	-	351	2005	2005	17.5%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	22	1847	142	15.5%
8/1		U	N/A	N/A	-		-	-	-	507	1995	1995	22.5%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**175**	**131**	**57**	**21.9**	**61.4**	**1.6**	**84.9**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**175**	**131**	**57**	**21.9**	**61.4**	**1.6**	**84.9**	**-**	**-**	**-**	**-**
1/1	345	345	-	-	-	2.5	0.5	-	2.9	30.7	7.7	0.5	8.2
1/2+1/3	469	420	23	0	51	5.7	25.8	0.9	32.5	249.2	7.7	25.8	33.5
2/1	290	290	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
2/2	723	723	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
3/2+3/1	362	322	-	-	-	4.8	31.0	-	35.8	356.2	7.0	31.0	38.0
4/1	510	510	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	607	607	-	-	-	3.3	1.0	-	4.3	25.3	13.0	1.0	14.0
5/2+5/3	895	895	152	131	6	5.3	2.1	0.7	8.1	32.8	16.4	2.1	18.5
6/1	288	288	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
6/2	351	351	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/1	22	22	-	-	-	0.3	0.1	-	0.4	59.9	0.6	0.1	0.7
8/1	449	449	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1

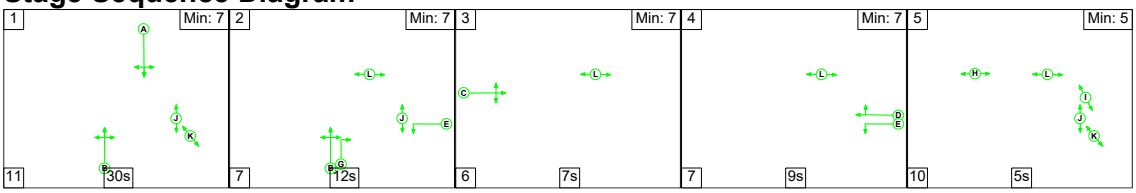
C1 PRC for Signalled Lanes (%): -84.2 Total Delay for Signalled Lanes (pcuHr): 84.02 Cycle Time (s): 104
PRC Over All Lanes (%): -84.2 Total Delay Over All Lanes(pcuHr): 84.87

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Full Input Data And Results

Scenario 13: '2023 Baseline Network (no arena) w/o stadium event DM' (FG4: '2023 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

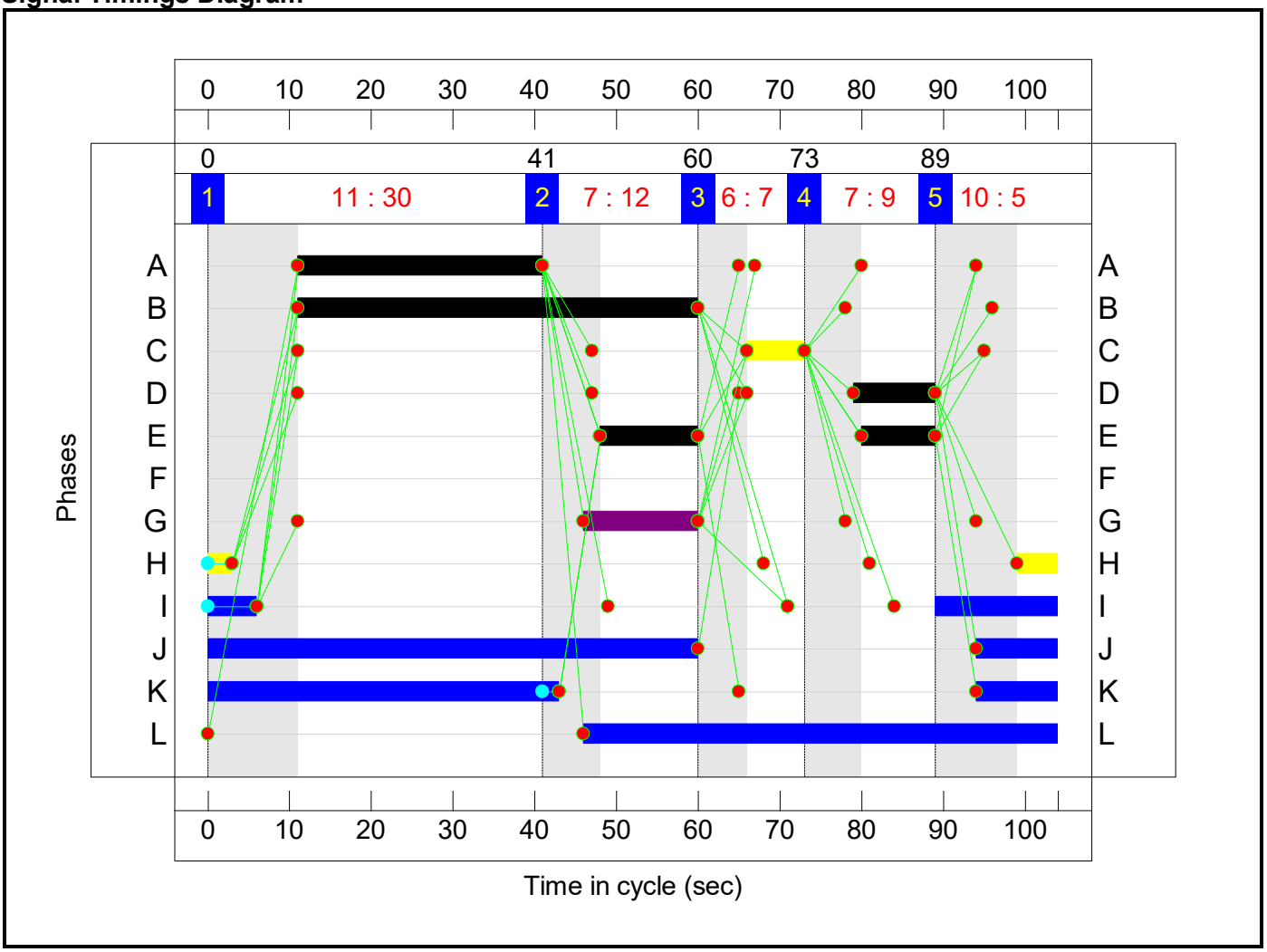
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	30	12	7	9	5
Change Point	0	41	60	73	89

