

# Public Document Pack



Aspirational for our people, our place and ourselves

To: MEMBERS OF THE PLANNING POLICY COMMITTEE  
Councillors Sayer (Chair), Farr (Vice-Chair), Black,  
Blackwell, Botten, Dennis, Duck, Jones, Lockwood, Prew  
and Steeds

for any enquiries, please contact:  
[customerservices@tandridge.gov.uk](mailto:customerservices@tandridge.gov.uk)  
01883 722000

Substitute Councillors: Caulcott, Crane and Elias

C.C. All Other Members of the Council

23<sup>rd</sup> December 2021

Dear Sir/Madam

## **PLANNING POLICY COMMITTEE WEDNESDAY, 5TH JANUARY, 2022 AT 7.30 PM**

The agenda for this meeting of the Committee to be held in the Council Chamber, Council Offices, Station Road East, Oxted is set out below. If a member of the Committee is unable to attend the meeting, please notify officers accordingly.

If a Member of the Council, not being a member of the Committee, proposes to attend the meeting, please let the officers know by no later than noon on the day of the meeting.

Yours faithfully,

David Ford  
Chief Executive

### **AGENDA**

- 1. Apologies for absence (if any)**
- 2. Declarations of interest**

All Members present are required to declare, at this point in the meeting or as soon as possible thereafter:

- (i) any Disclosable Pecuniary Interests (DPIs) and / or
- (ii) other interests arising under the Code of Conduct

in respect of any item(s) of business being considered at the meeting. Anyone with a DPI must, unless a dispensation has been granted, withdraw from the meeting during consideration of the relevant item of business. If in doubt, advice should be sought from the Monitoring Officer or her staff prior to the meeting.

- 3. Minutes of the meeting held on the 25th November 2021 (Pages 3 - 16)**  
To confirm as a correct record
- 4. To deal with any questions submitted under Standing Order 30**
- 5. Local Plan progress options: Inspector response - ID16 and ID19 (Pages 17 - 184)**
- 6. Any other business which, in the opinion of the Chair, should be considered as a matter of urgency**

This page is intentionally left blank

## TANDRIDGE DISTRICT COUNCIL

### PLANNING POLICY COMMITTEE

Minutes and report to Council of the meeting of the Committee held in the Council Chamber, Council Offices, Station Road East, Oxted on the 25<sup>th</sup> November 2021 at 7.30pm.

**PRESENT:** Councillors Sayer (Chair), Farr (Vice-Chair), Black, Blackwell, Botten, Caulcott (substitute in place of Jones), Crane (substitute in place of Lockwood), Dennis, Duck, Prew and Steeds

**ALSO PRESENT:** Councillors Cooper, Davies, Elias, Lockwood\* O'Driscoll and N.White

**APOLOGIES FOR ABSENCE:** Councillor Jones

\* Councillor Lockwood participated by Zoom in a non-voting capacity

#### **186. MINUTES OF THE MEETING HELD ON THE 23RD SEPTEMBER 2021**

These minutes were approved and signed as a correct record.

#### **187. QUESTIONS SUBMITTED UNDER STANDING ORDER 30**

The Chair responded to questions from Councillor O'Driscoll (1) and Cooper (2). Details of the questions and responses are provided at Appendix A to these minutes.

#### **188. SURREY HILLS AONB BOUNDARY REVIEW**

Heather Kerswell (Surrey Hills Independent Chair) and Rob Fairbanks (Surrey Hills Director) gave a presentation regarding the Surrey Hills Area of Outstanding Natural Beauty (AONB) expansion project. This informed Members about:

- the unique character of the Surrey Hills landscape
- the current boundaries of the AONB, Greenbelt and Areas of Great Landscape Value within Surrey
- the objectives of AONB management
- the demographic pressures upon the Surrey Hills and associated threats
- the basis of the Surrey Hills boundary review and the community engagement strategy aimed at contributing informed evidence to support the proposed expansion.

The presentation explained the intention to use a participative *'technology-based citizen science approach'* to gathering evidence of the need for additional areas to be included within the AONB. This process would be launched shortly and would be followed by a review of the evidence and engagement on the 'candidate areas'.

The presenters responded to Members' questions and referred to a best-case scenario whereby the boundary expansion could be approved by the Secretary of State without the need for a public inquiry. The community engagement strategy had been designed to enable such an outcome by seeking to generate a suitably robust evidence base.

The Chair thanked Heather and Rob for their informative presentation.

## **189. PLANNING TRANSFORMATION BUSINESS CASE**

A report was presented with details of a proposed staffing restructure for the Development Management service which sought to achieve greater efficiencies by:

- streamlining the delivery of the service by grouping officers by function
- providing capacity to deal more effectively with fluctuations in demand without having to rely on temporary staff
- reducing the number of direct reports to the Head of Development Management and the Validation and Business Support Team Leader
- creating additional posts in areas where statistics have demonstrated a current lack of resilience

The estimated net increase in staffing costs amounted to £76,000 per annum. The report envisaged that £114,000 would be drawn down from the flexible use of capital receipts which would fund the cost of the new structure for the first 18 months. Thereafter, the investment would need to be absorbed into the base budget. It was hoped that the re-introduction of the full-time pre-application service would create additional revenue to help offset the increased staffing costs.

The report also informed Members about staff training and development initiatives; systems and process changes; and actions to enhance engagement with Members.

During the debate, Members referred to the need to recruit and develop staff with good 'people management' and leadership skills. The importance of planning officers taking due regard of neighbourhood plans and the need for effective, timely community engagement on applications was also raised.

Arising from a discussion about the role of IT, the Chair stated that Members would appreciate the reinstatement of a system to enable them to register for immediate notification of planning applications for developments in their wards.

**RESOLVED** – that the proposed re-structure of the Development Management service, together with the additional staffing, as shown in the organisation chart at Appendix B to these minutes, be approved.

## **190. PLANNING QUARTER 2 (2021-22) PERFORMANCE REPORT**

A Quarter 2 summary of performance against various indicators for the Development Management service had been published as a supplement to the main agenda pack. The interim Chief Planning Officer explained the challenges associated with producing quality and timely performance data. He confirmed his intention to review the current performance management regime and to present proposals for achieving a more effective / transparent recording and reporting process.

**RESOLVED** – that the Quarter 2 performance information be noted.

## **191. GATWICK AIRPORT DEVELOPMENT CONSENT ORDER SECTION 42 CONSULTATION**

Gatwick Airport Limited's (GAL) Section 42 (Planning Act 2008) public consultation on its preferred masterplan for the future use of the northern runway (currently used only for emergencies) was due to close on the 1<sup>st</sup> December 2021. This was the first stage in the process of GAL's pursuit of a Development Control Order (DCO) to bring the runway into routine operation.

A proposed consultation response from the Council (Appendix A to the report) had been produced following input from the Gatwick DCO Working Group which had been established to support the ongoing process. The response highlighted various concerns identified during the review of the consultation material, including:

- whether the extensive ancillary development being proposed was legitimate 'associated development' or whether separate planning applications should be submitted to the relevant authorities
- GAL's commitment to mitigating climate change and whether local impacts had been given sufficient consideration
- lack of detail regarding wider environmental mitigation measures
- doubts regarding the credibility of GAL's 'pre-pandemic' baseline data
- insufficient regard to the Future Airspace Strategy Implementation (FASI) and the Surrey Hills AONB review
- the adverse impact on road and rail networks
- timescales for road improvements
- false assumptions that housing for workers will be subsumed by the neighbouring Local Authorities
- shortcomings in the consultation process, including a lack of preliminary technical information to Local Authorities and issues with the mobile project office.

The Committee was recommended to approve the draft response, together with suggested terms of reference for the Working Group.

During the debate, Members reiterated the concerns identified by officers and argued that the consultation failed to fully acknowledge the likely impact of GAL's proposals upon Tandridge communities. It was agreed that the text concerning Chapter 14 (Noise and Vibration) would be amended to add 'Lingfield and Dormansland' (i.e. in addition to Burstow and Smallfield) to communities most likely to be adversely affected by the northern runway proposals.

**RESOLVED** – that

- A. subject to the text regarding Chapter 14 (Noise and Vibration) being extended to add 'Lingfield and Dormansland' to the villages that would be particularly impacted, the proposed response to Gatwick Airport Limited's Section 42 consultation be agreed; and
- B. the Terms of Reference for the Gatwick DCO Member and Officer Working Group, attached at Appendix C to these minutes, be agreed.

## **192. NATIONAL HIGHWAYS ROUTE STRATEGIES CONSULTATION 2021**

National Highways (formerly Highways England) was consulting on route strategies for the Strategic Road Network which, in turn, would inform the development of the National Road Investment Strategy. A report was presented with a proposed response to the consultation which included issues associated with the capacity of Junction 6 of the M25 and the fact that, without investment, the junction would become a major infrastructure constraint.

The report acknowledged that the consultation provided an opportunity for the Council to contribute to the route strategy development process to help raise the profile of the Junction 6 issues.

During the debate, Officers undertook to liaise with Councillor O'Driscoll in due course regarding DHA Transport's latest analysis of the Junction 6 upgrade requirements for the westbound diverge / eastbound merge links. It was also agreed that the section of the draft consultation response entitled, "M23 and relationship with the M25" be extended regarding the potential impact of Gatwick Airport's northern runway projects, and reference to the A22.

**RESOLVED** – that, subject to amended text for the penultimate section, "M23 and relationship with the M25" (to expand upon the potential impact of Gatwick Airport's northern runway project and to refer to the A22) the proposed response to the National Highways route strategy consultation be agreed.

## **193. LOCAL PLAN UPDATE**

The Chair reminded Members that the Local Plan Inspector was awaiting the Council's formal response regarding the Council's next steps for the Local Plan, following his correspondence in documents ID16 and ID19. The key question he had put to the Council was, in light of his comments, whether the Council wished to continue with the Local Plan, or to withdraw it. She referred to the work which traffic consultants (DHA) had been carrying out and, as discussed at the 26<sup>th</sup> August 2021 Committee meeting, how that was central to the Council being in a position to make the response.

Following on from the Member briefing on 11th November 2021 from DHL, along with the findings expected from them by mid-December subject to National Highways and Surrey County Council Highways sign off, the Chair anticipated that the Council should be in a position to make a formal response to the Inspector. Due to the time pressures and importance of making this decision, and in recognition of the Christmas period, the Chair suggested that a special Planning Policy Committee be held on either the 4<sup>th</sup> or 5<sup>th</sup> January 2022 to consider and agree the Council's formal response to the Inspector. This would be based on an officer report setting out the Council's options and the further information from DHA. The Committee supported this approach, provided that the required information from DHA was received in time.

## **194. ENVIRONMENT ACT - UPDATE**

The Committee received a verbal update regarding the Environment Act which came into force on the 9<sup>th</sup> November 2021. It was confirmed that Part 6 of the Act (Nature and Biodiversity) would have significant implications for planning authorities, including:

- a 10% biodiversity gain as a condition of planning permission (to be governed by subsequent regulations)
- requirements for nature recovery / species conservation / protected site strategies
- a general duty to conserve and enhance biodiversity

An officer briefing paper would be circulated to Members within the next few days.

Rising 9.31 pm

Planning Policy Committee – 25<sup>th</sup> November 2021

## Questions submitted under Standing Order 30

1. Question from Councillor O'Driscoll

I recently visited Coulsdon Lodge and local residents in Oakgrove outlined their concerns about the developer's destructive actions within the Coulsdon Lodge site and how they can appeal the Council's refusal of planning permission while residents cannot easily appeal the Inspector's decision should he make the wrong decision.

Mindful that the Inspector is yet to make a formal decision as this question was submitted, how can this Council support residents in situations similar to that faced by Oakgrove residents to ensure that if an inappropriate development is allowed by the Inspector there is a way to help them challenge an Inspector's decision?

Response from Councillor Sayer:

*That's a good question and I think a lot of residents might ask it. The only way an Inspector's decision can be challenged is by a judicial review which involves fairly narrow grounds centring on whether the Inspector has made an error in law or been irrational, or if there has been a procedural error. And it has to be funded by residents, not by the Council. So, it's a high bar. It's just the way the system works and it would need central Government to alter it.*

*Regarding the first part of your question, I know Cliff Thurlow has been asked to review the circumstances of the Coulsdon Lodge site to see if there are grounds for the planning enforcement team to investigate.*

2. Question from Councillor Cooper

The following is a calculation estimating the amount of CIL money likely to come to TDC over the next few years, based on CIL on residential houses being charged at £167.20 per square metre. (Noted that this goes up each year by RPI.)

For every 1000 homes built:

- some will be flats (predominantly two bed),
- a large percentage will be 3 or 4 bed houses,
- some will be larger houses (such as in Oxted).

Affordable housing does not attract CIL and currently 34% of housing is required to be affordable, but only on larger sites, unless of course you live in Oxted (gasholder where none was provided). Therefore, perhaps 30% of housing will be affordable as sites under 14 units will not provide any at all. Thus, some 30% of housing may not contribute to CIL, however, 70% will (ie 700 of the 1000 in total).



If we assume:

- An average two bed flat is 70 square metres and makes up 35% of the builds;
- The average three bed semi is 102 square metres and makes up 35% of the builds;
- The average four bed is 130 square metres and makes up 25% of the builds;
- A large house might be 200 square metres and makes up say 5% of the builds.

Thus, using the above:

Flats	$700 \times 35\% \times 70 \text{ sqM} \times \text{£}167.20 = \text{£}2,867,480$
Houses 3 bed	$700 \times 35\% \times 102 \text{ sqM} \times \text{£}167.20 = \text{£}4,178,328$
Houses 4 bed	$700 \times 25\% \times 130 \text{ sqM} \times 167.20 = \text{£}3,803,800$
Large houses	$700 \times 5\% \times 200 \text{ sqM} \times \text{£}167.20 = \text{£}1,170,040$

**TOTALS £12,019,648** For every 1,000 homes built.

The Inspector has advised that the TDC Housing need is in excess of 450 homes per year, thus, given the above, TDC should be expecting £5,408,842 in CIL funding per year. Of this some 20% may go to Parish Councils. (25% to those with a Neighbourhood Plan but significantly less to those without one.)

Given the above calculation is based on very conservative figures, this would leave some £4,327,073 per year to allocate to CIL projects.

Therefore, in planning our future annual budgets, are we assuming something in excess of £4 million per year of CIL income?

*Response from Councillor Sayer:*

*I was quite pleased to see this question because it's good to get some idea of figures. I think the answer is no, the Council can't assume in excess of £4m of annual CIL income because the basis of the calculations is different to the ones you've got.*

*CIL has to be based on a projection of dwellings that are going to be built, which is called the housing requirement.*

*The figure of 450 used in the calculation is not the housing requirement, it's the objectively assessed housing need – known as the OAN – and it's the unconstrained starting point figure and from that you have to factor in any constraints, e.g. Green Belt, infrastructure and Areas of Outstanding Natural Beauty to reach a housing requirement. The OAN is much greater than the current building rate which I think is around 250 homes per year, or the figure included in the submitted Local Plan, which is 303 homes per year. Both of these are significantly lower than the 450.*

*Any CIL estimate must also deduct the following:*

- *The number of affordable housing units, as these do not attract CIL. I think you mentioned them but I am not sure that's included in the final calculation. Also, other social housing relief which can be different to affordable housing as it includes retirement housing with quite large communal areas – and that, I'm told, accounts for 25% of the total CIL, so reduces the estimate by a quarter.*
- *Next point, CIL is a net figure, so a deduction has to be made for any existing buildings either converted or demolished which have a lawful use.*
- *Then, there is self-build relief, which takes it down again.*
- *Parish Council allowances you've mentioned can be up to 25% for those with a Neighbourhood Plan, but 20% otherwise.*
- *Then, I am also told there is a bad debt provision deduction and a 5% administration deduction which is charged by the Council.*

*So, at the end of all those adjustments, it's quite a different picture.*

*The Council has all the figures, year on year, since CIL started and income averages around 1 million per year. Now if we build more it might go up slightly, but it's not going to rocket.*

*In any case, as I'm sure you know, we have to be careful when predicting CIL income because a lot can happen during the course of a planning application to alter the CIL liability. I mean things can be found on site and arguments can be made to bring it down.*

*Jeremy Fisher would be very happy to explain the CIL figures to any Councillors at any time, so please do get in touch with him if you want to know more.*

#### Supplementary Question from Councillor Cooper

*I'm surprised the average annual CIL income is as low as £1million. How accurate is that?*

#### Response from Councillor Sayer:

*That's taken from the income we've received in the year so far. So, you are looking forward to what we'll build ... a lot of that depends on how things go in future regarding the Local Plan. 303 homes per year is the housing requirement within the Plan, which is a little more than what we have been building ... [but] annual CIL income will only be £1.2 million, even with that increase.*

3. Question from Councillor Cooper

At the recent presentation on Junction 6 improvements, it was stated that extra lanes both going into and out of the roundabout along with an extra gyratory lane, would cost in the region of £5 million. Clearly, my CIL calculation [*in question 2 above*] is over estimating the amount we would actually receive, but if we were to meet the 450 [*objectively assessed housing need*] homes per annum, we'll get the £4 million CIL income, so why aren't we doing something?

Many councillors have indicated great concern about Junction 6 being above capacity. Therefore, will this Council use the likely CIL income generated by house building to fund the necessary improvements to Junction 6, for the benefit of all TDC residents?

Response from Councillor Sayer:

*Well that's a big question I guess this Committee is going to have to answer in the future. I cannot imagine us having the £4m, or I hope we don't because it will mean we've met an incredibly high housing need which, given the constraints in this District, I think it would be wrong to do and in fact the Inspector has also said he doesn't think that figure should be met. He's put the figure out there for the OAN ... on the 2016 projections (and we've had 2018 projections since then which have brought the figure down) its 450 to 495, but he said we shouldn't meet it, or he doesn't expect us to meet it given the constraints there are in this District.*

*So whatever the figure is, CIL is supposed to be used to help mitigate the impact of development on communities and to pay for much needed infrastructure improvements. We have a CIL Working Group that's carefully worked out priorities for the use of our CIL. Things like flooding and education, and funding national highway improvements is not in that list of agreed priorities, so you know we're going to have to look at that again if that's what we want to use it for.*

*If we use it to pay for Junction 6 improvements, as far as I can see that means no CIL funding for school expansions, health centres, local road improvements, sports facilities or any other infrastructure you can think of that will directly benefit our communities. So you're putting it into a national road that benefits some Tandridge residents who use it, but also a lot of other people who don't live in the District.*

*We did sign off £1.6m of CIL spending recently, which I'm told leaves only £1.4m available right now - and we know there's going to be a request for a single school extension which, I think, is Chaldon, Peter and Paul, coming in quite soon, that's going to be £1.2m. The other items on the Infrastructure Delivery Plan far outweigh the expected CIL income, so many of those projects on the list are already not going to get funds allocated to them because we haven't got enough.*

*So the reports from the traffic consultants, DHA, and the Council's original Housing Infrastructure Fund bid, which didn't go through, both indicate that many millions will be required to fully expand the capacity at Junction 6. So committing the Council to Junction 6 improvements is more than capable, I would say, of consuming every penny of CIL contribution for the foreseeable future.*

*That would mean no other improvements could be made anywhere in Tandridge if all the CIL contributions go towards paying for what is a national highways route and national infrastructure which happens to be located in Tandridge.*

*Last thing I'd say is as well as the CIL option, funding for improvements to Junction 6 could come from the Government's Strategic Housing Infrastructure Fund which the Council is still waiting to hear about. There's also a possibility of funding coming out of the National Route Strategies which the Council is currently participating in, together with Surrey County Council Highways. Later in this meeting, the Committee will review the Council's response to the National Highways route strategies consultation in which the Council is proposing to raise the issue of Junction 6. I don't know if that answers your question, but you know it's a difficult balance.*

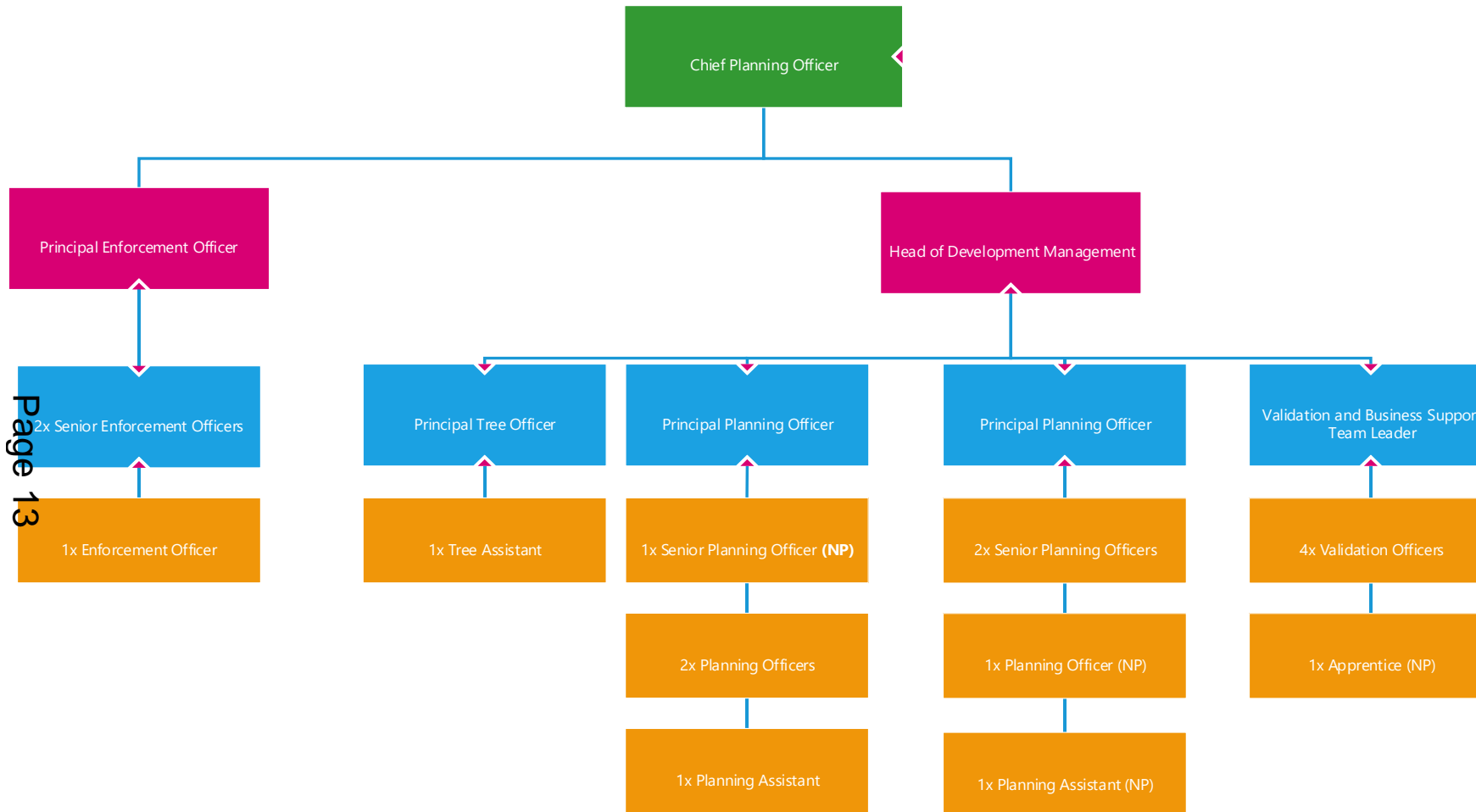
Supplementary Question from Councillor Cooper

I agree it's a difficult balance. However, we're not talking about the highway itself, we're talking about access to it by residents of this District. It's not just about the motorway. People need to travel ... this is infrastructure. We ought to be investing in highways infrastructure if we're going to build more houses. What do you think?

Response from Councillor Sayer:

*The £5 million quoted by DHA is for an interim mitigation scheme that could accommodate a proportion of Local Plan growth. That junction has been operating at over capacity for a number of years, so that proportion won't be huge. It would require five years' worth of CIL income when we couldn't fund anything else. We could be dealing with a bottomless pit ... the HIF bid was for £52 million. We'd have no funding for local infrastructure.*

### Proposed Development Management Structure



Page 13

**(NP) = New Post**

**Gatwick DCO Member and Officer Group – terms of reference****Purpose**

The Development Consent Order (DCO) has a number of significant and potential impacts for the District and an essential role of the Group is to ensure knowledge is shared and discussion had around the complexities of the DCO and technical aspects as needed. These discussions will assist Officers to prepare responses which will reflect the view of the Council and for the wider communities of the District, with the valuable input of elected Members and at a pace which can better meet the swiftness at which Gatwick are progressing their DCO.

**Objectives**

- To provide an opportunity for open Member/Officer discussion on relevant DCO matters;
- Keep Members updated on relevant cross-boundary/wider Gatwick area matters;
- To discuss the Council's responses and seek Member input to the proposals for a northern runway at Gatwick Airport, at relevant points of Gatwick led consultation; and
- To identify any needs or opportunities for additional Member involvement such as via GATCOM, or through lobbying etc.

**Membership and Group Remit****Officers**

The group will be officer led and chaired by the Chief Planning Officer, with another officer sub-chairing and supporting where needed. Over the course of the project, different personnel from the wider planning discipline (Development Management and Planning Policy) will need to have more presence at meetings, depending on what aspect of the DCO is being dealt with and the stage which it is at. This will be determined by the Chief Planning Officer.

**Members**

In accordance with the resolution of the Planning Policy Committee held on 23 September 2021, Member representatives on the group are agreed by Group Leaders and, on inception of the group, these are:

- Councillor Christ Botten
- Councillor Phil Flower
- Councillor Mick Gillman
- Councillor Liz Lockwood
- Councillor Judy Moore

Due to the nature of the DCO process, how it will change over time and the technical aspects of the project, the group's membership is open to change, subject to agreement with Group Leaders. This can ensure that the wide-ranging knowledge and expertise amongst our Members can be used most effectively, at appropriate stages, for the benefit of the Council's responses to Gatwick.

### **Decision Making**

Also, in accordance with the resolution of the Planning Policy Committee held on 23 September 2021, authority is delegated to the Chief Executive and / or the Chief Planning Officer, in consultation with this group, to respond to future consultations and other forms of engagement from relevant stakeholders at various stages of the DCO process. This decision was taken to ensure that responses can be considered at the appropriate level and actioned in an agile way. Furthermore, this group is not a formal sub-committee and works on a discussion and consultative basis but has no decision-making powers. The group can, however, refer matters to the Planning Policy Committee should it be necessary and where timing in the process allows. Such referrals to committee will be determined in discussion with the Chief Executive/Chief Planning Officer as the delegated decision maker.

### **Frequency of meetings**

The group will meet as needed in response to the ebb and flow of the Gatwick DCO process. No set frequency for meetings has been set and dates of meeting will be reactive to the process and the timetables which are not under the control of the Council.

### **Circulation of documents**

Officers will circulate an agenda as soon as practicably possible ahead of meetings. Notes of the meeting will be taken and distributed as soon after the meeting as officers are able. Notes of the meetings will also be circulated to Group Leaders to ensure they are kept updated on the discussions which take place.

Due to the fluid nature of the process, it will not always be possible, or necessary, to circulate technical documents ahead of a meeting. As such, Officers and Members will determine what and how to share information amongst the group on an ad hoc basis.

This page is intentionally left blank



## **Local Plan progress options: Inspector response - ID16 and ID19**

### **Planning Policy Committee - Wednesday, 5<sup>th</sup> January 2022**

Report of: Chief Executive

---

Purpose: For decision

---

Publication status: Unrestricted

Wards affected: All

---

#### **Executive summary:**

The Council has been preparing a Local Plan which is undergoing examination by Planning Inspector Mr Philip Lewis, on behalf of the Secretary of State. Mr Lewis has identified several issues and concerns with the submitted draft plan and has asked the Council to make a decision regarding how it wishes to proceed with the Local Plan and the ongoing examination.

The Council has been awaiting key information around J6 of the M25 and the capacity of the junction. The junction capacity and opportunity to mitigate any issues is fundamental to the Council being able to fully understand the implications for the Local Plan and our ability to deliver development.

The work to determine J6 capacity and the timing and scope of any upgrade to the junction to accommodate anticipated traffic growth from development proposals set out in the emerging "Our Local Plan 2016 to 2033" have now become clearer as a result the study undertaken on the Council's behalf by DHA Transport in consultation with National Highways and Surrey County Council Highways. DHA Transport will be present at the meeting to assist in providing amplification or clarification of the outcomes of the J6 capacity study.

This report sets out the findings of the J6 capacity study so that the Committee has the information needed to enable a decision to be made on how the Council should respond to the Inspector at its next meeting on 20<sup>th</sup> January 2022.

Attached to this report is a further draft holding response to the Inspector by the Chief Executive explaining the process the Council is going through and its timescale in order to give a considered response to his correspondence to the Council (ID16 and ID19).

**This report supports the Council’s priority of:**

- Creating the homes, infrastructure and environment we need – both now and in the future.
- Supporting economic recovery in Tandridge – from lockdown to growth that everyone benefits from.
- Becoming a greener, more sustainable District – tackling climate change.

**Contact officer:** David Ford – Chief Executive dford@tandridge.gov.uk

---

**Recommendation to Committee:**

That in accordance with its delegated powers, the Committee agree the attached draft letter from the Chief Executive to the Inspector (Appendix 1) being sent and that further consideration of how to progress with the Local Plan and respond to the Inspector’s correspondence in ID16 and ID 19 is deferred until the Committee’s next meeting on 20<sup>th</sup> January 2022.

---

**Reason for recommendation:**

The Planning Inspector examining the draft Plan has issued correspondence to the Council (ID16 and ID19) which, amongst other things, seeks a decision from the Council in terms of how it wishes to proceed with the Local Plan.

Until now, the Council’s ability to make a decision has been hindered by a lack of information and understanding of implications around Junction 6 of the M25, which is already operating over capacity.

This information is now available and is presented to the Committee to assist its consideration of a formal response to the Inspector at the 20<sup>th</sup> January, 2022, Committee meeting.

## **1.0 Introduction and background**

- 1.1** The Council has been preparing its Local Plan since 2014. In January 2019, the Council submitted Our Local Plan: 2033 to the Planning Inspectorate, for examination. The examination in public on the draft plan took place during October and November 2019 and it was well attended by developers, community groups, residents and other interested parties.
- 1.2** In December 2020, the Inspector issued the Council with his interim findings (ID16), setting out several concerns with the plan, particularly regarding Junction 6 of the M25 and the Council's ability to demonstrate that the Plan was deliverable.
- 1.3** With the Inspector's agreement, the Council has sought to consider the implications for the Plan in the context of the capacity and opportunities to mitigate issues with Junction 6. Due to issues outside the Council's control, this work has experienced delays despite best efforts to meet the original deadline in the early summer. The work has only very recently been completed and agreement has been reached with National Highways (NH) and Surrey County Council Highways (SCCH) on the scope and timing of necessary improvements to J6 to accommodate forecast traffic growth, including that from the Local Plan development options.
- 1.4** Attached to this report as Appendices for Members information are the suite of documents that set out the outcomes of the DHA Transport study of J6 on behalf of the Council and the formal responses of the statutory highway authorities (NH and SCCH) which have participated in the study, as follows:
- A Position Statement dated December 2021 by DHA Transport
  - A M25 Junction 6 Technical Note dated 17.12.21 by DHA Transport
  - A drawing A-1523-H-01 rev P3 showing the required improvements to J6 prepared by DHA Transport
  - An e-mail dated 20 December 2021 from National Highways setting out their response to the DHA Technical Note
  - An e-mail dated 21 December 2021 from Surrey County Council Highways setting out their response to the DHA Technical Note
  - the Council's response to the Route Investment Strategies consultation.

**1.5** In summary, the findings of the study are:

- all of the J6 improvement works shown on DHA Transport drawing A-1523-H-01 rev P3 would fully mitigate the impact of Local Plan growth to 2035, in accordance with the requirements of the National Planning Policy Framework; SCCH make clear in their e-mail dated 21 December 2021, that they consider the scheme (excluding the east-bound M25 off-slip which is dealt with below) should be delivered by 2030 to ensure that there is a sufficiently long interval prior to the delivery of any further scheme for the benefit of cost effectiveness and to limit disruptions to the network
- the eastbound M25 off-slip would require upgrading to accommodate forecast traffic volumes by 2030, regardless of the Local Plan, to avoid unacceptable highway safety implications for users of the M25; the aim should be to try to achieve this upgrade, which will require acquisition of third party land, by 2027; no costings are yet available for these works the need for which has been identified late in the study
- with respect to the other M25 merges and diverges, the westbound off-slip, westbound on-slip and eastbound on-slip are of a suitable standard to accommodate Local Plan growth to 2035 in their existing configurations
- the estimated cost of the improvement works (excluding the east-bound M25 off-slip upgrade) would be an estimated outturn cost of £5,009,900 (exclusive of VAT); no sources of funding for these works has yet been identified but, contrary to what is stated in National Highways e-mail of 20 December 2021, the Council has made its own response to the Department of Transport with respect to its Route Investment Strategies consultation; this is included in the documents presented to Members.

**1.6** A representative from DHA Transport will be present at the Committee meeting on 05 January 2022, to assist in answering Members' questions. Given that the Christmas and New Year holidays intervene in the period between now and the Committee meeting, it would be very helpful if Members seeking clarification on anything in this report and it's attached documents could e-mail their questions in advance to either Marie Killip or Cliff Thurlow by 30th December, 2021. This will assist officers and DHA transport to prepare their responses.

## **Consultation**

Regarding the direct implications of this report, discussions with the Chief Executive, Interim Chief Planning Officer and specific Members have taken place.

## **Key implications**

### **Comments of the Chief Finance Officer**

The financial challenges the Council has been under and will experience in the medium-term are well rehearsed. The financial implications on the next stages of the Local Plan will be significant for the Council and need to be on the basis of a robust business case before options are put forward to the Inspector. Any improvements work as set out above which will require significant investment of the c£5m identified to date, but potentially considerably more, can only be undertaken if external funding sources are secured.

### **Comments of the Head of Legal Services**

Given work undertaken to date, and the need to respond formally to the Inspector's correspondence (ID16 and ID 19), now is a timely stage to provide Members with more detailed information on the documents received from DHA Transport.

Should the recommendation of this report be endorsed, then a further report will then be presented to this Committee on 20<sup>th</sup> January 2022 with a view to consider the next response to the Inspector. Any response provided must not raise any soundness issues.

## **Equality**

The draft Local Plan seeks to deliver development solutions that provide homes, community facilities and infrastructure for all areas of our community. As such, the decisions regarding the Local Plan has implications for how the Council can meet its housing, employment and development needs, and thus how it can provide for our community. As part of the Local Plan preparation, Equalities Impact Assessments were carried out at each plan-making stage, to ensure that matters of equality were considered comprehensively.

## **Climate change**

The draft Local Plan sets policies which would contribute to the mitigation of Climate Change when development takes place. The climate agenda has moved on significantly since the Plan was prepared and, should the Plan progress, the Inspector would need to consider whether the Plan goes far enough in contributing to net zero national targets. He may seek to do this through the main modifications process where it is legitimate to do so.

### **Appendices:**

**Appendix 1** – Chief Executive’s draft response to the Inspector

**Appendix 2** - Position Statement dated December 2021 by DHA Transport

**Appendix 3** - M25 Junction 6 Technical Note dated 17.12.21 by DHA Transport

**Appendix 4** - Drawing A-1523-H-01 rev P3 showing the required improvements to J6 prepared by DHA Transport

**Appendix 5** - E-mail dated 20 December 2021 from National Highways setting out their response to the DHA Technical Note

**Appendix 6** - E-mail dated 21 December 2021 from Surrey County Council Highways setting out their response to the DHA Technical Note

**Appendix 7** - Tandridge District Council’s response to the National Highways Route Investment Strategies consultation.

**Background papers** - None

## AMENDED APPENDIX 1

If calling please ask for David Ford  
on 01883 732999

E-mail: DFord@tandridge.gov.uk

Our ref: TED50

Date: 06 January 2022

Dear Inspector,

### **Tandridge District Council: Local Plan – Update on the Council’s Progress in Addressing Matters Raised in Your Responses ID16 and ID19**

You will be aware that the Council has employed highway consultants to undertake a study of the capacity of J6 of M25. The study ran into an unexpected difficulty and the outcome was delayed. The study has just been completed, including sharing the results with National Highways and Surrey County Council Highways as key stakeholders and getting their inputs to the conclusions. An agreed position has now been reached between all parties which will be incorporated in a Statement of Common Ground.

This study is of such importance to the Local Plan that I want to enable the Council’s Planning Policy Committee to understand it’s implications before making a further response on your ID16 and ID19. A special meeting of the Planning Policy Committee is arranged for the 5<sup>th</sup> January 2022. Following this meeting, the Planning Policy Committee, on 20<sup>th</sup> January 2022, will be asked to decide on a formal response to your ID16 and ID19.

I thought that it would be helpful to set out the current position on this matter and the proposed timescale for bringing these matters to a conclusion.

If you have any further questions or queries at this stage, please do not hesitate to contact me.

In the meantime, I have attached the traffic modelling analysis which was shared with the Planning Policy Committee on the 5<sup>th</sup> January.

Yours sincerely,

David Ford  
Chief Executive

This page is intentionally left blank



## POSITION STATEMENT

Site: M25 Junction 6, Godstone, Surrey

Client: Tandridge District Council

Prepared by: DHA

Date: December 2021

---

### 1.1 Introduction

1.1.1 This Position Statement has been prepared by DHA on behalf of Tandridge District Council (TDC) to outline the findings of the further assessment of potential interim mitigation measures for M25 Junction 6 in support of the Council's Submission Local Plan. Its content has been discussed with Surrey County Council (SCC) and National Highways (NH) in their capacity as the Local and Strategic Highway Authorities, respectively.

### 1.2 Programme Update

1.2.1 Following the identification of anomalous outputs from SCC's SINTRAM strategic transport model and the subsequent decision to proceed with an alternative assessment methodology, a revised programme was issued to the Planning Inspectorate (PINS) by TDC on 27<sup>th</sup> August 2021.

1.2.2 DHA has completed the revised assessment in accordance with this programme. Engagement with all relevant TDC, SCC and NH stakeholders has been undertaken to agree the assessment methodology and discuss the outputs.

1.2.3 The assessment confirms that the junction already operates over capacity and that the situation will worsen – regardless of the Local Plan – due to forecast background traffic growth going forward.

#### Junction Mitigation

1.2.4 The previously identified interim mitigation scheme to the roundabout and its approaches (a plan of which is included at **Appendix A**) comprises the following principal layout changes:-

- **A22 (N) arm** – increased entry lanes from two to three, with the additional lane measuring approximately 110m in length;
- **M25 eastbound on slip** – remains unchanged;
- **M25 westbound off slip** – localised widening to aid vehicle tracking;
- **A22 (S) arm** – increased entry lanes from two to three, with the additional lane measuring approximately 160m in length;

- **B2235 arm** – remains unchanged;
- **M25 westbound on slip** – remains unchanged;
- **M25 eastbound off slip** – increased entry lanes from two to three, with the additional lane measuring approximately 100m in length;
- **Roundabout gyratory** – increased circulatory lanes from two to three, with the exception of the western overbridge, where the existing Non-Motorised User (NMU) route is retained.

1.2.5 The scheme has sought to make use of land within the control of NH and SCC, to avoid modifications to the motorway overbridges, and to maintain the existing Non-Motorised User (NMU) route alongside the western junction circulatory.

1.2.6 The scheme has been subject to an outline costing exercise by Allen Dadswell Construction Consultants, which estimates an outturn cost of £5,009,900 (exclusive of VAT).

1.2.7 The revised assessment has shown that the scheme would provide significant overall betterment to the operation of the roundabout and its approaches compared to the existing layout. This would fully mitigate the impact of Local Plan growth to 2035, in accordance with the requirements of the National Planning Policy Framework.

1.2.8 The Council could potentially look to secure full or partial funding for the scheme from programmes such as Levelling Up, the Community Infrastructure Levy, developer contributions or Homes England.

#### M25 Merges and Diverges

1.2.9 With respect to the M25 merges and diverges, the westbound off-slip, westbound on-slip and eastbound on-slip are of a suitable standard to accommodate Local Plan growth to 2035 in their existing configurations.

1.2.10 The eastbound off-slip would require upgrading to accommodate forecast traffic volumes by 2030, regardless of the Local Plan, in order to avoid unacceptable highway safety implications for users of the M25. This would comprise the provision of an additional nearside lane of 275m in length from the tip of the nosing of the slip road westwards, which cannot be accommodated within land under the control of NH.

1.2.11 As such, work would need to commence in the short-term to identify and progress the scheme through the necessary design, planning and legal processes and identify suitable funding opportunities, as the lead-in time for a scheme of this nature would typically be in the region of five years.

### 1.3 Summary

1.3.1 Positive progress has been made in seeking to identify a suitable mitigation scheme for M25 Junction 6. A potential scheme has been identified for the junction and its approaches, which has been shown to suitably address the impact

of allocated Local Plan growth to 2035, in accordance with the requirements of the National Planning Policy Framework.

- 1.3.2 With respect to the M25 merges and diverges, it has been identified that the eastbound off-slip would require upgrading to safely accommodate forecast traffic volumes prior to 2030, regardless of the Local Plan. Work would therefore need to commence in the short-term to progress this scheme and identify suitable funding opportunities to enable its timely implementation.

This page is intentionally left blank

## TRANSPORT TECHNICAL NOTE

Site: M25 Junction 6, Godstone, Surrey

Client: Tandridge District Council

Prepared by: DHA

Date: December 2021

---

### 1.1 Introduction

1.1.1 This Transport Technical Note (TN) has been prepared on behalf of Tandridge District Council (TDC) to outline the findings of DHA's further assessment of potential mitigation measures for M25 Junction 6 in support of the Council's Draft Local Plan.

1.1.2 This TN has been informed by Project Steering Group meetings involving TDC, National Highways (NH) and Surrey County Council (SCC). It follows the submission of a Technical Note (dated September 2021), which outlined the proposed junction capacity assessment methodology, and a TDC Member Briefing held on 11<sup>th</sup> November 2021.

### 1.2 Mitigation Scheme Option

1.2.1 The feasibility design of the identified mitigation scheme for the junction is included at **Appendix A**.

1.2.2 The scheme has sought to make use of land within the control of the Local and Strategic Highway Authorities (SCC and NH), to avoid modifications to the motorway overbridges, and to maintain the existing Non-Motorised User (NMU) route alongside the western junction circulatory.

1.2.3 In summary, the interim scheme includes the following principal layout changes:-

- **A22 (N) arm** – increased entry lanes from two to three, with the additional lane measuring approximately 110m in length;
- **M25 eastbound on slip** – remains unchanged;
- **M25 westbound off slip** – localised widening to aid vehicle tracking;
- **A22 (S) arm** – increased entry lanes from two to three, with the additional lane measuring approximately 160m in length;
- **B2235 arm** – remains unchanged;
- **M25 westbound on slip** – remains unchanged;

- **M25 eastbound off slip** – increased entry lanes from two to three, with the additional lane measuring approximately 100m in length;
- **Roundabout gyratory** – increased circulatory lanes from two to three, with the exception of the western overbridge, where the existing Non-Motorised User (NMU) route is retained; and
- **Lane markings** – minor amendments have been made to the lane markings and associated circulation of the junction, following the completion of the revised assessment methodology.

### 1.3 Junction Capacity Assessment

- 1.3.1 To assess the capacity benefit of the scheme, LinSig modelling has been undertaken by JCT Consultancy Ltd. This is based on the methodology outlined within the previous TN (dated September 2021). The associated network diagrams are included at **Figures 0-1 to 0-32** appended to this TN.
- 1.3.2 The methodology assumes that all vehicle trips arising from the proposed Local Plan allocations will be work-based trips. This is a highly robust approach, as other journey purposes (i.e. trips for education, shopping and leisure) will also take place during the weekday peak hours and are likely to be more localised in nature, with a consequently lesser impact on M25 Junction 6.
- 1.3.3 Moreover, whilst not fully known at the current time, it is likely that the impacts of the COVID-19 pandemic on living and working patterns will continue to reduce peak period commuting in the long-term, for which no allowance has been made.

#### Base Scenarios

- 1.3.4 NH has confirmed that the mitigation scheme should seek to achieve at least a 'nil detriment' impact with respect to the impact of Local Plan growth. In this regard, consideration was given to 2018, 2025, 2030, 2035, 2040 and 2045 base scenarios, assuming the existing junction arrangement, in order to test this.
- 1.3.5 Please note that the 2018 base is derived from Manual Classified Count (MCC) data. A summary of the base performance of the junction in the weekday AM and PM peak hours is shown in Table 1 overleaf, using the existing junction timings. The full LinSig report is included at **Appendix B**.
- 1.3.6 The outputs of LinSig include the Degree of Saturation (DoS), the Mean Maximum Queue (MMQ) and the Practical Reserve Capacity (PRC) units of measure. The DoS (in percent) is a ratio of demand to capacity for each traffic phase, with a value of 90 percent indicating that an arm is operating at practical capacity. The PRC is calculated from the maximum percentage DoS and is a measure of how much additional traffic could pass through the junction before it reaches full capacity. The MMQ provides an indication of how the overall junction performance may affect adjacent junctions on the highway network.

Year	Junction Arm	Base Flows			
		AM		PM	
		DoS	MMQ	DoS	MMQ
2018	A22 (N)	100.0%	38	112.4%	75
	North Circ	69.8%	9	60.4%	13
	M25 WB Off-Slip	68.1%	11	101.0%	24
	East Circ	99.7%	35	73.7%	11
	A22 (S)	104.1%	38	97.7%	26
	South-East Circ	84.7%	27	71.6%	17
	B2235	87.3%	12	89.0%	12
	South West Circ	91.1%	21	75.3%	9
	M25 EB Off-Slip	79.4%	16	85.0%	18
	West Circ	68.7%	17	83.7%	21
	PRC	-15.7%		-24.8%	
	Average Delay (s/pcu)		108.0		143.4
2025	A22 (N)	102.5%	46	113.1%	78
	North Circ	72.3%	9	62.6%	13
	M25 WB Off-Slip	70.6%	11	104.8%	31
	East Circ	99.3%	34	76.1%	10
	A22 (S)	104.8%	40	98.3%	27
	South-East Circ	86.0%	28	71.7%	17
	B2235	98.7%	20	89.5%	13
	South West Circ	88.6%	17	78.3%	9
	M25 EB Off-Slip	82.3%	17	88.1%	19
	West Circ	70.3%	18	87.9%	19
	PRC	-16.4%		-25.7%	
	Average Delay (s/pcu)		115.5		151.4
2030	A22 (N)	103.3%	49	114.1%	81
	North Circ	73.8%	9	64.1%	14
	M25 WB Off-Slip	72.1%	12	107.3%	37
	East Circ	100.2%	38	76.6%	11
	A22 (S)	105.4%	42	99.1%	28
	South-East Circ	86.8%	29	71.7%	17
	B2235	99.3%	22	90.5%	13
	South West Circ	88.7%	17	78.4%	9
	M25 EB Off-Slip	84.0%	18	90.3%	21
	West Circ	70.8%	18	88.4%	19
	PRC	-17.1%		-26.7%	
	Average Delay (s/pcu)		121.5		160.1
2035	A22 (N)	104.8%	55	115.5%	87
	North Circ	75.8%	9	65.9%	14
	M25 WB Off-Slip	74.1%	12	110.4%	45
	East Circ	101.4%	52	77.2%	11
	A22 (S)	106.5%	45	100.4%	31
	South-East Circ	87.2%	29	71.7%	17

	B2235	100.3%	24	91.5%	14
	South West Circ	88.5%	17	79.0%	9
	M25 EB Off-Slip	86.4%	19	93.0%	23
	West Circ	71.3%	18	88.7%	20
	PRC	-18.3%		-28.3%	
	Average Delay (s/pcu)		132.1		173.0
2040	A22 (N)	107.0%	65	117.9%	97
	North Circ	78.0%	9	67.7%	14
	M25 WB Off-Slip	76.3%	13	113.6%	52
	East Circ	102.3%	56	77.8%	11
	A22 (S)	108.8%	52	102.4%	36
	South-East Circ	87.6%	29	71.7%	17
	B2235	102.4%	29	93.4%	15
	South West Circ	88.0%	16	78.8%	9
	M25 EB Off-Slip	89.0%	21	95.5%	25
	West Circ	71.6%	19	88.9%	20
	PRC	-20.9%		-31.0%	
	Average Delay (s/pcu)		152.0		193.3
2045	A22 (N)	109.4%	76	120.1%	106
	North Circ	79.8%	9	69.2%	14
	M25 WB Off-Slip	78.1%	13	116.1%	59
	East Circ	102.9%	59	78.2%	12
	A22 (S)	111.1%	60	104.2%	41
	South-East Circ	87.9%	29	71.7%	17
	B2235	104.5%	35	95.1%	16
	South West Circ	88.1%	16	78.5%	9
	M25 EB Off-Slip	91.1%	22	97.5%	28
	West Circ	71.9%	19	89.2%	21
	PRC	-23.5%		-33.4%	
	Average Delay (s/pcu)		173.0		212.8

Table 1: LinSig Summary – Baseline Junction Operation

1.3.7 The following should be noted with respect to the assessment undertaken: -

- There are many combinations of signal timings that may provide desirable results; and
- When optimising timings for the proposed models, the DoS limits were first applied to circulating lanes (90-100%, depending on the initial results from 2018 that were based on site observed timings). Timings were then optimised, flows assigned, timings optimised and so on. In most scenarios, the results do not converge to a final result, as changes in timings result in different delays, thus flows assign differently using delay-based assignment, which then result in different optimised timings. The process was continued to provide as consistent a comparison for all scenarios as possible.



1.3.8 It is noted that the junction already operates over capacity and that this situation will be exacerbated as wider background traffic growth is added in the future year scenarios.

**Local Plan Scenarios – Without Mitigation**

1.3.9 Table 2 and Table 3 below illustrate the performance of the junction in Local Plan Scenarios 1 and 2<sup>1</sup> without mitigation measures. The LinSig report for these scenarios is included at **Appendix C**.

Year	Junction Arm	Base Flows			
		AM		PM	
		DoS	MMQ	DoS	MMQ
2025	A22 (N)	107.0%	65	116.3%	90
	North Circ	75.2%	9	64.4%	14
	M25 WB Off-Slip	72.7%	12	107.1%	37
	East Circ	101.3%	52	76.8%	11
	A22 (S)	107.2%	47	102.2%	35
	South-East Circ	87.0%	28	72.4%	17
	B2235	100.3%	24	92.2%	14
	South West Circ	89.0%	17	79.4%	9
	M25 EB Off-Slip	85.7%	19	93.0%	23
	West Circ	70.8%	18	88.9%	20
	PRC	-19.2%		-29.2%	
	Average Delay (s/pcu)		145.9		176.3
2030	A22 (N)	111.6%	87	120.1%	106
	North Circ	81.2%	9	69.6%	14
	M25 WB Off-Slip	76.8%	13	110.8%	46
	East Circ	103.6%	62	78.4%	12
	A22 (S)	110.7%	58	106.5%	49
	South-East Circ	86.5%	26	72.5%	17
	B2235	107.4%	43	98.1%	20
	South West Circ	88.1%	16	79.3%	9
	M25 EB Off-Slip	92.9%	24	98.2%	29
	West Circ	70.9%	18	89.4%	21
	PRC	-24.0%		-33.4%	
	Average Delay (s/pcu)		189.9		216.2
2035	A22 (N)	115.1%	103	125.1%	126
	North Circ	87.2%	9	71.5%	14
	M25 WB Off-Slip	82.0%	15	114.2%	54
	East Circ	104.7%	69	79.1%	12
	A22 (S)	122.6%	98	114.4%	77
	South-East Circ	85.7%	24	71.7%	17
	B2235	111.3%	59	102.1%	28
	South West Circ	87.2%	16	78.0%	9

<sup>1</sup> Please see the September 2021 methodology TN for housing trajectories used for each scenario.

	M25 EB Off-Slip	101.5%	39	110.1%	69
	West Circ	71.0%	19	89.1%	21
	PRC	-27.9%		-39.0%	
	Average Delay (s/pcu)	256.0		287.6	
2040	A22 (N)	118.2%	119	131.2%	152
	North Circ	87.3%	9	71.5%	14
	M25 WB Off-Slip	86.5%	16	117.1%	62
	East Circ	103.7%	63	79.0%	12
	A22 (S)	137.0%	149	122.8%	109
	South-East Circ	86.3%	26	70.8%	17
	B2235	113.7%	69	103.8%	34
	South West Circ	87.0%	15	77.3%	9
	M25 EB Off-Slip	108.5%	66	122.8%	124
	West Circ	71.4%	19	89.5%	21
	PRC	-31.3%		-45.8%	
	Average Delay (s/pcu)	327.2		365.8	
2045	A22 (N)	121.0%	133	135.5%	170
	North Circ	87.2%	9	71.6%	14
	M25 WB Off-Slip	89.6%	18	119.6%	68
	East Circ	103.2%	60	79.0%	12
	A22 (S)	145.6%	180	128.0%	130
	South-East Circ	87.0%	28	70.3%	17
	B2235	115.8%	78	105.3%	41
	South West Circ	87.2%	16	77.0%	9
	M25 EB Off-Slip	112.9%	86	130.0%	156
	West Circ	71.5%	19	89.2%	21
	PRC	-34.4%		-50.6%	
	Average Delay (s/pcu)	373.5		414.2	

Table 2: LinSig Summary – Local Plan Scenario 1 (Without Mitigation)

Year	Junction Arm	Base Flows			
		AM		PM	
		DoS	MMQ	DoS	MMQ
2025	A22 (N)	107.0%	65	116.3%	90
	North Circ	75.2%	9	64.4%	14
	M25 WB Off-Slip	72.7%	12	107.1%	37
	East Circ	101.3%	52	76.8%	11
	A22 (S)	107.2%	47	102.2%	35
	South-East Circ	87.0%	28	72.4%	17
	B2235	100.3%	24	92.2%	14
	South West Circ	89.0%	17	79.4%	9
	M25 EB Off-Slip	85.7%	19	93.0%	23
	West Circ	70.8%	18	88.9%	20
	PRC	-19.2%		-29.2%	
	Average Delay (s/pcu)		145.9		176.3
2030	A22 (N)	112.2%	89	121.5%	112
	North Circ	82.7%	9	71.5%	14
	M25 WB Off-Slip	77.7%	13	110.8%	46
	East Circ	103.6%	62	79.1%	12
	A22 (S)	115.3%	73	109.1%	58
	South-East Circ	86.1%	25	72.2%	17
	B2235	107.4%	43	98.1%	20
	South West Circ	87.9%	16	79.5%	10
	M25 EB Off-Slip	94.6%	25	101.0%	36
	West Circ	70.7%	18	89.7%	21
	PRC	-28.1%		-35.0%	
	Average Delay (s/pcu)		208.5		233.2
2035	A22 (N)	115.5%	106	127.4%	136
	North Circ	87.2%	9	71.5%	14
	M25 WB Off-Slip	83.4%	15	114.2%	54
	East Circ	104.1%	65	79.0%	12
	A22 (S)	129.6%	123	118.2%	92
	South-East Circ	85.6%	25	71.1%	17
	B2235	111.3%	60	102.1%	28
	South West Circ	87.1%	16	77.6%	9
	M25 EB Off-Slip	104.2%	48	116.1%	94
	West Circ	71.1%	19	89.2%	21
	PRC	-28.3%		-41.6%	
	Average Delay (s/pcu)		284.8		318.2
2040	A22 (N)	118.6%	121	133.6%	161
	North Circ	87.3%	9	71.5%	14
	M25 WB Off-Slip	88.0%	17	117.1%	62
	East Circ	103.0%	60	79.1%	12
	A22 (S)	144.2%	174	126.6%	124
	South-East Circ	86.2%	26	70.3%	17

	B2235	113.7%	70	103.8%	34
	South West Circ	86.8%	15	77.1%	9
	M25 EB Off-Slip	111.1%	77	128.8%	151
	West Circ	71.1%	19	89.0%	21
	PRC	-31.8%		-48.4%	
	Average Delay (s/pcu)		355.7		394.3
2045	A22 (N)	122.0%	138	139.5%	186
	North Circ	87.2%	9	71.6%	14
	M25 WB Off-Slip	92.2%	19	119.6%	68
	East Circ	102.2%	56	79.0%	12
	A22 (S)	158.5%	228	134.7%	156
	South-East Circ	86.7%	28	69.5%	17
	B2235	115.8%	79	105.5%	42
	South West Circ	86.5%	15	77.0%	8
	M25 EB Off-Slip	117.5%	106	140.4%	203
	West Circ	71.7%	19	88.8%	21
	PRC	-35.5%		-56.0%	
		Average Delay (s/pcu)		421.2	

Table 3: LinSig Summary – Local Plan Scenario 2 (Without Mitigation)

- 1.3.10 With the addition of Local Plan growth, the junction continues to operate over its design capacity, albeit the impact of the Plan itself is seen to be relatively modest before 2030.

#### Local Plan Scenarios – With Mitigation

- 1.3.11 The results of the equivalent assessment with Local Plan growth (Scenarios 1 and 2) and the identified mitigation scheme in place are summarised in Table 4 and Table 5 overleaf. The full LinSig report is included at **Appendix D**.

Year	Junction Arm	Base Flows			
		AM		PM	
		DoS	MMQ	DoS	MMQ
2025	A22 (N)	62.1%	12	78.3%	14
	North Circ	60.5%	9	67.2%	10
	M25 WB Off-Slip	61.8%	7	70.3%	9
	East Circ	55.8%	9	64.2%	11
	A22 (S)	67.6%	11	66.3%	11
	South-East Circ	68.0%	12	55.0%	13
	B2235	68.7%	9	77.0%	10
	South West Circ	68.3%	16	60.8%	5
	M25 EB Off-Slip	68.9%	11	81.9%	14
	West Circ	67.6%	18	77.9%	20
	PRC	30.6%		9.8%	
	Average Delay (s/pcu)	45.4		48.9	
2030	A22 (N)	64.4%	13	77.8%	14
	North Circ	65.8%	10	72.0%	15
	M25 WB Off-Slip	64.7%	8	65.4%	9
	East Circ	58.7%	10	66.1%	8
	A22 (S)	67.0%	11	65.1%	11
	South-East Circ	70.1%	13	57.1%	10
	B2235	71.5%	10	69.7%	9
	South West Circ	71.2%	17	69.2%	10
	M25 EB Off-Slip	71.4%	12	82.9%	14
	West Circ	71.5%	19	81.5%	17
	PRC	25.9%		8.6%	
	Average Delay (s/pcu)	46.8		48.7	
2035	A22 (N)	69.4%	14	80.9%	15
	North Circ	64.1%	11	77.9%	16
	M25 WB Off-Slip	62.2%	8	78.0%	11
	East Circ	67.0%	15	70.4%	12
	A22 (S)	65.7%	12	58.7%	11
	South-East Circ	75.2%	21	70.8%	13
	B2235	75.7%	10	79.0%	11
	South West Circ	73.0%	11	67.3%	10
	M25 EB Off-Slip	75.8%	13	88.5%	17
	West Circ	77.0%	14	87.3%	19
	PRC	16.8%		1.7%	
	Average Delay (s/pcu)	47.9		52.0	
2040	A22 (N)	73.6%	15	87.6%	18
	North Circ	66.5%	12	77.0%	17
	M25 WB Off-Slip	63.2%	9	72.6%	10
	East Circ	70.7%	16	77.1%	18
	A22 (S)	72.3%	14	65.0%	12
	South-East Circ	79.0%	22	69.0%	13

	B2235	79.2%	11	80.5%	11
	South West Circ	77.5%	12	74.0%	11
	M25 EB Off-Slip	80.7%	14	92.1%	20
	West Circ	79.6%	14	90.4%	20
	PRC		11.6%		-2.4%
	Average Delay (s/pcu)		50.3		56.21
2045	A22 (N)	76.2%	16	89.8%	19
	North Circ	68.6%	12	81.8%	18
	M25 WB Off-Slip	64.3%	9	76.2%	10
	East Circ	74.8%	16	79.8%	19
	A22 (S)	75.2%	15	64.6%	12
	South-East Circ	82.9%	23	72.3%	14
	B2235	84.5%	12	82.0%	12
	South West Circ	78.1%	12	74.9%	11
	M25 EB Off-Slip	85.1%	16	93.4%	21
	West Circ	83.8%	15	94.7%	25
	PRC		5.7%		-5.2%
		Average Delay (s/pcu)		52.7	

Table 4: LinSig Summary – Mitigation Scheme (Local Plan Scenario 1)

Year	Junction Arm	Base Flows			
		AM		PM	
		DoS	MMQ	DoS	MMQ
2025	A22 (N)	62.1%	12	78.3%	14
	North Circ	60.5%	9	67.2%	10
	M25 WB Off-Slip	61.8%	7	70.3%	9
	East Circ	55.8%	9	64.2%	11
	A22 (S)	67.6%	11	66.3%	11
	South-East Circ	68.0%	12	55.0%	13
	B2235	68.7%	9	77.0%	10
	South West Circ	68.3%	16	60.8%	5
	M25 EB Off-Slip	68.9%	11	81.9%	14
	West Circ	67.6%	18	77.9%	20
	PRC		30.6%		9.8%
		Average Delay (s/pcu)		45.5	
2030	A22 (N)	66.3%	13	82.3%	15
	North Circ	65.4%	10	66.8%	12
	M25 WB Off-Slip	60.6%	8	62.5%	9
	East Circ	60.2%	12	67.4%	13
	A22 (S)	73.3%	12	55.6%	10
	South-East Circ	72.5%	19	67.5%	13
	B2235	73.2%	10	83.8%	12
	South West Circ	73.2%	12	63.4%	13
	M25 EB Off-Slip	72.3%	12	82.1%	15

	West Circ	69.6%	12	84.7%	24
	PRC	22.8%		6.2%	
	Average Delay (s/pcu)	46.5		50.9	
2035	A22 (N)	72.0%	15	83.7%	16
	North Circ	63.0%	11	77.0%	17
	M25 WB Off-Slip	61.3%	8	73.2%	10
	East Circ	68.0%	14	72.7%	15
	A22 (S)	70.0%	13	58.2%	11
	South-East Circ	75.7%	21	70.9%	13
	B2235	77.6%	11	80.8%	11
	South West Circ	74.2%	11	69.1%	10
	M25 EB Off-Slip	77.6%	13	90.0%	18
	West Circ	76.5%	14	88.2%	20
	PRC	15.9%		0.0%	
	Average Delay (s/pcu)	48.6		53.2	
2040	A22 (N)	74.9%	16	89.8%	19
	North Circ	66.4%	12	78.3%	17
	M25 WB Off-Slip	74.2%	10	75.6%	10
	East Circ	68.2%	17	79.0%	19
	A22 (S)	73.7%	14	61.6%	11
	South-East Circ	80.3%	16	72.9%	13
	B2235	81.1%	12	82.4%	12
	South West Circ	78.4%	12	71.2%	10
	M25 EB Off-Slip	81.4%	15	92.3%	20
	West Circ	81.0%	15	92.7%	26
	PRC	10.6%		-3.0%	
	Average Delay (s/pcu)	52.3		58.4	
2045	A22 (N)	76.7%	16	91.1%	20
	North Circ	71.1%	13	89.6%	20
	M25 WB Off-Slip	72.0%	10	81.7%	11
	East Circ	74.1%	17	83.6%	21
	A22 (S)	79.8%	17	67.0%	13
	South-East Circ	85.5%	23	72.5%	17
	B2235	84.7%	12	84.0%	12
	South West Circ	82.7%	13	75.6%	11
	M25 EB Off-Slip	86.2%	16	99.1%	31
	West Circ	85.2%	16	95.0%	30
	PRC	4.4%		-10.2%	
	Average Delay (s/pcu)	55.0		72.8	

Table 5: LinSig Summary – Mitigation Scheme (Local Plan Scenario 2)

1.3.12 It is evident that the scheme provides significant overall betterment to the operation of the junction compared to the existing layout. The PRC of the existing and proposed arrangements in the Scenario 1 2045 AM and PM peak hours is seen to reduce by 29.2% and 28.2% respectively, while average delay per vehicle

reduces by two minutes and two-and-a-half minutes respectively (when compared with the base scenarios in Table 1). Broadly similar results are seen for Scenario 2 also.

- 1.3.13 It is common ground between TDC, SCC and NH that the interim scheme adequately mitigates the impact of Local Plan growth on the junction and its approaches.

#### 1.4 Merge / Diverge Assessment

- 1.4.1 A merge / diverge assessment of the slip roads to and from the M25 has also been completed.

- 1.4.2 To inform this assessment, the original 2018 Manual Classified Count (MCC) data and the trip generation for the Local Plan allocations have been converted to vehicles.

- 1.4.3 No data was collected for the M25 mainline carriageways as part of the 2018 survey. Therefore, use has been made of the NH WebTRIS survey database. Count points M25/4419B and M25/4413A were used to inform the mainline assessment, as both contained nearly a complete years' worth of data for 2016. The 2016 data was sourced for each available day, showing an hour-by-hour breakdown.

- 1.4.4 Only 'neutral' months were considered, namely March, April, May, June, September, October and November. Easter and half term school holidays were removed, along with Fridays, Saturdays and Sundays. The remaining days were then averaged for the AM (08:00-09:00) and PM (17:00-18:00) peak hours. The 2016 flows were then 'growthed' to a 2018 baseline using TEMPRO v7.2b for the 'Motorway' road classification. No alternative planning assumptions were applied, with the resulting growth rates being as follows: -

- AM Peak – 1.0199; and
- PM Peak – 1.0193.

- 1.4.5 The mainline flows were subsequently grown in line with the TEMPRO factors detailed in the September 2021 TN to provide the future year baselines for all scenarios.

- 1.4.6 The resulting vehicle flows for the merge / diverge assessment are included at **Figures O-33 to O-64** appended to this TN and the merge / diverge assessment is included at **Appendix E**.

- 1.4.7 The westbound off-slip, westbound on-slip and eastbound on-slip are shown to be suitable to accommodate Local Plan growth to 2035 in their existing configurations.

- 1.4.8 The eastbound off-slip, which currently takes the form of a 'C' diverge configuration, is shown to require a 'D' configuration from the 2025 PM peak



baseline onwards and from the 2035 AM peak Local Plan Scenario 1 onwards (shown in Figure 1 below for reference).<sup>2</sup>

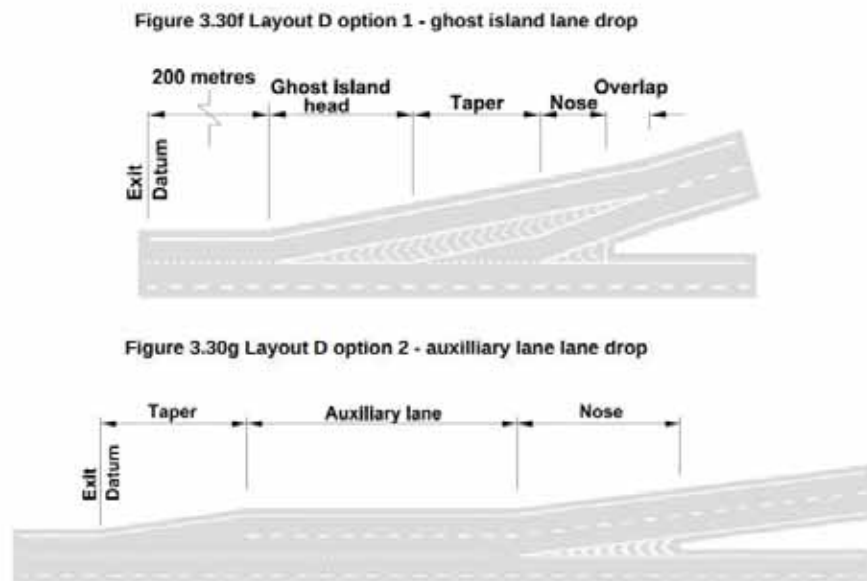


Figure 1: Layout D – Motorway Diverge

- 1.4.9 This arrangement requires an additional nearside lane of 275m in length on the M25 mainline carriageway from the tip of the nosing of the slip road westwards, which cannot be accommodated within land under the control of NH.
- 1.4.10 It is nevertheless noted that the 'D' configuration is required in the 2025 PM peak baseline (i.e. without the Local Plan). Moreover, the absolute trip impact of the Local Plan allocations on this slip road are considered to be negligible until 2030, as shown in Table 6 below, being below 100 vehicles in each peak hour.

Year	Period	Base	S1	S2	Difference S1	Difference S2
2025	AM	1,205	1,246	1,246	42	42
	PM	1,350	1,404	1,404	54	54
2030	AM	1,231	1,322	1,335	91	104
	PM	1,383	1,498	1,526	115	143
2035	AM	1,265	1,404	1,425	139	159
	PM	1,424	1,617	1,661	193	237

Table 6: Local Plan Trip Generation – Eastbound Off Slip

- 1.4.11 On the basis of the revised assessment and engagement with NH to date, it is anticipated that this upgrade would be required in approximately 2027 in order to avoid unacceptable highway safety implications for users of the M25. As such, work would need to commence in the short-term to identify and progress the

<sup>2</sup> Design Manual for Roads and Bridges. (January 2020). CD 122 Geometric design of grade separated junctions.

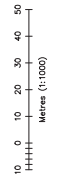
scheme through the necessary design, planning and legal processes and identify suitable funding opportunities, as the lead-in time for a scheme of this nature would typically be in the region of five years.

## 1.5 Summary and Conclusion

- 1.5.1 This Transport Technical Note (TN) has been prepared on behalf of Tandridge District Council (TDC) to outline the findings of DHA's assessment of potential interim mitigation measures for M25 Junction 6 in support of the Council's Draft Local Plan.
- 1.5.2 An interim mitigation scheme has been identified which is shown to achieve a 'nil detriment' impact on the operation of the junction and its approaches with the Local Plan in place in the 2035 scenario.
- 1.5.3 With respect to the M25 merges and diverges, it has been identified that the eastbound off-slip would require upgrading to safely accommodate forecast traffic volumes prior to 2030, regardless of the Local Plan.
- 1.5.4 Work would therefore need to commence in the short-term to progress these scheme and identify suitable funding opportunities to enable their timely implementation.



Initial Stage 1 Interim Design – M25 Junction 6



ITEM	DESCRIPTION OF RISK & ACTION
	No risk are associated with the highway improvement works that a competent highway contractor should not find themselves faced with.

