



Brymbo Developments Ltd

Brymbo Park, Brymbo

Transport Assessment Addendum

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I Introduction

I.1 Overview

- 1.1.1 In October 2020 an outline planning application (Ref P/2020/0649) was submitted to Wrexham Council (WC) for *“up to 300 dwellings (class C3 use), a primary school (2-form entry), small district centre comprising up to 1,395 sq.m of class A1 retail, up to 372 sq.m of class A3 restaurant / public house, up to 465 sq.m of class D1 use, multi-functional green infrastructure, including informal open space, surface water attenuation, vehicle accesses, car parking, engineering works, public footpaths and hard and soft landscaping, underground services, and all ancillary and enabling works, with all matters reserved except for vehicular access from Brymbo Road.”*
- 1.1.2 The application was accompanied by a Transport Assessment (TA) prepared by PJA. This Transport Assessment Addendum (TAA) provides further information to supplement the TA in response to consultation responses provided by the Welsh Government (WG) and WC as the Local Highway Authority (LHA).

I.2 Consultation Responses

Welsh Government

- 1.2.1 On 18th December 2020 the WG provided a consultation response as highway authority for the A483 trunk road, directing refusal for the following reasons:
- “1) The Welsh Government have undertaken modelling work to consider the impact of this development on the trunk road at Junction 4 of the A483. It concluded that there is currently no capacity to support any further developments at this location.”*
- 1.2.2 A Technical Note prepared by Mott MacDonald on behalf of the WG was also provided separately, dated 3rd March 2020. It should be noted that no significant impact was identified on the A483 arms of the junction i.e. that aspect of the junction over which the WG has powers to direct.

Wrexham Council

- 1.2.3 On 19th November 2020, WC provided its consultation response, offering no objection subject to a number of recommended conditions:
- “A detailed construction plan to be submitted to the Planning Authority to establish the trigger point beyond which beneficial occupation of further residences will not be allowed;
Implementation of the proposed signalisation of the A525/Heritage Way junction will be required to enable the development to proceed;*



Further details of the proposed access points and any design alterations to Phoenix Drive will be required at a later date when reserved matters are considered.

A s278 agreement will need to be entered into and the Safety Audit process will need to be followed for all the proposed highway alterations.”

I.3 Purpose of Report

- 1.3.1 The TA presented capacity assessment results for A483 Junction 4 which demonstrated that the junction is at capacity, and that if there were additional background traffic growth this situation would worsen. This supports the proposals by the WG to implement a major improvement scheme at Junction 4.
- 1.3.2 The TA was based on a set of robust assumptions, including the assessment of more residential development than is proposed, with the intention of entering into further dialogue with the WG.
- 1.3.3 This TAA presents further analysis, considering the assumptions in the TA in more detail, including the scenario whereby the WG scheme is not implemented and consequential impacts on route choice.
- 1.3.4 This report also considers the effect that the retail and education elements of the proposals will have on reducing travel across the A483 at Junction 4.
- 1.3.5 The WG remote working policy is also considered, including how it is supported by the proposals and the effect that this may have on travel patterns.

I.4 Structure of Report

- 1.4.1 Following this introduction:
 - Section 2 summarises the proposed WG Junction 4 scheme, the limited analysis provided by the WG, and the analysis presented in the PJA TA;
 - Section 3 goes on to revisit the trip generation, distribution and assignment exercise provided in the TA;
 - Section 4 considers the capacity of Junction 4;
 - Section 5 summarises the wider travel benefits offered by the development;
 - Section 6 considers journey time spreading;
 - Section 7 analyses the WG policy to encourage working from home; and
 - Section 8 provides a summary and conclusion.



2 A483 Junction 4 – Previous Analysis

2.1 Improvement Scheme Proposals

WG Solution

- 2.1.1 On 25th August 2020 the WG published a consultation document “A483 Wrexham Bypass Junction 3 to 6 Improvement Scheme”. The consultation closed on 22nd November 2020. The document refers to recent studies which “confirm that traffic congestion is a constraint to economic growth aspirations in Wrexham.”
- 2.1.2 The document identifies a ‘Proposed Scheme’ for Junction 4, which would provide a major highway improvement combined with active travel measures (Figure 2-1). The consultation document also presents similar improvement schemes for Junctions 3, 5 and 6.

Figure 2-1: Extract - Junction 4 Proposed Scheme





2.1.3 The WG website presents the current status of the A483 schemes¹ with the following timetable:

- Public consultation: summer 2020
- Public Inquiry (if needed): summer 2021 to autumn 2022
- Estimated construction start date (subject to the minister's approval): summer 2023.

2.1.4 The status of the project is listed as 'WelTAG Stage 2'. WelTAG stages are defined as:

- Stage One - Strategic Outline Case
- Stage Two - Outline Business Case
- Stage Three - Full Business Case
- Stage Four - Implementation
- Stage Five - Post Implementation

2.1.5 It is the stated intention of the WG to proceed with construction of the scheme within the next two years.

Alternative Solutions

2.1.6 The WG scheme is a major investment which requires land outside of the highway authority's control.

2.1.7 In November 2019, PJA held a meeting with the WG. At the meeting, the representatives of the WG confirmed that:

- They do not support delivery of any minor or interim schemes at the junction prior to delivery of the WG solution; and
- The WG will not be requesting developer contributions towards the junction.

2.2 Mott MacDonald Study

2.2.1 The WG provided PJA with a copy of a Mott MacDonald (MM) technical note dated 3rd March 2020.

2.2.2 The note presented junction capacity summary results from a LinSig model of the junction. The results are presented for 2018 observed traffic count data in the AM and PM peak periods and a number of forecast growth scenarios.

2.2.3 The note only presents a very basic summary result for each scenario, with none of the typical supporting evidence that would normally be expected, which would include LinSig output reports, traffic count data and details of scenario calculations.

¹ <https://gov.wales/a483-junctions-3-6-overview>



- 2.2.4 PJA has requested this information so as to better understand the analysis but to date this has not been provided.
- 2.2.5 The summary results present the Practical Reserve Capacity (PRC) for the junction as a whole. The PRC is calculated based upon the maximum Degree of Saturation (DoS) for any lane within the junction, and is a measure of how much traffic could pass through the junction whilst maintaining a maximum degree of saturation of 90% on all lanes.
- 2.2.6 Generally speaking, a positive PRC means that the DoS is below 90% on all lanes. This means that traffic arriving at a signal-controlled stop-line will clear the junction during each cycle when the green aspect is shown.
- 2.2.7 A PRC of between 0% and -10% indicates that the DoS is between 90 – 100% on one or more lanes. This means that in some cycles, all arriving traffic will clear the junction when the green aspect is shown, but in other cycles it will not, and residual queues will build.
- 2.2.8 A PRC of less than -10% indicates that the DoS exceeds 100% on one or more lanes. This means that the arriving traffic demand cannot clear the junction and queues will build up over the modelled period. The results presented in the MM note are replicated below:

Table 2-1: MM Note Summary Table 2 (PRC)

Base	Core Growth				Core Growth + Moneypenny			
2018	2022	2027	2032	2037	2022	2027	2032	2037
2.8	-2.4	-12.9	-16.7	-29.0	-9.2	-30.3	-34.6	-50.5
- 31.9	-44.6	-59.2	-87.9	-94.7	-60.4	-75.6	-93.7	-113.9

Table 2-2: MM Note Summary Table 3 (PRC)

Base	Core Growth + Moneypenny			Core Growth + Moneypenny + Western Gateway		
2018	2027	2032	2037	2027	2032	2037
2.8	-46.2	-87.5	-140.2	-131.4	-158.2	-185.1
- 31.9	-86.3	-114.7	-164.0	-123.0	-173.4	-229.8

Table 2-3: MM Note Summary Table 4 (PRC)

Base	Core Growth + Moneypenny + Lower Berse Farm + Western Gateway		
2018	2027	2032	2037
2.8	-140.7	-140.7	-140.7
- 31.9	144.0	-188.5	-253.8

- 2.2.9 The 2018 Base results highlight that MM consider the junction to be within capacity (PRC +2.8%) in the AM peak, but at capacity (PRC -31.9%) in the PM peak.



- 2.2.10 The assessment applies traffic growth from the National Trip End Model (NTEM) using TEMPro software to the 2018 base traffic flows to create four 'Core Growth' scenarios:
- 2022: 4%
 - 2027: 7%
 - 2032: 11%
 - 2037: 14%
- 2.2.11 The 'Core Growth' scenarios (Table 2-1) highlight that when these factors are applied to the 2018 base traffic flows, the junction would be at capacity in the AM and PM peaks with the PRC results steadily decreasing.
- 2.2.12 The NTEM growth factor provides an estimated change in traffic based upon planning projections of changes in the number of households and jobs within an area. It should be noted that this is likely to include an element of double counting given that the planned developments have been included in addition to NTEM, rather than capping the growth to NTEM as is normal practice.
- 2.2.13 It does not take into account restrictions caused by congestion in particular locations, which may result in drivers either choosing alternative modes, taking alternative routes or travelling at a different time of day. It also does not consider precisely where within an area there would be growth in households or employment, and therefore the routes that traffic would take. The growth factor is applied to all movements at the junction rather than any specific routes or movements.
- 2.2.14 The results consider the effects of three nearby development sites which are understood to not be 'committed' and not undeliverable until the J4 scheme comes forwards, yet are assumed to have been delivered.
- 2.2.15 The MM note makes no reference to the proposed development site at Brymbo. There is no analysis to consider what the effects of the site would be or whether it would have an unacceptable impact on the capacity of the junction.

2.3 PJA Transport Assessment Analysis

- 2.3.1 The capacity of Junction 4 was considered in detail in the TA. A LinSig model was prepared using traffic data from surveys in June 2018. Similar to the MM note, a TEMPro growth factor was applied (Table 2-4).

Table 2-4: TEMPro Growth Factors (PJA TA)

Period	AM Peak	PM Peak
2018 to 2020	1.0269	1.0264
2018 to 2025	1.0820	1.0820
2018 to 2030	1.1352	1.1365



- 2.3.2 Advice was sought from WC as to what should be considered as ‘committed development’. It was advised to consider the ‘Tomlinson Dairies’ site and so this was included within the assessment.
- 2.3.3 The capacity of the junction was assessed for various scenarios, the results of which are summarised in Table 2-5. A more detailed narrative on the capacity of the junction and different traffic streams is provided in the TA.

Table 2-5: TA Junction 4 Results Summary (PRC)

Scenario	AM Peak	PM Peak
2020 Base	-17%	-23%
2030 Base	-65%	-120%
2030 Base + Committed Development	-65%	-120%
2030 Base + Committed + Proposed Development	-79%	-129%

- 2.3.4 These results highlight that the junction is already at capacity. If the traffic growth suggested by TEMPro occurs, then this situation would worsen, and would be slightly worsened further by the addition of the proposed development.
- 2.3.5 These results support the proposal by the WG to implement a major improvement scheme at Junction 4, which would serve to alleviate this existing problem.
- 2.3.6 However, the analysis contained in the TA is based upon the following conservative assumptions:
- 350 dwellings were modelled, rather than the 300 proposed by the application;
 - No allowance was made for trips currently being made from Brymbo to retail stores in Wrexham, which would be diverted to the proposed retail uses on the site;
 - No allowance was made for trips currently being made from Brymbo to schools in Wrexham, which would be diverted to the proposed educational uses on the site; and
 - No allowance was made for potential future changes in travel patterns associated with increased working from home, which are supported by WG policy and will be enabled by the proposed development.
- 2.3.7 Given the consultation response from the WG, it is therefore necessary to revisit these assumptions.



3 Trip Generation, Distribution and Assignment

3.1 Trip Generation

- 3.1.1 The development trip generation was previously based upon 350 dwellings, rather than the 300 proposed by the planning application.
- 3.1.2 This has been updated, with revised calculations presented within **Appendix A**.