Signal Timings Diagram



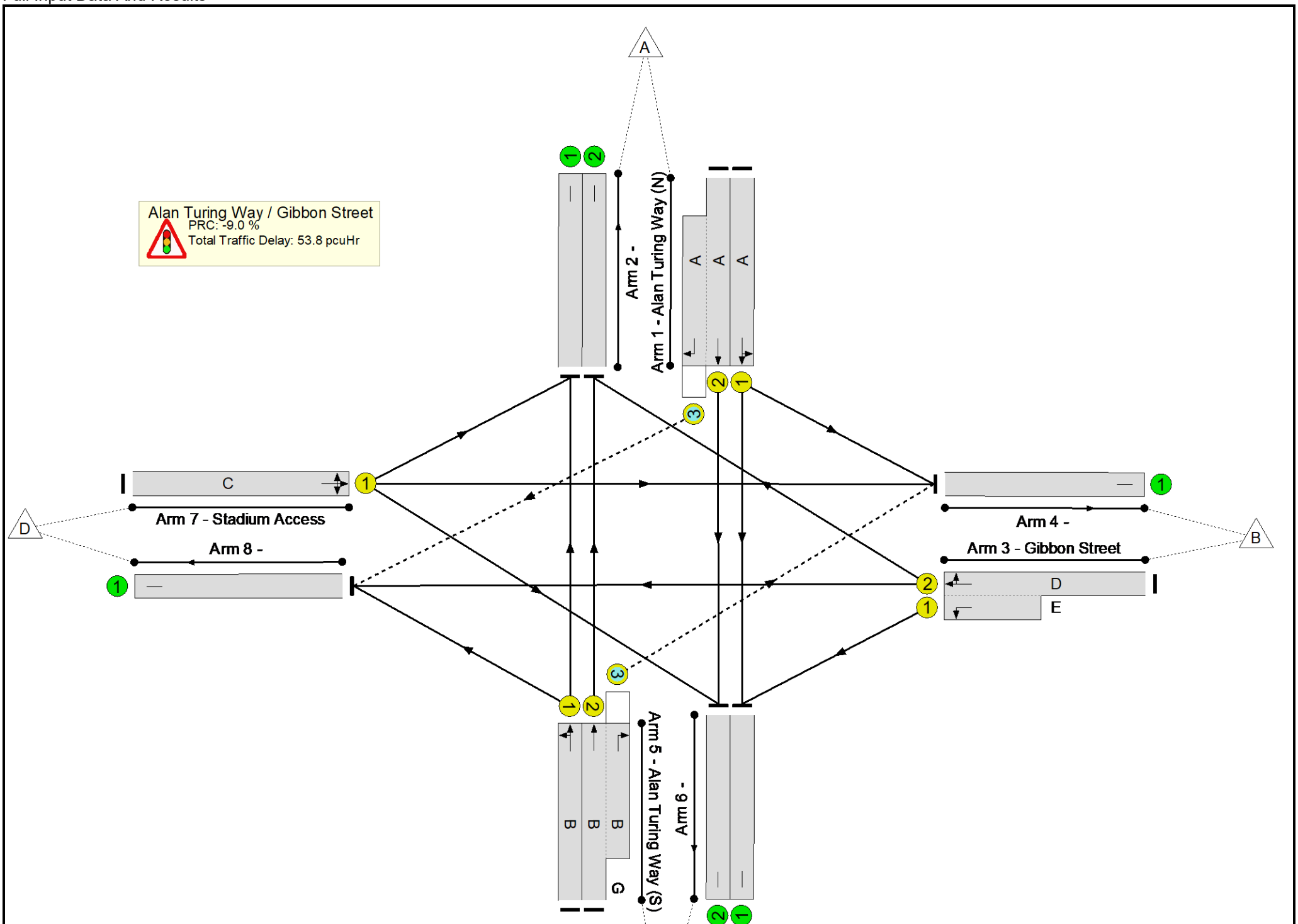
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**98.1%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**98.1%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	30	-	526	1928	575	91.5%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	30	-	526	1965:1965	585+0	89.8 : 0.0%
2/1		U	N/A	N/A	-		-	-	-	623	2040	2040	30.5%
2/2		U	N/A	N/A	-		-	-	-	805	2040	2040	39.5%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	10:21	-	449	1828:1963	193+286	93.6 : 93.6%
4/1		U	N/A	N/A	-		-	-	-	574	2065	2065	27.8%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	49	-	624	1925	925	67.4%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	49	14	992	1925:1824	636+375	98.1 : 98.1%
6/1		U	N/A	N/A	-		-	-	-	588	2005	2005	29.3%
6/2		U	N/A	N/A	-		-	-	-	526	2005	2005	26.2%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	0	1995	153	0.0%
8/1		U	N/A	N/A	-		-	-	-	1	1995	1995	0.1%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**8**	**298**	**61**	**25.4**	**27.7**	**0.7**	**53.8**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**8**	**298**	**61**	**25.4**	**27.7**	**0.7**	**53.8**	**-**	**-**	**-**	**-**
