

Update of Saffron Walden Traffic Study

This technical note provides a high level update using the latest traffic survey data of the situation that is considered likely to occur at the Radwinter Road/Thaxted Road junction and along the Peaslands Road corridor without and with an eastern link road. The new data comprised junction turning movements, link flows and Automatic Number Plate Recognition (ANPR) surveys at various locations within Saffron Walden. The surveys enabled assumptions previously made in support of the withdrawn UDC Local Plan to be updated. As background, information contained in previous reports submitted as part of the earlier UDC Local Plan proposals is summarised in Appendix A.

2016 Impact Analysis Update

Radwinter Road/Thaxted Road Junction Analysis – Existing Network

Note: For simplicity this analysis broadly uses the same committed and Local Plan development assumptions for Saffron Walden as were used for the 2013/4 work (see Appendix B). However, the base traffic flows have been updated to 2016, making use of the new traffic surveys at the junction which were undertaken in March 2016. Growth factors have been adjusted accordingly, including rebasing the forecast year to 2033.

AM	2016 Base		2018+CD+ULP		2033 +CD+ULP	
Approach	Deg Sat%	MMQ	Deg Sat%	MMQ	Deg Sat%	MMQ
Radwinter Rd	66.90%	15	71.4%	17	74.4%	18
Thaxted Rd	81.60%	17	94.8%	23	105.3%	38
East St	81.40%	15	94.3%	21	101.4%	29

PM	2016 Base		2018+CD+ULP		2033 +CD+ULP	
Approach	Deg Sat%	MMQ	Deg Sat%	MMQ	Deg Sat%	MMQ
Radwinter Rd	58.40%	12	105.2%	37	119.1%	71
Thaxted Rd	87.80%	18	107.1%	42	122.2%	82
East St	85.40%	19	104.3%	38	119.7%	80

The updated traffic flows have resulted in a worsening of forecast capacity in 2018 with committed and LP development in place in the AM peak hour, and a slight improvement in the PM peak hour. However, the junction would still be considered to be at capacity in the AM and over-capacity in the PM peak hours.

The forecast for 2033 indicates that the junction would be over capacity in both peak hours with committed and LP development in place. The situation is not quite as congested as previously forecast for the AM peak, but worse in the PM peak, where all arms would be expected to be over capacity.

Link Road: Estimated Daily Flows using 2016 data

As well as junction surveys additional traffic counts were also undertaken in March 2016 to record daily traffic on key links, which are known as Automatic Traffic Count (ATC) surveys. These were done on both Thaxted Road and Radwinter Road, and from this it was estimated that the level of reassigned daily traffic that would be likely to use the Link Road would be of the order of 3,300 vehicles a day. Currently, for information, on Thaxted Road approximately 7% of vehicles are LGV/MGV/HGVs, and on Radwinter Road these types of vehicle comprise 6% of daily flows.

ATC surveys only record overall vehicle numbers within a given time period. It is necessary to understand more clearly where these vehicles are coming from and going to in order to have greater confidence in predicting the number of vehicles that would be likely to switch to use the link road. Accordingly a series of observations were made in March 2016 using Automatic Number Plate Recognition (ANPR) cameras, the data from which was analysed to derive traffic movements through the town.

Using the 2016 ANPR data it has been calculated that around 5,200 vehicles per day could use the link. This could remove between 380-410 vehicles from the Radwinter Road/Thaxted Road junction in the peak hours, which may facilitate proposals outlined in the Saffron Walden Traffic Study to remove the traffic signals completely. This would need to be subject to further analysis.

Radwinter Road/Thaxted Road Junction Analysis – With Link Road in place

The tables below show the estimated capacity at the Radwinter Road/Thaxted Road junction with the link road in place, with the assumption that around 3,300 vehicles per day would use the link (the analysis has not been updated following the revised ANPR data). This analysis assumes that 240 vehicles would be removed from the junction in the AM peak hour, and 300 vehicles in the PM peak hour, if all of the affected vehicles transferred to the new link road.

The first columns show the situation without the link road, the next columns with only 25% of estimated traffic reassigned to the alternative route, the next with only 50% of this traffic, and the last columns with all of the estimated traffic reassigned.

AM	2033 +CD+ULP		2033+CD+ULP+Link25%		2033+CD+ULP+Link50%		2033+CD+ULP+Link	
Approach	Deg Sat%	MMQ	Deg Sat%	MMQ	Deg Sat%	MMQ	Deg Sat%	MMQ
Radwinter Rd	74.4%	18	72.4%	17	69.1%	16	63.5%	14
Thaxted Rd	105.3%	38	97.4%	25	92.7%	21	80.7%	15
East St	101.4%	29	96.9%	23	89.1%	18	78.7%	15

PM	2033 +CD+ULP		2033+CD+ULP+Link25%		2033+CD+ULP+Link50%		2033+CD+ULP+Link	
Approach	Deg Sat%	MMQ	Deg Sat%	MMQ	Deg Sat%	MMQ	Deg Sat%	MMQ
Radwinter Rd	119.1%	71	116.4%	62	109.7%	45	54.5%	11
Thaxted Rd	122.2%	82	115.8%	64	112.7%	55	90.9%	19
East St	119.7%	80	114.7%	67	110.1%	55	89.6%	22

It can be seen that the junction would not be expected to operate within capacity without a significant proportion of the traffic reassigning to the link road. For the AM peak somewhere between 50% and 100% of the traffic would be needed to reassign to fully relieve the junction, and for the PM peak even if all the traffic were to reassign the junction would still be at capacity.