REV	AMENDMENTS	DATE	CHK
P5	Lane markings amended	11.11.21	CS
P2	Westbound off slip amended	01.07.21	CS
P1	FIRST ISSUE	18.06.21	CS

Client  
**TANDRIDGE DISTRICT COUNCIL**

Project  
**M25 JUNCTION 6  
 CAPACITY IMPROVEMENT FEASIBILITY STUDY**

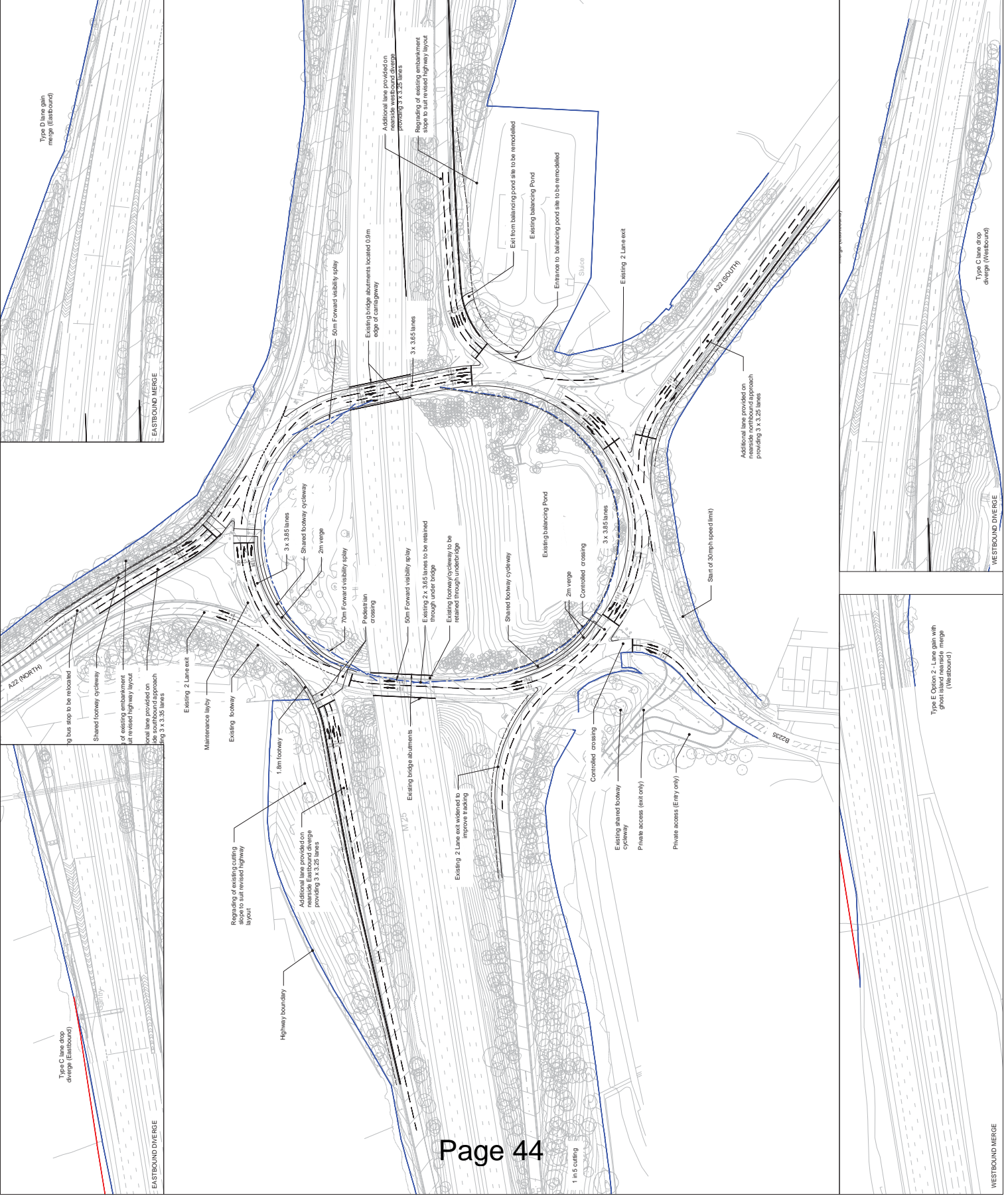
Title  
**LAYOUT OVERVIEW**

Drawn	Rev	Scale	Date
15423-H-01	P3	1:1000	18.06.21



Eclipse House, Eclipse Park, Stingsbourne Road  
 Maidstone, Kent, ME14 3EN  
 t: 01622 776226  
 e: info@dho-planning.co.uk  
 w: www.dho-planning.co.uk

CAD Reference: **A1**



1 in 5 cutting

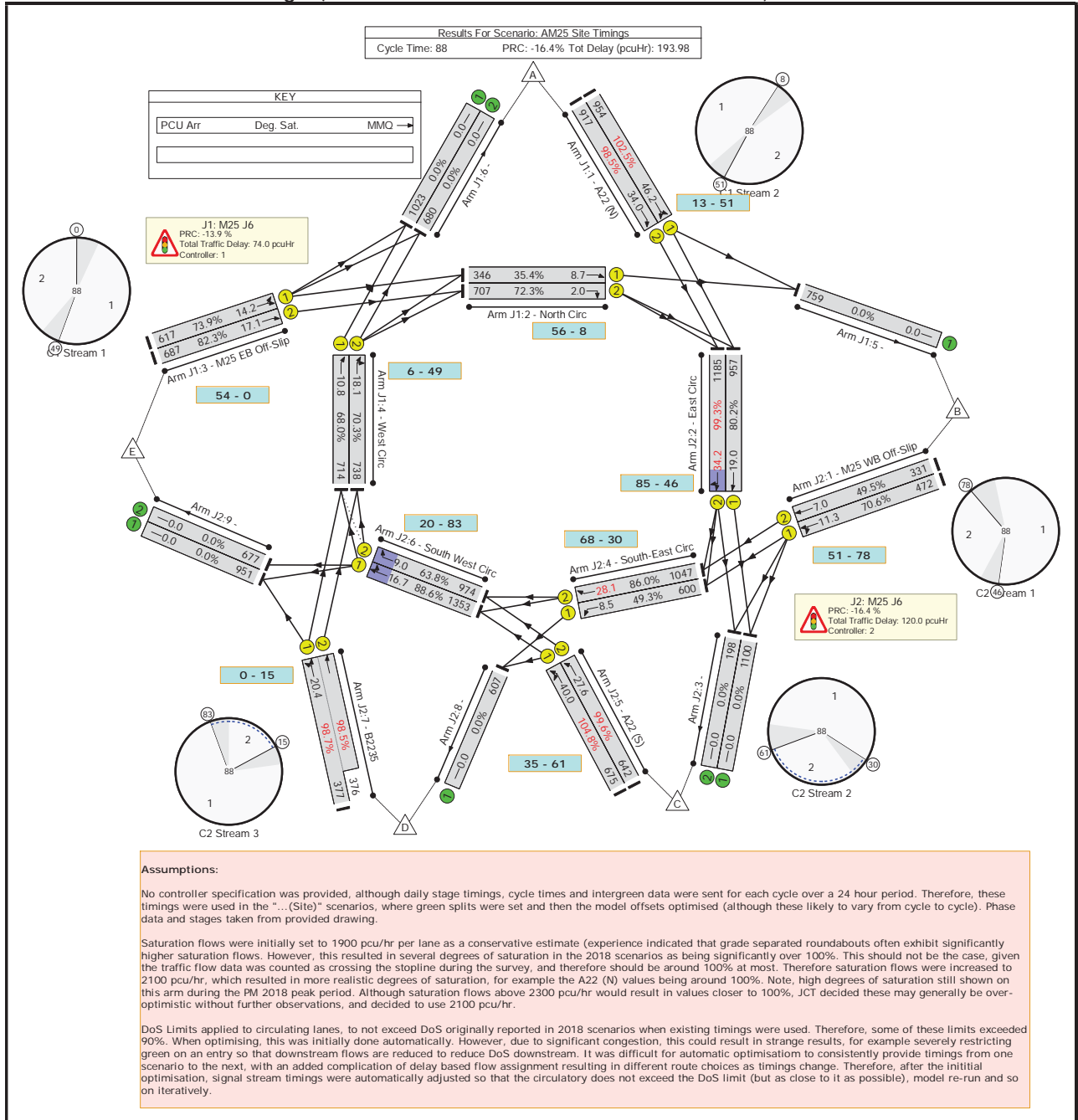


LinSig Results – Existing Junction Layout (without Local Plan Growth)

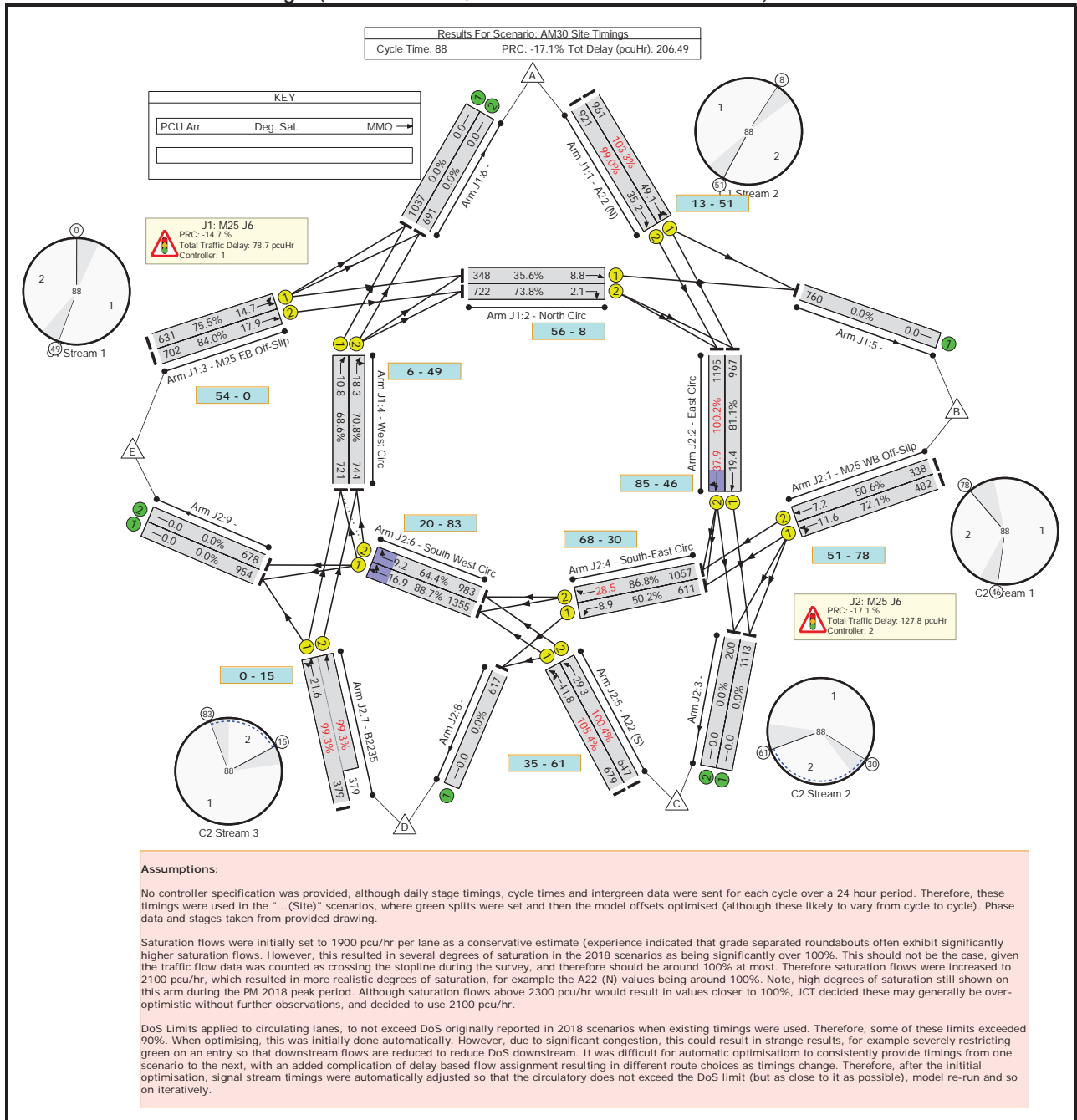
# M25 J6 LinSig Results

## Network Layout Diagram

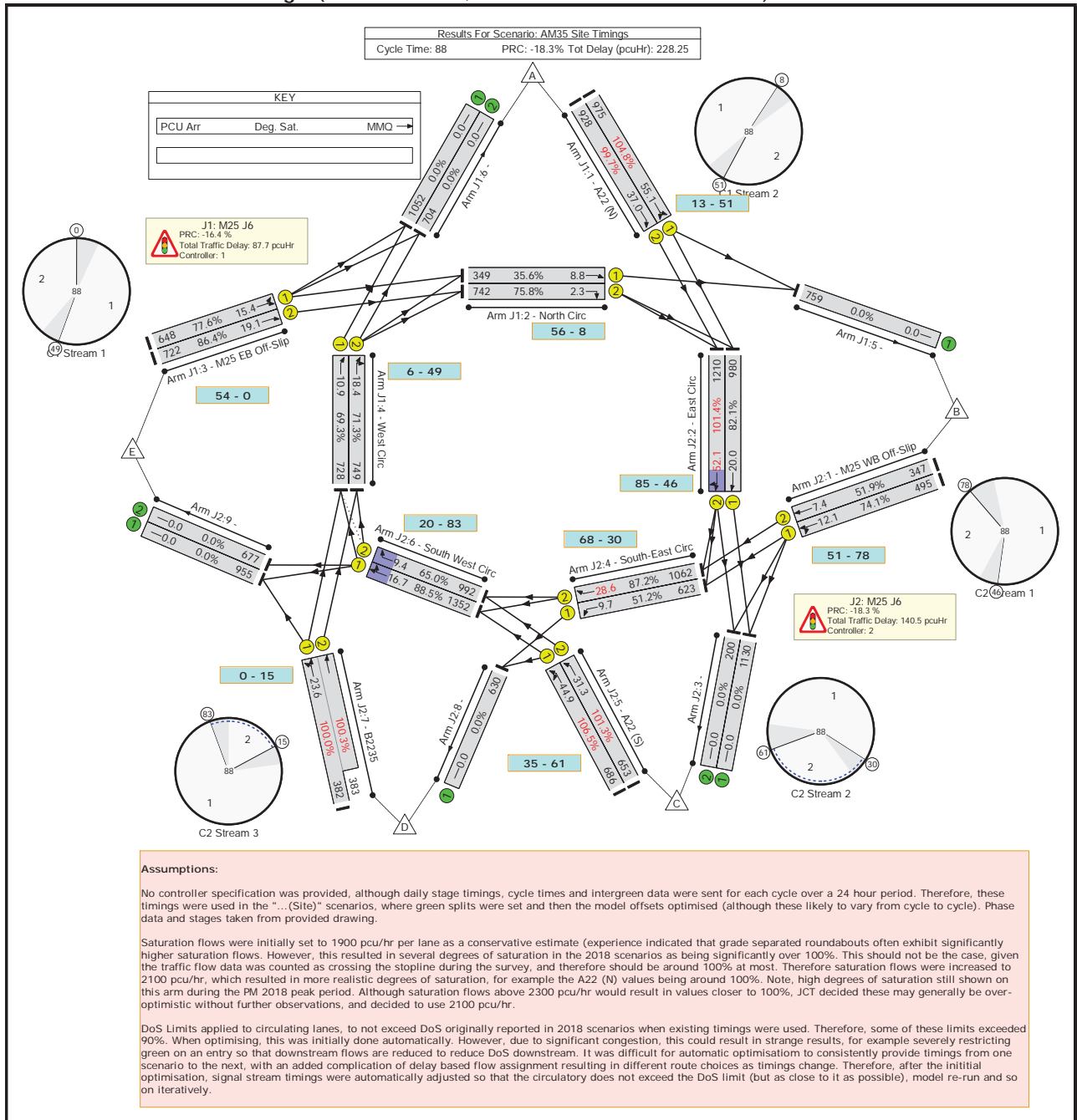
Scenario 1: 'AM25 Site Timings' (FG2: 'AM 2025', Plan 1: 'Network Control Plan 1')



Scenario 5: 'AM30 Site Timings' (FG3: 'AM 2030', Plan 1: 'Network Control Plan 1')

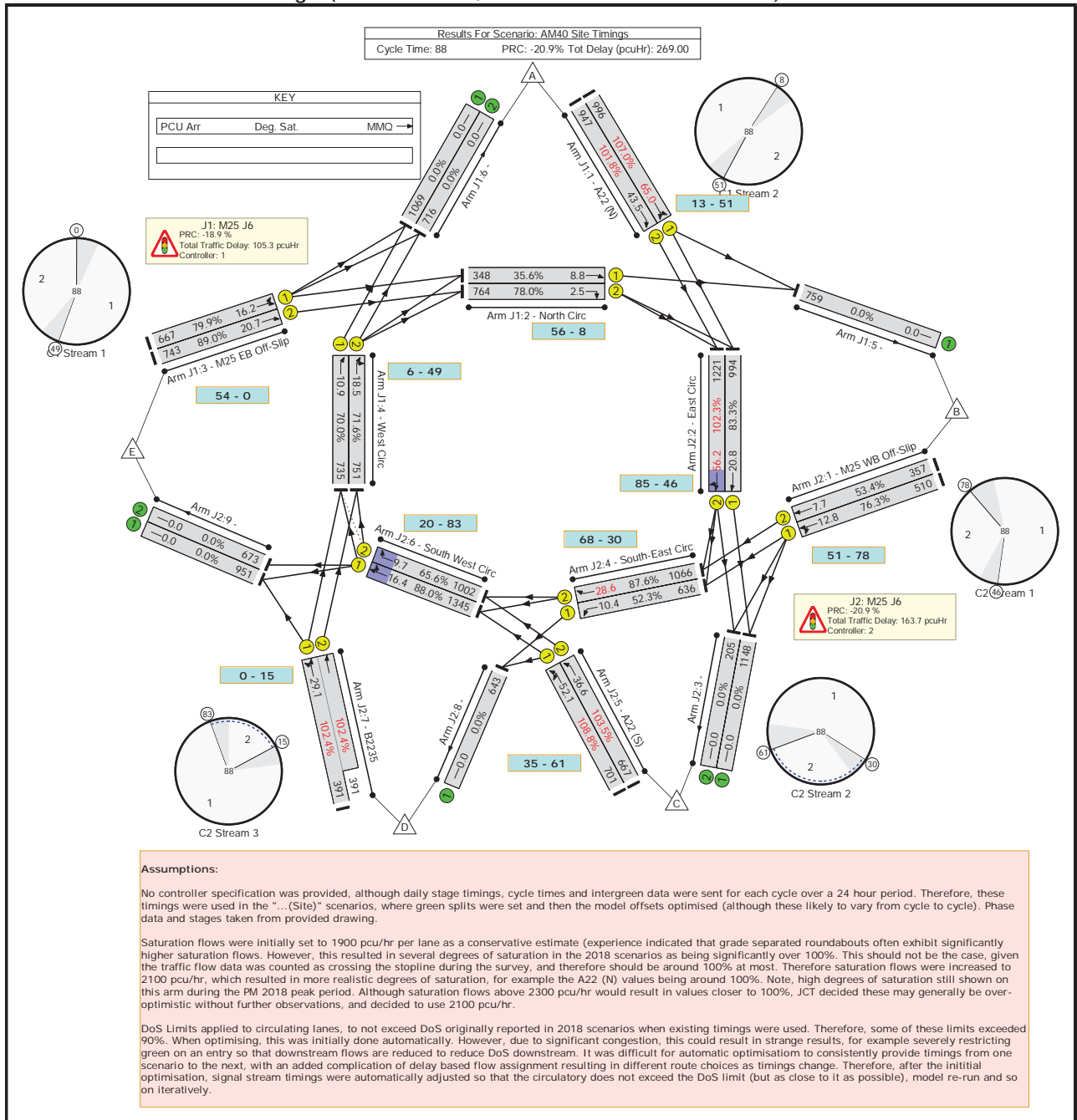


Scenario 9: 'AM35 Site Timings' (FG4: 'AM 2035', Plan 1: 'Network Control Plan 1')

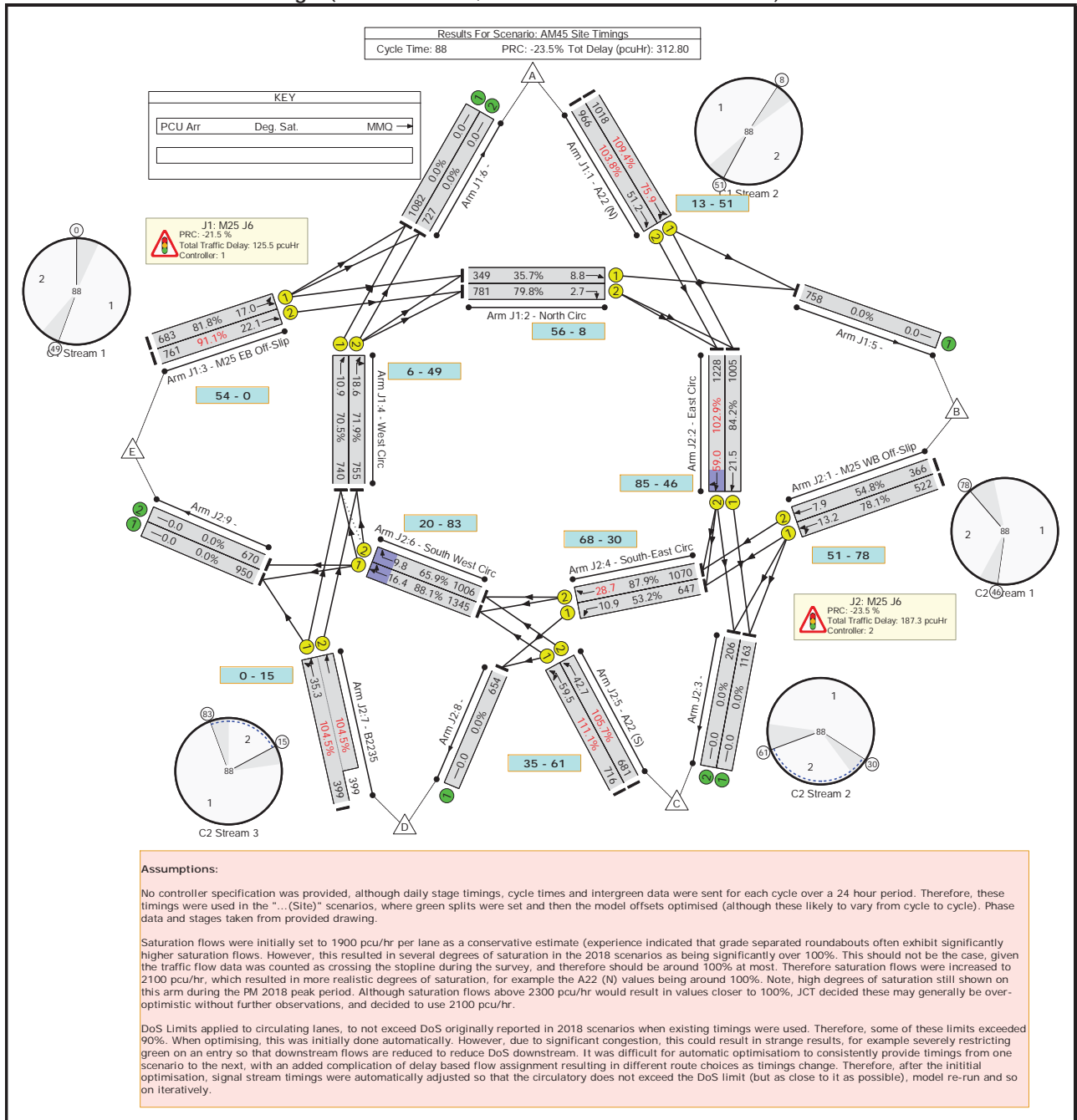




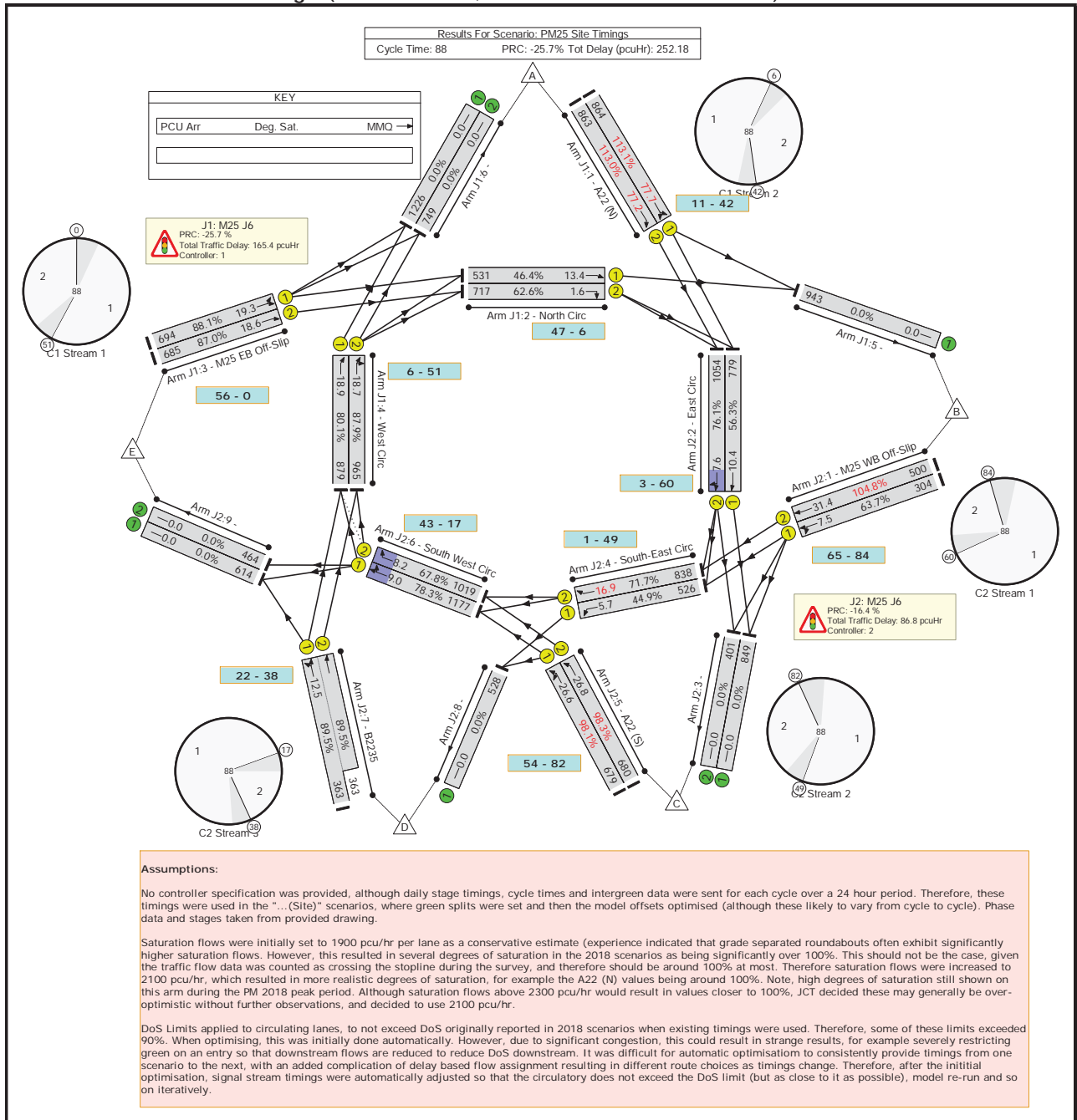
Scenario 13: 'AM40 Site Timings' (FG5: 'AM 2040', Plan 1: 'Network Control Plan 1')



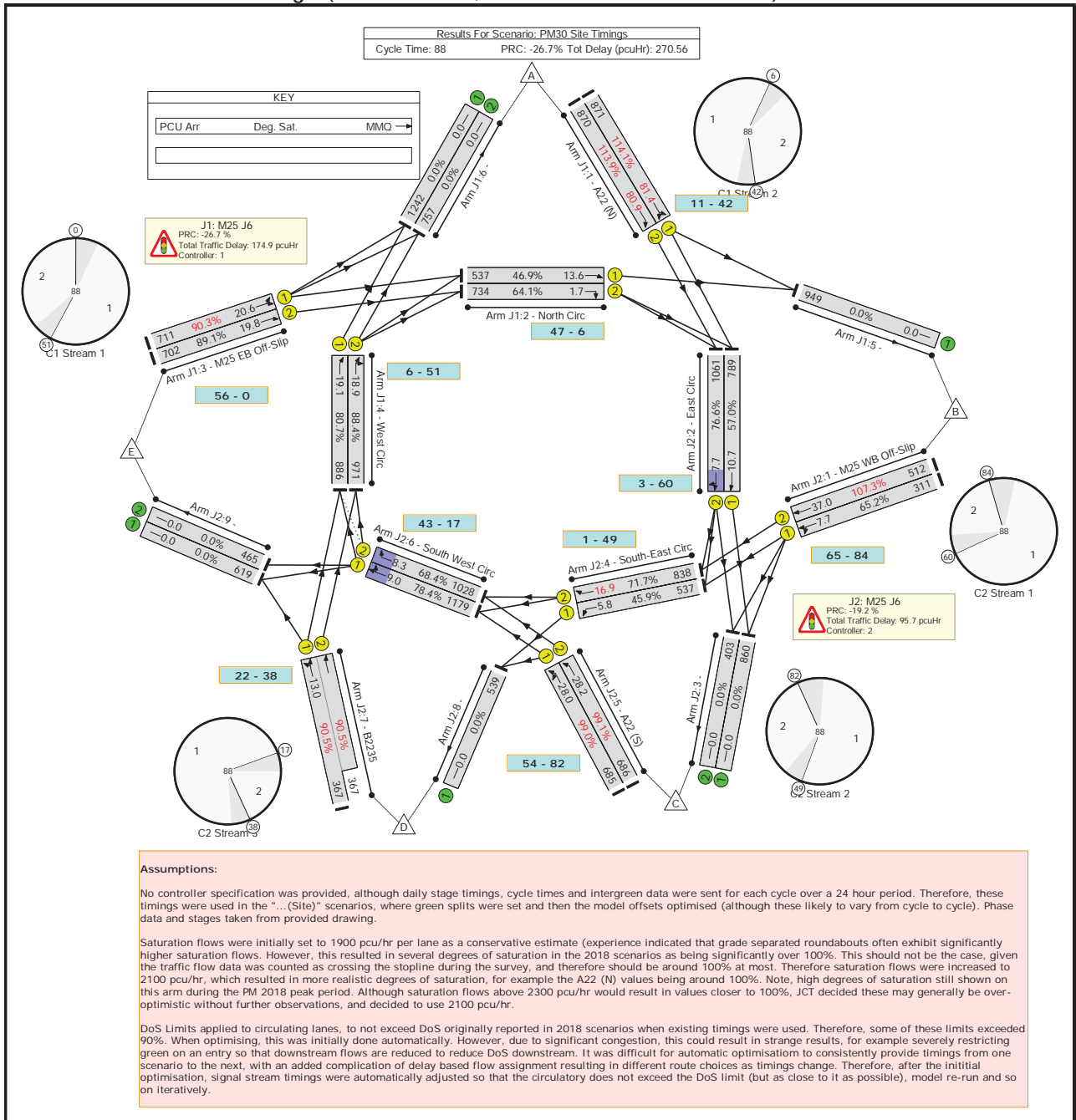
Scenario 17: 'AM45 Site Timings' (FG6: 'AM 2045', Plan 1: 'Network Control Plan 1')



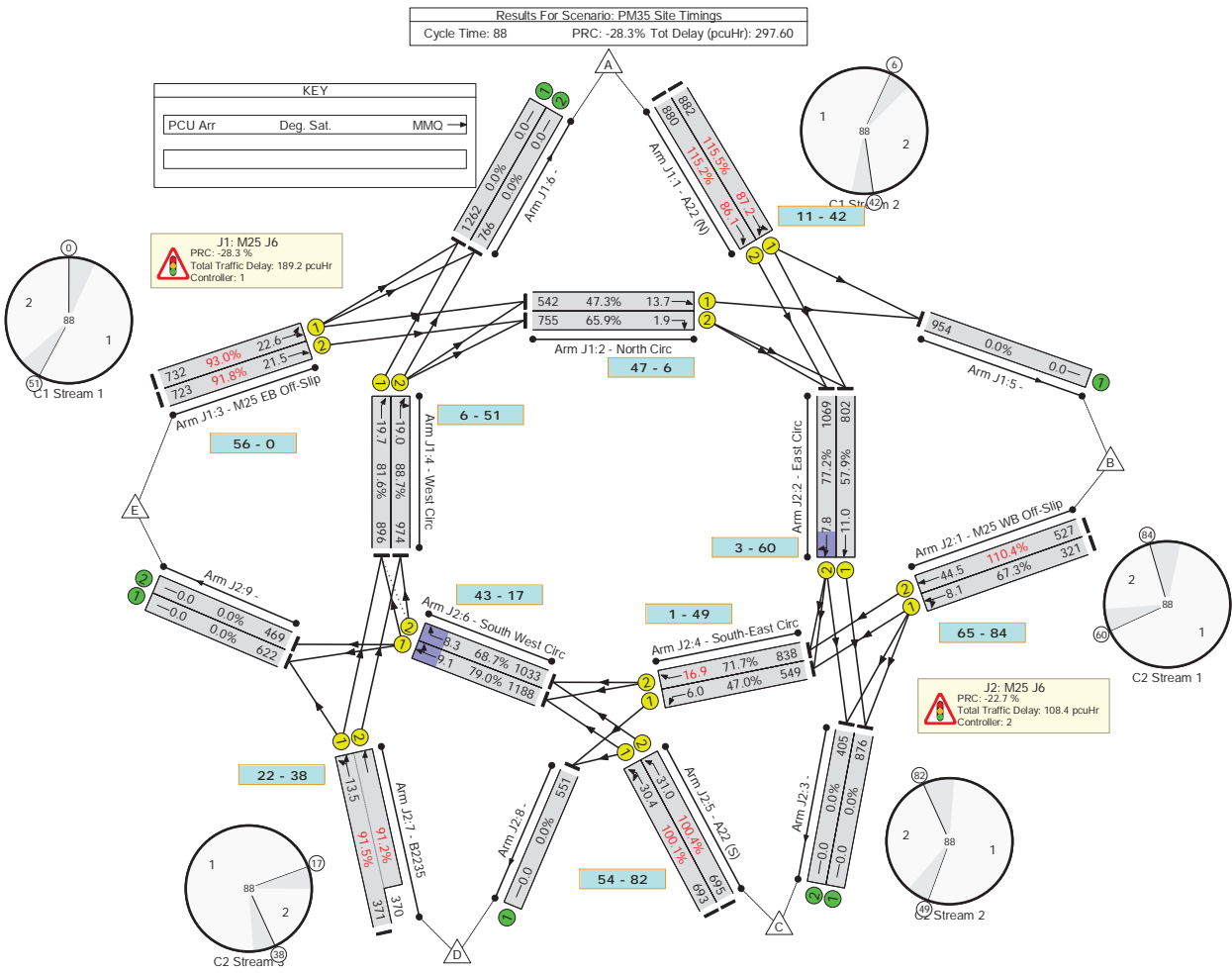
Scenario 21: 'PM25 Site Timings' (FG8: 'PM 2025', Plan 1: 'Network Control Plan 1')



Scenario 25: 'PM30 Site Timings' (FG9: 'PM 2030', Plan 1: 'Network Control Plan 1')



Scenario 29: 'PM35 Site Timings' (FG10: 'PM 2035', Plan 1: 'Network Control Plan 1')



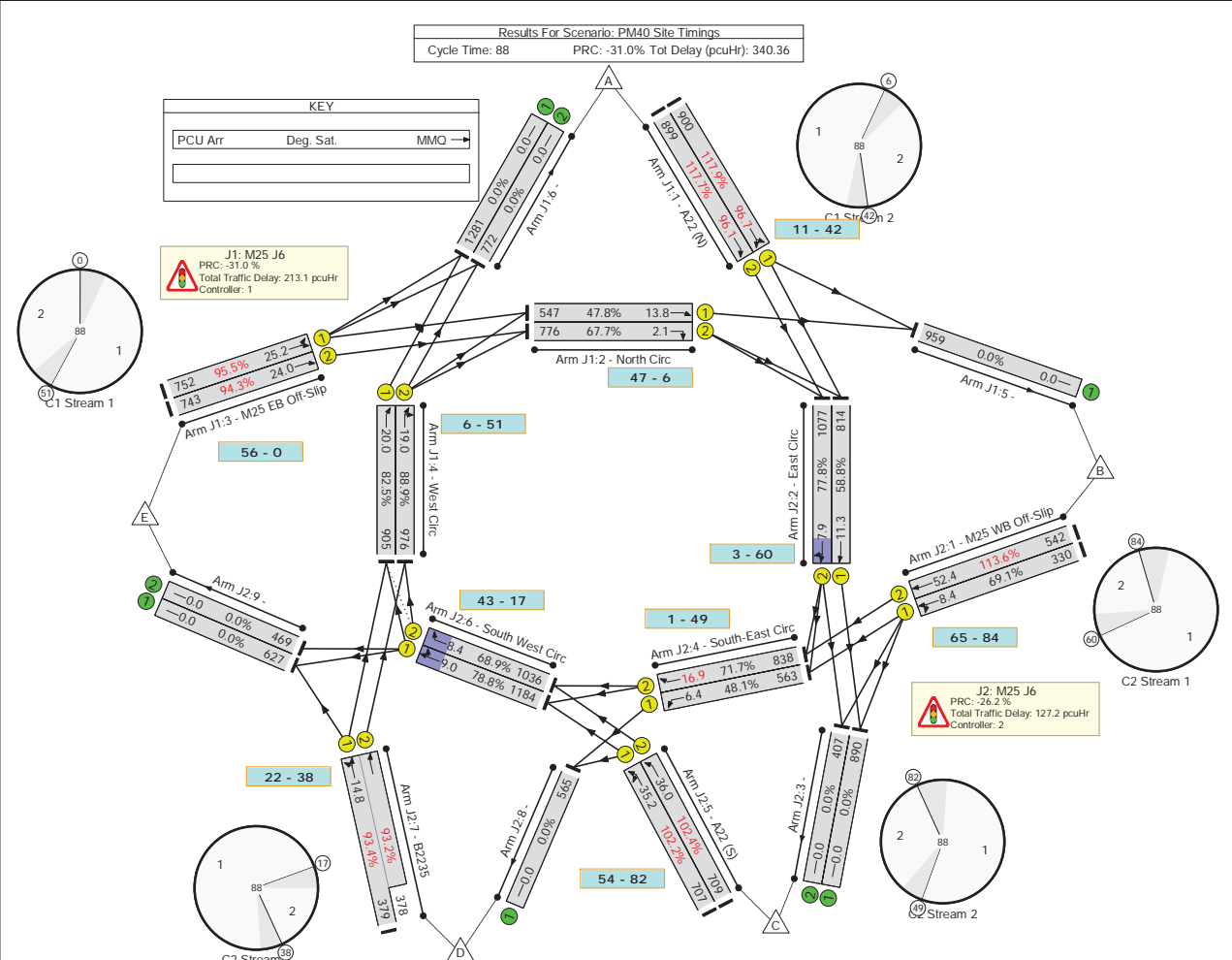
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

Scenario 33: 'PM40 Site Timings' (FG11: 'PM 2040', Plan 1: 'Network Control Plan 1')



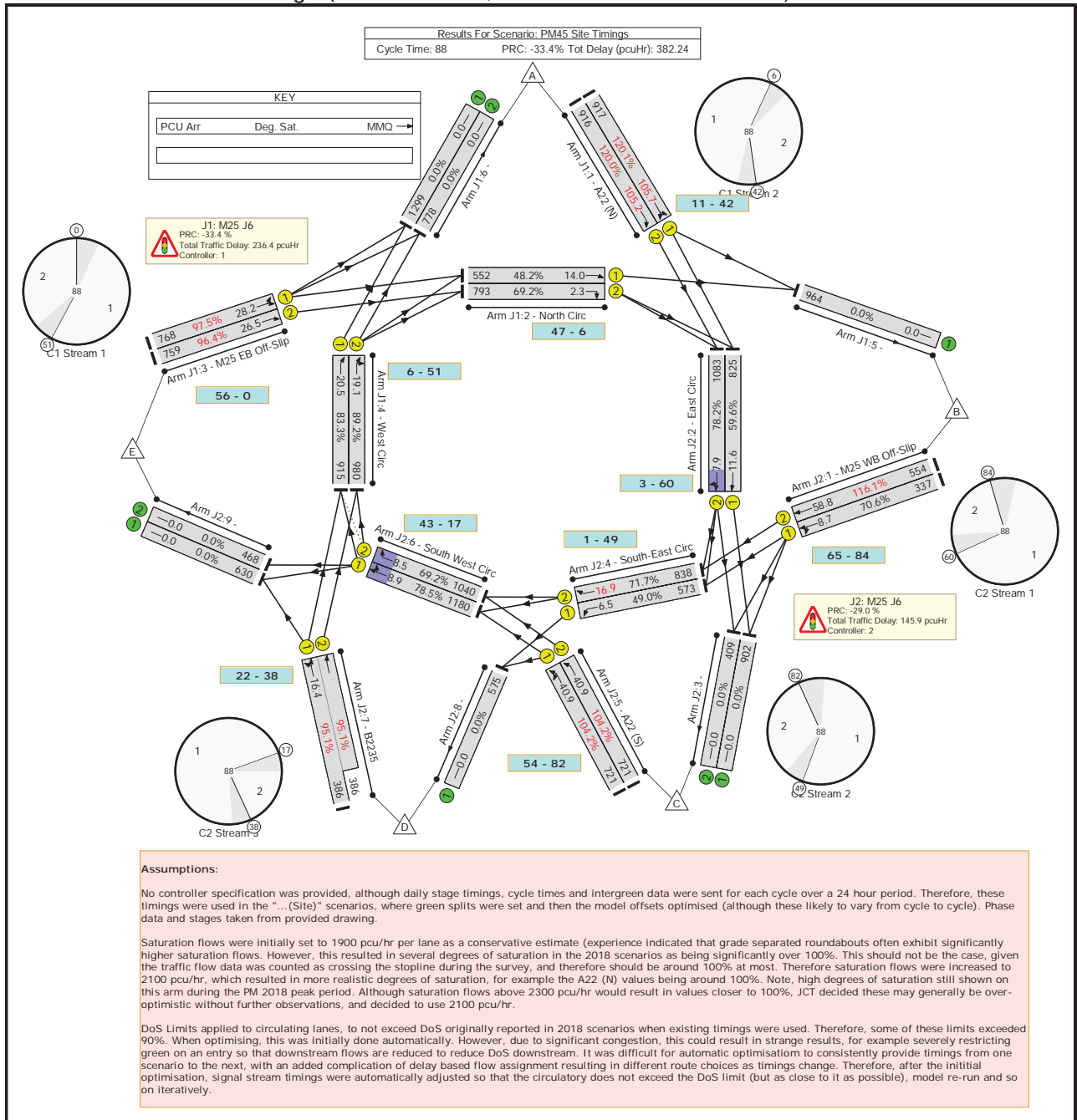
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

Scenario 37: 'PM45 Site Timings' (FG12: 'PM 2045', Plan 1: 'Network Control Plan 1')





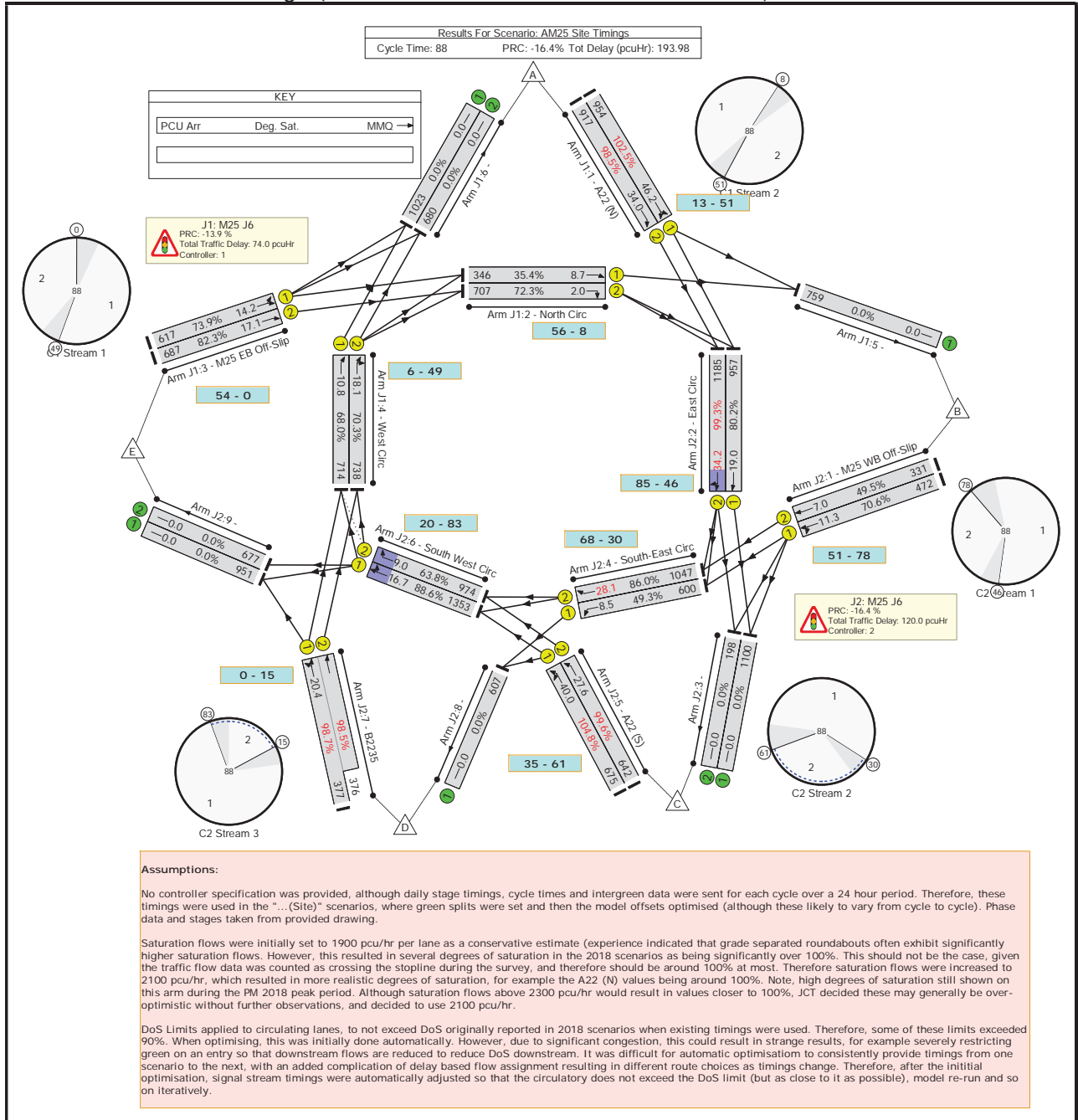
LinSig Results – Existing Junction Arrangement (with Local Plan Growth)



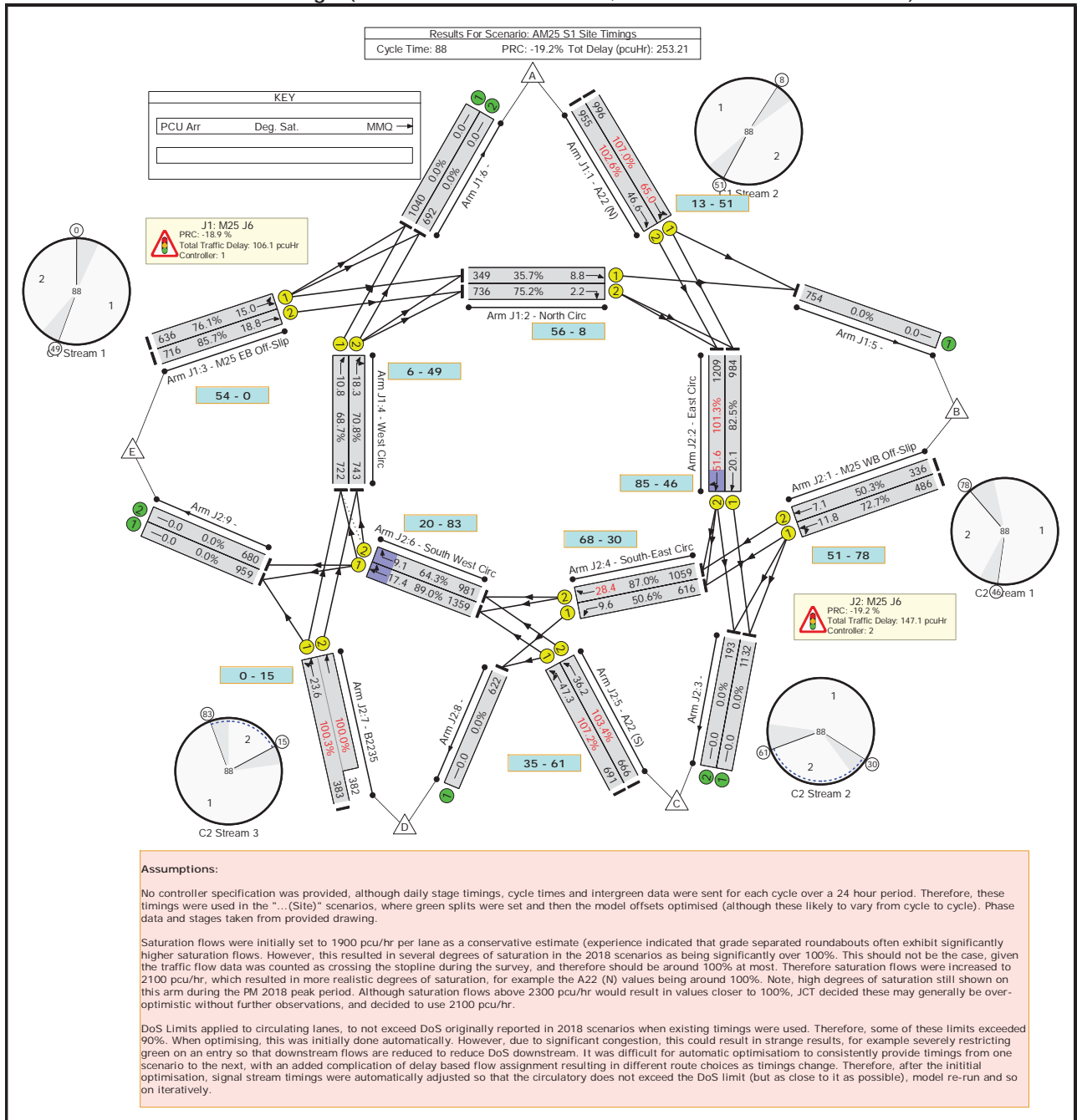
# M25 J6 LinSig Results Observed Timings

## Network Layout Diagram

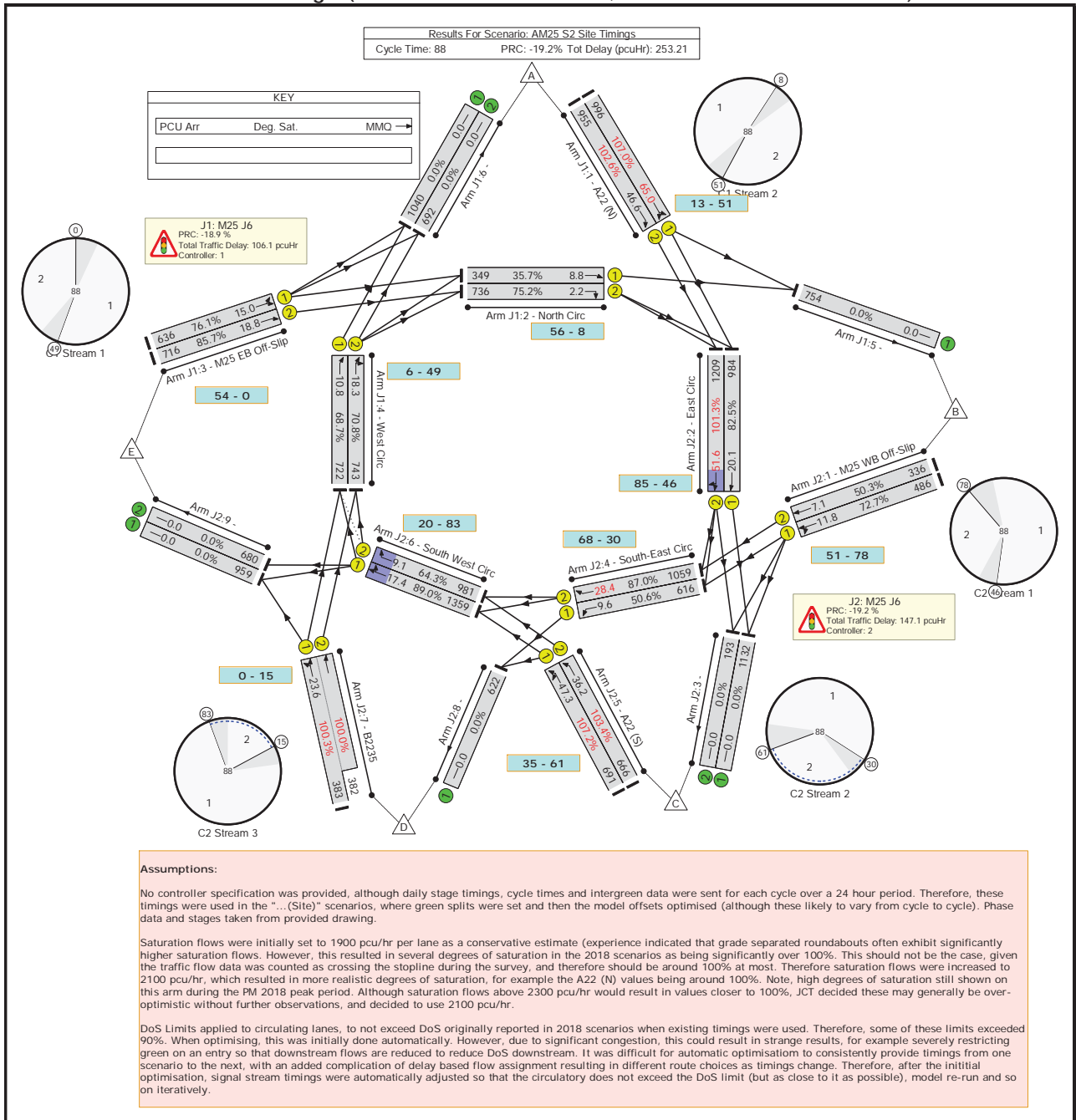
Scenario 1: 'AM25 Site Timings' (FG2: 'AM 2025', Plan 1: 'Network Control Plan 1')



Scenario 2: 'AM25 S1 Site Timings' (FG13: 'AM 2025 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 3: 'AM25 S2 Site Timings' (FG23: 'AM 2025 Scenario 2', Plan 1: 'Network Control Plan 1')



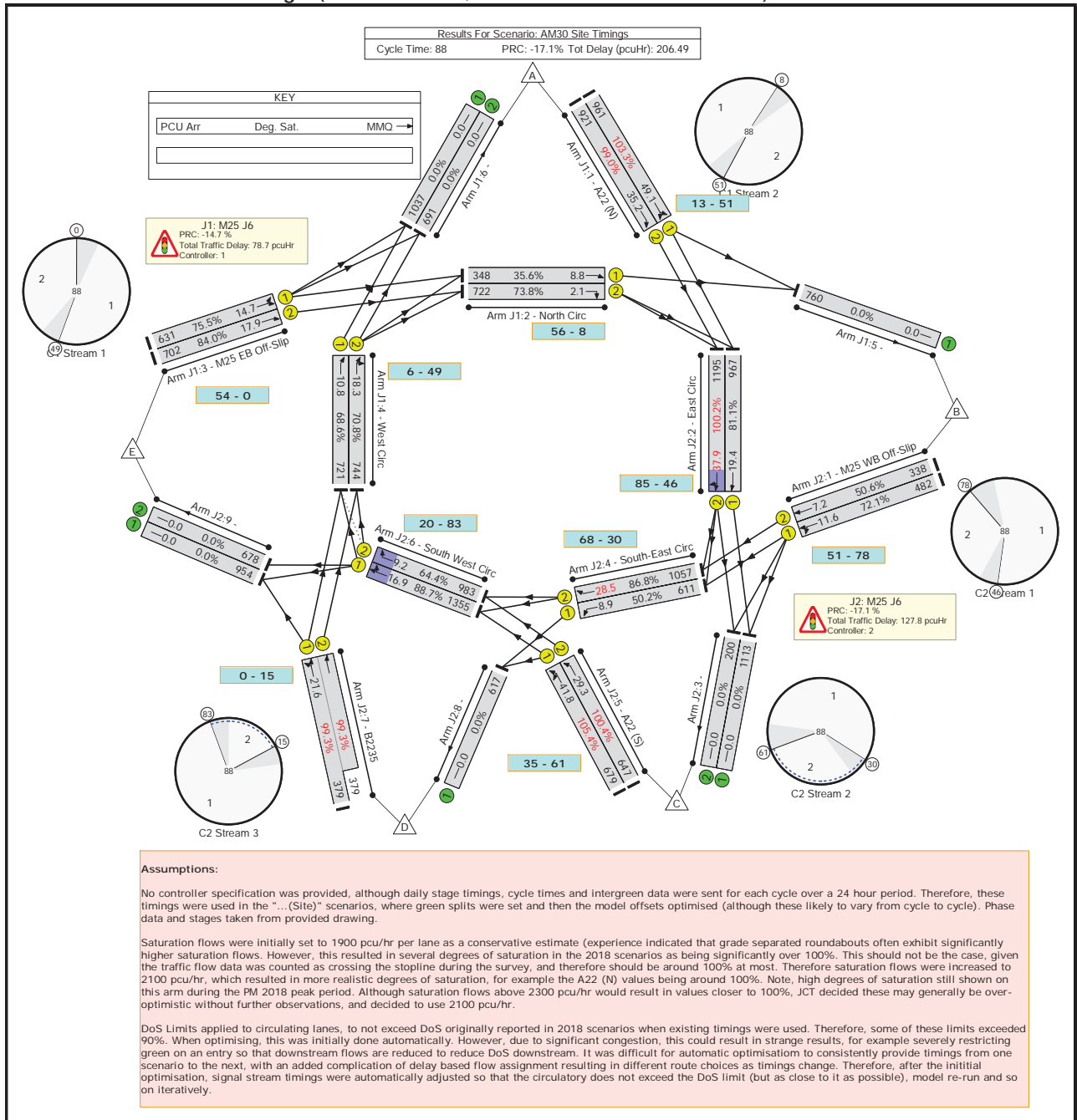
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

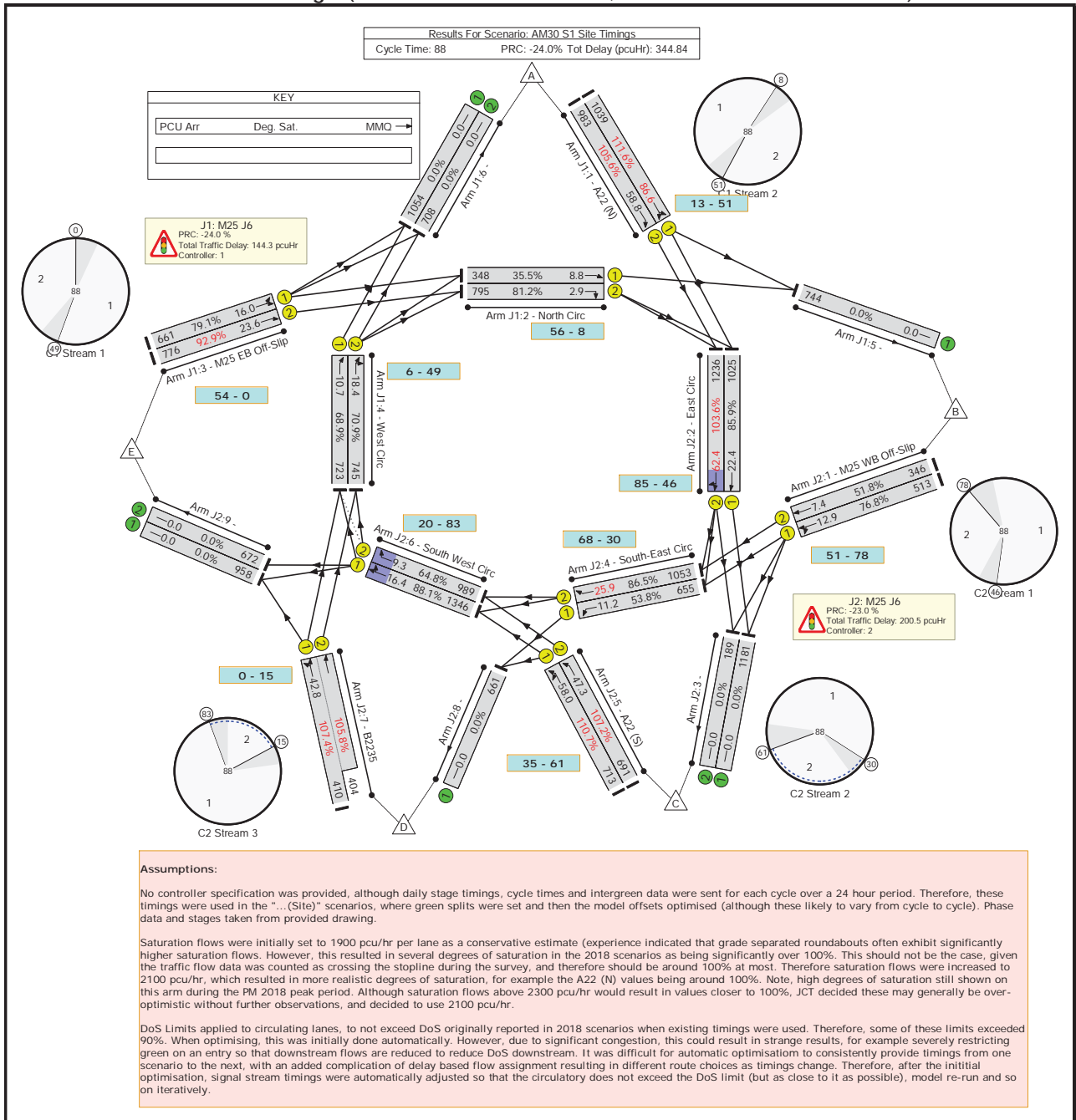
Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

Scenario 7: 'AM30 Site Timings' (FG3: 'AM 2030', Plan 1: 'Network Control Plan 1')



Scenario 8: 'AM30 S1 Site Timings' (FG14: 'AM 2030 Scenario 1', Plan 1: 'Network Control Plan 1')



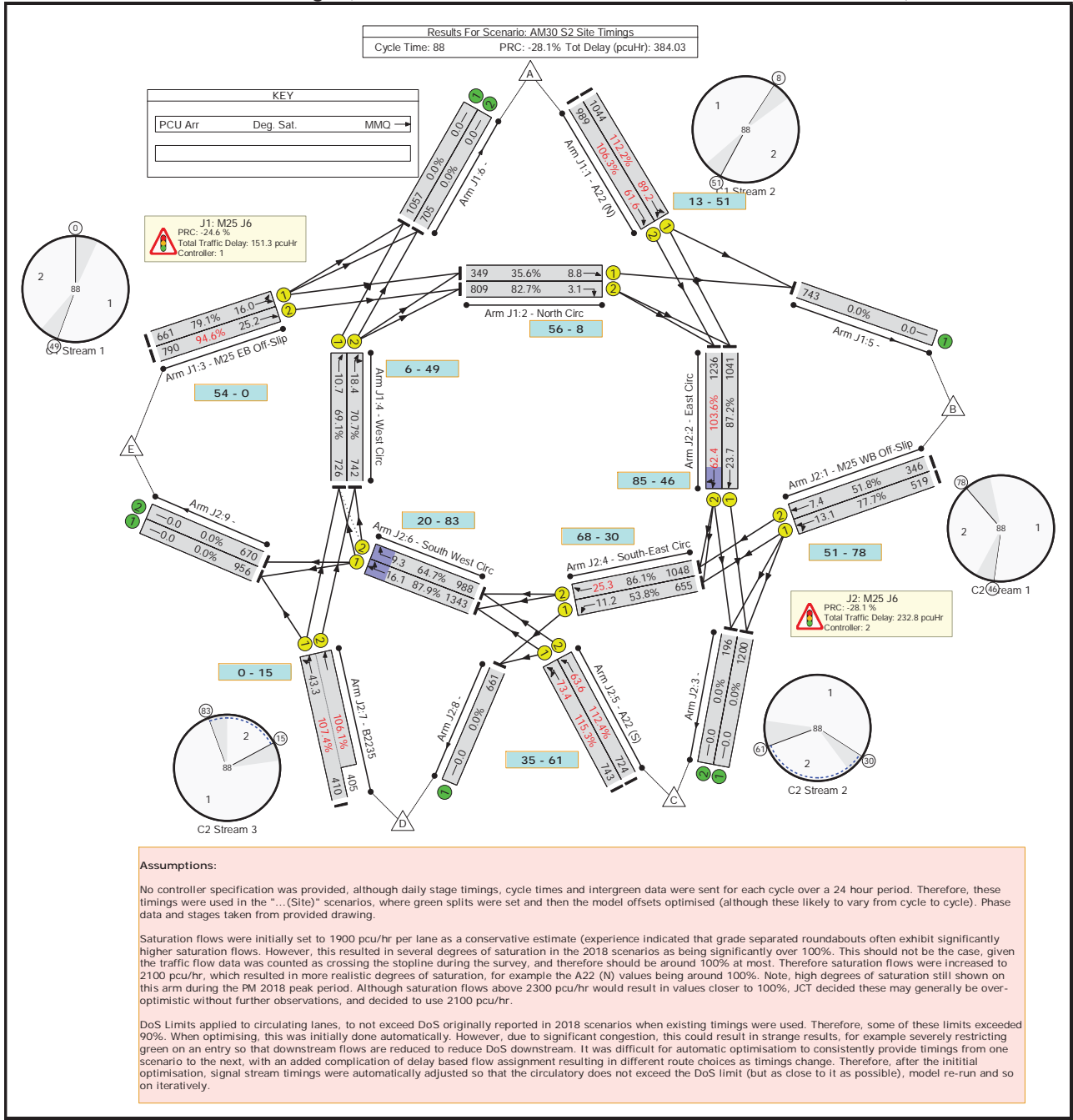
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

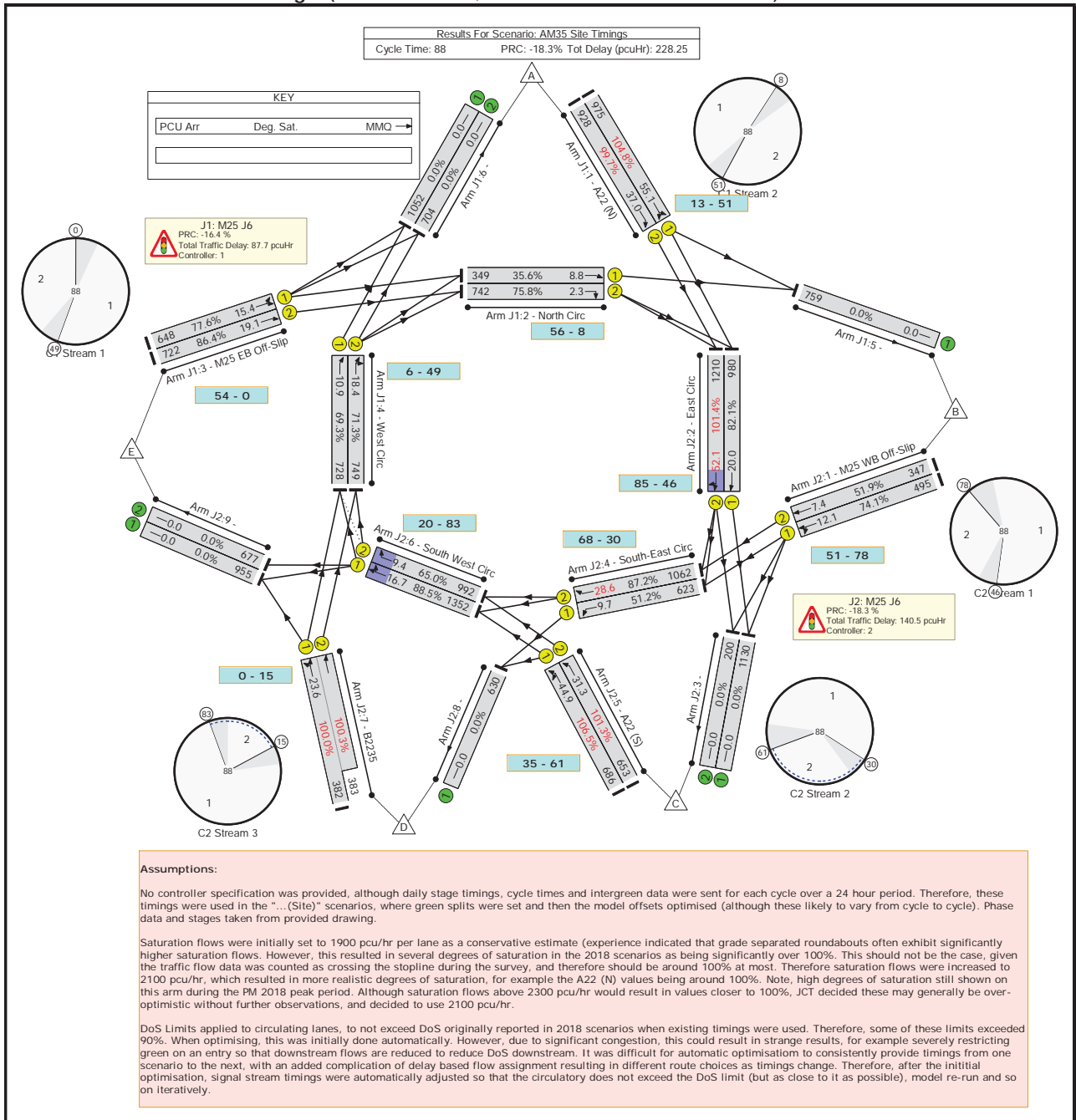
Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

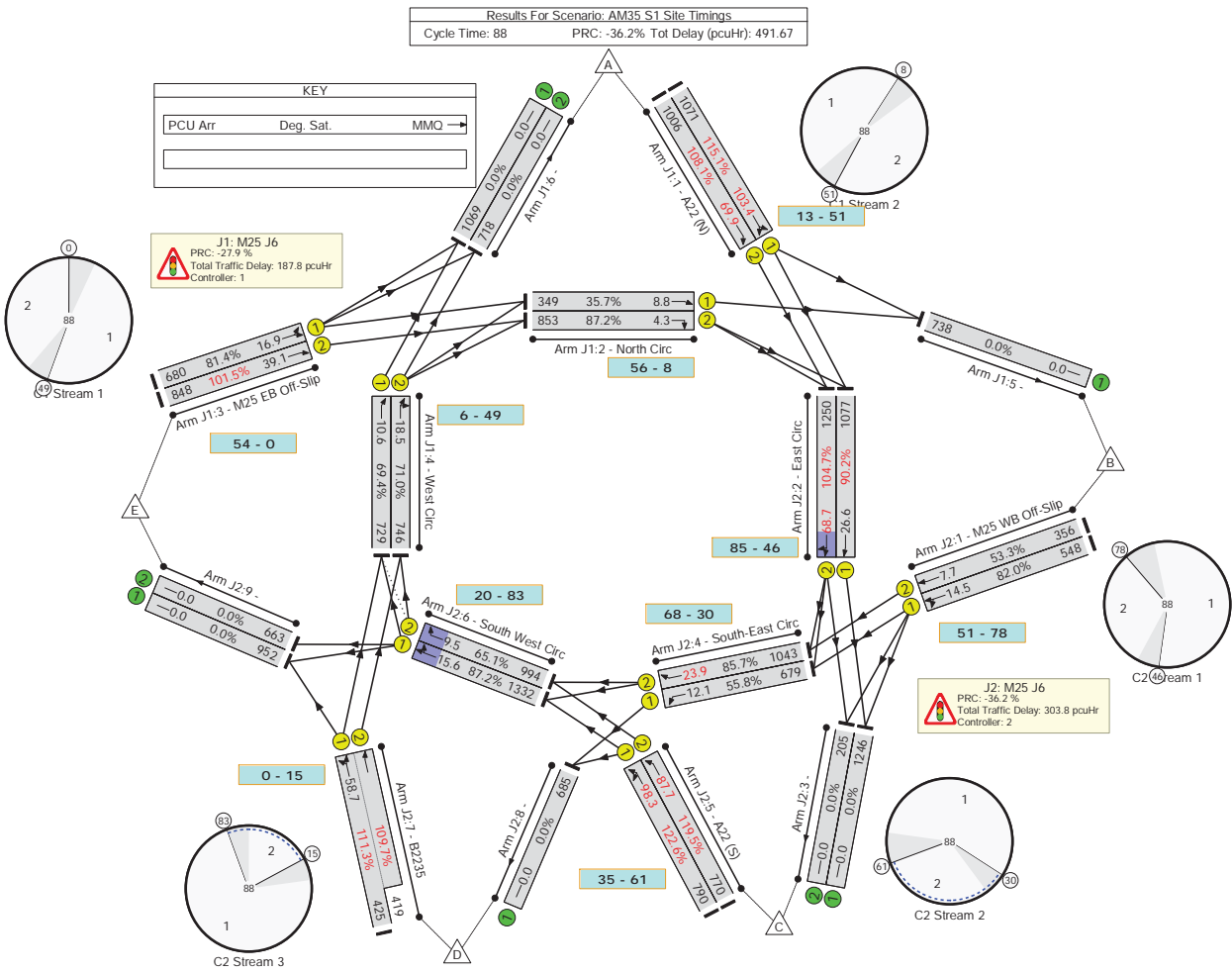
Scenario 9: 'AM30 S2 Site Timings' (FG24: 'AM 2030 Scenario 2', Plan 1: 'Network Control Plan 1')



Scenario 13: 'AM35 Site Timings' (FG4: 'AM 2035', Plan 1: 'Network Control Plan 1')



Scenario 14: 'AM35 S1 Site Timings' (FG15: 'AM 2035 Scenario 1', Plan 1: 'Network Control Plan 1')



**Assumptions:**

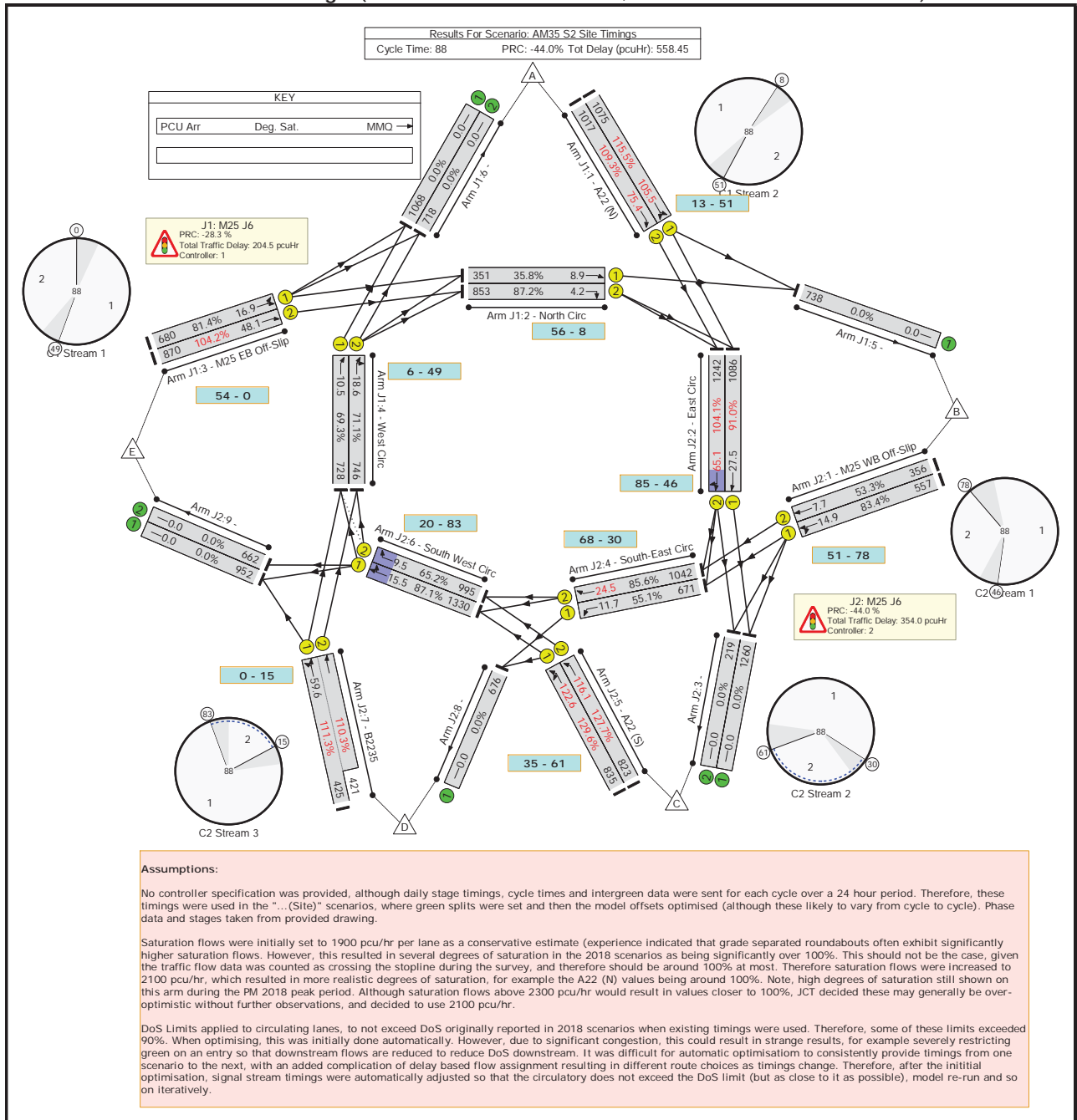
No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.