1/1	526	526	-	-	-	5.1	4.6	-	9.7	66.4	14.6	4.6	19.2
1/2+1/3	526	526	0	0	0	5.1	3.9	0.0	9.0	61.8	14.5	3.9	18.4
2/1	623	623	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/2	805	805	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
3/2+3/1	449	449	-	-	-	4.1	5.4	-	9.5	76.0	5.3	5.4	10.7
4/1	574	574	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	624	624	-	-	-	3.6	1.0	-	4.6	26.7	13.7	1.0	14.7
5/2+5/3	992	992	8	298	61	7.4	11.7	0.7	19.9	72.1	20.1	11.7	31.8
6/1	588	588	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/2	526	526	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1	1	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

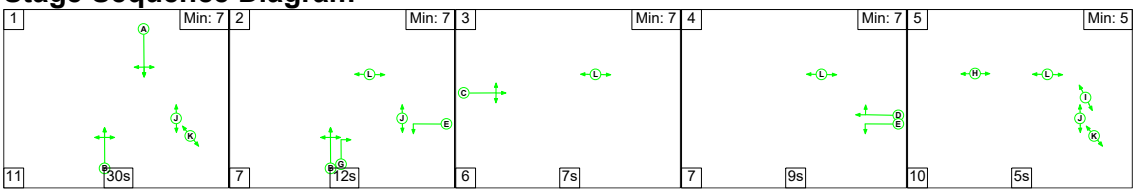
C1 PRC for Signalled Lanes (%): -9.0 Total Delay for Signalled Lanes (pcuHr): 52.70 Cycle Time (s): 104
PRC Over All Lanes (%): -9.0 Total Delay Over All Lanes(pcuHr): 53.83

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Full Input Data And Results

Scenario 14: '2026 Baseline Network (no arena)w/o stadium event DM' (FG9: '2026 Baseline Network (no arena) w/o stadium event', Plan 1: 'Network Control Plan 1')

