ATKINS

Wisbech Traffic Model, Strategic Development Sites : March 2015

Analysis of test results

Cambridgeshire County Council and Fenland District Council

20 March 2015

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Rev 1.1	Further analysis	THO	SL	JML	THO	23/03/15
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Executive summary

Atkins undertook a series of model tests for the town of Wisbech in Cambridgeshire with forecasts through to 2031. These tests looked at the impact of three large developments, and form part of the local Councils' continuing work in bringing forward development in the town.

The developments examined were all on the edge of Wisbech, as follows.

- West Wisbech : a residential development, including a new Western Link Road
- South-West Wisbech : a development primarily of employment land adjacent to the A47
- East Wisbech : a residential development with improved accessibility to the A47

The modelling identified that whilst the network as a whole has sufficient capacity to accommodate the additional traffic generated by these developments, there are some localised areas of congestion in the future. These are focussed around the access points for the developments, especially along Cromwell Road.

It was also found that the A47 junctions with Cromwell Road and Elm High Road are heavily congested in the future. The level of congestion is such that access into and out of Wisbech is restricted during peak hours, with consequent impacts on congestion elsewhere as traffic diverts to find alternative routes.

Recommendations are made, highlighting the need to undertake further work focussing on the capacity issues on Cromwell Road, the Western Link Road and the A47 junctions.

1. Context

This study is a continuation of work previously carried out by Atkins, Fenland District Council and Cambridgeshire County Council to look at the traffic impacts of development in Wisbech, known as the Wisbech Area Transport Study (WATS).

Outputs from the previous work, giving the full context leading up to this study, can be found at http://www.fenland.gov.uk/article/7085/Wisbech-Area-Transport-Study

Atkins has previously developed and applied a traffic model of Wisbech. This model has a base year of 2008 and forecast years of 2016, 2021 and 2031. For this project, the model was updated to reflect the most recent knowledge about developments coming forward.

The updates focussed on three major developments, as detailed in Section 2.2:

- East Wisbech
- West Wisbech
- South-West Wisbech

Model years were created for 2021 (representing 2020), 2026 (representing 2025) and 2031. The choice of model years was limited by available information from the external EERM regional model. The level of development and supporting infrastructure varied by year.

Four additional scenario tests were undertaken using the updated future year models, investigating the impacts of a new railway station for Wisbech, including the effects of providing a new roundabout on the A47 Wisbech bypass.

2. Model updates

2.1. Update of base year

The 2008 base year was updated with certain known developments. The flows in the model were then compared to observed flows contained in the Transport Assessments (TAs) submitted with the relevant planning applications. The results of that comparison are presented below, for flows on key roads.

The first task undertaken as part of the base model update was a process to benchmark the model against flows available from a number of traffic surveys conducted in Wisbech. A number of TAs were provided to Atkins which contained traffic survey data and future year traffic predictions for both 2011 and 2014, as logged in Table 2-1 and shown in Figure 2-1.

The TAs used were:

- Hutchinson Headquarters, Cromwell Road
- Stadium and Tesco sites, Cromwell Road
- Site on Hunters Rowe, Elm High Road