Scenario 15: 'AM35 S2 Site Timings' (FG25: 'AM 2035 Scenario 2', Plan 1: 'Network Control Plan 1')



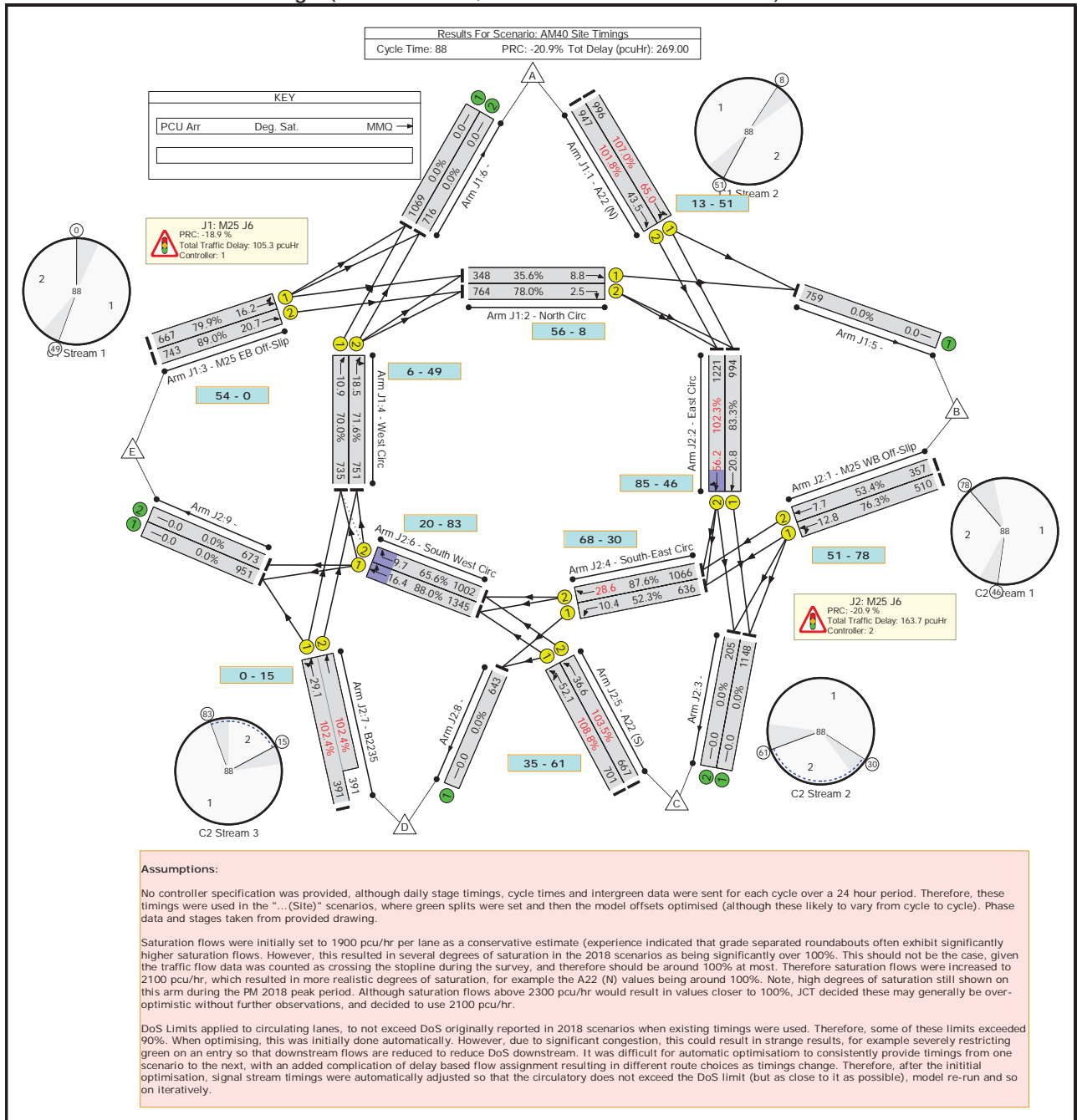
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

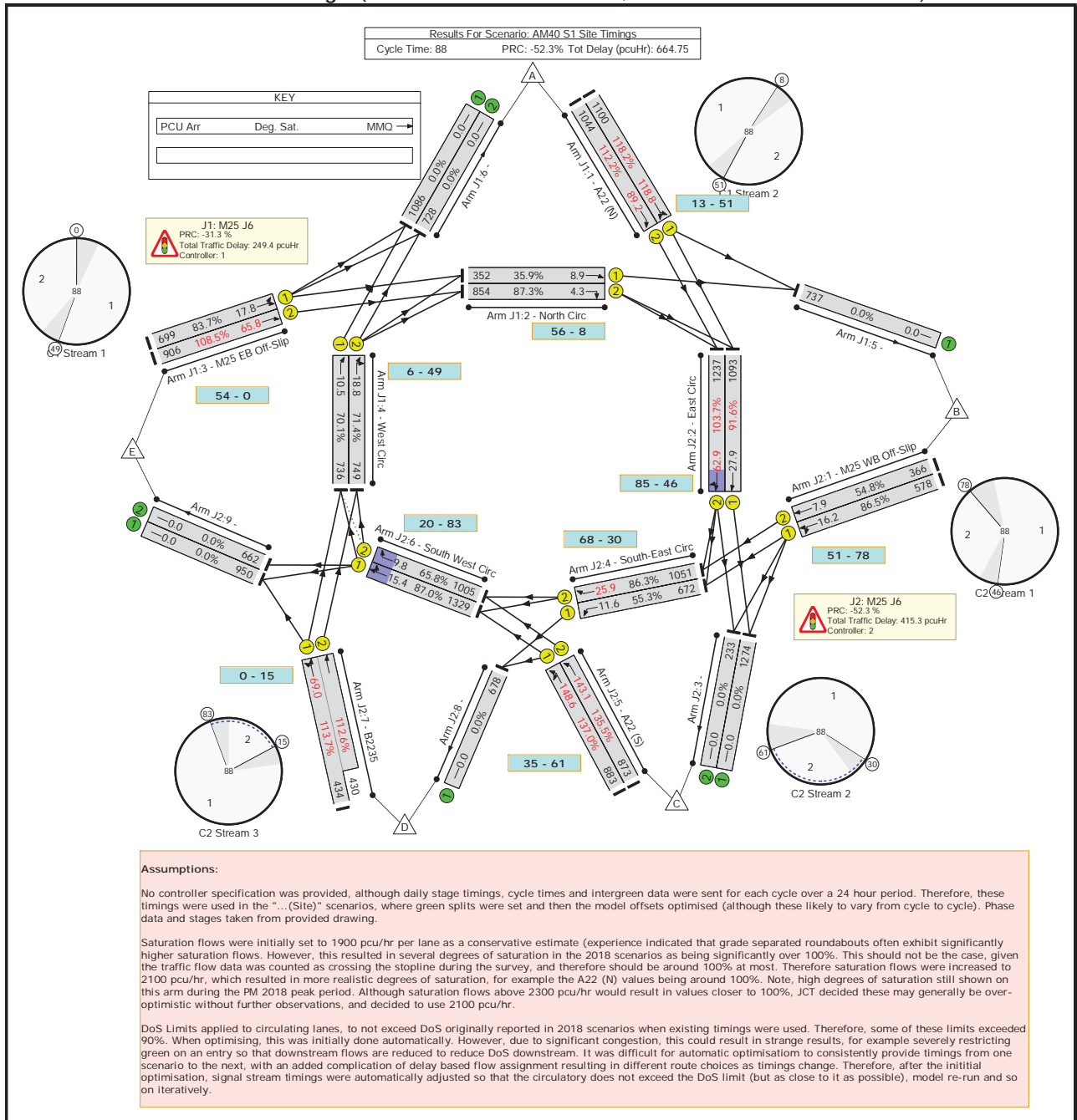
Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

Scenario 19: 'AM40 Site Timings' (FG5: 'AM 2040', Plan 1: 'Network Control Plan 1')



Scenario 20: 'AM40 S1 Site Timings' (FG16: 'AM 2040 Scenario 1', Plan 1: 'Network Control Plan 1')



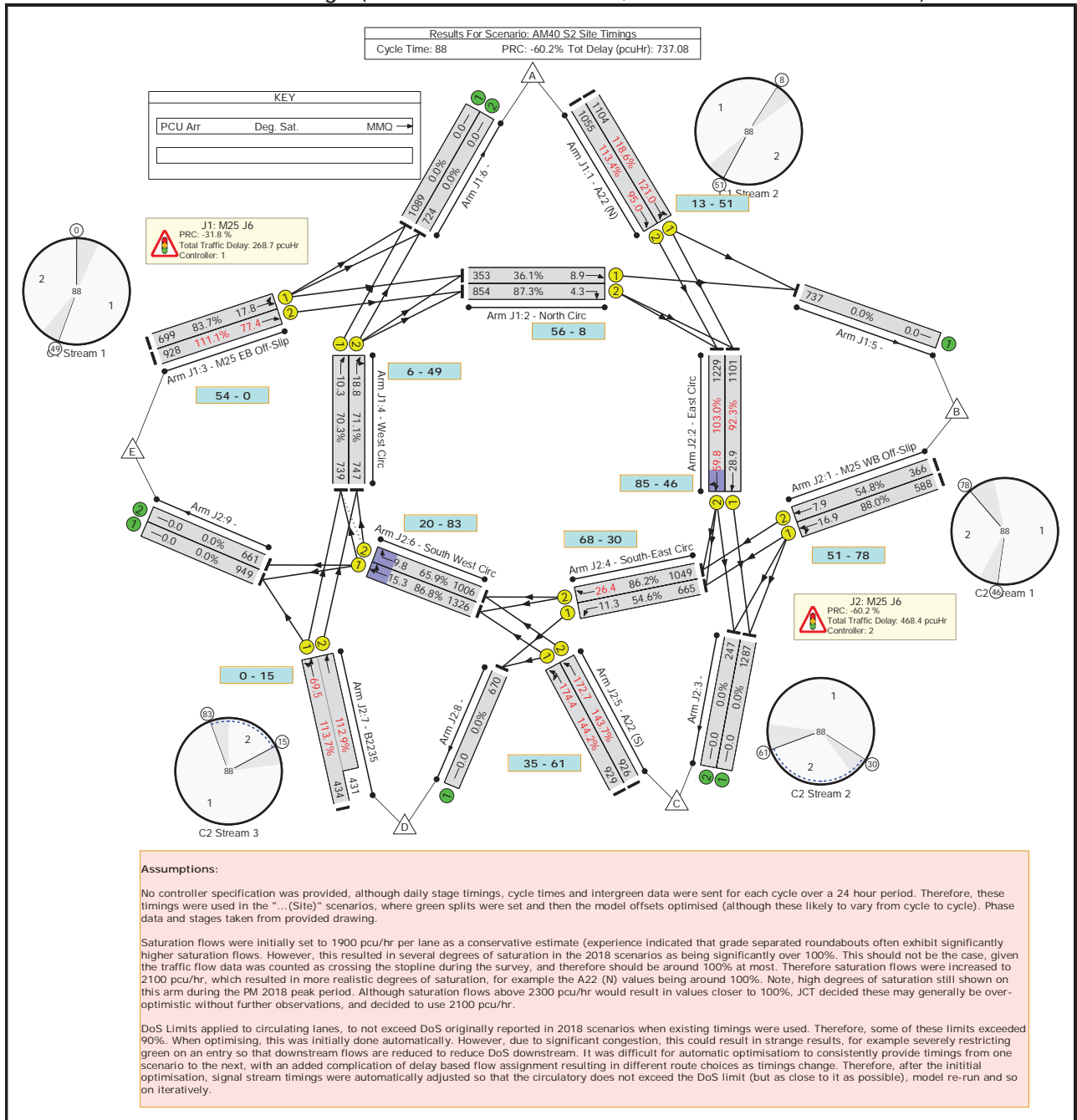
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

Scenario 21: 'AM40 S2 Site Timings' (FG26: 'AM 2040 Scenario 2', Plan 1: 'Network Control Plan 1')



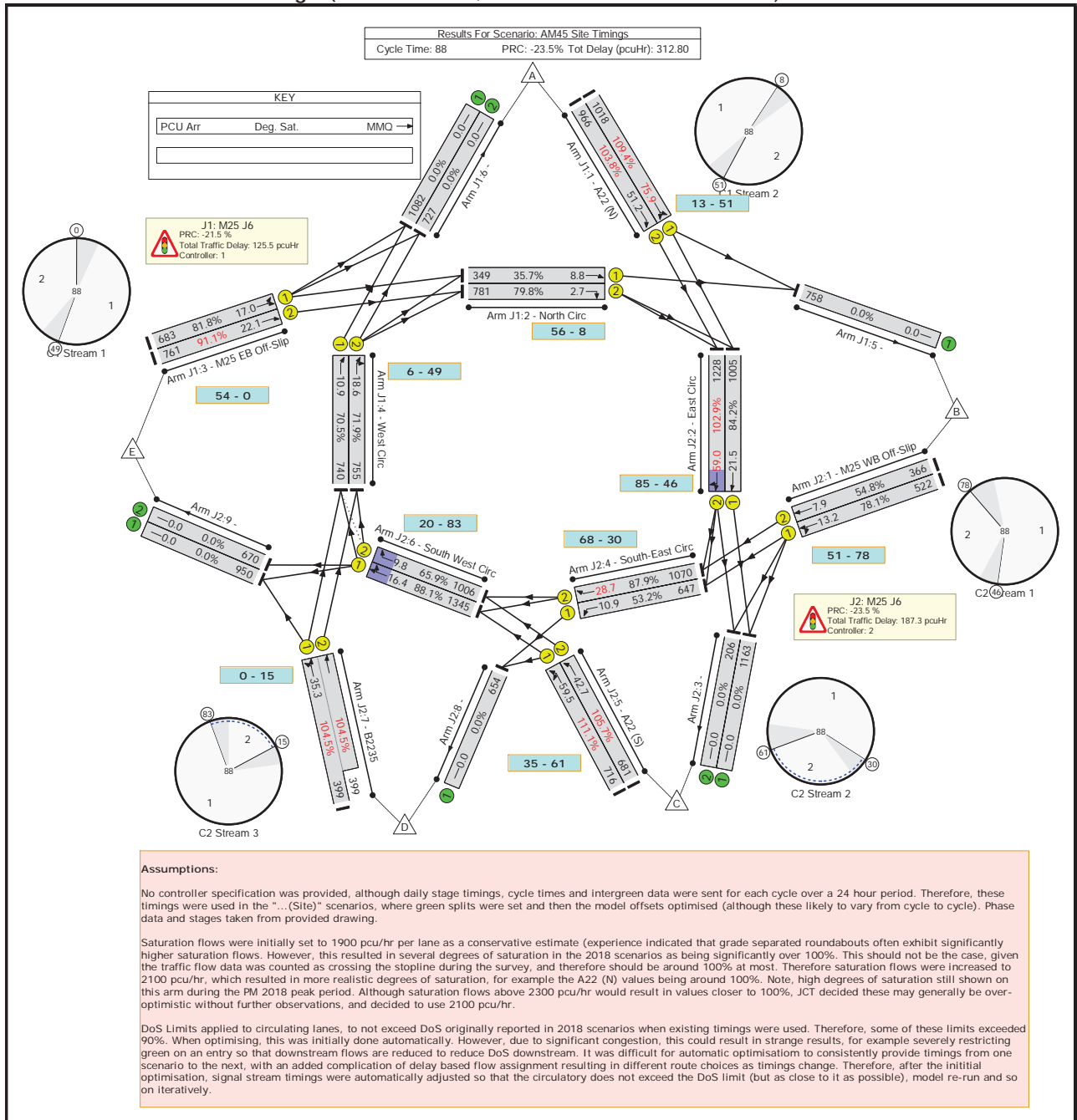
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

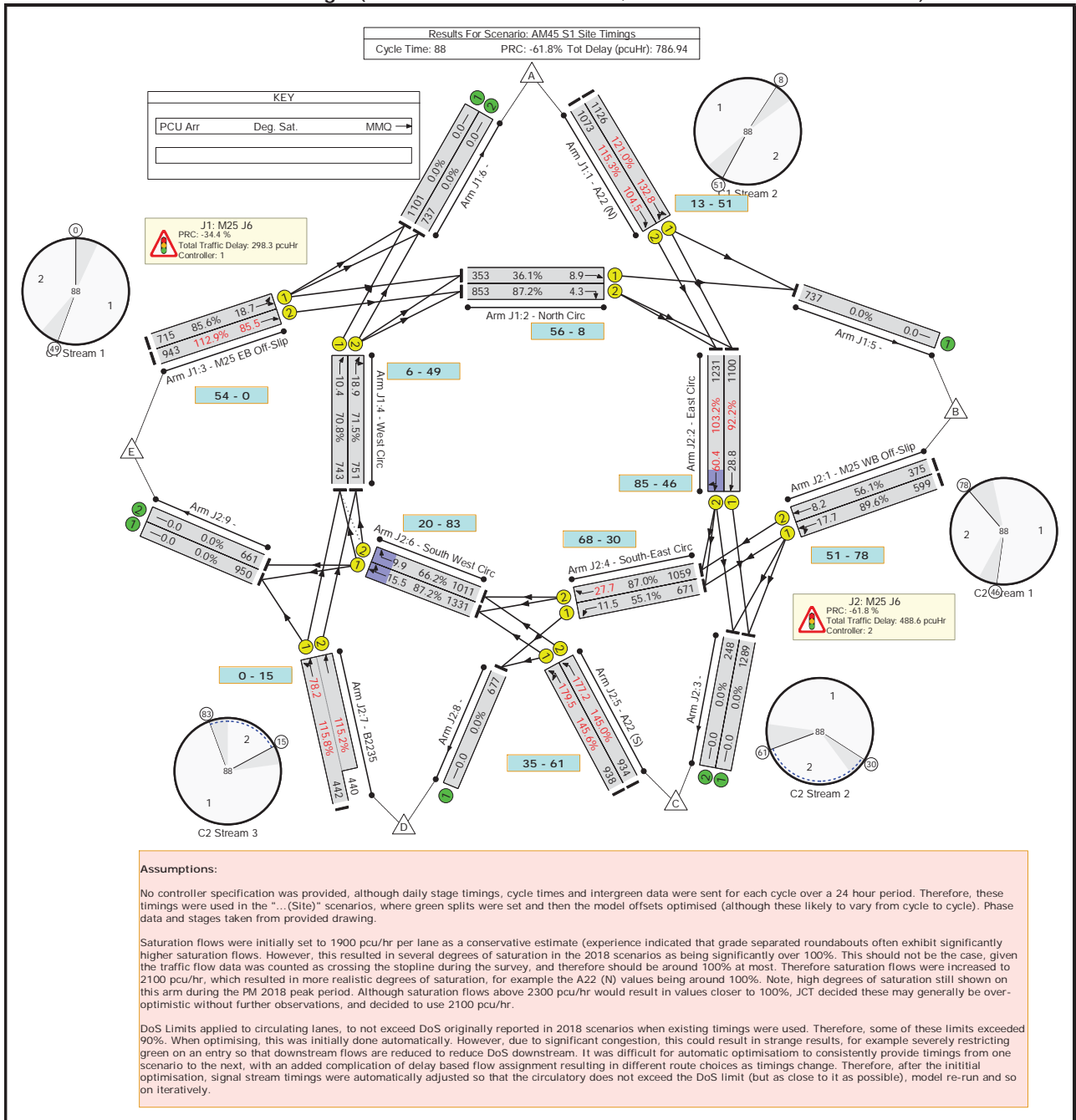
Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

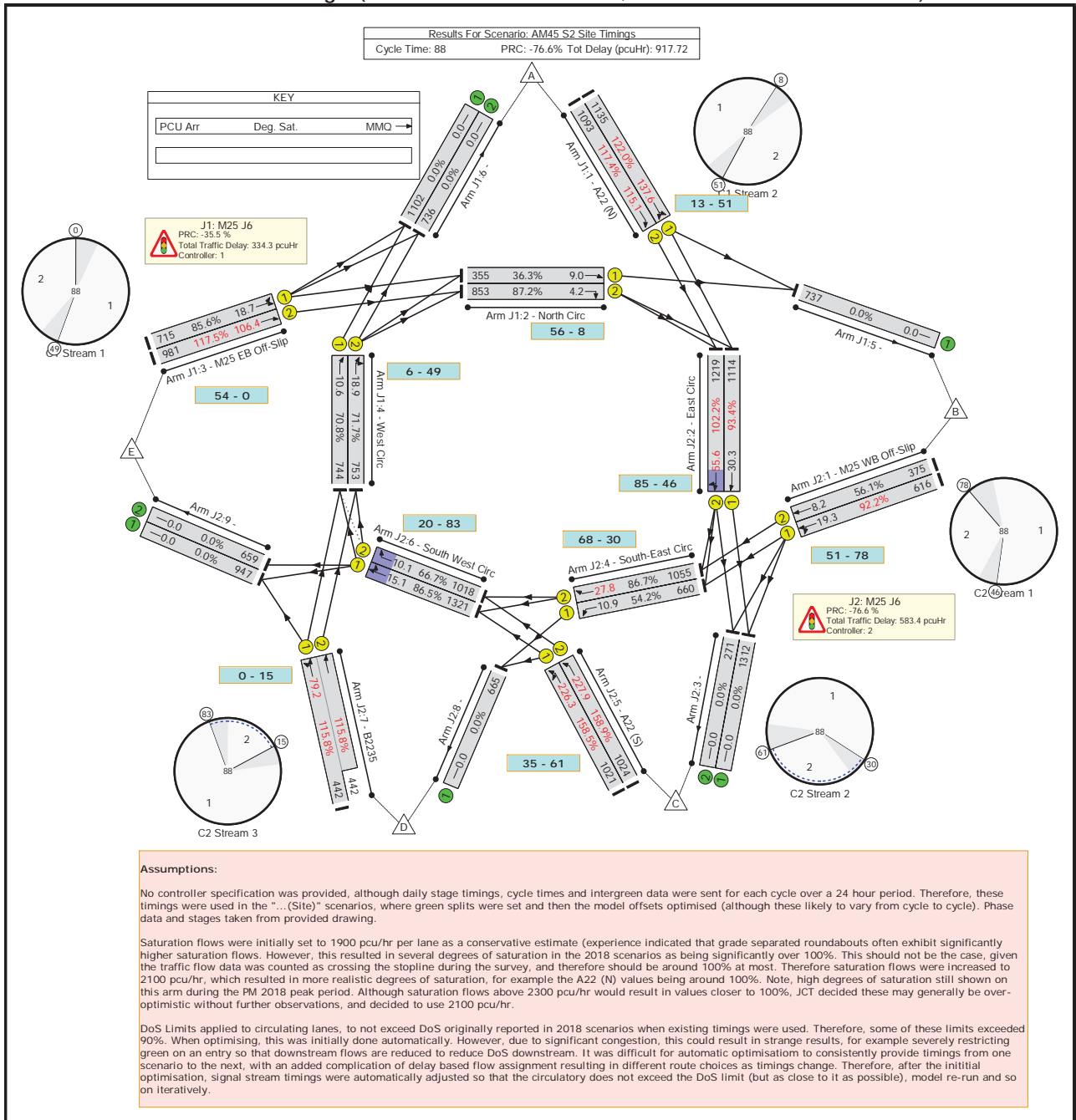
Scenario 25: 'AM45 Site Timings' (FG6: 'AM 2045', Plan 1: 'Network Control Plan 1')



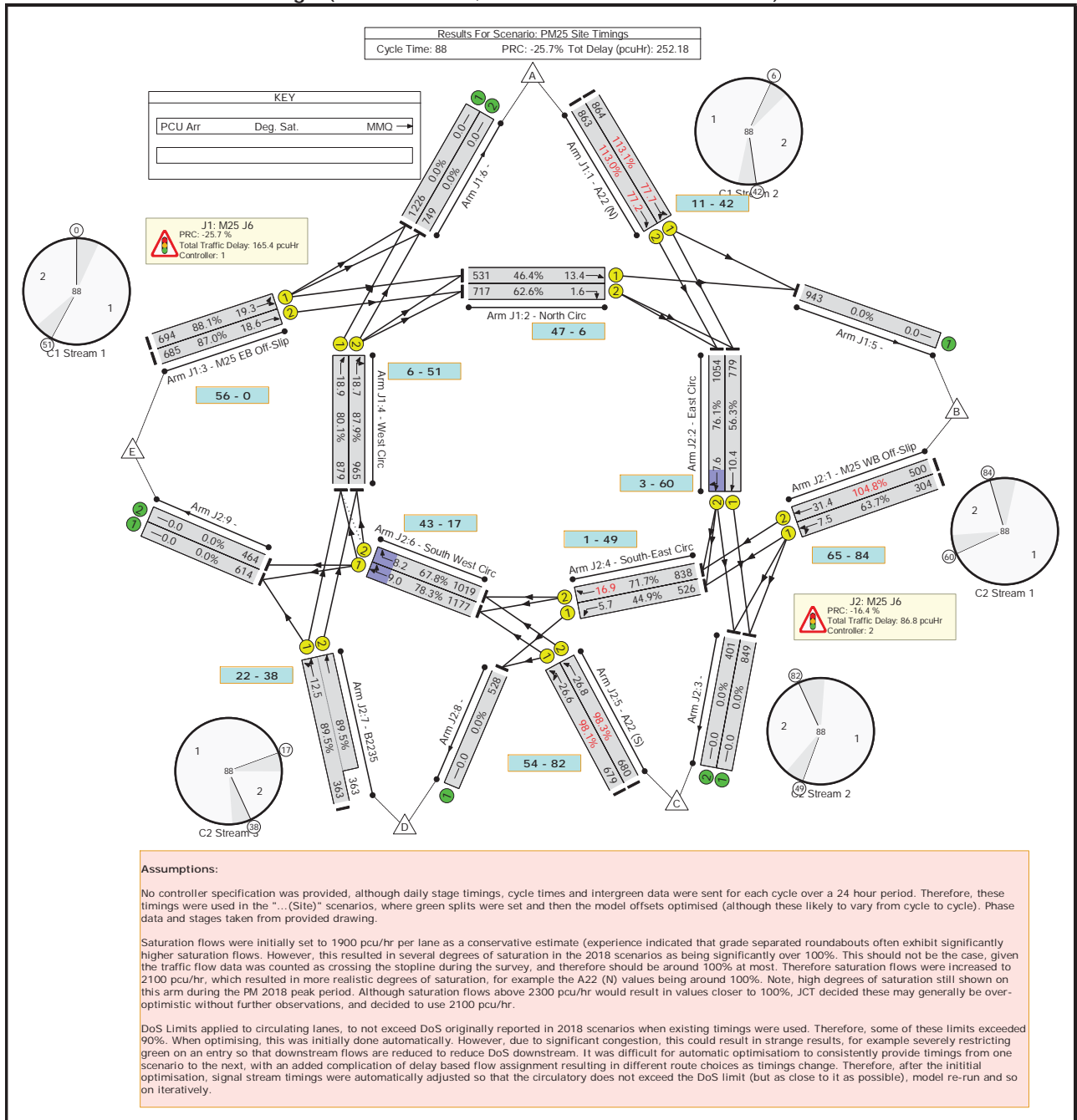
Scenario 26: 'AM45 S1 Site Timings' (FG17: 'AM 2045 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 27: 'AM45 S2 Site Timings' (FG27: 'AM 2045 Scenario 2', Plan 1: 'Network Control Plan 1')

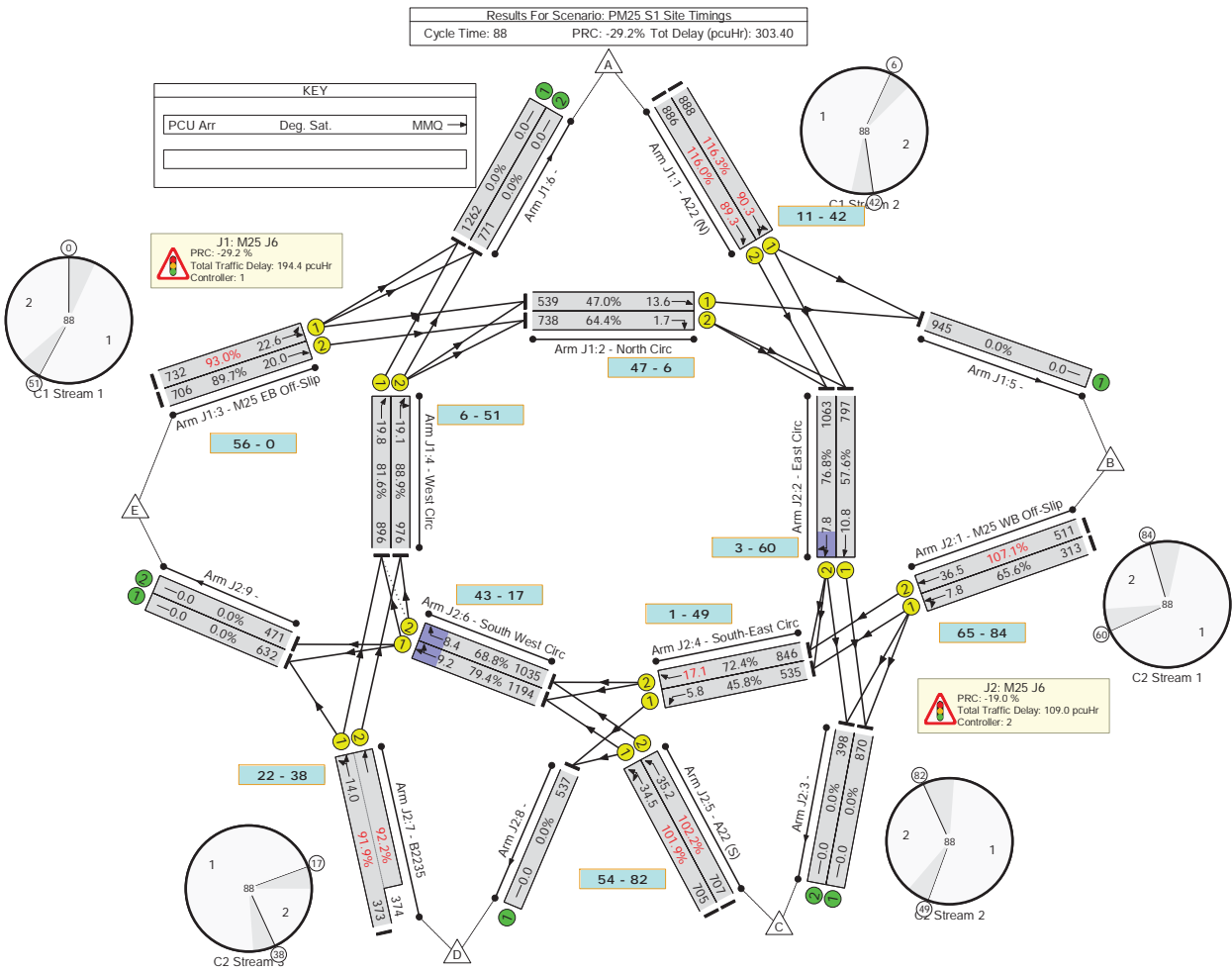


Scenario 31: 'PM25 Site Timings' (FG8: 'PM 2025', Plan 1: 'Network Control Plan 1')





Scenario 32: 'PM25 S1 Site Timings' (FG18: 'PM 2025 Scenario 1', Plan 1: 'Network Control Plan 1')



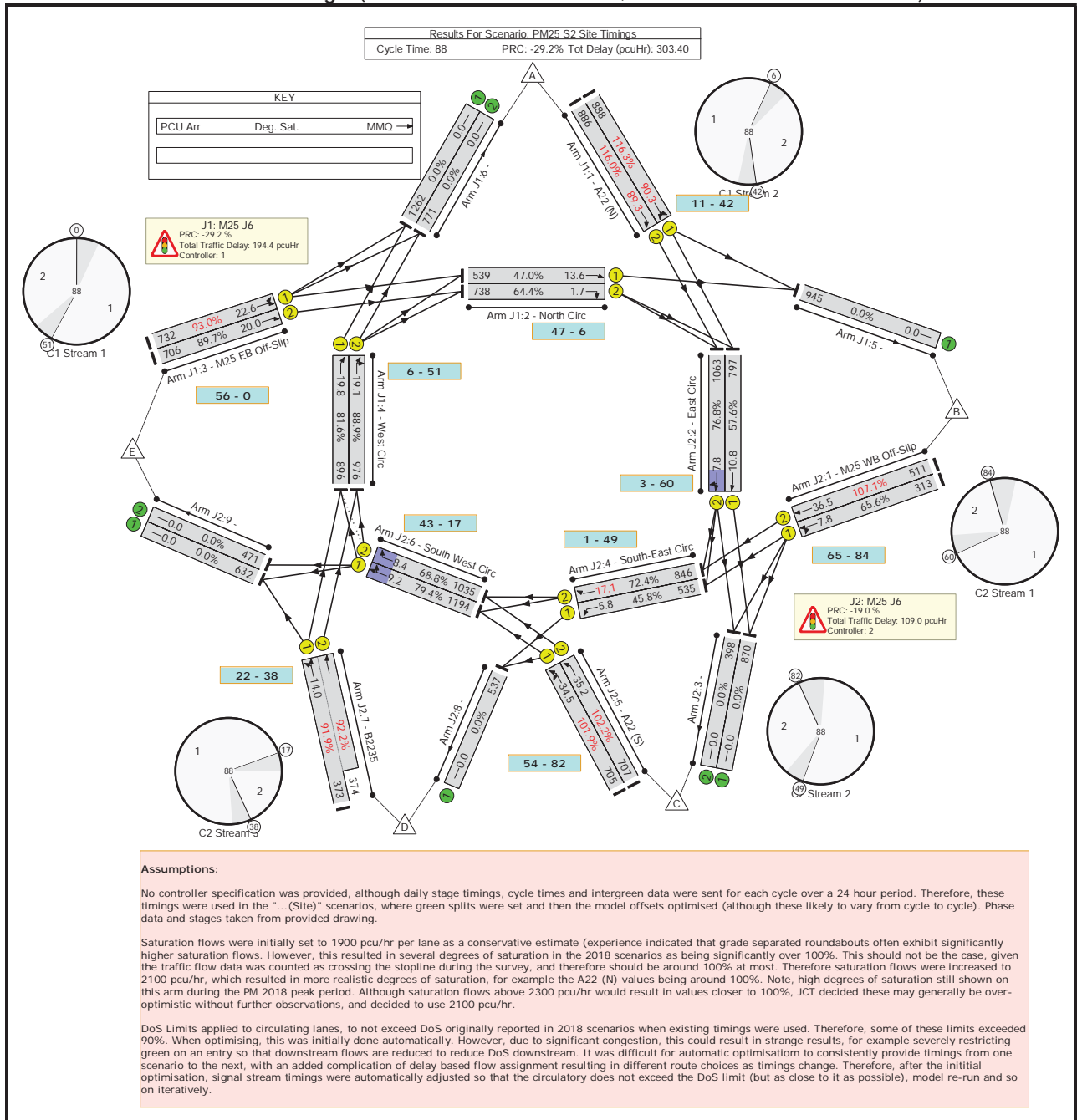
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

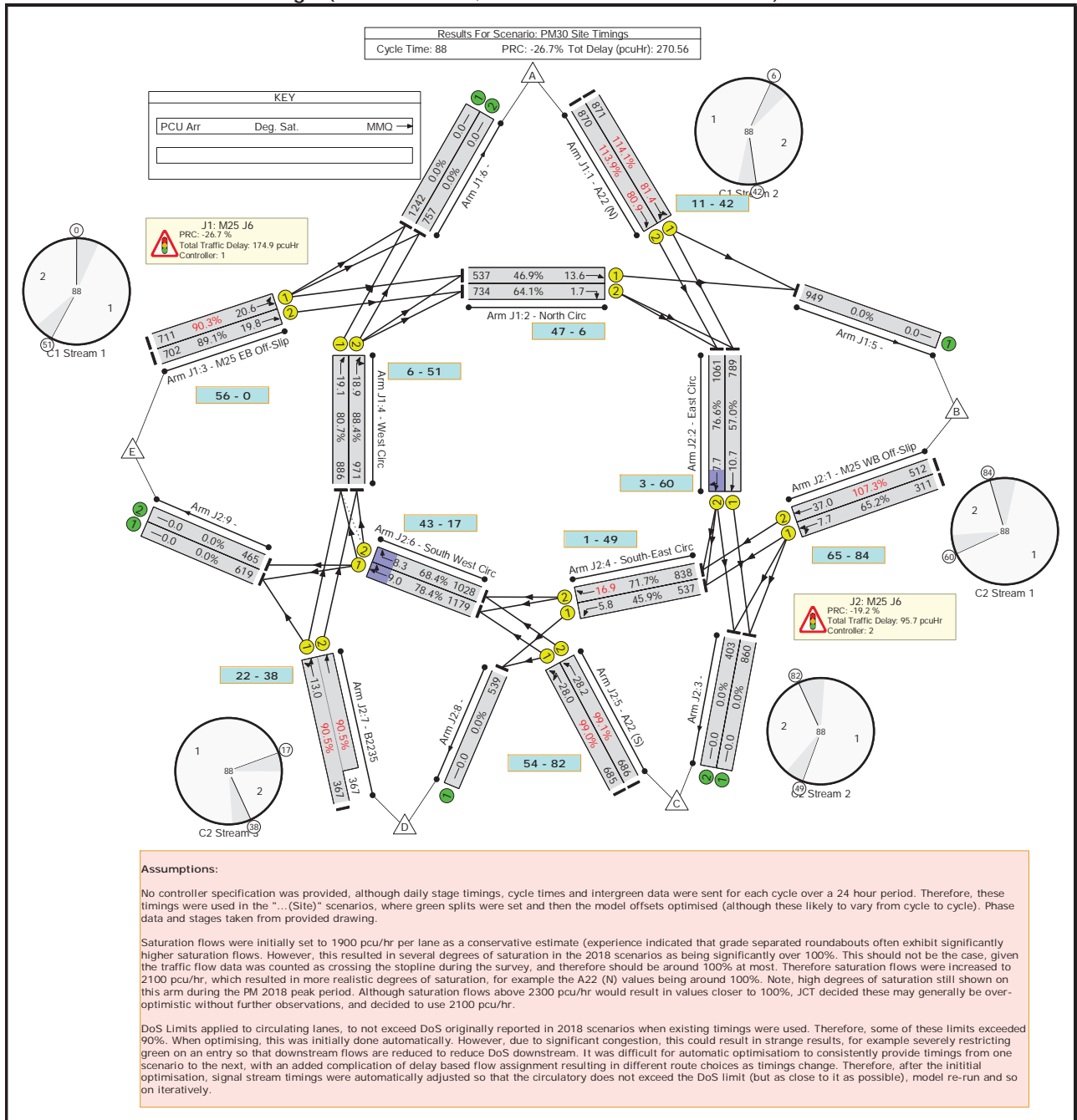
Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

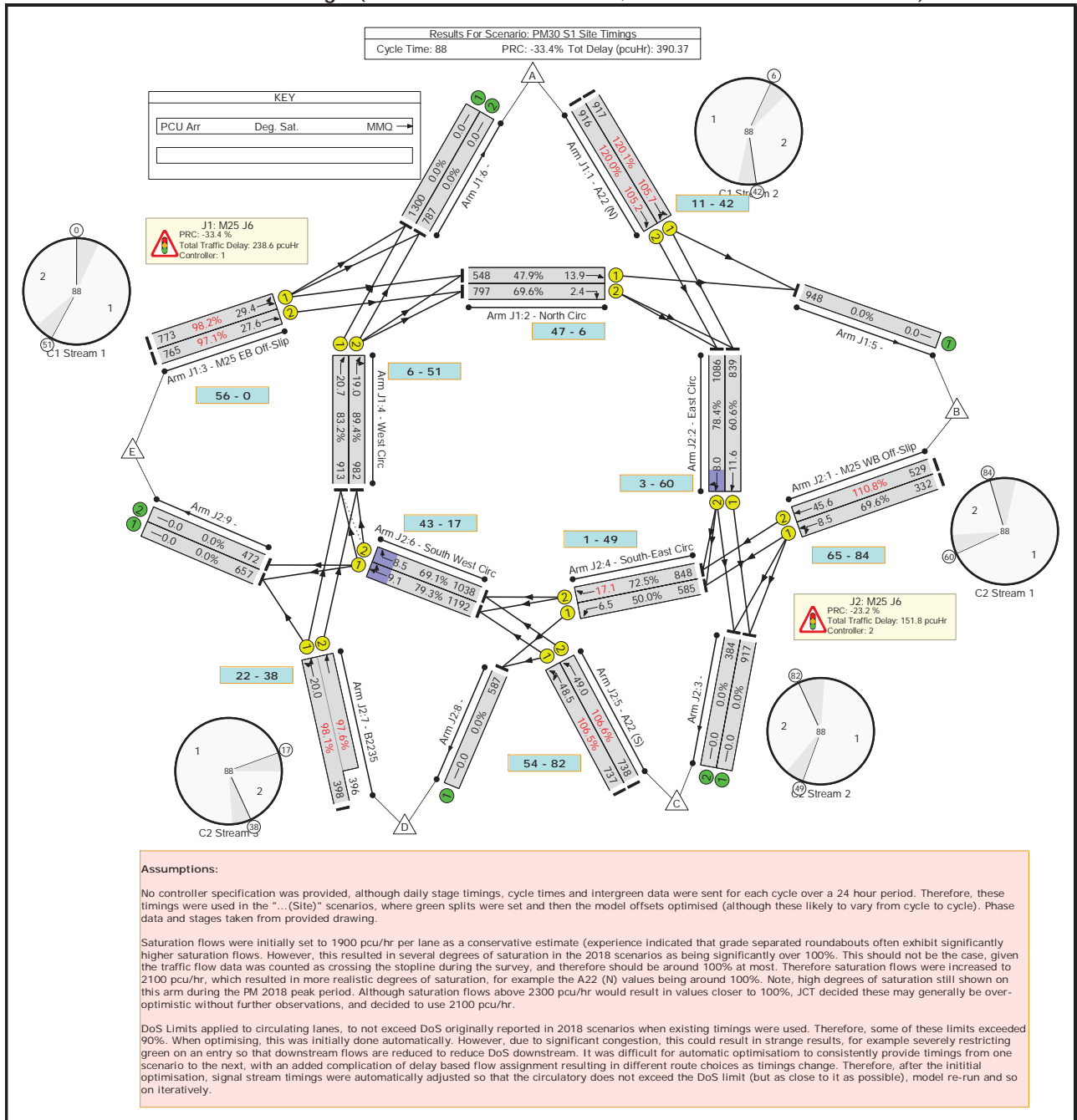
Scenario 33: 'PM25 S2 Site Timings' (FG28: 'PM 2025 Scenario 2', Plan 1: 'Network Control Plan 1')



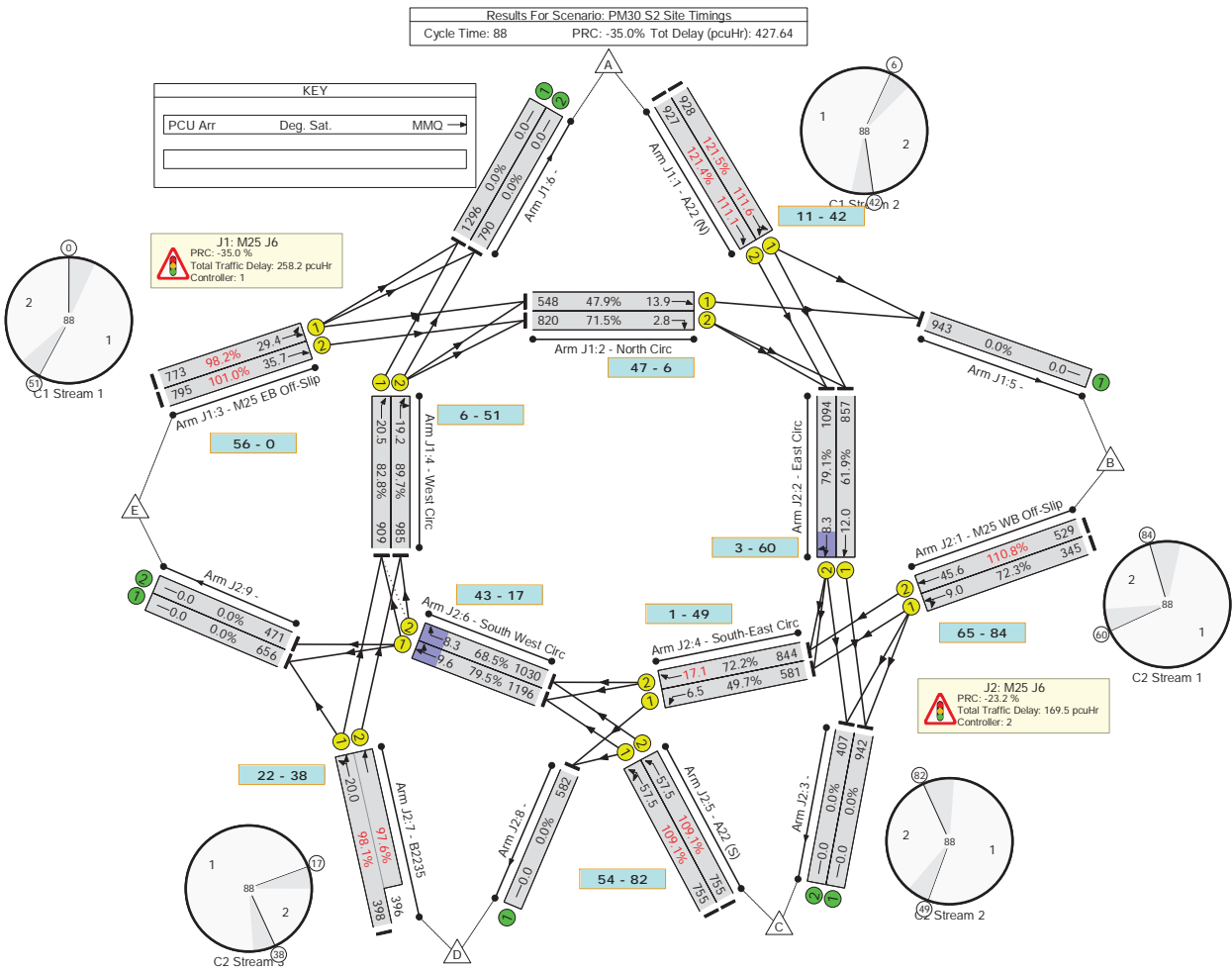
Scenario 37: 'PM30 Site Timings' (FG9: 'PM 2030', Plan 1: 'Network Control Plan 1')



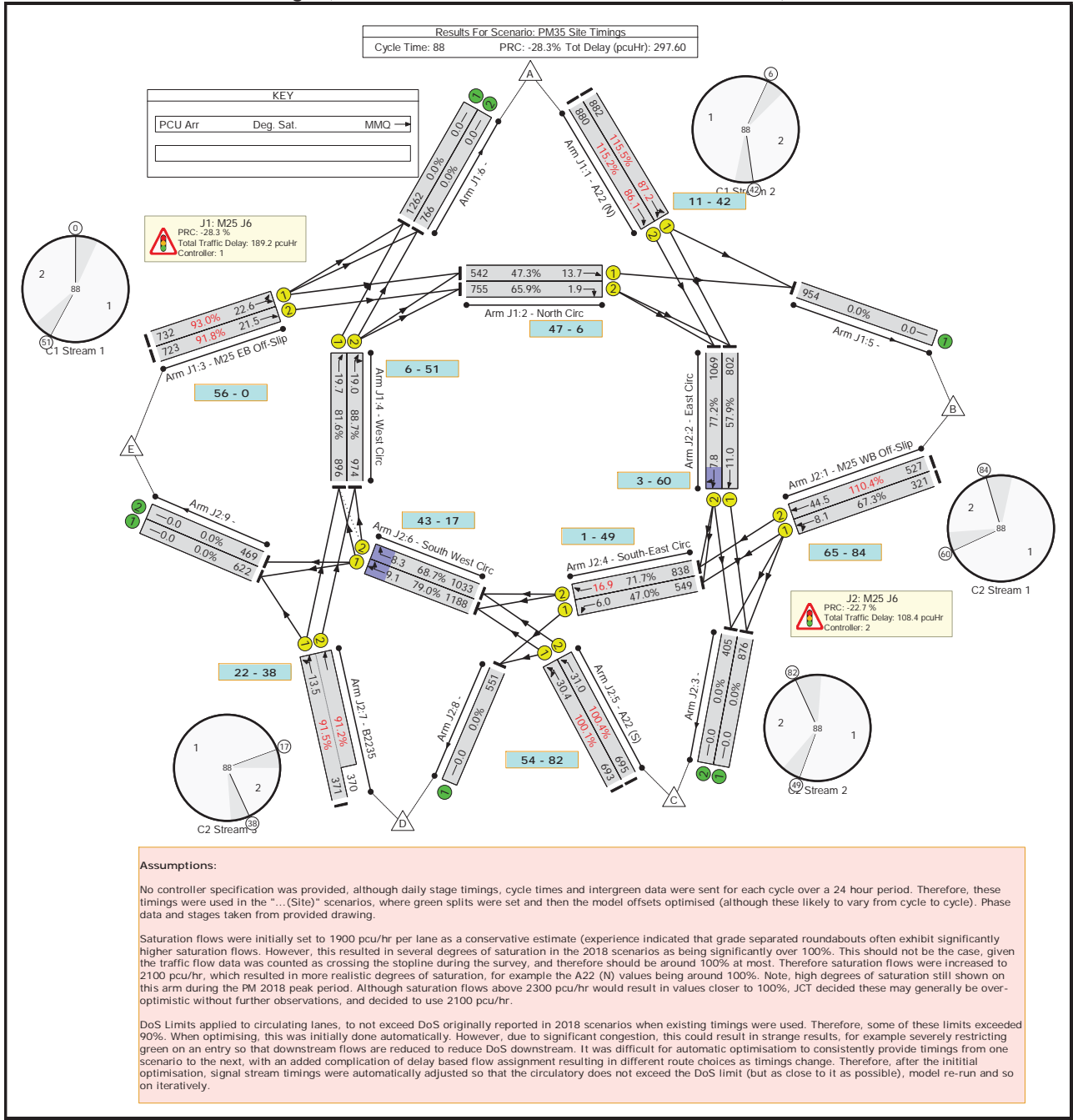
Scenario 38: 'PM30 S1 Site Timings' (FG19: 'PM 2030 Scenario 1', Plan 1: 'Network Control Plan 1')



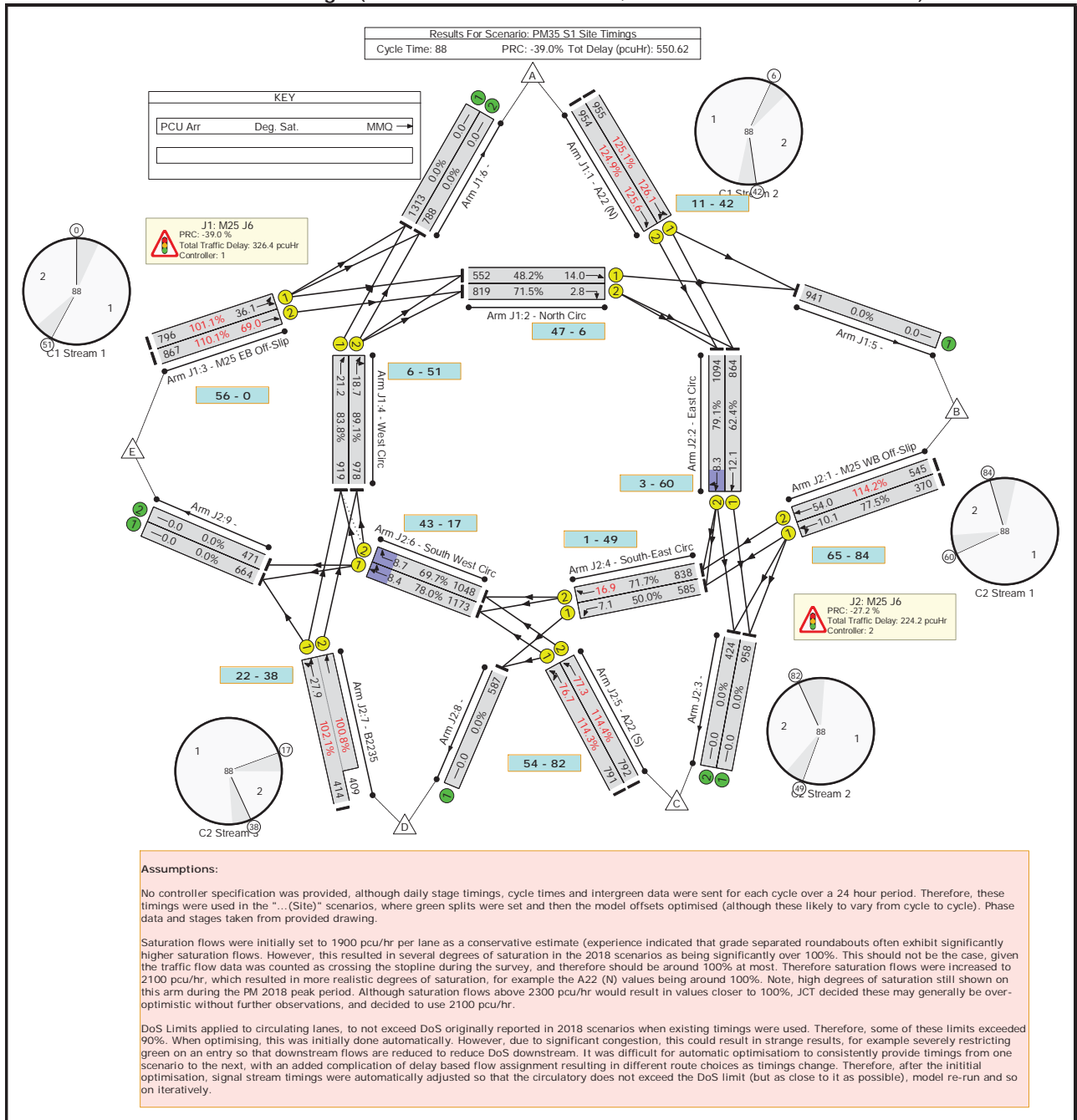
Scenario 39: 'PM30 S2 Site Timings' (FG29: 'PM 2030 Scenario 2', Plan 1: 'Network Control Plan 1')



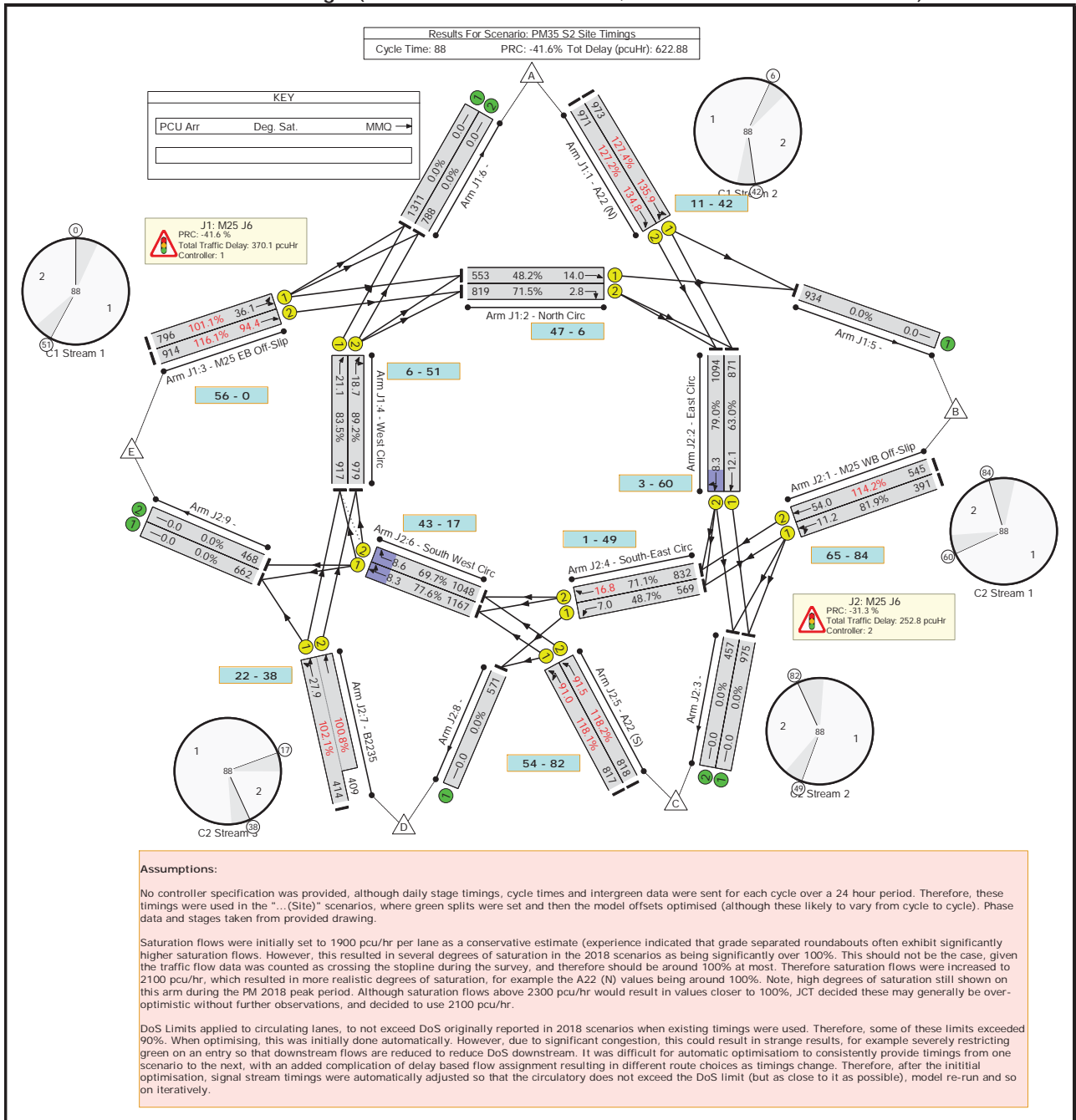
Scenario 43: 'PM35 Site Timings' (FG10: 'PM 2035', Plan 1: 'Network Control Plan 1')



Scenario 44: 'PM35 S1 Site Timings' (FG20: 'PM 2035 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 45: 'PM35 S2 Site Timings' (FG30: 'PM 2035 Scenario 2', Plan 1: 'Network Control Plan 1')



**Assumptions:**

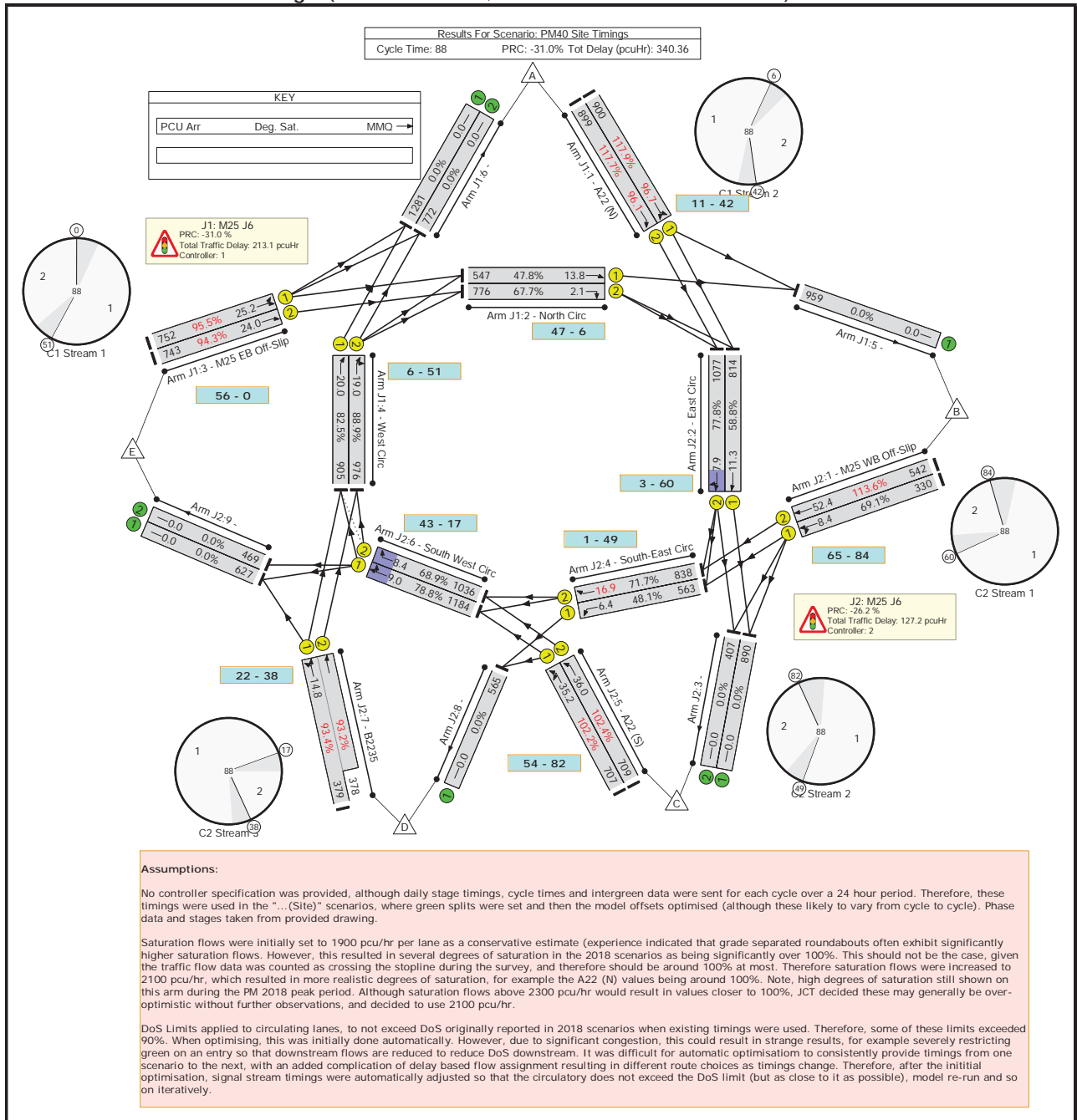
No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

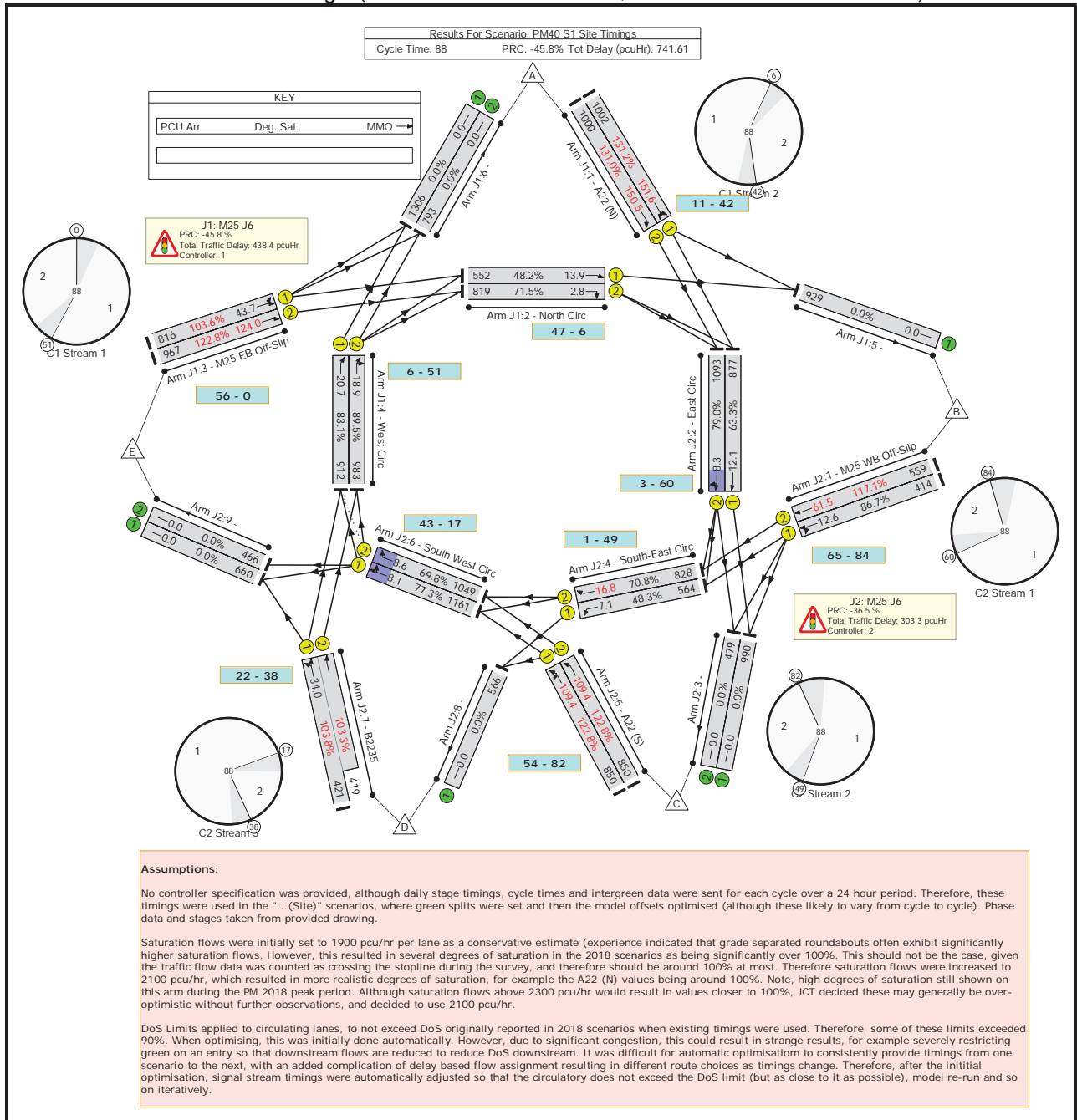
DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.