Without re-running the junction analysis, it can be assumed from the 2016 ANPR data that there is a much greater potential for vehicles to reassign to use the link road to make their journeys across the town. This means that it would be possible to remove a greater level of traffic from the Radwinter Road/Thaxted Road junction with a suitable link road in place. Instead of around 3,300 vehicles per day transferring, we would expect in excess of 5,000 vehicles on the link road, this equates to a reduction in flows of 385 vehicles in the AM peak hour, and 410 vehicles in the PM peak hour, with a correspondingly greater improvement in the operation of the junction.

The increased flows associated with the provision of an eastern link road has also been modelled onto the wider network (as illustrated in Figure 1). Using the more detailed traffic movement information from the ANPR surveys it is now concluded that the impact of an eastern link road on the Peaslands Road corridor would be such that it would have insufficient capacity to deal with this increased flow, even with the mitigation measures previously proposed. So, while the link road would deal with the impacts of the now committed Manor Oak site on Radwinter Road at the Radwinter/Thaxted Road junction, it would be likely to lead to unacceptable consequences on the wider network, particularly the Peaslands Road corridor.

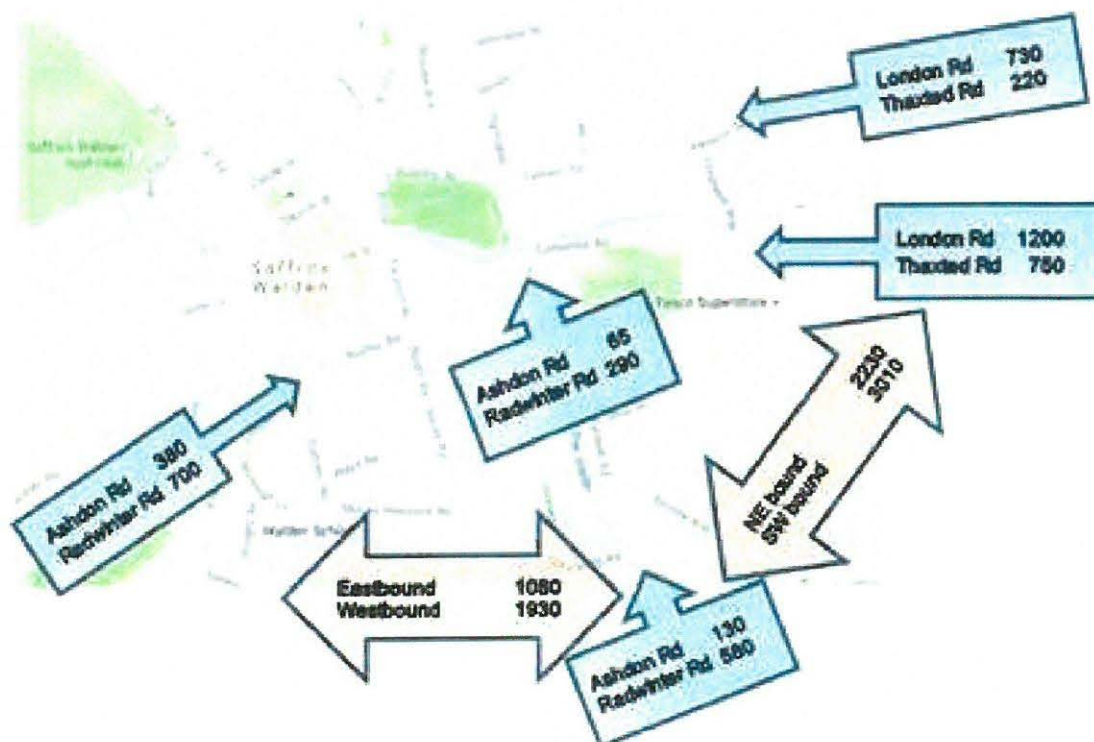


Figure 1 Potential Traffic Re-routing with Eastern Link Road (AADT)

A range of high-level evaluations were carried out to explore options and key findings are summarised below and in Appendix C.

Impacts of Additional Development in Eastern Saffron Walden

Notwithstanding the issue of the impact of additional traffic on the Peaslands Road corridor as a consequence of the eastern link road, a series of high level evaluations were undertaken to identify likely effects of additional development in this eastern sector. This high level evaluation is included at Appendix C.

Major Additional Infrastructure evaluation

UDC requested a high level evaluation of the likely impact of further major infrastructure, ie an extension of the eastern link road across the south of the town to connect through to B1052 Newport Road. This was to be considered as part of a possible future scenario in the next Plan period, to include further major housing development as a delivery mechanism.