3.2 Alternative Routes

TA Analysis

- 3.2.1 Development traffic flow through Junction 4 was calculated using a bespoke gravity model as described in Appendix C of the TA. Trip assignment through Junction 4 is calculated using a zone system, with the following development trips forecast to travel through the junction (based on 300 dwellings):

Table 3-1: TA Trips through Junction 4

% Trips		No. Trips	
AM Peak	PM Peak	AM Peak	PM Peak
24%	18%	60	52

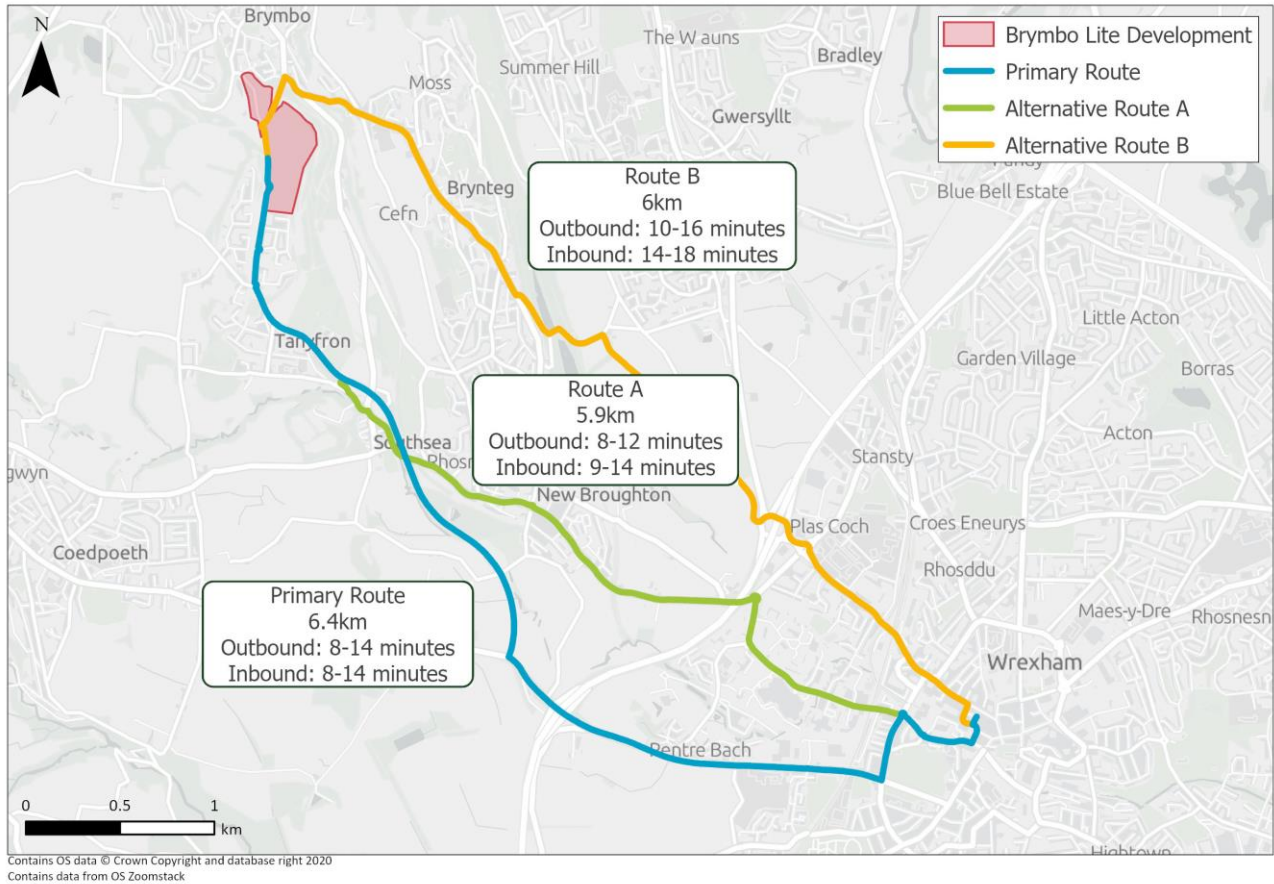
- 3.2.2 There is an element of route choice within these calculations but it is reasonable to revisit this based upon increasing congestion at Junction 4, in the event that the proposed mitigation does not proceed.

Alternative Routes to Wrexham

- 3.2.3 Figure 3-1 overleaf illustrates the alternative routes available to Wrexham.



Figure 3-1: Alternative Routes towards Wrexham Town Centre



Alternative Route A

- 3.2.4 Alternative Route A routes from the development site via Southsea Road and the B5101 (Berse Road) beneath the A483 and into Wrexham. The route between the development and Wrexham is approximately 5.9km in length with an approximate journey time of 8-12 minutes in the AM peak and 8-14minutes in the PM², based on a typical Wednesday, pre-COVID.
- 3.2.5 The entirety of the route comprises single carriageway roads which are approximately 6m in width. The route is subject to a 30mph speed limit between the development site and the edge of the existing residential area, whereby the limit increases to 40mph. The speed limit reduces back to 30mph to the south of the A483.
- 3.2.6 As a result of the above, it is considered that this route is a suitable alternative to travelling via the A483 Junction 4.

² AM journey time calculated within google maps based on an outbound journey on a typical Wednesday 08:00, pre-COVID-19, and takes account of congestion levels. PM journey time calculated based on an inbound journey on a typical Wednesday 17:00, pre-COVID-19.



Alternative Route B

- 3.2.7 Alternative Route B routes from the development site via Wrexham Road, Summerhill Road and into Wrexham. The route between the development and Wrexham is approximately 6km in length with an approximate journey time of 10-16 minutes in the AM peak and 14-18 minutes in the PM peak².
- 3.2.8 In the vicinity of the site, the route follows Station Road, High Street and Wrexham Road, all of which are approximately 6m in width and subject to a 30mph speed limit. The route then travels east onto Poolmouth Road and Highfield Road, which are approximately 5m in width and more rural in nature. Following this, the route joins Summerhill Road which is approximately 6m in width and subject to a national speed limit.
- 3.2.9 As a result of the above, it is considered that this route is a suitable alternative to travelling via the A483 Junction 4.
- 3.2.10 Route choice was considered in the TA, with traffic to/from Wrexham divided between routes. Whilst Route B is considered to be a suitable alternative to the A525, in order to provide a robust assessment traffic was assumed to be split only between the primary route and Alternative Route A. The route split assessed was as follows:
- 50% via A525 East at Junction 4;
 - 50% via Alternative Route A; and
 - 0% via Alternative Route B.
- 3.2.11 However, as highlighted by the modelling in Section 4 of this report, with background traffic growth congestion will worsen at Junction 4. Without the proposed development, approximately 10 minutes delay per vehicle is predicted in the AM peak travelling towards Wrexham, and 15 minutes delay in the PM peak travelling towards the site.
- 3.2.12 Journey time reliability on this route is also likely to be worse than the alternative routes, because the traffic signal operation prioritises the A483 slip roads at the expense of the A525. This is a clear incentive for drivers to avoid the junction when there are alternative routes available.
- 3.2.13 It is therefore reasonable to estimate that in the order of 20% of trips would continue to travel via Junction 4, with the remainder taking the alternative routes due to the increased level of congestion. This is summarised in Table 3-2.



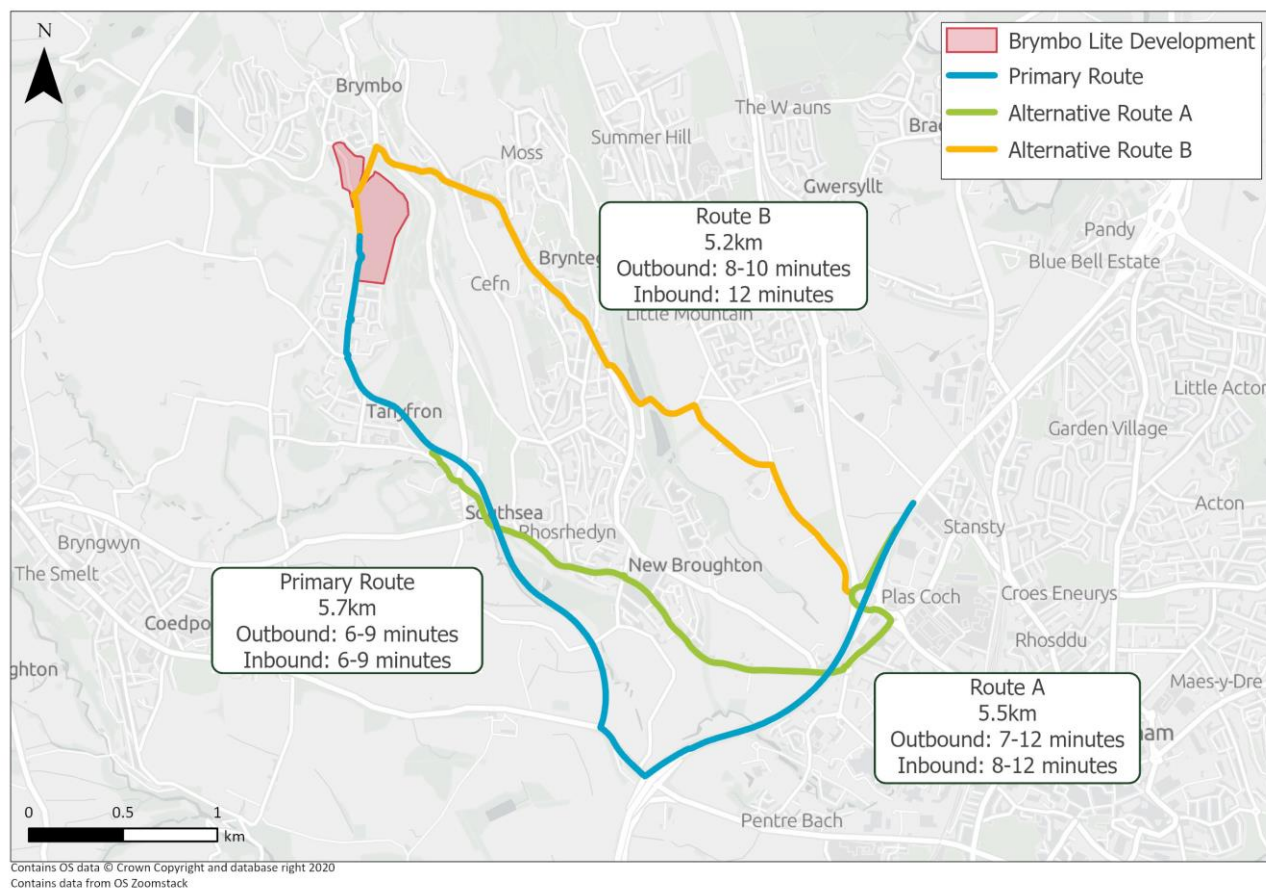
Table 3-2: Future Assignment - Journeys towards Wrexham

	Within TA			Future Assignment		
	%	Two-Way Trips		%	Two-Way Trips	
		AM	PM		AM	PM
Via J4	50%	38	37	20%	15	15
Alternative Route A	50%	38	37	60%	46	44
Alternative Route B	0%	0	0	20%	15	15

Alternative Routes to the A483 North

3.2.14 Figure 3-2 overleaf illustrates the alternative routes are available to the A483 north.

Figure 3-2: Alternative Routes towards North Wrexham and further afield.



Alternative Route A

3.2.15 Alternative Route A routes from the development site via Southsea Road and the B5101 (Berse Road), joining the A483 at Junction 5. The route between the development and Junction 5 is approximately 5.5km in length with an approximate journey time of 7-12minutes in the AM peak, and 8-12 minutes in the PM peak².



3.2.16 Given that this route is largely the same as Alternative Route A for trips to the A525 (east), it is considered that this route is a suitable alternative to travelling via the A483 Junction 4.