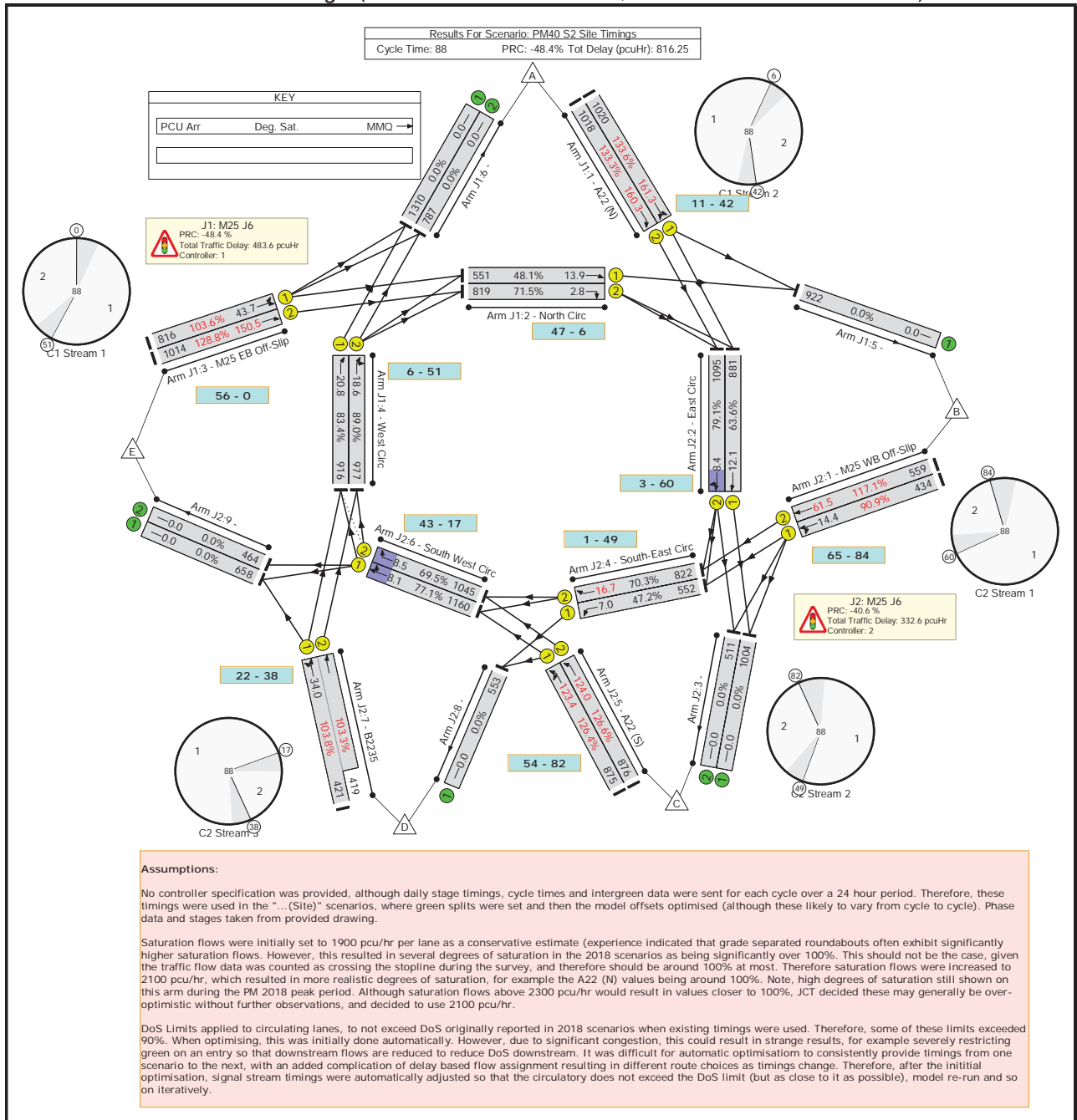
Scenario 49: 'PM40 Site Timings' (FG11: 'PM 2040', Plan 1: 'Network Control Plan 1')



Scenario 50: 'PM40 S1 Site Timings' (FG21: 'PM 2040 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 51: 'PM40 S2 Site Timings' (FG31: 'PM 2040 Scenario 2', Plan 1: 'Network Control Plan 1')



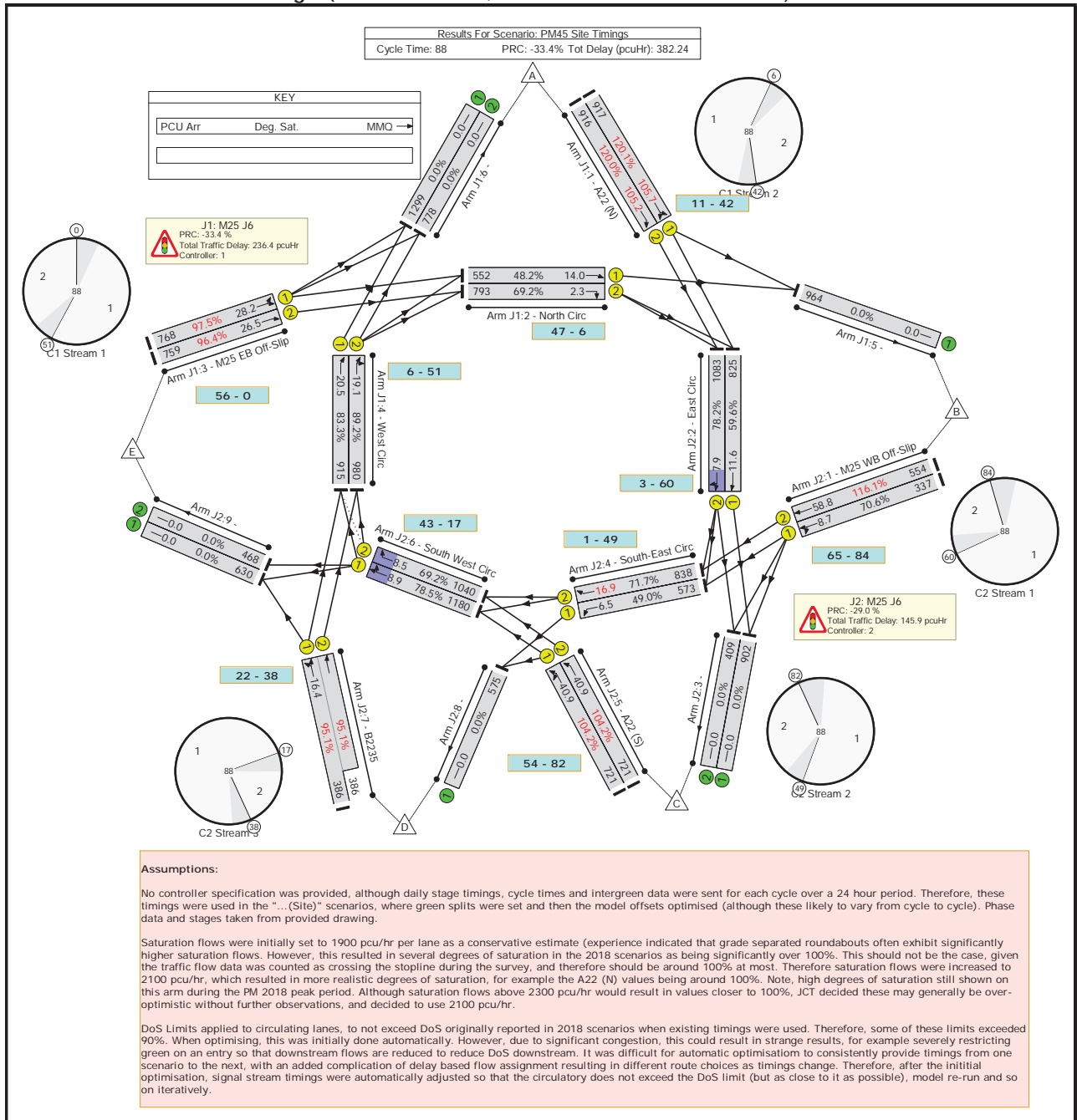
**Assumptions:**

No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.

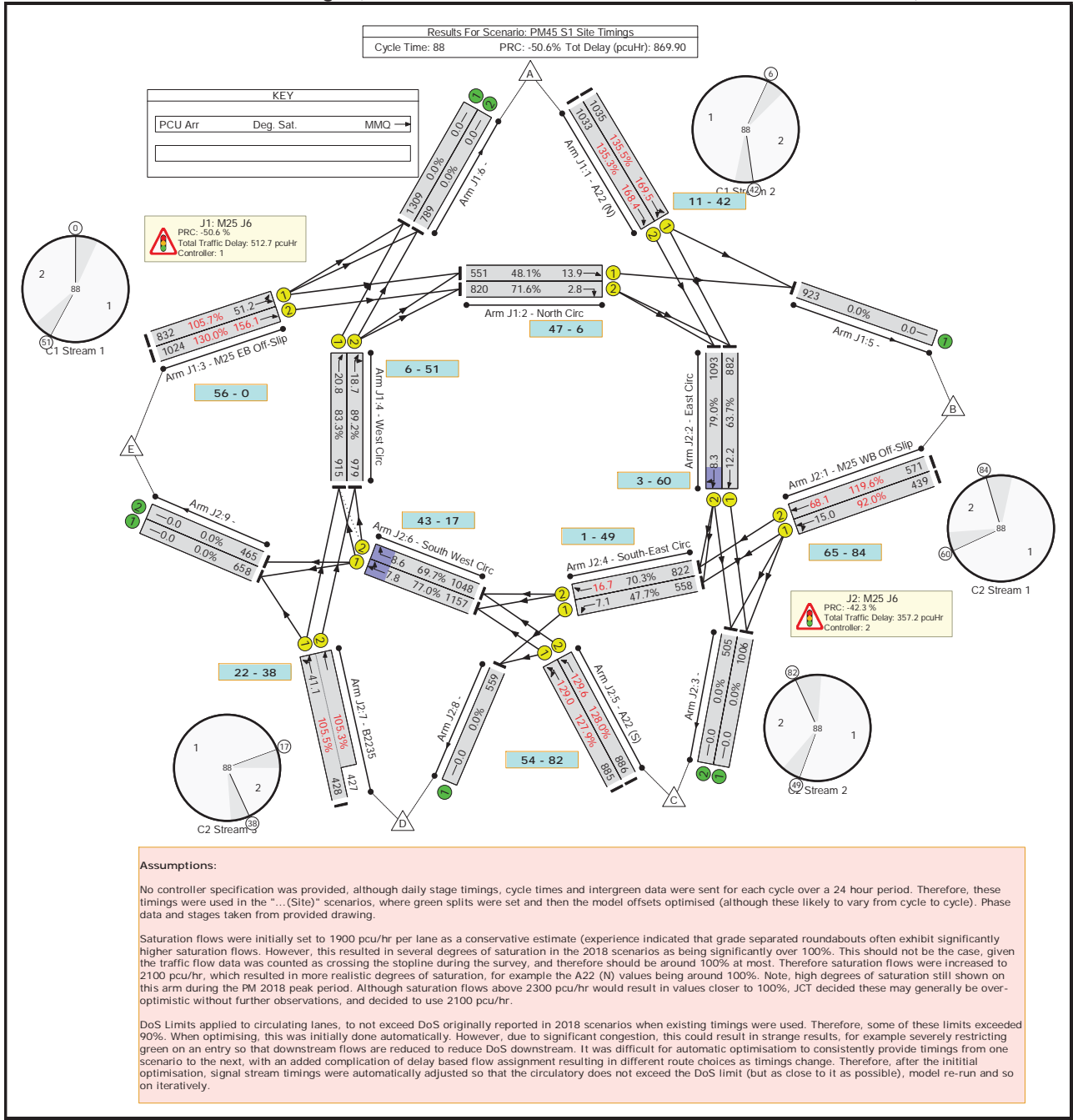
Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.

DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

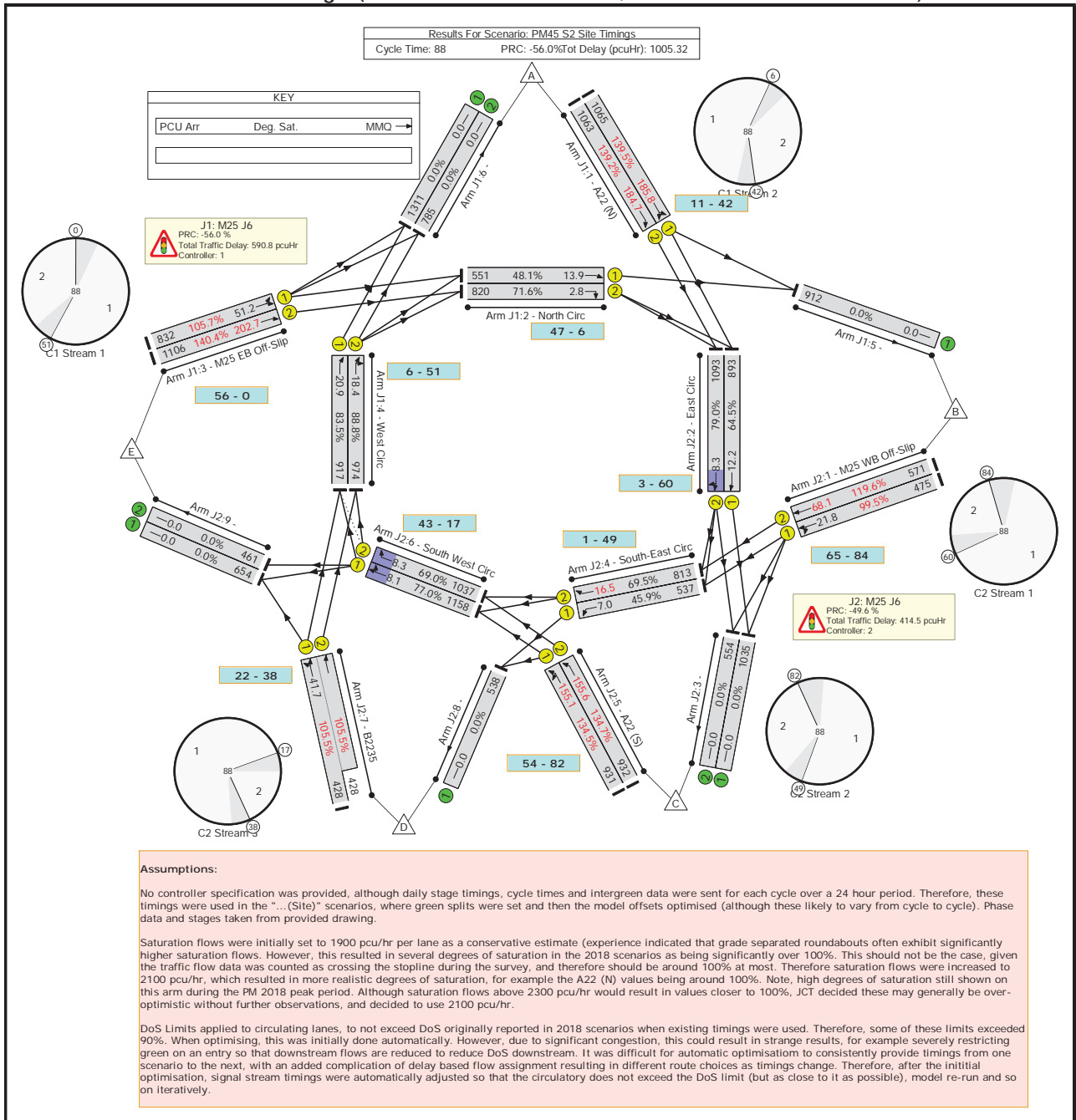
Scenario 55: 'PM45 Site Timings' (FG12: 'PM 2045', Plan 1: 'Network Control Plan 1')



Scenario 56: 'PM45 S1 Site Timings' (FG22: 'PM 2045 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 57: 'PM45 S2 Site Timings' (FG32: 'PM 2045 Scenario 2', Plan 1: 'Network Control Plan 1')


**Assumptions:**  
 No controller specification was provided, although daily stage timings, cycle times and intergreen data were sent for each cycle over a 24 hour period. Therefore, these timings were used in the "... (Site)" scenarios, where green splits were set and then the model offsets optimised (although these likely to vary from cycle to cycle). Phase data and stages taken from provided drawing.  
 Saturation flows were initially set to 1900 pcu/hr per lane as a conservative estimate (experience indicated that grade separated roundabouts often exhibit significantly higher saturation flows). However, this resulted in several degrees of saturation in the 2018 scenarios as being significantly over 100%. This should not be the case, given the traffic flow data was counted as crossing the stopline during the survey, and therefore should be around 100% at most. Therefore saturation flows were increased to 2100 pcu/hr, which resulted in more realistic degrees of saturation, for example the A22 (N) values being around 100%. Note, high degrees of saturation still shown on this arm during the PM 2018 peak period. Although saturation flows above 2300 pcu/hr would result in values closer to 100%, JCT decided these may generally be over-optimistic without further observations, and decided to use 2100 pcu/hr.  
 DoS Limits applied to circulating lanes, to not exceed DoS originally reported in 2018 scenarios when existing timings were used. Therefore, some of these limits exceeded 90%. When optimising, this was initially done automatically. However, due to significant congestion, this could result in strange results, for example severely restricting green on an entry so that downstream flows are reduced to reduce DoS downstream. It was difficult for automatic optimisation to consistently provide timings from one scenario to the next, with an added complication of delay based flow assignment resulting in different route choices as timings change. Therefore, after the initial optimisation, signal stream timings were automatically adjusted so that the circulatory does not exceed the DoS limit (but as close to it as possible), model re-run and so on iteratively.

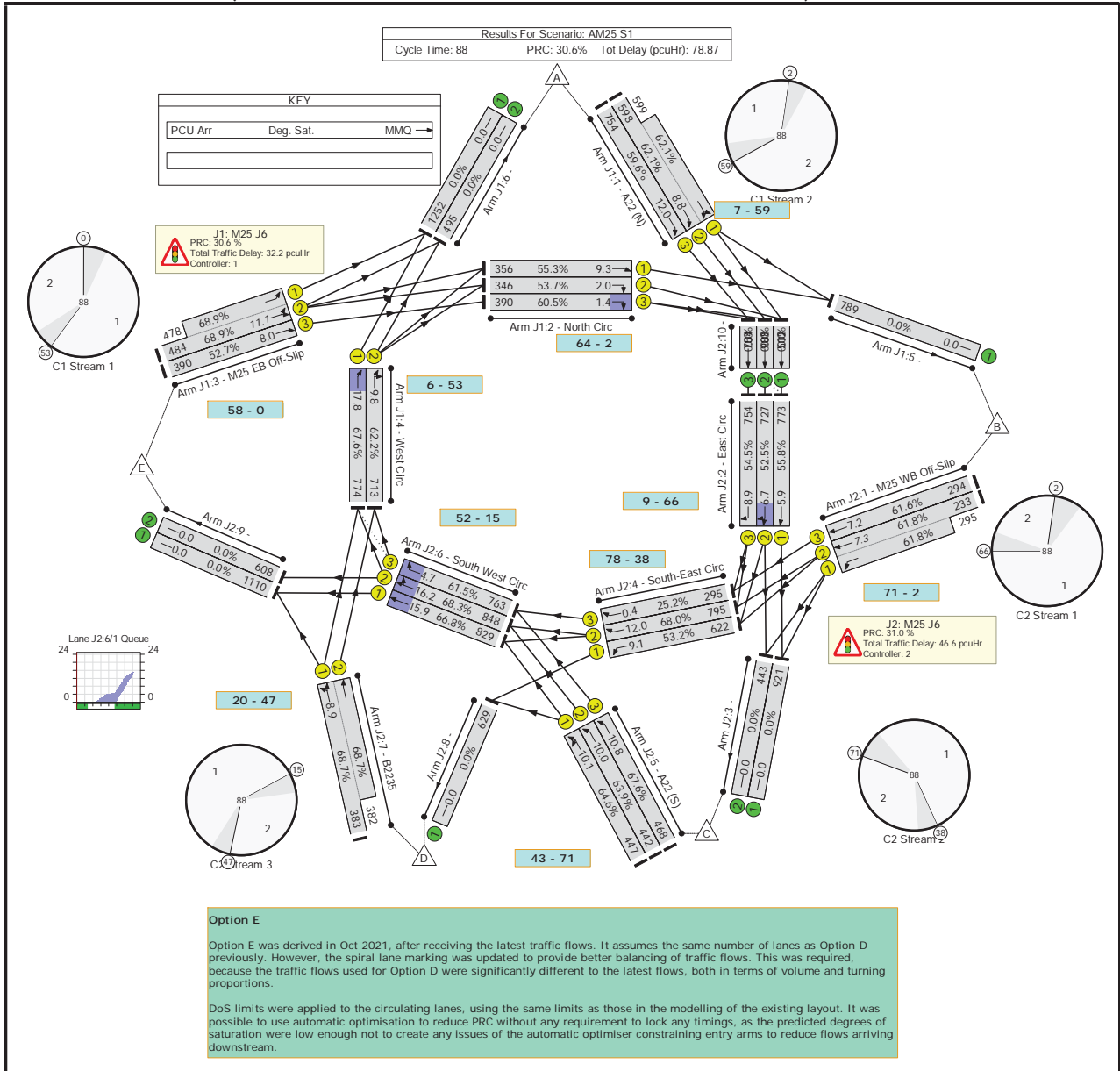


LinSig Results – Initial Interim Junction Layout

# M25 J6 Option E

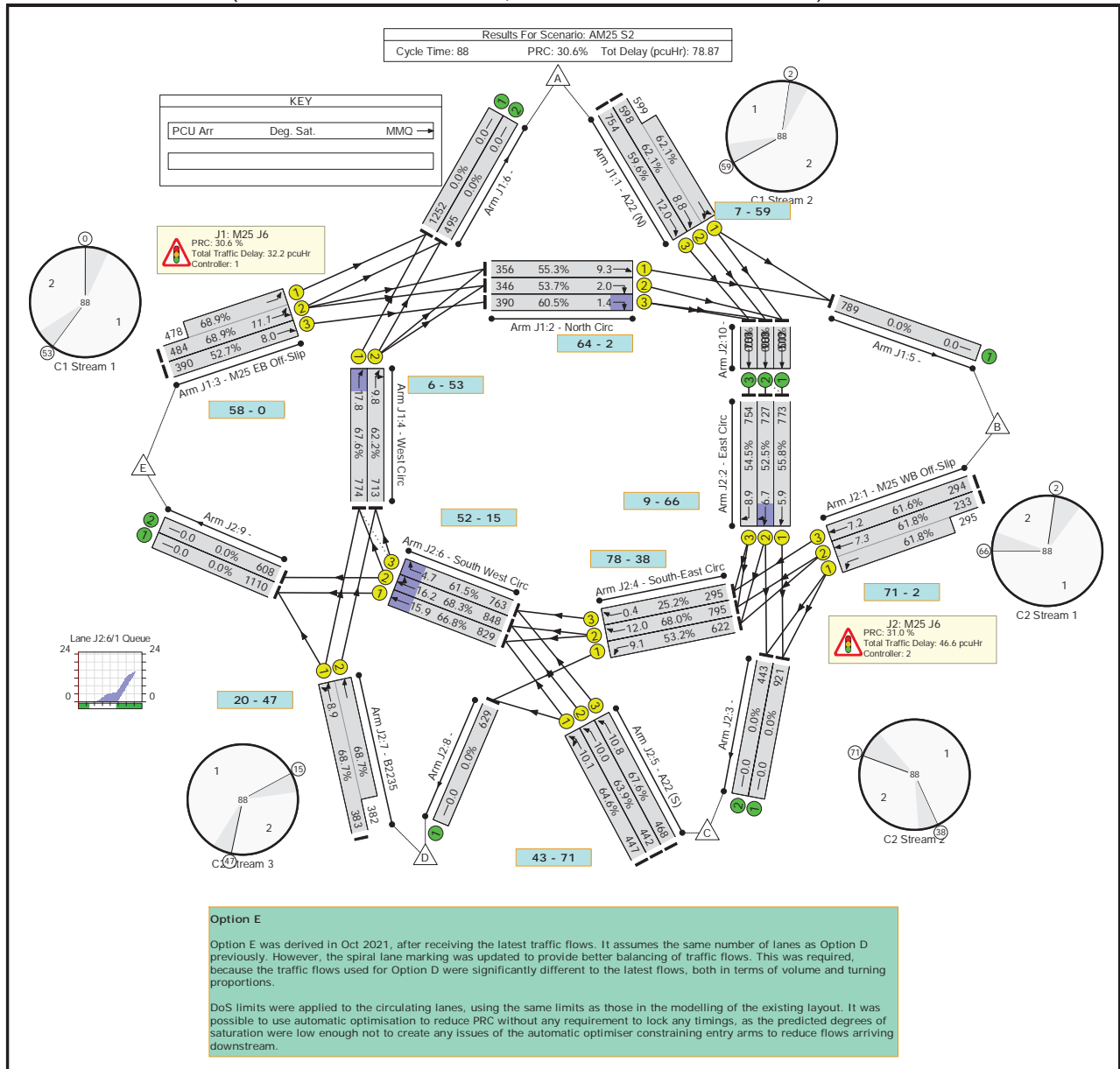
## Network Layout Diagram

Scenario 1: 'AM25 S1' (FG2: 'AM 2025 Scenario 1', Plan 1: 'Network Control Plan 1')





Scenario 2: 'AM25 S2' (FG12: 'AM 2025 Scenario 2', Plan 1: 'Network Control Plan 1')

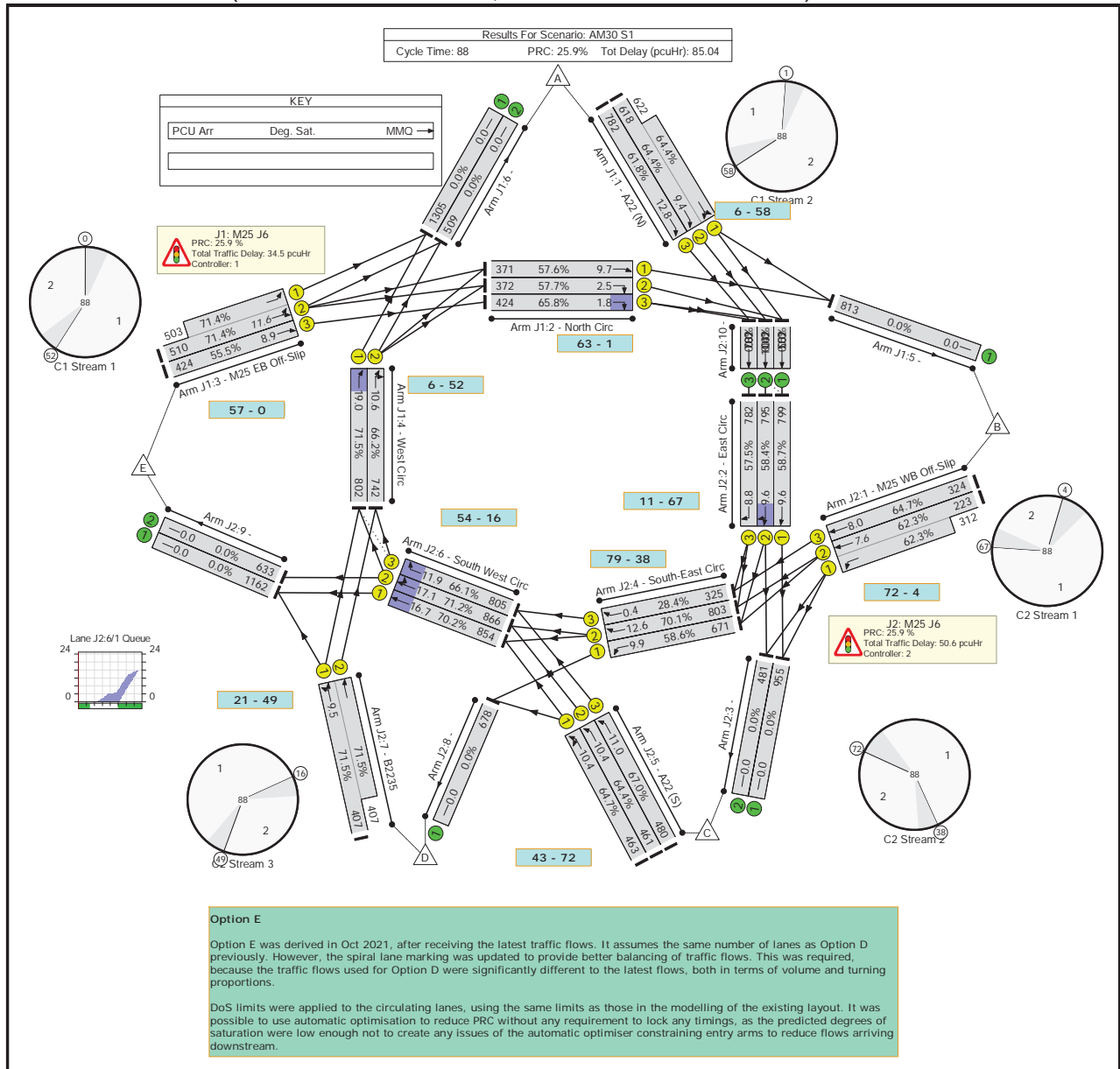


**Option E**

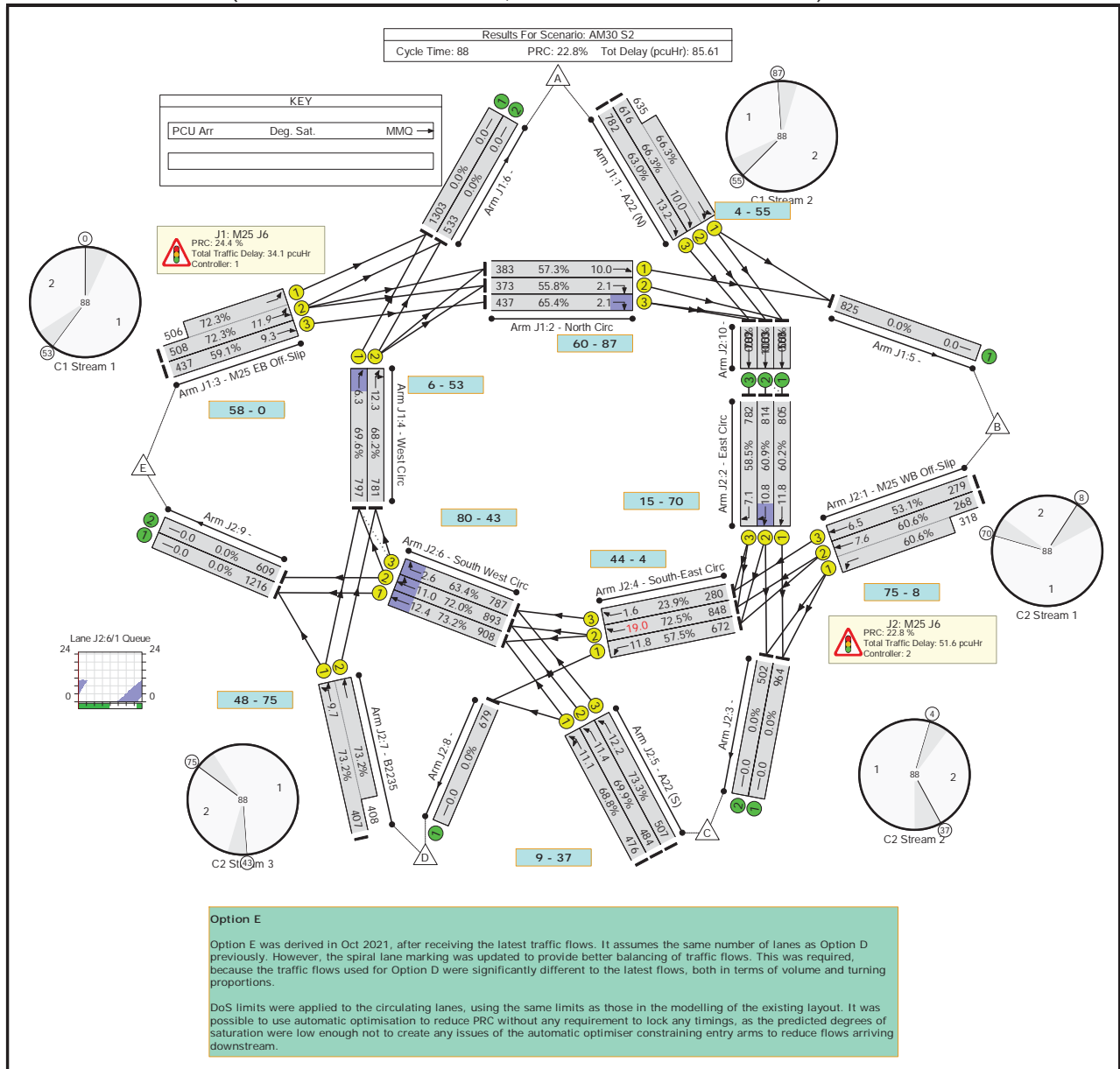
Option E was derived in Oct 2021, after receiving the latest traffic flows. It assumes the same number of lanes as Option D previously. However, the spiral lane marking was updated to provide better balancing of traffic flows. This was required, because the traffic flows used for Option D were significantly different to the latest flows, both in terms of volume and turning proportions.

DoS limits were applied to the circulating lanes, using the same limits as those in the modelling of the existing layout. It was possible to use automatic optimisation to reduce PRC without any requirement to lock any timings, as the predicted degrees of saturation were low enough not to create any issues of the automatic optimiser constraining entry arms to reduce flows arriving downstream.

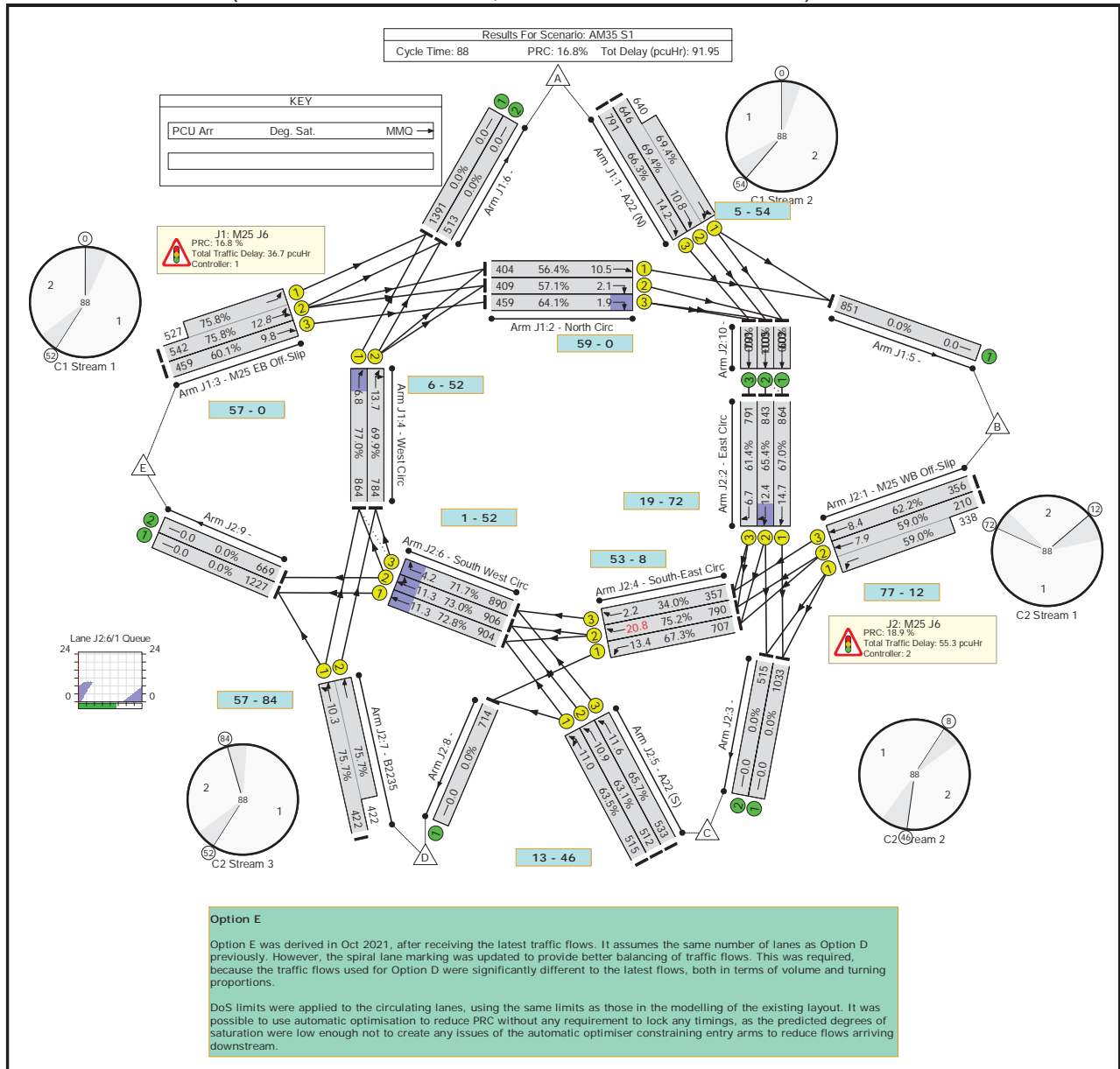
Scenario 3: 'AM30 S1' (FG3: 'AM 2030 Scenario 1', Plan 1: 'Network Control Plan 1')



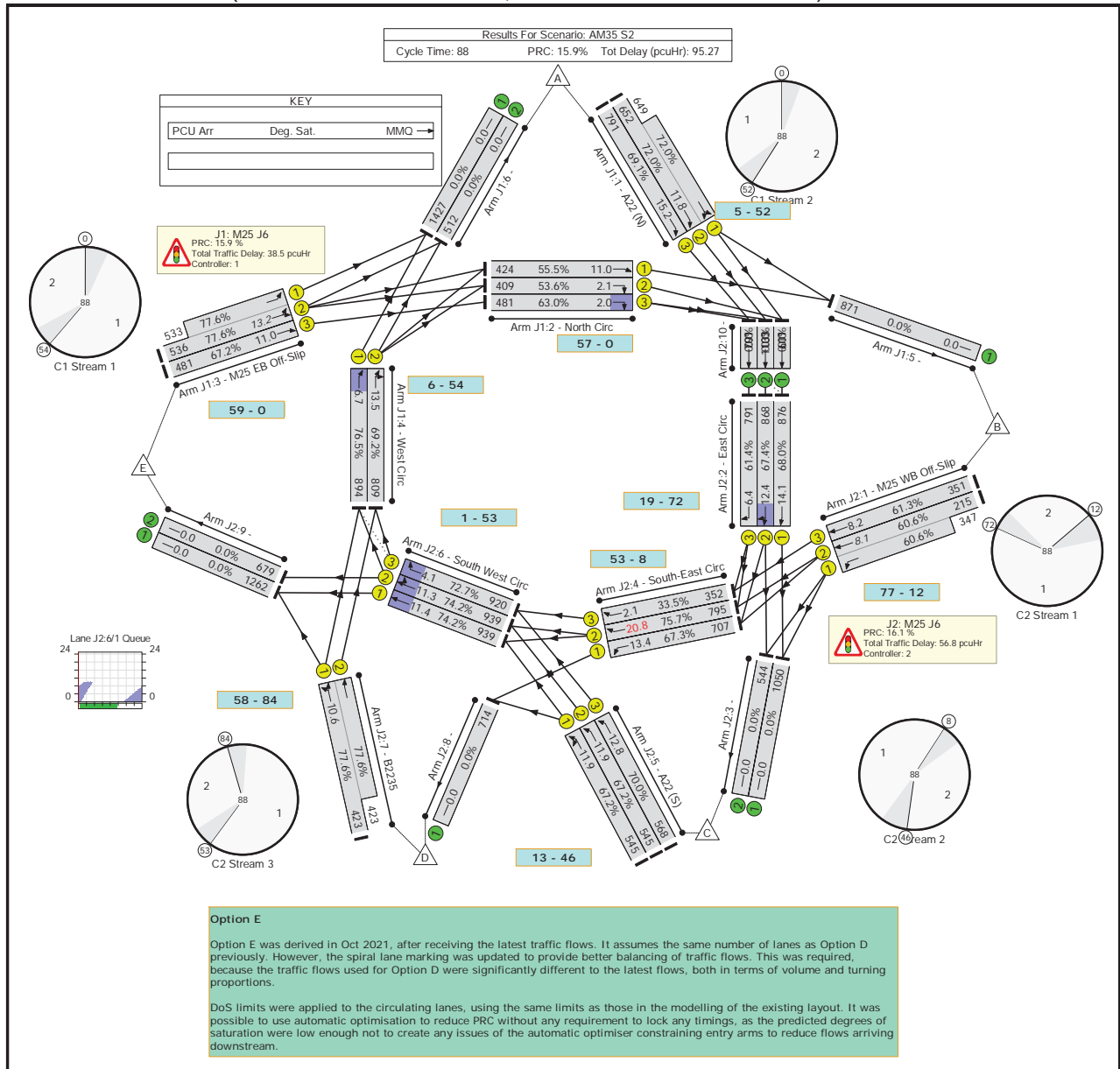
Scenario 4: 'AM30 S2' (FG13: 'AM 2030 Scenario 2', Plan 1: 'Network Control Plan 1')



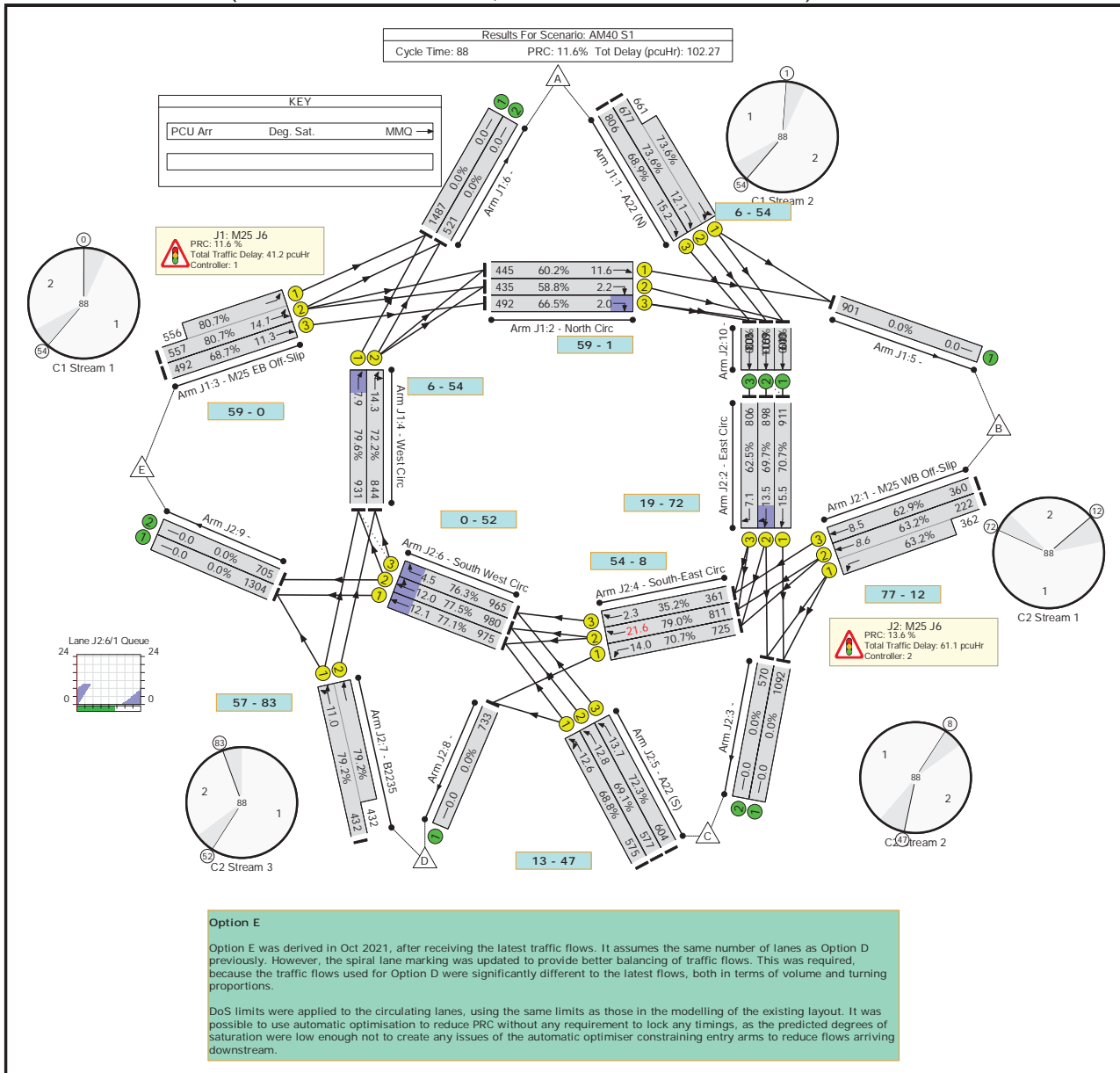
Scenario 5: 'AM35 S1' (FG4: 'AM 2035 Scenario 1', Plan 1: 'Network Control Plan 1')



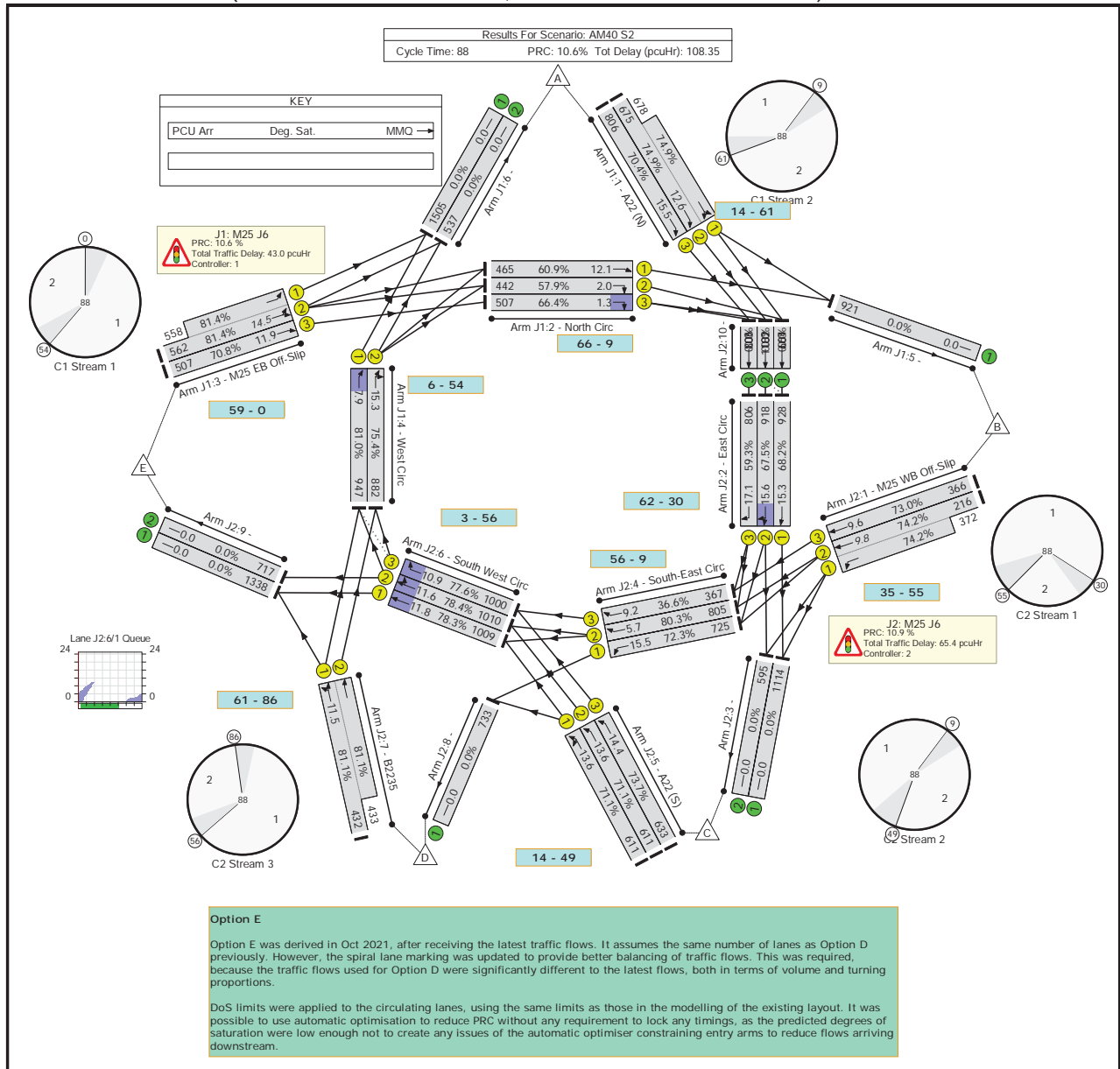
Scenario 6: 'AM35 S2' (FG14: 'AM 2035 Scenario 2', Plan 1: 'Network Control Plan 1')



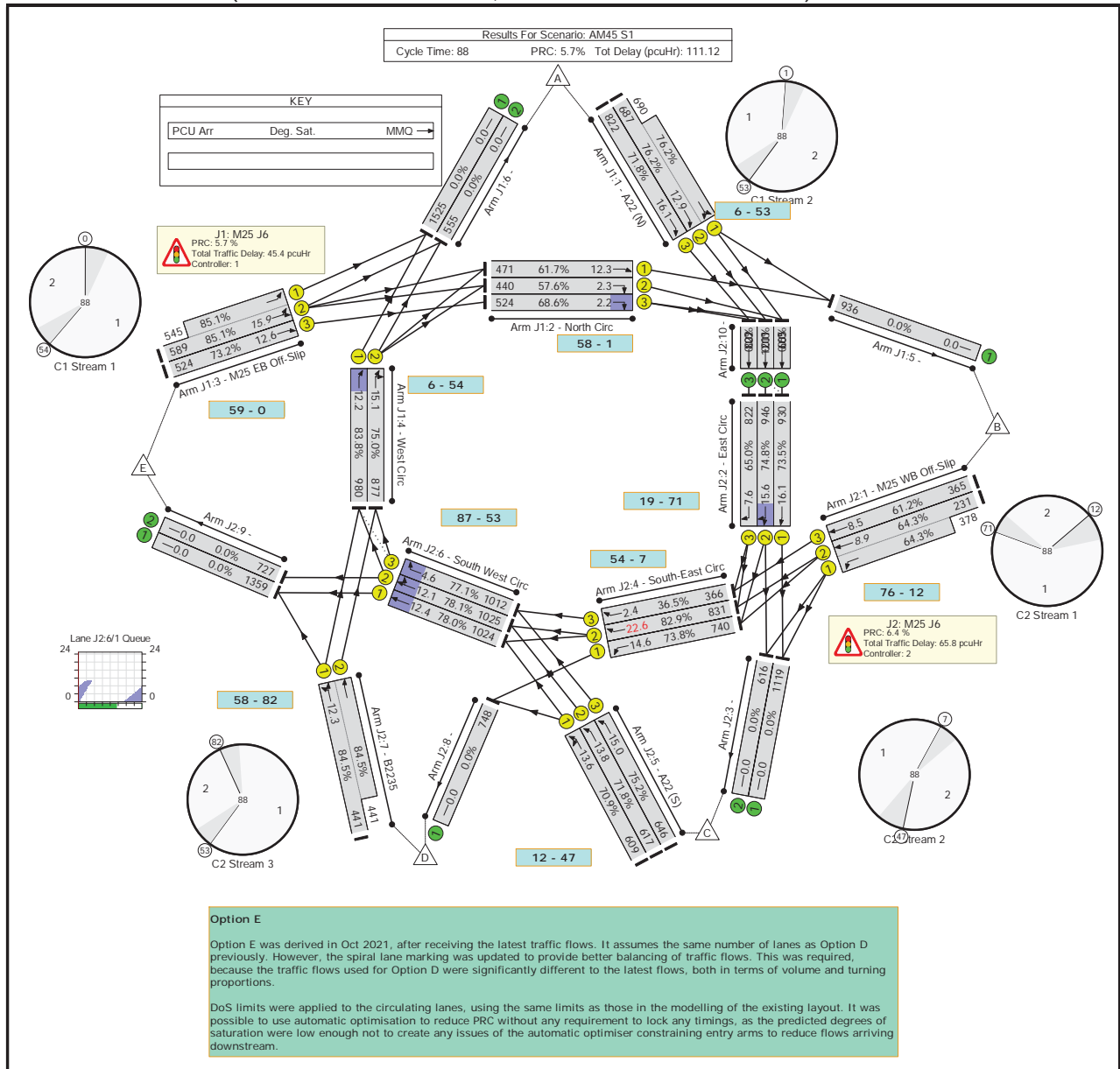
Scenario 7: 'AM40 S1' (FG5: 'AM 2040 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 8: 'AM40 S2' (FG15: 'AM 2040 Scenario 2', Plan 1: 'Network Control Plan 1')

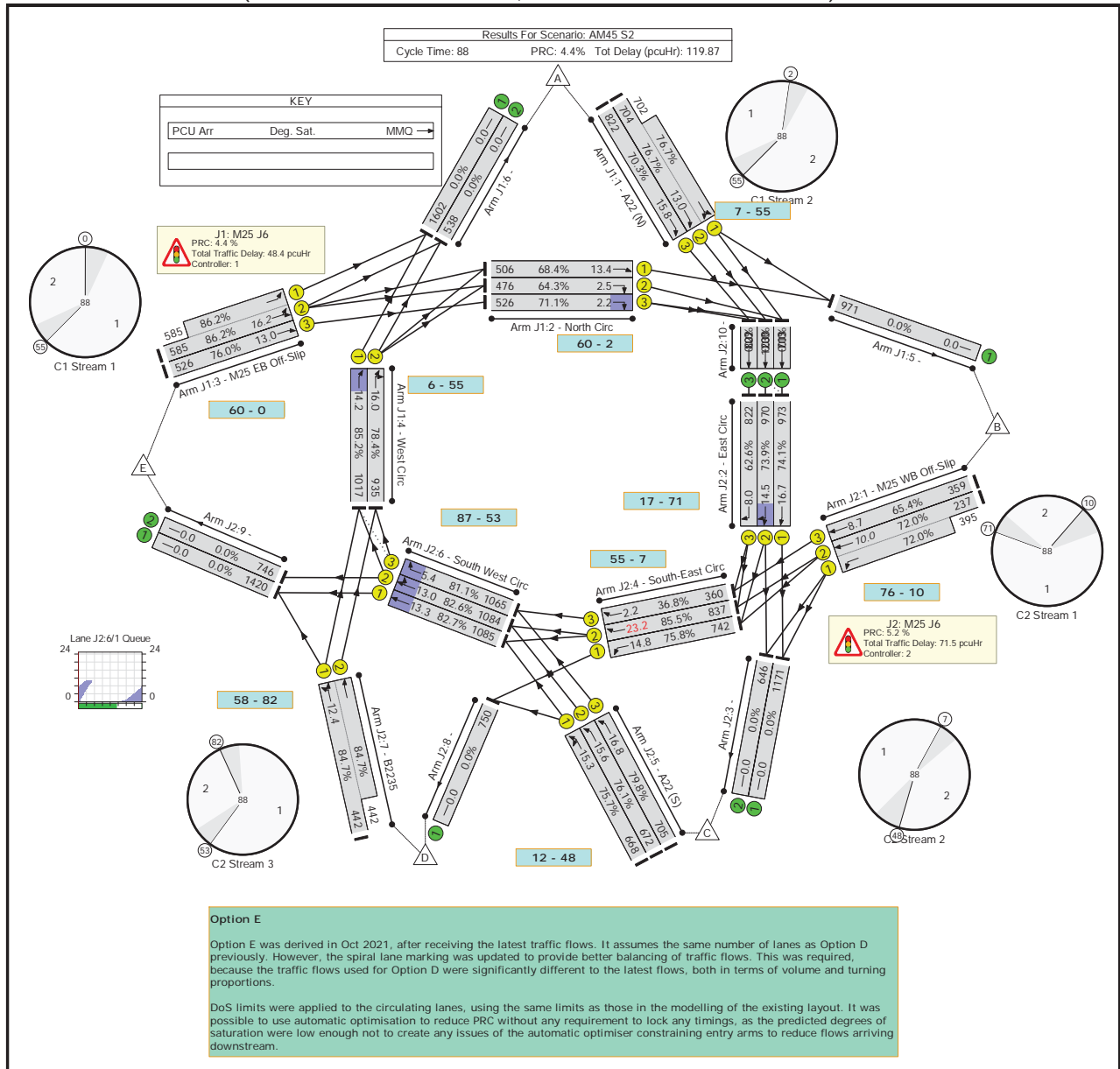


Scenario 9: 'AM45 S1' (FG6: 'AM 2045 Scenario 1', Plan 1: 'Network Control Plan 1')

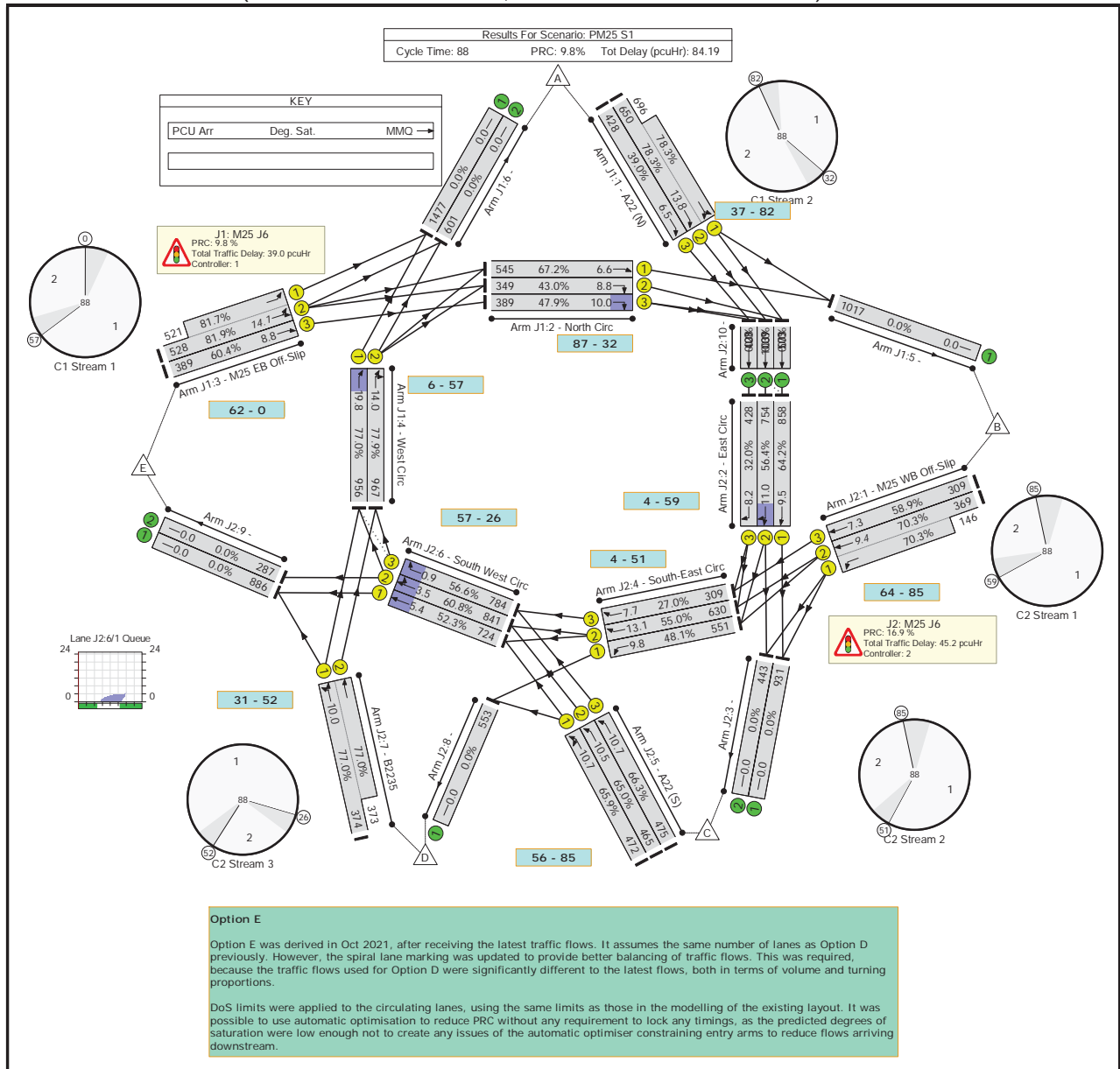




Scenario 10: 'AM45 S2' (FG16: 'AM 2045 Scenario 2', Plan 1: 'Network Control Plan 1')



Scenario 11: 'PM25 S1' (FG7: 'PM 2025 Scenario 1', Plan 1: 'Network Control Plan 1')

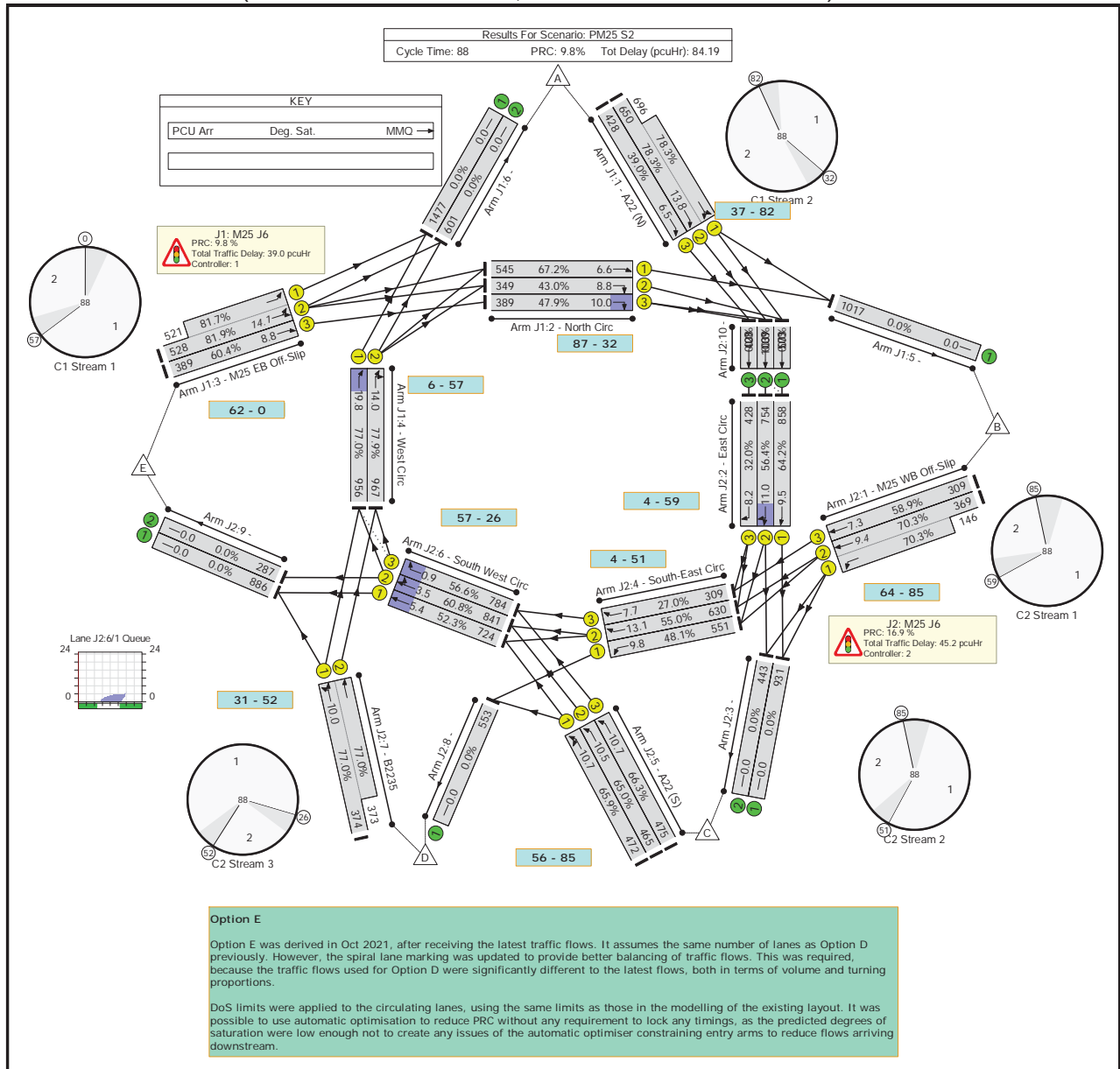


**Option E**

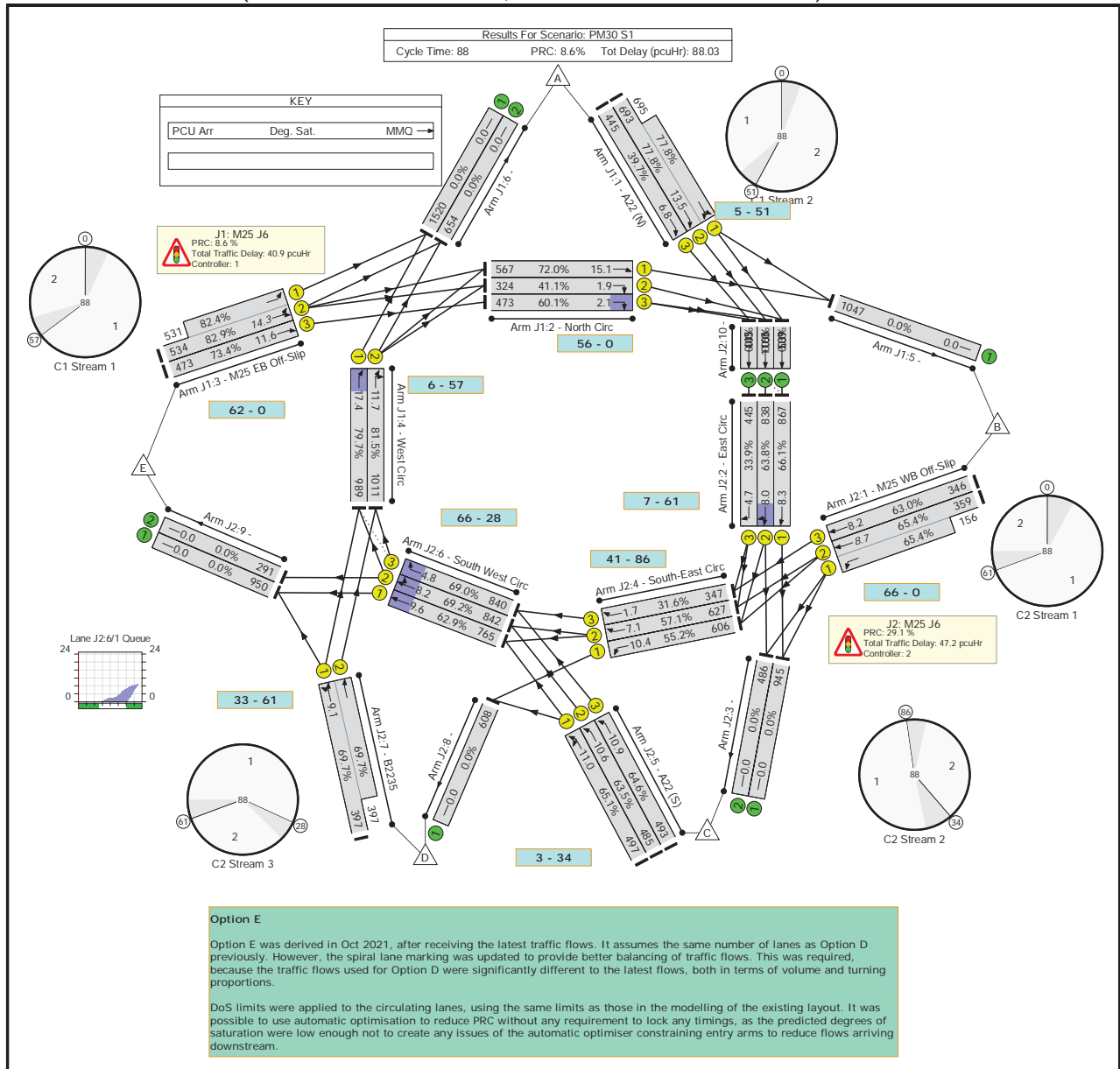
Option E was derived in Oct 2021, after receiving the latest traffic flows. It assumes the same number of lanes as Option D previously. However, the spiral lane marking was updated to provide better balancing of traffic flows. This was required, because the traffic flows used for Option D were significantly different to the latest flows, both in terms of volume and turning proportions.