ECC undertook a very simplistic analysis, using very basic network assumptions, and included 5,000 additional homes located across the south and east of the town. Using the 2001 Journey to Work distribution information, trips associated with the 5,000 homes were manually assigned to parts of the simple town network (primarily the new link road and the B1052 Newport Road / B184 High Street corridor). This

did not consider any current or future traffic or network congestion issues in this area, nor any possible wider reassignment of development trips as a consequence.

The simplistic analysis found that while development of this scale would be able to make use of the new link road to avoid much of the town centre, there would still be significant impact on the AQMA, particularly at the High Street / George Street junction. The manual assignment of the AM peak hour is illustrated in Figure 2.

The main conclusion drawn from this evaluation was that the repercussions of major development and infrastructure of this nature on the highway network needed further more detailed analysis, using a highway assignment model. However the initial view was that it did not appear to provide a solution to the town's highway capacity and air quality issues.

A number of intermediate options were evaluated with a link road but indicated unacceptable impacts for the reasons explained above and in appendix C.

Impacts of Growth Without a Link Road

150 Dwellings East of Thaxted Road (Kier site)

A high-level evaluation was made of 150 dwellings on land East of Thaxted Road (Kier site) based on existing committed measures in place/new junction on Thaxted Road provided by the development. The evaluation indicates modest impacts on Thaxted/Peaslands Road (extra 56 vehicles in PM period). There would be no/limited opportunities to improve wider issues although the scheme would complement existing committed measures.

Conclusion

As set out in the earlier Traffic Study, there are a number of junctions within Saffron Walden which would require mitigation measures in order to deliver the LP growth. The eastern link road was considered to be a key element for delivering these measures, particularly in encouraging traffic to circumnavigate the town centre. The town centre, including the Radwinter Road/Thaxted Road junction is an AQMA, and there is a need to address congestion issues which could exacerbate the air quality.

The revised high level modelling has concluded that we would not recommend further development in the east of Saffron Walden, with the exception of a smaller scale development to the east of Thaxted Road (Kier site), as it would not be possible to improve the existing road network within the town to accommodate the additional traffic. Subject to the findings of a detailed Transport Assessment, the distribution of traffic from 150 dwellings at the Kier site would be only marginally different without a link road to that with it. However, the developer will be required to demonstrate that traffic impacts can be appropriately mitigated for the scale of development proposed.

It is therefore proposed that the previous strategy is modified to remove the Eastern link road and therefore also the junction changes proposed at the Radwinter/Thaxted junction as these were complimentary measures. However, the other measures referred to in the UDC Air Quality Action Plan 2017-2022 as proposed should remain and these include:

- Newport Road/Borough Lane priority junction improvements
- Debden Road, London Road to Borough Lane junction improvements
- Thaxted Road/Peaslands Road junction improvements
- Waiting restrictions on Peaslands Road

The impact of the development of the Kier site at 150 homes would be marginal based on the delivery of the measures proposed above, and less on the Peaslands Road corridor than with the full Eastern development. The Kier site would be expected to fund the provision of the improved junction at Thaxted Road / Peaslands Road and an appropriate TA that explores these measures in more detail would be required in due course. The remaining measures are already identified through existing committed developments.

Following a very simplistic assessment of further major infrastructure and development it is also concluded that, should any further development sites be promoted to the south and east of the town more sophisticated traffic modelling would be required in order to identify the traffic impacts and infrastructure required to mitigate those impacts. This could form part of a Local Plan review of the town, at which time modal shift opportunities would be explored. It is emphasised that all of the work reported herein is based on high level simplistic study, with the recommendation that a highway assignment model would be required to provide any definitive conclusions on the benefits or otherwise of an eastern and southern link road.

Note: The approach going forward on the emerging local plan is explained in more detail in UDCs PPWG report (22.617).

Essex County Council
Transportation Strategy & Engagement
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ECC Saffron Walden Traffic Study Update, May 2017