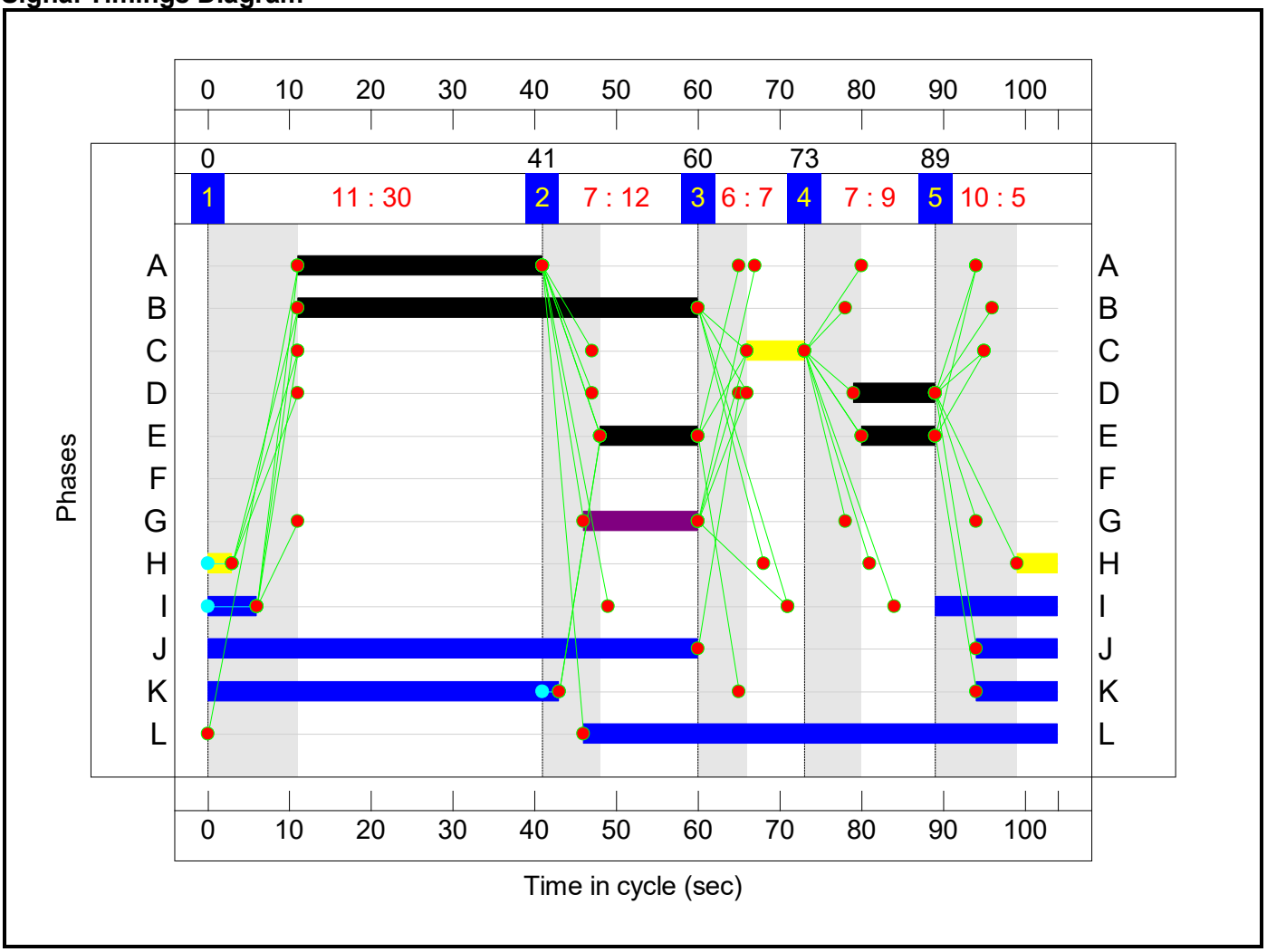
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	30	12	7	9	5
Change Point	0	41	60	73	89

