Sky

Temporary Car Park

Transport Statement

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Issue | 26 August 2016

Job number 224956/55

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ARUP

Contents

1 Introduction

Arup has been appointed by Sky to prepare a Transport Statement to accompany a planning application for a temporary car park on a vacant site to the south-west of the A4 Great West Road/Syon Lane junction. The site location plan is shown in Figure 1.

Figure 1 Location Plan

2 Context

The temporary car park will provide additional car parking for employees based within Sky's Osterley Campus. The Sky Campus is currently undergoing redevelopment as part of an approved Campus Development scheme (application reference number: 00558/A/P55). Once complete, the Campus will provide 1,750 on-site parking spaces. However, during the current phase of construction, the amount of parking is less than 1,750 with the current provision at approximately 1,330 spaces.

Furthermore, Sky staff currently based in offices outside the Campus at New Horizons Court will relocate to the Sky Campus in November. The New Horizons Court office space has 449 spaces which will no longer be available to Sky employees when the lease ends. The construction of a second Multi-Storey

Car Park (MSCP) is expected to commence this year and be complete by summer 2017. In the meantime however, the shortfall in parking provision necessitates the provision of a temporary car park to accommodate parking demand.

Through the implementation of a highly effective Travel Plan since 2006, the majority of Sky employees travel to the Campus by sustainable modes with car mode share reducing from 63% in 2006 to 44% in 2014. A key objective of the Travel Plan is to maintain parking within the site and prevent parking associated with the Campus from adversely affecting nearby residential areas. While car mode share is low, the reduction in current parking provision is resulting in existing demand not able to be accommodated within the Campus. Accordingly, the proposals provide additional off-street car parking to accommodate this demand, for a period of up to 18 months, until additional parking can be delivered on the Campus.

3 Development Proposals

The temporary car park will provide additional off-street parking for approximately 130 vehicles on a site which is currently vacant but was previously used as a service station.

As the car park will be used by Sky employees only, the highway impact assessment assumes that all 130 vehicles will arrive in the morning peak hour and depart during the evening peak hour. This is a worst case scenario. It is more likely that trips will be dispersed throughout the day as many employees work shifts and the car park will be open between 07:00 and 21:00 to accommodate these shift workers.

The access to the car park will utilise an existing vehicular crossover on Northumberland Avenue, which will be brought back into use (the access is currently fenced off to restrict access into the vacant site). From Syon Lane a right-turn lane facility is provided for vehicles turning right into Northumberland Avenue to prevent turning vehicles blocking back to the A4 Great West Road / Syon Lane junction. When entering the car park the driver will need to show a Sky security pass in order to restrict access to employees only. The car park entrance will be controlled by a member of security staff who will ensure that each vehicle enters the car park swiftly to prevent vehicles waiting on Northumberland Avenue.

Vehicles will be able to depart from either the Northumberland Avenue access or via a westbound only access onto the A4 Great West Road.

At 3m wide, the Northumberland Avenue access is narrow but given the low usage and likelihood that the majority of vehicles using the access will be travelling in the same direction (inbound in the morning and outbound in the evening) the access is considered to be appropriate for the proposed temporary use.

To access the Sky Campus from the car park pedestrians will be required to cross the A4 Great West Road. Pedestrians travelling towards the Grant Way access are able to use the staggered, signalised pedestrian crossing that is offered across the

A4 Great West Road which connects Syon Lane south with Syon Lane north. Along Syon Lane north the footways are set back from the kerb line and a zebra crossing is located approximately 30m south of the Grant Way junction to facilitate pedestrian movement across Syon Lane and into the Sky Campus.

Pedestrians wishing to cross the A4 Great West Road to access Harlequin Avenue can use the puffin crossing on Syon Lane located just south of the junction with Northumberland Avenue. Once on the other side of Syon Lane pedestrians can use the subway underneath the A4 Great West Road to cross the road. Alternatively, pedestrians can continue on the south side of the A4 Great West Road until reaching the signalised A4 Great West Road / Harlequin Avenue junction which includes a pedestrian crossing phase.