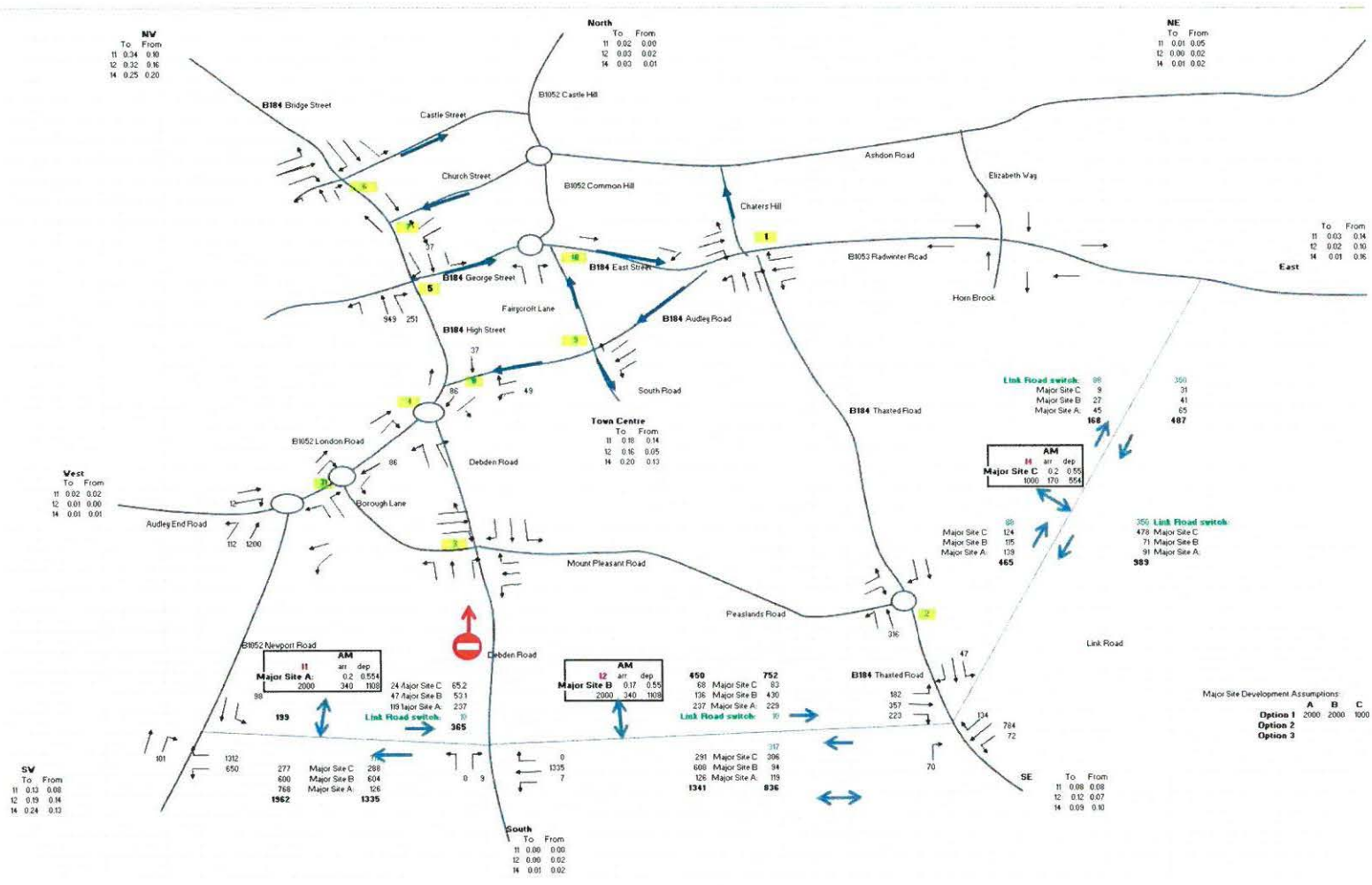


Figure 2 Potential Traffic Implications of Southern Link Road and Major Housing Development (AM Peak hour)

Appendix A

Overview of town impacts (March 2014 TA Update App C)

The previous work established that mitigation measures would be required to minimise Local Plan development impacts on highway network in Saffron Walden, as summarised in Table 5-1, copied below.

For simplicity the analysis results have been categorised to give a broad indication of the situation in each scenario. These categories are:

- ✓ No capacity issues in either peak hour
- ⊗ One or more arms approaching capacity in either of the peak hours
- ✗ One or more arms at or exceeding capacity in either of the peak hours

Table 5-1: Summary of Saffron Walden Junction Capacity Status

	Junction	2012	2018		2031	
		Base	Committed	Committed + ULP	Committed	Committed + ULP
1	B185 Thaxted Rd / B1053 Radwinter Rd	⊗	⊗	✗	✗	✗
2	B184 Thaxted Rd / Peaslands Rd	✓	⊗	⊗	⊗	✗
3	Mount Pleasant Rd / Debden Rd (existing layout)	✓	✓	✓	✓	⊗
4	B1052 London Rd / Debden Rd	⊗	⊗	⊗	✗	✗
5	B184 High St / B184 George St	✓	⊗	✗	✗	✗
6	B184 High St / Castle St	✓	✓	✓	✓	✓
7	B184 High St / Church St	✗	✗	✗	✗	✗

	Junction	2012	2018		2031	
		Base	Committed	Committed + ULP	Committed	Committed + ULP
8	B184 Audley Rd / B184 High St	⊗	⊗	⊗	×	×
9	B184 East St / Fairycroft Rd / Cates Cnr	✓	✓	✓	✓	✓
10	B1052 London Rd / Borough Ln	✓	✓	⊗	⊗	⊗
10b	B1052 Newport Rd / Audley End Rd	⊗	×	×	×	×

With the Link Road in place the operation of some junctions improved, but further measures would be required, as shown in Table 5-2 copied below. In particular, it should be noted that the Link Road results in additional congestion at the Thaxted Road / Peaslands Road junction as more traffic routes through it to and from the new road.