Signal Timings Diagram



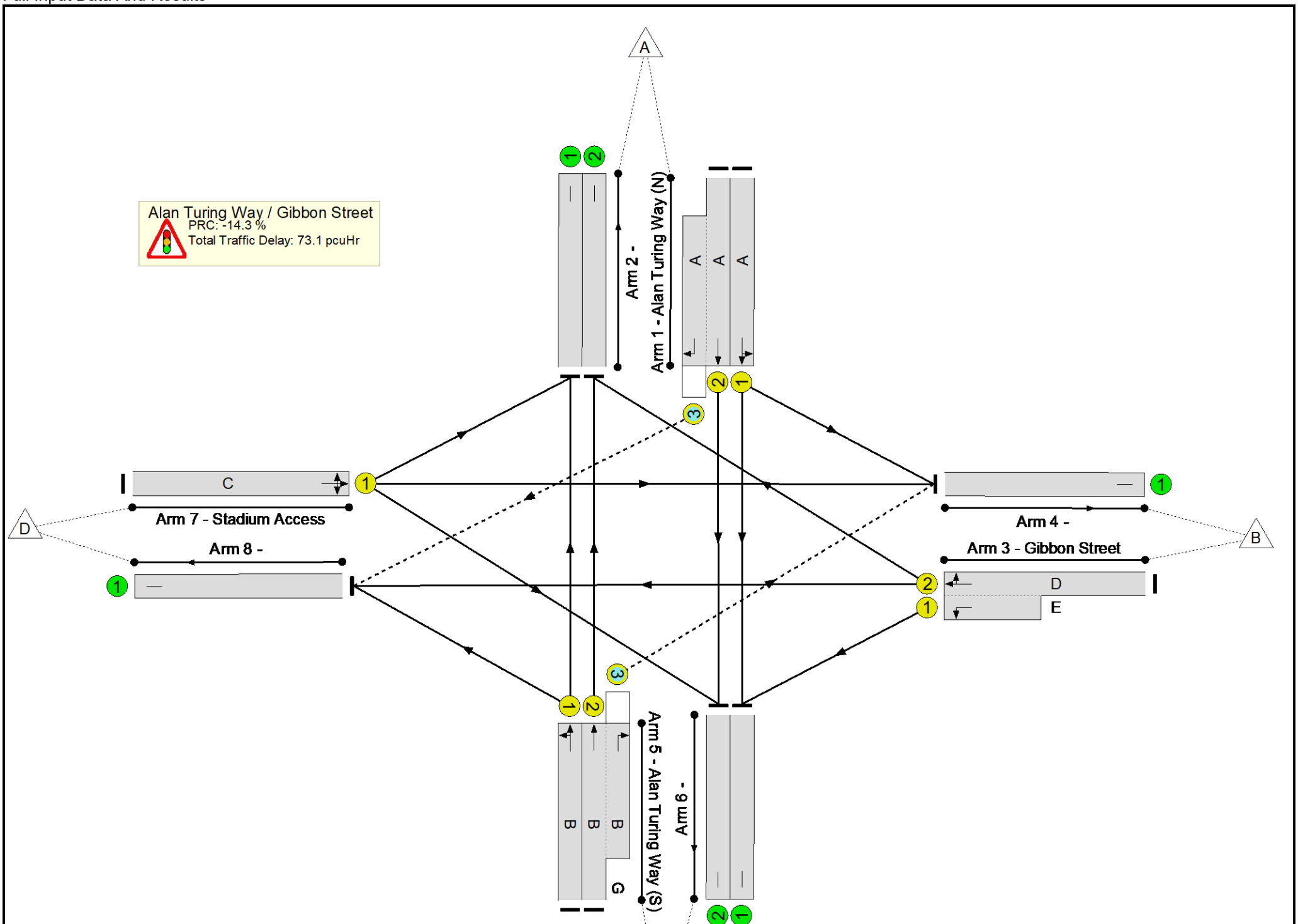
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**102.9%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**102.9%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	30	-	541	1928	575	94.1%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	30	-	541	1965:1965	585+0	92.4 : 0.0%
2/1		U	N/A	N/A	-		-	-	-	640	2040	2040	31.4%
2/2		U	N/A	N/A	-		-	-	-	827	2040	2040	39.7%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	10:21	-	461	1828:1963	193+286	96.2 : 96.2%
4/1		U	N/A	N/A	-		-	-	-	590	2065	2065	28.1%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	49	-	641	1925	925	69.3%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	49	14	1019	1925:1824	623+367	102.9 : 102.9%
6/1		U	N/A	N/A	-		-	-	-	604	2005	2005	30.1%
6/2		U	N/A	N/A	-		-	-	-	541	2005	2005	27.0%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	0	1995	153	0.0%
8/1		U	N/A	N/A	-		-	-	-	1	1995	1995	0.1%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**5**	**298**	**64**	**27.4**	**44.9**	**0.7**	**73.1**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**5**	**298**	**64**	**27.4**	**44.9**	**0.7**	**73.1**	**-**	**-**	**-**	**-**
1/1	541	541	-	-	-	5.4	5.9	-	11.3	75.1	15.2	5.9	21.1
1/2+1/3	541	541	0	0	0	5.3	5.0	0.0	10.3	68.5	15.0	5.0	20.0
2/1	640	640	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/2	810	810	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
3/2+3/1	461	461	-	-	-	4.2	7.1	-	11.3	88.2	5.5	7.1	12.6
4/1	579	579	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	641	641	-	-	-	3.7	1.1	-	4.9	27.3	14.2	1.1	15.4
5/2+5/3	1019	991	5	298	64	8.8	24.6	0.7	34.2	120.7	26.4	24.6	51.0
6/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/2	541	541	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
7/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1	1	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

