MAGNA PARK Extension

HYBRID APPLICATION:

15/01531/OUT

Traffic and Transport:

Supplementary Transport Assessment in Response to Highways England

21 April 2016

IDI Gazeley

Brookfield Logistics Properties

www.brookfieldlogisticsproperties.com

Ashcroft, Jonathan

Subject: FW: ATC Report and Meeting w HE on 18th April
Attachments: Append E Access Proposals North.pdf; S4 2026 AM Peak Base+CD+PD+ LI Changes.vao; S4 2026 PM Peak Base+CD+PD+LI Changes.vao

Introduction

The statement below is our response to AECOM's Technical Note 5 (TN 5) dated 15 March 2016 which has been prepared on behalf of Highways England.

For ease of reference TN 5 has been appended to this email together with the revised ARCADY analysis shown above. The drawing showing the proposed northern access arrangements from the A5 has not been appended as it was included as Appendix E of the original Transport Assessment prepared for the Hybrid Planning Application.

Kind Regards

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From: Nora Galley
Sent: 14 April 2016 16:35
To: Mark Patterson <M.Patterson@harborough.gov.uk>; O'Toole, Aoife <Aoife.OToole@aecom.com>; Stewart, Emma <Emma.Stewart@highwaysengland.co.uk>
Subject: FW: ATC Report and Meeting w HE on 18th April

Dear Mark, Aoife and Emma –

In advance of our meeting on Monday, please see the email below from Jonathan Ashcroft and the attachment to which it refers.

I will circulate a suggested (formal) agenda later today or first thing in the morning – though suggest we simply follow Jon's list 1-5 below.

Kind regards,

Nora

Nora Galley
BA, MA, MPhil, MRTPI, FRSA

Director
Now Planning

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From: Ashcroft, Jonathan [mailto:jon.ashcroft@aecom.com]
Sent: 14 April 2016 16:12
To: Nora Galley <noragalley@nowplanning.co.uk>; Gwyn Stubbings (gwyn.stubbings@brookfieldlogistics.com) <gwyn.stubbings@brookfieldlogistics.com>
Subject: RE: ATC Report and Meeting w HE on 18th April

Nora,

Please find set out below our response to Technical Note 5.

This note has been prepared in response to a request for further information set out in AECOM's Technical Note 5 (TN 5) dated 15 March 2016 which has been prepared on behalf of Highways England. The note has been prepared in advance of a meeting with Highways England scheduled for Monday 18 April 2016.

The main issues raised in TN 5 are:

1. Amended geometric parameters at A5 northern access roundabout.
2. Assignment of Logistics Institute trips at A5 northern access roundabout.
3. A5 Gibbet Hill roundabout – cost sharing agreement.
4. A4303/ A426 roundabout – queuing to M1 Junction 20.
5. Scale and size of HGV Training Centre.

1. It was reported in paragraph 4.4 of the Supplementary Transport Assessment (STA) that there were a number of errors identified in the original measurements of the geometric parameters at the proposed A5 northern access roundabout. The most significant error related to the entry radius which had been measured incorrectly on each entry arm. Minor changes to other parameters were also made and a comparison of the original and revised measurements was set out in Table 4.1 of the STA. All subsequent ARCADY analysis was based on the revised measurements. No changes have been made to the design of the A5 northern access roundabout which was included as Appendix E in the original Transport Assessment for the Hybrid Application. For convenience Appendix E is attached to this email.
2. The expectation is that the Logistics Institute will be signed via the A5/ Mere Lane roundabout for traffic approaching from both directions on the A5. This is to avoid potential conflict with the four units in the north western corner of the site. However it is acknowledged that some visitors approaching the Logistics Institute on the A5 from the north may choose to ignore the signage, turn left at the proposed northern access roundabout and drive southbound within the site to reach the Logistics Institute. To represent this potential situation, a sensitivity test has been undertaken whereby all traffic associated with the Logistics Institute with an origin or a destination to the north west has been reassigned via the northern access roundabout. ARCADY has been rerun on this basis and the northern access roundabout is predicted to operate within capacity during both peaks. During the AM peak a maximum RFC of 0.69 is predicted on the A5 northern arm while during the PM peak a maximum RFC of 0.59 is predicted on the A5 southern arm. Predicted queue lengths are two vehicles and one vehicle respectively. The revised ARCADY output is attached.
3. This is for further discussion at the meeting but initial thoughts are that contributions should relate directly to the relative peak hour impact of each development that is expected to have a material impact at the junction. Once contributions are agreed and secured it would be up to Highways England in consultation with other highway authorities to decide when to implement the scheme.