Table 5-2: Summary of Saffron Walden Junction Capacity Status: 2031 with Link Road

	Junction	2031		
		Committed	Committed + ULP	With Link Rd
1	B185 Thaxted Rd / B1053 Radwinter Rd	×	×	⊗
2	B184 Thaxted Rd / Peaslands Rd	⊗	×	×
3	Mount Pleasant Rd / Debden Rd (signals)	✓	✓	✓
4	B1052 London Rd / Debden Rd	×	×	×
5	B184 High St / B184 George St	×	×	×
6	B184 High St / Castle St	✓	✓	✓
7	B184 High St / Church St	×	×	×
8	B184 Audley Rd / B184 High St	×	×	×
9	B184 East St / Fairycroft Rd / Cates Cnr	✓	✓	✓
10	B1052 London Rd / Borough Ln	⊗	⊗	⊗
10b	B1052 Newport Rd / Audley End Rd	×	×	×

With the full range of highway Mitigation Measures and with LP development in place it was concluded that (with the exception of the Mountpleasant/Debden Road junction) there would be either no overall change or an improvement over the forecast year with committed development in the town.

Table 5-3: Saffron Walden Junction Capacity Analysis Summary: 2031 with Mitigation Measures

		2031			
	Junction	Committed	Committed + ULP	With Link Rd	With Link Rd & Mitigation Measures
1	B185 Thaxted Rd / B1053 Radwinter Rd	✗	✗	⊖	✓
2	B184 Thaxted Rd / Peaslands Rd	⊖	✗	✗	✓
3	Mount Pleasant Rd / Debden Rd (signals)	✓	✓	✓	✗
4	B1052 London Rd / Debden Rd	✗	✗	✗	⊖
5	B184 High St / B184 George St	✗	✗	✗	✗
6	B184 High St / Castle St	✓	✓	✓	✓
7	B184 High St / Church St	✗	✗	✗	✗
8	B184 Audley Rd / B184 High St	✗	✗	✗	✗
9	B184 East St / Fairycroft Rd / Cates Cnr	✓	✓	✓	✓

10	B1052 London Rd / Borough Ln	⊖	⊖	⊖	✓
10b	B1052 Newport Rd / Audley End Rd	✗	✗	✗	✗

It is reiterated that the 2014 traffic study identified a suite of junction and routing/mitigation improvements which sought to reduce traffic impact through the town. As such, the eastern link road is a key element of this suite, without which it is unlikely that the other elements would deliver the desired effects.

Overview of Radwinter Road / Thaxted Road Junction (March 2014 TA Update App C)

Existing network: Optimised signals junction operates ~85% with queuing on all arms in 2012.

With committed development in place in 2018 the junction would be at capacity, and with ULP would be over capacity, a situation which worsens by 2031.

Table 1c: B184 Thaxted Road / B1053 Radwinter Road AM Peak (Cycle Time=120sec, Optimised)

Approach & Lane		2012 AM Base		2018 AM with committed development		2018 AM with committed & ULP development		2031 AM with committed development		2031 AM with committed & ULP development	
		DoS	Q	DoS	Q	DoS	Q	DoS	Q	DoS	Q
B1053 Radwinter Rd	1	61.0%	13	68.3%	15	73.5%	17	69.0%	15	73.9%	17
B184 Thaxted Rd	1	86.6%	19	92.2%	23	98.5%	29	97.4%	28	110.0%	54
B184 East St	1	79.6%	14	91.8%	18	112.3%	46	95.0%	20	110.6%	44

Table 1d: B184 Thaxted Road / B1053 Radwinter Road PM Peak (Cycle Time=120sec, Optimised)

Approach & Lane		2012 PM Base		2018 PM with committed development		2018 PM with committed & ULP development		2031 PM with committed development		2031 PM with committed & ULP development	
		DoS	Q	DoS	Q	DoS	Q	DoS	Q	DoS	Q
B1053 Radwinter Rd	1	54.8%	11	59.8%	13	63.3%	14	62.9%	14	66.0%	15
B184 Thaxted Rd	1	84.4%	17	92.4%	22	97.0%	26	102.1%	34	117.5%	73
B184 East St	1	80.7%	17	94.0%	23	103.3%	36	103.9%	38	112.7%	62

Mitigation Measures – Link Road

A range of assumptions made for the Study with regard to possible re-routing of traffic around the town as a consequence of the link road being constructed were:

The eastern link road, which would connect Thaxted Road with Radwinter Road, would be expected to relieve the Thaxted Road/Radwinter Road junction, which is a recognised bottleneck on the network. The link road would be enabled through ULP development on the Saffron Walden Policy 1 site and be built in conjunction with that development. Such a route would help to not only relieve the traffic flows at the junction of Thaxted Road and Radwinter Road, but also help to channel traffic away from the centre of the town. It would, however, lead to additional traffic on the alternative route of Peaslands Road/Mount Pleasant Road and Borough Lane and Debden Road, to the south of the town centre.

The key movements which were considered likely to transfer to the link road are:

- Northbound and southbound along Thaxted Road which is destined towards or originating from Radwinter Road.
- Westbound from Radwinter Road to Newport Road through the town, which would have used East Street, Audley End Road and London Road.
- Eastbound from Newport Road to Radwinter Road through town, which would have used London Road, George Street and East Street.