Alternative Route B

3.2.17 Alternative Route B routes from the development site via Wrexham Road, Summerhill Road and joining the A483 at Junction 5. The route between the development and Junction 5 is approximately 5.2km in length with an approximate journey time of 8-10 minutes in the AM peak and 12 minutes in the PM.².

3.2.18 Given that this route is largely the same as Alternative Route B for trips to the A525 (east), it is considered that this route is a suitable alternative to travelling via the A483 Junction 4.

3.2.19 Route choice was considered in the TA, with traffic to/from the A483 North divided between the three routes as follows:

- 68% via A483 North at Junction 4; and
- 4% via Alternative Route A; and
- 28% via Alternative Route B.

3.2.20 As previously described, worsening congestion, increased delays and poor journey time reliability on the A525 would encourage traffic to use alternative routes where these are available.

3.2.21 It is therefore reasonable to estimate that in the order of 20% of trips would continue to travel via Junction 4, with the remainder taking the alternative routes due to the increased level of congestion. This is summarised in Table 3-3.

Table 3-3: Future Assignment - Journeys to A483 North

	Within TA			Future Assignment		
	%	Two-Way Trips		%	Two-Way Trips	
		AM	PM		AM	PM
Via J4	68%	22	15	20%	6	4
Alternative Route A	4%	1	1	8%	2	2
Alternative Route B	28%	9	6	72%	23	16

3.3 Development Trips at A483 Junction 4

3.3.1 Based upon the above analysis which revisits the development trip generation and assignment, the forecast number of trips through the junction is summarised in Table 3-4.



Table 3-4: Adjusted Trips through Junction 4

% Trips		No. Trips	
AM Peak	PM Peak	AM Peak	PM Peak
9%	7%	21	19

- 3.3.2 As shown in Table 3-4, the additional trips now predicted at the junction equate to approximately one vehicle every three minutes during the peak hours. The impact of these additional trips at Junction 4 is considered in Section 4 of this report.
- 3.3.3 It should be noted that this does not take into account the effect of any background traffic which also diverts due to increasing congestion at Junction 4.



4 Junction Capacity Assessments

4.1 Results Summary

4.1.1 Tables 4-1 to 4-3 summarise and compare the capacity of the junction for the AM and PM peak hours, based upon the scenarios below, with detailed outputs provided in **Appendix B**:

- 2030 Base + Committed Development; and
- 2030 Base + Committed Development + Development (Adjusted).

4.1.2 The results are based upon the existing layout of the junction and represent the scenario whereby the WG does not deliver its intended scheme and there is unrestricted background traffic growth.

4.1.3 The models have been optimised based upon the existing operation of the junction, which prioritises the A483 slip roads at the expense of the A525.

Table 4-1: A483 Junction 4 – 2030 Base + Committed Development

Arm (turn)	AM Peak			PM Peak		
	DoS (%)	Delay (s)	Queue (pcu)	DoS (%)	Delay (s)	Queue (pcu)
A525 West EB (ahead, left)	138%	586	133	177%	962	168
A525 West EB (ahead)	66%	50	6	126%	481	31
A483 NB Off Slip (left)	57%	34	7	97%	77	24
A483 NB Off Slip (right)	64%	36	8	36%	25	5
A525 West WB (ahead)	51%	22	4	77%	12	4
A525 West WB (right)	17%	3	0	14%	4	2
A525 East EB (ahead)	70%	10	10	45%	22	5
A525 East EB (right)	27%	3	3	21%	45	4
A483 SB Off Slip (left)	97%	86	22	30%	32	3
A483 SB off Slip (right)	48%	31	6	91%	68	15
A5425 East WB (left, ahead)	220%	1094	176	177%	887	157
Cycle Time	90 seconds			90 seconds		
PRC (%)	-144.6			-120.2		



Table 4-2: A483 Junction 4 – 2030 Base + Committed Development + Development (Adjusted)

Arm (turn)	AM Peak			PM Peak		
	DoS (%)	Delay (s)	Queue (pcu)	DoS (%)	Delay (s)	Queue (pcu)
A525 West EB (ahead, left)	139%	600	139	179%	975	173
A525 West EB (ahead)	66%	50	6	126%	480	31
A483 NB Off Slip (left)	57%	34	7	97%	77	24
A483 NB Off Slip (right)	64%	36	8	36%	25	5
A525 West WB (ahead)	52%	19	3	77%	11	5
A525 West WB (right)	17%	3	0	13%	5	2
A525 East EB (ahead)	71%	10	10	45%	22	5
A525 East EB (right)	27%	3	3	21%	43	4
A483 SB Off Slip (left)	97%	86	22	30%	32	3
A483 SB off Slip (right)	48%	31	6	92%	69	15
A525 East WB (left, ahead)	224%	1111	181	180%	906	163
Cycle Time	90 seconds			90 seconds		
PRC (%)	-149.2			-124.7		

Table 4-3: Comparison - Impact of Development

Arm (turn)	AM Peak			PM Peak		
	DoS (%)	Delay (s)	Queue (pcu)	DoS (%)	Delay (s)	Queue (pcu)
A525 West EB (ahead, left)	1%	14	6	1%	13	5
A525 West EB (ahead)	0%	0	0	0%	-1	0
A483 NB Off Slip (left)	0%	0	0	0%	0	0
A483 NB Off Slip (right)	0%	0	0	0%	0	0
A525 West WB (ahead)	1%	-3	-1	0%	-1	1
A525 West WB (right)	0%	0	0	0%	1	0
A525 East EB (ahead)	0%	0	0	0%	0	0
A525 East EB (right)	0%	0	0	0%	-2	0
A483 SB Off Slip (left)	0%	0	0	0%	0	0
A483 SB off Slip (right)	0%	0	0	1%	1	0
A525 East WB (left, ahead)	4%	17	5	3%	19	6
PRC (%)	-4.6%			-4.5%		

4.2 Assessment of Impact

Driver Delay

- 4.2.1 The results tables in Section 4.1 demonstrate that that delays on the A483 would remain relatively low, with the maximum delay on any arm being 86 seconds on the northbound off-slip to turn left in the PM peak. This is unchanged in the ‘with development’ scenario. Note that the model is optimised to ensure that queuing does not extend beyond the slip road onto the mainline of the A483.



- 4.2.2 Large delays are predicted on the A525 in both directions in the '2030 Base + Committed' scenario, with theoretical delays of between 586 and 1094 seconds (10 – 18 minutes) depending on movement.
- 4.2.3 However, it is clear that the proposed development would only result in a very marginal increase in delay of between 13 – 19 seconds. This would be imperceptible in terms of overall delay on this route.
- 4.2.4 It should also be noted that these delays are only theoretical as the junction model does not take into account the effects of any peak spreading which may occur, or the diversion of background traffic due to congestion.

Queues

- 4.2.5 Queues on the A483 slip roads would be unchanged as a result of the development and would be retained within the length of the slip roads.
- 4.2.6 Whilst large queues are predicted to form on the A525, these would only be increased by 5 – 6 vehicles as a result of the development, which would be imperceptible in the context of pre-existing queues on this route.

4.3 Conclusions

- 4.3.1 In the 2030 scenario, the A483 slip roads would remain within capacity, delays would be acceptable, and queues would be retained within the extent of the slip roads.
- 4.3.2 Whilst there would be queueing and delay on the A525, the impact of the development would be imperceptible.

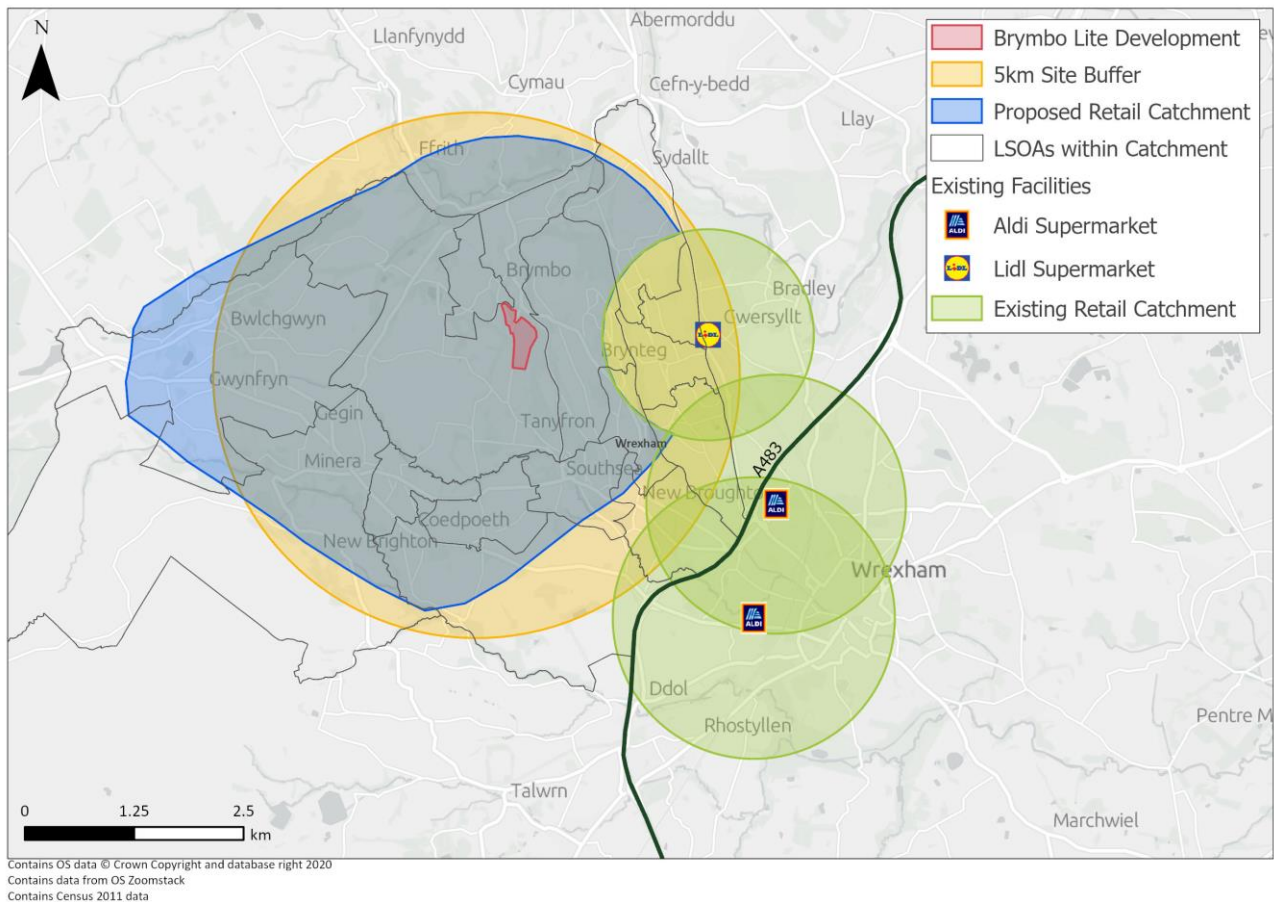


5 Development Effects on Wider Travel Patterns

5.1 Retail Development

5.1.1 Appendix C to the TA identifies a catchment area for the retail element of the development based upon distance from competitor stores (Figure 5-1).

Figure 5-1: Extract - TA Appendix C Fig 3-1 Retail Catchment



5.1.2 The assessment finds that the retail catchment would include the surrounding area to the west of the A483 (highlighted blue above).

5.1.3 The retail facility would attract 112 trips in the AM peak and 159 trips in the PM peak hour drawn from within the blue catchment area.

5.1.4 However, many food retail trips are not 'new' trips on the highway network, but are trips diverted from other retail stores. In this case, those trips would be to the existing food retail stores grouped alongside the A483.