4 Baseline Conditions

The car park is located to the south-west of the A4 Great West Road / B464 Syon Lane junction, a four-arm signalised junction referred to 'Gillette Corner'.

The A4 Great West Road is a dual three lane carriageway, which runs east-west and is part of the Transport for London road network (TLRN). Syon Lane, which runs north/south through the junction, is a collector road of varying width which links the A4020 Uxbridge Road to the north and the A315 London Road to the south.

The northern Syon Lane arm of the junction provides access to Grant Way, which forms the main entrance into the Sky Campus. Previous assessments have estimated that 70% of Sky employee vehicle trips arrive via Syon Lane and Grant Way.

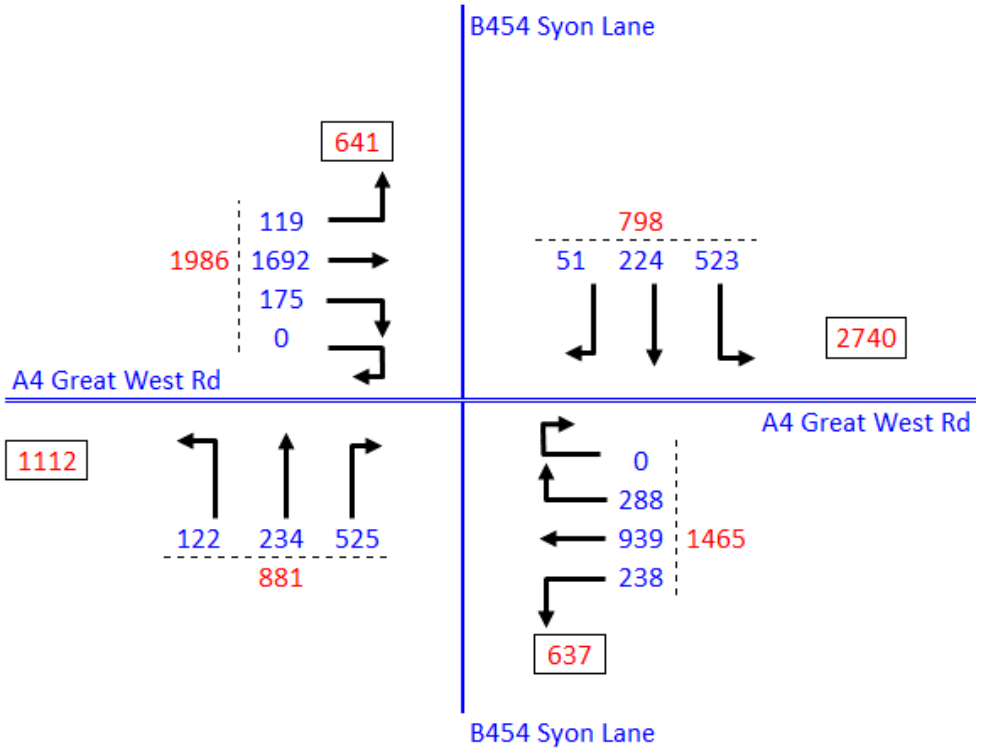
Approximately 120m to the east of the A4 Great West Road / Syon Lane junction is a T-junction with Harlequin Avenue. This junction was upgraded in 2012 to a signalised junction and provides access to the Sky Campus for the remaining 30% of employee vehicle trips.

Baseline traffic surveys were most recently commissioned in June 2016 across two days (Wednesday 22 June and Tuesday 28 June). The images in Figure 2 provide a summary of the traffic survey data collected at the junction in the morning peak hour and Figure 3 shows the data for the evening peak hour.

The data shows that traffic flow through the junction was relatively consistent across the two days. During the morning peak hour the total flow was 5130 on Wednesday 22 June and 5237 on Tuesday 28 June. During the evening peak hours on the same days, the flow was 5660 and 5576 respectively.