Assumptions have been made with regard to the proportions of traffic movements which would transfer to the link road and Peaslands Road-Mount Pleasant Road-Borough Lane/ Debden Road route and how the flows would reassign on the local road network. This methodology has been developed using a combination of observed junction turning movements and professional judgement. In broad terms it was assumed that:

10% of Radwinter Road westbound traffic going straight ahead at the Thaxted Road junction would use the link road and Peaslands Road route instead;

50% of Radwinter Road westbound traffic going left at the Thaxted Road junction would use the link road instead and just over 50% of this diverted traffic would then turn towards Peaslands Road, the remainder travelling south away from the town;

50% of Thaxted Road northbound traffic right-turning at the Radwinter Road junction is assumed to use the link road;

10% of eastbound London Road traffic approaching from the west of the town is assumed to divert to Borough Lane and Mount Pleasant Road and thence to the link road.

Analysis indicated that implementation of the Link Road in isolation would improve the junction operation in the AM but PM it would still be at capacity in 2031 with committed, ULP and the link road in place.

Table 1c-LR: B184 Thaxted Road / B1053 Radwinter Road AM Peak (Cycle Time=120sec, Optimised)

Approach & Lane		2031 AM with committed & ULP development		2031 AM with committed & ULP development & Link Road	
		DoS	Q	DoS	Q
B1053 Radwinter Rd	1	73.9%	17	55.4%	17
B184 Thaxted Rd	1	110.0%	54	84.0%	26
B184 East St	1	110.6%	44	69.9%	19

Table 1d-LR: B184 Thaxted Road / B1053 Radwinter Road PM Peak (Cycle Time=120sec, Optimised)

Approach & Lane		2031 PM with committed & ULP development		2031 PM with committed & ULP development & Link Road	
		DoS	Q	DoS	Q
B1053 Radwinter Rd	1	66.0%	15	52.2%	10
B184 Thaxted Rd	1	117.5%	73	95.8%	23
B184 East St	1	112.7%	62	84.8%	20

With both the Link Road and with Thaxted Road with a northbound closure in place:

Table 1c-LR-MM1: B184 Thaxted Rd/B1053 Radwinter Rd AM Peak (Cycle Time=120sec, Optimised)

Approach & Lane		2031 AM with committed & ULP development		2031 AM with committed & ULP development & Link Rd		2031 AM with committed & ULP development, Link Rd & MM1	
		DoS	Q	DoS	Q	DoS	Q
B1053 Radwinter Rd	1	73.9%	17	55.4%	17	60.3%	14
B184 Thaxted Rd	1	110.0%	54	84.0%	26	78.1%	8
B184 East St	1	110.6%	44	69.9%	19	67.5%	12

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Table 1d-LR-MM1: B184 Thaxted Rd/B1053 Radwinter Rd PM Peak (Cycle Time=120sec, Optimised)

Approach & Lane		2031 PM with committed & ULP development		2031 PM with committed & ULP development & Link Rd		2031 PM with committed & ULP development, Link Rd & MM1	
		DoS	Q	DoS	Q	DoS	Q
B1053 Radwinter Rd	1	66.0%	15	52.2%	10	51.4%	11
B184 Thaxted Rd	1	117.5%	73	95.8%	23	84.0%	10
B184 East St	1	112.7%	62	84.8%	20	65.8%	15

Appendix B

Development Assumptions – Junction Analysis:

Current/latest UDC LP proposals testing assumes 800 new homes in Saffron Walden east, 219 homes elsewhere in the town, as well as 498 already committed homes, which sum to 1,517 homes (see WYG report and “A081175-47 - Uttlesford Transport Study - Apps E-G”, TN4 App A Uncertainty Log).

The previous ECC assessment work in 2013/14 assumed 433 committed homes, and 1,027 proposed homes (including 800 to the east of the town), totalling 1,460. For this assessment, as new survey data was used, 25% of the committed homes were removed as their traffic would already be on the network during the 2016 survey. The revised total was therefore 1,354 homes. Background growth was also applied to rebase the analysis to 2033.

The variation between the WYG assessment and this high level study is therefore in the order of $1517-1354=163$ fewer homes, which can be attributed to the different timeframes of the two studies: WYG uses 2011-2033, and ECC have used 2016-2033.

Appendix C

Review of Eastern Sites Impacts on Saffron Walden, May 2017

Saffron Walden Development Assumptions

The base traffic flows used in the high level assessment have been updated to 2016, when the most recent traffic surveys were undertaken. This has resulted in the number of committed developments that need to be incorporated into forecast modelling being amended to take account of those developments that have already been built and the additional planning permissions that have been granted.

The resulting committed development assumptions are set out in Table 1.

Site	Dwellings	Commercial Y/N
Ashdon Road	130	
Thaxted Road (Kiln Ct)	52	
Lt Walden Road	90	
Paxtons	14	
Ashdon Road Commercial	167	Y
Willis & Gambier	52	
Manor Oaks	200	Y
Total	705	

Table 1 Saffron Walden Committed Development

The potential future residential developments within Saffron Walden that may be within the emerging Local Plan are those in the eastern sector of the town:

- Land to the east of Thaxted Road ('Kier site');
- Land between Radwinter Road and Thaxted Road ('middle site').

