East Grinstead and Surrounds November 2014 Survey and Review of Traffic Conditions

Presentation to East Grinstead Neighbourhood Plan Working Group

13th February 2015

1. Introduction

- 2004 Local Plan Chapter 12 see 12.5 page 103
- Previous transport studies, Atkins 3 and Amey Stage 1 etc.
- 3 tiers (EGTC, MSDC, WSCC Highways) Meeting July 2012

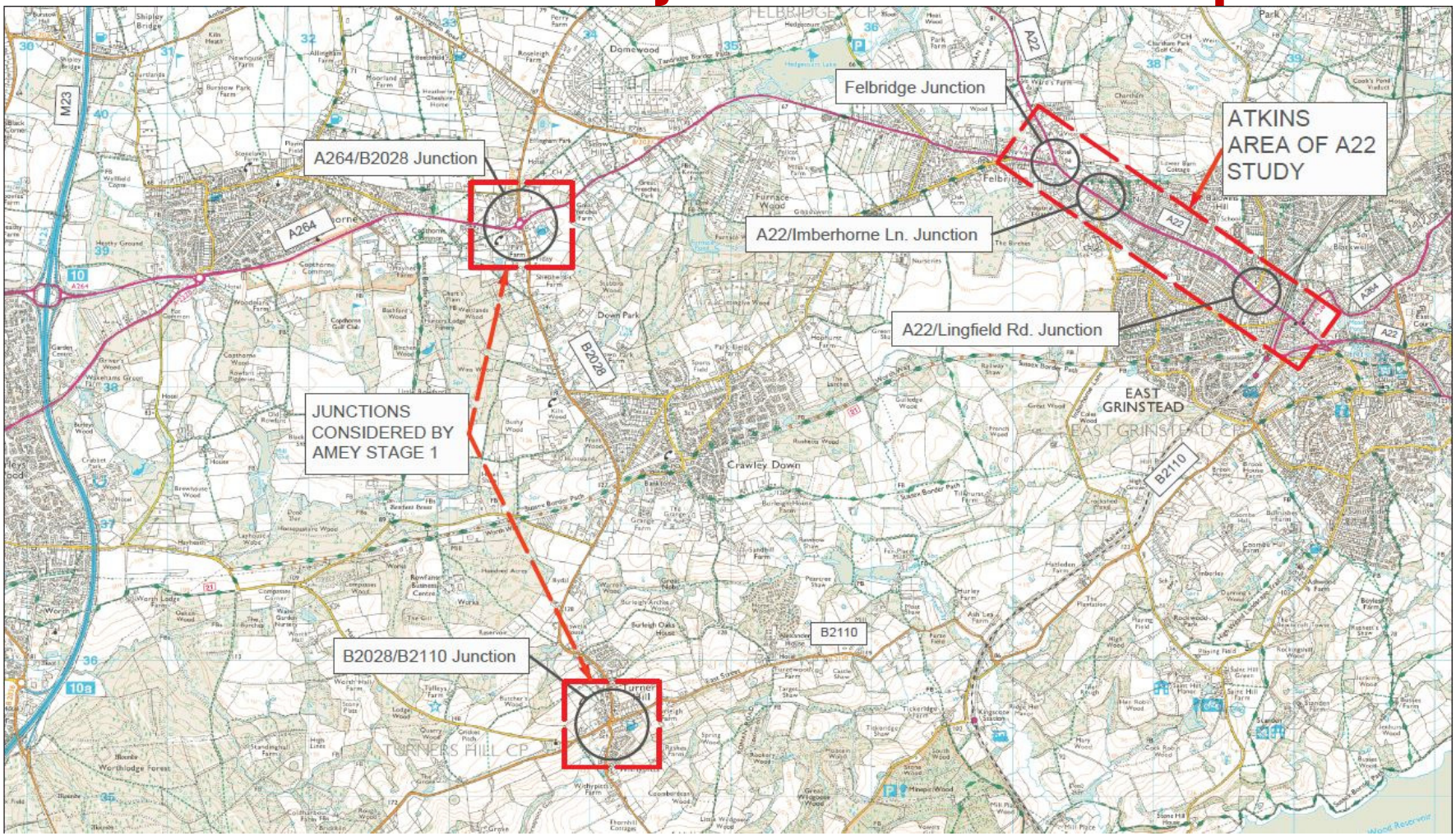
Updated by

- JUBB EG and Surrounds Nov 2014 Traffic Survey and Review Reports.
- Nov 2014 Consultation Draft Mid Sussex District Plan 2014-2031 Para 2.9

1. Introduction

- Nov 2014 most comprehensive area wide survey ever of traffic conditions in and around EG
- Survey methods used - accurate and holistic picture obtained.
- Detailed understanding of EG highway network operation gained.
- Limitations of, improvement on Atkins 3 and Amey surveys. See later slide.