Figure 2 2016 AM Peak Hour Traffic Flows at A4 Great West Road / Syon Lane

Date: 22/06/2016 AM Peak Hour



Date: 28/06/2016 AM Peak Hour

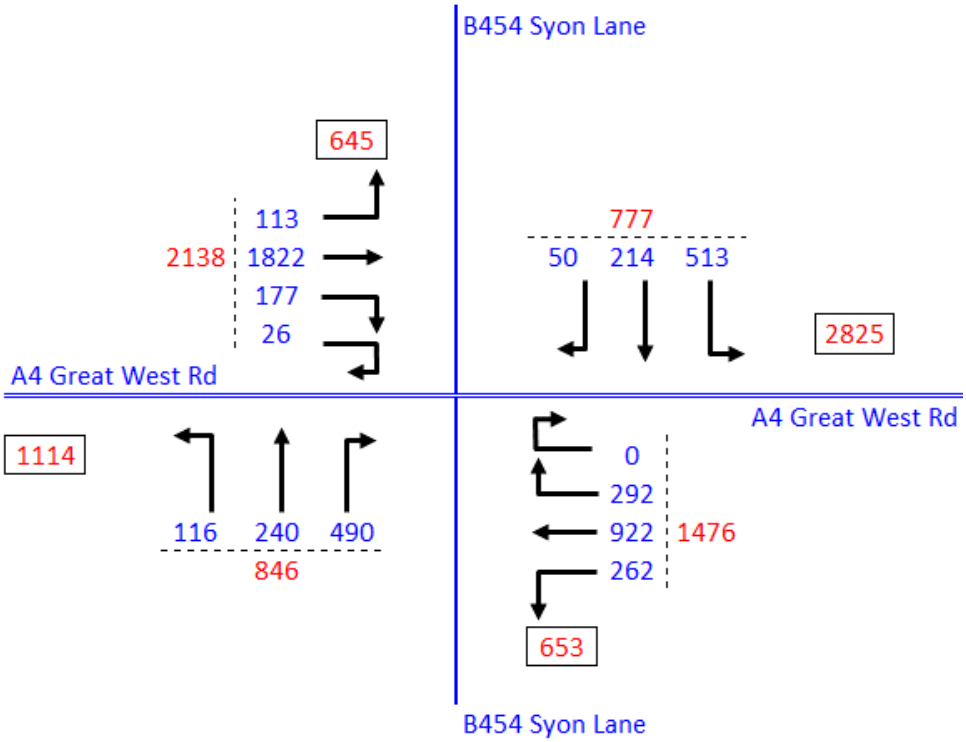
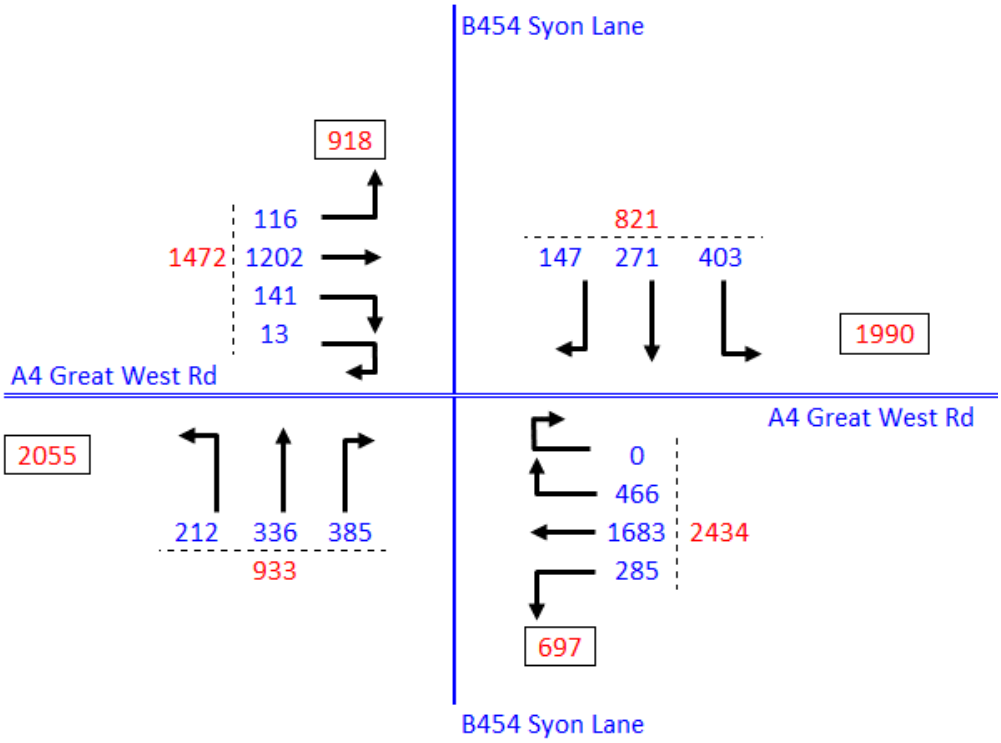
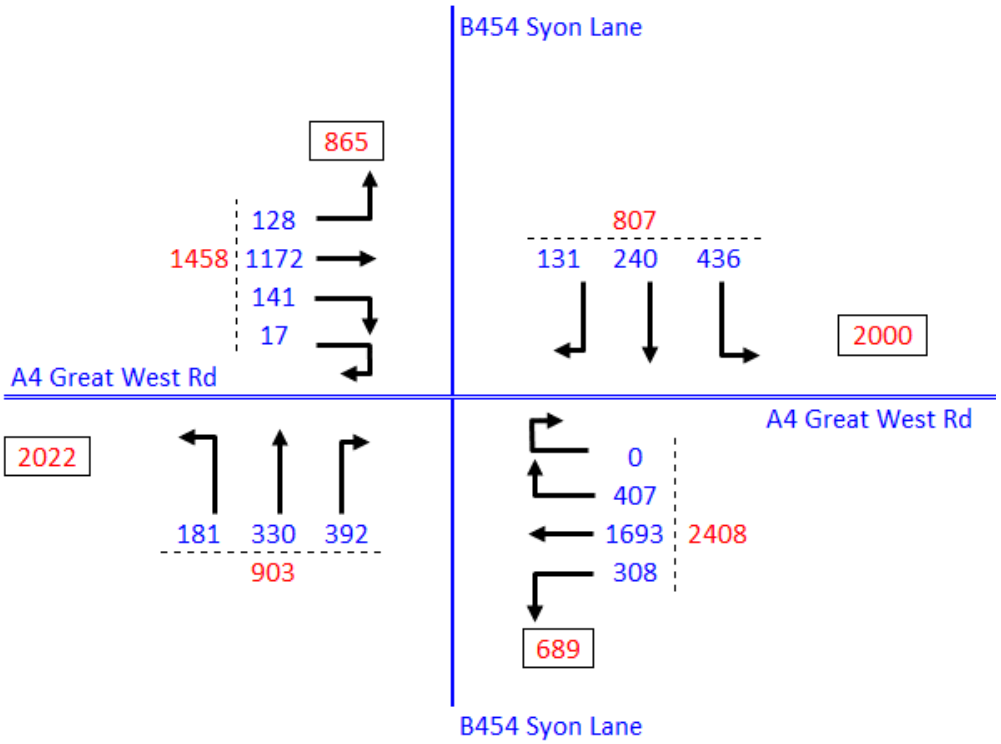


Figure 3 2016 PM Peak Hour Traffic Flows at A4 Great West Road / Syon Lane

Date: 22/06/2016 PM Peak Hour



Date: 28/06/2016 PM Peak Hour



5 Assessment

5.1 Traffic Distribution

The impact of the temporary car park on A4 Great West Road / Syon Lane junction has been tested using the TRANSYT model developed and validated for the 2013 consented Campus Development scheme and updated with the latest 2016 traffic flows.