DoS limits were applied to the circulating lanes, using the same limits as those in the modelling of the existing layout. It was possible to use automatic optimisation to reduce PRC without any requirement to lock any timings, as the predicted degrees of saturation were low enough not to create any issues of the automatic optimiser constraining entry arms to reduce flows arriving downstream.

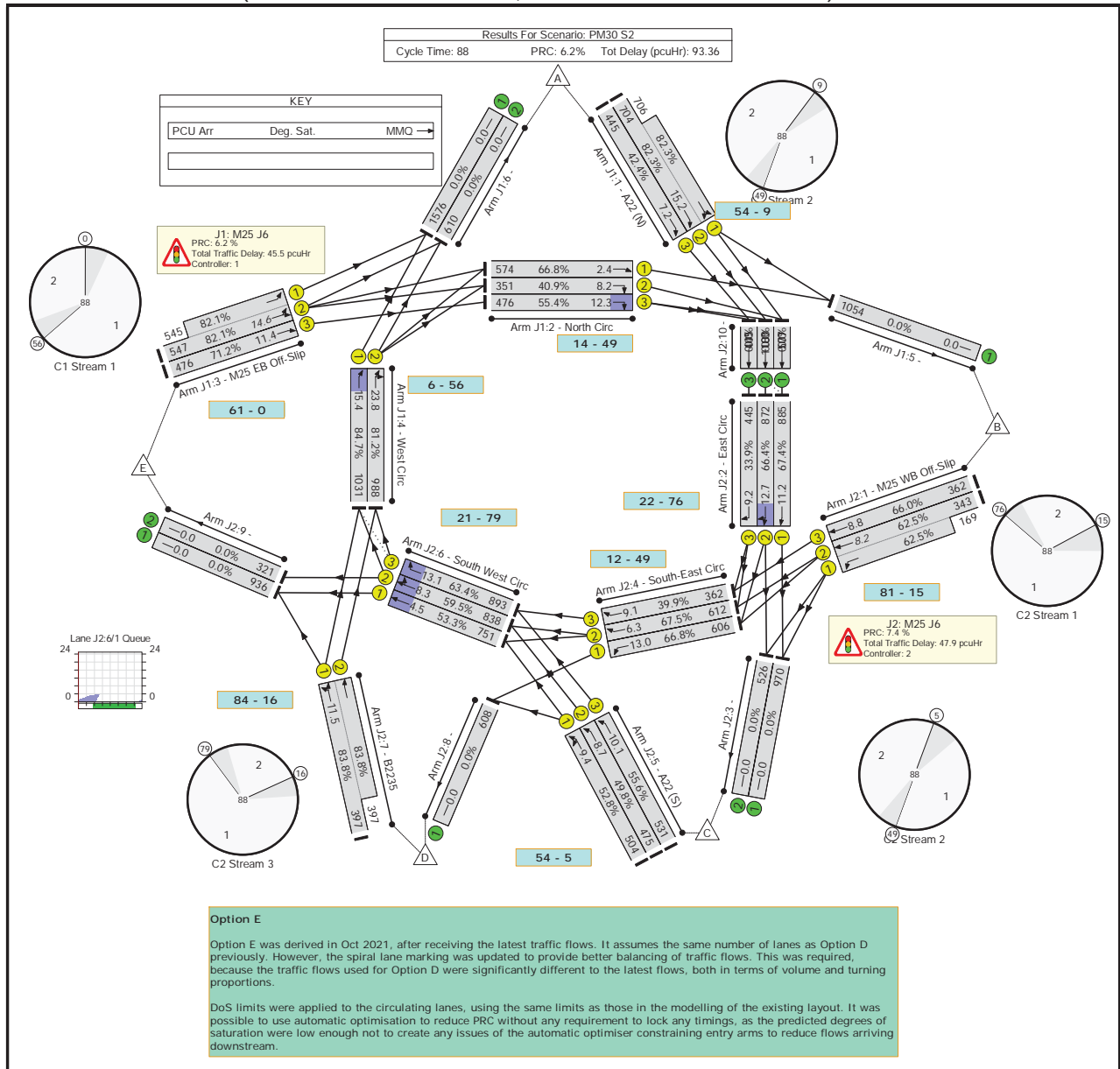
Scenario 12: 'PM25 S2' (FG18: 'PM 2025 Scenario 2', Plan 1: 'Network Control Plan 1')



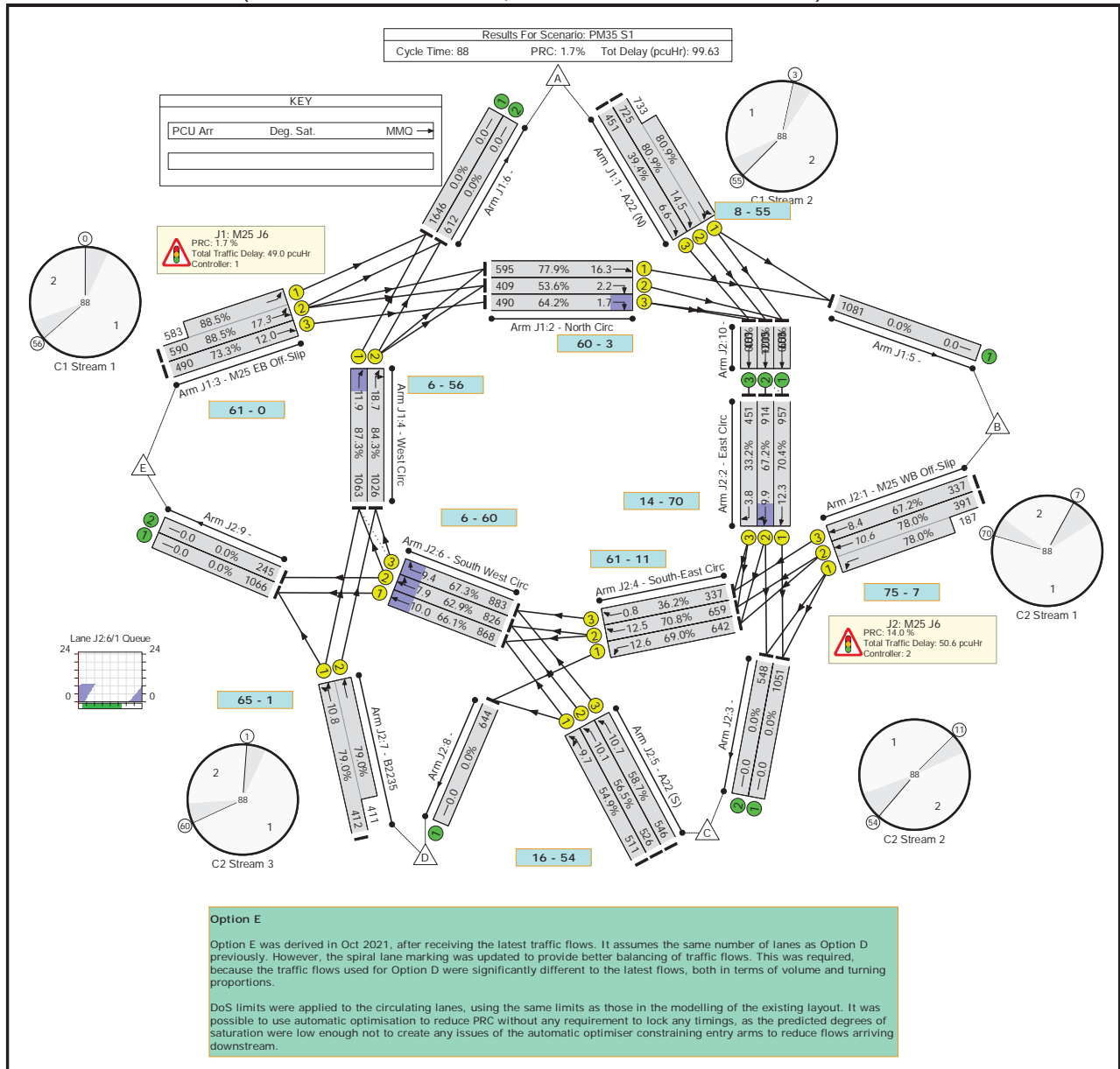
Scenario 13: 'PM30 S1' (FG8: 'PM 2030 Scenario 1', Plan 1: 'Network Control Plan 1')



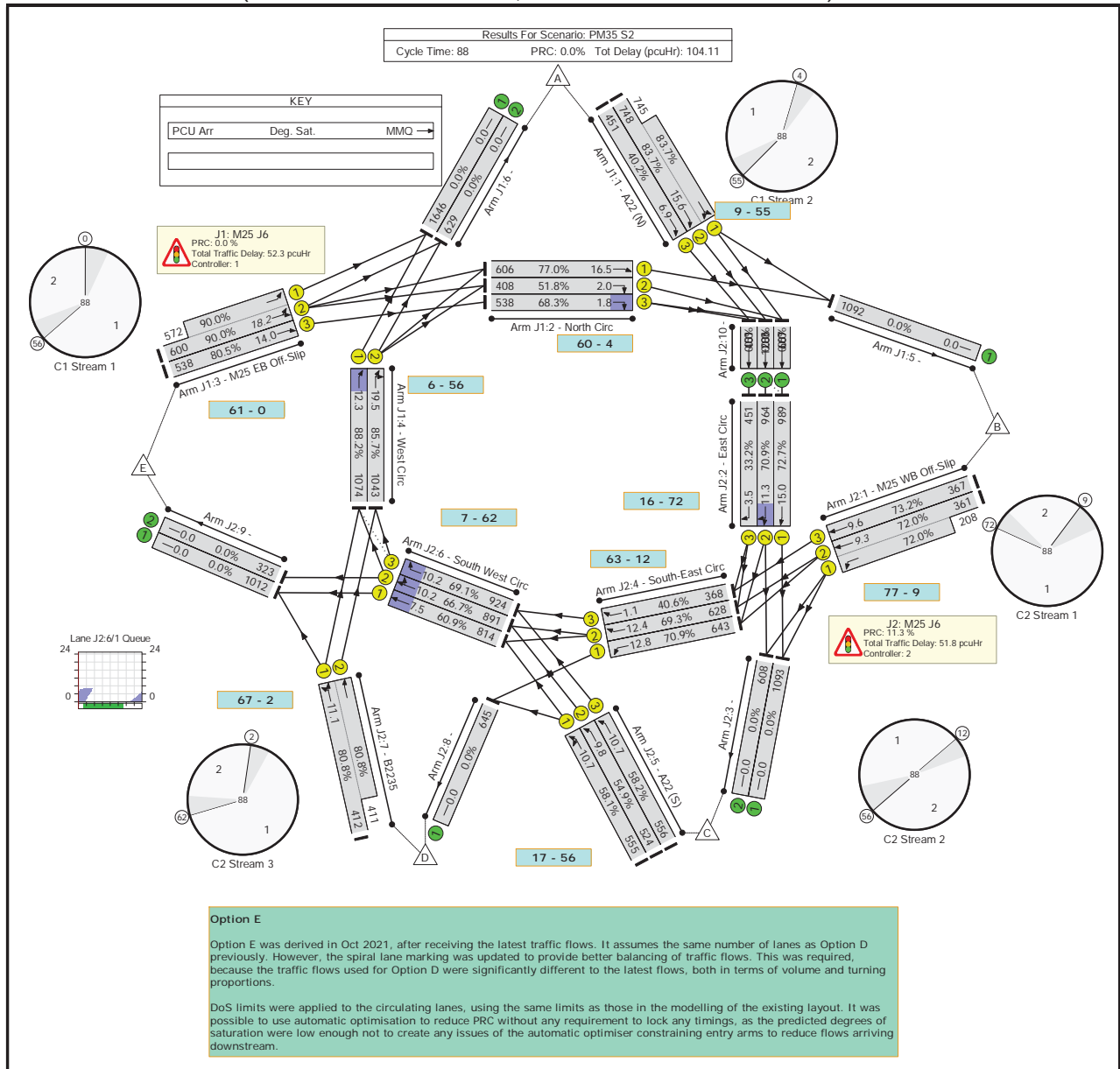
Scenario 14: 'PM30 S2' (FG19: 'PM 2030 Scenario 2', Plan 1: 'Network Control Plan 1')



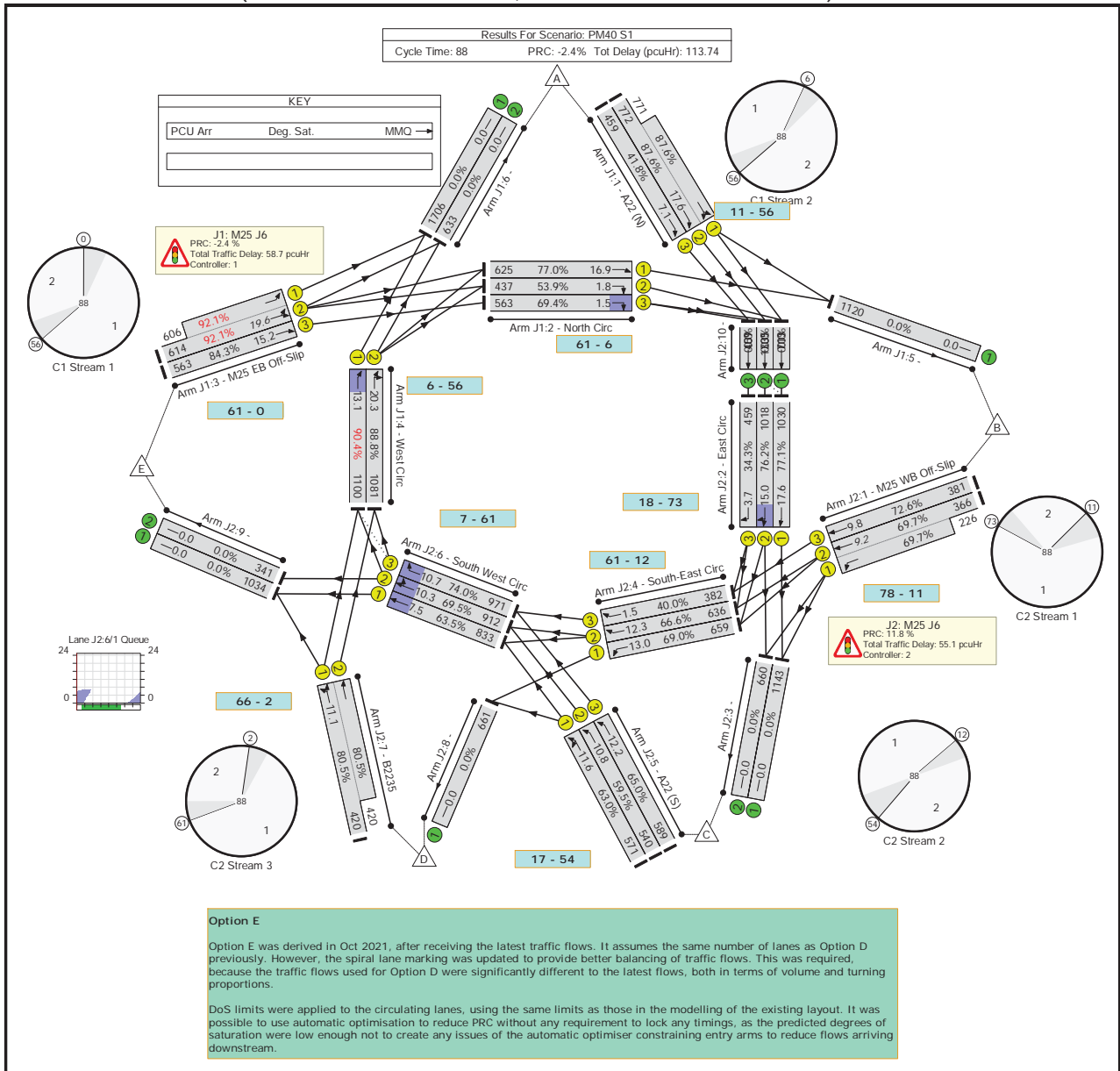
Scenario 15: 'PM35 S1' (FG9: 'PM 2035 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 16: 'PM35 S2' (FG20: 'PM 2035 Scenario 2', Plan 1: 'Network Control Plan 1')

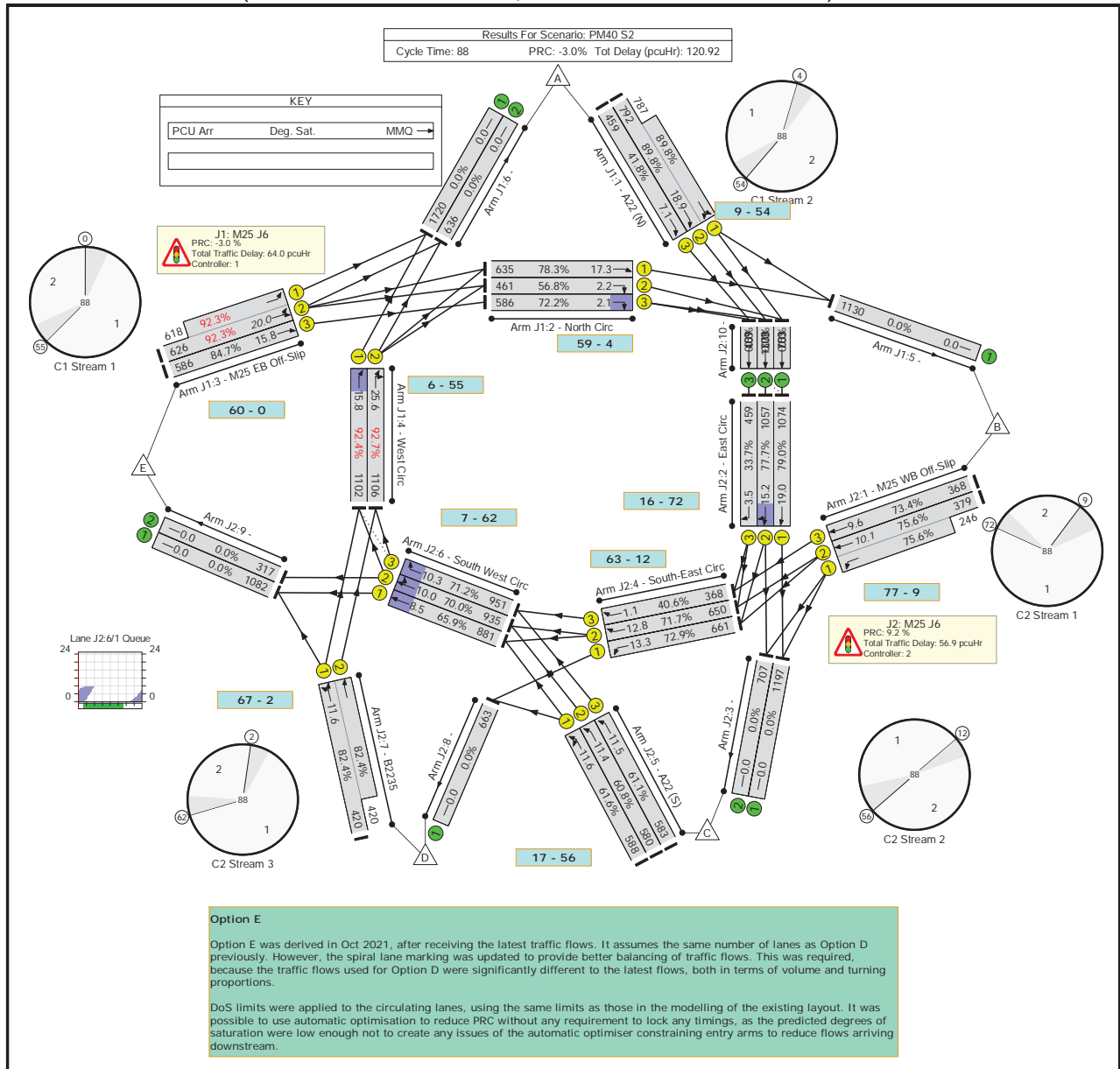


Scenario 17: 'PM40 S1' (FG10: 'PM 2040 Scenario 1', Plan 1: 'Network Control Plan 1')

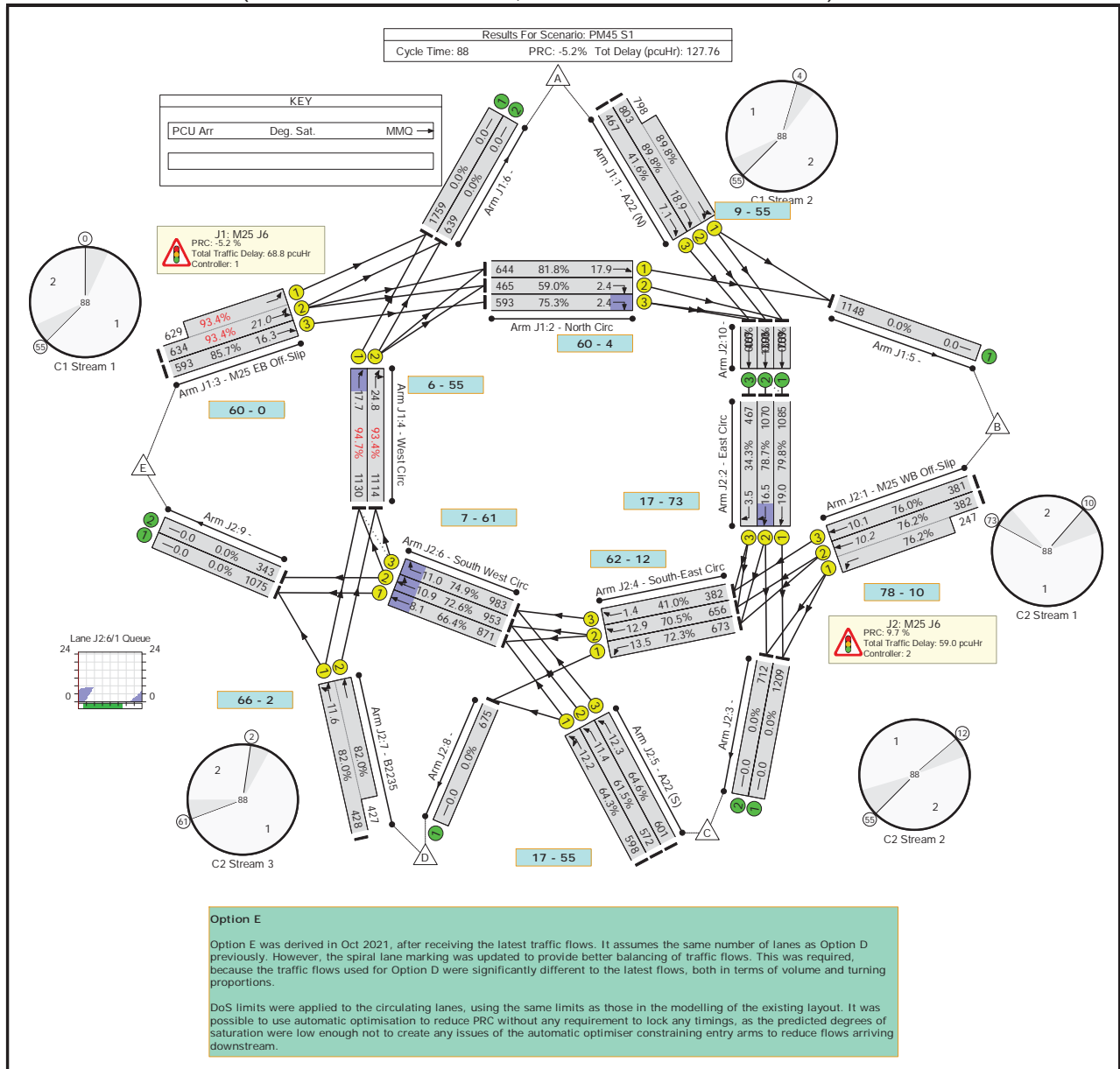




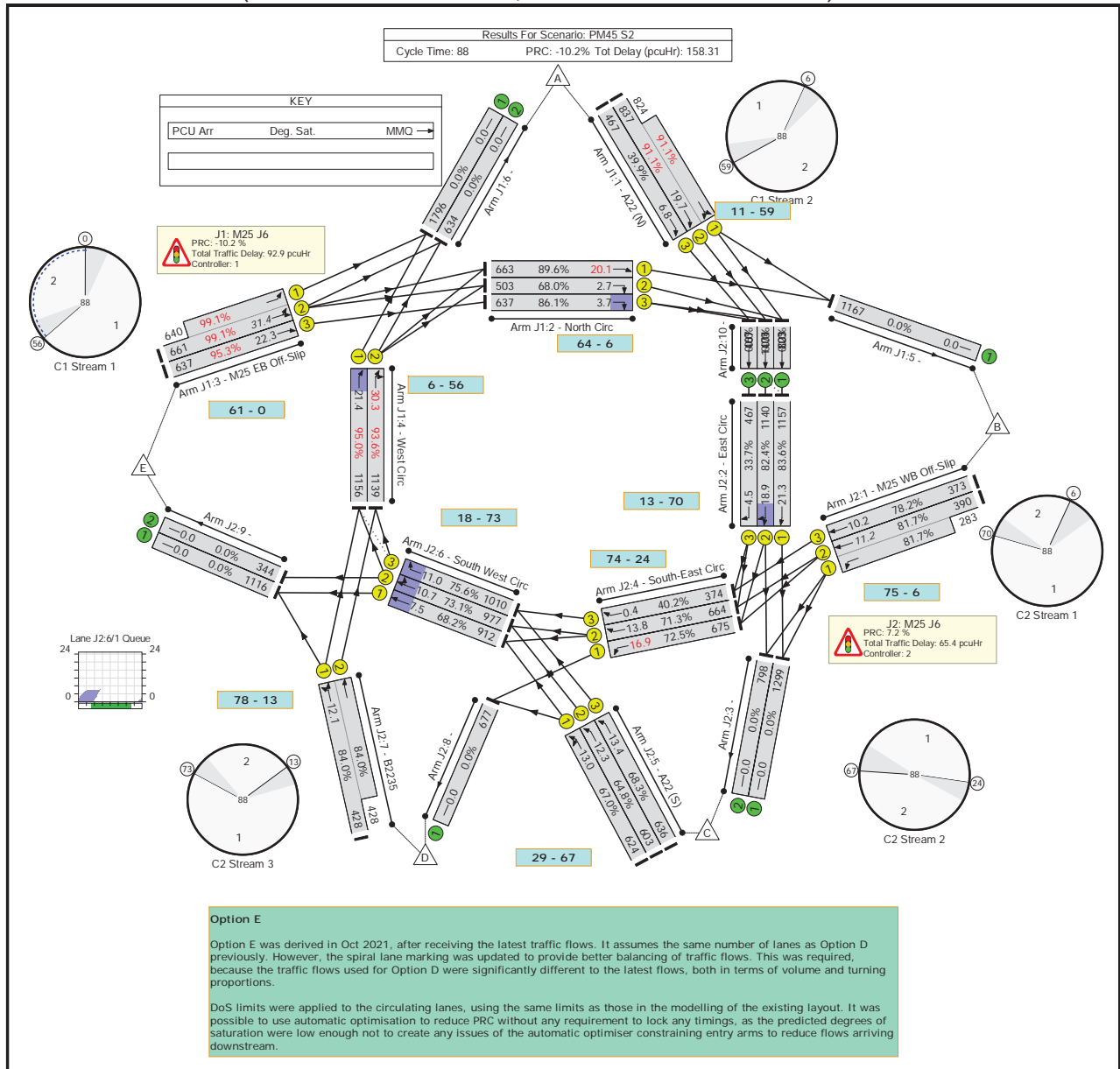
Scenario 18: 'PM40 S2' (FG21: 'PM 2040 Scenario 2', Plan 1: 'Network Control Plan 1')



Scenario 19: 'PM45 S1' (FG11: 'PM 2045 Scenario 1', Plan 1: 'Network Control Plan 1')



Scenario 20: 'PM45 S2' (FG22: 'PM 2045 Scenario 2', Plan 1: 'Network Control Plan 1')





Merge / Diverge Assessment

ID	Link	Current type	2025 AM Base			2025 PM Base		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3223	1205	A	4834	1350	D
2	WB diverge	C	4244	697	A	3545	764	A
3	EB Merge	D	3223	697	A	4834	931	D
4	WB Merge	E (1)	4244	1552	E	3545	1094	D

ID	Link	Current type	2030 AM Base			2030 PM Base		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3294	1231	A	4953	1383	D
2	WB diverge	C	4337	712	A	3632	782	A
3	EB Merge	D	3294	701	A	4953	939	D
4	WB Merge	E (1)	4337	1562	E	3632	1103	D

ID	Link	Current type	2030 AM LP S1			2030 PM LP S1		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3294	1322	A	4953	1498	D
2	WB diverge	C	4337	746	A	3632	816	A
3	EB Merge	D	3294	736	A	4953	973	D
4	WB Merge	E (1)	4337	1678	E	3632	1197	D

ID	Link	Current type	2030 AM LP S2			2030 PM LP S2		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3294	1335	A	4953	1526	D
2	WB diverge	C	4337	752	A	3632	828	A
3	EB Merge	D	3294	748	A	4953	980	D
4	WB Merge	E (1)	4337	1706	E	3632	1212	D

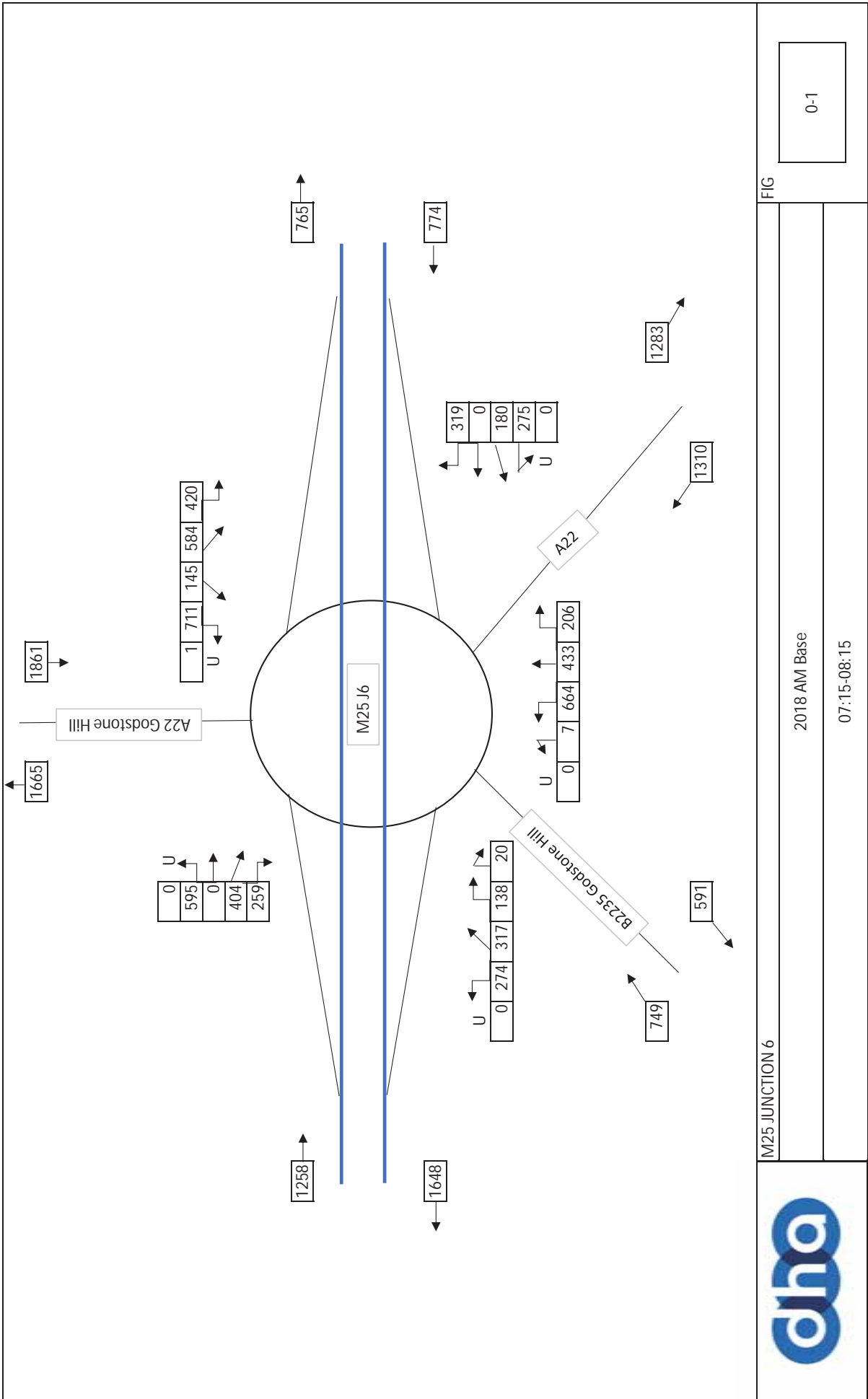
ID	Link	Current type	2035 AM Base			2035 PM Base		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3385	1265	A	5100	1424	D
2	WB diverge	C	4457	732	A	3739	806	A
3	EB Merge	D	3385	708	A	5100	950	D
4	WB Merge	E (1)	4457	1577	E	3739	1117	D

ID	Link	Current type	2035 AM LP S1			2035 PM LP S1		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3385	1404	D	5100	1617	D
2	WB diverge	C	4457	785	A	3739	868	A
3	EB Merge	D	3385	772	A	5100	1005	D
4	WB Merge	E (1)	4457	1771	E	3739	1262	E

ID	Link	Current type	2035 AM LP S2			2035 PM LP S2		
			Through	Diverge/merge	Type	Through	Diverge/merge	Type
1	EB diverge	C	3385	1425	D	5100	1661	D
2	WB diverge	C	4457	794	A	3739	887	A
3	EB Merge	D	3385	791	A	5100	1015	D
4	WB Merge	E (1)	4457	1814	E	3739	1284	D