1. Introduction – Study Area Location Map



1. Introduction

Limitations of, and improvement on Atkins 3 and Amey surveys:

- Atkins 3 modelling method failed to reflect interaction between junctions, blocking back caused by stationary / slow moving traffic. Atkins 3 models assumed free flow traffic exiting junctions. This is **not the case**.
- Atkins 3 Nov 2011 survey assessed a limited peak hour modelling period of 1.5 hours. Jubb 2014 EG survey identified much longer peaks of between 2.5 – 3 hours.
- Atkins 3 results have a significant risk of over estimating operational capacity of network due to the junction modelling software releasing traffic into a free flowing network when it is actually congested.

1. Introduction

- 2014 surveys show predicted 2021 Do Minimum journey times and delays at key junctions are already exceeded with 6 years to go. Additional traffic growth makes conditions much worse.

- Under estimation of traffic demand as traffic counts fail to account for suppressed queuing traffic that arrives during modelling period which then fail to enter or approach junctions due to severe congestion.

- Atkins 3 Nov 2011 survey modelling, results in over optimistic baseline traffic conditions distorting reliability and accuracy of Atkins 3 future year predictions.

1. Introduction

Jubb Nov 2014 survey key findings:

- Traffic conditions severe and demonstrably unacceptable.
- Atkins 3 2021 predicted conditions already breached.
- In addition future impact on EG traffic network from 532 approved EG dwellings 1st Sept 2014. 500 dwellings Copthorne Village West and 209 (1st April 2014) Crawley Down.
- Inappropriate to allow ANY further unplanned EG major development until required substantial additional highway provision in place.

2. Background

ATKINS 3 April 2012 Report:

- DO MINIMUM.
- DO SOMETHING infrastructure investment £2.25m excluding third party land and utilities identified significant deliverability and affordability risks
- Report sets levels of 2021 network performance.
- 3 tiers meeting Review of Atkins 3 July 2012 - several EG junctions operating with 'Severe' highway conditions.

2. Background

AMEY Stage 1 December 2012:

- Identified critical junctions including:
- Turners Hill junction B2110/B2028.
- Dukes Head A264/ B2028 junction.
- NO major junction improvements are planned.

3. Key Findings

ATKINS 3 2012 Survey Area.

- Maximum queue total of all arms

	Atkins 3				Nov 2014 Survey		% Increase			
	Nov 2011 Survey		2021 Do Nothing				Nov 2011		2021 Do Nothing	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Felbridge Junction	49	54	71	81	99	86	100	59	39	6
Imberhorne Junction	63	63	80	76	262	188	315	198	228	147
Lingfield Junction	101	109	149	142	167	164	65	50	12	15

3. Key Findings

ATKINS 3 2012 Survey Area.

- A22 suffers severe congestion between Imberhorne Lane and Lingfield Road in both directions, sustained peaks 1.5 - 2 hrs.
- Imberhorne Lane junction loss of capacity due to blocking back at upstream Felbridge Junction. Impeding left turning vehicles from Imberhorne Lane
- 1 km queue lengths at Imberhorne and Lingfield junctions
- Network very sensitive to daily flow variation and weather, small events lead to significant delay