4. This is for further discussion at the meeting but Table 4.6 of the STA sets out the ARCADY results at the A4303/ A426 roundabout and indicates that the junction would be operating within capacity in 2026 with the proposed development and with the agreed junction improvements. A maximum queue of 31 vehicles is predicted on the A4303 east arm. This arm is of concern to Highways England because excessive queuing could extend to affect the operation of M1 Junction 20. However when spread over two lanes, a queue of 31 vehicles would extend to around 90 metres. The distance between the A4303/ A426 roundabout and M1 Junction 20 is around 350m and therefore the queue on the A4303 east approach should not extend to the Motorway junction even if queues were to form unequally on the approach.
5. The HGV Training Centre is proposed to the south of the A4303 and would lie between the gatehouse, the railfreight shuttle terminal and the HGV parking area. It would occupy an area of 0.427 hectares and provide 16 car parking spaces. There would be a small two storey office within the gatehouse to administer and manage the training facility. As its name suggests the purpose of the facility is to train drivers to allow them to acquire a HGV licence to drive legally on the public highway. Given the size of the facility and the limited car parking, the peak hour trip generation associated with this use will be small and unlikely to have a material impact on the surrounding highway network.

I trust this provides a reasonable starting point for the meeting on Monday. If you require any further information in advance of the meeting that you think would be helpful to advance the discussion please do not hesitate to get in touch.

Kind Regards

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Project:	**Highways England Spatial Planning Arrangement**	Job No:	**60343293**
Subject:	**A5 – Magna Park Extension**	Date:	**15 March 2016**
HA ref:	**EM3 Leics-Lincs-Rut**	Task:	**L0003**

1. Introduction

This Technical Note (TN) reviews the Supplementary Transport Assessment (STA) dated 1 February 2016 prepared by URS on behalf of IDI Gazeley in support of the Magna Park Extension application (ref: 15/01531/OUT) for the extension of Magna Park in Lutterworth, Leicestershire.

This STA responds to the comments provided by AECOM, on behalf of Highways England, regarding some aspects of the previous Transport Assessment submitted by URS, dated 28 September 2015.

2. Background

AECOM prepared Technical Note 4 (TN4) dated 2nd November 2015 recommending that Highways England issue a holding response for a period of 3 months, to allow the developer to address the following concerns:

- Unrealistic trip generation for the Logistics Institute (D1 land use). AECOM considered that the proportion of students travelling by bus was overestimated, and that it should be reduced by 50%.
- Undertake junction impact assessment using recalculated trip generation.
- Need to provide a plan showing student trip distribution referenced in paragraph 6.52 of the TA to determine its suitability.
- In order to ensure that a suitable mitigation scheme was provided at A5 Gibbet Hill roundabout, AECOM recommended conditioning the developer to deliver the proposed highway scheme prior to occupation of a certain quantum of development.
- A Stage 1 Road Safety audit, a standards review and a Non-Motorised-User (NMU) Audit Context Report should be submitted for all highway improvement proposals schemes.
- Further details regarding the size and scale of the HGV Training Centre should be provided in order to determine its appropriateness of the facility overall.

3. Student Trip Generation and Distribution

Following AECOM comments regarding the appropriateness of the trip generation adopted for the Logistics Institute of Technology, the STA provides a revised calculation of these trips, as shown in **Table 1** below.