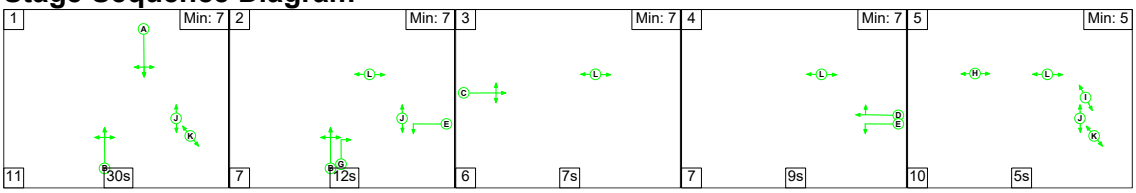
C1 PRC for Signalled Lanes (%): -14.3 Total Delay for Signalled Lanes (pcuHr): 71.90 Cycle Time (s): 104
PRC Over All Lanes (%): -14.3 Total Delay Over All Lanes(pcuHr): 73.05

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Full Input Data And Results

Scenario 15: '2026 Baseline Network (no arena)w/o stadium event DS' (FG17: '2026 Baseline Network (no arena) w/o stadium event + Proposed Dev', Plan 1: 'Network Control Plan 1')

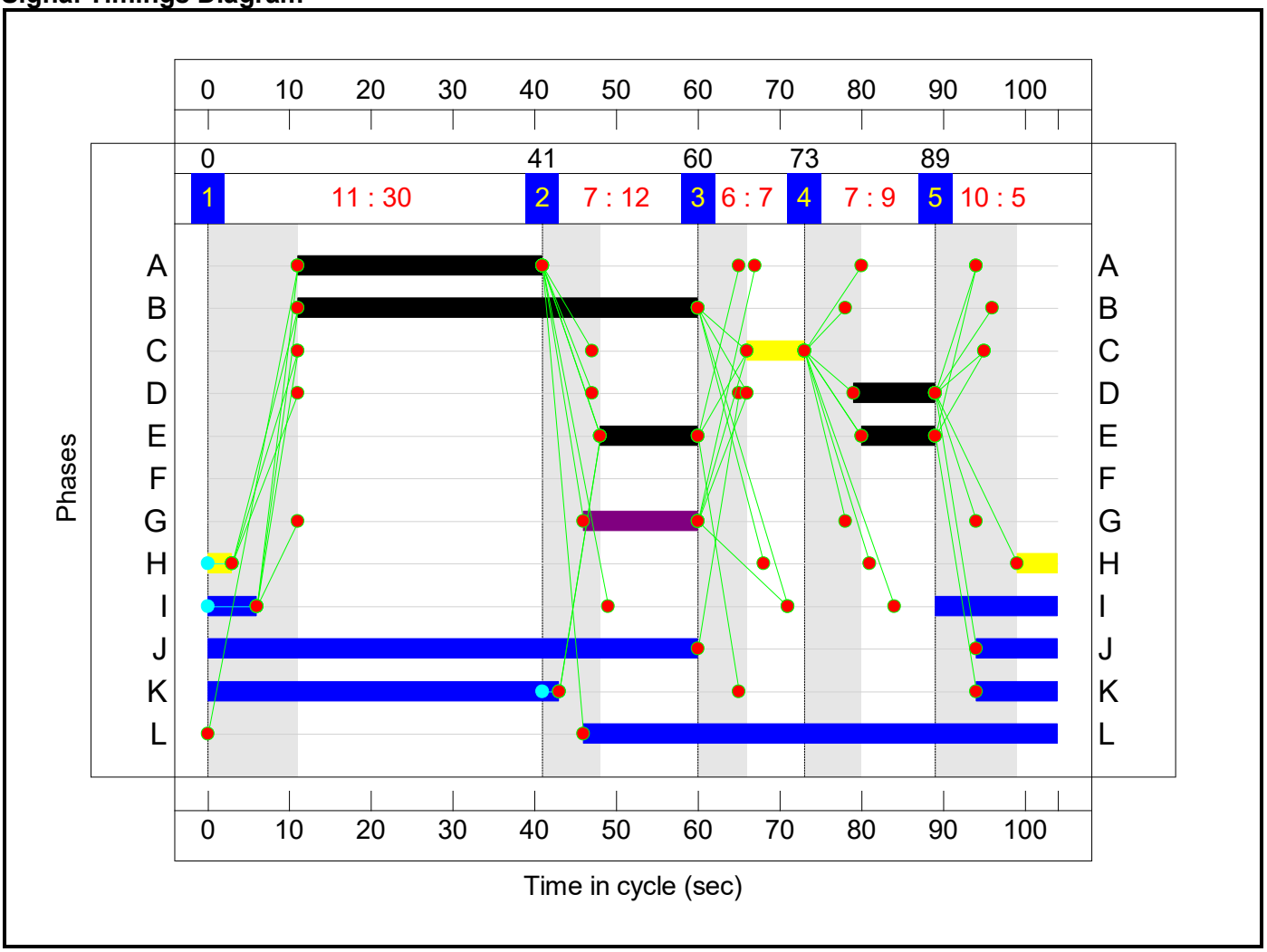
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	30	12	7	9	5
Change Point	0	41	60	73	89