- 5.1.5 The retail impact assessment accompanying the application identified that approximately 24% of the proposed trade to the new retail offering would be drawn from the Aldi and Morrisons stores adjacent to Junction 4, equating to 27 trips in the AM peak and 38 trips in the PM peak.
- 5.1.6 A high proportion of food retail trips in the peak hours are also 'linked trips', typically being made as part of a journey to or from work. However, the provision of retail development will undoubtedly reduce vehicle mileage in the areas surrounding the A483, and will reduce the need to travel into Wrexham to access these facilities, again encouraging local living and aligning with WG objectives.
- 5.1.7 It can therefore be concluded that provision of on-site retail will reduce the number of existing trips through Junction 4 in the peak hours.

5.2 Primary School

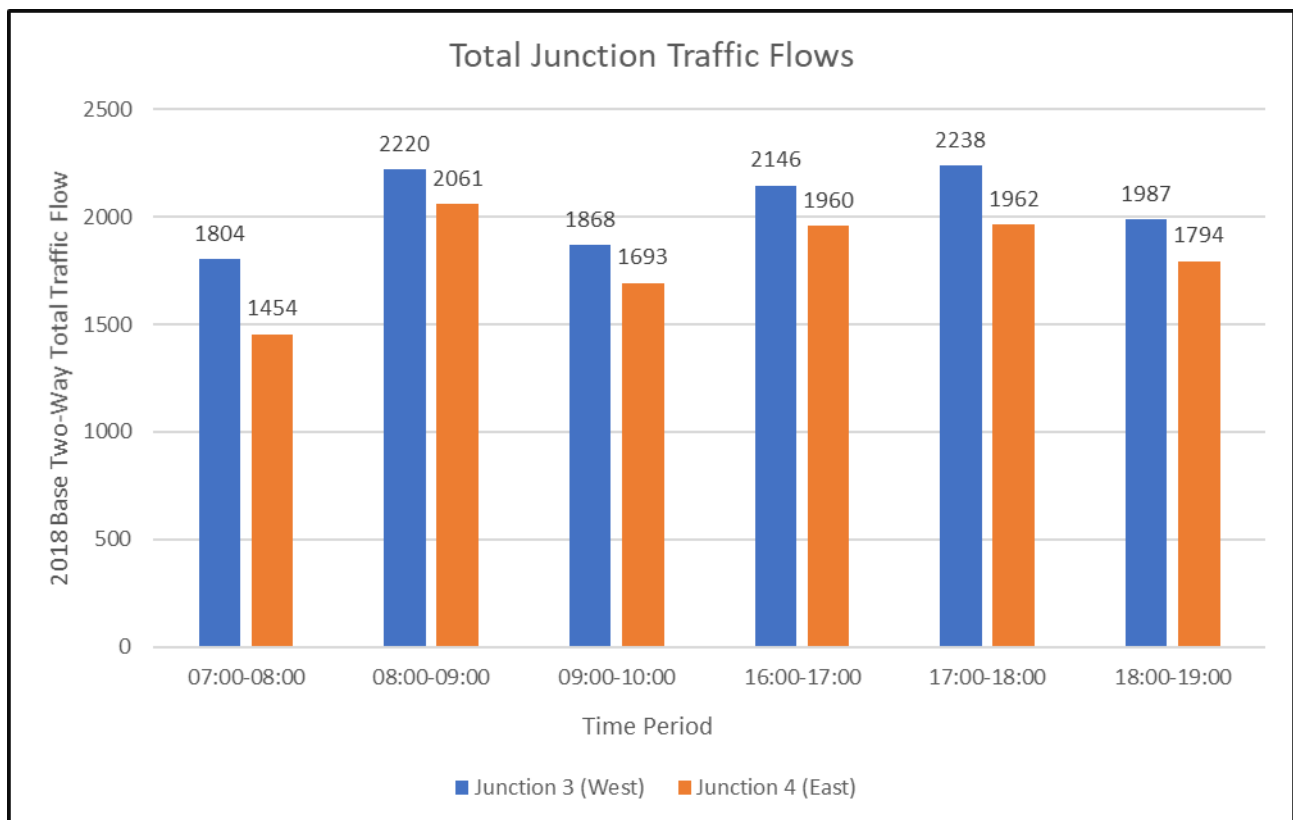
- 5.2.1 Based on information provided by WC, the majority of existing primary schools in the area surrounding Brymbo are regularly over-subscribed and lack physical capacity for expansion. It was originally proposed to provide a one-form entry primary school on the site but this was increased to two-form entry due to the lack of capacity in the surrounding area.
- 5.2.2 The proposed two-form entry primary school will provide 420 places. Based upon the calculations using Census data presented within the TA, the proposed development would generate just 54 primary age pupils, the majority of which can be assumed to attend the new school, whilst the remainder would be drawn from the areas surrounding Brymbo. A total of approximately 366 spare school places would therefore be available to accommodate the current level of unmet demand which is being provided for elsewhere.
- 5.2.3 As there are currently very few spare spaces locally, the proposed school will therefore significantly reduce the number of pupils being driven long distances to access school places elsewhere, particularly in Wrexham. This will therefore reduce the number of existing and future vehicle trips via the A525 at Junction 4.
- 5.2.4 Provision of the school will also add a critical mass to support delivery and use of the local centre. Within a single accessible location there will be retail, education and healthcare provision, providing opportunities for 'linked trips' between these land uses which will again serve to reduce levels of out-migration. This would have the effect of lowering the residential trip rate further.
- 5.2.5 It can therefore be concluded that provision of an on-site primary school, in combination with the local centre, will lead to a reduction in vehicle trips at Junction 4.



6 Peak Spreading

6.1.1 As noted above, it is likely that road users will retime their journeys to avoid congestion. In order to identify the potential for peak spreading, analysis of the baseline surveys has been undertaken for each hour within the 07:00-10:00 and 16:00-19:00 peak periods. It should be noted that the baseline surveys at the junction were undertaken as two surveys (Junction 3 – western arms, and Junction 4 – eastern arms). Both surveys have been included in the assessment.

Figure 6-1: Traffic Flows During Peak Period



6.1.2 Figure 6-1 highlights that in the AM peak hour, total traffic flows through the junction are lower between 07:00 – 08:00 than between 08:00 – 09:00, the difference being approximately 24%.

6.1.3 In the PM peak hour, total traffic flows are lower between 18:00 – 19:00 than between 17:00 – 18:00, again the difference is approximately 10%.

6.1.4 Given the current operation of the junction, it is likely that drivers may choose to undertake their journey at a different time, travelling in the shoulder peaks, to encounter less traffic. The data above shows that there is significant scope for peak spreading to occur in the AM peak, and to a lesser extent in the PM peak.



- 6.1.5 It should be noted that the analysis presented above has been undertaken on the basis of total traffic through the junctions, and that peak spreading of some movements may alter the balance of flows, providing additional opportunity for further peak spreading to occur.
- 6.1.6 It can therefore be concluded that there is capacity for background traffic growth and development trips through the junction to be accommodated both shortly before and after the peak hours.



7 Working from Home

7.1 Remote Working Policy

7.1.1 As of September 2020, the WG policy is to increase remote working³. The WG recognises the following benefits for local economies, businesses, individuals, and the environment:

- *“A reduction in travel time and expense*
- *More flexibility and better work – life balance*
- *Increased productivity*
- *Less traffic, especially at peak times*
- *Less noise and air pollution*
- *The opportunity to redesign our towns and city centres.*

We are exploring options for a network of remote working hubs in towns and communities. This will:

- *allow people to work nearer to where they live*
- *allow individuals to work together in their local community*
- *provide a space for those who cannot or do not want to work from home*

We would like to see a workplace model where staff can choose to work in the office, at home or in a hub location.”

7.1.2 WG policy expressly states:

“We would like to have 30% of Welsh workers working from home or close to home.”

7.1.3 The local centre provisions within the development will enable the WG policy aspirations.

7.2 Working from Home - Development Trips

7.2.1 Tables 7-1 and 7-2 summarise the effects on development trip generation and vehicle movements through Junction 4 in the event that the WG meets its policy objectives.

Table 7-1: Working from Home - Existing & WG Policy Comparison

	Existing	WG Policy
Work from Home %	3%	30%
Car Driver Mode Share %	80%	53%

³ <https://gov.wales/remote-working>, published 14th September 2020, last updated 11th January 2021.



- 7.2.2 Table 7-1 highlights that if the proportion of people working from home increased from 3% to 30%, there would be a corresponding deduction in other modes of transport, predominantly car drivers which for the purpose of this exercise would reduce from 80% to 53%.

Table 7-2: Impact of Working from Home on Development Trips

	Two-Way Development Trips			
	Existing		WG Policy	
	AM	PM	AM	PM
Total Trips	183	172	121	127
Trips Through Junction 4	21	19	14	13

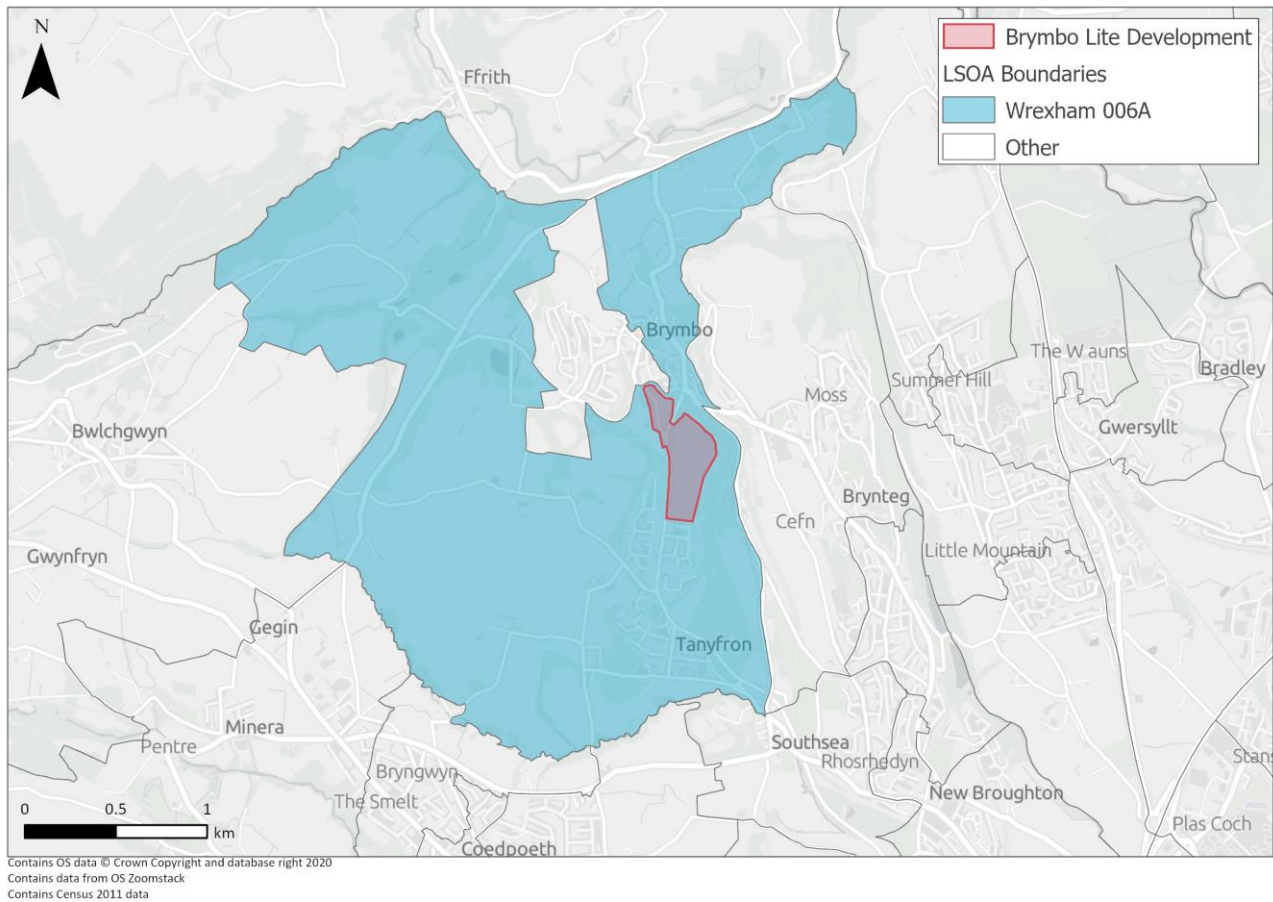
- 7.2.3 As highlighted in Table 7-2, the WG policy would further reduce the number of development trips through the junction. It can be concluded from this that the WG policy would further reduce the already imperceptible increase in queueing or delay at the junction resultant from the proposed development.