FIGURES





M25 JUNCTION 6

FIG



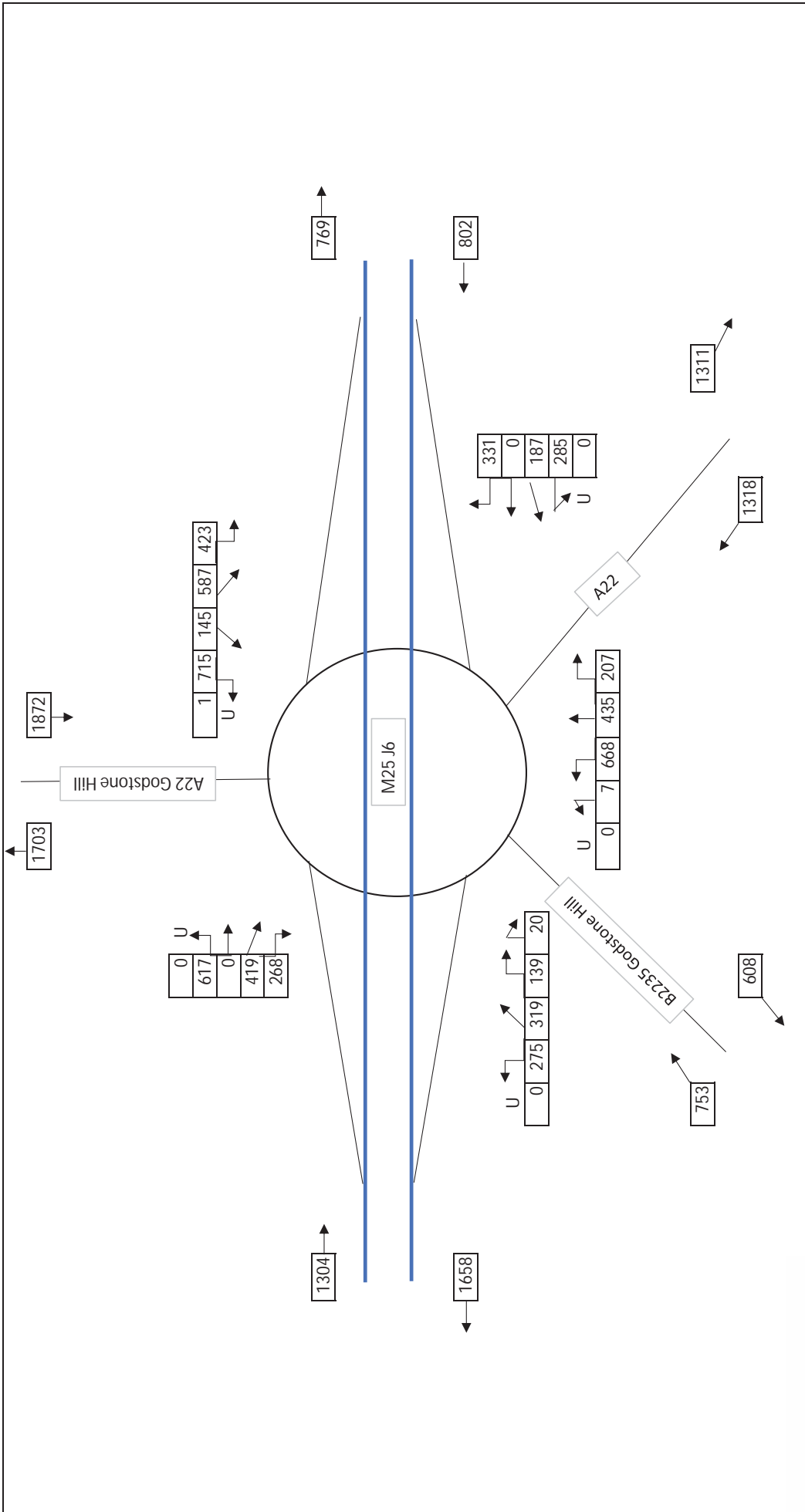
2018 AM Base

07:15-08:15

0-1







M25 JUNCTION 6

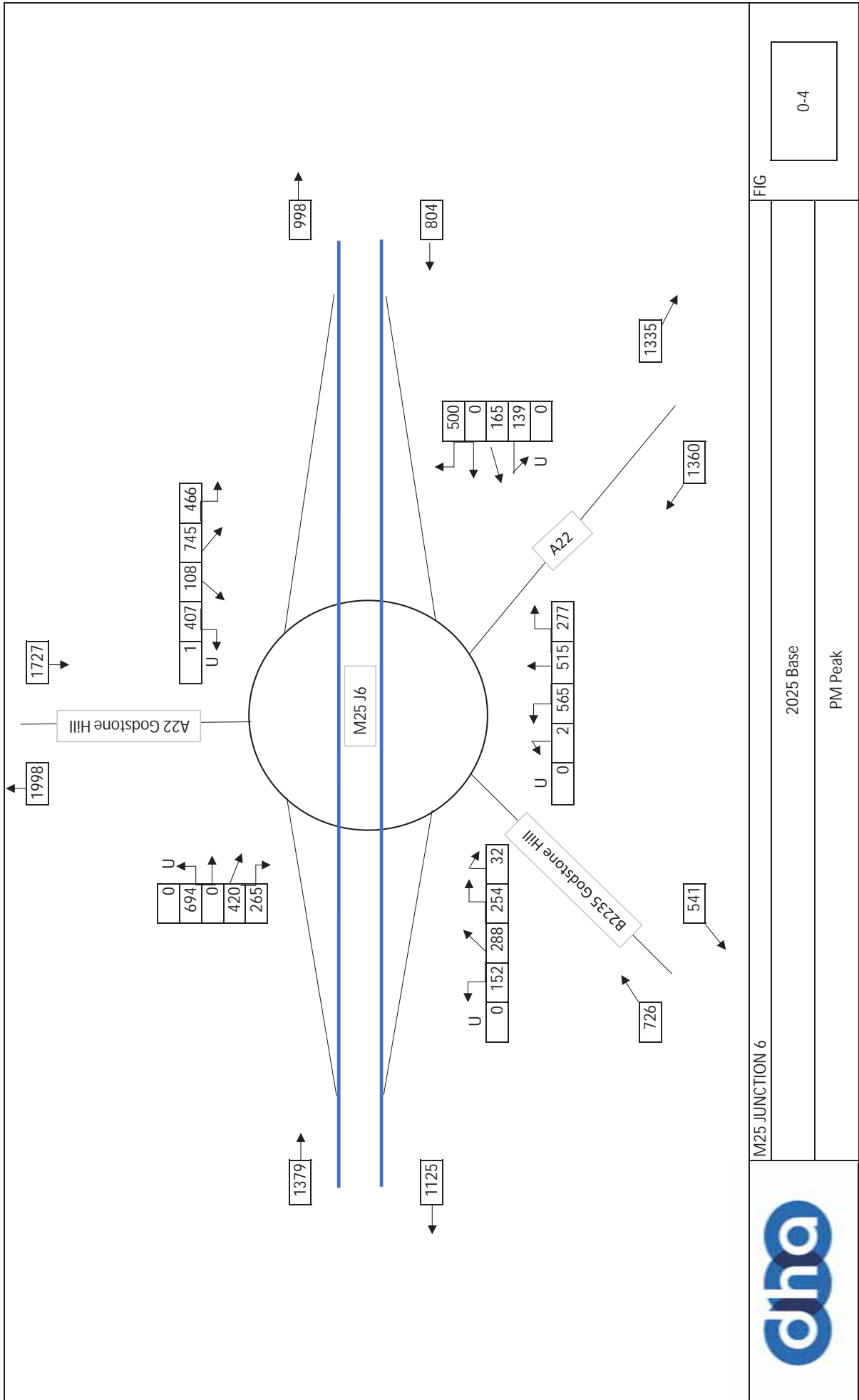
FIG

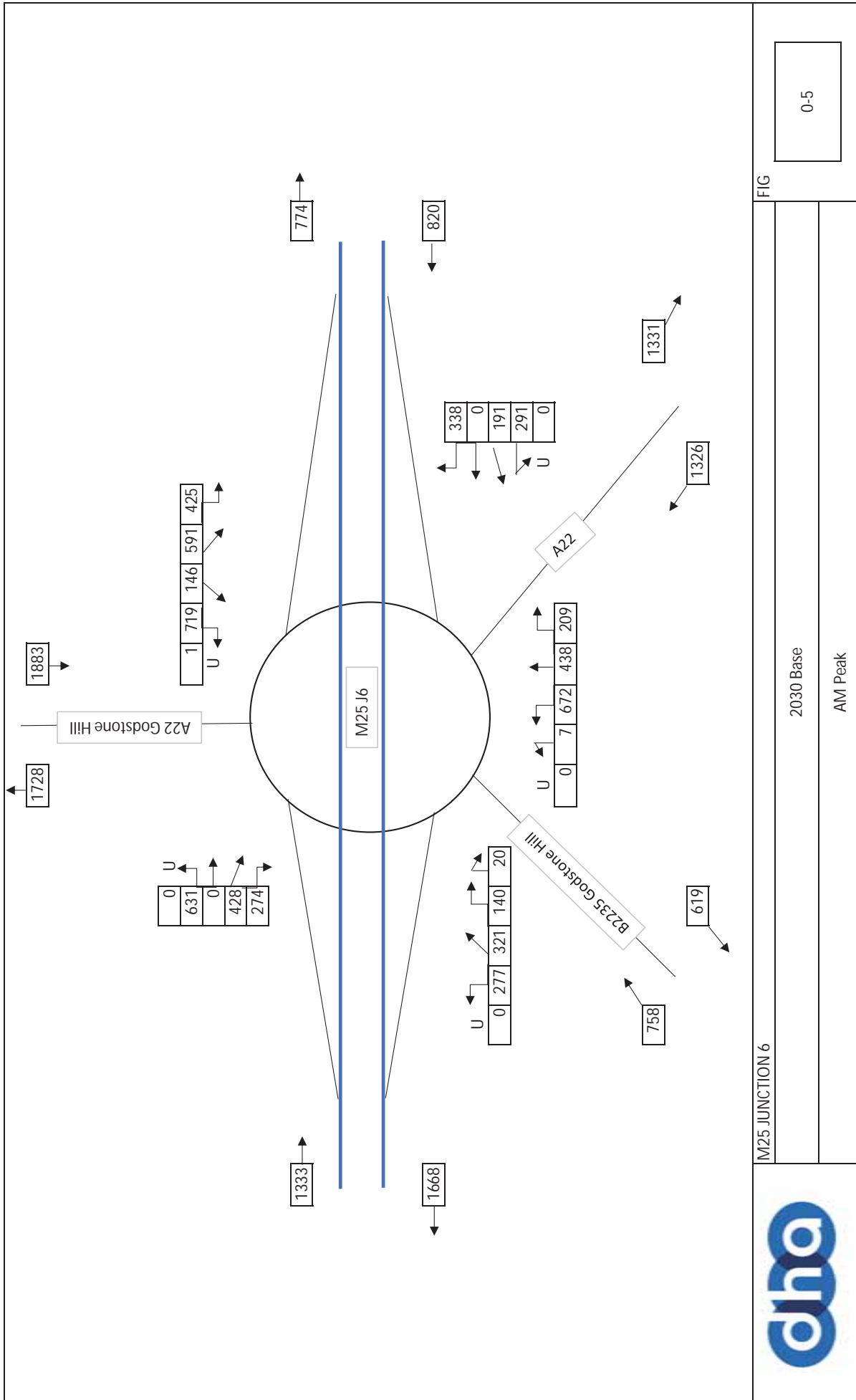
2025 Base

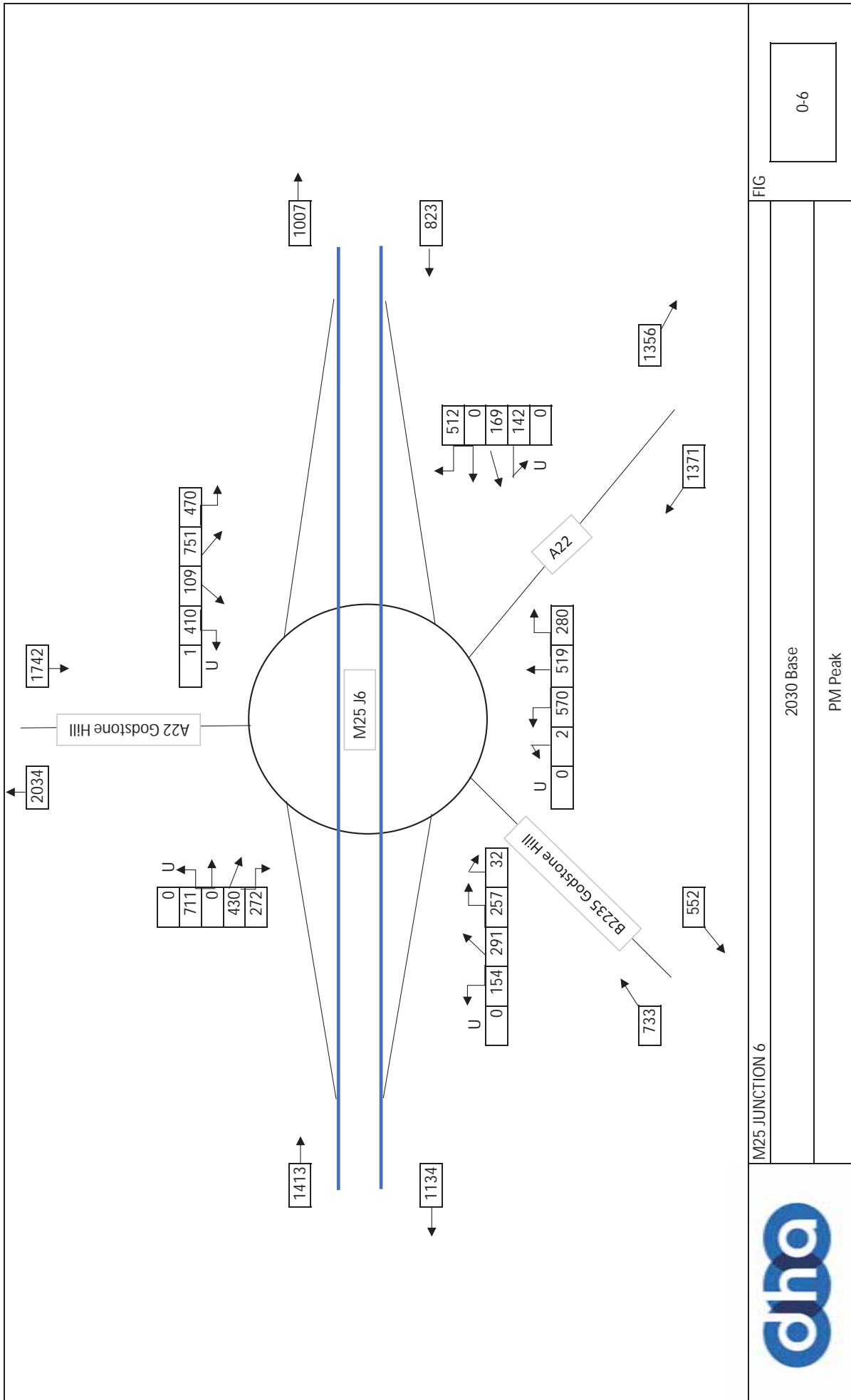
AM Peak

0-3









FIG

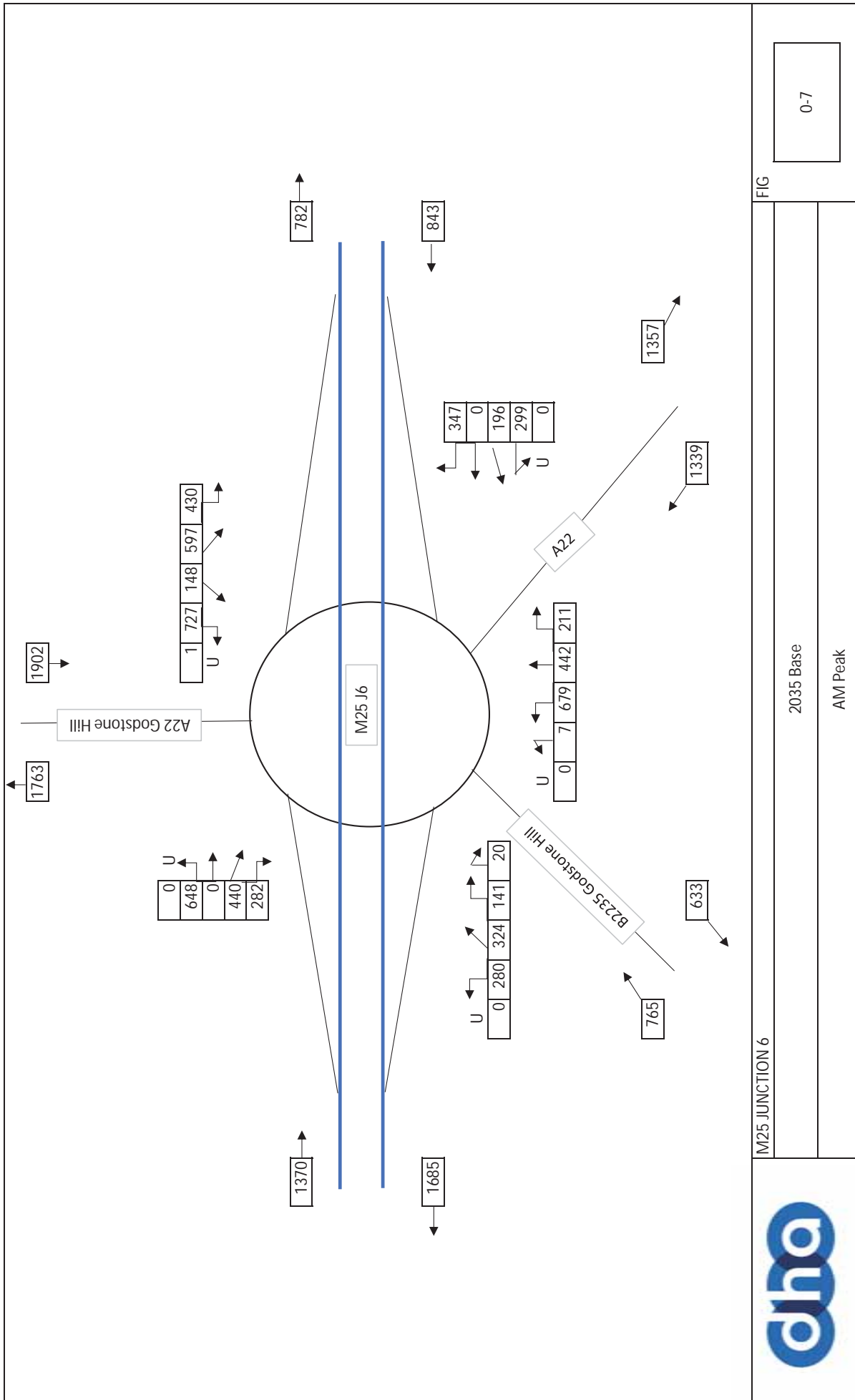
0-6

M25 JUNCTION 6

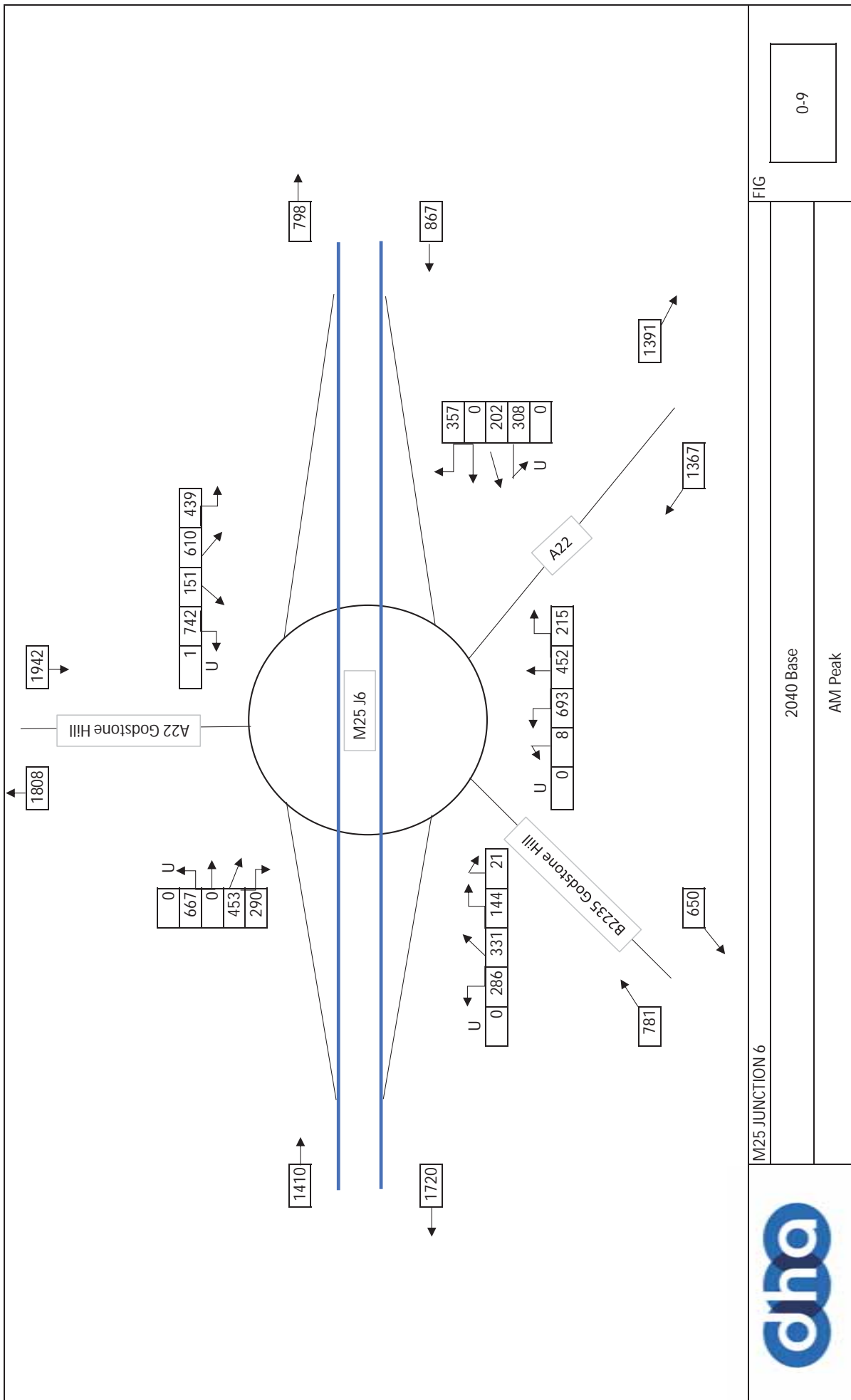
2030 Base

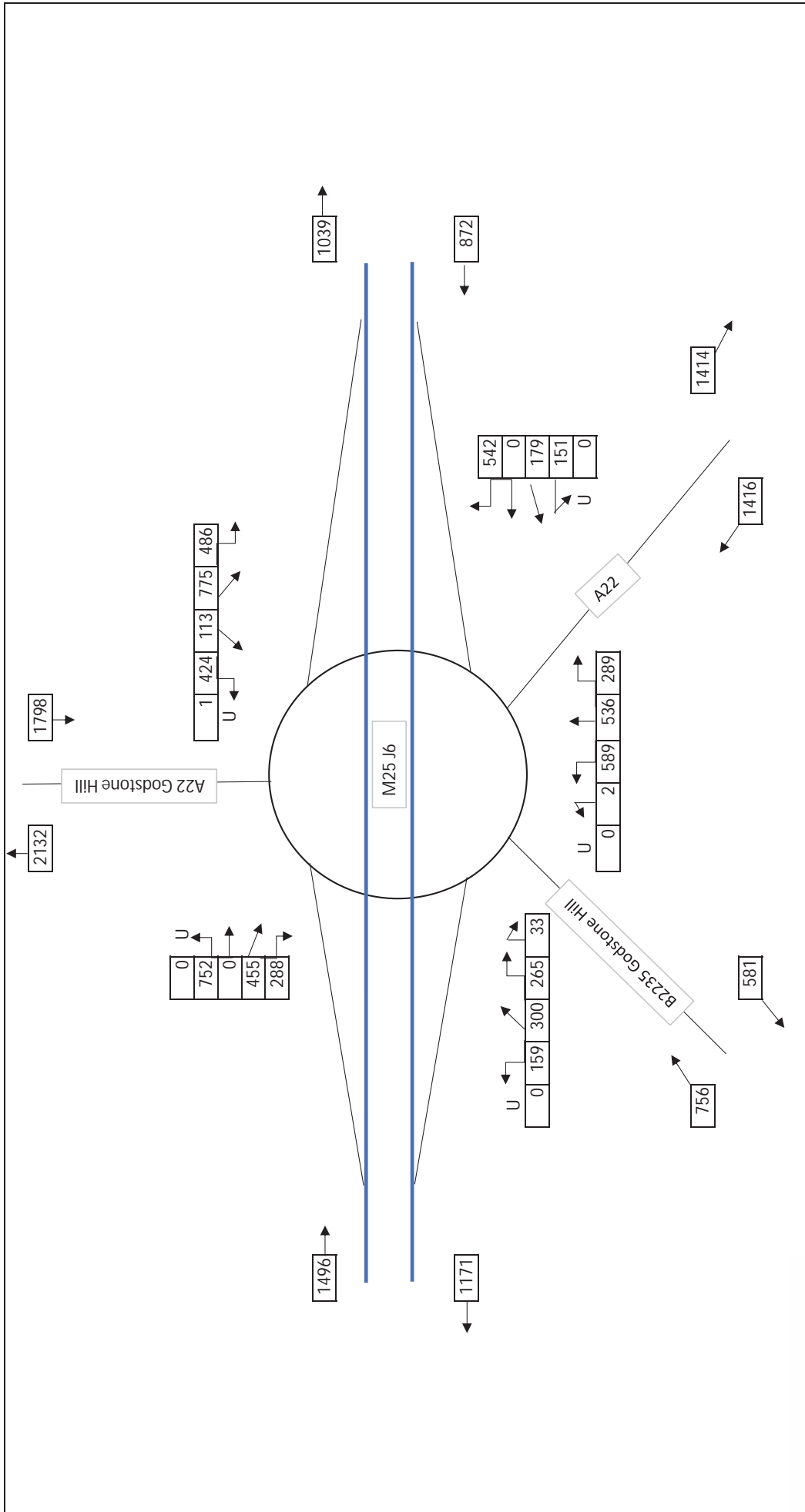
PM Peak











M25 JUNCTION 6

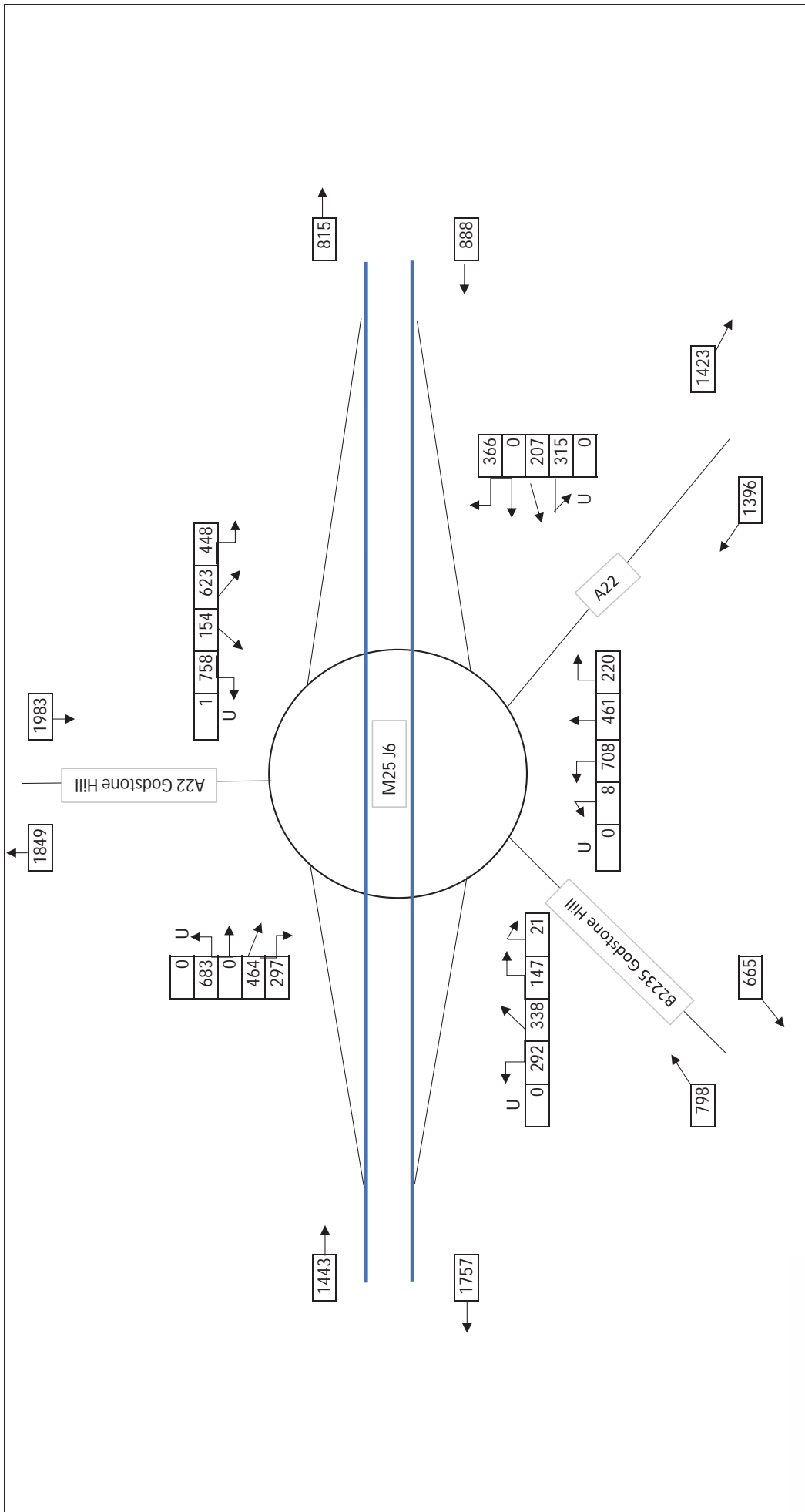
2040 Base

PM Peak

0-10







M25 JUNCTION 6

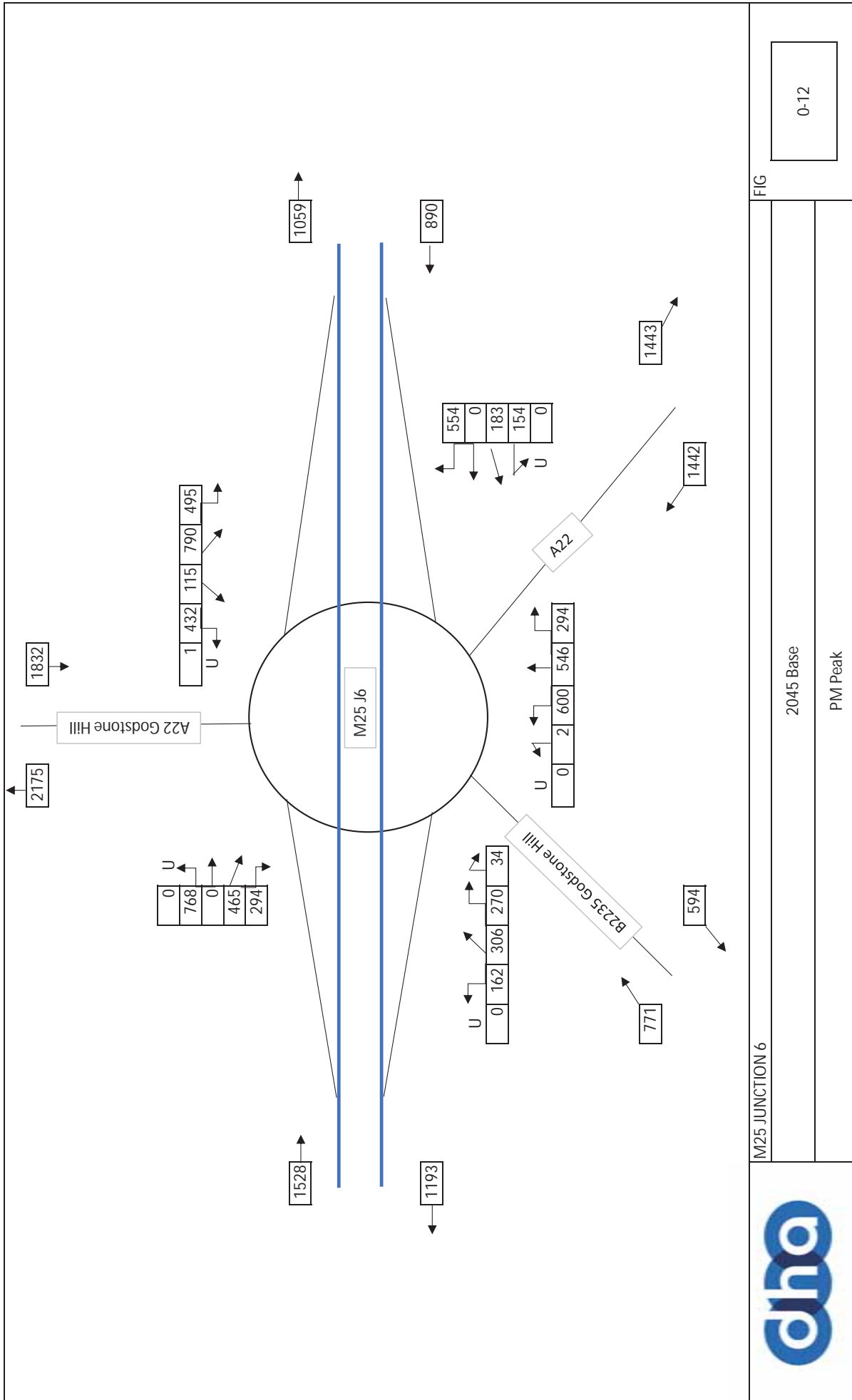
FIG

2045 Base

AM Peak

0-11





FIG

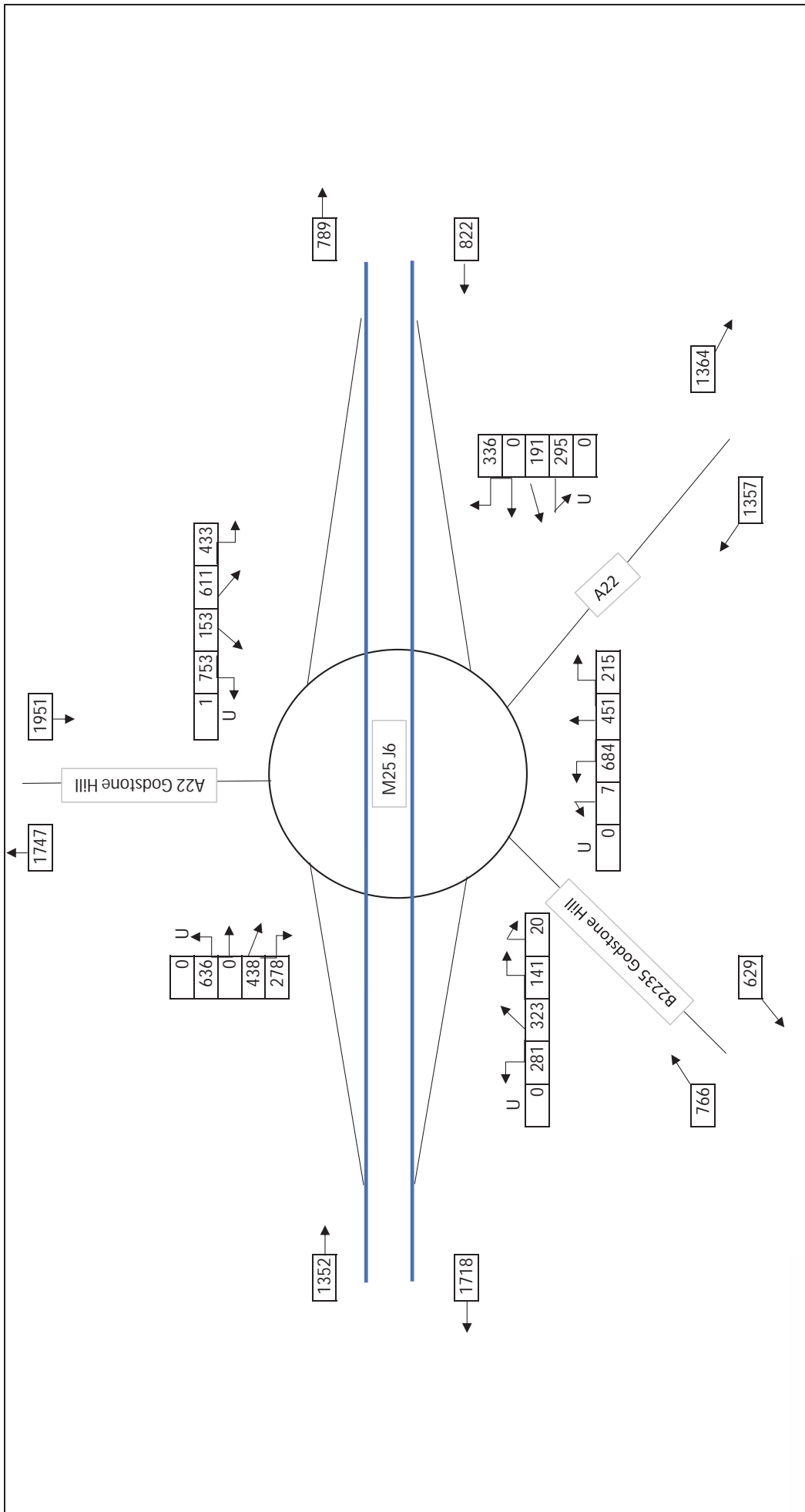
0-12

M25 JUNCTION 6

2045 Base

PM Peak





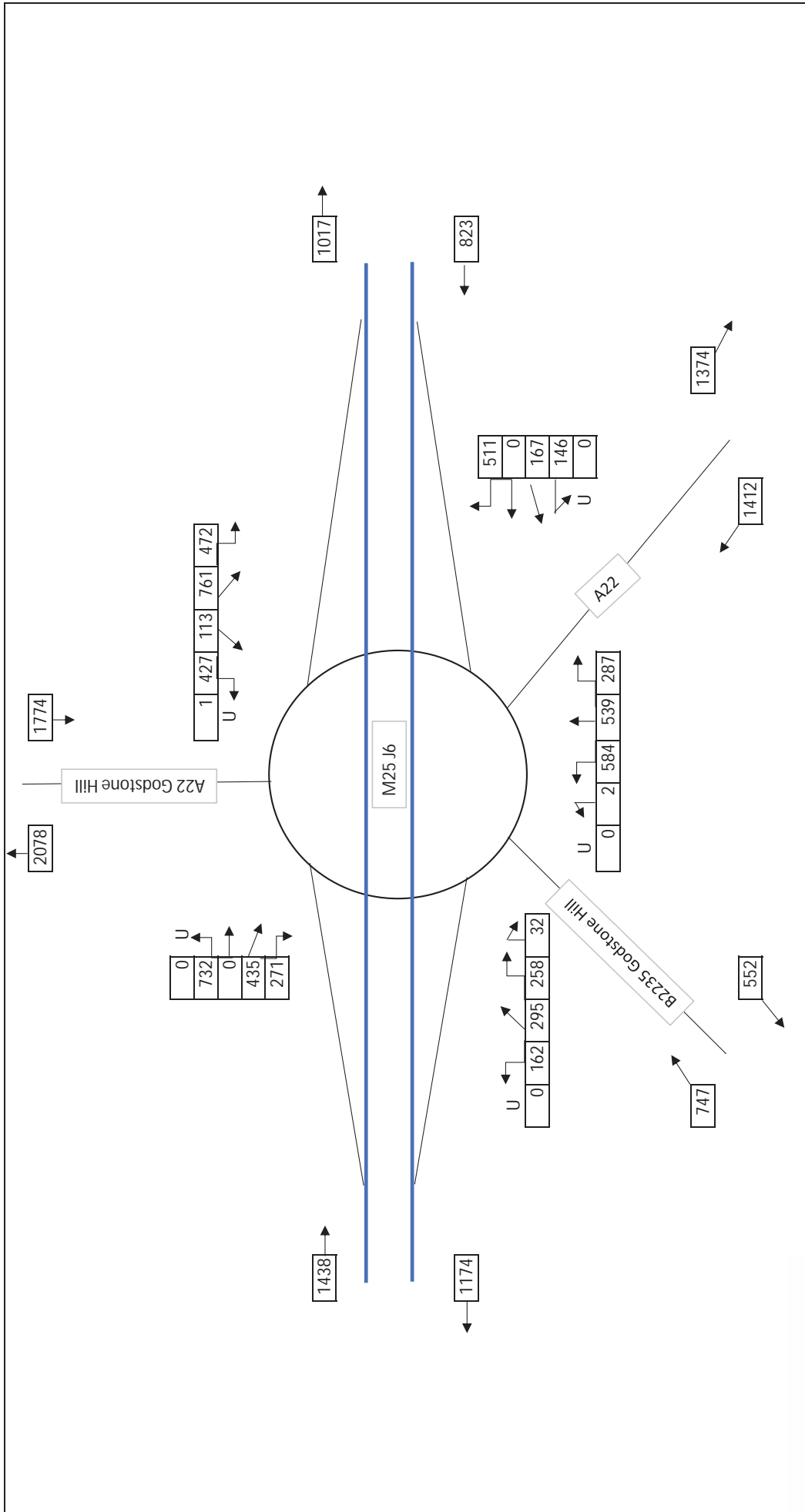
M25 JUNCTION 6

FIG

Scenario 1 - 2025  
AM Peak

0-13





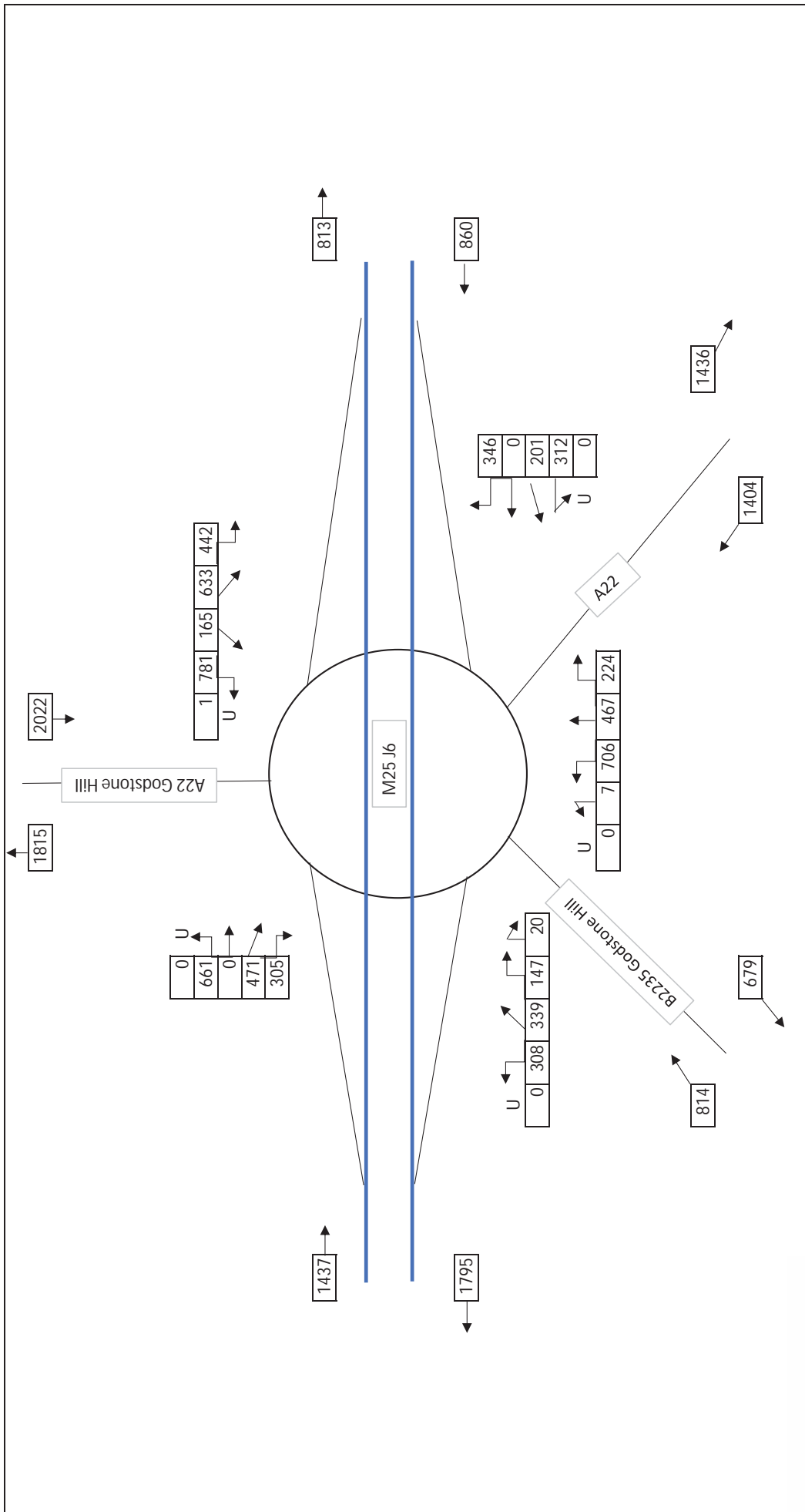
M25 JUNCTION 6

FIG

Scenario 1 - 2025  
PM Peak

0-14





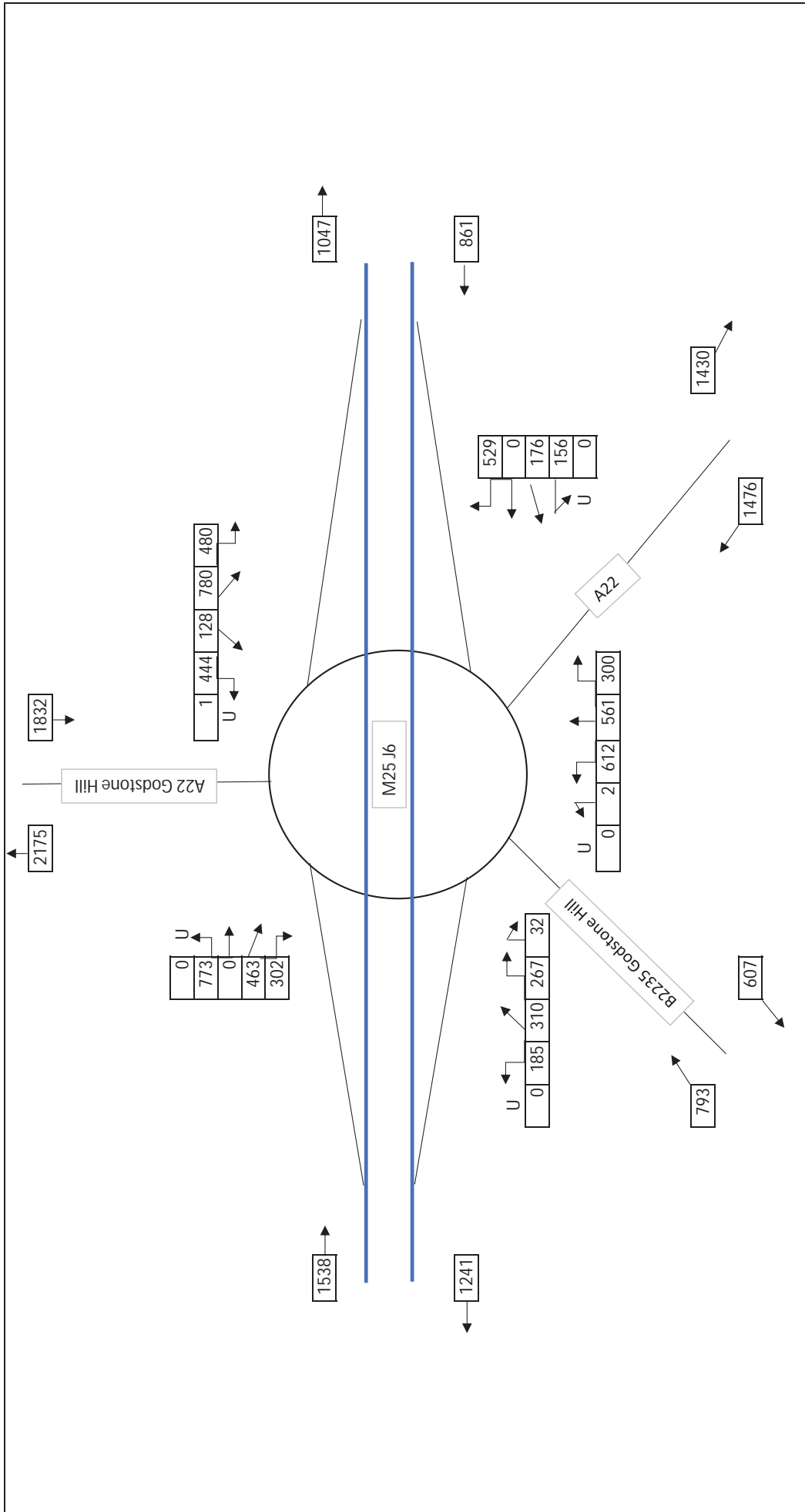
M25 JUNCTION 6

FIG

Scenario 1 - 2030  
AM Peak

0-15





M25 JUNCTION 6

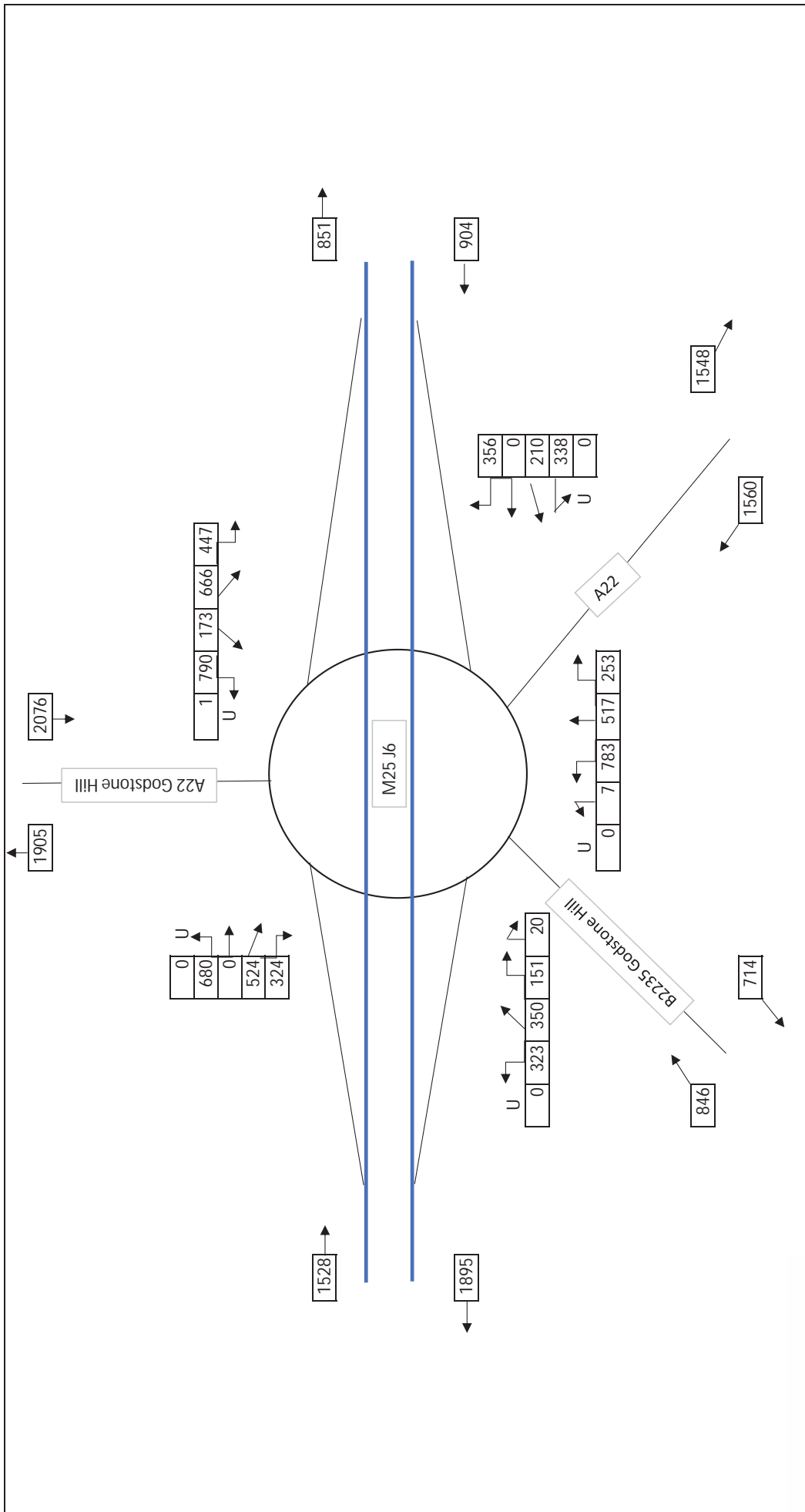
FIG

Scenario 1 - 2030

PM Peak

0-16





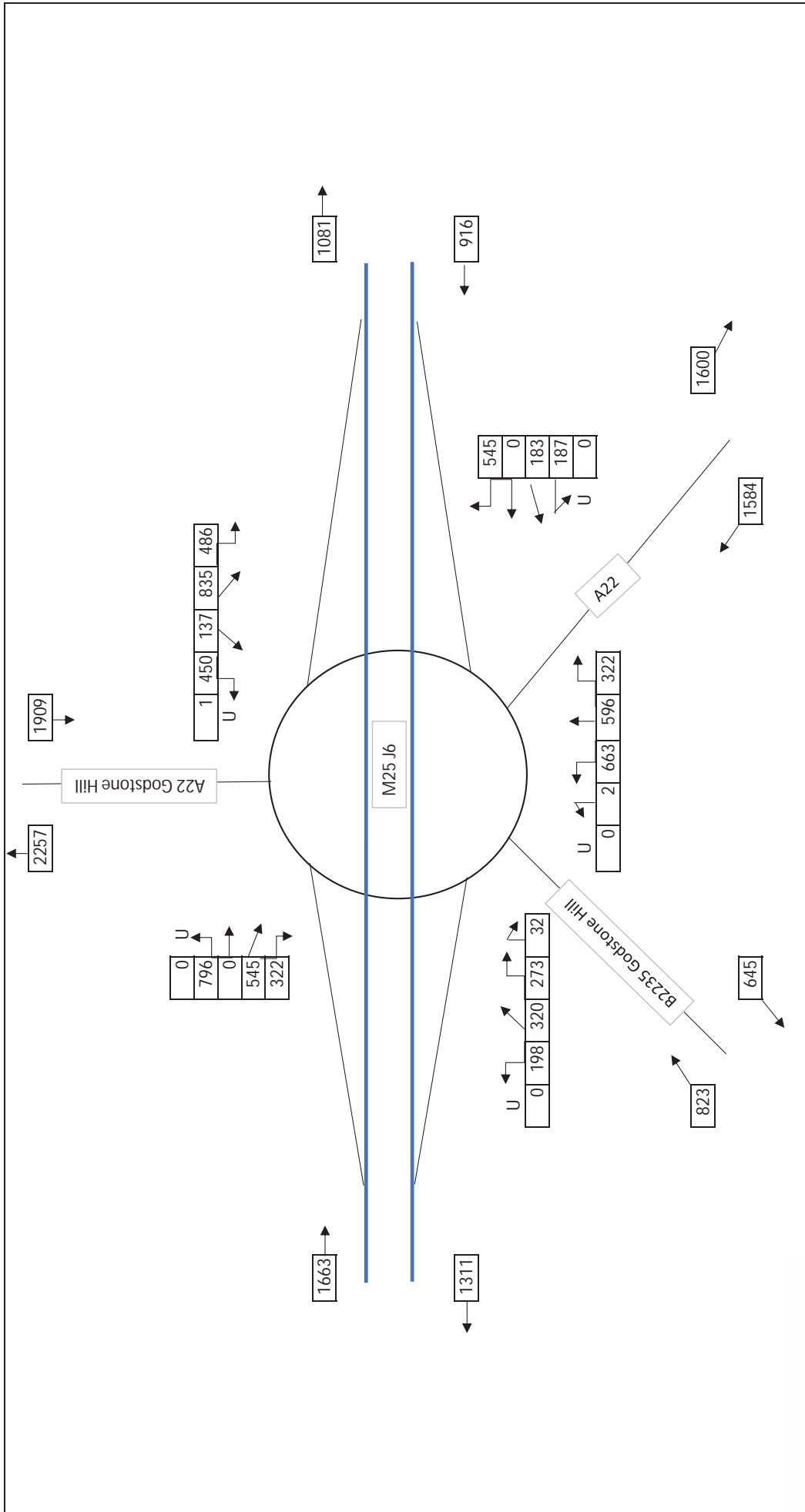
M25 JUNCTION 6

FIG

Scenario 1 - 2035  
AM Peak

0-17





M25 JUNCTION 6

Scenario 1 - 2035

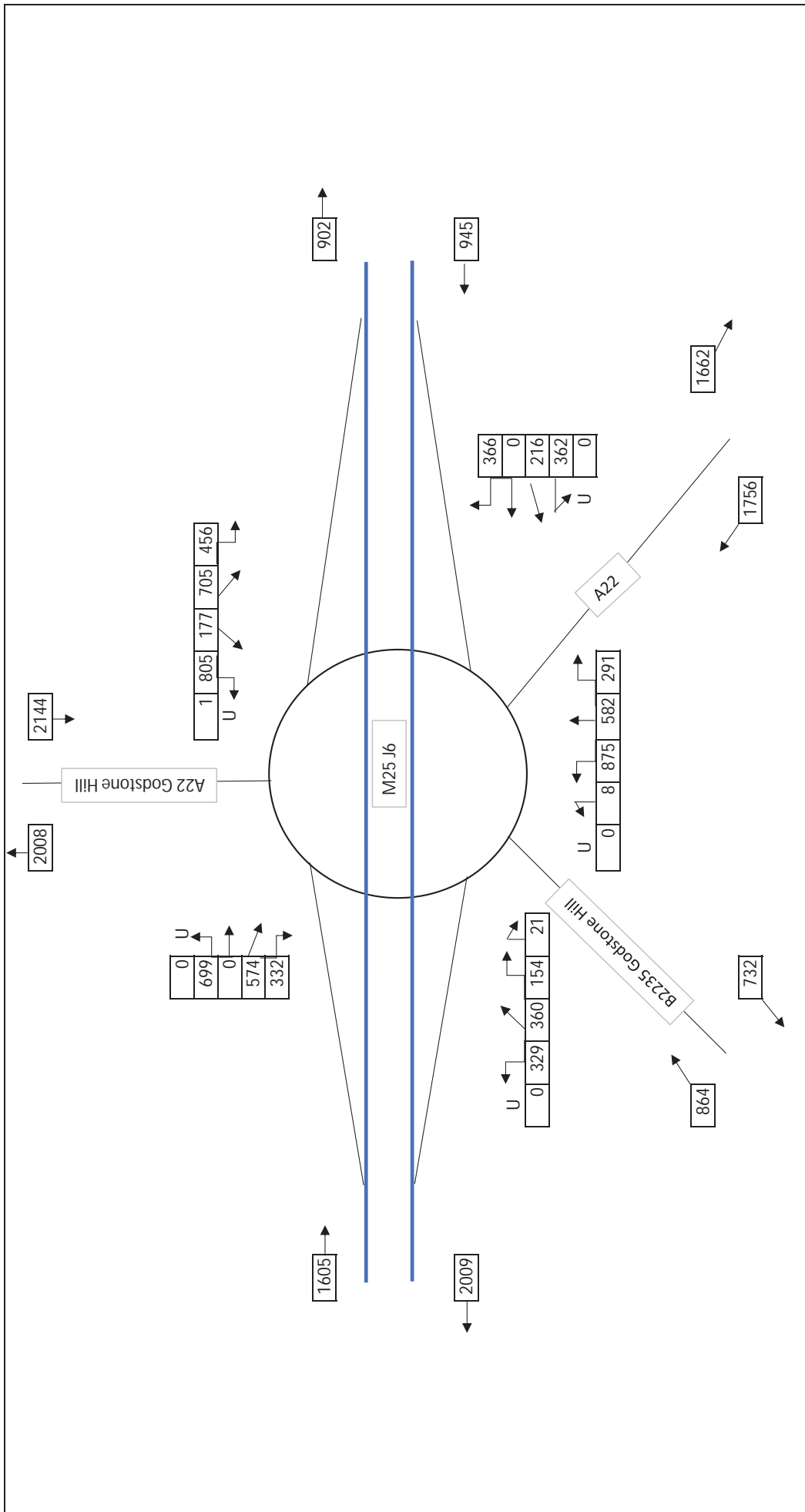
PM Peak

FIG

0-18







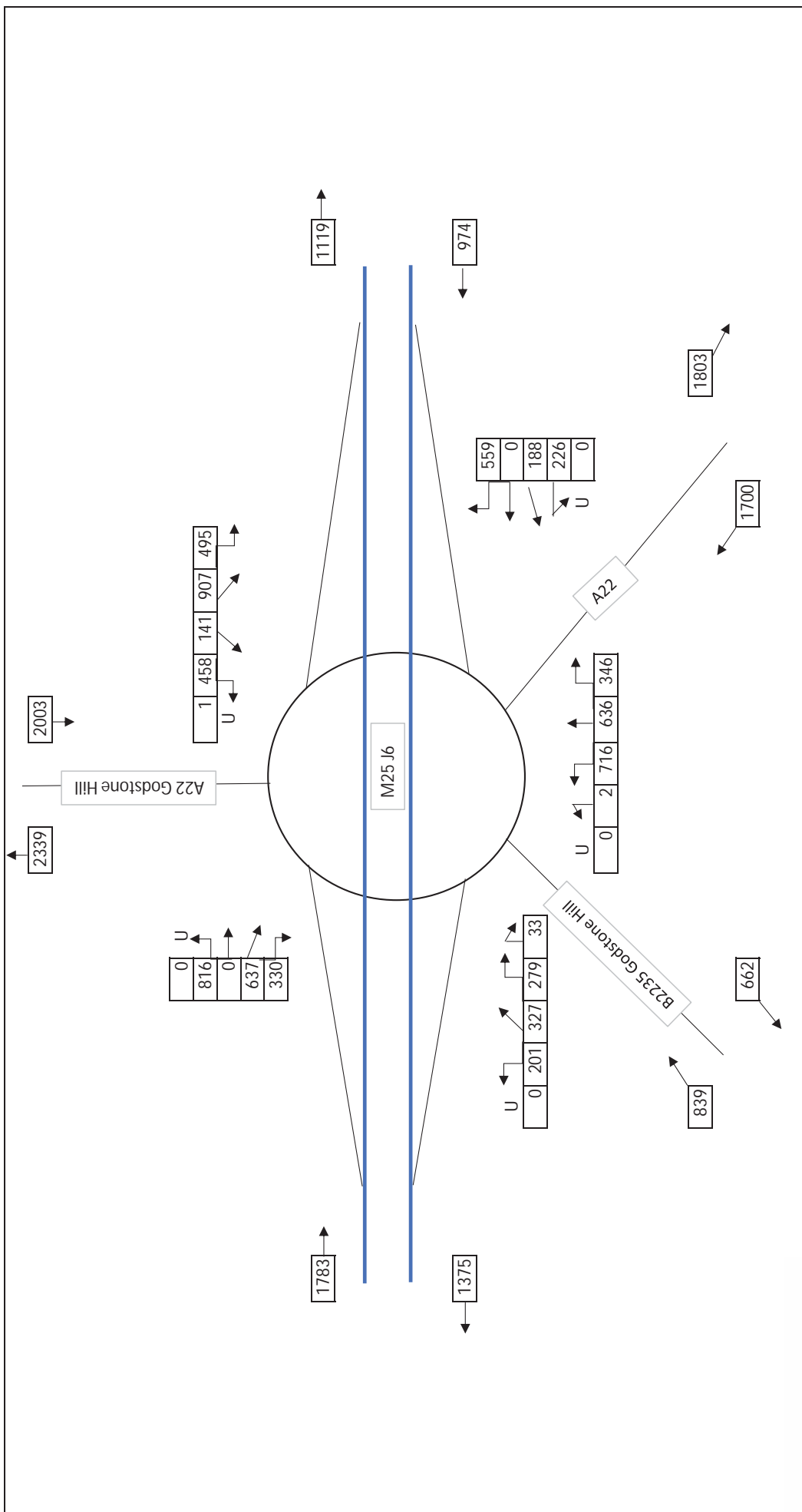
M25 JUNCTION 6

FIG

Scenario 1 - 2040  
AM Peak

0-19





M25 JUNCTION 6

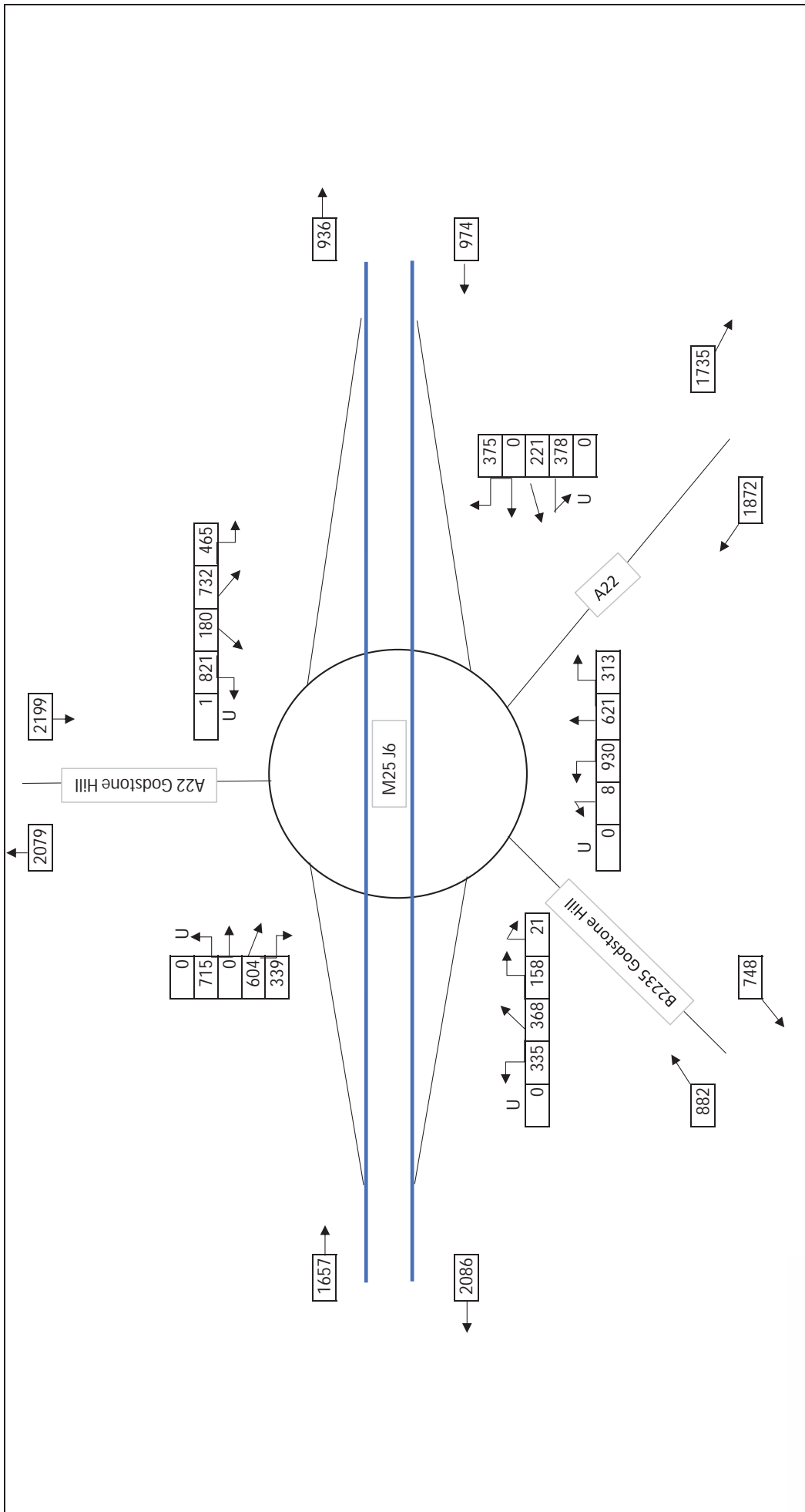
FIG

Scenario 1 - 2040

PM Peak

0-20





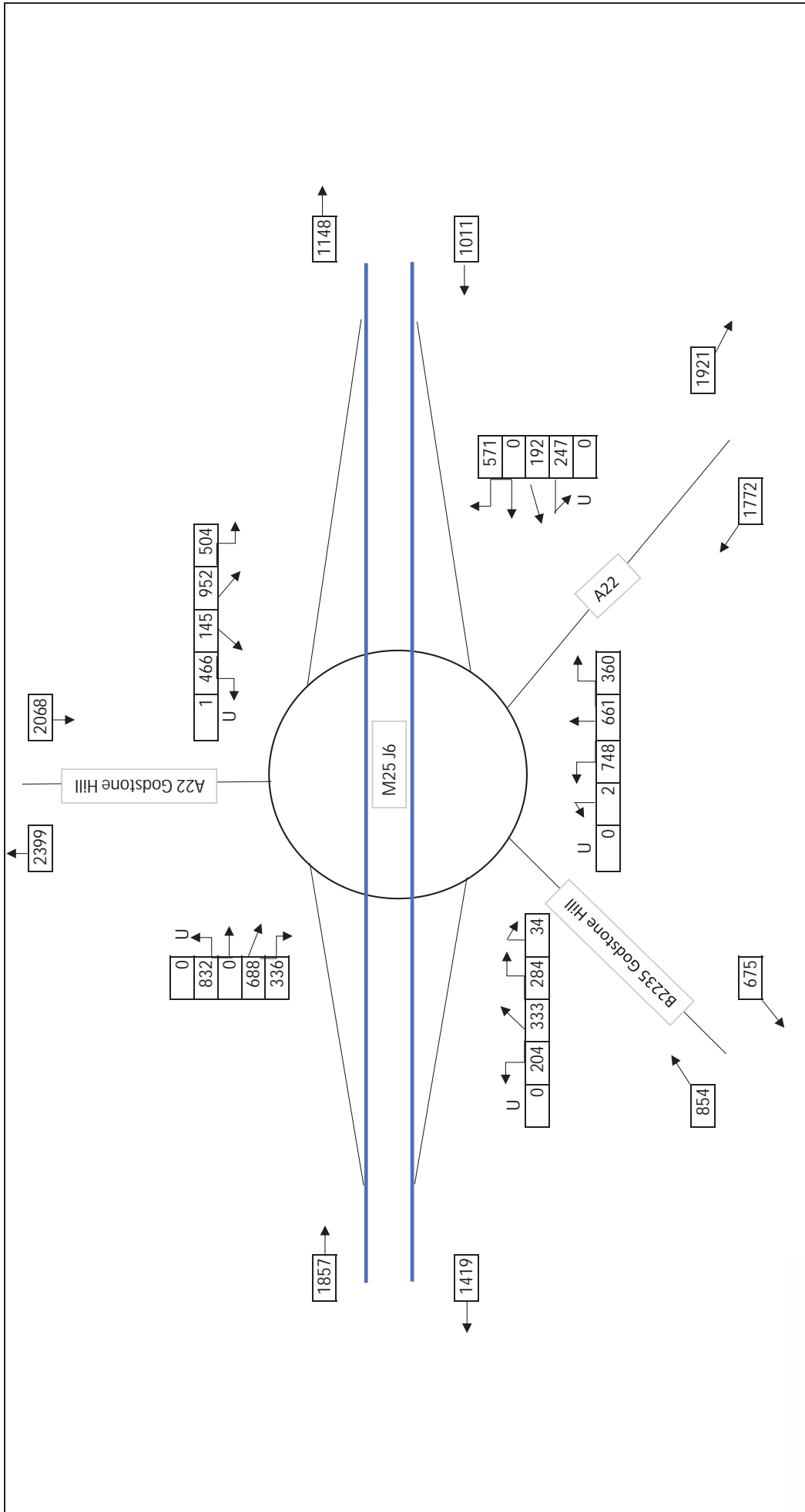
FIG

M25 JUNCTION 6

Scenario 1 - 2045  
AM Peak

0-21





FIG

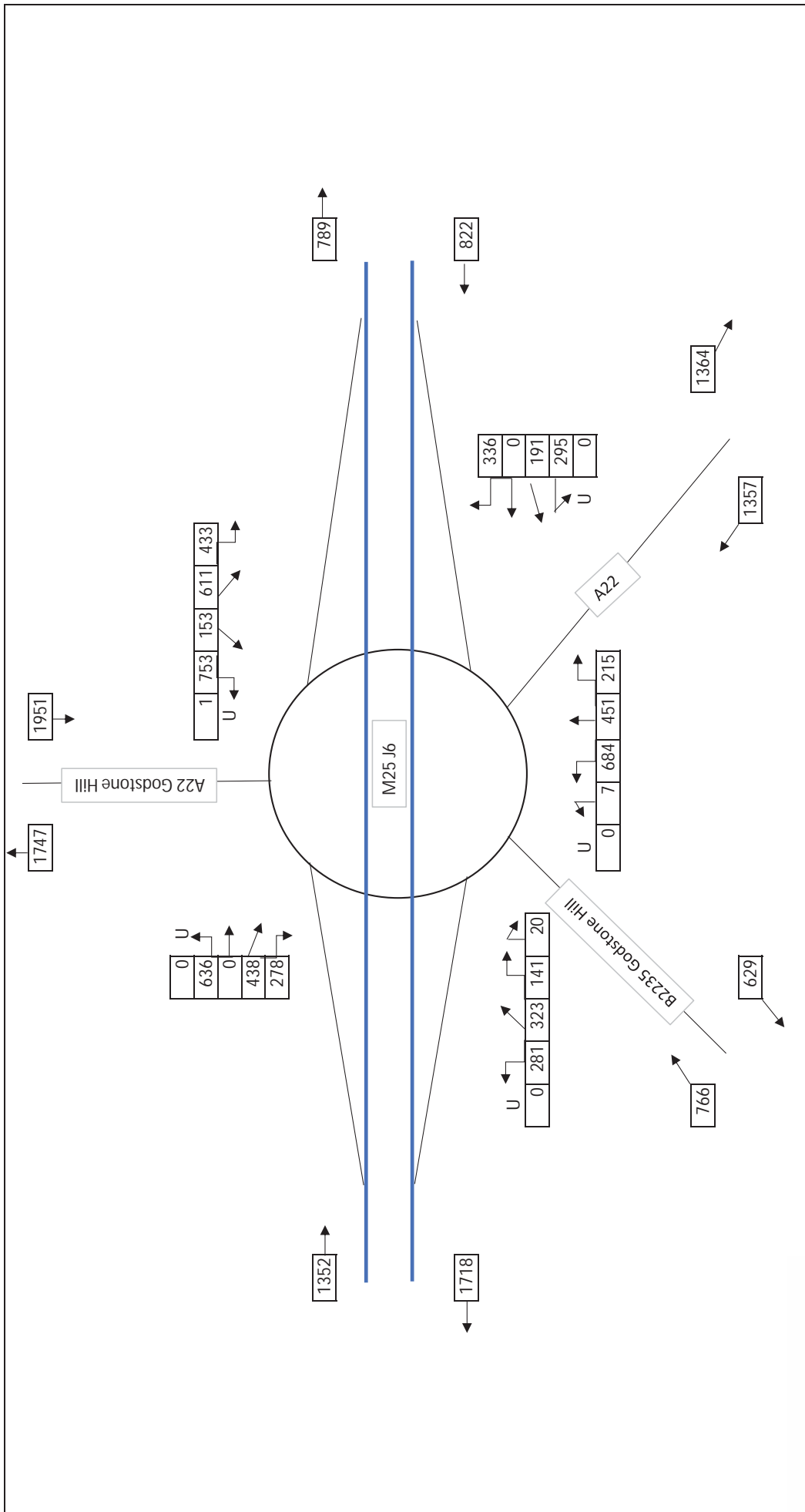
M25 JUNCTION 6

Scenario 1 - 2045

PM Peak

0-22





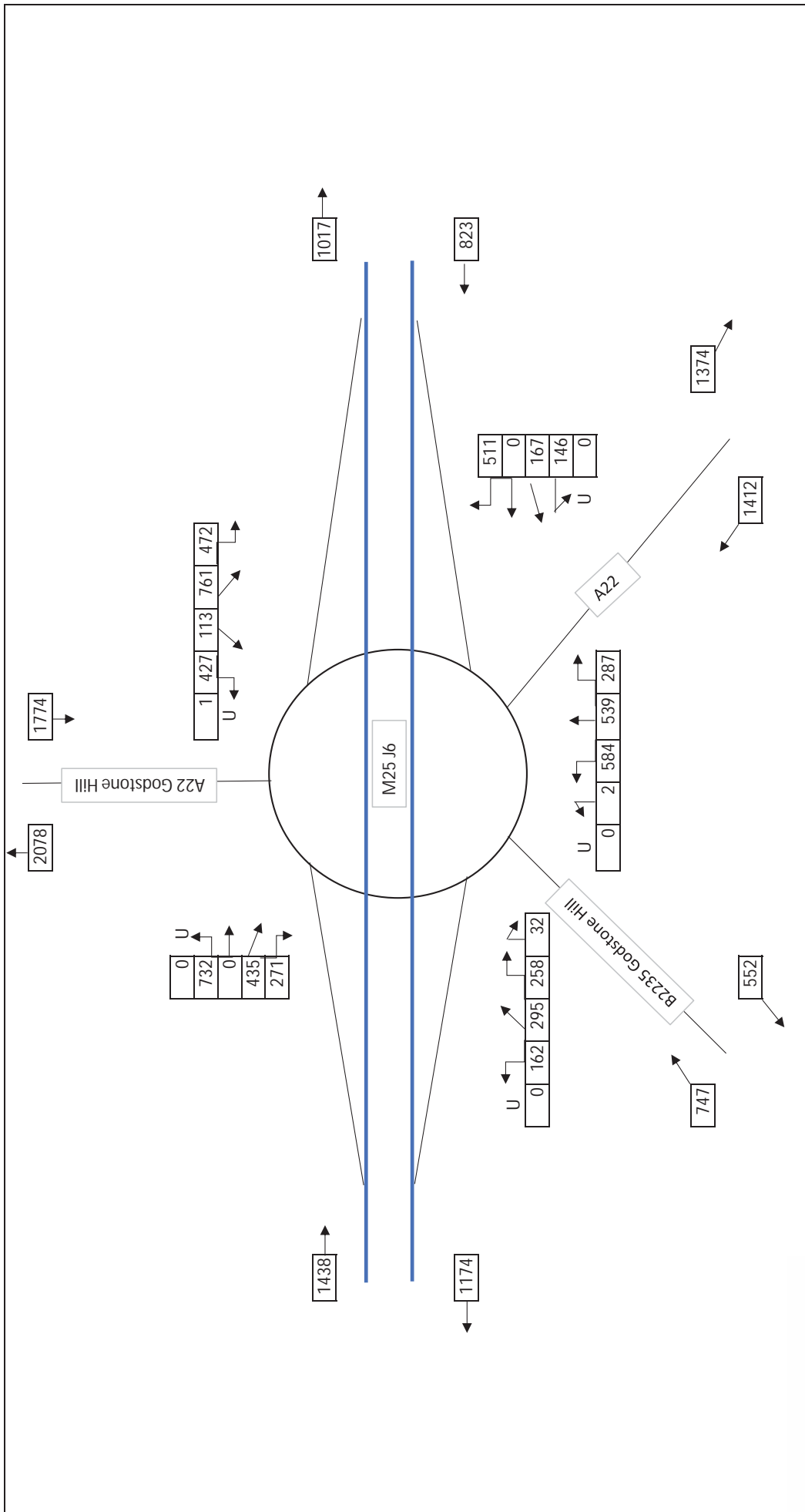
M25 JUNCTION 6

FIG

Scenario 2 - 2025  
AM Peak

0-23





FIG

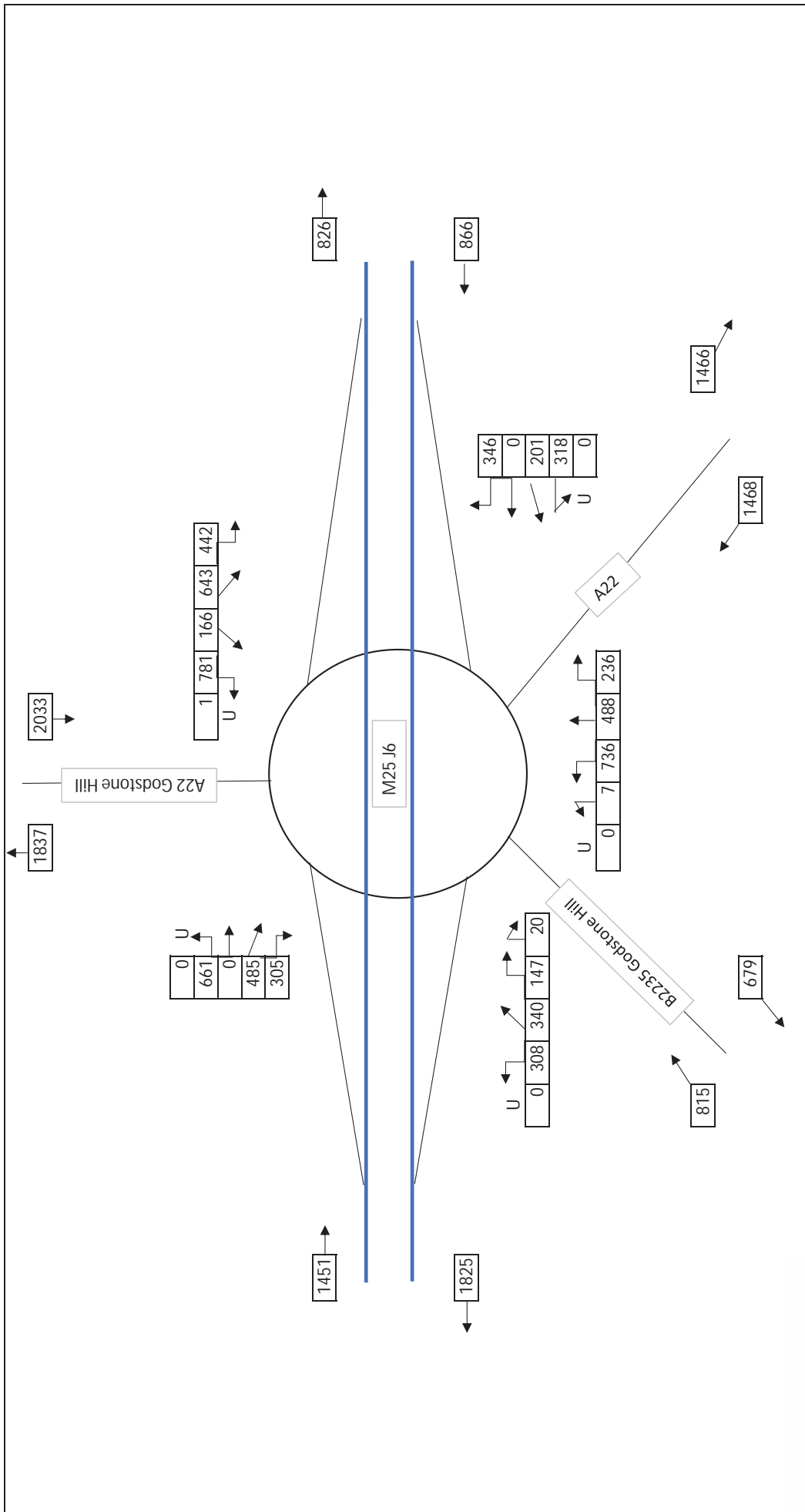
M25 JUNCTION 6

Scenario 2 - 2025

PM Peak

0-24





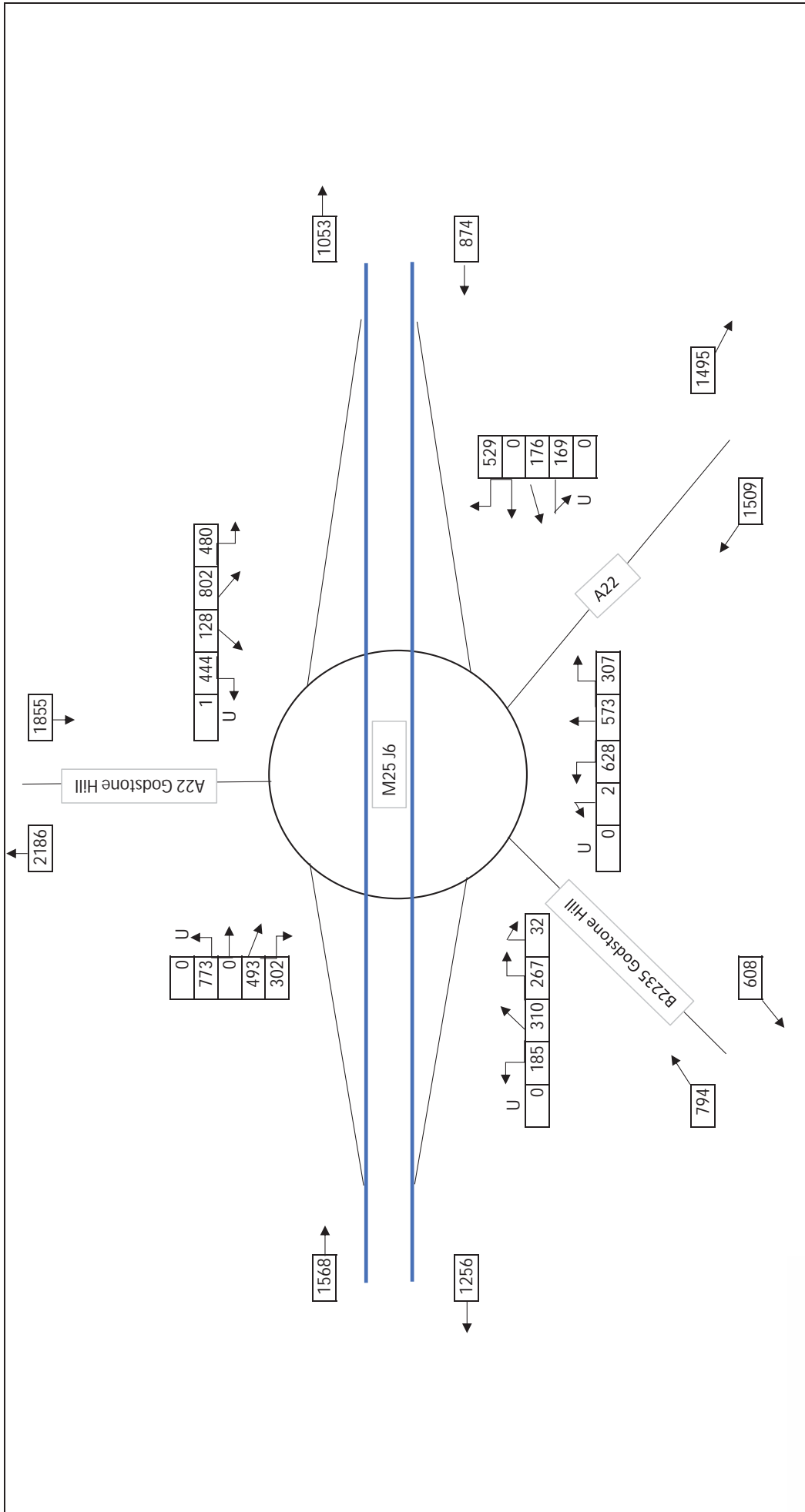
M25 JUNCTION 6

FIG

Scenario 2 - 2030  
AM Peak

0-25





M25 JUNCTION 6

FIG

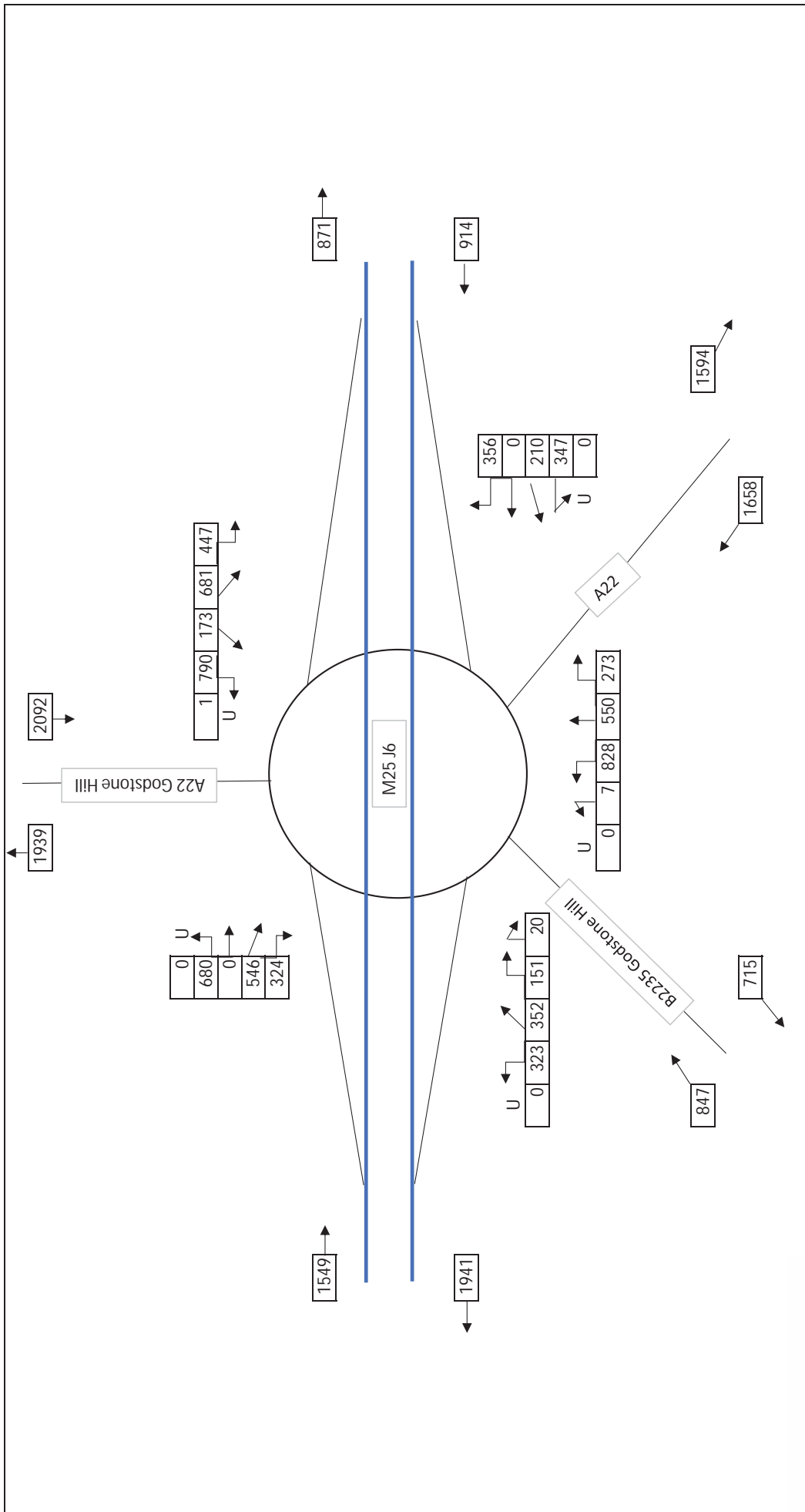
Scenario 2 - 2030

PM Peak

0-26







M25 JUNCTION 6

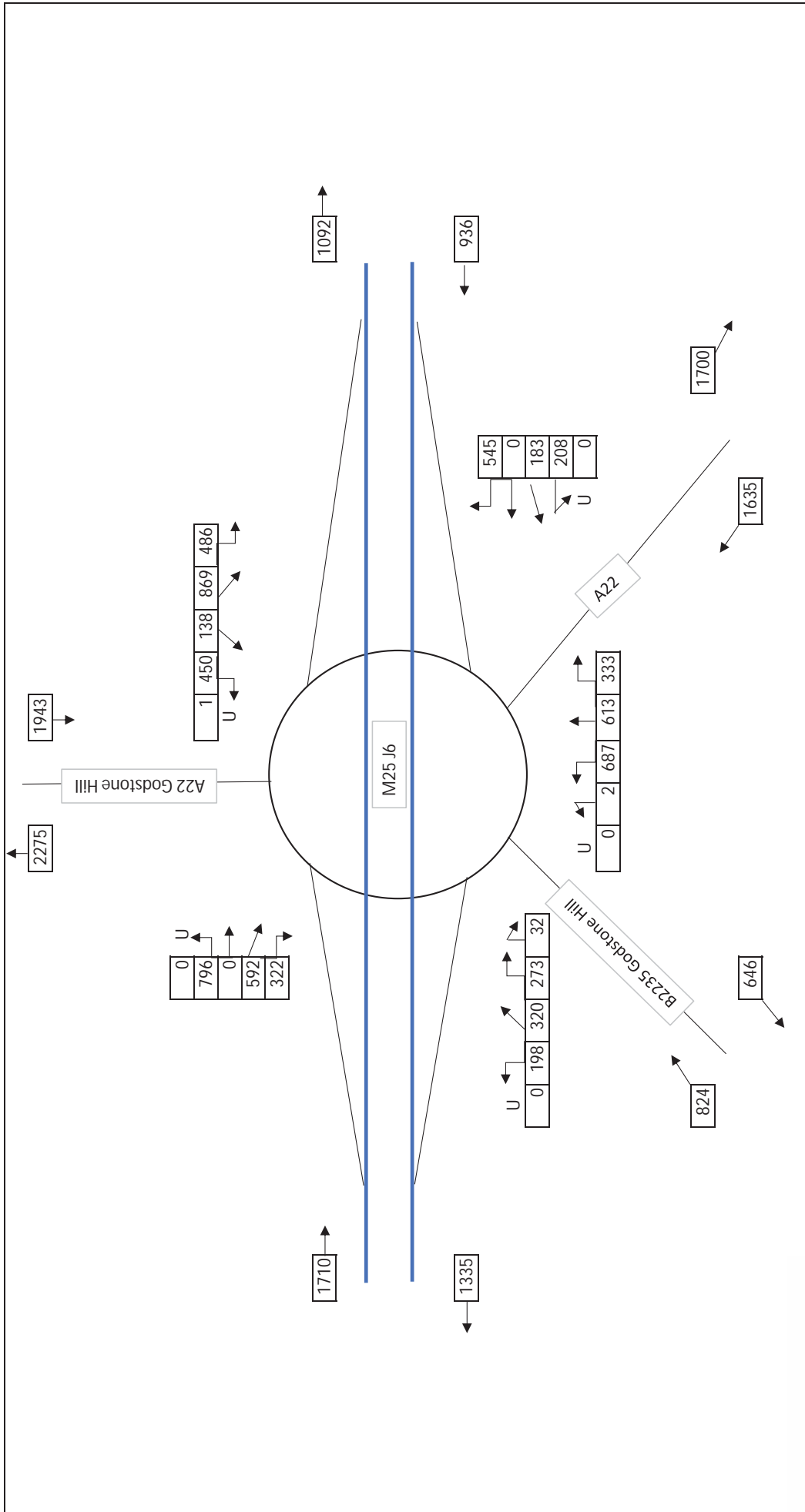
FIG

Scenario 2 - 2035

AM Peak

0-27





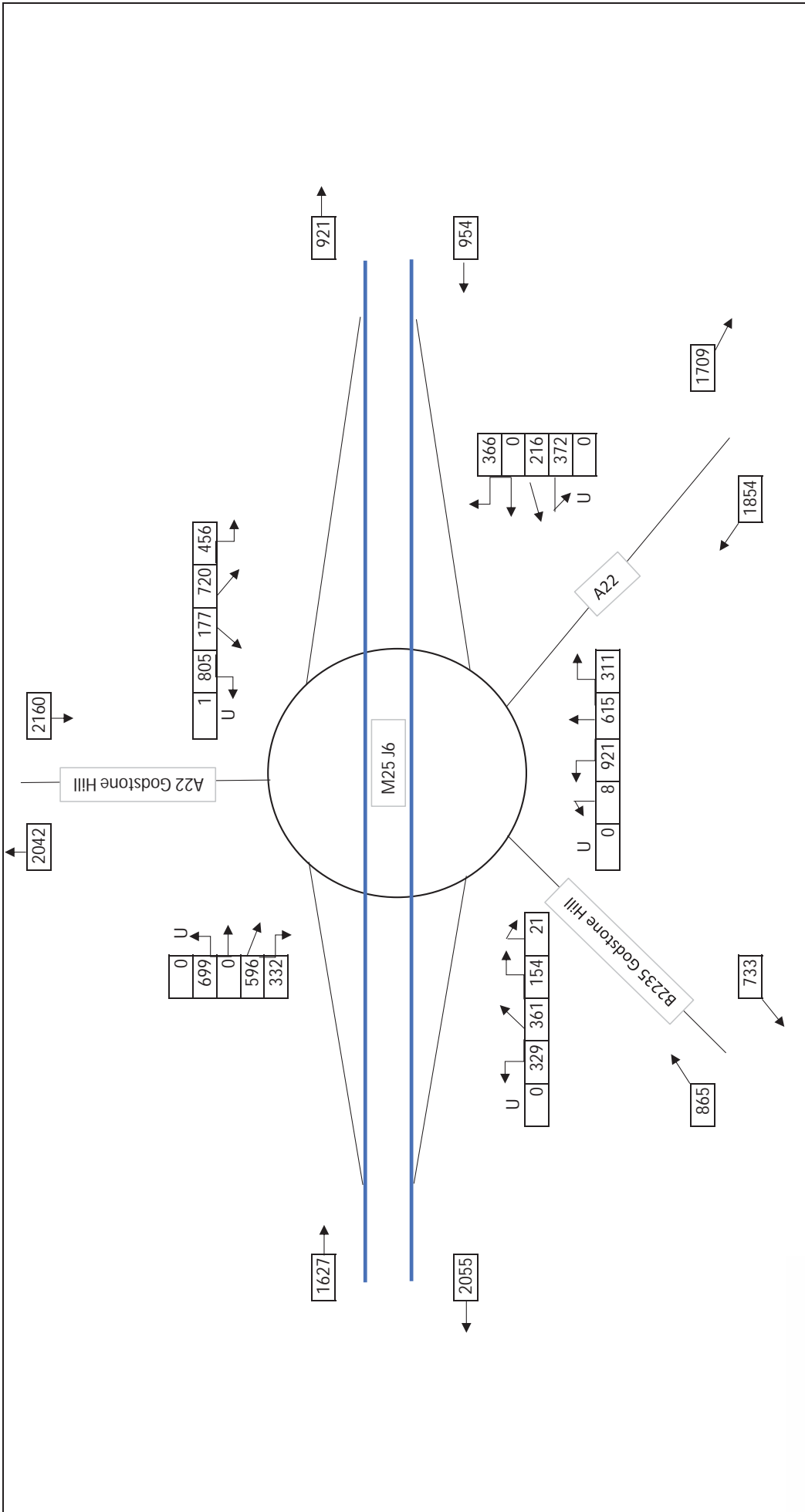
M25 JUNCTION 6

Scenario 2 - 2035

PM Peak

0-28





M25 JUNCTION 6

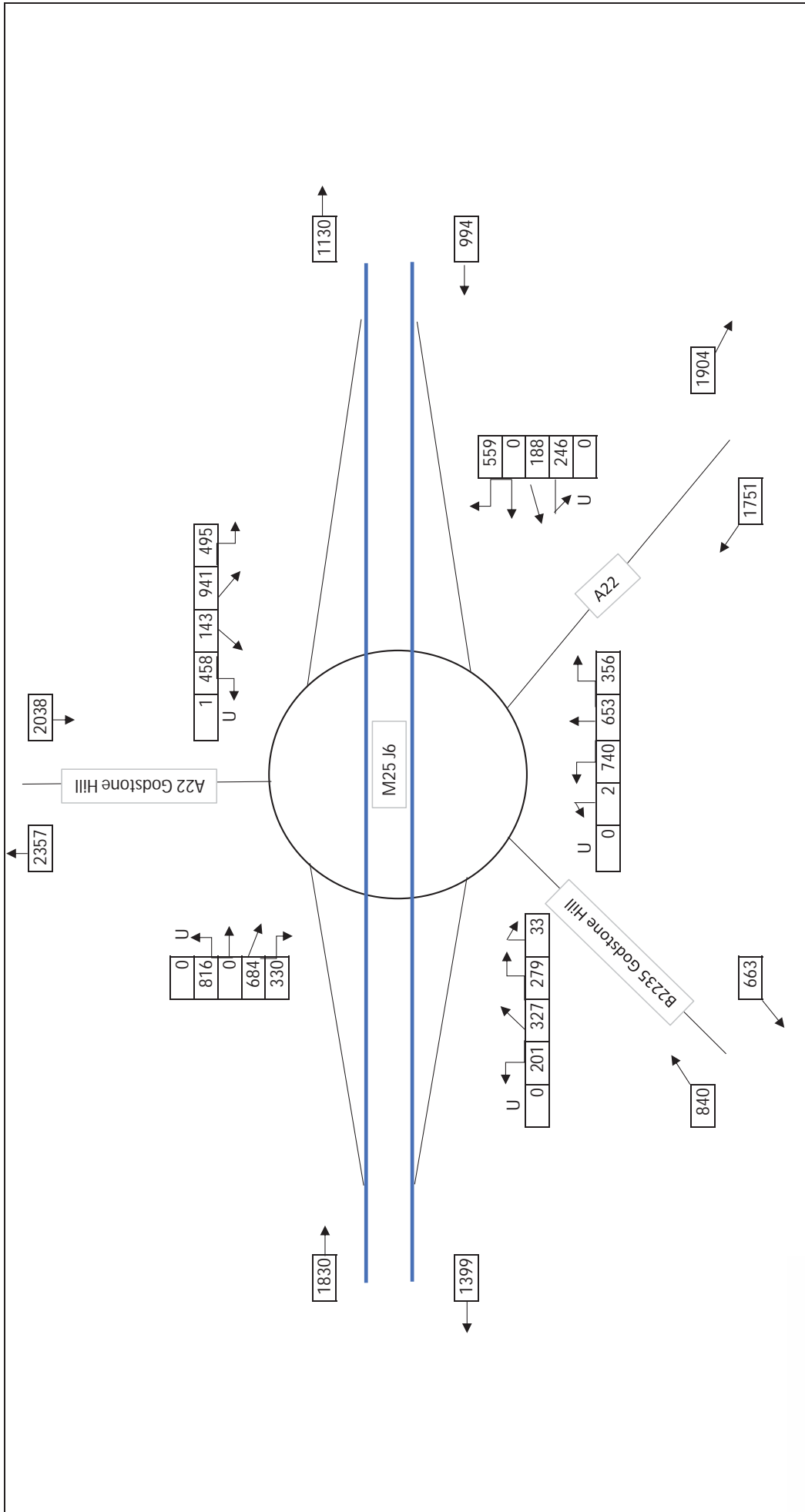
FIG

Scenario 2 - 2040

AM Peak

0-29





M25 JUNCTION 6

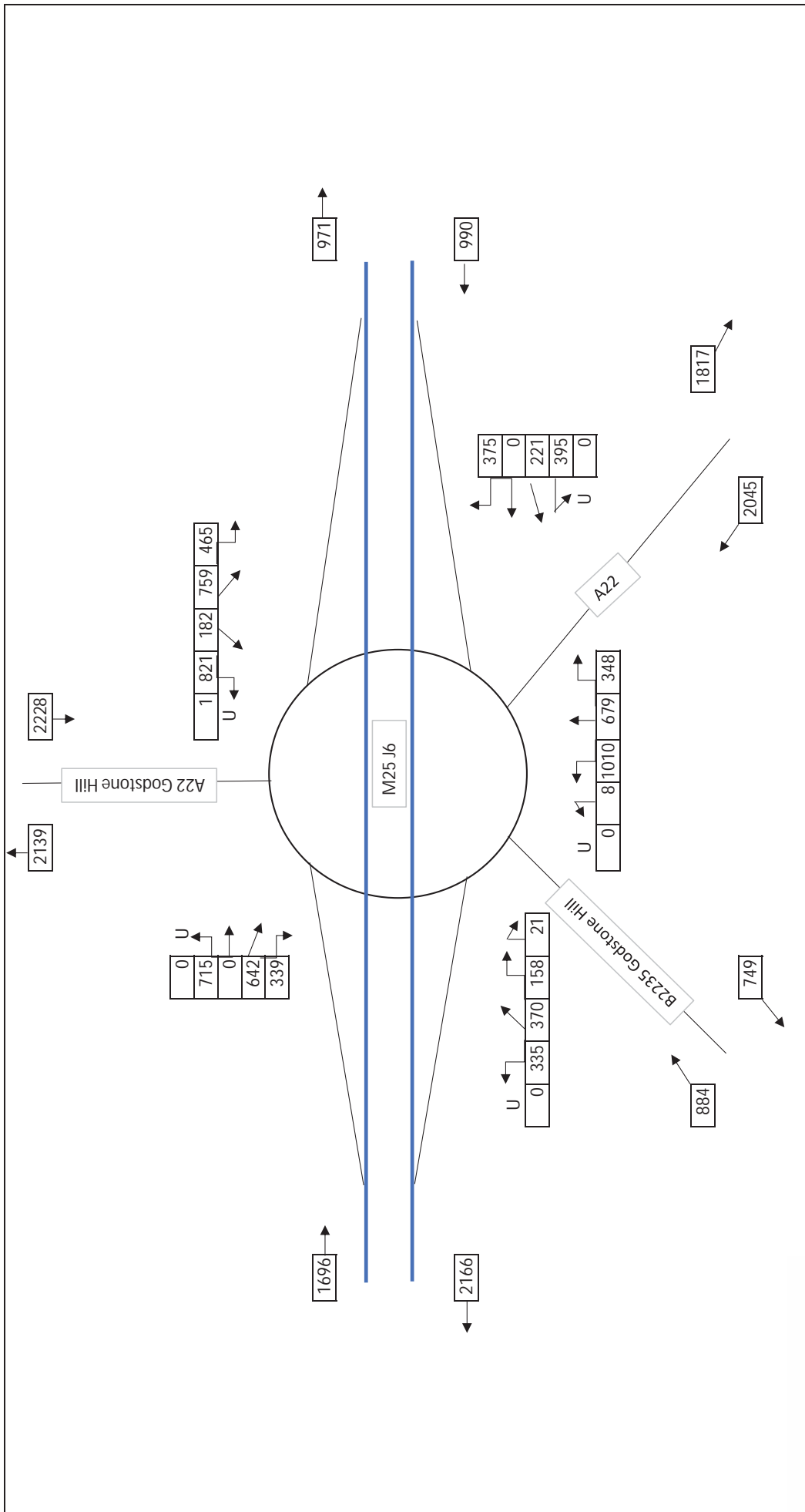
Scenario 2 - 2040

PM Peak

FIG

0-30





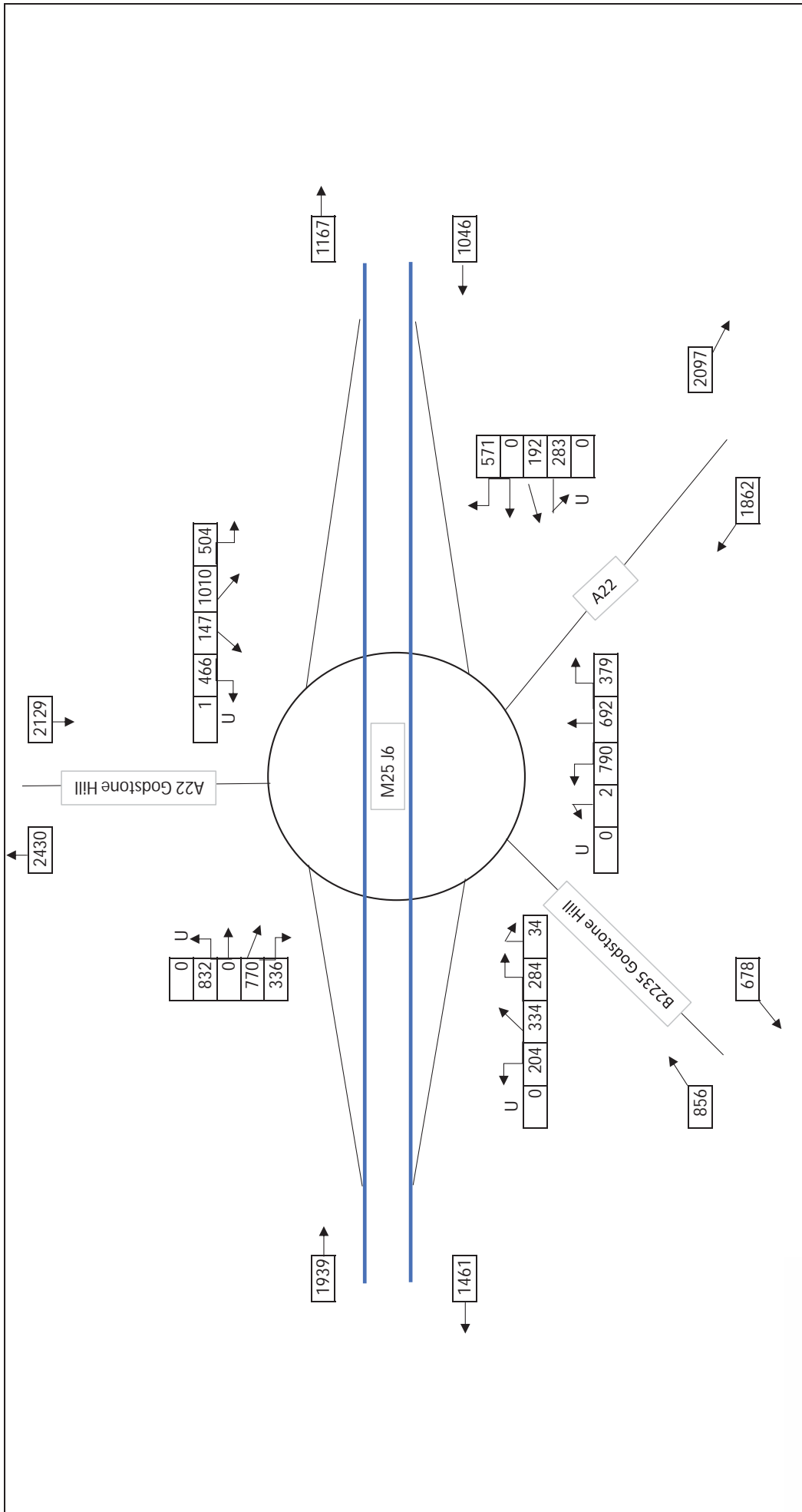
M25 JUNCTION 6

FIG

Scenario 2 - 2045  
AM Peak

0-31



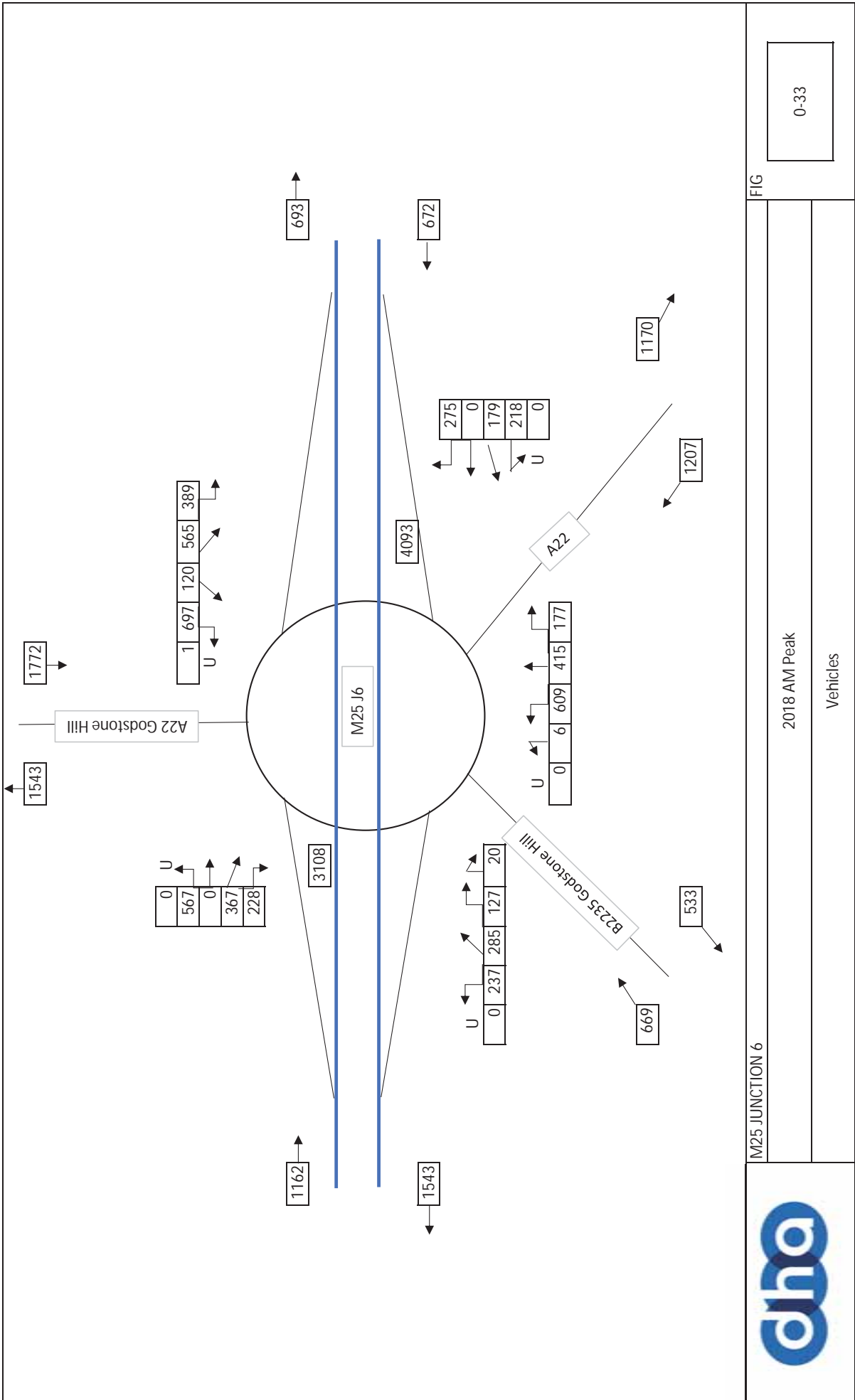


M25 JUNCTION 6

Scenario 2 - 2045  
PM Peak

0-32





FIG

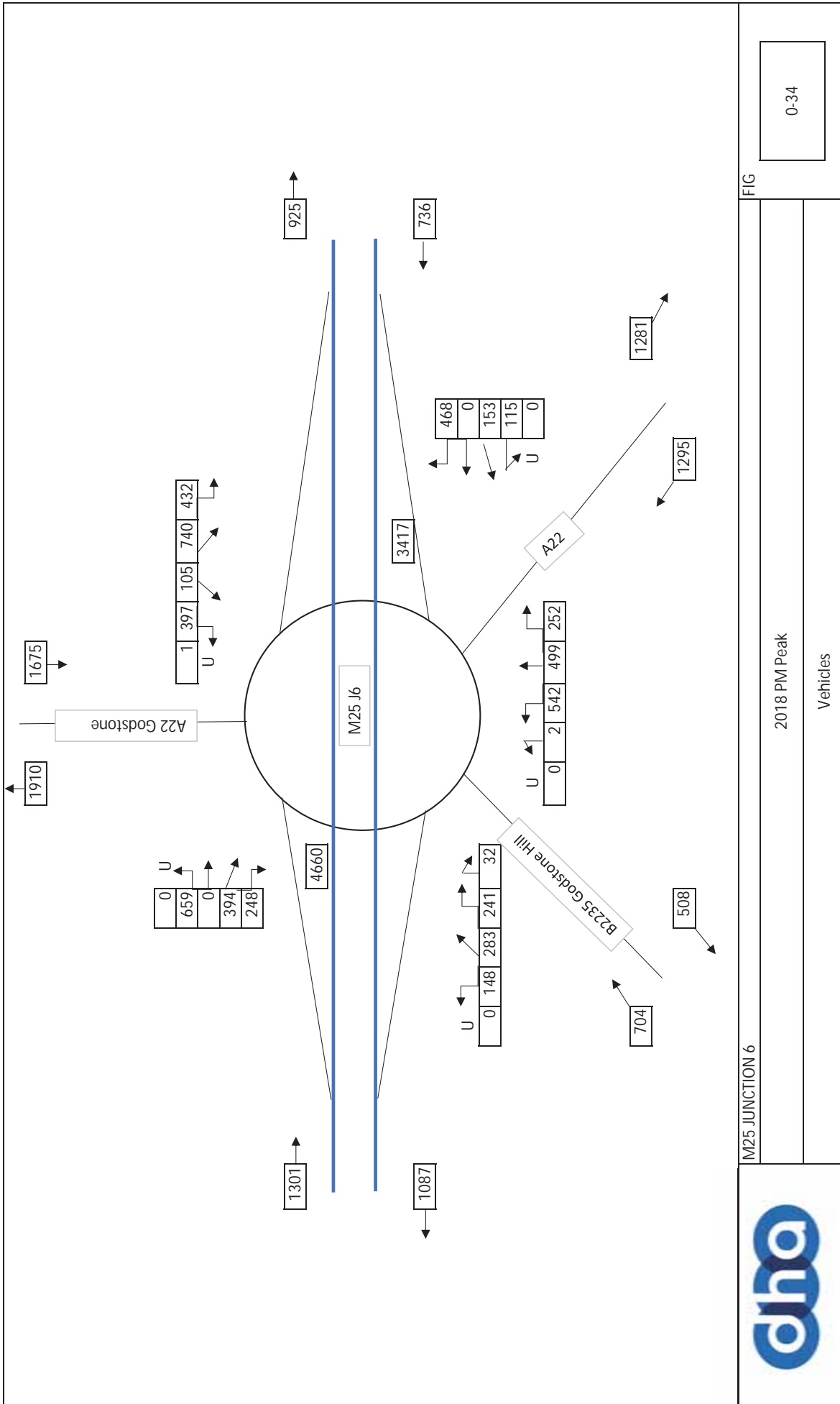
0-33

M25 JUNCTION 6

2018 AM Peak

Vehicles





M25 JUNCTION 6

2018 PM Peak

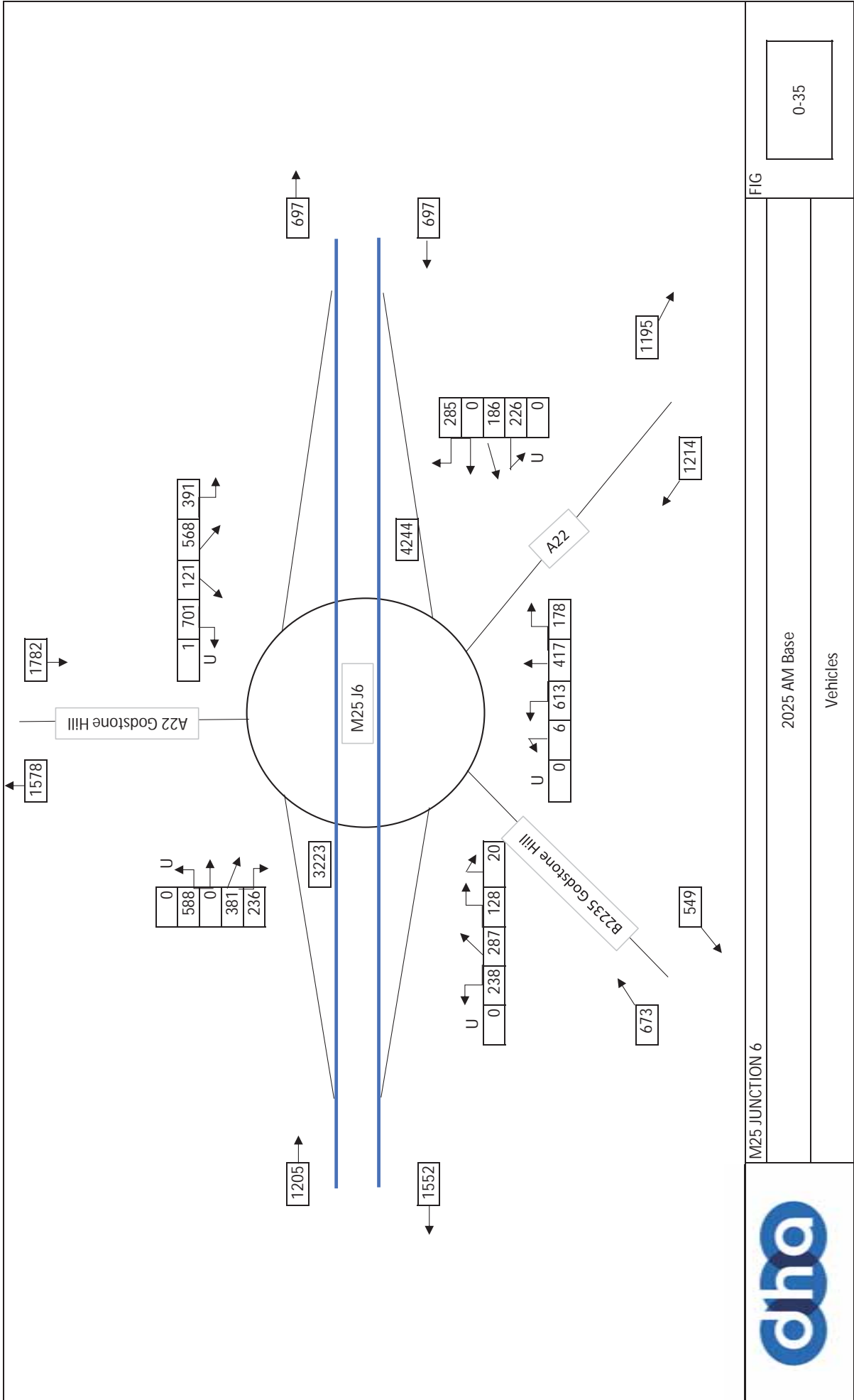
Vehicles

FIG

0-34







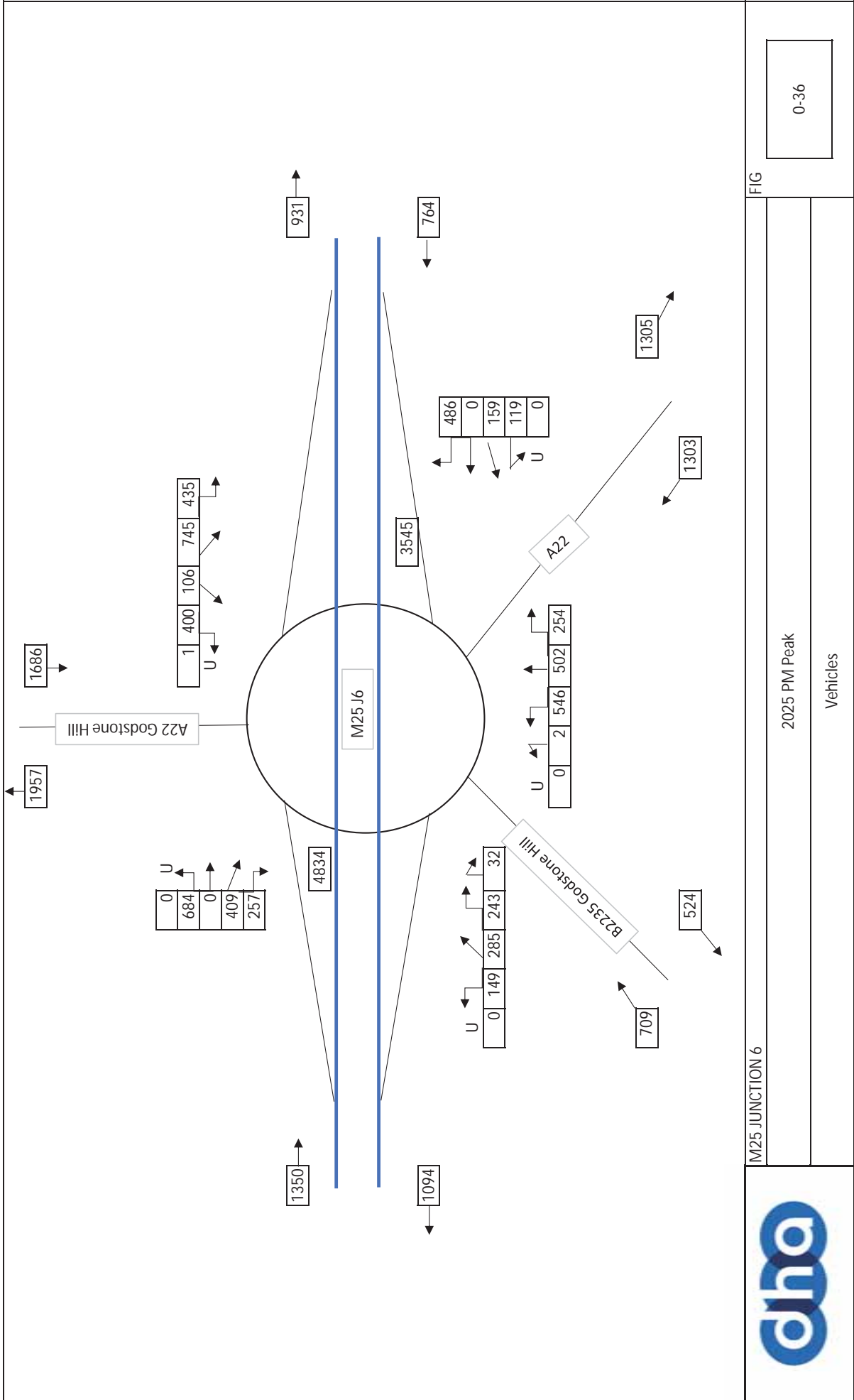
M25 JUNCTION 6

FIG

2025 AM Base  
Vehicles

0-35





FIG

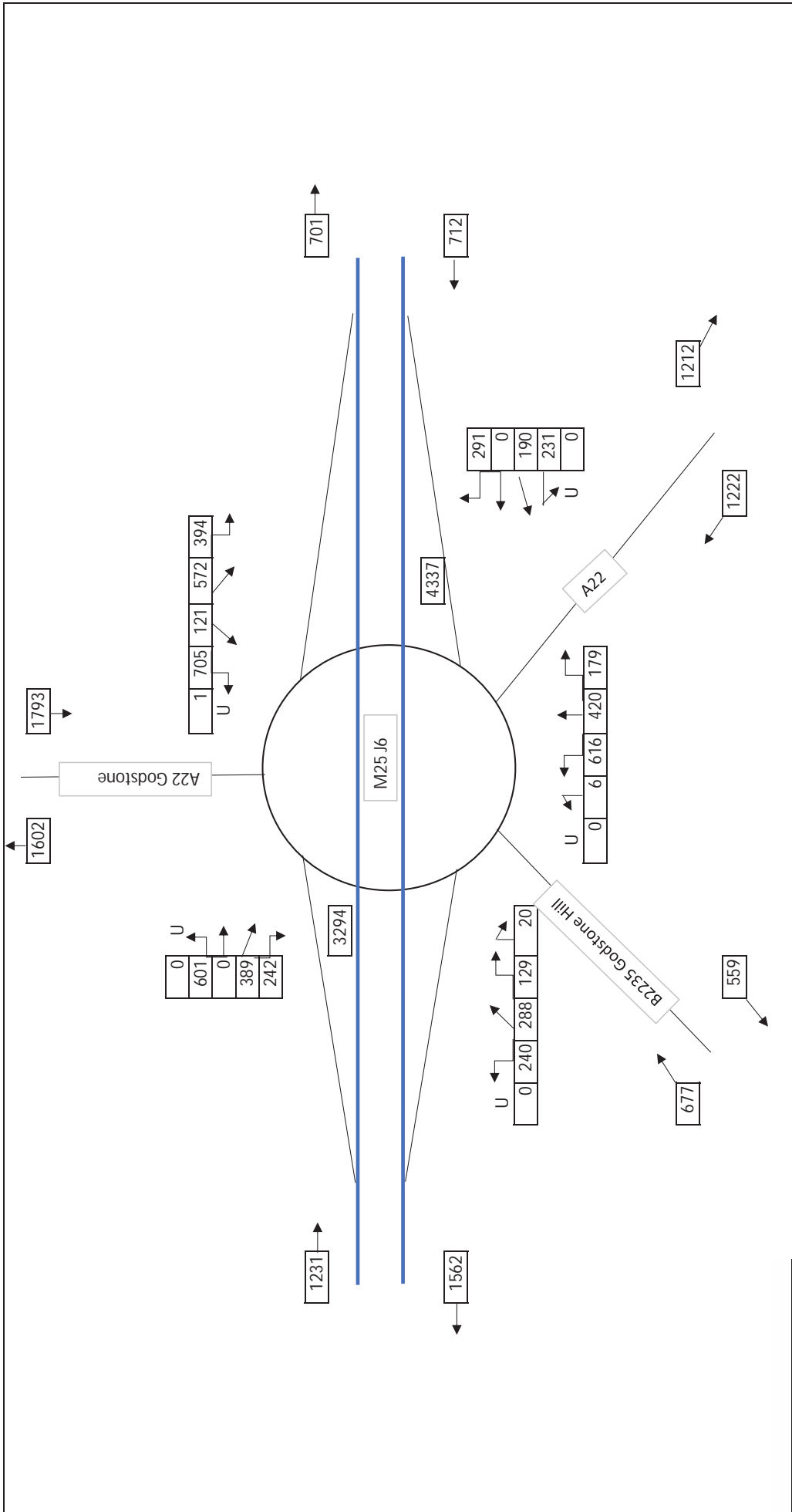
M25 JUNCTION 6

2025 PM Peak

Vehicles

0-36





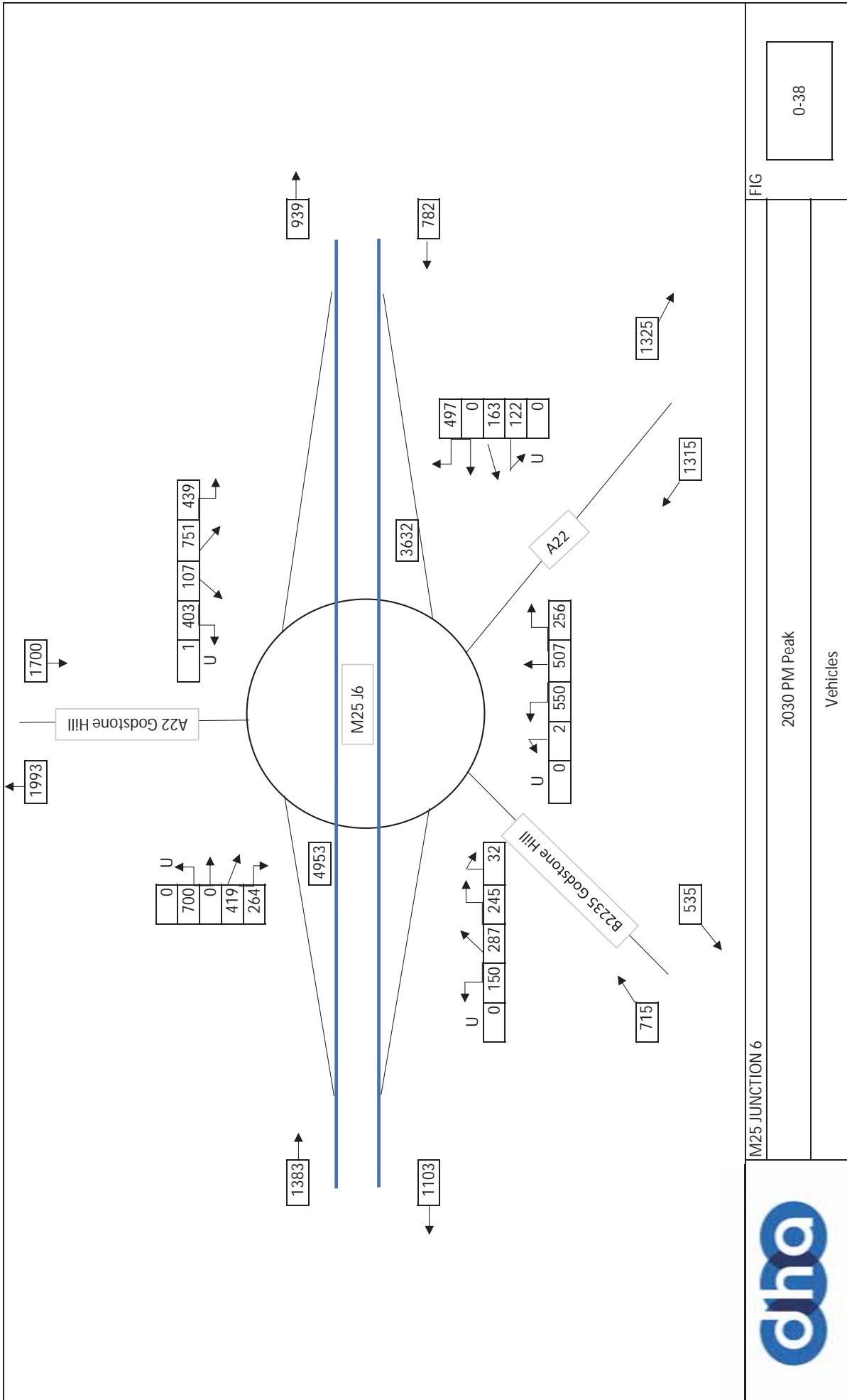
FIG

M25 JUNCTION 6  
2030 AM Peak

Vehicles

0-37





FIG

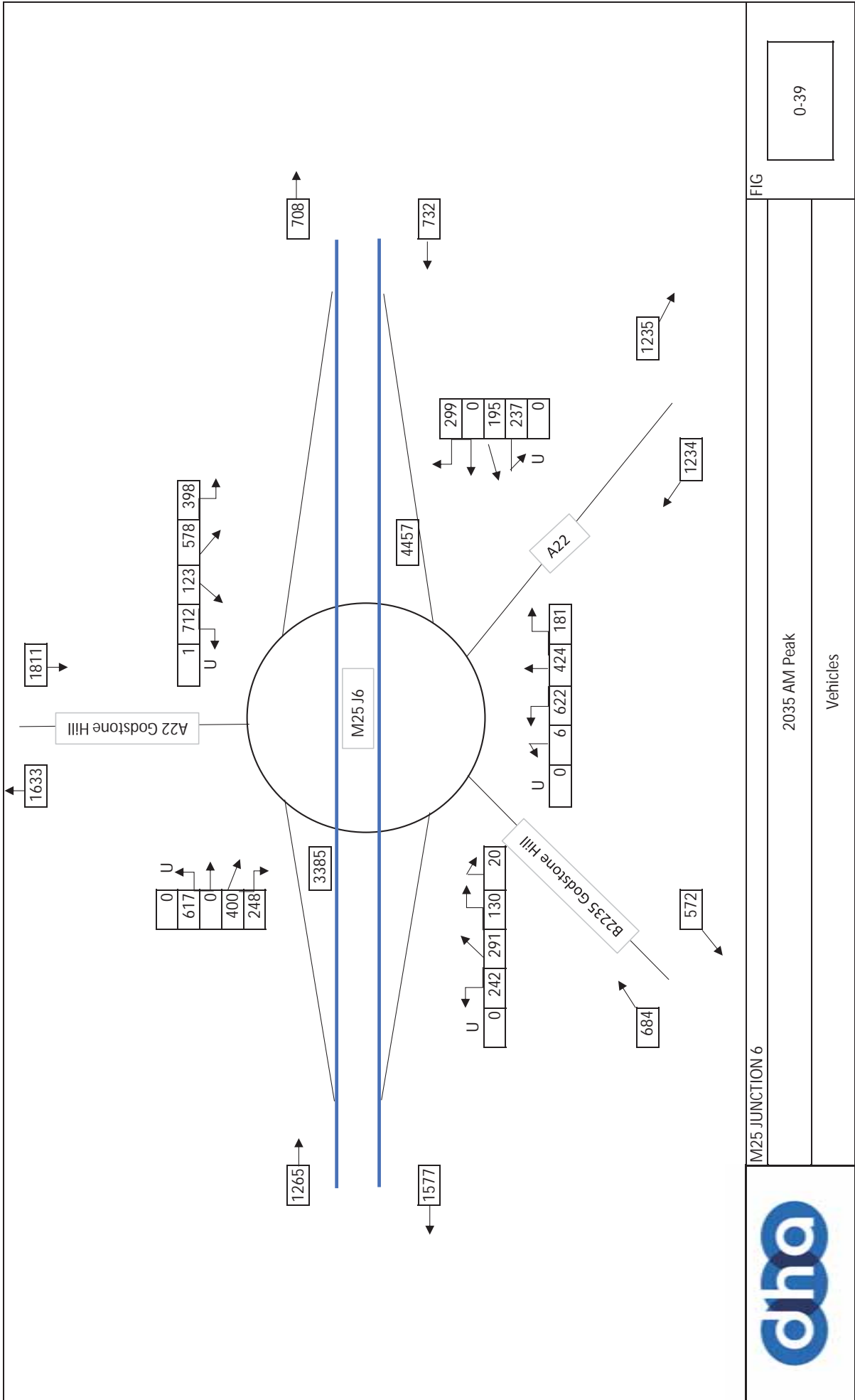
M25 JUNCTION 6

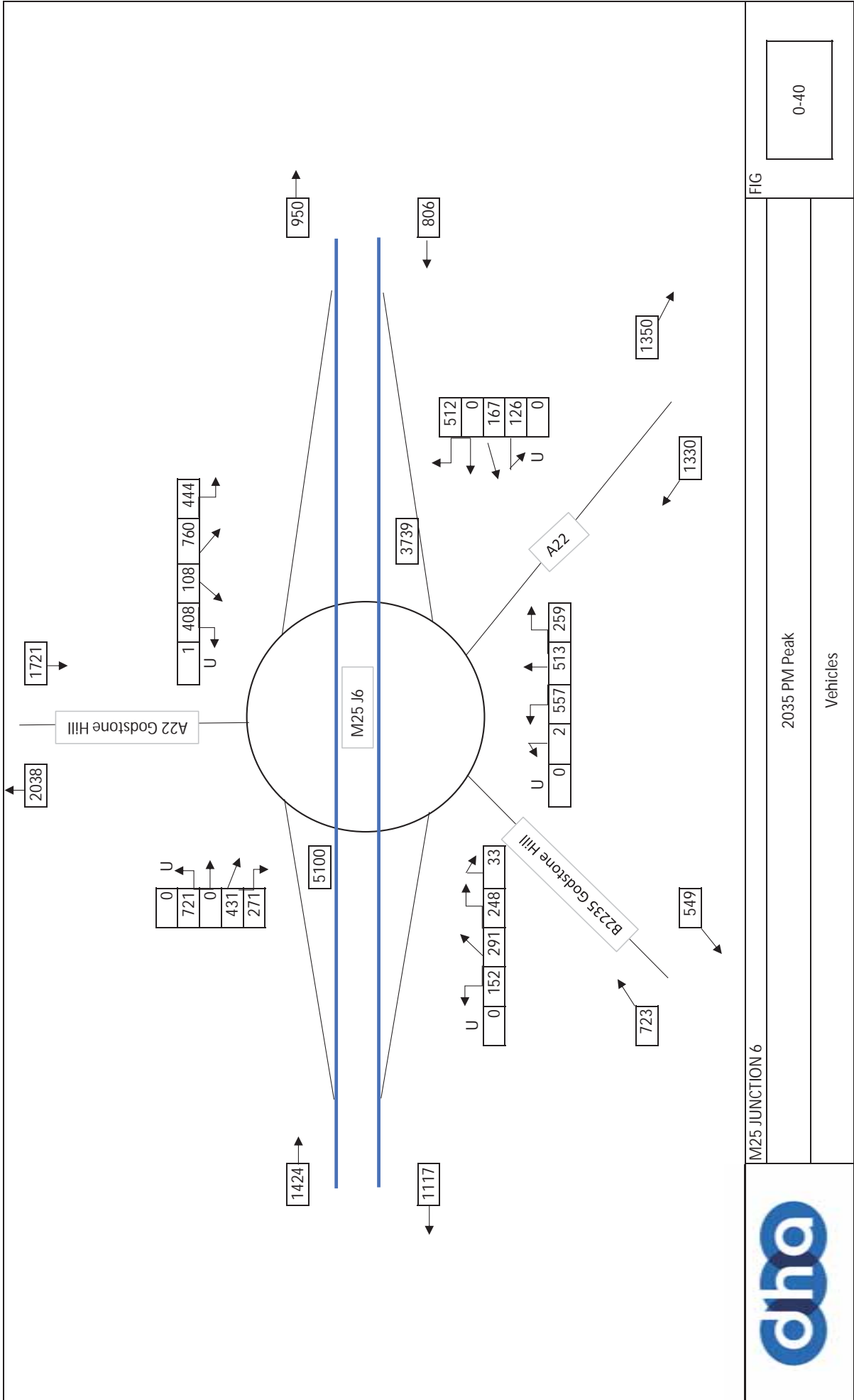
0-38

2030 PM Peak

Vehicles







M25 JUNCTION 6

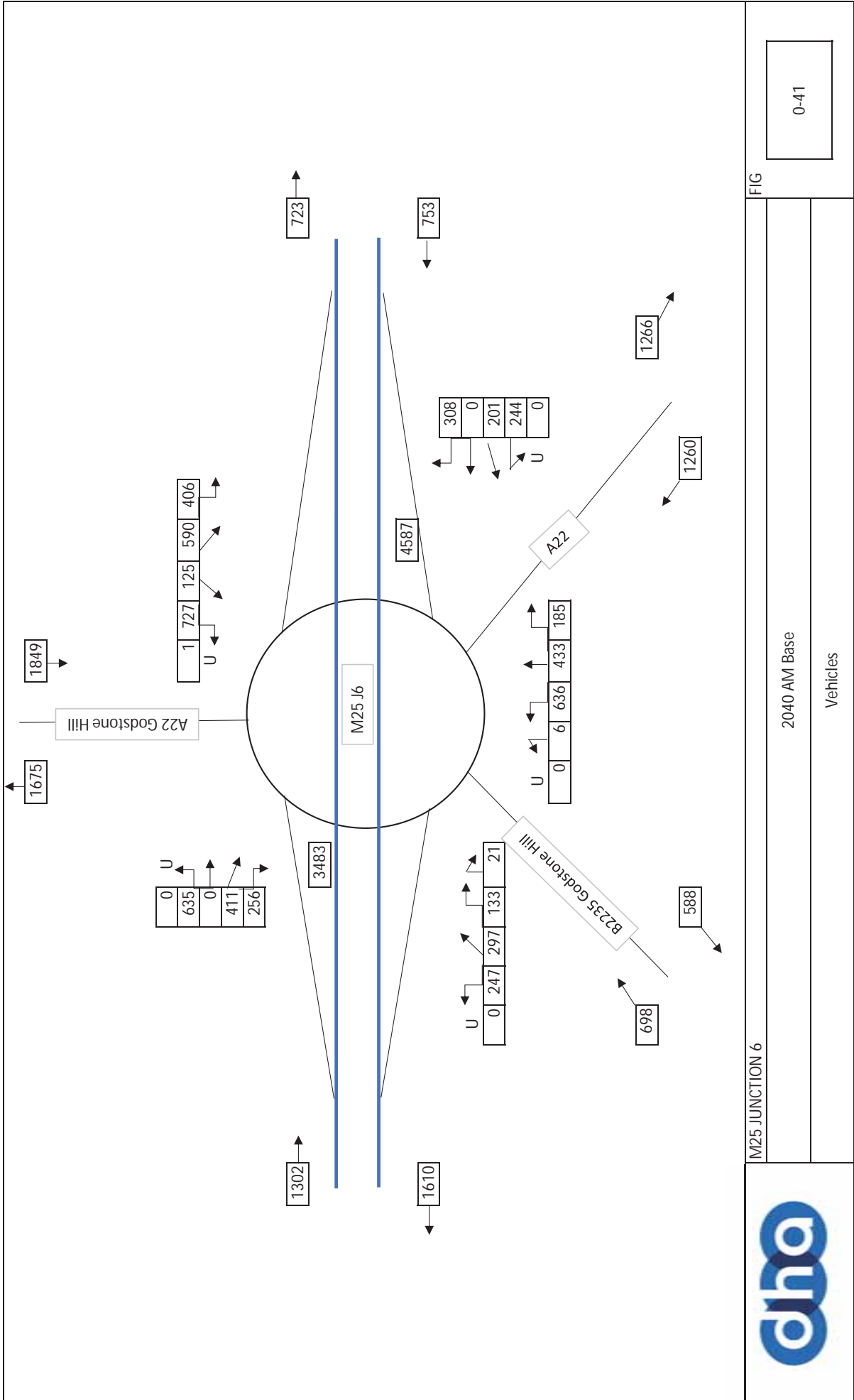
FIG

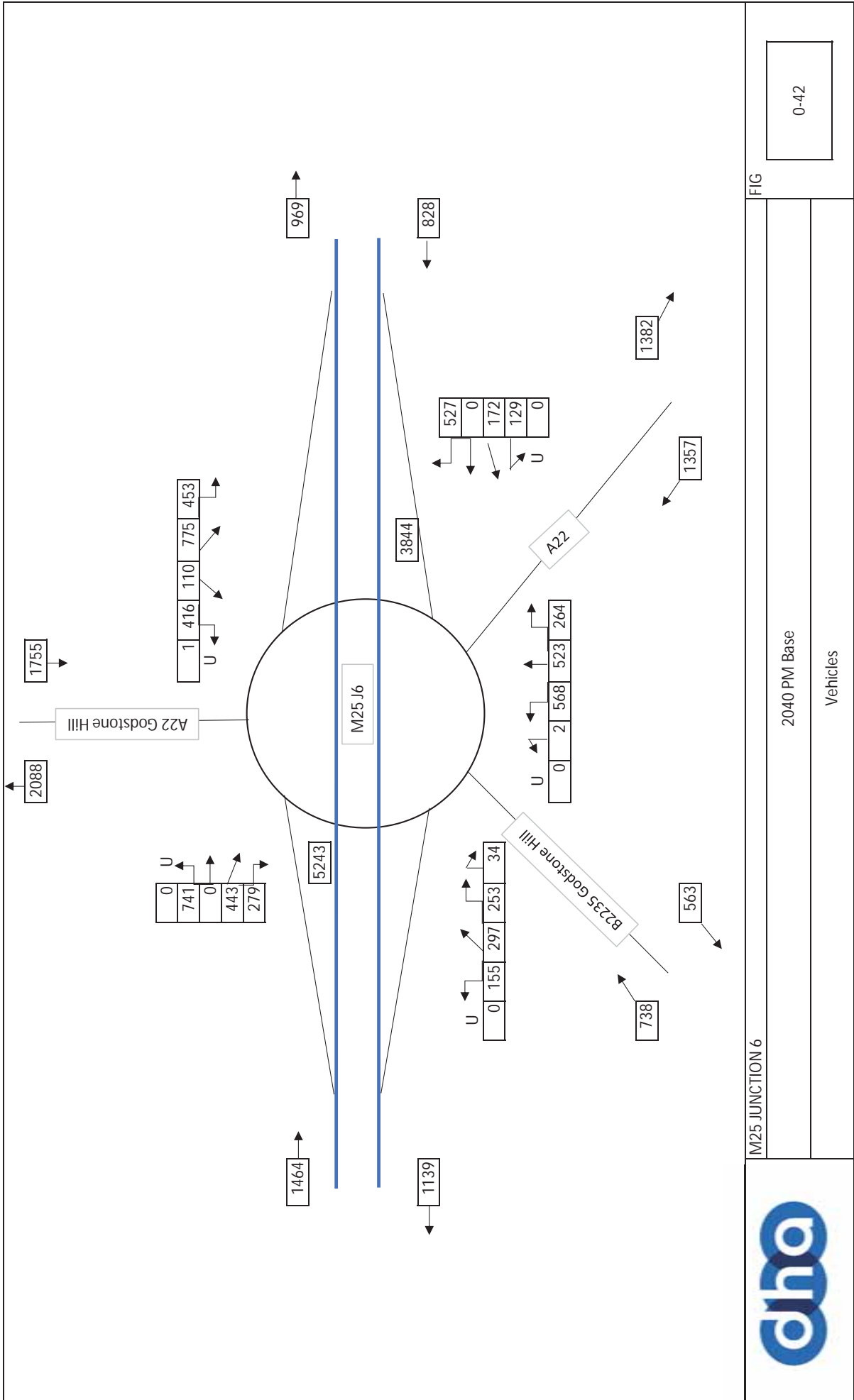
2035 PM Peak

Vehicles

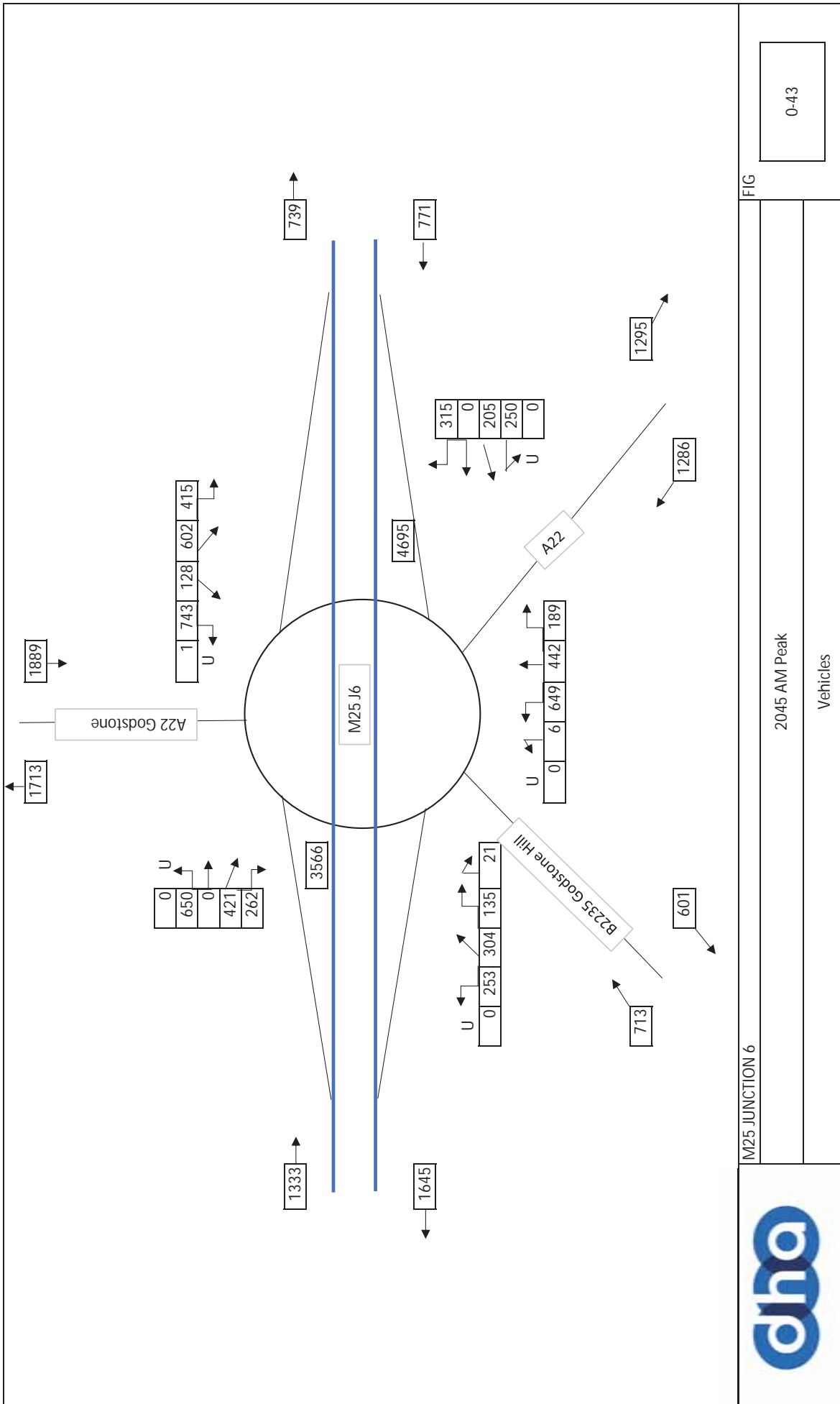
0-40

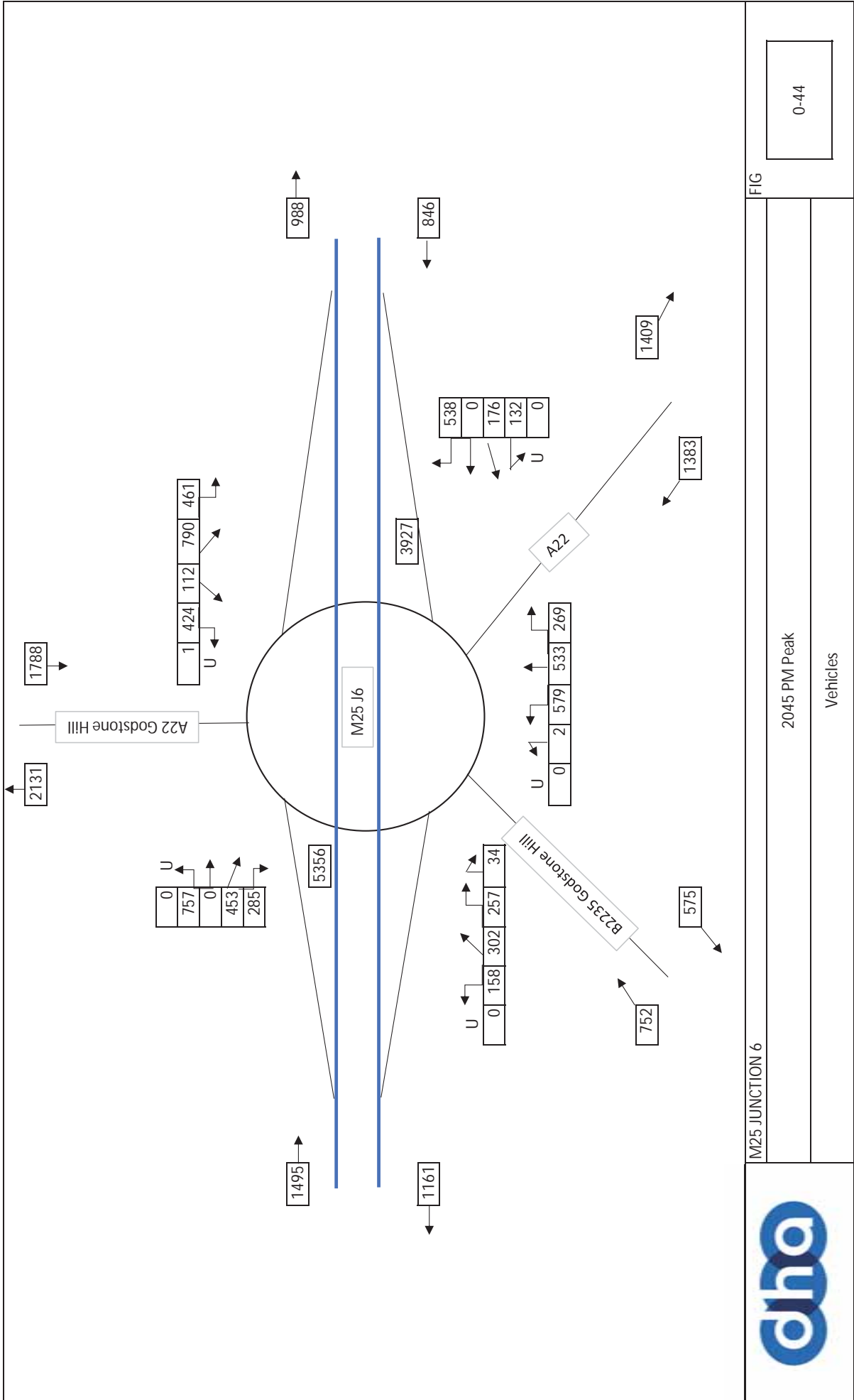


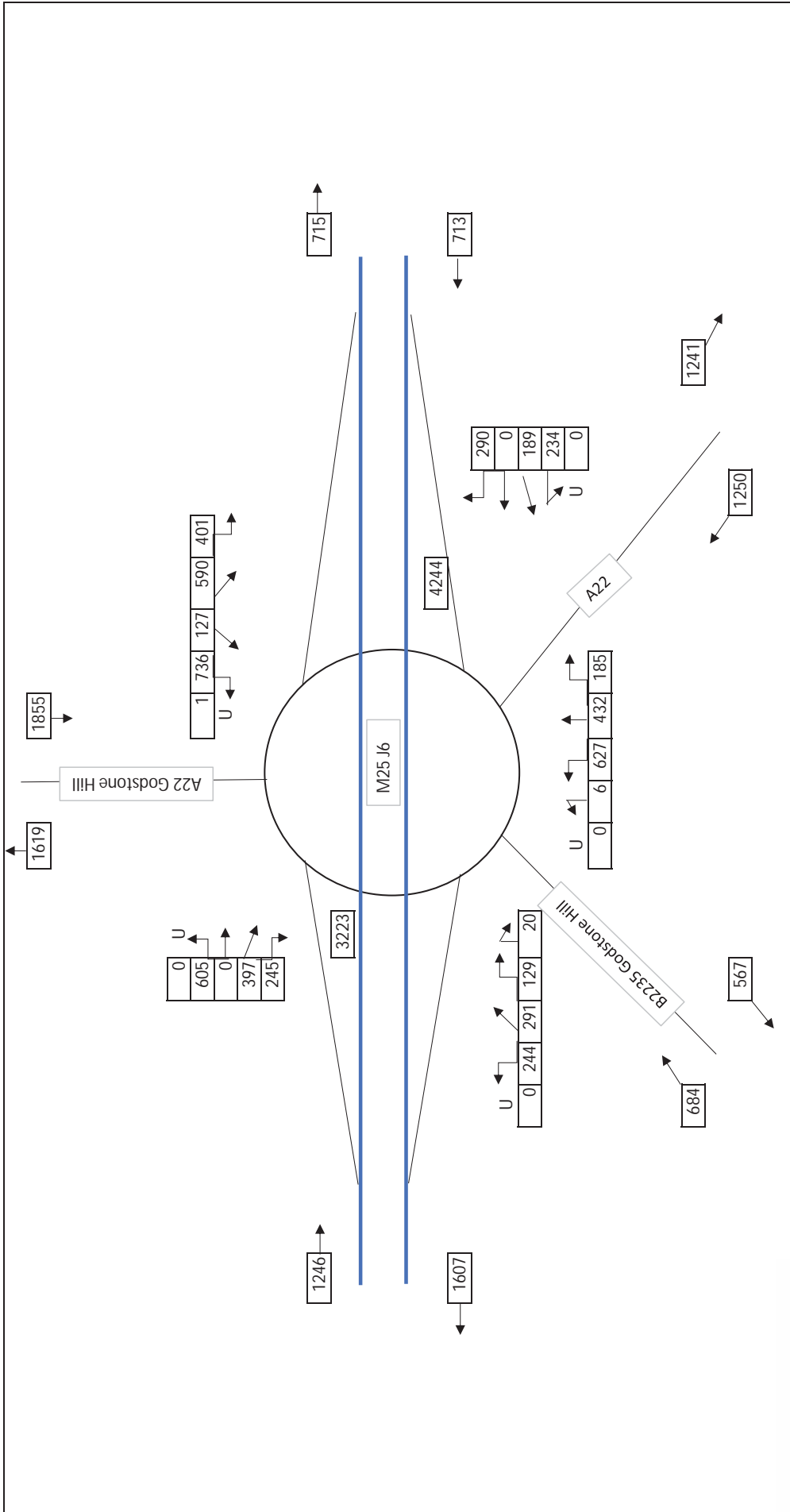












M25 JUNCTION 6

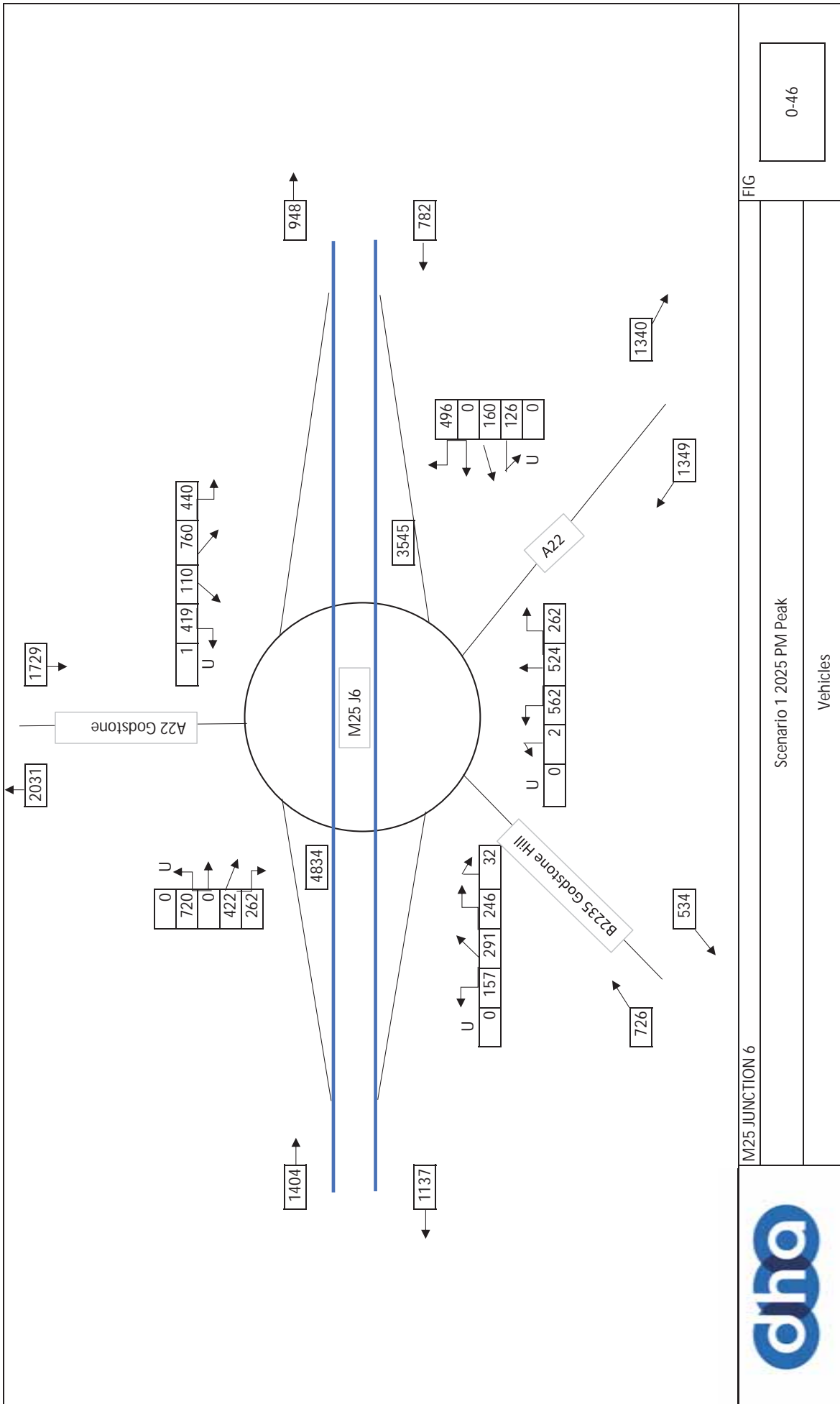
Scenario 1 2025 AM Peak

Vehicles

FIG

0-45





M25 JUNCTION 6

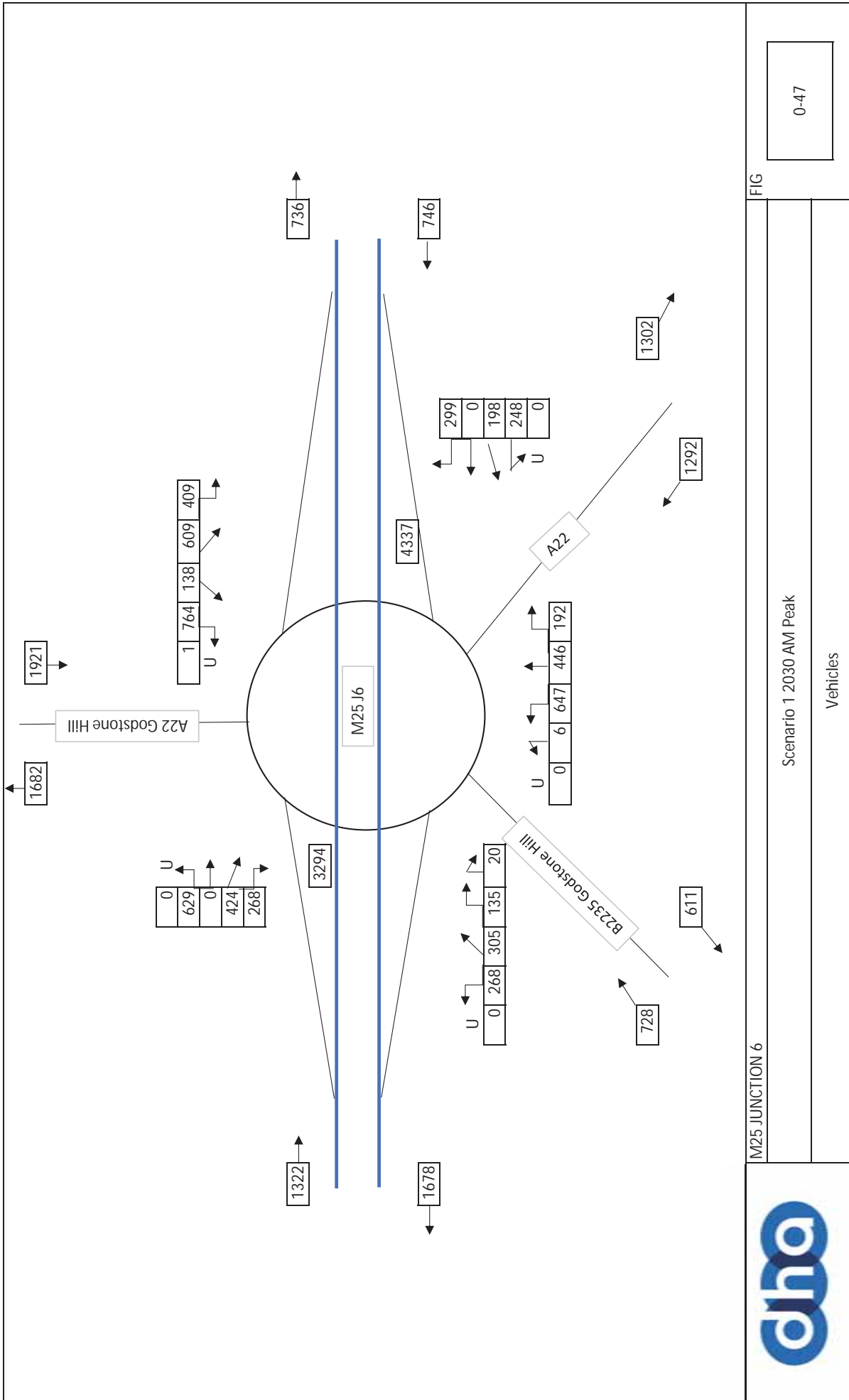
Scenario 1 2025 PM Peak

Vehicles

FIG

0-46





FIG

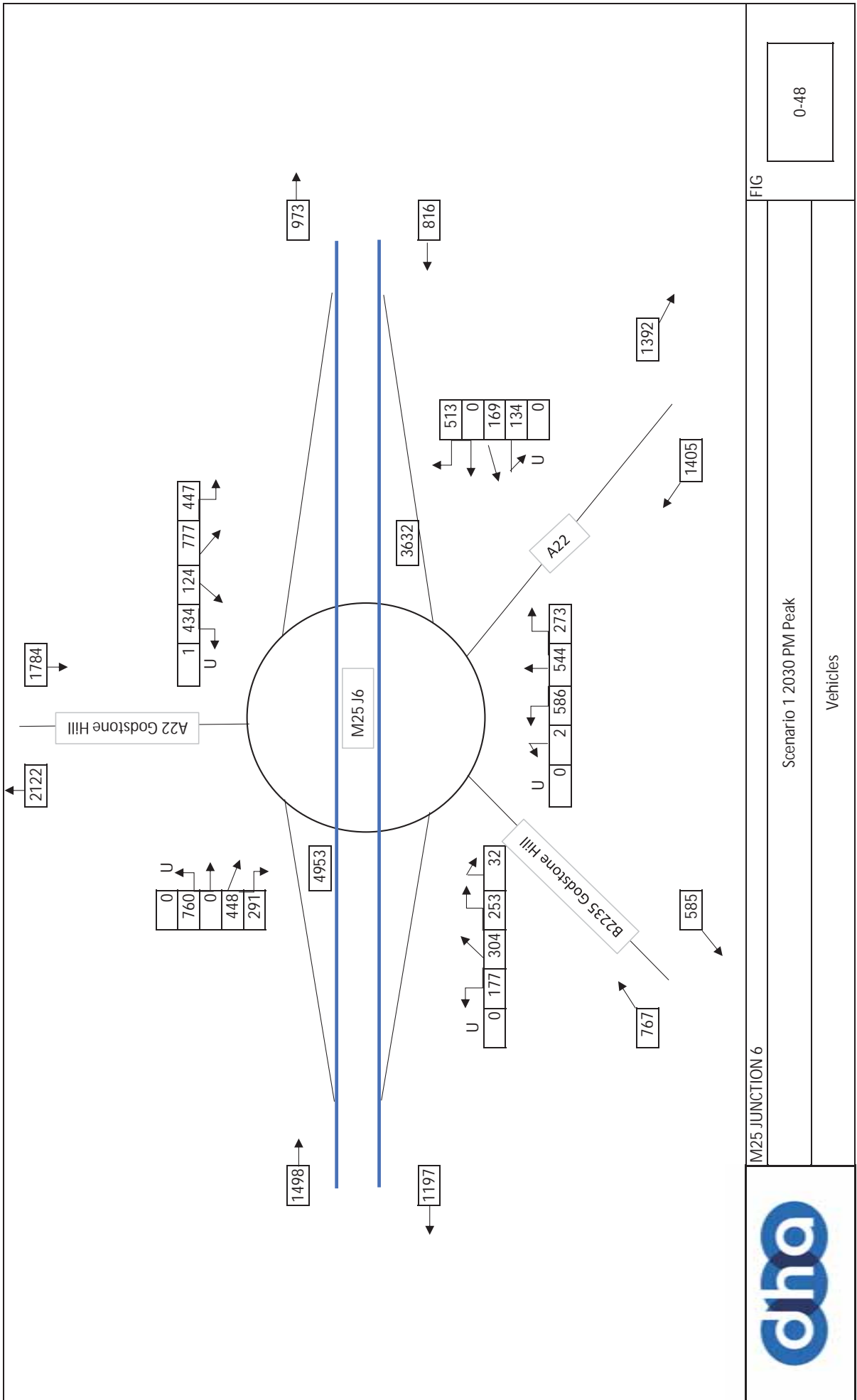
M25 JUNCTION 6

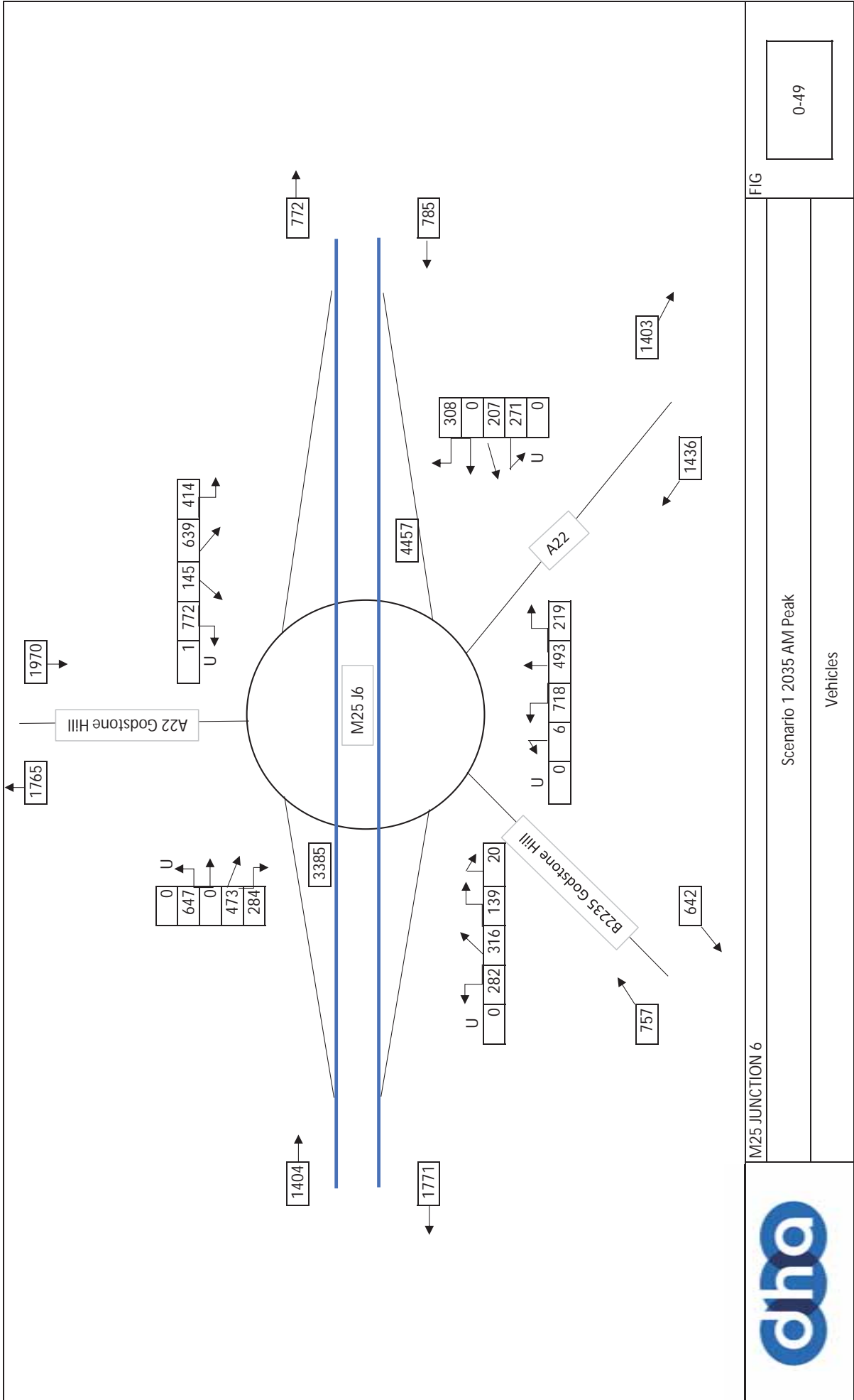
Scenario 1 2030 AM Peak

Vehicles



0-47





FIG

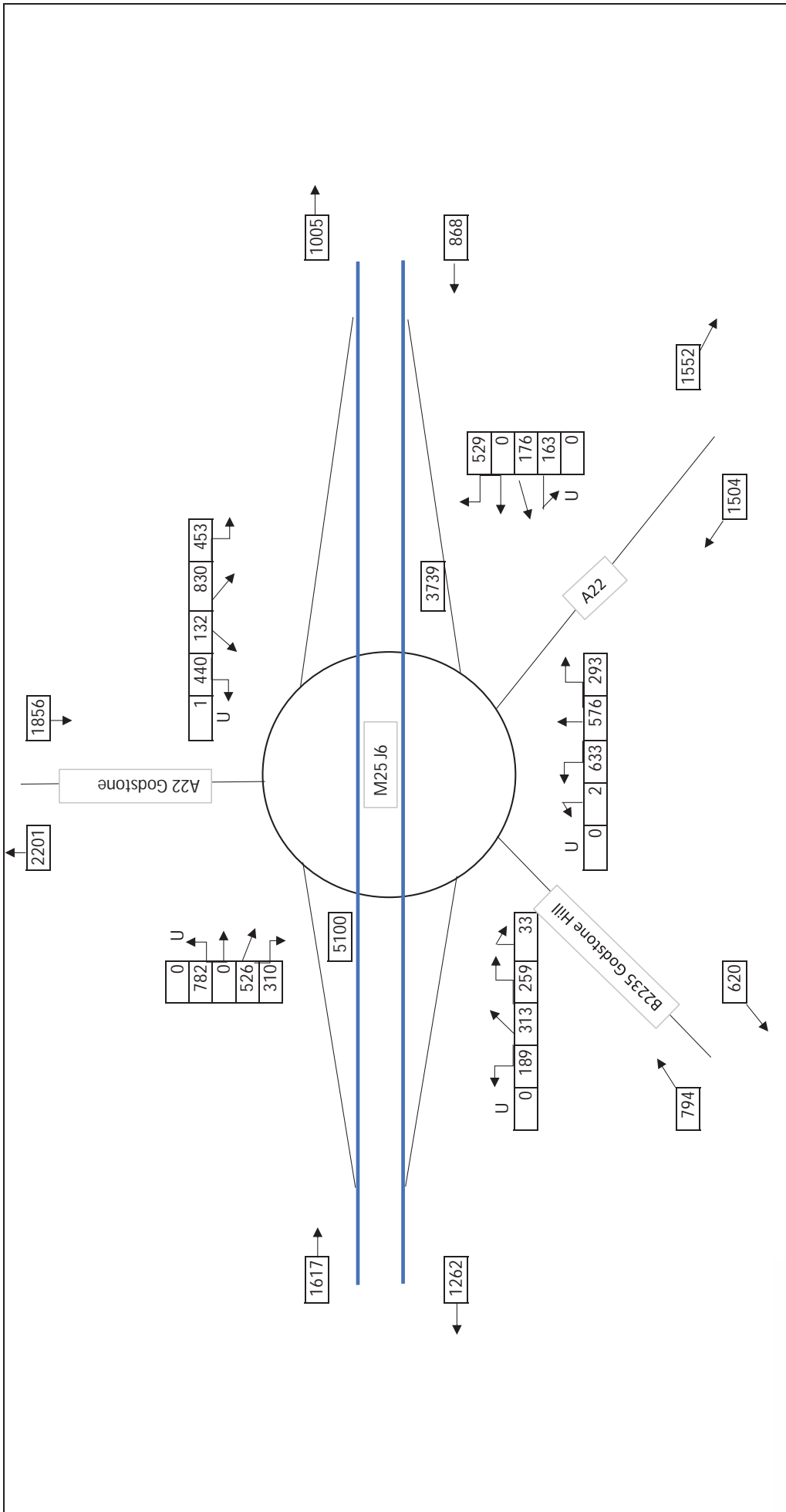
M25 JUNCTION 6

Scenario 1 2035 AM Peak

Vehicles



0-49



FIG

0-50

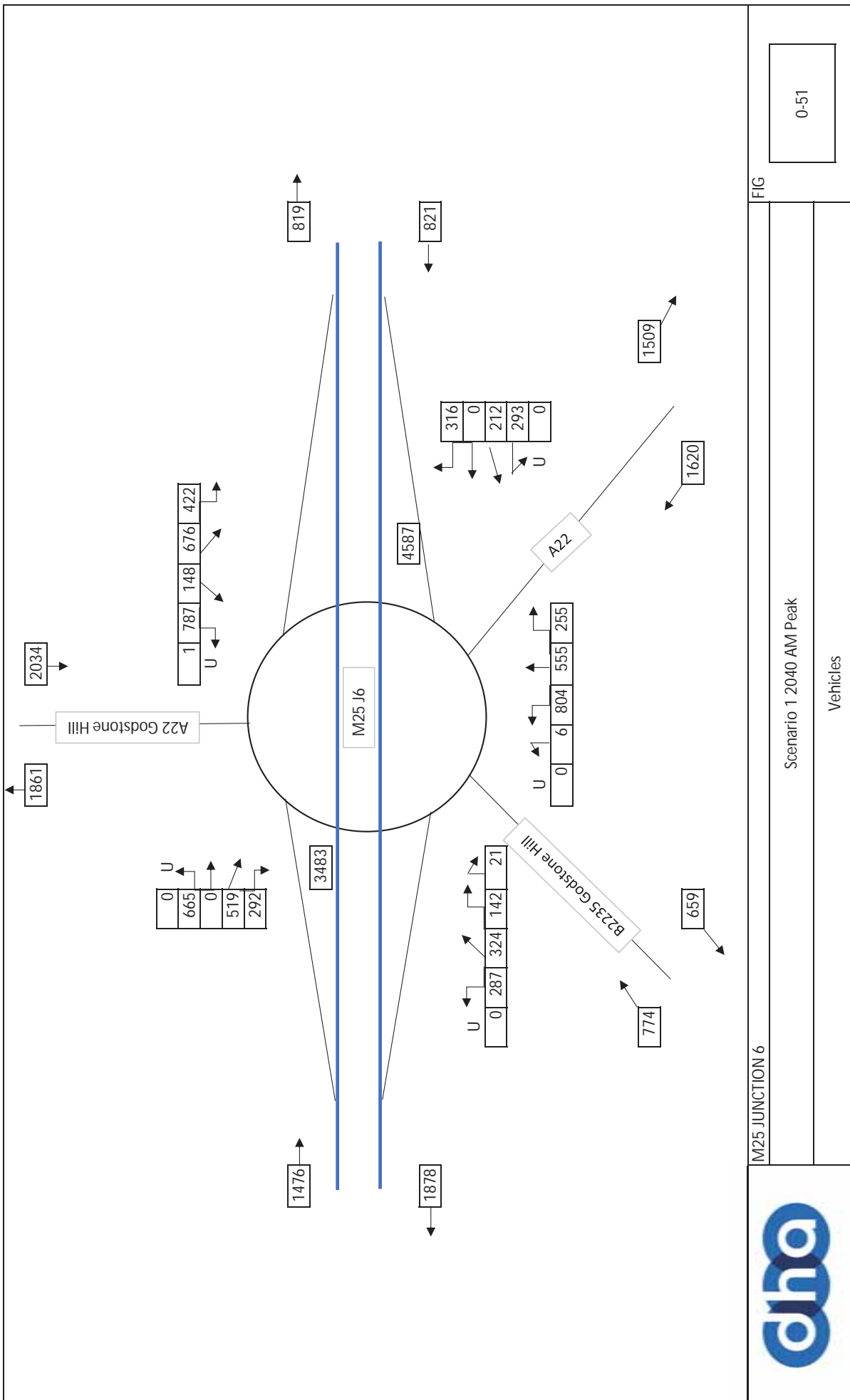
M25 JUNCTION 6

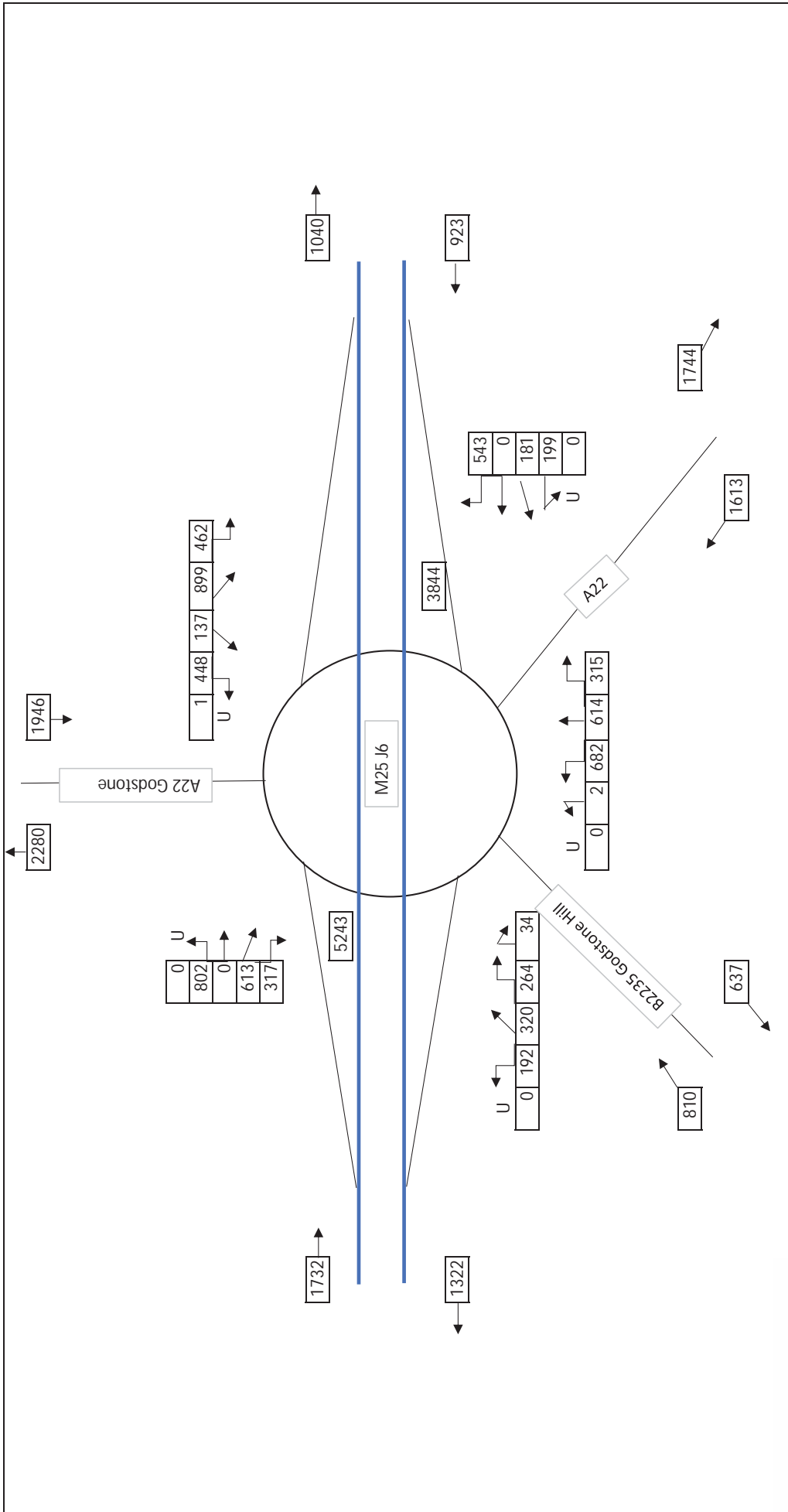
Scenario 1 2035 PM Peak

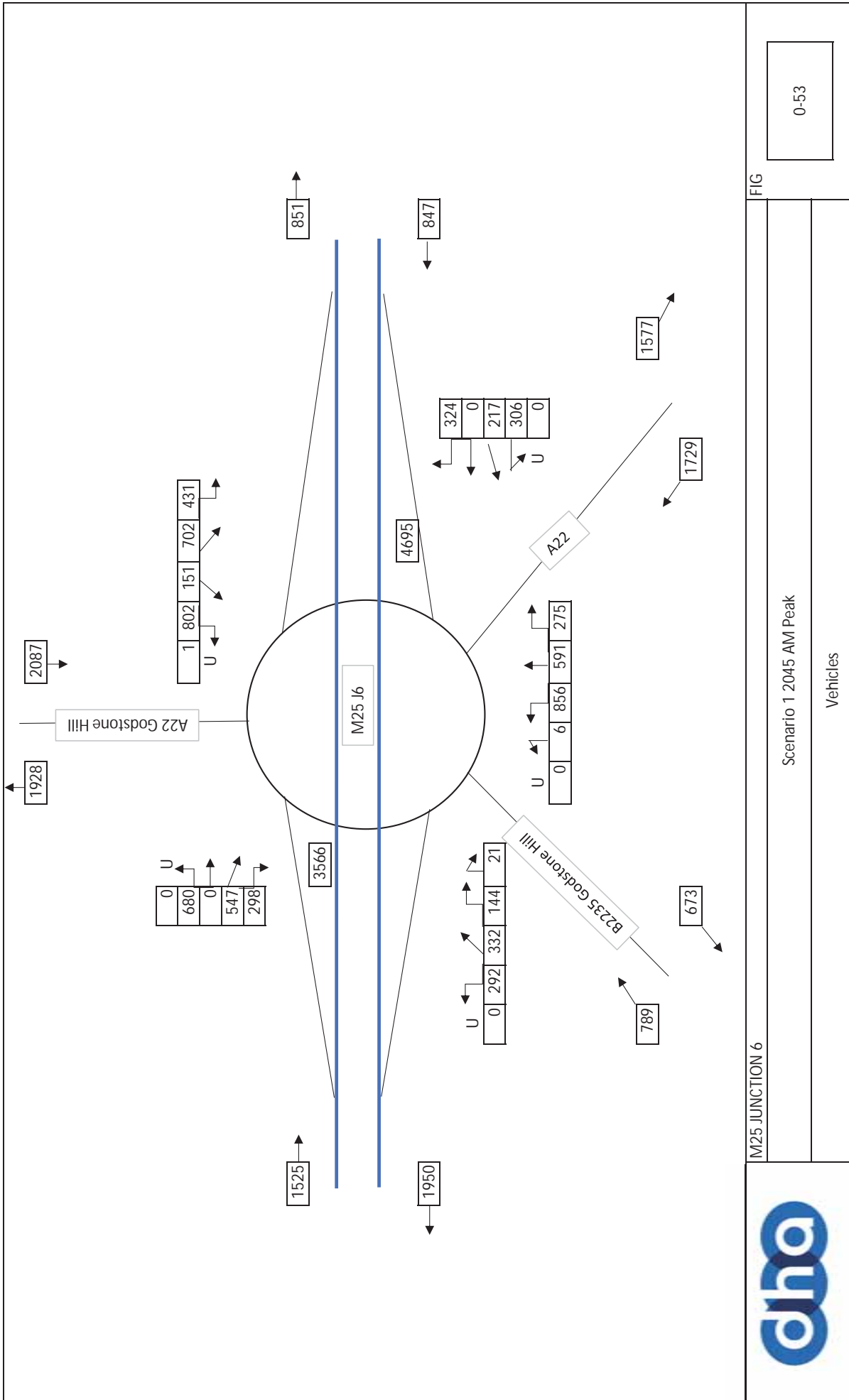
Vehicles

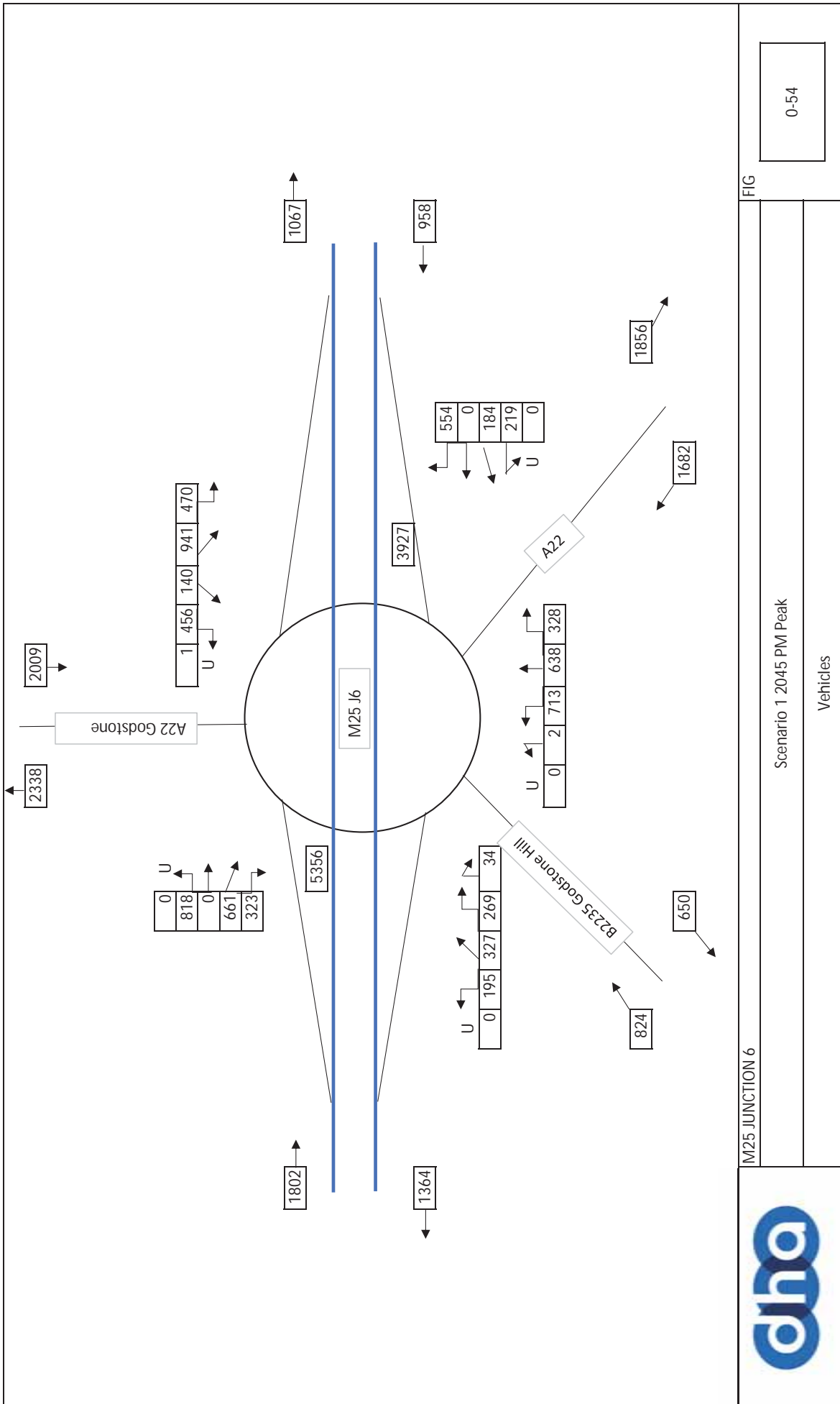


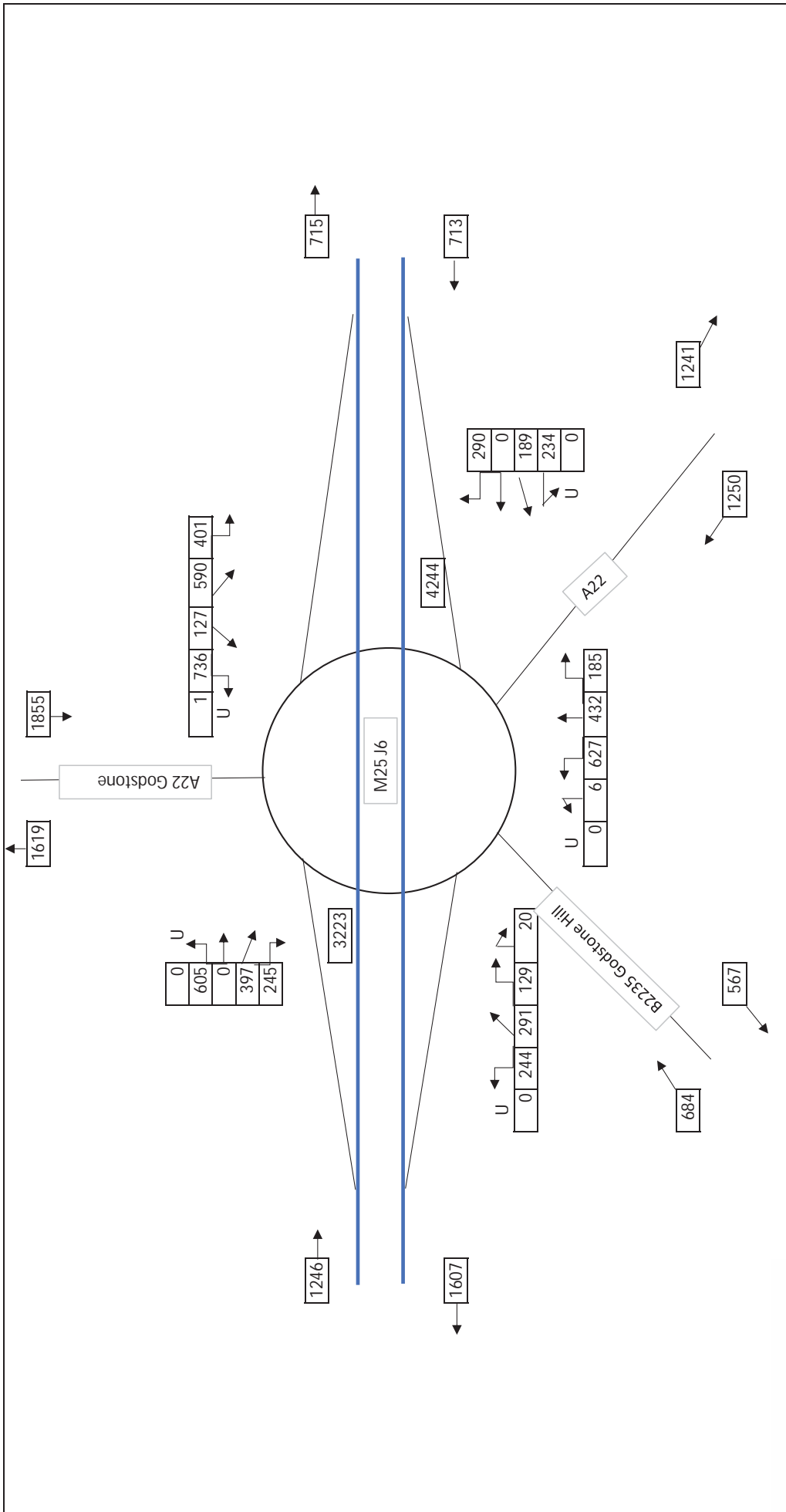












M25 JUNCTION 6

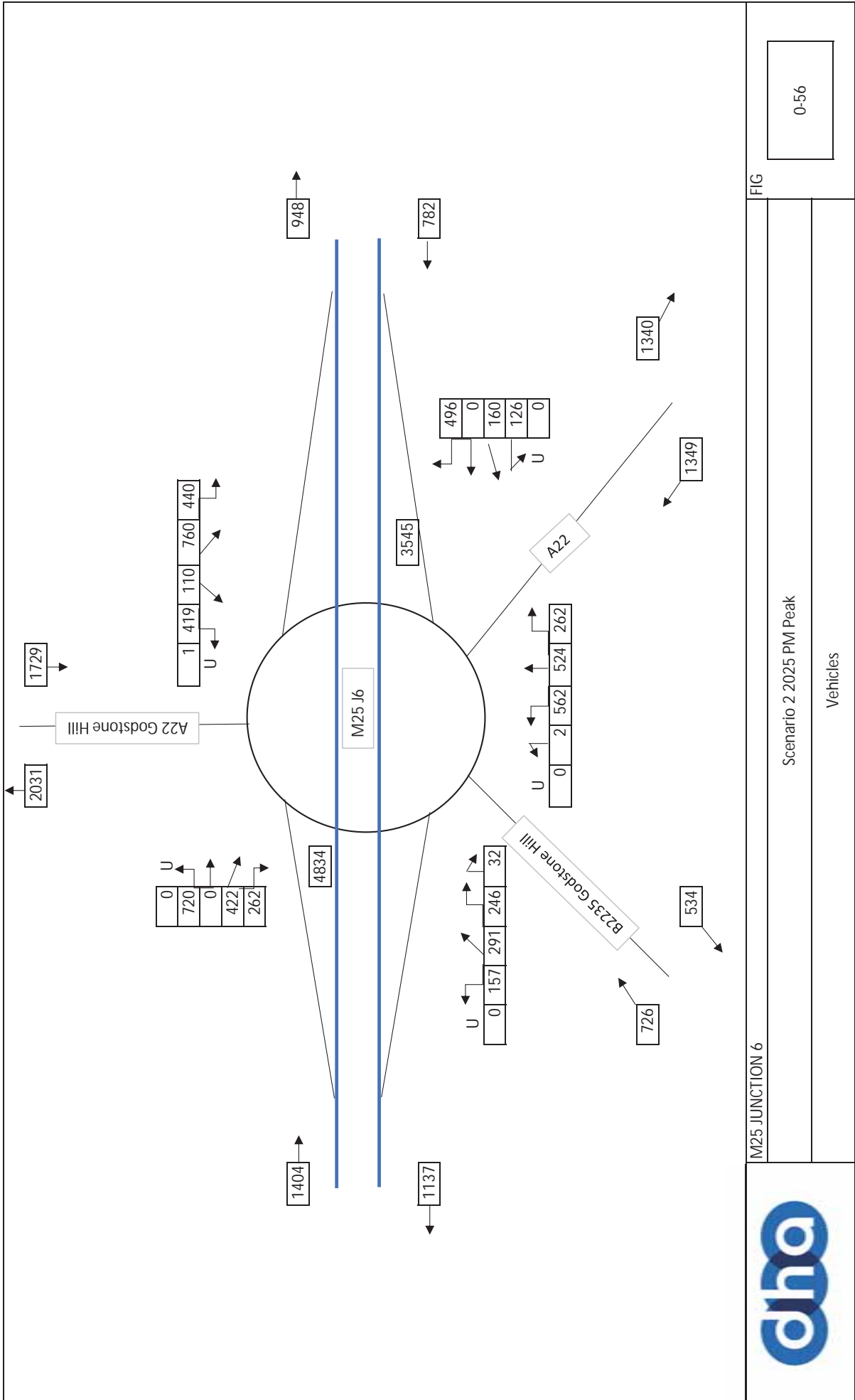
Scenario 2 2025 AM Peak

Vehicles

FIG

0-55





FIG

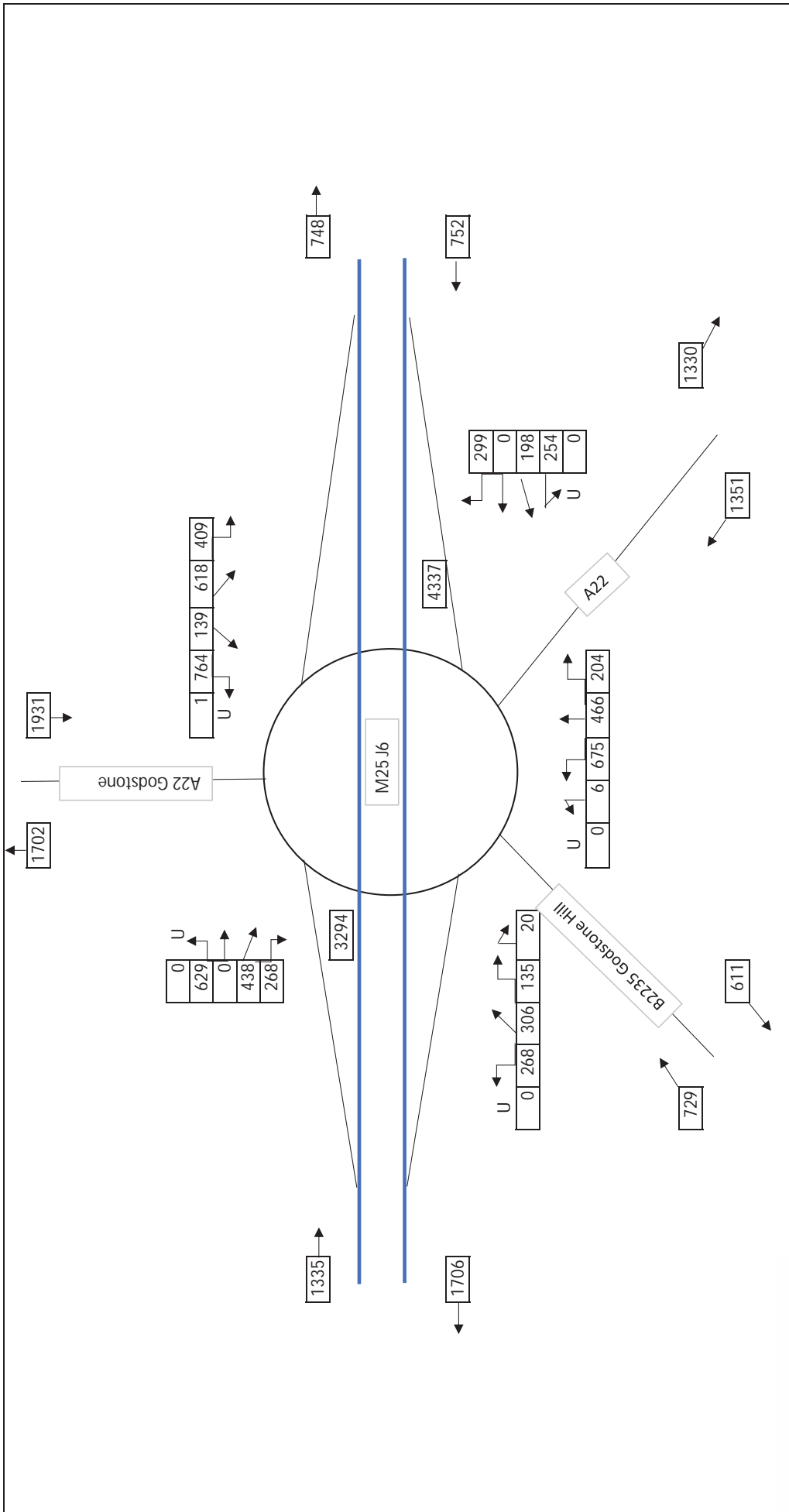
M25 JUNCTION 6

Scenario 2 2025 PM Peak

Vehicles

0-56





M25 JUNCTION 6

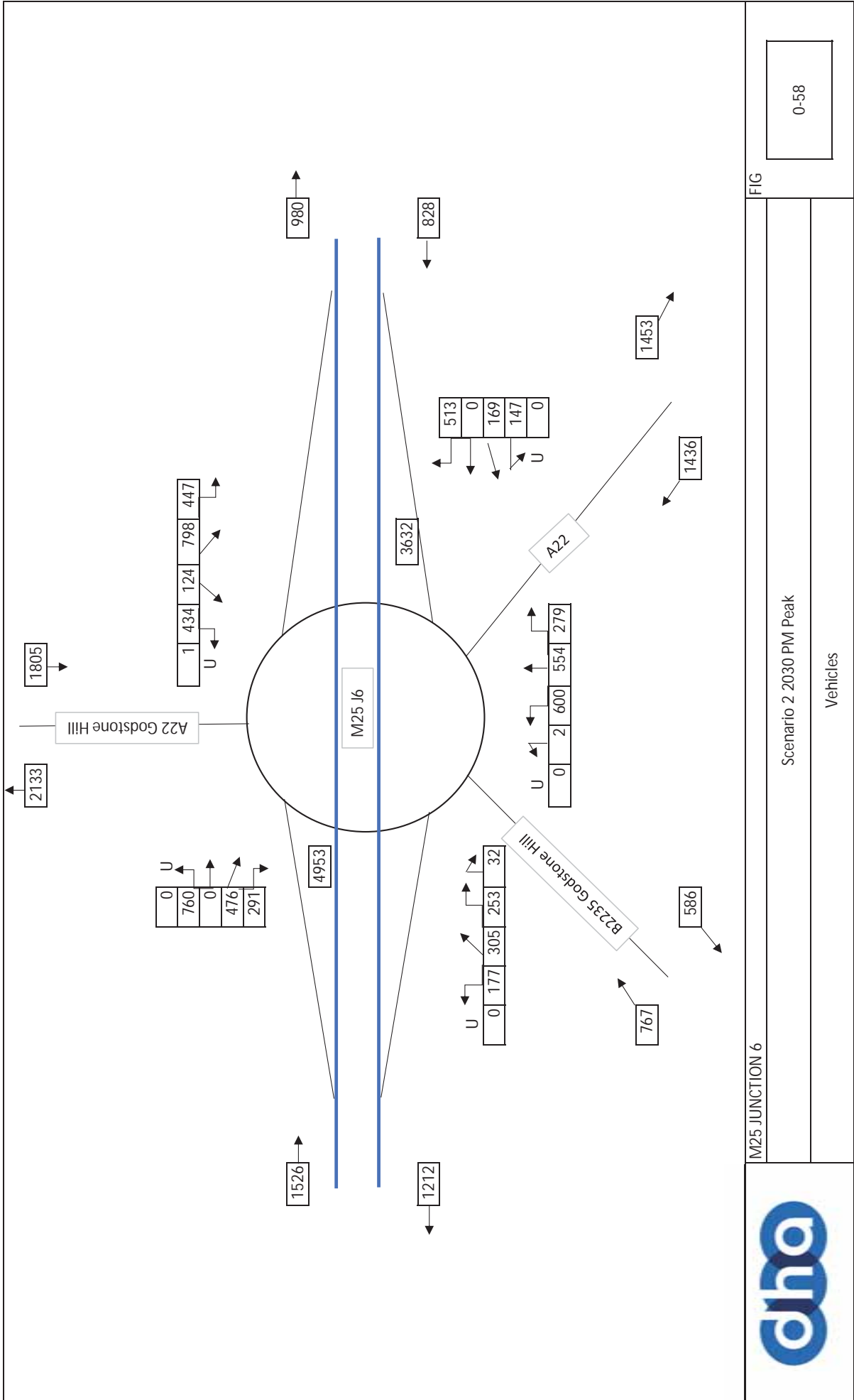
Scenario 2 2030 AM Peak

Vehicles

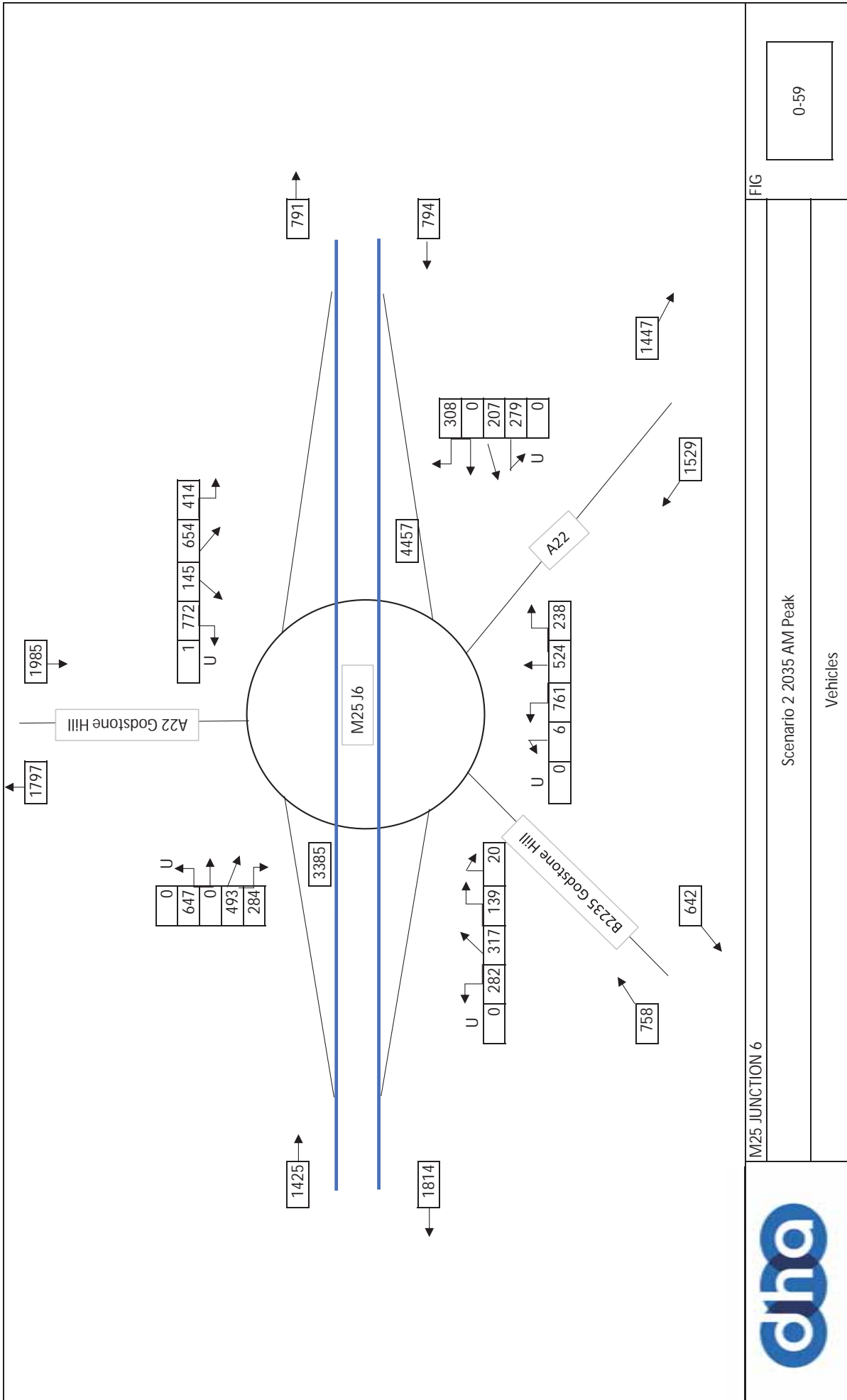
FIG

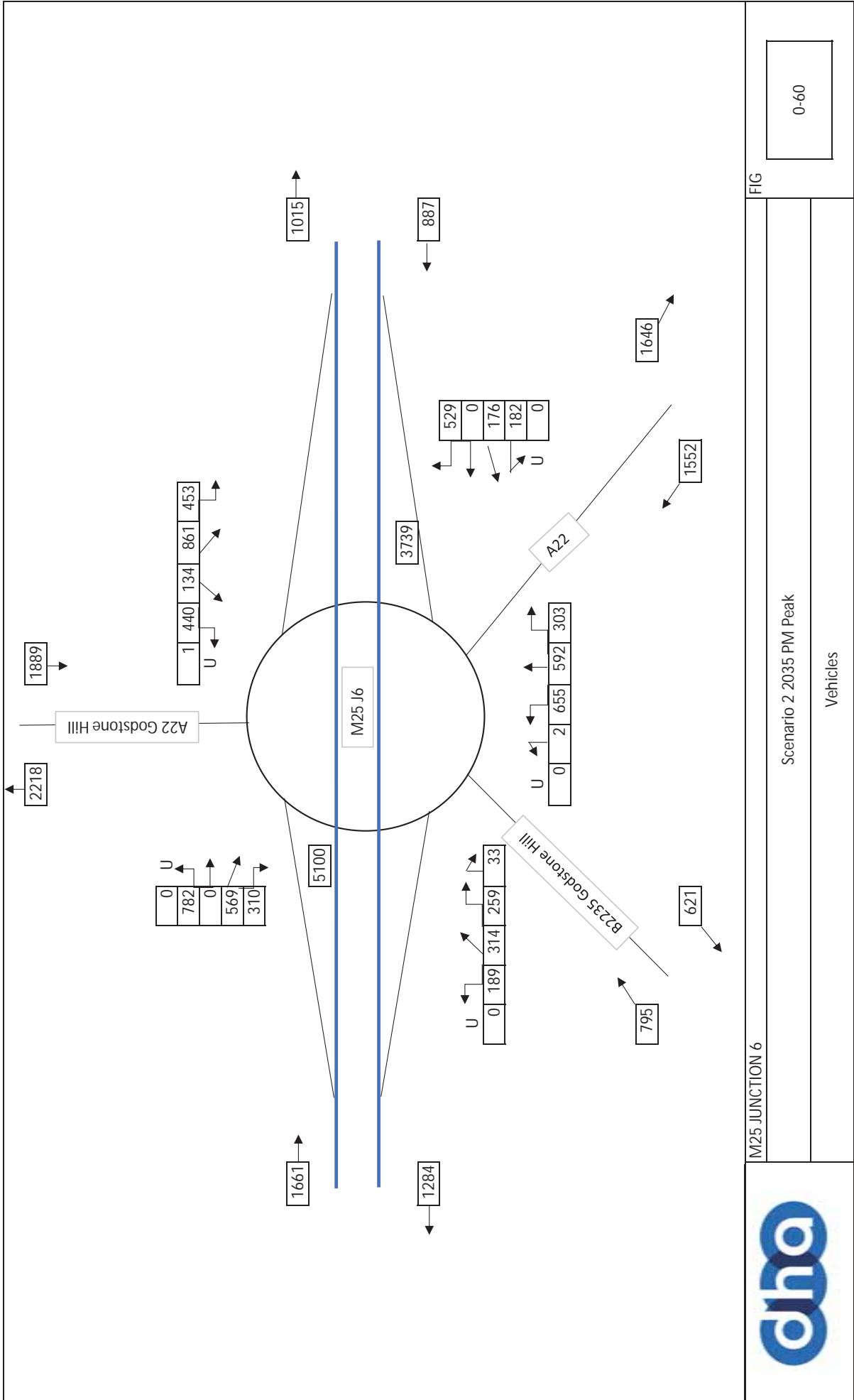
0-57

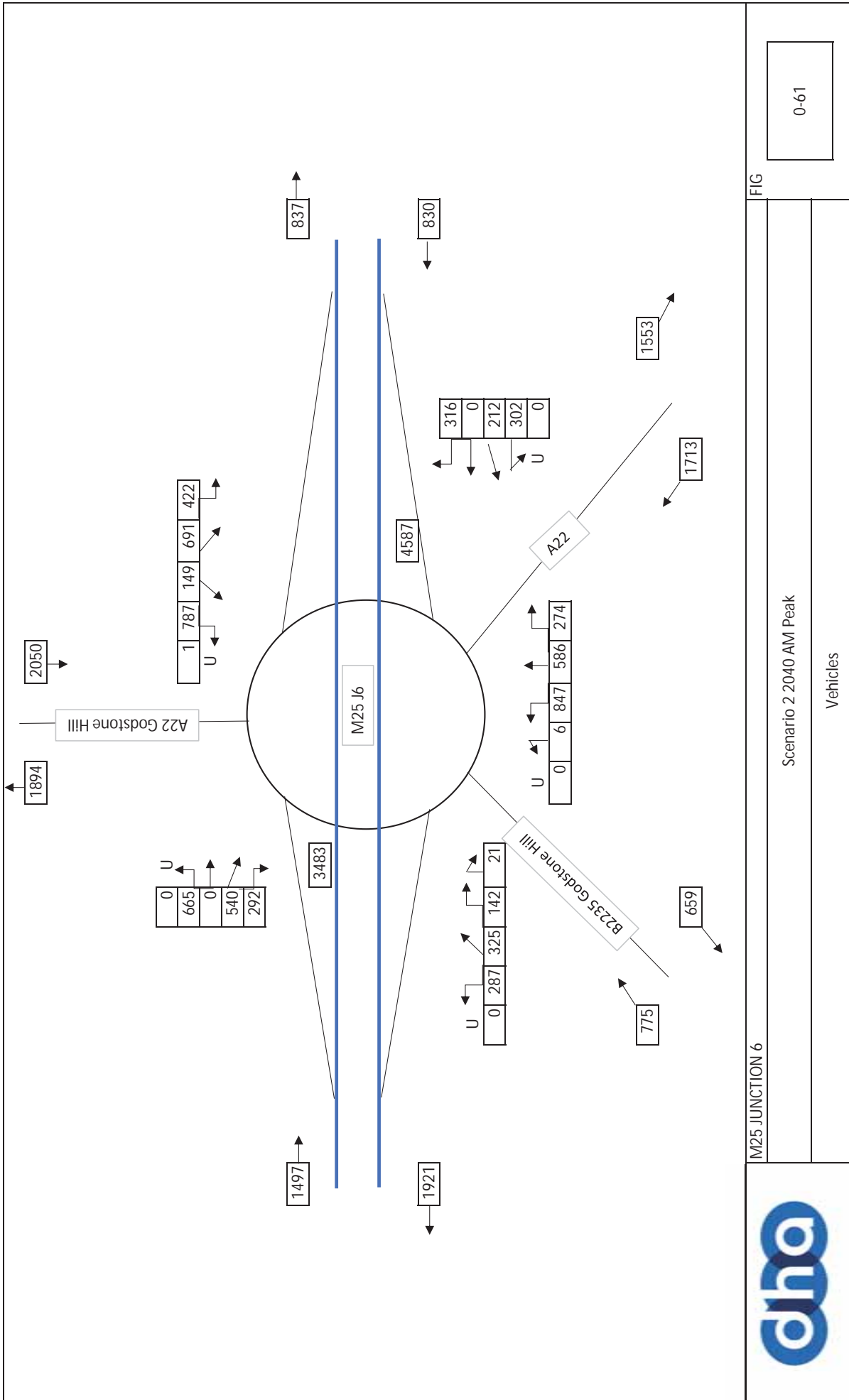












FIG

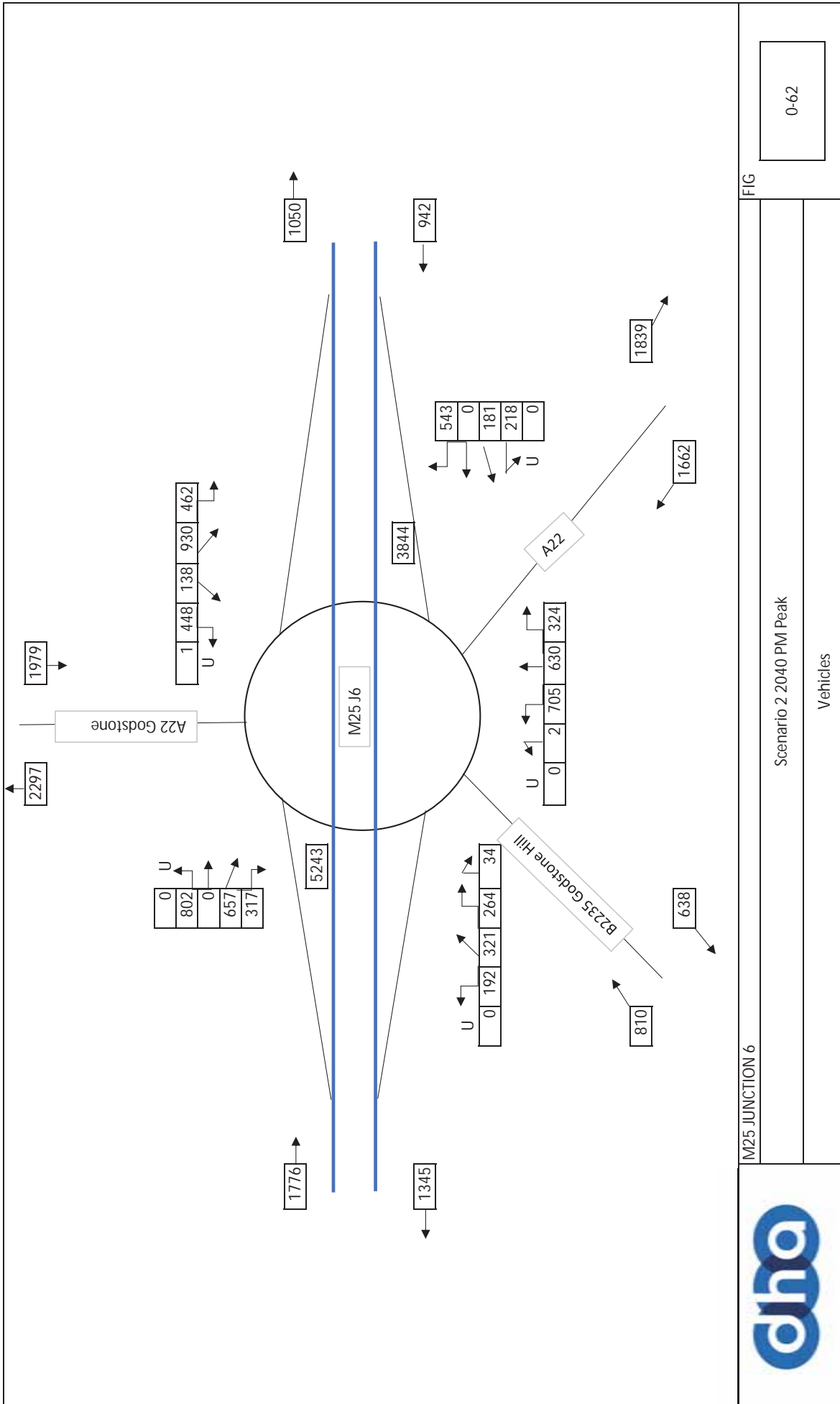
M25 JUNCTION 6

Scenario 2 2040 AM Peak

Vehicles

0-61





M25 JUNCTION 6

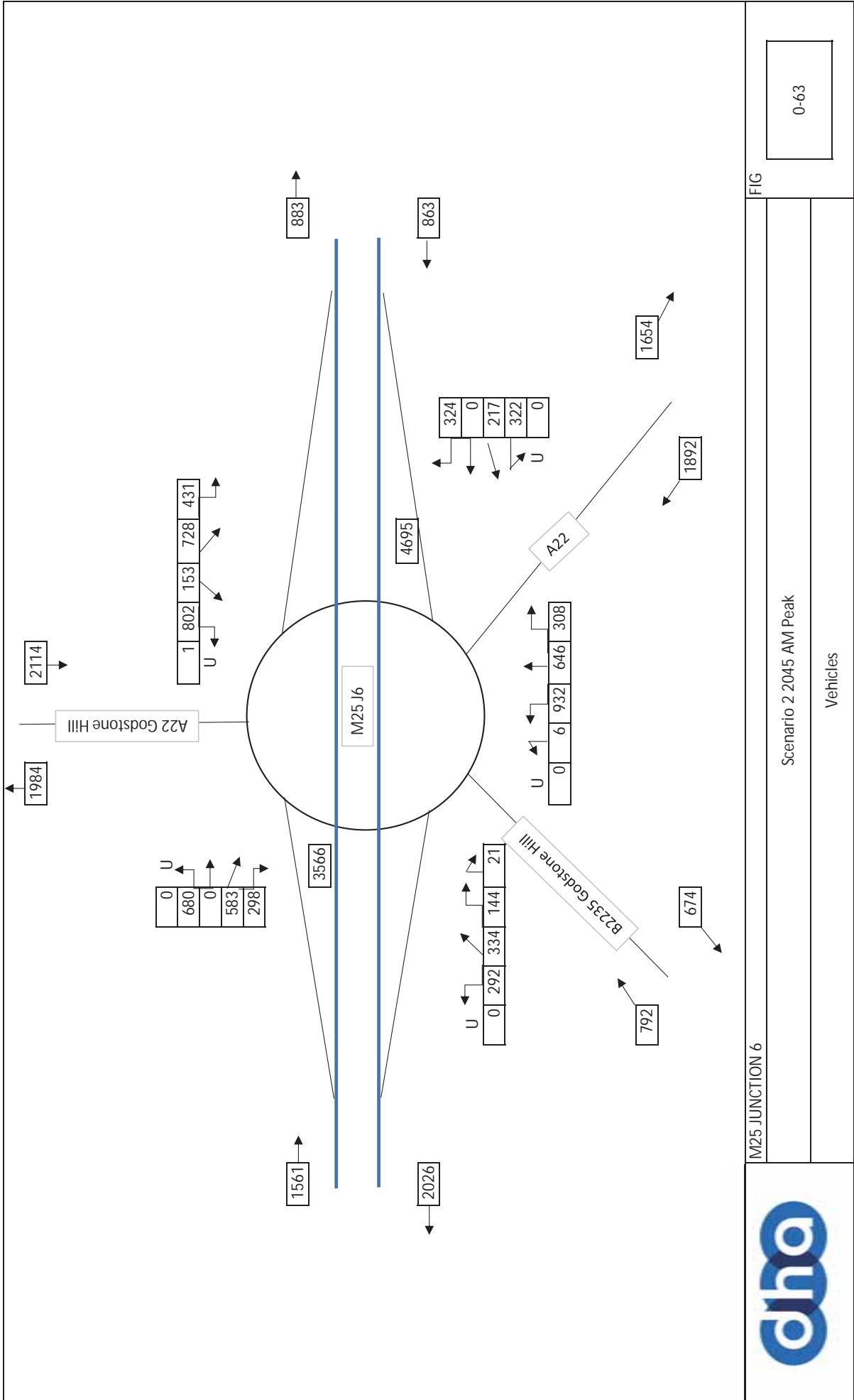
FIG

Scenario 2 2040 PM Peak

Vehicles

0-62





M25 JUNCTION 6

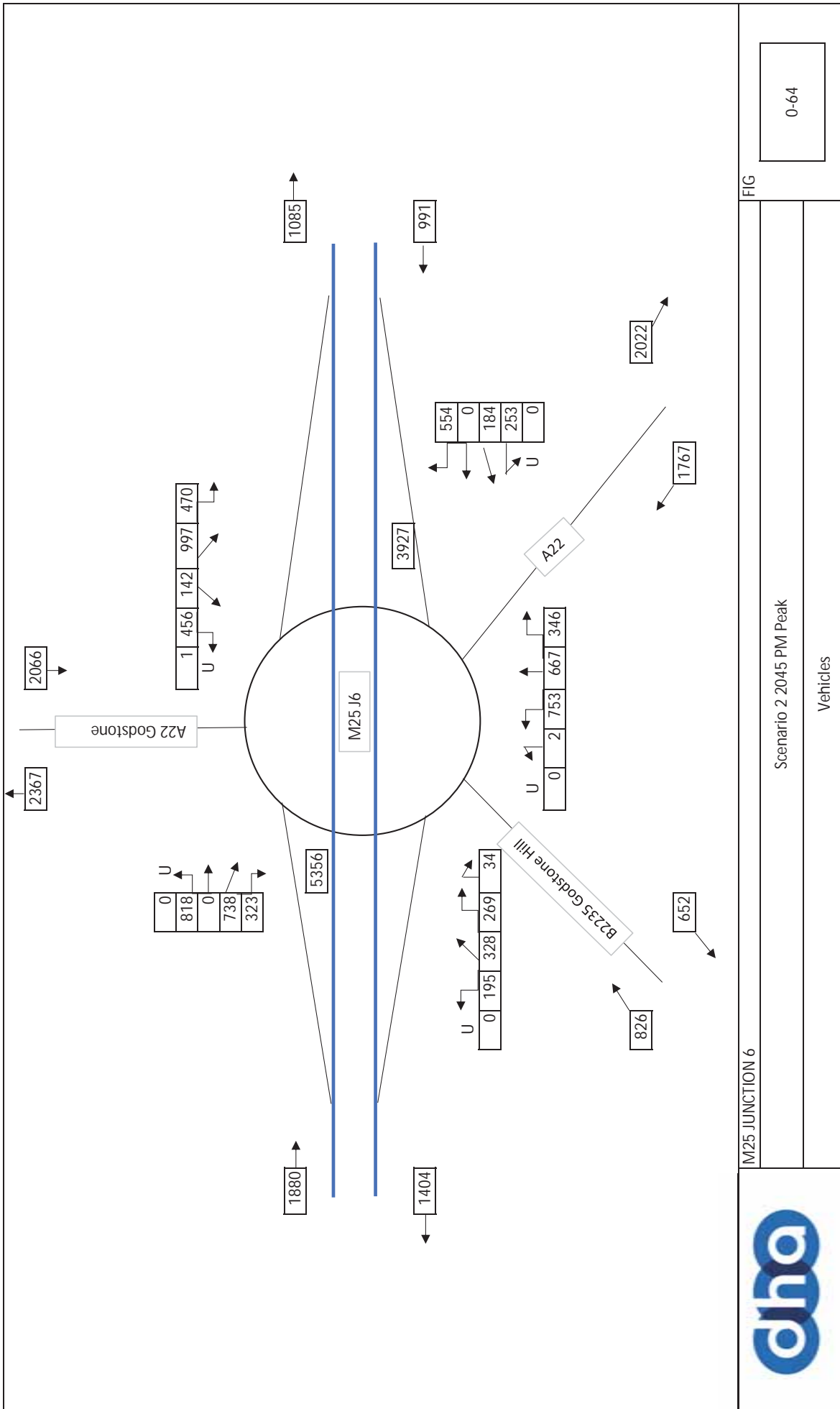
FIG

Scenario 2 2045 AM Peak

Vehicles

0-63





M25 JUNCTION 6

FIG

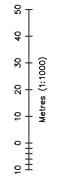
Scenario 2 2045 PM Peak

Vehicles

0-64



# APPENDIX '4'



ITEM	DESCRIPTION OF RISK & ACTION
	No risk are associated with the highway improvement works that a competent highway contractor should not find themselves faced with.

REV	AMENDMENTS	DATE	CHK
P5	Lane markings amended	11.11.21	CS
P2	Westbound off slip amended	01.07.21	CS
P1	FIRST ISSUE	18.06.21	CS

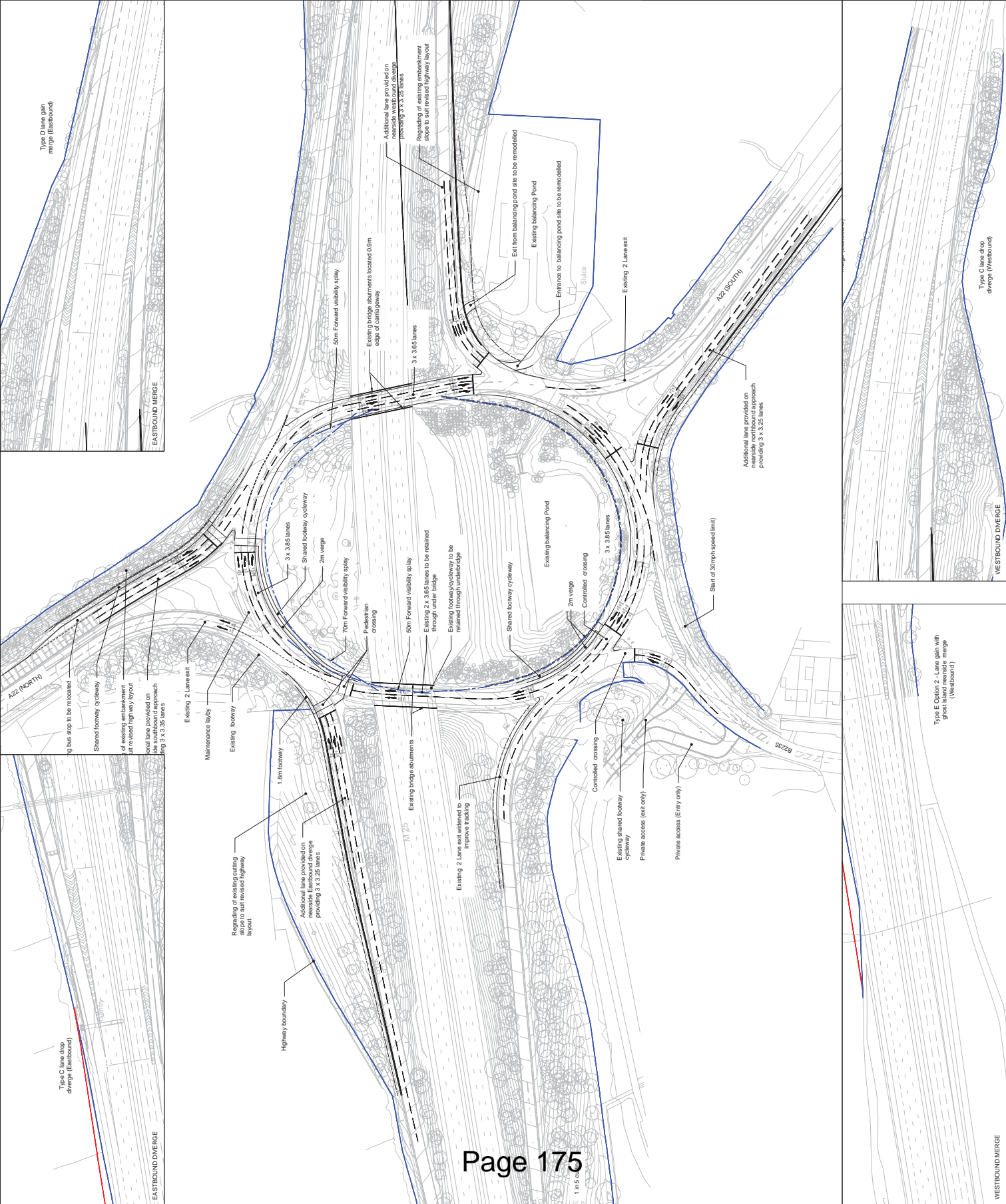
Client  
**TANDRIDGE DISTRICT COUNCIL**

Project  
**M25 JUNCTION 6  
CAPACITY IMPROVEMENT FEASIBILITY STUDY**

Drawn	Rev	Scale	Date
15423-H-01	P3	1:1000	18.06.21

**dho**  
Eclipse House, Eclipse Park, Slingsbourne Road  
Malden, Kent, ME14 3EN  
t: 01622 776226  
e: info@dho-planning.co.uk  
w: www.dho-planning.co.uk

CAD Reference: **A1**



This page is intentionally left blank



## APPENDIX 5

## APPENDIX 5

**From:** Burgess, Janice  
**Sent:** 20 December 2021 16:35  
**To:** Paul Lulham; WALKDEN, NIGEL  
**Cc:** Cliff Thurlow ; Vivienne Riddle ; Sarah Thompson ; Hannah Atkins ; William Bryans  
**Subject:** RE: M25 Junction 6 - Position Statement

Paul, Hannah,

Thank you for your emails and for the Position statement circulated by Hannah on 16<sup>th</sup> December. I have also had the advantage of seeing the comments from SCC via William Bryans email of the same date.

