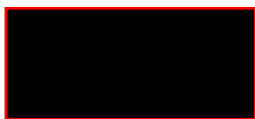


Tendring Local Plan – Review of impacts of SHLAA revised numbers



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1 Introduction

Starting in late 2015 and progressing periodically through to August 2017, Jacobs, through Essex Highways, were commissioned by Essex County Council (ECC) to undertake modelling to assess transport impacts of Tendring's Local Plan proposals. Work included a review of potential impacts at key junctions and possible capacity enhancements to mitigate those impacts.

Since that work was undertaken, Tendring's Local Plan proposals have evolved and consequently Jacobs has been commissioned to review the latest housing development plans in Tendring and identify likely impacts in comparison to certain scenarios developed from previous work. The commission does not extend to undertaking any new modelling, but just to compare the latest Local Plan housing data against what was modelled from previous scenarios and try to infer from that the potential impact of the latest proposals.

The previous scenarios against which the latest data has been compared are the previous (Full) development scenarios, as reported in the first stage of work¹, and the latest modelled scenario as reported in the Stage 3 report². These scenarios are relevant because the full scenario represents the 'worst case' in terms of impact on the existing transport network and the Stage 3 looks more closely at the junctions and how mitigation has affected the junctions in question.

This report describes potential junction impacts, with the latest Local Plan housing numbers by comparison with housing numbers and junction impacts from previous scenarios and advises the potential level of impact from the new scenario where possible, flagging up any relevant uncertainties stemming from the fact that new modelling has not been undertaken.

It should be noted that this technical report looks at the comparison of dwelling only, as it is assumed that employment assumptions have not changed.

¹ Tendring Local Plan Modelling Support, December 2015

² Tendring Local Plan Modelling Support Stage 3, August 2017

2 Development Comparison

This section of the technical report looks at the comparisons between the full development proposal from the stage 1 report and the 'preferred' development as reported in the stage 3 report, against the revised housing numbers provided by Tendring DC, on the 27/01/21, in a spreadsheet "Highways Numbers Update.xlsx", which reflects "information extracted from the SHLAA regarding Housing numbers across TDC within the Plan Period", with subsequent confirmation from Tendring DC regarding which of those developments are considered committed and which are non-committed local plan allocations.

Compared to the Full Development scenario from stage 1 the latest SHLAA data has significantly fewer non-committed dwellings (c. 30k in the Full development and c. 10,000 in latest SHLAA. Compared to the most recent stage 3 assessment (c. 3.5k) SHLAA is less than stage 3. Table 2.1 below shows the numbers of residential dwellings in the three scenarios, summarised by area for the non-committed development, as well as the total committed development.

Table 2.1: Comparison of Dwellings Quantum's

Area	Site Name	Stage 1 -Full Modelling	Stage 3 Assessment	SHLAA Figures within Plan Period
Clacton	Rouses Farm	800	800	540
	Coastal Academy	300		
	Flint Grange			
	Brook Park West			
	Sladburys Lane	700		
	Oakwood Park – Phase 2	1400	750	435
	Hartley Gardens	2800	800	210
Clacton Total		6,000	2350	1185
Harwich & Dovercourt	Low Road	400	315	
	Mayes Lane	200		

Area	Site Name	Stage 1 -Full Modelling	Stage 3 Assessment	SHLAA Figures within Plan Period
	Navyard Wharf	400		
	Oakley Road	1100		
	Harwich Valley	300		
Harwich & Dovercourt Total		2,400	315	0
Frinton, Walton, Kirby Cross	Finches Park			
	Hamford Park			
	Martello	300		
	Halstead Road	300		
	Turpins Farm	300		
	121-183 Thorpe Road			
Frinton, Walton, Kirby Cross Total		900	0	0
Manningtree, Lawford Mistley	Long Road / Clacton Road	700		
	Harwick Road	300		
	Lawford Green			
	River Reach – Phase 1			
	River Reach - -Phase 2			
Manningtree, Lawford Mistley Total		1,000	0	0
Brightlingsea	Colne Gardens – Phase 2			
	Robinson Road	200	100	
Brightlingsea Total		200	100	0
Tendring Colchester Fringe	Bromley Road		210	

Area	Site Name	Stage 1 -Full Modelling	Stage 3 Assessment	SHLAA Figures within Plan Period
	Avellana Place			
	Tendring Colchester Borders Garden Community		2500	2200
	Colchester Fringe 1	3000		
	Colchester Fringe 2	1500		
	Colchester Fringe 3	1500		
Tendring Colchester Fringe Total		6,000	2710	2200
Arlesford	Staunton Gate			
Great Bentley	Station Field			
	Weeley Road			
Great Bentley Total		0	0	0
Sy Osyth	Wellwick Field	200		
Weeley	Barleyfields	400	280	
	Tendring Park Services	800		
	Hawk Farm	400		
	Phase 2 South	1200		
	Phase 2 North	500		
Weeley Total		3,300	280	0
Brantham	Brantham	320		
Tendring Central	Tendring Central 1	1500		
	Tendring Central 2	1200		
	Tendring Central 3	1200		