7.3 Working from Home - Wider Travel Changes

- 7.3.1 The development site sits within the 'Wrexham 006A' Lower Super Output Area which also includes the most recently constructed elements of Brymbo, either side of Phoenix Drive, and the settlement of Tanyfron (Figure 7-1).



Figure 7-1: Wrexham 006A LSOA



- 7.3.2 At the time of the 2011 Census, there were 1,457 respondents in employment within the LSOA. This is likely to have increased with the completion of new development in the intervening period.
- 7.3.3 Just 3% of respondents worked from home at the time of the Census, with 80% travelling as the driver of a car or van.
- 7.3.4 If the WG objective is met, 30% of respondents would work from home with 53% driving to work. The effect of this change in terms of Census respondents is highlighted in Table 7-3.

Table 7-3: Wrexham 006A LSOA - Change in Travel to Work with WG Objectives

Method of Travel to Work	2011 Census		WG Objective		Change	
	%	No.	%	No.	%	No.
Work mainly at or from home	3%	42	30%	437	+27%	+395
Driving a car or van	80%	1,161	53%	766	-27%	-395

- 7.3.5 Whilst the WG policy is an objective, rather than a specific target, this exercise serves to highlight that there would be a substantial switch in travel patterns if this objective is met, with a reduction in 395 people driving to work in this area alone.



- 7.3.6 Even without the WG policy objective, the current levels of home-working are likely to be higher than those recorded in the 2011 census due to the increased levels of high-speed internet generally now available and likely to be enhanced further during the build-out period of this development.
- 7.3.7 Working from home, or working locally, will be further enabled within the Wrexham 006A LSOA by provision of local facilities as part of the development.
- 7.3.8 It can therefore be concluded that the WG policy will reduce the number of trips already travelling through Junction 4 in the peak hours. This would reduce existing congestion and provide capacity for further development.



8 Summary and Conclusions

8.1 Summary

- 8.1.1 The WG has issued a direction to refuse the proposed development at Brymbo on the basis that it considers there is no capacity at A483 Junction 4 to support further development.
- 8.1.2 The WG intends to deliver a major improvement scheme at Junction 4, the work to secure funding is underway with construction intended to begin within the next two years. This would provide additional capacity and would accommodate the proposed development.
- 8.1.3 In the event that the scheme does not progress, this TAA considers the effects of the proposed development. It finds that there are alternative routes to avoid the junction and only a small number of additional trips would pass through the junction in the peak hours.
- 8.1.4 The junction is at capacity and if the theoretical unrestricted growth predicted by TEMPro occurs, that this would worsen in the future. However, this TAA finds that the proposed development would have an imperceptible impact on the capacity of the junction.
- 8.1.5 This TAA also demonstrates that the provision of on-site retail uses and a primary school would reduce the need to travel for existing residents, and would reduce the number of existing trips across the A525 at Junction 4.
- 8.1.6 In addition, this report finds that there is capacity either side of the peak hours to accommodate traffic growth before and after the peak hours.
- 8.1.7 Furthermore, the development supports the WG policy objective that 30% of people will work remotely in the future, which will be enabled by the on-site local centre. The increase in remote working by both future and existing residents will reduce the need to travel by car in the peak hours, and will reduce congestion at Junction 4.

8.2 Conclusions

- 8.2.1 The proposed development will have an imperceptible impact on the capacity of Junction 4, which is proposed for improvement by the WG within the next two years.
- 8.2.2 It is further anticipated that traffic through the junction would reduce in the future as a result of the WG's remote working policies.
- 8.2.3 The WG's direction to refuse cannot therefore be justified against any relevant national or local planning policies.



Appendix A Revised Trip Generation, Distribution and Assignment

Trip Generation

Trip Rates

- Residential
- Retail
- Public House
- School
- Healthcare

Proposed Development Quantum

Residential	300 Dwellings
Retail	1394 sqm
Public House	372 sqm
School	420 pupils (2FE)
Healthcare	465 sqm

Trip Generation

Residential
Retail
Public House
School
School - Pupils
School - Staff
Healthcare

<i>Total Excluding Committed Dev (School)</i>	129	189	318	212	162	374
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Extant Permission

Planning Ref: 12/0816

1700 sqm	supermarket
93 sqm	retail units (x6)

2258 sqm Total

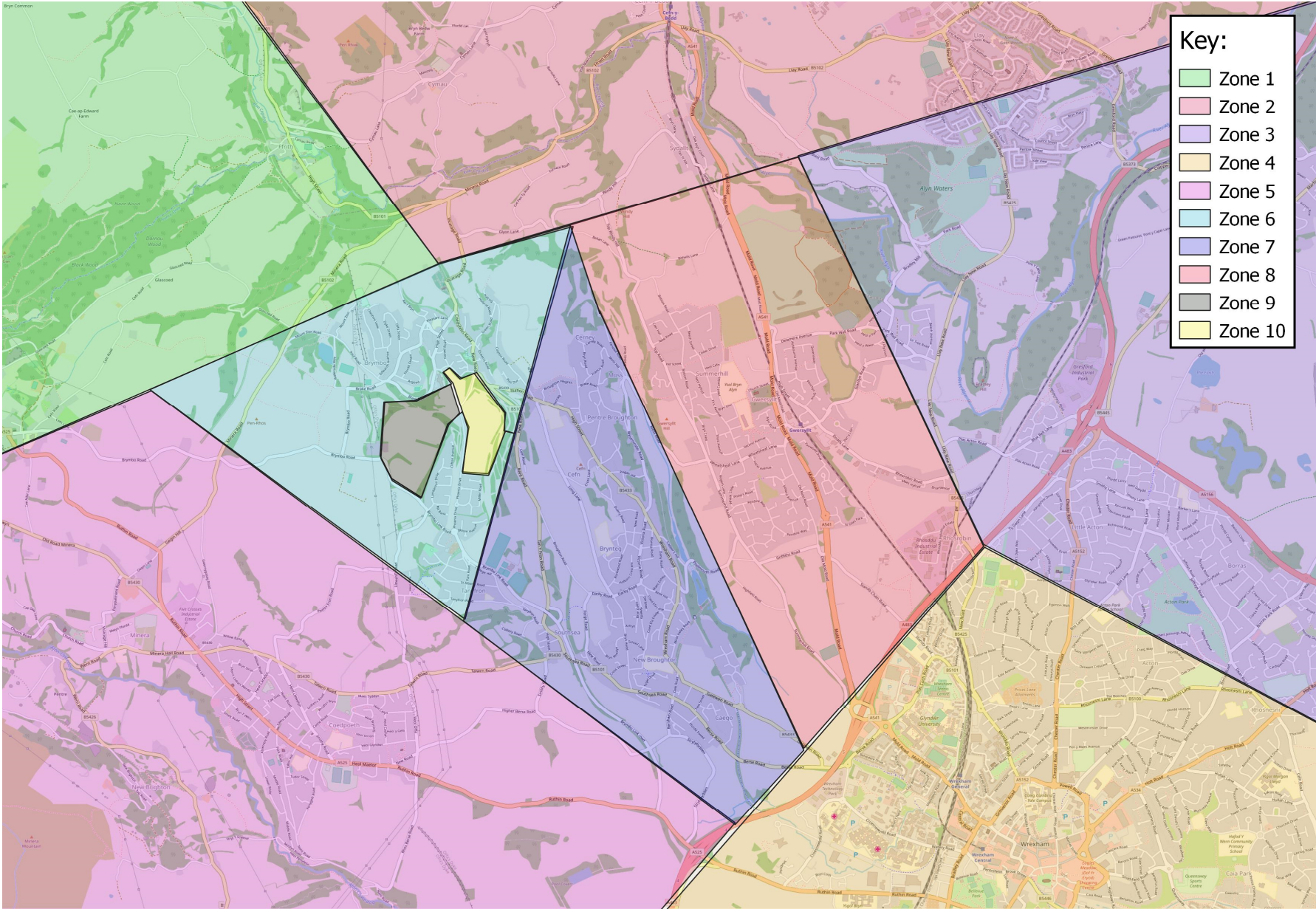
Retail

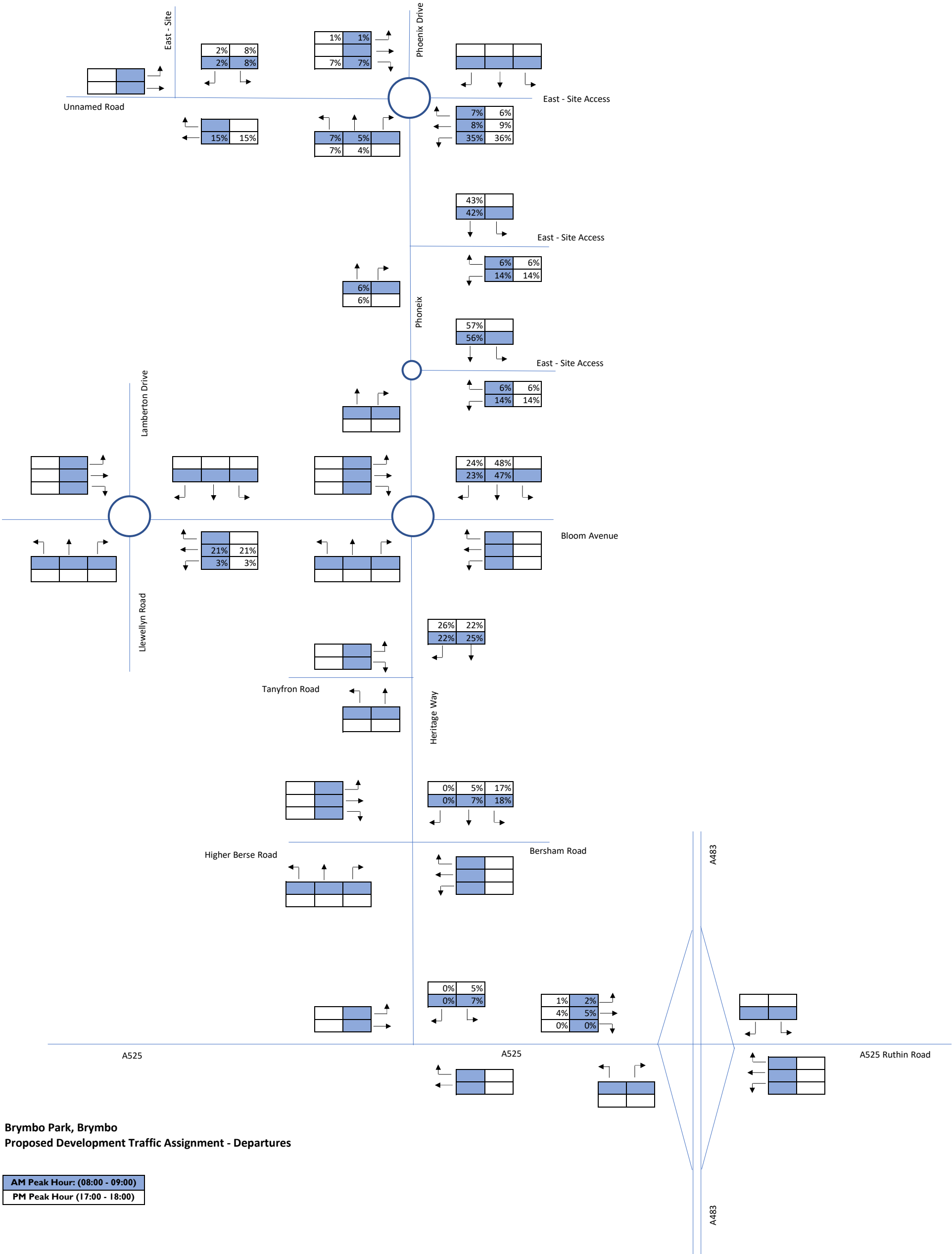
Net Proposed Development	30	102	132	89	26	115
(Total Proposed excl committed - Extant Retail)						