National Highways (NH) has collaborated with Tandridge District Council (TDC), their Consultants DHA and Surrey County Council (SCC) throughout the process of additional modelling at J6 of the M25. NH has had the opportunity to approve proposals for the technical modelling work that has been done in support of the need to model the anticipated impact of the draft TDC local plan.

NH recognises the progress that has been made and that a potential scheme has been identified for J6 and its approaches. It can be demonstrate that it addresses the impact of allocated Local Plan growth to 2035, in accordance with the requirements of the National Planning Policy Framework. NH also recognise that if this option is taken forward there will need to be more work to refine the design and be sure that it can be delivered in accordance with DMRB and that funding will be identified to secure delivery.

With regards to the M25 merges and diverges, the work done by DHA has identified that the eastbound off-slip would require upgrading to safely accommodate forecast traffic volumes prior to 2030, regardless of the Local Plan. Work would therefore have to start as soon as possible to progress this scheme and identify suitable funding opportunities to enable implementation at the optimum time. As with the junction improvement proposal detailed design, DMRB compliance and suitable funding sources would continue to be on the agenda for discussion between the parties referenced above.

In various meetings I have referenced the current Route Strategies consultation (it ends on 31 December 2021) which gives anyone the opportunity to make submissions relating to any part of the NH network setting out issues and problems, and especially congestion hot spots. The Route Strategy documents, when published, will be used by DfT to make decisions on where and what to commit funding in the Roads Investment Strategy 3 (RIS 3) between 2025 – 2030 and beyond. I understand that SCC have made a submission, but it hasn't been shared with NH and William was unable, at our last meeting, to confirm how the SCC submission deals with J6. It is not mentioned in his email of 16<sup>th</sup> December either. TDC have not made a separate submission. This is a perfect opportunity to raise the day to day problems at J6 and for TDC to express concerns about the future long term treatment for the junction. I have encouraged TDC to make an independent submission to the Route Strategy Consultation and to share the link to the consultation as widely as possible. I am aware that neighbouring authority MVDC have made an independent submission.

This is the link; **Link:** <https://routestrategies.highwaysengland.co.uk/>

NH are committed to working with TDC, DHA and SCC as work progresses towards securing a local plan infrastructure solution at M25 J6.

Regards,

Janice

**Janice Burgess, Spatial Planning Manager**

National Highways Limited

Bridge House, 1 Walnut Tree Close, Guildford, Surrey, GU1 4LZ

Registered in England and Wales No. 9346363

## APPENDIX 6

## APPENDIX 6

**From:** William Bryans  
**Sent:** 21 December 2021 12:34  
**To:** Marie Killip  
**Cc:** Cliff Thurlow; Paul Lulham; Hannah Atkins; Vivienne Riddle ; Sarah Little  
**Subject:** FW: M25 Junction 6 - Position Statement

Dear Marie,

Further to our conversation on Friday and subsequent email, I confirm SCC's amended statement is as follows:

Surrey County Council (SCC) thank Tandridge District Council (TDC) for sharing both the Technical Note and Position Statement, and for involving SCC in discussions over the technical work. SCC accept the technical work undertaken, although note the relatively limited approach to the junction assessment in comparison to the approach using a more strategic tool. However, SCC recognise the rationale for taking this approach, to which SCC agreed following the results earlier in the year obtained using the more strategic sub-area model employed to carry out the highway assessment of TDC's spatial strategy in 2018/2019, and the importance of having technical work to inform decision-making.

SCC have the following comments:

1. While SCC acknowledge the proposed junction enhancement design, this will be subject to further detailed work to confirm feasibility and deliverability, noting in particular the need for the design to (a) accommodate recent resilience improvements installed on the A22 to reduce instances of flooding, (b) adhere to SCC standards and (c) fit with existing structures;
2. SCC consider it essential that the interim scheme is delivered by 2030 (taking into account the need to source funding, consultation, detailed design, planning, etc.) to ensure that there is a sufficiently long interval prior to the delivery of any further scheme for the benefit of cost effectiveness and to limit disruptions to the network;
3. SCC acknowledge that an enhancement to the M25 eastbound off-slip diverge will be required between 2025 and 2030.

Wishing you all a very happy Christmas.

With my regards,  
Will.

William Bryans BA MSc CILT  
Transport Studies  
Strategic Transport,  
Environment, Transport & Infrastructure,  
Surrey County Council

This page is intentionally left blank

**Tandridge District Council - Response to National Highways consultation on Route Strategies, 2021****Introduction**

National Highways (formerly Highways England) are consulting on route strategies for the Strategic Road Network (SRN). These strategies are one of the steps in the development of the national Road Investment Strategy (RIS), which is a rolling programme produced by the Department of Transport that sets out plans for the SRN.

National Highways (NH) currently are preparing route strategies for RIS 3, which covers the period 2025-2030 and beyond, and are seeking feedback by 30<sup>th</sup> November on planning for the future. Further information on route strategies is given in the document, 'Vision for Route Strategies – planning for the future of our roads':

[vision-for-route-strategies.pdf \(highwaysengland.co.uk\)](https://www.highwaysengland.co.uk/vision-for-route-strategies.pdf)

This response is concerned with the London Orbital (M25) and M23 to Gatwick Route Strategy.

Tandridge District Council welcome this opportunity to help inform where investment is required.

**Issues**

The key issue on the SRN in the context of Tandridge is M25 Junction 6. This is not only a key access point for Tandridge-related drivers (residents, visitors, commuters, business and freight), allowing them to join and leave the M25, but also it is the main crossing point on the M25 for the north-south A22 primary route which serves the district, London and the South East. It also acts as an alternative route through to Gatwick when the M23 is congested.