Table 1 – Revised Student Trip Generation

Mode of Travel	Students (Proportion)	AM Peak				PM Peak			
		Arr		Dep		Arr		Dep	
		Car	Coach	Car	Coach	Car	Coach	Car	Coach
Coach / Bus	200 (50%)	0	10	0	10	0	10	0	10
Car Driver	20 (5%)	20	0	0	0	0	0	20	0
Car Passenger (car share)	40 (10%)	0	0	0	0	0	0	0	0
Car Passenger (other)	140 (35%)	140	0	140	0	140	0	140	0

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AECOM have reviewed the trip generation included in **Table 1** and find it acceptable.

In accordance with AECOM's TN4, URS have included a plan showing the distribution of student trips. AECOM find it acceptable.

AECOM have reviewed the submitted flow diagram for the traffic associated with this development and have some concerns regarding the distribution at the proposed A5 northern access roundabout. The diagram shows all southbound traffic from the A5 north accessing the Logistics Institute of Technology via Mere Lane roundabout. However, AECOM consider that those vehicles may turn left at the proposed A5 northern access roundabout and then drive southbound within the site to the Logistics Institute.

4. A5 Northern site access proposed roundabout

IDI Gazeley was advised to revisit the design of the proposed access roundabout, since it should not operate so close to capacity at the assessment year.

AECOM have reviewed the submitted ARCADY modelling, which included updated traffic flows (with amended student trip generation) and modified geometric parameters. These changes involved an increase of capacity at the roundabout. However, URS have neither provided a justification for such changes in the geometry nor new drawings that support these variations.

Furthermore, the assumption that traffic from the A5 North accessing the Logistics Institute of Technology making use of the A5 / Mere Lane roundabout has an impact on previous assessment. The assessment of this junction should be reviewed.

5. A5 Cross in Hand roundabout

The impact of the development on the A5 / A4303 Cross in Hand roundabout has been reassessed, resulting in a slight change of its performance.

This junction still appears to operate over capacity in 2026 scenario, with the A5 northern approach in the AM peak hour operating at a ratio of flow to capacity of 0.931. The effects of the revised trip generation result in a queue length increase from 9 to 11 PCUs, which is not considered to be significant.

6. A5 Gibbet Hill roundabout

AECOM have reviewed the assessment undertaken for this junction with the proposed scheme in place (as per drawing 60470988/A001/SK32) and find it suitable to mitigate the impact of the development traffic.

Regarding the A5 / A426 Gibbet Hill junction, the STA states that IDI Gazeley would not accept the condition to limit the quantum of development to be occupied prior to delivery of mitigation works at this roundabout. The applicant also does not wish to rely on the mitigation scheme to be provided by other developers and has proposed a cost sharing agreement to deliver mitigation at this junction. AECOM would welcome further discussion on how such an agreement would operate while ensuring the scheme would be delivered in a timely manner.

7. A4303 / A426 junction

URS have reassessed impacts at A4303 / A426 roundabout due to changes agreed for the trip generation. AECOM have reviewed the ARCADY modelling undertaken for the 2026 scenario with

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development and junction improvements (as per *Drawing No. 47066811/A008/SK14*) and we have concerns about potential queues formed on the westbound approach extending back to M1 J20.

This roundabout is responsibility of the Local Highways Authority and therefore we await their observations in order to resolve this issue.

8. Conclusions

AECOM have reviewed the amended student trip generation and the plan showing the distribution of student trips provided and find it suitable.

Technical Note 4 expressed some concerns regarding lack of information regarding the size and scale of the HGV Training Centre. These comments have not been addressed in the STA submitted.

Proposed A5 Northern Access roundabout design might need to be revisited in order to accommodate revised traffic assignment as described in **Section 5** of this TN. This refers to southbound traffic from the A5 north accessing the Logistics Institute of Technology entering through Mere Lane roundabout.

AECOM have reviewed the A5 Cross in Hand roundabout assessment undertaken and have no further comments to make at this stage.

Regarding the A5 Gibbet Hill roundabout, AECOM note the developer comments regarding a contribution strategy and we would welcome a discussion about how this would operate.

AECOM have some concerns regarding the A4303 / A426 roundabout, since its operation may have an impact on the M1 J20. AECOM will wait for the Local Highways Authority to review proposals at this location to give a final response.