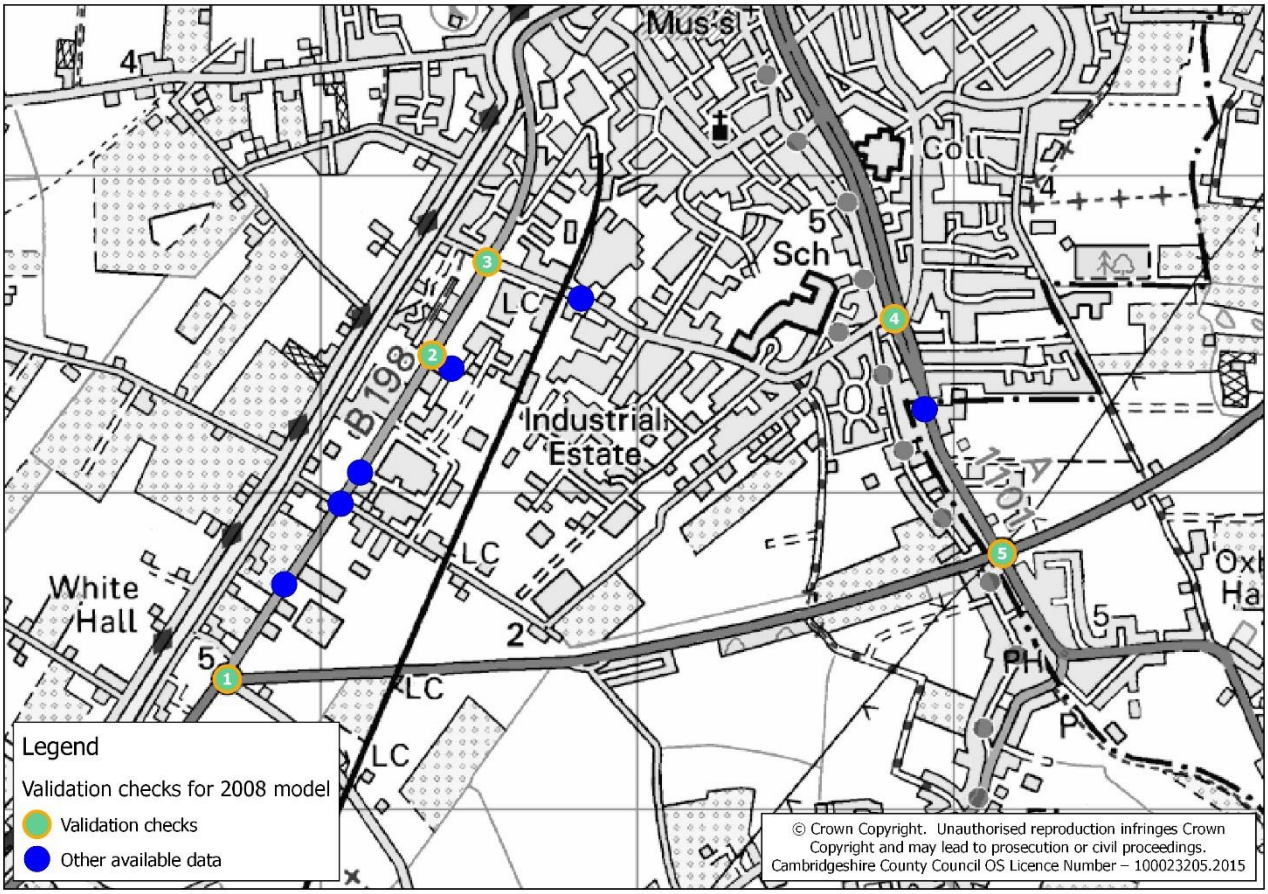


Figure 2-1 Validation site checks for 2008 model

Table 2-1 Log of benchmarking data available

Junction	TA Data Availability		In 2008 and 2016 models?
	2011	2014	
Cromwell Rd / A47 (1)	✓	✓	✓
Cromwell Rd / development site		✓	
Cromwell Rd / New Bridge Lane	✓	✓	✓
Cromwell Rd / Stadium site	✓		
Cromwell Rd / Sandown Rd (2)	✓		✓
Cromwell Rd / Weasenham Lane (3)	✓		✓
Weasenham Lane / Hutchinson Ltd		✓	
Weasenham Lane / Churchill Rd (4)		✓	✓
Elm High / Hunters Rowe		✓	
Elm High / A47 (junction 5)		✓	✓

A number of key links have been identified for comparison, however not all of the available data was used as the 2008 model does not contain all of the development sites and associated infrastructure. The benchmarking comparison for these areas are displayed in Table 2-2 below.

Table 2-2 Benchmarking of 2008 model

Road			AM Peak					PM Peak			
		Model flow (PCUs/hr)	TA flow (Vehs / hr)	diff	DMRB compliant	GEH	Model flow (PCUs/hr)	TA flow (Vehs / hr)	diff	DMRB compliant	GEH
1. A47/Cromwell Road	A47 westbound	773	661	112	No	4	631	548	83	Yes	3
	A47 eastbound	939	883	56	Yes	2	1038	894	144	No	5
	Redmoor Lane	126	223	-97	Yes	7	6	85	-79	Yes	12
	Cromwell Rd	323	353	-30	Yes	2	821	718	103	Yes	4
	Weasenham Ln	288	254	34	Yes	2	198	356	-158	No	9
2. Cromwell Road / Sandown Road (retail park)	Cromwell Road s/b	855	544	311	No	12	614	872	-258	No	9
	Sandown Road	290	226	64	Yes	4	914	486	428	No	16
	Cromwell Road n/b	684	771	-87	Yes	3	395	480	-85	Yes	4
3. Cromwell Road /Weasenham Lane	Cromwell Rd n/b	598	744	-146	No	6	759	661	98	Yes	4
	Cromwell Rd s/b	573	557	156	No	1	421	658	-237	No	10
	Weasenham Ln	288	254	34	Yes	2	198	356	-158	No	9
4. Churchill Road / Weasenham Lane	Churchill Rd	407	542	-135	No	6	441	520	-79	Yes	4
	Weasenham Ln	398	253	145	No	8	581	353	228	No	11
	Elm High Rd n/b	644	886	-242	No	9	585	679	-94	Yes	4
	Ramonth Rd	339	331	8	Yes	0	241	240	1	Yes	0
5. Elm High Rd / A47	Elm High Rd s/b	564	634	-70	Yes	3	712	798	-86	Yes	3
	A47 w/b	662	660	2	Yes	0	572	631	-59	Yes	2
	Elm High Rd n/b	732	873	-141	No	5	722	725	-3	Yes	0
	A47 e/b	505	560	-55	Yes	2	889	767	122	No	4

The 2008 base year model has been compared to the available flows from the TAs. These flows were not for 2008, and some would have included some level of development not contained in the model.

Two measures have been presented, a check against flow as described in the Design Manual for Roads and Bridges (DMRB), and the GEH measure.

Table 2-3 DMRB flow check criteria

Criteria Measures	Acceptability Guideline
*Assigned hourly flows compared with observed flows**	
Flows less than 700 vehicles per hour	Within 100 vehicles per hour
Flows between 700 and 2,700 vehicles per hour	Within 15%
Flows greater than 2,700 vehicles per hour	Within 400 vehicles per hour

**The flow criteria relate to the total flows (i.e. all vehicles) and should not be used when comparing partial link flows (by vehicle classification).*

GEH is a statistical method of comparing the difference between two numbers. In transport models, it is used to compare the traffic flow outputs from the model against known traffic counts to show that the model is accurately reproducing the observed levels of traffic. The measure is based on relative differences, taking into consideration the uncertainty and natural variation in traffic flows, and that a difference of a certain size will be more relevant in a smaller number than in a larger number. This allows easy reference of the closeness of a series numbers on the same basis even if they are of differing magnitude.