Signal Timings Diagram



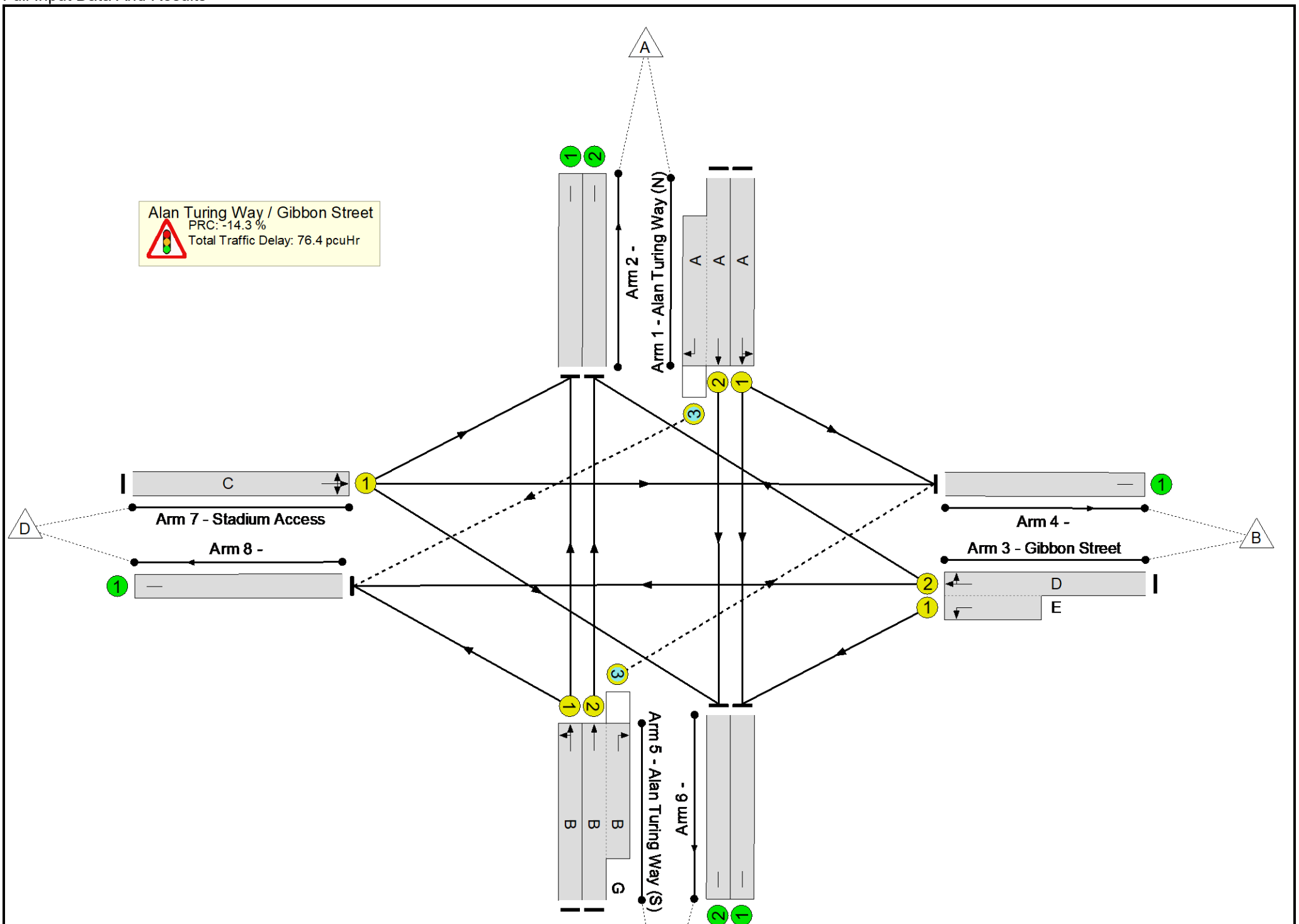
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Full Input Data And Results