3. Key Findings

Imberhorne Lane Queue Video

3. Key Findings

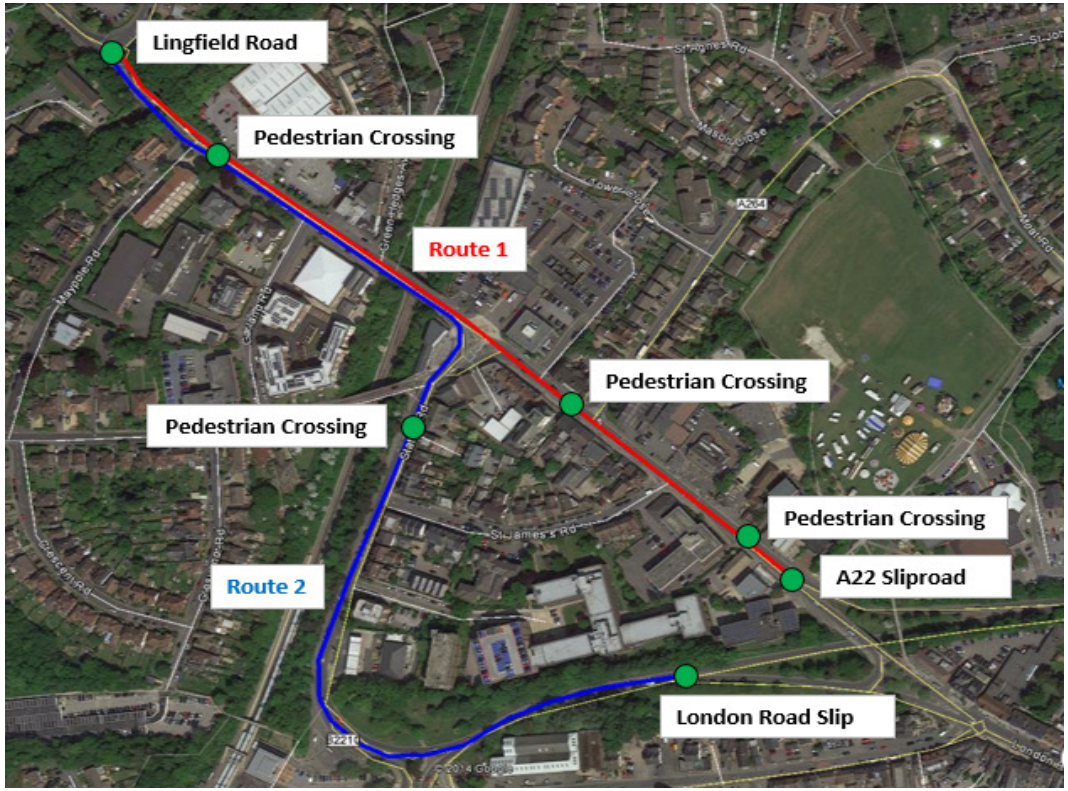
A22 Queue back from Imberhorne Lane Towards Lingfield Rd Junction

3. Key Findings

A22 Queue back from Lingfield Rd Junction towards Imberhorne Lane

3. Key Findings

ATKINS 3 2012 Survey Area- Journey Time Data



3. Key Findings

ATKINS 3 2012 Survey Area- Journey Time Data

Journey Times (seconds)

	Atkins 3				Nov 2014 Survey		% Increase			
	Nov 2011 Survey		2021 Do Nothing				Nov 2011		2021 Do Nothing	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Route 1 Average JT	91	90	92	95	97.5	110.5	7	23	6	16
Route 2 Average JT	200	143	244	215	107	164	-47	15	-56	-54

3. Key Findings

AMEY STAGE 1 AREA - Turners Hill & Dukes Head Junctions.

- Nov 2014 survey both operating over theoretical capacity.
- Significant queues and delays in both peaks.
- NO infrastructure investment planned.
- Impact of approved housing at Crawley Down and from Copthorne Village West materially worsens traffic conditions further.

3. Key Findings

AMEY STAGE 1 AREA - Turners Hill & Dukes Head Junctions.

- Dukes Head A264/B2028 - junction operating over recommended design capacity in both peaks with a Ratio of Flow to Capacity of over 1.0
- Significant queue length in excess 150m - 2hrs +.
- Turners Hill B2110/B2028 - significant queue lengths in excess of 150m over prolonged periods of over 2.5- 3 hrs in AM and PM peaks on Church Road. Major node of congestion.
- NO junction improvements planned.

3. Key Findings

- 18th July 2012 '3 Tiers Meeting' review of Atkins 3 results confirm several EG junctions ‘Severe’.
- NOV 2014 survey already substantially breaches atkins 3 2021 predicted thresholds without impact of approved housing developments considered.
- Represents major increase in congestion v Atkins Nov 2011 survey
- All Atkins 3 junctions are now severe, operating over theoretical capacity with long queues.
- AMEY junctions Turners Hill, Dukes Head operating over theoretical capacity with significant traffic delays.

3. Key Findings

- Impact of approved developments materially deteriorates position further.
- No infrastructure investment planned.
- Real risk in short term, adverse impact on EG prosperity and attractiveness due to highway conditions being heavily congested.