For robustness it has been assumed that all 130 vehicles will arrive and depart from the car park during the morning and evening peak hour respectively.

As the car park is to accommodate existing employee trip demands, the 130 trips will already be on the network. The provision of the car park is to coincide with the relocation of staff from offices in New Horizons Court onto the main Sky Campus. Car parking for New Horizons Court is accessed via Shield Drive (located off the A4 Great West Road to the east of Harlequin Avenue) so it is anticipated that the majority of the 130 trips will be reassigned from routes to Shield Drive to the temporary car park. However, Shield Drive is outside the scope of the TRANSYT model and it is feasible that some trips will be redistributed from other Sky car parks. Therefore, to assess the worst case scenario at the A4 Great West Road / Syon Lane junction, the 130 trips have been added as new trips to the junction based on existing distributions.

The current distribution of traffic entering the Sky Campus is 30% arriving and departing to the east (via Harlequin Avenue) with 70% arriving and departing via Syon Lane from routes to the north, south and west.

On this basis, it is assumed that 30% of trips to the car park (39) will travel to/from the east. The remaining 91 trips have been added onto the network based on turning counts recorded on Wednesday 22 June 2016.

Figure 4 and Figure 5 show the distribution of additional trips travelling to the car park during the morning and evening peak hours respectively.

Figure 4: AM Peak Car Park Traffic

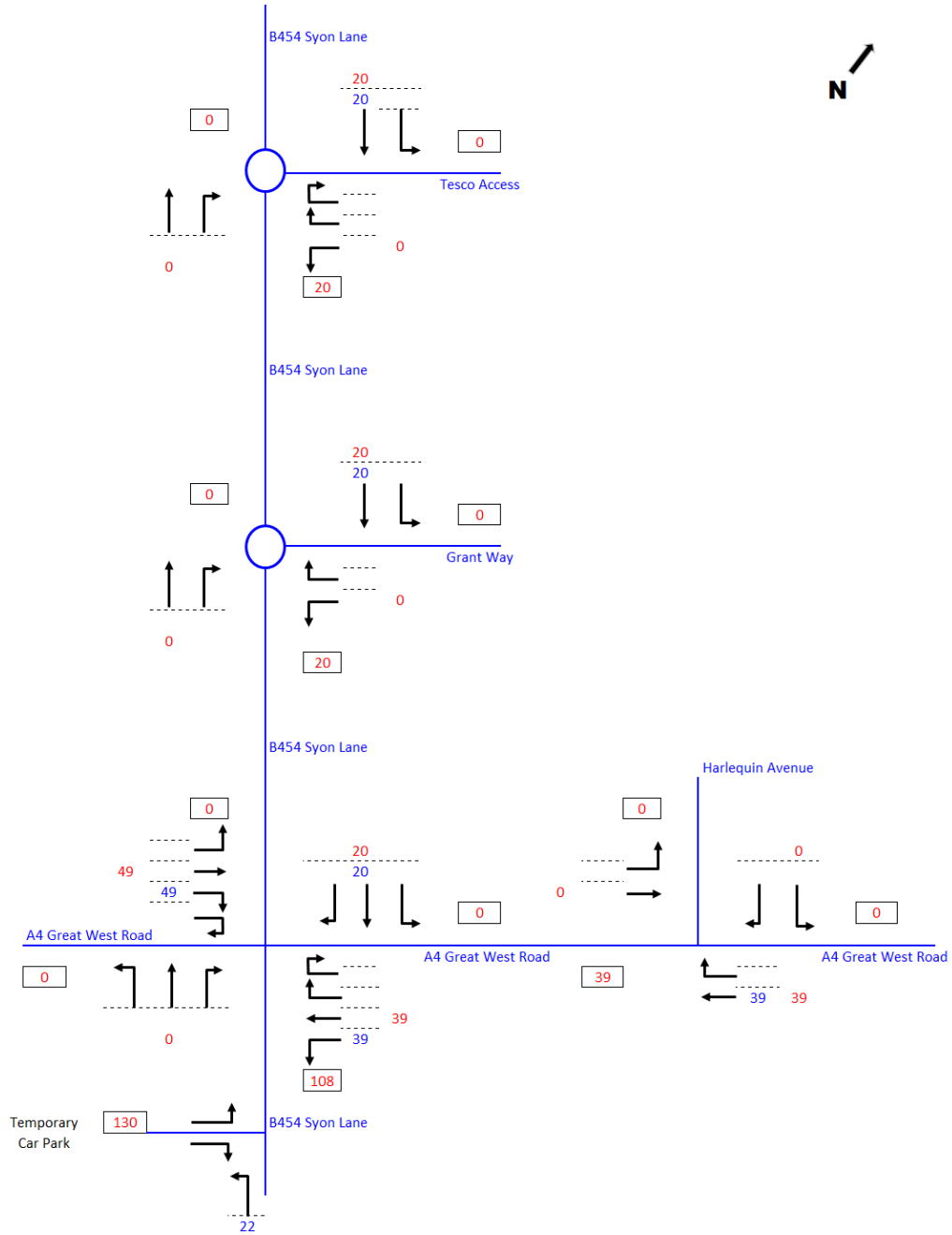
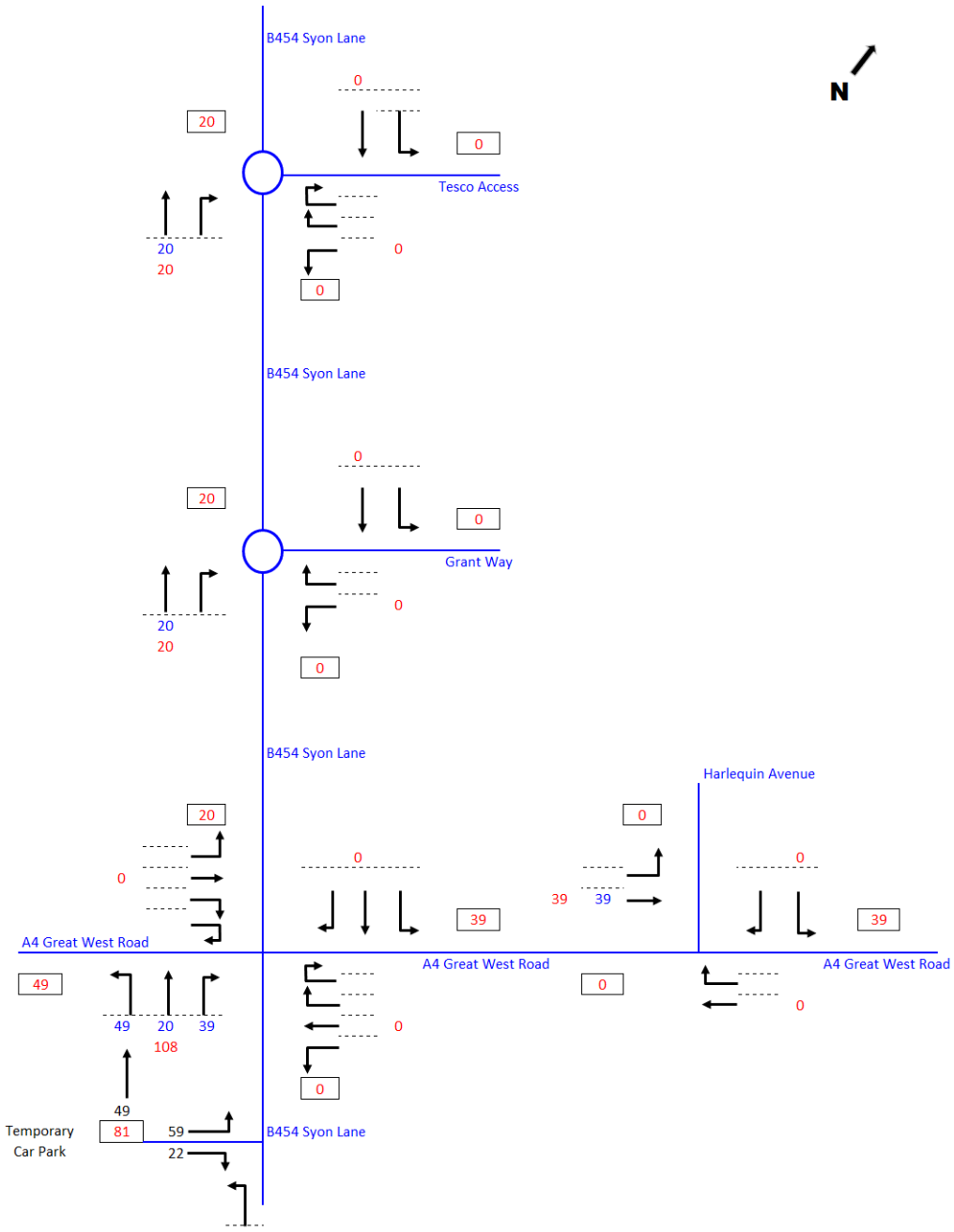