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Area	Site Name	Stage 1 -Full Modelling	Stage 3 Assessment	SHLAA Figures within Plan Period
	Tendring Central 4	1500		
Tendring Central Total		5,400	0	0
TOTAL No. Dwellings, specific locations (non-Committed)		25,720	5,755	3,385
Addition dwellings modelled as background growth, rather than specific sites (non-committed)		0	1,706	231
Overall non-committed TOTAL		30,520	7,461	3,616
TOTAL committed (modelled as background growth)		4,800	4,360	6,143
TOTAL, committed and non-committed		35,320	11,821	9,759

The above only looks at total dwelling numbers and compares to previous modelling work; it doesn't consider where the changes in site locations have occurred and the likely change in impact on individual junctions. However, it's notable that compared to the stage 3 assessment the new SHLAA figures show a reduction in dwellings overall and at specific sites, but there is a small increase in committed and smaller non-committed sites which would be included in the background growth should modelling take place.

The next section looks more into where these revised housing numbers have taken place, with respect to junctions in the vicinity of those changes.

3 Site Location Comparison

This section looks at the location of the existing sites and new sites to see if certain localised junctions would be affected by the change in the revised non-committed SHLAA dwelling numbers.

Table 3.1 compares the change in non-committed dwellings by specific areas across different scenarios and identifies which previously assessed junctions (using the numbering system with the stage 1 and stage 3 reports) are within these areas, Table 4.1 in the subsequent section provides a full description of these junctions.

Table 3.1: Comparison of Dwellings Quantum's % changes

Area	Stage 1 -Full Modelling	Stage 3 Assessment.	SHLAA Figures within Plan Period	Percentage change from Stage 1 Full Development to SHLAA	Percentage change from Stage 3 Development to SHLAA	Junctions numbers within the Area
Clacton	6000	2350	1185	-80%	-50%	17 18 20 21 22 23 25 26
Harwich & Dovercourt	2400	315	0	-100%	-100%	2 3
Frinton, Walton, Kirby	900	0	0	-100%	0%	13 14 15
Manningtree, Lawford	1000	0	0	-100%	0%	1 27
Brightlingsea	200	100	0	-100%	-100%	16a 16b
Tendring Colchester	6000	2710	2200	-63%	-19%	None
Arlesford	0	0	0	0%	0%	4 5
Great Bentley	0	0	0	0%	0%	6 7 8
St Osyth	200	0	0	-100%	0%	none
Weeley	3300	280	0	-92%	0%	9 11 12
Brantham	320	0	0	-100%	0%	none
Tendring Central	5400	0	0	-100%	0%	24

Area	Stage 1 -Full Modelling	Stage 3 Assessment.	SHLAA Figures within Plan Period	Percentage change from Stage 1 Full Development to SHLAA	Percentage change from Stage 3 Development to SHLAA	Junctions numbers within the Area
TOTAL No. Dwellings, specific	25,720	5,755	3,385	-86%	-41%	
Background Growth	0	1,706	231	Increase from zero	-86%	
Overall TOTAL	25,720	7,461	3,616	-80%	-51%	

Table 3.1 clearly shows that all the areas for the stage 1 full development scenario have reduced significantly in the latest SHLAA data. This would suggest that the level of impacts at junctions as identified in the phase 1 report would grossly overestimate the impacts that the latest SHLAA assumptions would have.

Comparing the revised SHLAA housing numbers against stage 3, there are either significant decreases, or totals remain at zero, depending on the area.

4 Junction Modelling Review

This section looks at the potential change in impact at key junctions due to the revised SHLAA housing numbers, from the Stage 1 and Stage 3 assessment junction modelling.

The previous section identified that no junctions in areas where the revised SHLAA development is greater than in stage 3. Therefore, the modelling work carried out would be relevant to the revised SHLAA revised housing numbers.

The RFC/DOS after mitigation, from stage 1 and stage 3 have been extracted from the relevant reports and associated to the likely impact of the revised SHLAA housing numbers.

A summary of the potential effects on the junction is provided in the final column and colour coded according to the following scheme:

Red – junction impacts could be worse in the revised SHLAA scenario than in the stage 3 work and likely to require more mitigation

Amber – some confidence that further junction mitigations will not be required but modelling required to be certain.

Green – likely that junction impacts would be no worse, and possibly improved from the stage 3 work, having already been performing satisfactorily in stage 3.