Network Layout Diagram

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Full Input Data And Results



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Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**102.9%**
Alan Turing Way / Gibbon Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**102.9%**
1/1	Alan Turing Way (N) Left Ahead	U	N/A	N/A	A		1	30	-	541	1928	575	94.1%
1/2+1/3	Alan Turing Way (N) Ahead Right	U+O	N/A	N/A	A		1	30	-	541	1965:1965	585+0	92.4 : 0.0%
2/1		U	N/A	N/A	-		-	-	-	679	2040	2040	33.3%
2/2		U	N/A	N/A	-		-	-	-	827	2040	2040	39.7%
3/2+3/1	Gibbon Street Right Left Ahead	U	N/A	N/A	D E		1:2	10:21	-	461	1828:1963	193+286	96.2 : 96.2%
4/1		U	N/A	N/A	-		-	-	-	590	2065	2065	28.1%
5/1	Alan Turing Way (S) Ahead Left	U	N/A	N/A	B		1	49	-	641	1925	925	69.3%
5/2+5/3	Alan Turing Way (S) Ahead Right	U+O	N/A	N/A	B	G	1	49	14	1019	1925:1824	623+367	102.9 : 102.9%
6/1		U	N/A	N/A	-		-	-	-	604	2005	2005	30.1%
6/2		U	N/A	N/A	-		-	-	-	614	2005	2005	30.6%
7/1	Stadium Access Left Ahead Right	U	N/A	N/A	C		1	7	-	112	1820	140	80.0%
8/1		U	N/A	N/A	-		-	-	-	1	1995	1995	0.1%

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Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**5**	**298**	**64**	**28.9**	**46.8**	**0.7**	**76.4**	**-**	**-**	**-**	**-**
Alan Turing Way / Gibbon Street	**-**	**-**	**5**	**298**	**64**	**28.9**	**46.8**	**0.7**	**76.4**	**-**	**-**	**-**	**-**
1/1	541	541	-	-	-	5.4	5.9	-	11.3	75.1	15.2	5.9	21.1
1/2+1/3	541	541	0	0	0	5.3	5.0	0.0	10.3	68.5	15.0	5.0	20.0
2/1	679	679	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/2	810	810	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
3/2+3/1	461	461	-	-	-	4.2	7.1	-	11.3	88.2	5.5	7.1	12.6
4/1	579	579	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	641	641	-	-	-	3.7	1.1	-	4.9	27.3	14.2	1.1	15.4
5/2+5/3	1019	991	5	298	64	8.8	24.6	0.7	34.2	120.7	26.4	24.6	51.0
6/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/2	614	614	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
7/1	112	112	-	-	-	1.5	1.8	-	3.2	104.3	3.2	1.8	4.9
8/1	1	1	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -14.3 Total Delay for Signalled Lanes (pcuHr): 75.14 Cycle Time (s): 104
PRC Over All Lanes (%): -14.3 Total Delay Over All Lanes(pcuHr): 76.35



U1121970

THE COMMON SEAL of **THE COUNCIL OF THE CITY OF MANCHESTER** was hereunto affixed in pursuance of an Order of the Council of the said City:

[redacted]

EXECUTED AS A DEED by)

MANCHESTER CITY FOOTBALL CLUB LIMITED)

acting by a director in the presence of:)

DocuSigned by:
[redacted]
89377F820ABF4F9...

Witness Name: Demi Lewis

Witness Signature: DocuSigned by: [redacted]

Witness Address: City Football HQ, Ashton New Road, Manchester M11 4TQ

Witness Occupation: Legal Counsel