A GEH of less than 5 indicates a good fit between the model and observed flow, with a GEH of less than 10 indicating an adequate fit. Using a criterion of GEH less than 10, the majority of links have a satisfactory modelled flow when compared to observed levels.

$$GEH = \sqrt{\frac{(M-C)^2}{\frac{1}{2}(M+C)}}$$

Where:

M = modelled flow; and,

C = observed flow (or count).

Figure 2-2 The GEH calculation

The 2008 base year is broadly satisfactory and is a good base point for future use, although it may benefit from focussed adjustments and alterations in certain areas. As most of these counts are in areas of high development, and the model is based on pre-build assumptions about the level of traffic generated, it is not surprising that the model shows some differences from observed flows. On links away from immediate development sites, the model generally shows lower than observed flows, reflecting the 2008 year of the model and the 2011 observed count data.

2.2. Updated future years

The Fenland District Local Plan was adopted in May 2014 and proposes a level of growth in various locations around Wisbech. Work is proceeding to bring forward these sites for development, including identifying the traffic impact and the level of mitigation and infrastructure change needed to support the development. The purpose of this study is to provide further information to facilitate this planning work being undertaken.

Building on previous work undertaken in Wisbech, the future year forecast models were updated to contain the latest expected development levels and infrastructure phasing. This approach maintained other planned infrastructure changes in the network.

The updated future year changes consist of three development sites across the edge of Wisbech. The phasing of these developments are shown in Table 2-4, with more details of the South West Wisbech development in Table 2-5.

Infrastructure improvements associated with the developments are also included. These are primarily to provide access to the development sites, with a secondary aim of providing additional capacity and congestion relief to Wisbech as a whole. For the South-West Wisbech site, a new route within the site is created linking Cromwell Road with Weasenham Lane via New Bridge Lane and Boleness Road. In some scenarios, a new roundabout on the A47 is provided between Cromwell Road and Elm High Road to provide direct access to the development.

The Western Link Road proceeds northwards from the Cromwell Road/A47 junction around the western side of Wisbech. It will eventually link to the A1101 to the north of the town, but is only partially complete in the

timeframe considered here. As well as providing access to the West Wisbech development, it will act as a bypass and relief road, primarily for Cromwell Road.

The locations of the developments and infrastructure are shown in Figure 2-3.