4. Related EG Housing Position And Commitments

- 2004 MSDC Local Plan, EG Ch. 12 identifies highway infrastructure - major constraint to housing/commercial development.
- 2004-2014 houses built with inadequate amount spent on highway infrastructure reinforces conclusion EG traffic position demonstrably unacceptable as:
- NOV 2014 survey, traffic already breaches 2021 Atkins 3 Do Nothing predictions - Up to 67% Felbridge, 433% Imberhorne, 15% Lingfield
- April 2011 765 units committed to build only approx. 404-447 EG houses built

4. Related EG Housing Position And Commitments

- In addition approved committed housing still to build/occupy increases circa 10% (EG 7.5%, CVW 2.5%) total junction traffic inflow
- Exacerbates already severe congestion when on stream.
- Draft Oct 2013 EGNP 1400 units From 1st April 2011, 445 units above Atkins 3 Do Something 955, 953 - 996 above November 2014 EG 404-447 build level
- Generating circa 15% increased total junction traffic
- Traffic inflow above November 2014 (excluding Copthorne Village West)

5. Impact of Committed Development Traffic

- 532 EG units at 1st Sept 2014 at 22 sites plus Copthorne Village West development of 500 units provides 69 pcu's travelling along A264 to Felbridge. Impact above 2014 traffic levels shown in table below

Junction	AM Peak Traffic (pcu*)				PM Peak Traffic (pcu*)			
	Total Vol.	**EG Dev	***CVW	**** % Inc.	Total Vol.	**EG Dev	***CVW	**** % Inc.
The A22/A264 East (Moat Road)	162	132	30	8	181	172	9	8
The A22 / Lingfield Road	193	152	41	9	183	166	17	8
The A22 / Imberhorne Lane	249	180	69	10	221	196	25	9
The A22/ A264 Felbridge Junction	235	166	69	10	205	180	25	8

- Material additional impact on key junctions. Total traffic peak hour AM/PM inflows increase by 8% to 10% over 2014 flows.

5. Atkins 3 Review

- ATKINS 3 Nov 2011 survey -WSCC deem several Junctions SEVERE. Defined as reaching theoretical capacity or above.
- Jubb Nov 2014 survey - All 4 'Atkins 3' Junctions SEVERE v Atkins 3 2021 Do Nothing predictions.
- Impact of approved committed developments on stream exacerbates already SEVERE junction congestion v Atkins 3 2021 Do Nothing predictions.
- ATKINS 3 DO SOMETHING (DS) infrastructure capacity enhancements.
- High deliverability risks, WSCC invoke CPO powers? - 8 third party landowners, Jubb assessment doubles cost - £4.5m (Atkins 3 £2.25m) + land and utility diversions
- Very long time scales to delivery. Unlikely to succeed.

5. Atkins 3 Review

Even So

- DS infrastructure investment ineffective, after investment.
- Adjusting for Nov 2014 traffic and approved commitments at 1st Sept 2014 Atkins 3 DS 2021 predictions for A22/Linfield Rd, Imberhorne junctions Remain SEVERE, Felbridge and A22 Moat Road on or close to theoretical capacity, becomes SEVERE following additional approvals.
- Atkins 3 DS DOES NOT SOLVE EG TRAFFIC PROBLEMS. Very careful consideration for any additional EG housing approvals.

5. Atkins 3 Review

1 Felbridge Junction - Ref A264 Copthorne Rd. AM

- Jubb DS cost £1.250k v Atkins 3 £720k + land, utility costs etc.
- Purchase of retailer third party land, CPO?, Public Inquiry? significant cost
- Reposition of BT and gas apparatus large cost for diversion works
- Investment impact predicted 2021 DOS 66 reach theoretical capacity (TC) - SEVERE status after 1st Sept 2014/ 2015 dwelling approvals?

5. Atkins 3 Review

2 Imberhorne Junction - Ref A22 London Rd S. AM

- Jubb DS cost Nil v Atkins 3 Nil - £374k Bridge Park non- food retail development improvements took place prior to Nov 2014 survey.
- Atkins 3 further improvements NOT PURSUED - Very high cost, deliverability concerns, required purchase of land from 12 different parties.
- Nov 2011- DOS 92 predicted 2021, OVER TC NOW - SEVERE Status.

5. Atkins 3 Review

3 A22 Rd/Lingfield Rd Junction - Ref A22 London Rd N AM.

- Jubb DS Cost £2,750k v Atkins 3 £1,260k + land, utility costs
- Need to purchase third party land - 5 parties, CPO? Public inquiry?
- Reposition of electricity sub station, major cost.
- Network Rail bridge changes - Extensive discussions, potential payments.
- New bridge attachment to existing bridge with additional traffic load, existing bridge substantial upgrades
- After investment - Predicted 2021 DOS 90, OVER TC NOW - SEVERE Status.