These sites form the basis of the impacts assessment within this technical note, and have been evaluated under several scenarios, all with an assumed forecast year of 2031, as set out in Table 2. It should be noted that Scenario C represents an equivalent to that assumed in the EH 2012 evaluation, i.e. this has a total of 750 homes on the eastern sector, including the now committed Manor Oaks development.

Scenario	Kier Site	Middle Site	With Link Road?	Eastern Sector Total
A	150	0	No	350
B	300	0	No	500
C	150	400	Yes	750
D	150	650	Yes	1,000
E	150	1000	Yes	1,350

Table 2 Saffron Walden Eastern Sector Development Scenarios

In the absence of a more detailed highway assignment model, the estimated committed and Local Plan development traffic was assigned to the network using a spreadsheet model. The distribution of this traffic was based on Census Journey to Work (JtW) data and informed by the 2016 traffic surveys reported in the 'ECC Saffron Walden Traffic Study Update, May 2017'.

Review of Trip Distribution

The Essex Highways Local Plan 2012 evaluation used 2001 Census JtW data. Since then the 2011 Census data has been published. To check the likely effects that using the more recent data would have, a comparison of the two sets of data in relation to Saffron Walden is set out in Table 3.

Journey to Work:	2011 (WYG)	2001 (EH)
Access Route:	% of Trips	% of Trips
B184 (NW)	37.8%	54.5%
Little Walden Road (N)	4.5%	0.0%
Ashdon Road (NE)	0.4%	0.0%
Radwinter Road (E)	1.6%	3.4%
Thaxted Road (SE)	8.8%	3.4%
Debden Road (S)	0.0%	0.0%
B1052 (SW)	24.9%	17.0%
Audley End Road (W)	0.3%	3.4%
External % =	78.3%	81.7%
Internal % =	21.7%	18.3%
South-West (S,SW,W) =	25.3%	20.4%

Table 3 Census Journey to Work Evaluation

It can be seen that the more recent interpretation of the JtW data indicates a lower proportion of journeys heading to the north-west of the town and a higher proportion heading to the south-west. The use of the 2001 JtW data, therefore, may have under-estimated the number of trips using the Peaslands / Mountpleasant Road corridor.

Impact Evaluation – 2012 and 2017 Differences

The impacts of each of the scenarios has been based on the change in flows at key junctions within the town. This has also been referenced back to the EH 2012 evaluations to provide a high level comparison. The key junctions for which total flows are reported are:

- Radwinter Road / Thaxted Road
- High Street / George Street
- Thaxted Road / Peaslands Road
- Newport Road / Borough Lane

The comparison of the latest committed development 2031 junction flows with those estimated for the 2012 evaluation are set out in Table 4. The 2012 analysis found that all four junctions would be likely to be either at capacity or over capacity with the then committed development in place. The 2017 evaluation indicates that committed development flows would be likely to be greater through the Radwinter / Thaxted Road junction in the PM peak hour, and significantly greater through the Thaxted / Peaslands Road junction in both peak hours than previously estimated.

2016-2031		Total Junction Flows							
Junction	Time Period	Radvinter/Thaxted		High St/George St		Thaxted/Peaslands		Newport Rd/Boro Ln	
		AM	PM	AM	PM	AM	PM	AM	PM
Scenario									
2012: 2031 base+CD no link		1521	1632	1345	1401	1177	1346	1446	1398
2012: Junction capacity analysis summary:		Over capacity		Over capacity		Over capacity		At capacity	
2017: 2031 Base+CD no link		1527	1750	1321	1436	1381	1540	1503	1450
Committed Dev change 2012-2017 analysis:		6	118	-24	35	204	194	57	52

Table 4 Saffron Walden Committed Development Evaluation Comparisons

For the 2012 assessment a series of network interventions were devised to provide a 'with Local Plan nil detriment or better' position at key junctions, in order to accommodate the anticipated level of potential growth on the network. This included an eastern link road and associated traffic management measures and junction improvements across the southern part of the town.

Comparison of the 2012 and 2017 evaluation of the 'with link road' plus Local Plan growth (Scenario C) is set out in Table 5. This indicates that while the Radwinter / Thaxted Road junction would be likely to have lower flows, flows through the Thaxted / Peaslands Road junction would be likely to be significantly higher.

2016-2031		Total Junction Flows							
Junction	Time Period	Radvinter/Thaxted		High St/George St		Thaxted/Peaslands		Newport Rd/Boro Ln	
		AM	PM	AM	PM	AM	PM	AM	PM
Scenario C									
2012: 2031 Base +CD+LP+Link (750)		1256	1386	1271	1362	1160	1466	1427	1570
2017: 2031 Base+CD+ULP+Link (750)		1122	1220	1308	1362	1745	1835	1560	1535

Table 5 Saffron Walden Local Plan plus Link Road Evaluation Comparisons

This would be likely to have a much greater impact on the Peaslands Road corridor than previously assumed. While it is considered that some additional traffic could be accommodated along it, with the implementation of parking restrictions etc, it is likely that the level of traffic reassignment now estimated to result from an eastern link road would be unacceptable in traffic management terms.