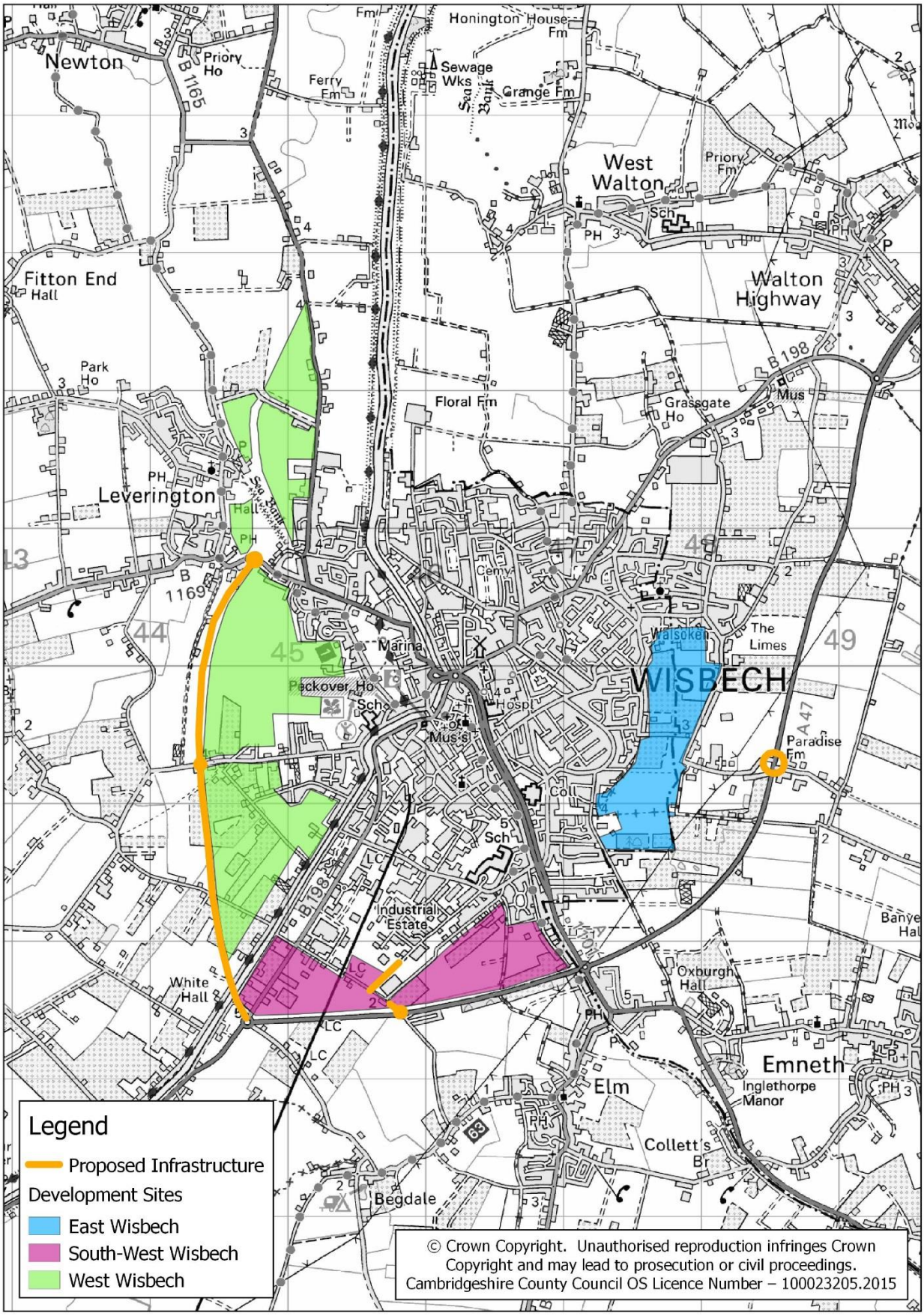


Figure 2-3 Locations of developments and infrastructure

Table 2-4 Development phasing (total development up to specified year)

Development	2021	2026	2031
East Wisbech	360 dwellings	960 dwellings	1550 dwellings
West Wisbech			Phase 1 complete (750 houses)
South West Wisbech	Phase 1 complete Phase 2, 300 houses	Phase 1 complete Phase 1a complete Phase 2 complete (357 houses) Phase 3 (1511 jobs)	Phase 1 complete Phase 1a complete Phase 2 complete Phase 3 complete (2755 jobs)

Table 2-5 South West Wisbech development sizes – employment areas

	Phase 1	Phase 1a	Phase 3
Office (B1) (sq metres)	10,400	100,000	43,250
Industrial (B2) (sq metres)	49,800		259,500
Warehouse (B8) (sq metres)	27,796		129,750

Table 2-6 Infrastructure changes associated with developments

Development	2021	2026	2031
East Wisbech	Access provided New roundabout on A47 at Broadend Road		
West Wisbech		Link Road to Barton Road	Link Road to Dowgate Road
South West Wisbech	Link road between Boleness Road and New Bridge Lane Access to Phase 2 and changes to Half Penny Lane	Access to Phase 1a Roundabout on A47 (in Rail Stations tests 2 and 4)	

3. Development traffic flows

This section discusses the scale and routing taken by traffic to and from the various developments, highlighting any particular points. The capacity implications of this traffic is discussed in the following section, taking into account the cumulative effect of all development traffic and mitigation infrastructure.

3.1. West Wisbech

The West Wisbech development contained in these tests consists of 750 dwellings at the southern end of the development, adjacent to the Western Link Road.

Traffic from this site uses the most appropriate route to its destination, making use of the Western Link Road to reach that destination. Traffic heading towards Wisbech town centre uses Barton Road, avoiding the congestion at the A47/B198 roundabout and on Cromwell Road. The traffic from this site makes up approximately 15% of the traffic flow on the section of the western link road approaching the A47, as discussed in Section 4.4.

The link road generally operates within capacity, although there is a lack of capacity with associated delays and congestion at the junction with the A47.

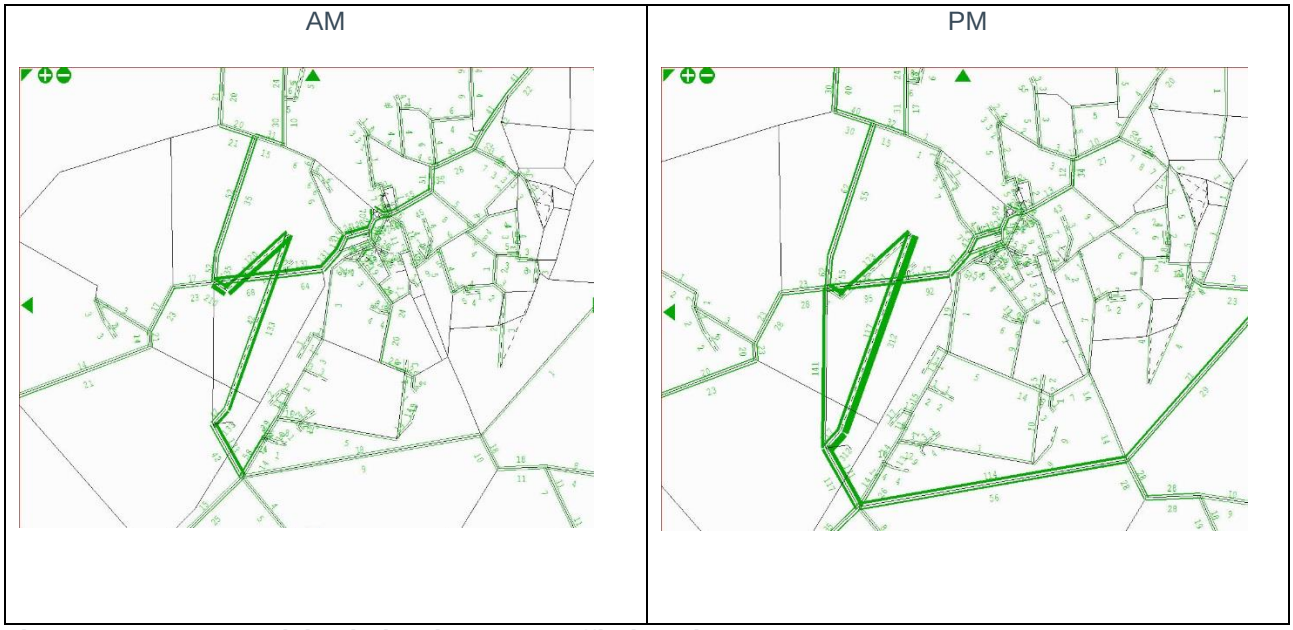


Figure 3-1 West Wisbech development traffic (2031)

3.2. South West Wisbech

The majority of traffic to and from the South West Wisbech site is travelling to and from central Wisbech, although there is a sizeable amount of traffic from outside Wisbech.