9. Recommendation

From the above conclusions, AECOM suggest meeting with the developer and Local Highways Authority in order to agree a way forward.

It is recommended that this note is forwarded on to URS so they may take note of the comments.

Prepared by: .....
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Graduate Engineer

Checked by: .....
Jorge Sanchez Racionero
Consultant

Approved by: .....
Aoife O'Toole
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Run with file:-
"j:\Gazeley UK Ltd\47071103 Magna Park Phase 4\Technical\11 Junction Assessments Outline\New A5 North Rbt\
Dec 2015 Update Highways England\S4 2026 AM Peak Base+CD+PD+ LI Changes.vai"
(drive-on-the-left) at 14:36:39 on Thursday, 14 April 2016

.FILE PROPERTIES
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RUN TITLE: New A5 North Access- S4 2026 AM Base + PD + CD LI North Trips via north access
LOCATION: New A5 North Roundabout
DATE: 01/09/15
CLIENT: IDI Gazeley
ENUMERATOR: JM
JOB NUMBER: 47071103
STATUS: Final Version
DESCRIPTION:

.INPUT DATA
****
ARM A - A5 North
ARM B - Proposed Access
ARM C - A5 South

.GEOMETRIC DATA

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	7.30	8.00	5.00	26.00	58.00	40.0	0.668	38.386
ARM B	4.00	7.00	25.00	30.00	58.00	36.0	0.595	31.006
ARM C	7.30	7.50	5.00	18.00	58.00	47.0	0.625	35.328

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

Only sets included in the current run are shown
.SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(07.15)AND ENDS(08.45)
.LENGTH OF TIME PERIOD -(90) MINUTES
.LENGTH OF TIME SEGMENT - (15) MINUTES

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

.DEMAND SET TITLE: New A5 North Access- S3 2026 Base Plus Proposed Development

T15

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE TO RISE	AT TOP IS REACHED	AFTER FALLING
ARM A	15.00	45.00	75.00	15.20	22.80	15.20
ARM B	15.00	45.00	75.00	1.74	2.61	1.74
ARM C	15.00	45.00	75.00	10.41	15.62	10.41

DEMAND SET TITLE: New A5 North Access- S3 2026 Base Plus Proposed Development

T33

TIME	FROM/T	ARM A	ARM B	ARM C
07.15 - 08.45				
	ARM A	0.000	0.100	0.900
		0.0	122.0	1094.0
		(0.0)	(8.6)	(8.5)
	ARM B	0.367	0.000	0.633
		51.0	0.0	88.0
		(19.6)	(0.0)	(35.2)
	ARM C	0.720	0.280	0.000
		600.0	233.0	0.0
		(13.0)	(9.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.15-07.30									
ARM A	15.26	33.42	0.457	- - -	0.0	0.8	12.2	-	0.055
ARM B	1.74	17.12	0.102	- - -	0.0	0.1	1.7	-	0.065
ARM C	10.45	31.15	0.336	- - -	0.0	0.5	7.4	-	0.048
07.30-07.45									
ARM A	18.22	33.03	0.552	- - -	0.8	1.2	17.8	-	0.067
ARM B	2.08	15.78	0.132	- - -	0.1	0.2	2.2	-	0.073
ARM C	12.48	31.07	0.402	- - -	0.5	0.7	9.8	-	0.054
07.45-08.00									
ARM A	22.31	32.51	0.686	- - -	1.2	2.1	30.8	-	0.097
ARM B	2.55	13.96	0.183	- - -	0.2	0.2	3.3	-	0.088
ARM C	15.29	30.95	0.494	- - -	0.7	1.0	14.2	-	0.064
08.00-08.15									
ARM A	22.31	32.50	0.686	- - -	2.1	2.2	32.4	-	0.098
ARM B	2.55	13.93	0.183	- - -	0.2	0.2	3.3	-	0.088
ARM C	15.29	30.95	0.494	- - -	1.0	1.0	14.6	-	0.064
08.15-08.30									
ARM A	18.22	33.03	0.552	- - -	2.2	1.2	19.2	-	0.068
ARM B	2.08	15.74	0.132	- - -	0.2	0.2	2.3	-	0.073
ARM C	12.48	31.06	0.402	- - -	1.0	0.7	10.3	-	0.054
08.30-08.45									
ARM A	15.26	33.41	0.457	- - -	1.2	0.8	13.0	-	0.055
ARM B	1.74	17.09	0.102	- - -	0.2	0.1	1.7	-	0.065
ARM C	10.45	31.15	0.336	- - -	0.7	0.5	7.7	-	0.048