Figure 5: PM Peak Hour Car Park Traffic



5.2 TRANSYT Model Results

The results of the TRANSYT analysis for the existing 2016 traffic flows and 2016 flows plus the car park are summarised in Table 1. The Ratio of Flow to Capacity (RFC) value indicates the extent to which traffic flows on the link are approaching capacity (with a value of 1 indicating the junction is at capacity). Queue lengths are provided in Passenger Car Units (PCUs). By converting trips into PCUs the model takes into account the different characteristics of each vehicle type.

Table 1 2016 Base plus Car Park – Morning Peak Hour (08:00 – 09:00)

Arm	**Link No.**	**Direction**	**AM Peak**		**AM Peak + Car Park**	
			RFC	Queue PCU	RFC	Queue PCU
Syon Lane / Tesco Access						
Syon Lane SB	110	L, A	0.74	1	0.76	1
Tesco access	120	L, R	0.16	0	0.18	0
Syon Lane NB	130	A, R	0.30	0	0.30	0
Syon Lane / Grant Way						
Syon Lane SB	210	L, A	0.77	2	0.79	2
Grant Way	220	L, R	0.23	0	0.24	0
Syon Lane NB	230	A, R	0.38	9	0.38	9
	238	Bottleneck	0.34	9	0.34	9
Great West Road / Syon Lane						
Syon Lane SB	310	L	0.74	17	0.76	17
	311	A	0.53	7	0.65	8
	312	R	0.13	2	0.15	2
	318	Bottleneck	0.21	0	0.21	0
	319	Bottleneck	0.41	0	0.42	0
Great West Road WB	320	L, A	0.28	5	0.32	5
	321	A	0.55	24	0.54	24
	322	R	0.64	10	0.56	10
Syon Lane NB	330	L, A	0.49	10	0.53	11
	331	R	0.31	14	0.33	15
	338	Bottleneck	0.24	0	0.24	0
Great West Road EB	340	L,A	0.66	18	0.65	18
	341	A	0.59	31	0.58	30
	342	R	0.67	7	0.75	9
	348	Bottleneck	0.35	0	0.35	0

Great West Road / Harlequin Avenue						
Harlequin Avenue	410	L,R	0.42	2	0.42	2
GWR WB	420	A	0.39	24	0.35	19
	422	R	0.03	0	0.03	0
GWR EB	440	L,A	0.71	37	0.64	35

The results in Table 1 show that during the morning peak hour the greatest impact on the operation of the junction is the right turn movement from the Great West Road eastbound into Syon Lane southbound. The RFC value increases from 0.67 to 0.75 and the queue length increases from 7 to 9 PCUs. The results indicate that while the car park would increase demand on this arm of the junction, the junction continues to operate safely and within capacity. Table 2 presents the results for the evening peak hour.