5. Atkins 3 Review

4 A22 Rd/Moat Rd Junction Ref A264 Moat Rd. AM

- Jubb cost £450k v Atkins 3 £270k + land, utilities etc.
- Demolition of historic property CPO? 2 Parties, major delays
- After investment predicted 2021 DOS 89. OVER TC NOW - SEVERE Status.

5. EGNP KLW Options 1, 2 and 3

Option 1 Plan

- Full ' Objectivity Assessed Housing Need of EG (Growth approx. 1,600 units above present approved commitments Sept 2014).
- Further increase total traffic junction in flow circa 20 % (i.e.. 30% above Nov 2014 traffic survey)
- 'A BRIDGE FAR TO FAR'- Alternative macro MSDC /WSCC solutions.

5. EGNP KLW Options 1, 2 and 3

Option 2 Plan

- Reduced housing need based Environmental Constraints growth of approx. 500 units above present approved commitments
- Further increase total traffic junction in flow circa 7% (i.e.17% above Nov 2014 traffic survey)
- Atkins 3 Do Something infrastructure investment VERY INADEQUATE key junctions SEVERE, deteriorate further above theoretical capacity.
- **Red Warning** Serious over capacity highway network situation.

5. EGNP KLW Options 1, 2 and 3

Option 3 Plan

- Housing need in accordance with infrastructure capabilities. Growth 190* units above present approved commitments 532 Units 1 Sept 2014 * additional 89 units approved Sept 2014- Jan 2015 50%??

- Material worsening of traffic congestion critical A22 junctions. Further increase in total traffic junction in flow circa 2.5% (12.5% above Nov 2014 traffic survey)

- Only dispersed, small housing allocations

Noting above - A comprehensive study, whole EG and surrounding area traffic network including development of Town Wide Traffic Model and key routes to M23, M25 assessing potential improvements, recognising constraints - determines possible increased housing capacity and location.

6. Conclusions and Recommendations

- Atkins 3 significantly underestimated serious nature of EG traffic congestion and delay

- AMEY Stage 1 Turners Hill B2110/B2028 and Dukes Head A264/B2028. operating over theoretical capacity.

- EG network peak time, operating ineffectively, key junctions to M23, M25 significant congested hot spots.

- Nov 2014 survey already breaches 2021 Do Nothing predictions by up to
  - 67% at Felbridge Junction.
  - 433% at Imberhorne.
  - 15% at Lingfield

- B2110/B2028 with RFC 1.20 A264/B2028 significant queues and delays.

6. Conclusions and Recommendations

- Further deterioration due to approved developments generate additional large total traffic peak hour junction inflows, 8% 162 pcus, to 10% 249 pcu's.
- No junction investment included in WSCC Local Transport Plan 3 2011-2026 (Atkins Do Something infrastructure investment?)
- Atkins 3 Do Something (DS) largely undeliverable? Costs double + land etc. CPO? Long time scales, benefits very inadequate.
- Traffic conditions materially worse than Atkins 3 November 2011 and predicted 2021 levels.
- 2 junctions severe NOW after DS investment, Felbridge and Moat Road shortly.

6. Conclusions and Recommendations

- Real risk short term, adverse impact on EG prosperity and attractiveness.
- EGNP Options 1 and 2 generates serious over capacity traffic situation after Atkins 3 DS investment to already SEVERE position
- EG traffic conditions confirmed as severe and demonstrably unacceptable (as per 3 Tiers Meeting July 2012)
- Contrary to NPPF 7, 3 elements, Sustainability, Economic, Social and Environmental mutually dependent.
- NPPF 32 development should only be prevented or refused on transport terms where residual cumulative impacts of development are severe.

6. Conclusions and Recommendations

- MSDC Consultation Draft Plan DP18, development only permitted where 'Does Not Cause Severe Impact on Road Safety and Traffic Congestion'. Inappropriate for any additional unplanned development to be approved. Not sustainable, especially in transport terms.

- A comprehensive study of whole EG and surround area transport network required including development of a town wide traffic model and key routes to M23, M25, assessing potential improvements recognising constraints.

- Noting above fundamental step, EG Plan to be prepared, balancing housing requirement, its location v capability of whole Town Traffic Network Plan to absorb it as NPPF 157.