Within Wisbech there is a generally even split between Cromwell Road north, Cromwell Road South, Elm High Road/Churchill Road and Sandall Road. Phase 1a of the development attracts a significant number of vehicles, around 900 vehicles per hour, with 800 of those being inbound during the AM peak and outbound in the PM peak. These vehicles have to access Phase 1a of the development from the access on Cromwell Road. The conflict between development traffic making a turn and general traffic proceeding along Cromwell Road leads to congestion and delays.

In the scenarios without the new roundabout on the A47, access to the development is from Cromwell Road or Weasenham Lane, via Boleness Road. This puts pressure on those links, especially Cromwell Road which is relieved to a certain extent when the new roundabout is provided. Sections 4 and 6 below give more details.

In the AM peak period, traffic uses the A47 Wisbech bypass to reach the development. However, in the PM peak, congestion at the Cromwell Road and Elm High Road roundabouts means that fewer vehicles use this route, and traffic travelling to the A47 east travels through Wisbech, either onto Lynn Road or Broadend Road.

The table below shows the volume of traffic travelling to and from the development on certain key routes, by year and development phase, for scenarios without the new A47 access roundabout. It also shows the volume of general traffic on those links. The flows are also shown as proportions of total flows on that road.

Table 3-1 Traffic volumes associated with South West Wisbech development

Location	2021		2026		2031	
	AM	PM	AM	PM	AM	PM
Cromwell Road, south of development						
Phase 1 traffic	111 (12%)	5 (1%)	125 (7%)	4 (1%)	124 (7%)	5 (1%)

Phase 1a traffic	0 (0%)	0 (0%)	732 (43%)	19 (3%)	748 (44%)	19 (4%)
Phase 2 traffic	7 (1%)	8 (1%)	10 (1%)	11 (2%)	5 (0%)	0 (0%)
Phase 3 traffic	14 (1%)	1 (0%)	168 (10%)	18 (3%)	199 (12%)	26 (5%)
General traffic	823 (86%)	645 (98%)	674 (39%)	526 (91%)	609 (36%)	469 (91%)
Total traffic	955 (100%)	658 (100%)	1709 (100%)	578 (100%)	1685 (100%)	518 (100%)
Cromwell Road, north of New Bridge Lane						
Phase 1 traffic	26 (4%)	98 (13%)	16 (3%)	51 (6%)	13 (3%)	34 (3%)
Phase 1a traffic	0 (0%)	0 (0%)	59 (12%)	353 (39%)	55 (12%)	464 (47%)
Phase 2 traffic	1 (0%)	5 (1%)	0 (0%)	4 (0%)	0 (0%)	0 (0%)
Phase 3 traffic	0 (0%)	3 (0%)	19 (4%)	27 (3%)	24 (5%)	71 (7%)
General traffic	550 (95%)	665 (86%)	415 (82%)	460 (51%)	382 (81%)	415 (42%)
Total traffic	578 (100%)	771 (100%)	509 (100%)	895 (100%)	475 (100%)	985 (100%)
Weasenham Lane, east of Boleness Road						
Phase 1 traffic	1 (0%)	18 (2%)	0 (0%)	12 (1%)	0 (0%)	2 (0%)
Phase 1a traffic	0 (0%)	0 (0%)	0 (0%)	116 (12%)	0 (0%)	90 (9%)
Phase 2 traffic	94 (18%)	119 (14%)	87 (19%)	76 (8%)	84 (20%)	70 (7%)
Phase 3 traffic	14 (3%)	71 (8%)	47 (10%)	252 (25%)	78 (19%)	432 (45%)
General traffic	420 (79%)	638 (75%)	326 (71%)	533 (54%)	250 (61%)	363 (38%)
Total traffic	529 (100%)	846 (100%)	460 (100%)	989 (100%)	411 (100%)	958 (100%)
Elm High Road, south of Weasenham lane						
Phase 1 traffic	14 (2%)	0 (0%)	13 (2%)	0 (0%)	16 (2%)	0 (0%)
Phase 1a traffic	0 (0%)	0 (0%)	133 (16%)	54 (8%)	157 (17%)	72 (11%)
Phase 2 traffic	29 (4%)	35 (5%)	30 (3%)	35 (5%)	21 (2%)	33 (5%)
Phase 3 traffic	4 (1%)	20 (3%)	14 (2%)	84 (13%)	17 (2%)	168 (25%)
General traffic	777 (94%)	672 (93%)	666 (78%)	487 (74%)	699 (77%)	391 (59%)

Total traffic	824 (100%)	726 (100%)	855 (100%)	659 (100%)	910 (100%)	664 (100%)
A47, between Cromwell Road and Elm High Road						
Phase 1 traffic	11 (1%)	51 (4%)	12 (1%)	55 (4%)	13 (2%)	77 (6%)
Phase 1a traffic	0 (0%)	0 (0%)	21 (2%)	28 (2%)	23 (3%)	10 (1%)
Phase 2 traffic	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (1%)	11 (1%)
Phase 3 traffic	0 (0%)	0 (0%)	15 (2%)	0 (0%)	29 (4%)	6 (0%)
General traffic	774 (99%)	1115 (96%)	788 (94%)	1180 (93%)	750 (91%)	1234 (92%)
Total traffic	785 (100%)	1166 (100%)	836 (100%)	1264 (100%)	821 (100%)	1337 (100%)

In general, traffic flows grow over time. Traffic associated with the development is, in some cases, greater than the total increase in traffic, indicative that the volume of non-development traffic has been forecast to fall. This fall represents traffic which finds an alternative route to its destination in response to increasing congestion, in part caused by traffic from the development.