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.30	0.8	*

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45	1.2	*
08.00	2.1	**
08.15	2.2	**
08.30	1.2	*
08.45	0.8	*

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.30	0.1
07.45	0.2
08.00	0.2
08.15	0.2
08.30	0.2
08.45	0.1

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.30	0.5	*
07.45	0.7	*
08.00	1.0	*
08.15	1.0	*
08.30	0.7	*
08.45	0.5	*

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *		T75
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
A	1673.7	1115.8	125.3	0.07	125.3	0.07	
B	191.3	127.5	14.6	0.08	14.6	0.08	
C	1146.6	764.4	64.0	0.06	64.0	0.06	
ALL	3011.6	2007.7	203.9	0.07	204.0	0.07	

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

```
                    _____ A R C A D Y  6 _____

                        ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY


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  Dec 2015 Update Highways England\S4 2026 PM Peak Base+CD+PD+LI Changes.vai"
(drive-on-the-left ) at 14:42:12 on Thursday, 14 April 2016


.FILE PROPERTIES
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    LOCATION: New A5 North Roundabout
        DATE: 01/09/15
      CLIENT: IDI Gazeley
  ENUMERATOR: JM
  JOB NUMBER: 47071103
      STATUS: Final Version
 DESCRIPTION:

.INPUT DATA
 **********
 ARM A - A5 North
 ARM B - Proposed Access
 ARM C - A5 South

.GEOMETRIC DATA
 --------------


 ------------------------------------------------------------------------------------------------------------------------ T5
 I ARM    I   V (M)   I    E (M)   I    L (M)   I    R (M)   I     D (M) I   PHI (DEG)  I  SLOPE  I INTERCEPT (PCU/MIN) I
 ------------------------------------------------------------------------------------------------------------------------
 I ARM  A I    7.30   I     8.00   I     5.00   I    26.00   I   58.00   I     40.0     I  0.668  I       38.386        I
 I ARM  B I    4.00   I     7.00   I    25.00   I    30.00   I   58.00   I     36.0     I  0.595  I       31.006        I
 I ARM  C I    7.30   I     7.50   I     5.00   I    18.00   I   58.00   I     47.0     I  0.625  I       35.328        I
 ------------------------------------------------------------------------------------------------------------------------

 V = approach half-width       L = effective flare length           D = inscribed circle diameter
 E = entry width               R = entry radius                     PHI = entry angle


.TRAFFIC DEMAND DATA
 -------------------

 Only sets included in the current run are shown
.SCALING FACTORS
.----------------------- T13
 IARM  I FLOW SCALE(%) I
 -----------------------
 I A   I      100      I
 I B   I      100      I
 I C   I      100      I
 -----------------------


 TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
.LENGTH OF TIME PERIOD -(  90) MINUTES
.LENGTH OF TIME SEGMENT - (15) MINUTES

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA


.DEMAND SET TITLE: New A5 North Access- S3 2026 Base Plus Proposed Development
 ------------------------------------------------------------------------------ T15
 I        I   NUMBER OF MINUTES FROM START WHEN    I   RATE OF FLOW (VEH/MIN) I
 I  ARM   I FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP  I AFTER I
 I        I            I             I            I        I         I       I
 I        I   TO RISE   I  IS REACHED I FALLING    I  PEAK  I OF PEAK I PEAK  I
 ------------------------------------------------------------------------------
 I ARM  A I     15.00   I     45.00   I    75.00   I  7.41  I  11.12  I  7.41 I
 I ARM  B I     15.00   I     45.00   I    75.00   I  3.63  I   5.44  I  3.63 I
 I ARM  C I     15.00   I     45.00   I    75.00   I 12.76  I  19.14  I 12.76 I
 ------------------------------------------------------------------------------
```