A junction assessment (using LinSig) based on 2018 observed data shows that the junction is operating over-capacity in both the AM and PM peaks, with a Practical Reserve Capacity (PRC) of -15.7% and -24.8% respectively.<sup>1</sup>

By 2025 it is forecast that background growth will have resulted in increased congestion with a detrimental impact on the operation of the junction: the PRC is forecast to increase to -146.6% and -81.4% in the AM and PM peaks respectively.

**Tandridge Local Plan and other strategic pressures**

Tandridge District Council has prepared a draft Local Plan, which is undergoing examination. As part of preparing the Plan and to inform the examination, a study was undertaken on M25 J6 to understand what mitigation would be required at this junction and to test suggested interventions. In order to answer further questions from the Inspector, this work was revisited and updated during summer 2021. Additional work is in progress to ensure that the Council, as well as SCC Highways and National Highways, have the necessary understanding of the junction's capacity and potential mitigation options.

Tables 1a and 1b below show the total volumes of motorised vehicles passing through the junction, both observed volumes and forecast volumes (excluding the flows on the mainline M25). Both the

---

<sup>1</sup> Transport Technical Note, M25 Junction 6 Godstone, DHA (on behalf of Tandridge District Council), July 2021

forecasting and modelling methodologies for this work, undertaken in 2021, were agreed between DHA (Tandridge District Council's consultants) and National Highways and Surrey County Council.<sup>2</sup>

Table 1a: Total flows passing through junction (AM peak hour)

AM Peak Hour				
Year	Base/Do-minimum	Plus Local Plan	Total Growth	Local Plan proportion
2018	5952			
2025	7908	7992	2040	4.1%
2030	8163	8361	2409	8.2%
2035	8465	8892	2940	14.5%

Table 1b: Total flows passing through junction (PM peak hour)

PM Peak Hour				
Year	Base/Do-minimum	Plus Local Plan	Total Growth	Local Plan proportion
2018	5893			
2025	7796	7942	2049	7.1%
2030	8032	8316	2423	11.7%
2035	8309	8852	2959	18.4%

Source: Transport Technical Note, M25 Junction 6 Godstone, DHA (on behalf of Tandridge District Council), July 2021, Figures 1-14

These tables illustrate that by 2035 the vast majority, over 80%, of the forecast growth in vehicle volumes passing through the junction, is expected to be due to background growth (including committed development) rather than non-consented potential Local Plan related growth.

### Merge & Diverge assessment

A Merge & Diverge assessment to accompany the junction assessment shows that by 2025 the current arrangements will need enhancing to accommodate the forecast flows in both the AM and PM peaks. The current junction types are shown in the Table 2. However, by 2025 the assessment indicates that with just background growth the eastbound diverge needs upgrading to Type D and the westbound merge requires upgrading to Type F. The same improved merge and diverge types are required to meet the background growth forecasts for 2035.

Table 2: M25 J6 current merge / diverge types

Junction Link	Merge / Diverge type
Eastbound diverge	C
Westbound diverge	C
Eastbound merge	D
Westbound merge	E (1)

<sup>2</sup> Transport Technical Note, M25 Junction 6 Godstone, DHA (on behalf of Tandridge District Council), April 2021  
 Transport Technical Note, M25 Junction 6 Godstone, DHA (on behalf of Tandridge District Council), July 2021

The assessment reveals that the relatively modest forecast growth associated with the draft Local Plan can be accommodate by the amended merge and diverge arrangements.

### **M23 and relationship with M25 and A22**

The M23, which forms part of the London Orbital and M23 Route Strategy, runs through Tandridge District from just north of Gatwick Airport to just south of M25 junction 7 with the A23.

From the technical work which has been carried out on the junction (M25 junction 6) to date, it is evident that the current junction has been operating at capacity since 2018 and this will continue to worsen even without any Local Plan growth. In addition, Gatwick Airport are also currently preparing a Development Consent Order (DCO) which sees them increasing their flights and passenger numbers with the opening of their northern runway. The M25 is a major route of access to the airport and should the scheme go ahead, vehicle movements will increase adding further pressure. Such pressures would be felt directly at junction 6, not just from traffic flowing westbound to Junction 7 and the M23, but also via junction 6, onto the A22 which is utilised as an alternative route onto the M23, when there are issues on the M25. It is anticipated that the DCO will be submitted in 2022.

### **Summary**

Assessments undertaken to support Tandridge District Council's submission draft Local Plan show M25 J6 currently is operating at capacity. By 2025 it will need upgrading to accommodate background growth, setting aside any growth associated with the Tandridge Local Plan, which is considered below, or with other districts' Local Plans or the current proposals for Gatwick Airport. Enhancements will be required to the slips, circulatory carriageway, approaches on the local road network and the merges and diverges with the M25 mainline.

The growth in demand associated with the Local Plan is modest, and by 2035 is forecast to be less than 20% of the total growth over the period (2018 – 2035). Furthermore, and particularly pertinent to the merge and diverge junction types, the improvements required to meet background demand will be able to accommodate demand associated with the Tandridge Local Plan.

Even without the Local Plan (and its successors) capacity issues at M25 J6 have wider implications. Without investment the junction will be a major infrastructure constraint on future movement and development in Tandridge District, as well as in relation to Gatwick-related traffic travelling via the M23, M25 and A22, and neighbouring districts including Sevenoaks District to the east. It should be noted that Sevenoaks District is also producing a Local Plan, and that both Tandridge and Sevenoaks can be anticipated to produce successive plans to shape growth in their localities.

Tandridge District Council request that these upgrade requirements are considered positively when developing the London Orbital (M25) and M23 to Gatwick Route Strategy to inform the Road Investment Strategy.

This page is intentionally left blank