Table 2 2016 Base plus Car Park – Evening Peak Hour (17:00 – 18:00)

Arm	**Link No.**	**Direction**	**AM Peak**		**AM Peak + Car Park**	
			RFC	Queue PCU	RFC	Queue PCU
Syon Lane / Tesco Access						
Syon Lane SB	110	L, A	0.42	0	0.42	0
Tesco access	120	L, R	0.34	0	0.34	0
Syon Lane NB	130	A, R	0.70	28	0.72	29
Syon Lane / Grant Way						
Syon Lane SB	210	L, A	0.52	0	0.52	0
Grant Way	220	L, R	0.62	1	0.62	1
Syon Lane NB	230	A, R	0.59	27	0.60	28
	238	Bottleneck	0.48	25	0.49	24
Great West Road / Syon Lane						
Syon Lane SB	310	L	0.50	10	0.55	11
	311	A	0.59	9	0.72	9
	312	R	0.26	4	0.40	5
	318	Bottleneck	0.21	0	0.21	0
	319	Bottleneck	0.43	0	0.43	0
Great West Road WB	320	L, A	0.32	5	0.32	6
	321	A	0.95	63	0.93	60
	322	R	0.88	18	0.88	18
Syon Lane NB	330	L, A	0.93	23	0.92	25
	331	R	0.23	10	0.27	11
	338	Bottleneck	0.25	0	0.28	0

Great West Road EB	340	L,A	0.41	10	0.40	9
	341	A	0.46	22	0.44	21
	342	R	0.50	5	0.66	7
	348	Bottleneck	0.25	0	0.25	0
Great West Road / Harlequin Avenue						
Harlequin Avenue	410	L,R	0.86	9	0.81	9
GWR WB	420	A	0.65	51	0.59	44
	422	R	0.10	0	0.10	0
GWR EB	440	L,A	0.57	30	0.52	31

It can be seen from Table 2 that the impact of the additional 130 trips in the evening peak hour has a negligible effect on capacity at the junction. There are increases in RFC values on Syon Lane, both northbound and southbound through the junction, but the junction continues to operate within capacity. Traffic flows are higher in the evening peak so some arms of the junction are approaching capacity. However, the addition of the car park does not affect these arms as the minor changes (some reductions) are likely to be as a result of signal optimisation in the model. This results in the RFC value on some links, which have no change in traffic volume, increasing or decreasing as the TRANSYT software balances out the signal timings.

6 Summary

The current construction phase of the Sky Campus has reduced the amount of on-site parking available to Sky employees. Furthermore, Sky employees are to relocate into the Campus in November 2016 from New Horizons Court. Additional car parking on the Campus, through the provision of a second MSCP, will not be complete until at least summer 2017.

While a reduction in car parking during construction was always envisaged, the current scale of provision, coupled with an increase in site population, has resulted in parking demand exceeding supply. The Travel Plan continues to pay a part in reducing the number of car trips to the site and has been successful in doing so since 2006. However it is considered necessary to provide some parking relief during the construction period through the creation of additional off-street car parking in order to maintain employee parking demand within designated car parks.

The temporary car park is located adjacent to the A4 Great West Road / Syon Lane junction and therefore the majority of trips travelling to and from the car park will travel through the junction. Using a TRANSYT model developed for the 2013 Sky Campus Development scheme, updated with 2016 traffic flows, it has been demonstrated that the additional trips and changes in turning manoeuvres generated by the car park can be accommodated within the existing junction.

The assessment therefore concludes that the car park can be accommodated on the existing highway network and there are no highway reasons why the temporary car park should not be permitted.