DEMAND SET TITLE: New A5 North Access- S3 2026 Base Plus Proposed Development

T33

TIME	FROM/T	ARM A	ARM B	ARM C
16.45 - 18.15				
	ARM A	0.000	0.096	0.904
		0.0	57.0	536.0
		(0.0)	(17.5)	(10.1)
	ARM B	0.297	0.000	0.703
		86.0	0.0	204.0
		(10.5)	(0.0)	(11.3)
	ARM C	0.928	0.072	0.000
		947.0	74.0	0.0
		(6.6)	(20.3)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
ARM A	7.44	33.97	0.219	- - -	0.0	0.3	4.1	-	0.038
ARM B	3.64	23.96	0.152	- - -	0.0	0.2	2.6	-	0.049
ARM C	12.81	32.14	0.399	- - -	0.0	0.7	9.7	-	0.052
17.00-17.15									
ARM A	8.88	33.84	0.263	- - -	0.3	0.4	5.3	-	0.040
ARM B	4.35	23.18	0.187	- - -	0.2	0.2	3.4	-	0.053
ARM C	15.30	32.01	0.478	- - -	0.7	0.9	13.4	-	0.060
17.15-17.30									
ARM A	10.88	33.66	0.323	- - -	0.4	0.5	7.0	-	0.044
ARM B	5.32	22.12	0.241	- - -	0.2	0.3	4.7	-	0.060
ARM C	18.74	31.82	0.589	- - -	0.9	1.4	20.6	-	0.076
17.30-17.45									
ARM A	10.88	33.66	0.323	- - -	0.5	0.5	7.1	-	0.044
ARM B	5.32	22.11	0.241	- - -	0.3	0.3	4.7	-	0.060
ARM C	18.74	31.82	0.589	- - -	1.4	1.4	21.3	-	0.076
17.45-18.00									
ARM A	8.88	33.83	0.263	- - -	0.5	0.4	5.4	-	0.040
ARM B	4.35	23.17	0.187	- - -	0.3	0.2	3.5	-	0.053
ARM C	15.30	32.01	0.478	- - -	1.4	0.9	14.2	-	0.060
18.00-18.15									
ARM A	7.44	33.97	0.219	- - -	0.4	0.3	4.3	-	0.038
ARM B	3.64	23.95	0.152	- - -	0.2	0.2	2.7	-	0.049
ARM C	12.81	32.14	0.399	- - -	0.9	0.7	10.2	-	0.052

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3

17.15	0.4
17.30	0.5
17.45	0.5
18.00	0.4
18.15	0.3

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.2

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	0.9	*
17.30	1.4	*
17.45	1.4	*
18.00	0.9	*
18.15	0.7	*

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	816.2	544.1	33.3	0.04	33.3	0.04
B	399.2	266.1	21.7	0.05	21.7	0.05
C	1405.3	936.9	89.2	0.06	89.2	0.06
ALL	2620.7	1747.1	144.2	0.06	144.2	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

About IDI Gazeley

IDI Gazeley (Brookfield Logistics Properties) is one of the world's leading investors and developers of logistics warehouses and distribution parks with 57 million square feet of premier assets under management and additional prime land sites to develop another 50 million square feet of distribution facilities near major markets and transport routes in North America, Europe and China. As part of Brookfield Property Partners, we belong to one of the world's largest and most sophisticated owners, operators and investors in real estate.

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www.brookfieldlogisticsproperties.com

About Brookfield

Brookfield Property Partners is one of the world's largest commercial real estate companies. Our goal is to be the leading global owner, operator and investor in best-in-class commercial property assets. Our diversified portfolio includes interests in over 100 premier office properties and over 150 best-in-class retail malls around the globe. We also hold interests in multifamily, industrial, hotel and triple net lease assets through Brookfield-managed private funds.

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