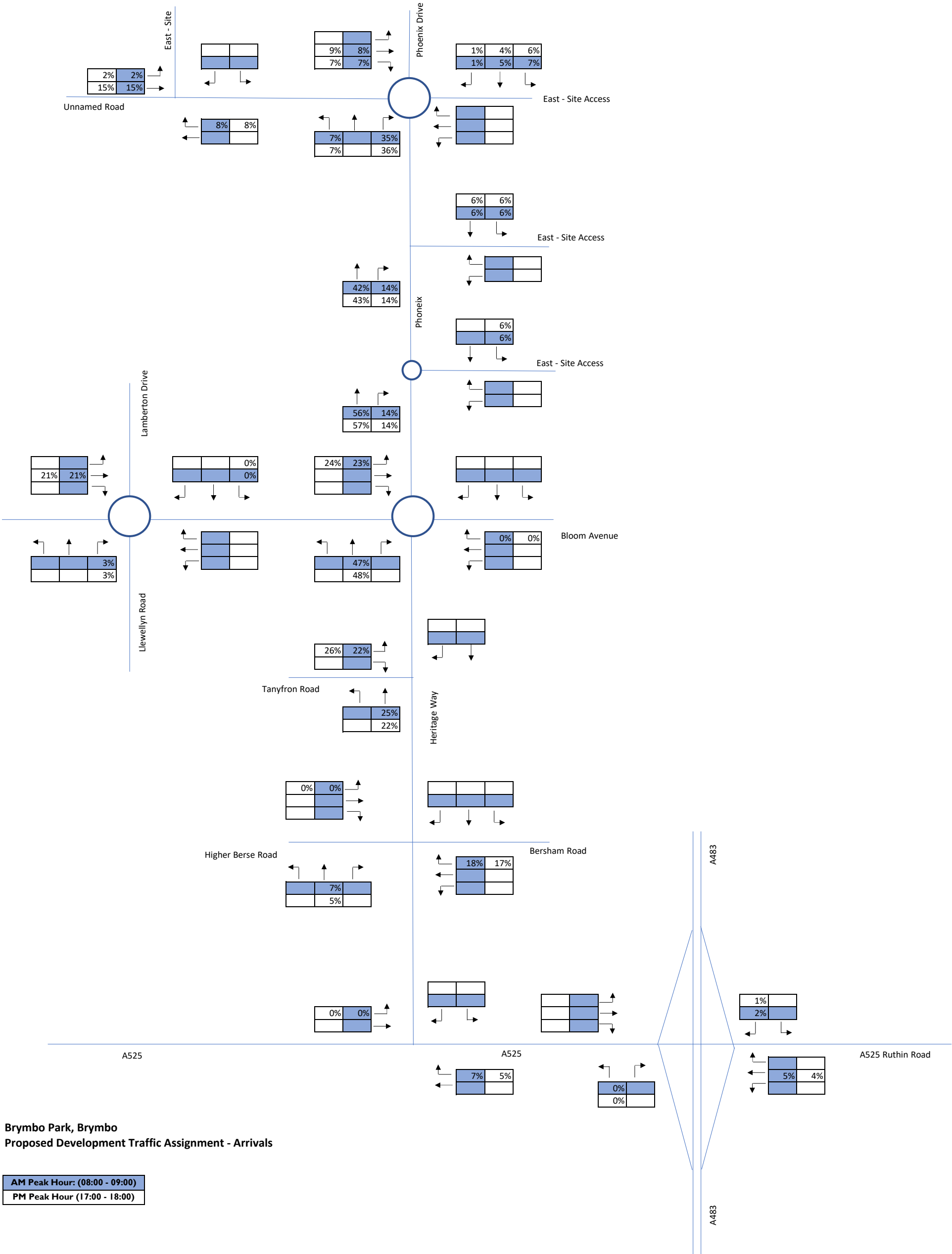
External Trip Distribution - Gravity Modelling

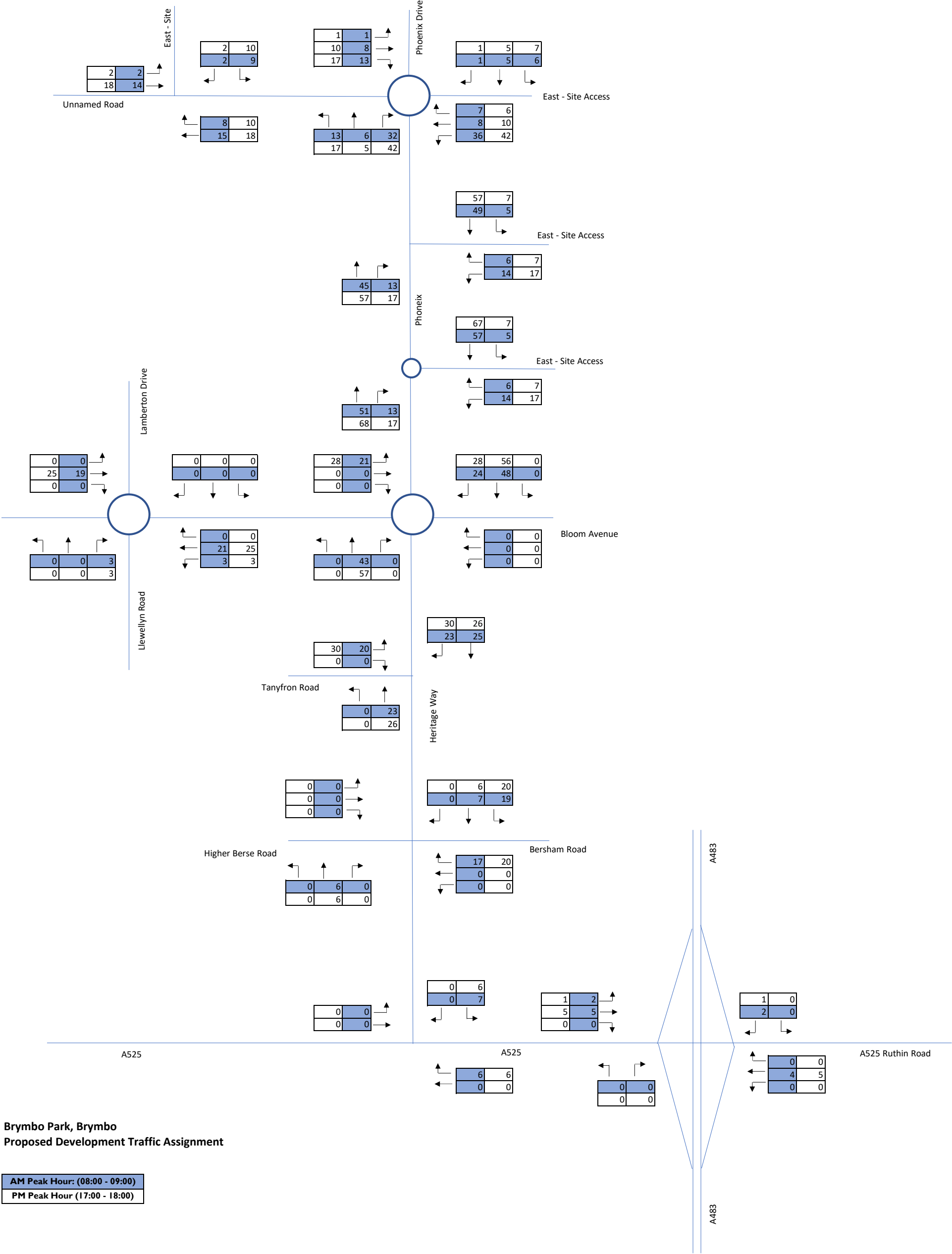
Whole Site

Zone	AM			PM		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	1	1	3	1	1	3
2	4	9	13	6	3	8
3	4	8	12	6	3	9
4	14	32	46	35	17	52
5	5	6	11	6	7	13
6	30	21	51	30	42	73
7	32	22	53	32	44	75
8	2	4	6	2	1	3
9	0	0	0	0	0	0
10	0	0	0	0	0	0
Total	91	103	194	118	117	235











Appendix B LINSIG Outputs

Basic Results Summary

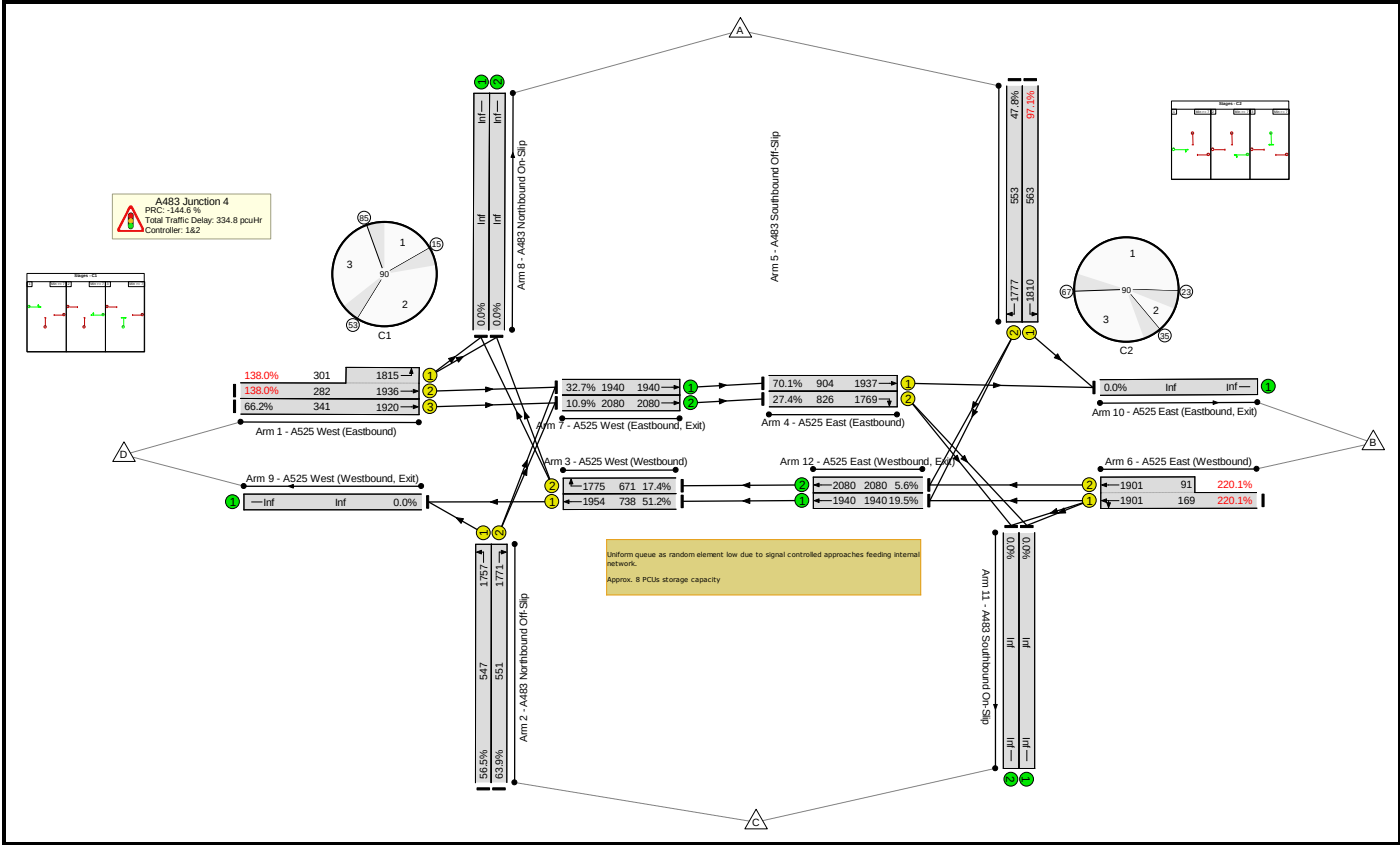
Basic Results Summary

User and Project Details

Project:	Brymbo Park, Brymbo
Title:	
Location:	
Client:	Brymbo Development Ltd
Additional detail:	
File name:	J2 _ A483 Junction 4 - Updated Base.lsg3x
Author:	
Company:	
Address:	