Cromwell Road, south of the development, is notable because total traffic flows fall in the PM peak periods over time. This will partly be as a result of the increase in congestion and delay caused by the large volume of traffic turning in and out of developments along Cromwell Road, including but not limited to South West Wisbech. The flows on Cromwell Road will also be influenced by increased traffic flows at the A47 roundabout. This reduces capacity for traffic heading out of Wisbech, which therefore finds an alternative route to Cromwell Road.

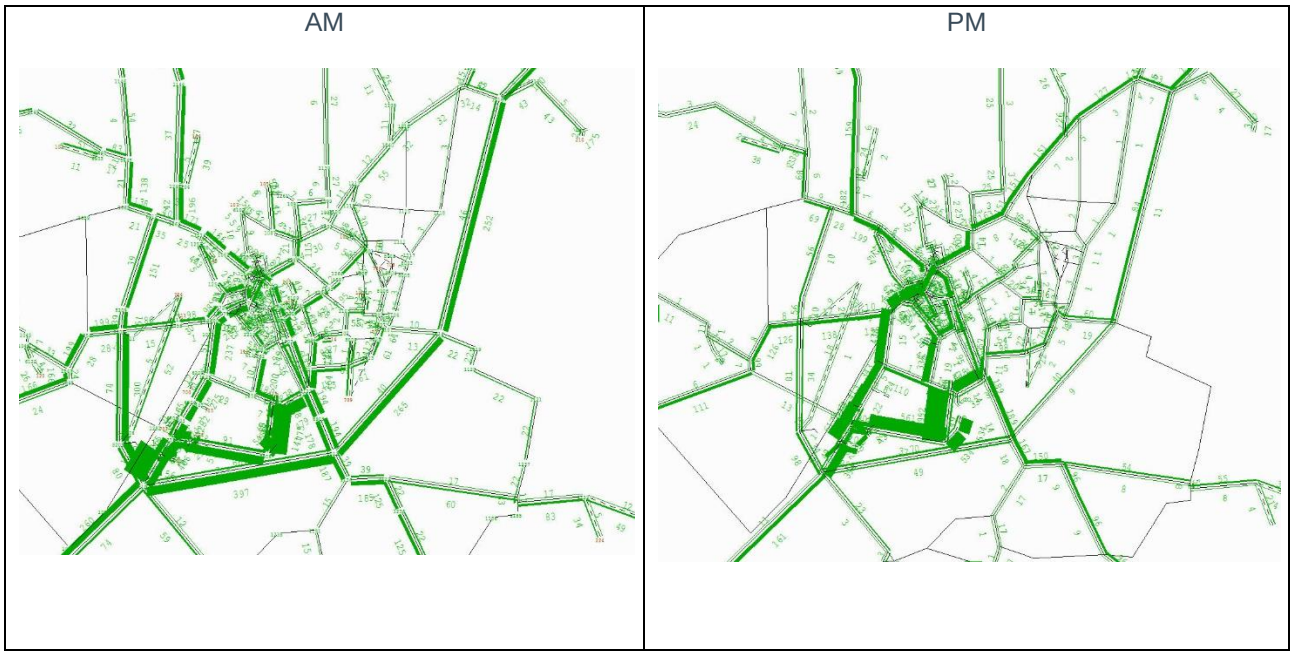


Figure 3-2 Traffic flows to and from the South-West Wisbech development (2031)

3.3. East Wisbech

The East Wisbech site was provided with a number of links to the existing network to allow traffic from the development to distribute across Wisbech. In addition, the junction with Broadend Road and the A47 was

improved to increase connectivity between the site and the A47. Together, this provided an improved link between the A47 and Wisbech town centre, which is not currently available. A significant proportion of traffic from the East Wisbech site distributes around many parts of Wisbech.

The new accesses between the site and the existing road network in Wisbech show no immediately apparent congestion issues, although by 2031 the Clarkson Road/Lynn Road junction, in the residential area west of the development, is beginning to experience small delays at peak periods.

Analysis of the model results shows that the majority of people using the new A47 access travel to the East Wisbech development and the residential areas to the east of Wisbech town centre. However, a sizable minority use the new connectivity to travel to Wisbech town centre and beyond. Although the number of people doing this is relatively small, it will be noticeable and impact on residential roads not intended to be through routes. Figure 3-3 shows the total traffic flow and distribution associated with the site.