Because no further modelling work has been undertaken, the assessment of junction impacts is necessarily a qualitative impact by comparison to the earlier work and consideration of how the SHLAA changes could revise the previous junction modelling results.

Table 4.1: Stage 1 and Stage 3 Junction Results

No.	Junction Description	Stage 1 - Full Modelling Post Mitigation - RFC	Stage 3 Assessment. – Post Mitigation - RFC	Mitigation Summary (from Stage 3 report)	Dwelling totals in vicinity, stage 1	Dwelling totals in vicinity, stage 3	Revised SHLAA dwellings	Possible effect on junction given new SHLAA totals
1	A137 Wignall St /A137 Cox's Hill / B1352 Long Rd	2.28	0.84	Small expansion in roundabout size	1000	0	0	No local developments, but potentially some increase due to background growth, but stage 3 results suggest plenty of spare capacity to accommodate.

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No.	Junction Description	Stage 1 - Full Modelling Post Mitigation - RFC	Stage 3 Assessment. – Post Mitigation - RFC	Mitigation Summary (from Stage 3 report)	Dwelling totals in vicinity, stage 1	Dwelling totals in vicinity, stage 3	Revised SHLAA dwellings	Possible effect on junction given new SHLAA totals
2	A120 Tinker St / B1353 Wrabness Rd / B1352 Church Hill	0.97	0.59	None required	2400	315	0	No local developments, but potentially some increase due to background growth, but stage 3 results suggest plenty of spare capacity to accommodate.
3	B1352 Ramsey Rd / B1352 Main Rd / Oakley Rd	>1.2	0.80	Widening one arm of junction	2400	315	0	No local developments, but potentially some increase due to background growth, but stage 3 results suggest plenty of spare capacity to accommodate.
4	A133 Colchester Rd / Church Rd / School Rd	>1.2	0.79	Conversion to signalised, requires land take.	0	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
5	A133 Clacton Rd/ Bromley Rd	>1.2	0.81	Optimisation of current signal timings	0	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
6	A133 Main Rd / Bromley Rd / Gt Bentley Rd	189.7% DOS	0.9	Optimisation of current signal timings may operate at acceptable RFC subject to pedestrian demand.	0	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, and given stage 3 results were close to capacity, modelling would be needed to be certain of impact.

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No.	Junction Description	Stage 1 - Full Modelling Post Mitigation - RFC	Stage 3 Assessment. – Post Mitigation - RFC	Mitigation Summary (from Stage 3 report)	Dwelling totals in vicinity, stage 1	Dwelling totals in vicinity, stage 3	Revised SHLAA dwellings	Possible effect on junction given new SHLAA totals
7	A120 to A133 / A133 Main Rd / A133 Colchester Rd	2.41	0.9	Conversion to signalised junction, requires land take.	0	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, and given stage 3 results were close to capacity, modelling would be needed to be certain of impact.
8	A133 Colchester Rd / Heckfords Rd	>1.2	0.9	Conversion to signalised junction. Alternatively, addition of new slip roads Requires land take.	0	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, and given stage 3 results were close to capacity, modelling would be needed to be certain of impact.
9	A133 Colchester Rd / Tendring Park Services	1.53	0.98	Slight widening of two approaches, within current boundary.	3300	280	0	Dwelling totals reduced to zero compared to stage 3, but this would be offset by higher background growth. Junction was close to capacity in stage 3 and more modelling would be required to assess impact in the revised scenario.
11	B1414 Landermere Rd / B1033 Abbey St	>1.2	1.15	Signalised	3300	280	0	Dwelling totals reduced to zero compared to stage 3, but this would be offset by higher background growth. Junction was over capacity in stage 3, and likely to remain the case in the new scenario.
12	B1033 Abbey St / Station Rd	>1.2	0.88	Conversion to signalised, with land take.	3300	280	0	Dwelling totals reduced to zero compared to stage 3, but this would be offset by higher background growth. Junction was just within capacity but more modelling needed to be sure it will still be able to accommodate growth.

Review of impacts of SHLAA revised numbers

No.	Junction Description	Stage 1 - Full Modelling Post Mitigation - RFC	Stage 3 Assessment. – Post Mitigation - RFC	Mitigation Summary (from Stage 3 report)	Dwelling totals in vicinity, stage 1	Dwelling totals in vicinity, stage 3	Revised SHLAA dwellings	Possible effect on junction given new SHLAA totals
13	B1033 Thorpe Rd / B1033 Frinton Rd / B1032 Kirby Rd	1.62	0.83	Signalise although land take issues.	900	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
14	Halstead Rd / B1033 Frinton Rd	64.1% DOS	0.85	Signalise although land take issues.	900	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
15	Elm Tree Ave / B1336 Walton Rd / B1033 Frinton Rd	>1.2	0.67	Increase roundabout size	900	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
16a	B1029 Brightlingsea Rd / B1027 Tenpenny	>1.2	0.79	Merge into a single roundabout	200	100	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
16b	B1029 Brightlingsea Rd / B1027 Tenpenny	>1.2			200	100	0	
17	A133 / St Osyth Rd / Progress Way	0.84	0.74	None required	6000	2350	1185	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, but stage 3 results suggest plenty of spare capacity.
18	Progress Way / London Rd / Centenary	<1.2	0.89	Widening approach arms	6000	2350	1185	Dwelling numbers lower than stage 1 or 3 so with background traffic, not likely to be not much worse than stage 3 results, but is already close to capacity