Scenario 5: '2030 Base + Com AM' (FG11: '2030 AM Base + Com', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	220.1%	0	0	0	334.8	-	-
A483 Junction 4	-	-	-		-	-	-	-	-	-	220.1%	0	0	0	334.8	-	-
1/2+1/1	A525 West (Eastbound) Ahead Left	U	C1:A		1	15	-	805	1936:1815	282+301	138.0 : 138.0%	-	-	-	131.1	586.1	133.4
1/3	A525 West (Eastbound) Ahead	U	C1:A		1	15	-	226	1920	341	66.2%	-	-	-	3.1	49.8	6.2
2/1	A483 Northbound Off-Slip Left	U	C1:C		1	27	-	309	1757	547	56.5%	-	-	-	2.9	33.5	7.1
2/2	A483 Northbound Off-Slip Right	U	C1:C		1	27	-	352	1771	551	63.9%	-	-	-	3.5	35.6	8.4
3/1	A525 West (Westbound) Ahead	U	C1:B		1	33	-	515	1954	738	51.2%	-	-	-	2.3	21.7	3.5
3/2	A525 West (Westbound) Right	U	C1:B		1	33	-	201	1775	671	17.4%	-	-	-	0.1	3.3	0.1
4/1	A525 East (Eastbound) Ahead	U	C2:A		1	41	-	741	1937	904	70.1%	-	-	-	1.8	10.2	9.5
4/2	A525 East (Eastbound) Right	U	C2:A		1	41	-	226	1769	826	27.4%	-	-	-	0.2	3.3	3.2
5/1	A483 Southbound Off-Slip Left	U	C2:B		1	27	-	547	1810	563	97.1%	-	-	-	13.0	85.5	21.7
5/2	A483 Southbound Off-Slip Right	U	C2:B		1	27	-	264	1777	553	47.8%	-	-	-	2.3	31.3	5.7
6/1+6/2	A525 East (Westbound) Left Ahead	U	C2:C		1	7	-	573	1901:1901	169+91	220.1 : 220.1%	-	-	-	174.1	1094.1	176.3

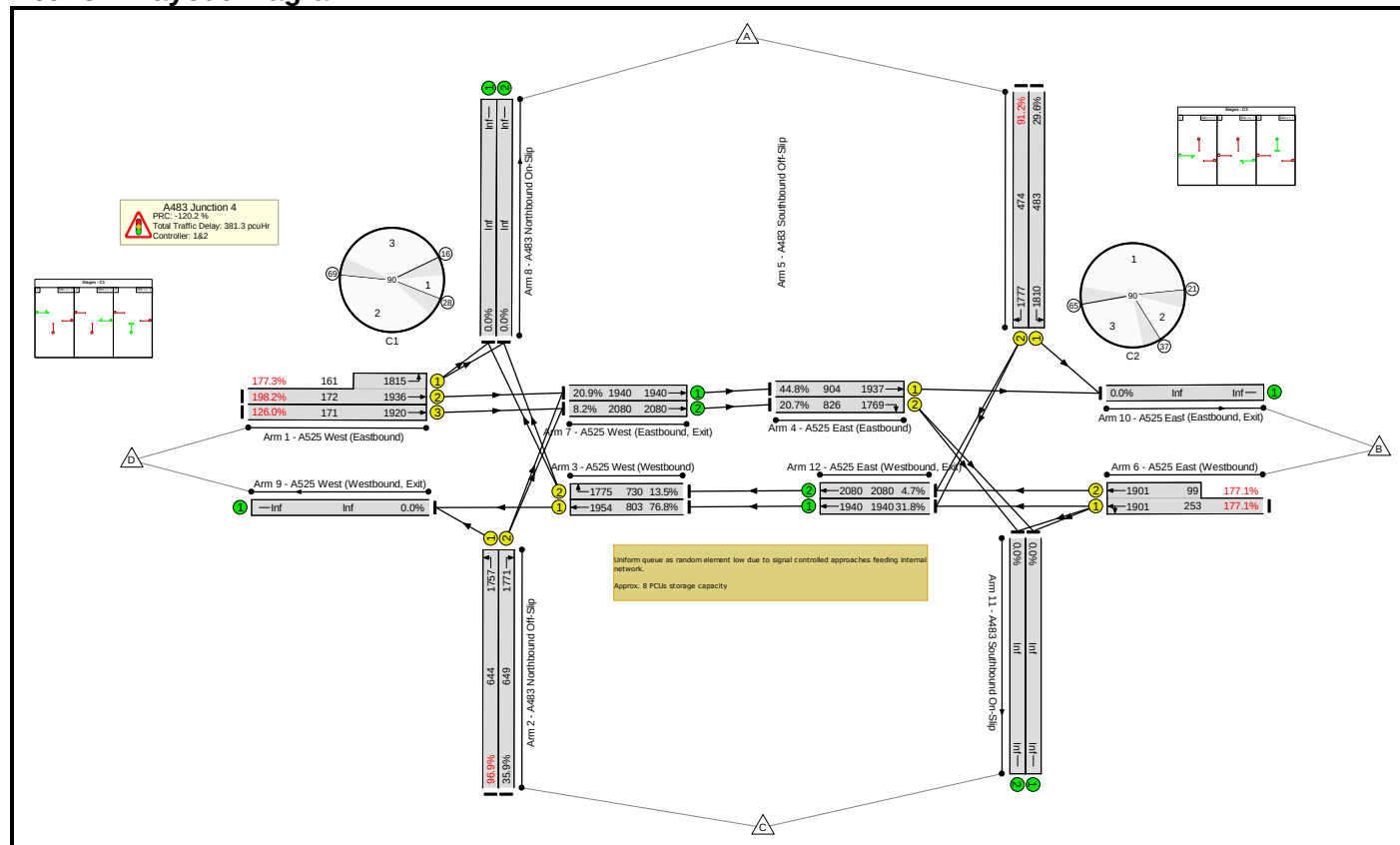
Basic Results Summary

7/1	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	741	1940	1940	32.7%	-	-	-	0.2	1.4	0.2
7/2	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	226	2080	2080	10.9%	-	-	-	0.1	1.0	0.1
12/1	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	515	1940	1940	19.5%	-	-	-	0.1	1.2	0.1
12/2	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	201	2080	2080	5.6%	-	-	-	0.0	0.9	0.0
			C1	PRC for Signalled Lanes (%):		-53.3		Total Delay for Signalled Lanes (pcuHr):		142.94		Cycle Time (s):		90			
			C2	PRC for Signalled Lanes (%):		-144.6		Total Delay for Signalled Lanes (pcuHr):		191.43		Cycle Time (s):		90			
				PRC Over All Lanes (%):		-144.6		Total Delay Over All Lanes(pcuHr):		334.82							

Basic Results Summary

Scenario 6: '2030 Base + Com PM' (FG12: '2030 PM Base + Com', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	198.2%	0	0	0	381.3	-	-
A483 Junction 4	-	-	-		-	-	-	-	-	-	198.2%	0	0	0	381.3	-	-
1/2+1/1	A525 West (Eastbound) Ahead Left	U	C1:A		1	7	-	627	1936:1815	172+161	198.2 : 177.3%	-	-	-	167.5	961.8	167.8
1/3	A525 West (Eastbound) Ahead	U	C1:A		1	7	-	215	1920	171	126.0%	-	-	-	28.7	480.7	30.9
2/1	A483 Northbound Off-Slip Left	U	C1:C		1	32	-	624	1757	644	96.9%	-	-	-	13.3	76.6	23.7
2/2	A483 Northbound Off-Slip Right	U	C1:C		1	32	-	233	1771	649	35.9%	-	-	-	1.6	25.1	4.5
3/1	A525 West (Westbound) Ahead	U	C1:B		1	36	-	759	1954	803	76.8%	-	-	-	2.0	11.5	3.9
3/2	A525 West (Westbound) Right	U	C1:B		1	36	-	175	1775	730	13.5%	-	-	-	0.1	3.5	2.1
4/1	A525 East (Eastbound) Ahead	U	C2:A		1	41	-	574	1937	904	44.8%	-	-	-	2.5	22.2	4.8
4/2	A525 East (Eastbound) Right	U	C2:A		1	41	-	215	1769	826	20.7%	-	-	-	2.1	45.4	4.4
5/1	A483 Southbound Off-Slip Left	U	C2:B		1	23	-	143	1810	483	29.6%	-	-	-	1.3	31.6	3.0
5/2	A483 Southbound Off-Slip Right	U	C2:B		1	23	-	432	1777	474	91.2%	-	-	-	8.1	67.7	14.7
6/1+6/2	A525 East (Westbound) Left Ahead	U	C2:C		1	11	-	624	1901:1901	253+99	177.1 : 177.1%	-	-	-	153.7	886.7	157.3