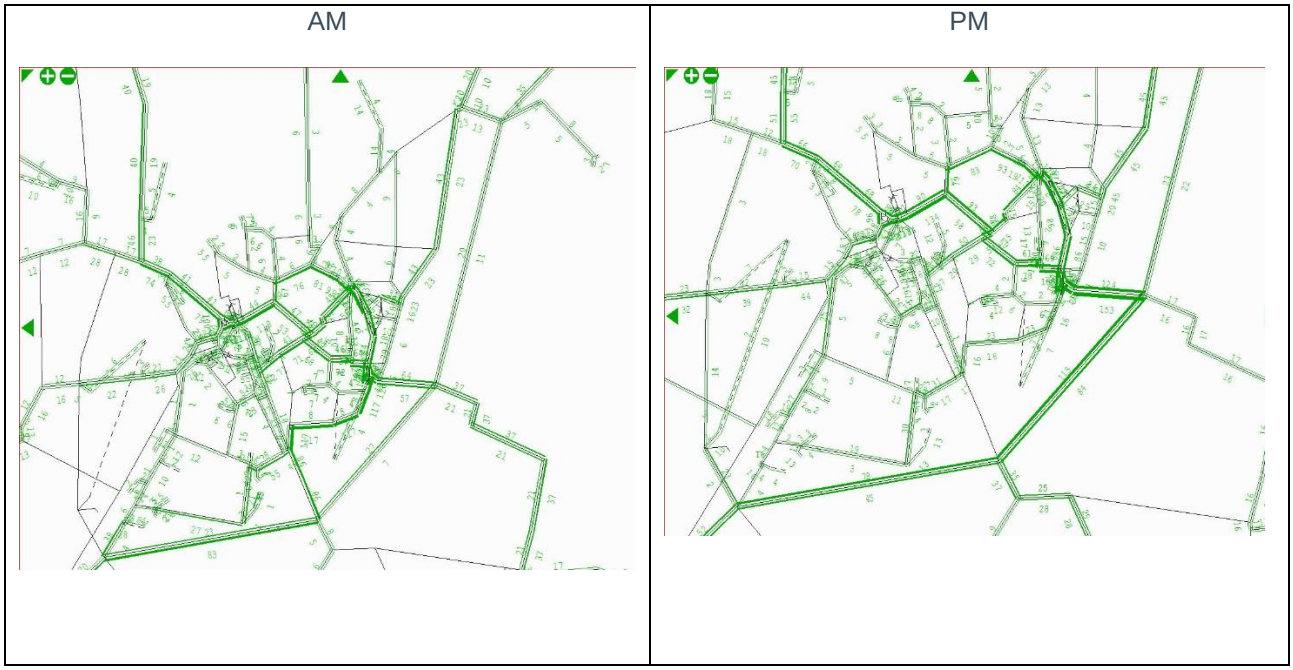


Figure 3-3 East Wisbech development traffic (2031)

Figure 3-4 shows the routing of vehicles using the section of Broadend Road between the East Wisbech development and the A47 in the 2031 future year. It can be seen that there is a small flow of vehicles through the site to other parts of Wisbech, including to the South-West Wisbech development. In the scenarios with the A47 roundabout giving access to that development, these flows use that roundabout instead to access the A47 directly.

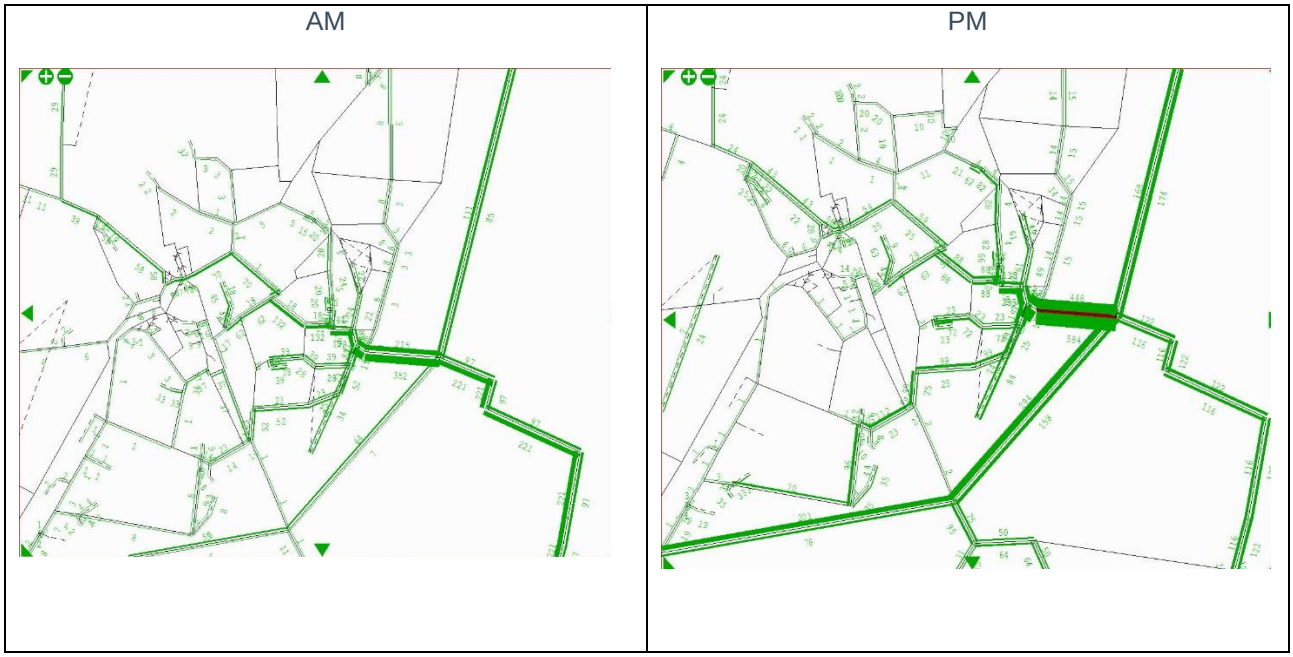


Figure 3-4 Routing of traffic using Broadend Road (2031)

4. Capacity analysis

Analysis of the traffic network conditions, highlighting specific points of note is given below, with detailed tables of flows and congestion indicators in Appendix B.