Nevertheless, the additional sensitivity testing as set out in Table 2, has been undertaken and reported in the next section.

Impact Evaluation – Sensitivity Scenarios

Scenario A: comparison of development on the Kier site of 150 homes, with already committed development in place is set out in Table 6. As would be expected, the

Thaxted / Peaslands Road junction would be likely to be most affected by this development although the evaluation indicates modest impacts on Thaxted/Peaslands Road (extra 56 vehicles in PM period). There would be little or no opportunities to improve the wider highway network/address air quality issues in the town centre although the scheme would complement existing committed measures with regards these issues.

2016-2031		Total Junction Flows							
Junction	Radwinter/Thaxted	High St/George St		Thaxted/Peaslands		Newport Rd/Boro Ln			
Time Period	AM	PM	AM	PM	AM	PM	AM	PM	
Scenario A									
2012: 2031 base+CD no link	1521	1632	1345	1401	1177	1346	1446	1398	
2017: 2031 Base+CD no link	1527	1750	1321	1436	1381	1540	1503	1450	
2017: 2031 Base+CD+ULP No Link (Kier 150)	1540	1765	1336	1452	1433	1596	1519	1466	

Table 6 Scenario A (Kier site 150) 2031 Impact Comparisons

Scenario B: comparison of development on the Kier site of 300 homes, with already committed development in place is set out in Table 7. As would be expected, this just shows general increases at all four junctions, with the Thaxted / Peaslands Road showing the greatest increases. The increases are less modest for the Thaxted Road/Peaslands Road with an extra 113 vehicles in the PM period.

2016-2031		Total Junction Flows							
Junction	Radwinter/Thaxted	High St/George St		Thaxted/Peaslands		Newport Rd/Boro Ln			
Time Period	AM	PM	AM	PM	AM	PM	AM	PM	
Scenario B									
2012: 2031 base+CD no link	1521	1632	1345	1401	1177	1346	1446	1398	
2017: 2031 Base+CD no link	1527	1750	1321	1436	1381	1540	1503	1450	
2017: 2031 Base+CD+ULP No Link (Kier 300)	1552	1779	1352	1469	1484	1653	1534	1482	

Table 7 Scenario B (Kier site 300) 2031 Impact Comparisons

Scenario D: assumes 1,000 homes on the eastern sector, including the Manor Oaks site. It also assumes that an eastern link road would be in place. As shown in Table 8 the combination of growth and major infrastructure would be likely to provide significant relief to the Radwinter / Thaxted Road junction, and a nil detriment position at the High Street / George Street junction. However, like Scenario C but with greater effect, there would be likely to be significant increases in flows at the Thaxted / Peaslands Road junction, leading to higher flows on the Peaslands Road and Borough Lane corridor.

2016-2031		Total Junction Flows							
Junction	Radwinter/Thaxted	High St/George St		Thaxted/Peaslands		Newport Rd/Boro Ln			
Time Period	AM	PM	AM	PM	AM	PM	AM	PM	
Scenario D									
2012: 2031 base+CD no link	1521	1632	1345	1401	1177	1346	1446	1398	
2017: 2031 Base+CD no link	1527	1750	1321	1436	1381	1540	1503	1450	
2017: 2031 Base+CD+ULP+Link (1000)	1150	1246	1326	1378	1807	1895	1586	1560	

Table 8 Scenario D (Eastern Sector=1000) 2031 Impact Comparisons

Scenario E: assumes a total of 1,350 homes on the three eastern sector sites, together with an eastern link road. While still providing relief to the Radwinter /

Thaxted Road and High Street / George Street junctions, as shown in Table 9, as would be expected the impact on the Thaxted / Peaslands Road and as a consequence on the Peaslands Road / Borough Lane corridor is likely to be significant.

2016-2031		Total Junction Flows							
Junction		Radwinter/Thaxted		High St/George St		Thaxted/Peaslands		Newport Rd/Boro Ln	
Time Period		AM	PM	AM	PM	AM	PM	AM	PM
Scenario E									
	<i>2012: 2031 base+CD no link</i>	1521	1632	1345	1401	1177	1346	1446	1398
	2017: 2031 Base+CD no link	1527	1750	1321	1436	1381	1540	1503	1450
	2017: 2031 Base+CD+ULP+Link (1350)	1189	1282	1351	1400	1895	1979	1622	1596

Table 9 Scenario E (Eastern Sector=1350) 2031 Impact Comparisons

Conclusion

The re-evaluation of the likely impact of introducing an eastern link road together with significant housing growth to the east of Saffron Walden has indicated that the level of reassignment across the southern part of the town is likely to be unacceptable in terms of congestion. However, in practice traffic is likely to distribute more evenly across the network.

It is emphasised that this evaluation is high level and simplistic. It is recommended that a highway assignment model is constructed to provide more confidence in an assessment of the likely traffic impacts of growth on Saffron Walden and to identify appropriate infrastructure. Such modelling should also provide the opportunity to evaluate what improvements in sustainable travel would be needed to help mitigate traffic impacts. Such work would be outside the current round of plan making but should inform a plan review.

Essex County Council
 Transportation Strategy & Engagement
 8th May 2017