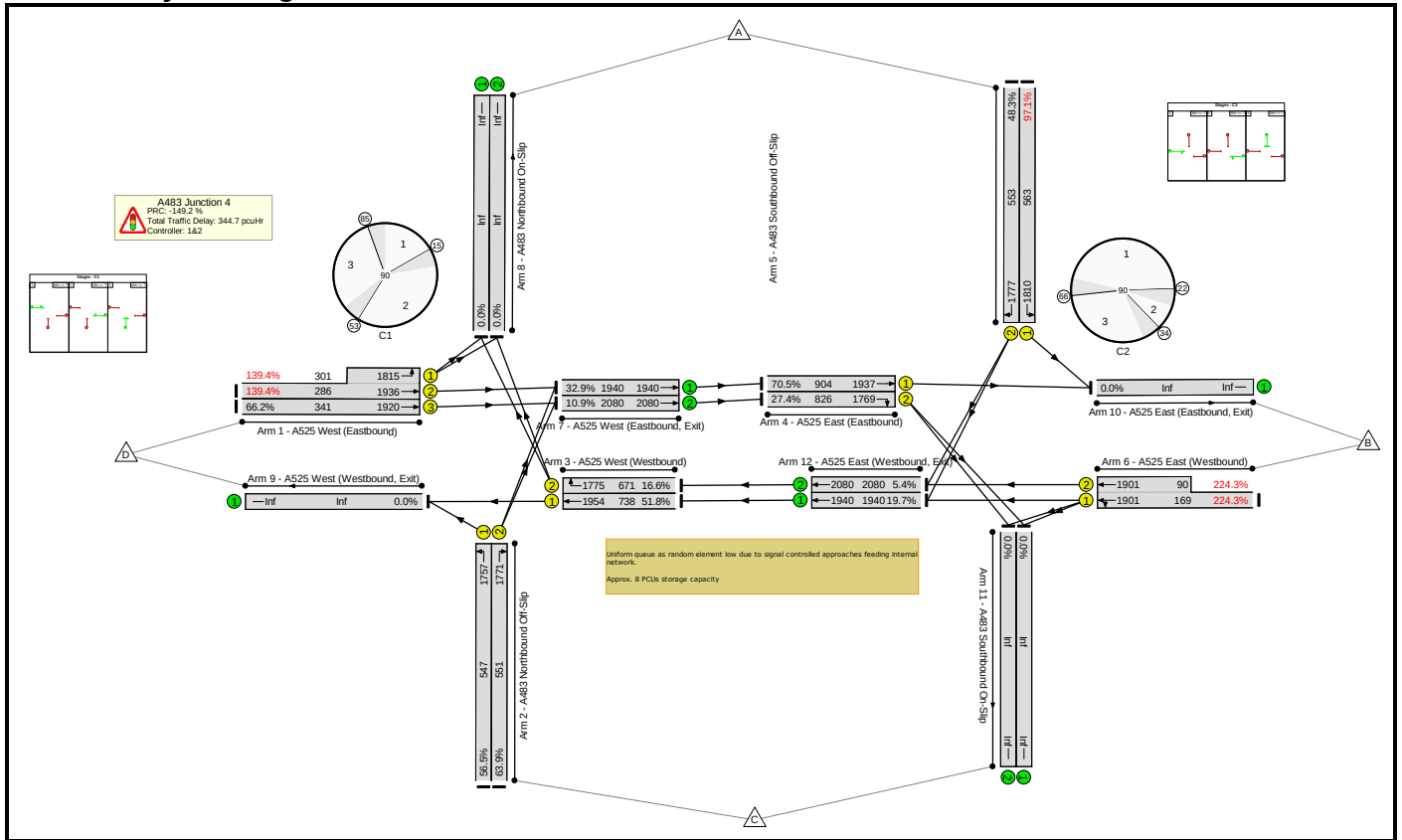
Basic Results Summary

7/1	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	574	1940	1940	20.9%	-	-	-	0.1	1.2	0.1
7/2	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	215	2080	2080	8.2%	-	-	-	0.0	0.9	0.0
12/1	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	759	1940	1940	31.8%	-	-	-	0.2	1.4	0.2
12/2	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	175	2080	2080	4.7%	-	-	-	0.0	0.9	0.0
			C1	PRC for Signalled Lanes (%):		-120.2		Total Delay for Signalled Lanes (pcuHr):		213.19		Cycle Time (s):		90			
			C2	PRC for Signalled Lanes (%):		-96.8		Total Delay for Signalled Lanes (pcuHr):		167.71		Cycle Time (s):		90			
				PRC Over All Lanes (%):		-120.2		Total Delay Over All Lanes(pcuHr):		381.33							

Basic Results Summary

Scenario 11: '2030 Base + Com + Dev (Adjusted) AM' (FG21: '2030 AM Base + Com + Dev (Adjusted)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	224.3%	0	0	0	344.7	-	-
A483 Junction 4	-	-	-		-	-	-	-	-	-	224.3%	0	0	0	344.7	-	-
1/2+1/1	A525 West (Eastbound) Ahead Left	U	C1:A		1	15	-	818	1936:1815	286+301	139.4 : 139.4%	-	-	-	136.4	600.1	138.8
1/3	A525 West (Eastbound) Ahead	U	C1:A		1	15	-	226	1920	341	66.2%	-	-	-	3.1	49.8	6.2
2/1	A483 Northbound Off-Slip Left	U	C1:C		1	27	-	309	1757	547	56.5%	-	-	-	2.9	33.5	7.1
2/2	A483 Northbound Off-Slip Right	U	C1:C		1	27	-	352	1771	551	63.9%	-	-	-	3.5	35.6	8.4
3/1	A525 West (Westbound) Ahead	U	C1:B		1	33	-	525	1954	738	51.8%	-	-	-	2.0	19.2	3.1
3/2	A525 West (Westbound) Right	U	C1:B		1	33	-	201	1775	671	16.6%	-	-	-	0.1	3.2	0.1
4/1	A525 East (Eastbound) Ahead	U	C2:A		1	41	-	750	1937	904	70.5%	-	-	-	1.8	10.0	9.5
4/2	A525 East (Eastbound) Right	U	C2:A		1	41	-	226	1769	826	27.4%	-	-	-	0.2	3.4	3.2
5/1	A483 Southbound Off-Slip Left	U	C2:B		1	27	-	547	1810	563	97.1%	-	-	-	13.0	85.5	21.7
5/2	A483 Southbound Off-Slip Right	U	C2:B		1	27	-	267	1777	553	48.3%	-	-	-	2.3	31.4	5.8
6/1+6/2	A525 East (Westbound) Left Ahead	U	C2:C		1	7	-	580	1901:1901	169+90	224.3 : 224.3%	-	-	-	179.0	1111.0	181.4

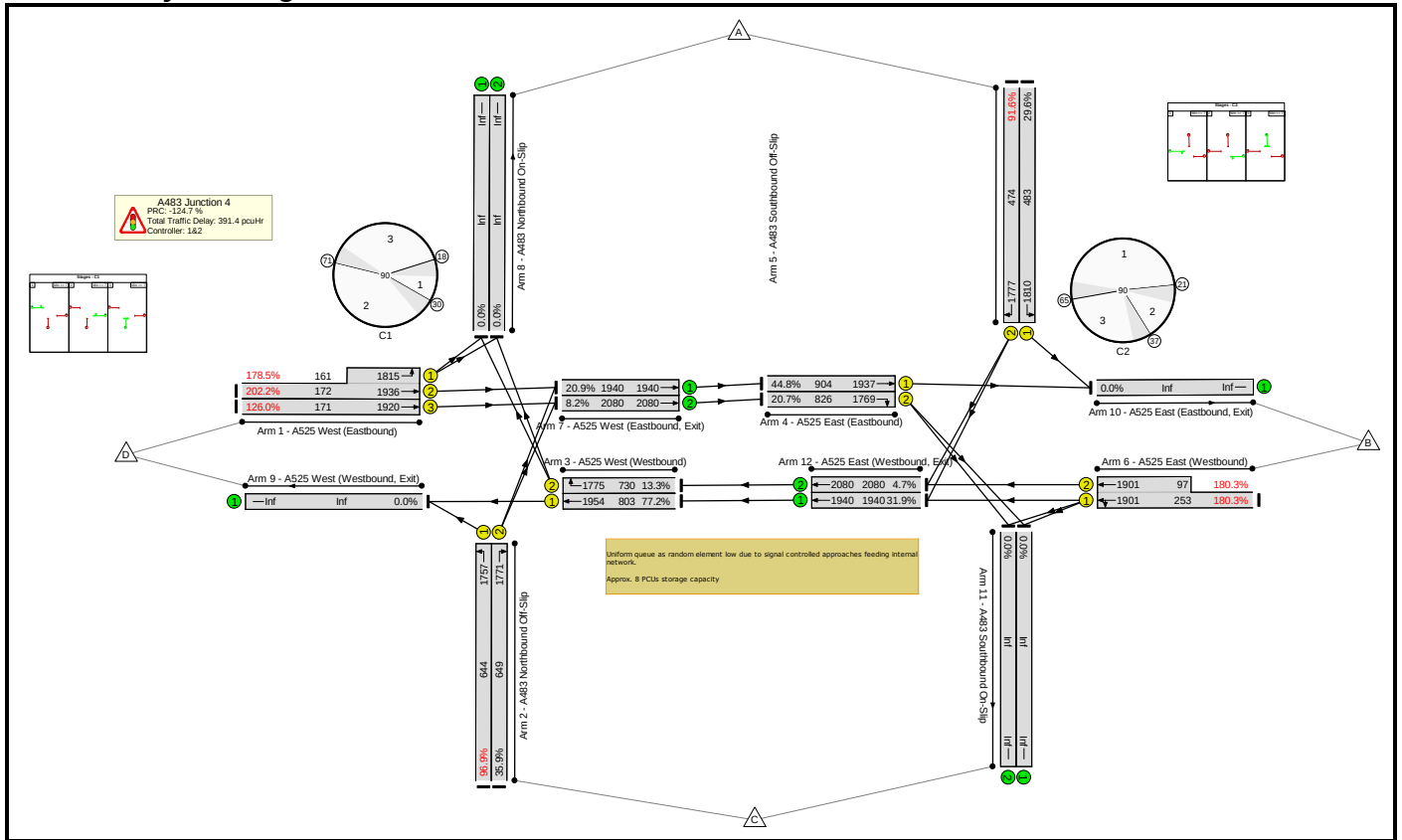
Basic Results Summary

7/1	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	750	1940	1940	32.9%	-	-	-	0.2	1.4	0.2
7/2	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	226	2080	2080	10.9%	-	-	-	0.1	1.0	0.1
12/1	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	525	1940	1940	19.7%	-	-	-	0.1	1.2	0.1
12/2	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	201	2080	2080	5.4%	-	-	-	0.0	0.9	0.0
			C1	PRC for Signalled Lanes (%):			-54.9	Total Delay for Signalled Lanes (pcuHr):			147.97	Cycle Time (s):			90		
			C2	PRC for Signalled Lanes (%):			-149.2	Total Delay for Signalled Lanes (pcuHr):			196.31	Cycle Time (s):			90		
				PRC Over All Lanes (%):			-149.2	Total Delay Over All Lanes(pcuHr):			344.74						

Basic Results Summary

Scenario 12: '2030 Base + Com + Dev (Adjusted) PM' (FG22: '2030 PM Base + Com + Dev (Adjusted)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	202.2%	0	0	0	391.4	-	-
A483 Junction 4	-	-	-		-	-	-	-	-	-	202.2%	0	0	0	391.4	-	-
1/2+1/1	A525 West (Eastbound) Ahead Left	U	C1:A		1	7	-	636	1936:1815	172+161	202.2 : 178.5%	-	-	-	172.3	975.3	172.7
1/3	A525 West (Eastbound) Ahead	U	C1:A		1	7	-	215	1920	171	126.0%	-	-	-	28.7	480.3	30.9
2/1	A483 Northbound Off-Slip Left	U	C1:C		1	32	-	624	1757	644	96.9%	-	-	-	13.3	76.6	23.7
2/2	A483 Northbound Off-Slip Right	U	C1:C		1	32	-	233	1771	649	35.9%	-	-	-	1.6	25.1	4.5
3/1	A525 West (Westbound) Ahead	U	C1:B		1	36	-	769	1954	803	77.2%	-	-	-	1.8	10.7	5.1
3/2	A525 West (Westbound) Right	U	C1:B		1	36	-	175	1775	730	13.3%	-	-	-	0.1	5.3	2.4
4/1	A525 East (Eastbound) Ahead	U	C2:A		1	41	-	581	1937	904	44.8%	-	-	-	2.5	22.0	5.0
4/2	A525 East (Eastbound) Right	U	C2:A		1	41	-	215	1769	826	20.7%	-	-	-	2.1	43.4	4.4
5/1	A483 Southbound Off-Slip Left	U	C2:B		1	23	-	143	1810	483	29.6%	-	-	-	1.3	31.6	3.0
5/2	A483 Southbound Off-Slip Right	U	C2:B		1	23	-	434	1777	474	91.6%	-	-	-	8.3	68.9	14.9
6/1+6/2	A525 East (Westbound) Left Ahead	U	C2:C		1	11	-	632	1901:1901	253+97	180.3 : 180.3%	-	-	-	159.0	905.9	162.6

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7/1	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	581	1940	1940	20.9%	-	-	-	0.1	1.2	0.1
7/2	A525 West (Eastbound, Exit) Ahead	U	-		-	-	-	215	2080	2080	8.2%	-	-	-	0.0	0.9	0.0
12/1	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	769	1940	1940	31.9%	-	-	-	0.2	1.4	0.2
12/2	A525 East (Westbound, Exit) Ahead	U	-		-	-	-	175	2080	2080	4.7%	-	-	-	0.0	0.9	0.0
			C1	PRC for Signalled Lanes (%):		-124.7		Total Delay for Signalled Lanes (pcuHr):				217.87		Cycle Time (s):		90	
			C2	PRC for Signalled Lanes (%):		-100.3		Total Delay for Signalled Lanes (pcuHr):				173.13		Cycle Time (s):		90	
				PRC Over All Lanes (%):		-124.7		Total Delay Over All Lanes(pcuHr):				391.43					