Review of impacts of SHLAA revised numbers

No.	Junction Description	Stage 1 - Full Modelling Post Mitigation - RFC	Stage 3 Assessment. – Post Mitigation - RFC	Mitigation Summary (from Stage 3 report)	Dwelling totals in vicinity, stage 1	Dwelling totals in vicinity, stage 3	Revised SHLAA dwellings	Possible effect on junction given new SHLAA totals
20	B1027 St Johns Rd / Jaywick Ln	>1.2	0.87	Conversion to full roundabout including the addition of 4 th arm to connect to A133/St Osyth Road roundabout.	6000	2350	1185	Dwelling numbers lower than stage 1 and 3 so likely to have reduced impact in comparison. But already close to capacity in stage 3.
21	B1027 St Johns Rd / Lt Clacton Rd	>1.2	0.90	Conversion to signalised, without pedestrian provision.	6000	2350	1185	Dwelling numbers lower than stage 1 and 3 so likely to have reduced impact in comparison. But already close to capacity in stage 3.
22	B1027 St Johns Rd / Close Ln	>1.2	0.96	Conversion to signalised, with land take.	6000	2350	1185	Dwelling numbers lower than stage 1 and 3 so likely to have reduced impact in comparison. But already close to capacity in stage 3.
23	A133 / B1027 St Johns Rd / A133 London Rd	0.97	0.84	Adjustment to road markings, within highway boundary.	6000	2350	1185	Dwelling numbers lower than stage 1 and 3 so likely to have reduced impact in comparison. Some spare capacity to accommodate.
24	A120 / B1035 (Horsley Cross)	n/a	0.84	Widening arms	None	None	None	Only background growth to be concerned about, but some headway to accommodate.
25	B1027 St John's Road / B1369 North Rd	<1.2	0.99	Widening on North Road. Requires significant work outside of current boundary.	6000	2350	1185	Dwelling numbers lower than stage 1 or 3 so likely to have reduced impact, although with background growth and not much spare capacity further assessment needed to be sure.

Review of impacts of SHLAA revised numbers

No.	Junction Description	Stage 1 - Full Modelling Post Mitigation - RFC	Stage 3 Assessment. – Post Mitigation - RFC	Mitigation Summary (from Stage 3 report)	Dwelling totals in vicinity, stage 1	Dwelling totals in vicinity, stage 3	Revised SHLAA dwellings	Possible effect on junction given new SHLAA totals
26	B1027 St John's Road / B1027 Valley Road / B1369 Old Road	>1.2	0.95	Conversion to signalised. No provision for pedestrians.	6000	2350	1185	Dwelling numbers lower than stage 1 or 3 so likely to have reduced impact, although with background growth and not much spare capacity further assessment needed to be sure.
27	B1352 Long Road / B1035 Clacton Road / B1352 New Road / Trinity Road	>1.2	0.88	Conversion to signalised, within current boundary. Currently no pedestrian provision assumed, but may be possible to allow for this and still maintain acceptable RFCs.	1000	0	0	Dwelling numbers zero/same as stage 1 and 3. Potential for background growth to increase impact, and given stage 3 results were close to capacity, modelling would be needed to be certain of impact.

The table indicates that the previous stage 3 assessment gives sufficient confidence that around half of the junctions modelled should perform within acceptable limitations with the new SHLAA developments. For the remaining half, the junctions were previously modelled as being close to, but within, capacity. The new SHLAA developments are overall lower than that of the previous assessment which gives some confidence that the junctions would remain within capacity however this cannot be established with absolute certainty without undertaking further modelling.

There is one junction (B1414 Landermere Rd / B1033 Abbey St) which was shown to be over capacity in the stage 3 assessment and is likely to remain overcapacity with the new SHLAA development.

5 Summary

After comparing previous modelling work and the new SHLAA dwelling numbers there is confidence that, without further modelling, around half of the junctions previously assessed would continue to perform sufficiently within capacity.

For the remaining junctions, there is some evidence that they would remain within capacity, however further modelling would be required in order to verify this. There is one junction for which it's likely that any proposed mitigation measures are likely to be insufficient to reduce the junction to an acceptable level of performance.