4.1. Cromwell Road

4.1.1. Cromwell Road/A47 roundabout

This roundabout suffers from congestion during peak periods. All approaches suffer from delays, with Cromwell Road suffering in the PM peak, and the (new) Western Link Road and Redmoor Lane in suffering in the AM peak. From 2026 onwards, delays on Cromwell Road and the Link Road regularly exceed 5 minutes, with some being up to 10 minutes.

The roundabout is dominated by through traffic on the A47, with vehicles from Guyhirn crossing the Link Road and Cromwell Road entries and restricting the ability for vehicles to enter the roundabout. The volume of traffic going to the Western Link Road is not great enough to significantly disrupt the flow of vehicles from Guyhirn.

In the scenarios with the South-West Wisbech access roundabout on the A47, congestion at this roundabout is reduced. However, it is still significant during peak periods, and in some cases remains over capacity with queues forming.

Typically, larger roundabouts provide more capacity by speeding up traffic and giving more physical space for gaps to be formed in. However, these are still susceptible to delays and congestion caused by uninterrupted dominant flows. A detailed engineering capacity study should be undertaken to determine whether a larger roundabout would be able to reduce the level of delay to a satisfactory level.

The study should consider what size of roundabout is practical in the location, and whether a different form of junction would provide a better solution. This would most likely require some form of signalised junction, most probably as a roundabout.

4.1.2. SW Wisbech development access junction

A new junction is included in the model to represent access off Cromwell Road to phases 1 and 1a of the South West Wisbech development. As with other junctions along Cromwell Road, this is represented in

SATURN with 1 lane for straight ahead traffic in each direction, and separate short approach lanes for turning traffic.

During the AM peak periods, the junction is busy but performs without significant delay. Traffic turning in to the development, particularly the office development to the west of the junction is heavy, and there are some delays to traffic continuing on Cromwell Road as a result.

In the PM peak, the junction struggles to cope with the volume of traffic passing through, with through traffic on Cromwell Road competing with traffic leaving the office development for green time at the traffic lights. By 2031, some large delays of up to 5 minutes develop, notably on the office park arm. On Cromwell Road, delays of up to 8 minutes are seen by 2031, although the provision of the South West Wisbech access on to the A47 reduces those delays to 3 minutes.

Given the complex nature of the expected junction strategy and phasing of development,a detailed junction assessment, covering capacities and signal settings, is recommended to optimise performance and to undertstand and better mitigate potential delays.

4.1.3. New Bridge Lane junction

In future years with the South West Wisbech development, this road takes on greater significance. At its eastern end, it forms a new link with Boleness Road, providing a route to Weasenham Lane and Elm High Road avoiding the residential road of New Drove.

The model represents this junction as it is currently, with a high standard give-way priority T-junction. On the whole, the junction works without significant delays. As the junction is a priority junction, there are some delays for traffic turning right, especially for traffic going from New Bridge Lane to Cromwell Road northbound. In the scenarios with the A47 access roundabout, more traffic uses this route to avoid the existing Cromwell Road junction with the A47. This increases the level of delay for this traffic, which might be reduced if the junction was revised to give them more priority, either as a roundabout or a signal controlled junction. A detailed junction assessment is recommended to determine whether a revised junction arrangement would reduce delays at this location.

4.1.4. New Tesco Access junction

During the AM peak periods, this junction performs well, reflecting the generally low demand for supermarkets at this time of day.

In PM, the junction is over capacity on all turning movements, with delays of several minutes developing. The signal timings maintain the flow of traffic on Cromwell Road, although these will be affected by traffic queuing to enter the supermarket.

Adjusting the signal settings may prove beneficial in reducing delays at this junction.

4.1.5. Sandown Road junction

As with the Tesco access point, this junction struggles in the PM peak period, reflecting the high demand for retail sites at this time of day. Traffic movement is maintained on Cromwell Road, with delays being confined to those performing conflicted turning movements. However, some level of increased delay is experienced by all traffic passing through the junction.

Adjusting the signal settings may prove beneficial in reducing delays at this junction.

4.1.6. Weasenham Lane junction

Overall, the junction performs well, but there are some specific issues. There are some delays to southbound traffic on Cromwell Road, particularly in the AM peak period where the junction is at capacity and effectively limiting the number of vehicles that can travel south along Cromwell Road.

In the PM peak, northbound traffic on Cromwell Road starts to experience delays by 2031 as the volume of traffic reaches the capacity of the junction. Traffic flow is constrained by junctions further south, so the flow of traffic reaching Weasenham Lane is generally restricted to the capacity of those junctions.

Traffic approaching on Weasenham Lane at any time of day, and northbound traffic on Cromwell Road outside the PM peak, experiences no significant delay.

Adjusting the signal settings may prove beneficial in reducing delays at this junction.

4.1.7. Cromwell Road : A47 to Weasenham Lane

This section of road experiences a high level of development, both existing and anticipated. It is characterised by many junctions, which are discussed in detail above.

As shown in Table 3-1 traffic flows on Cromwell Road at the junction with the A47 reduce in the PM peak over time. This is a reflection of the growing congestion and conflicts between through traffic and turning development traffic, as well as the increased traffic flows and congestion at the A47 roundabout.

Overall, the road will be congested and slow moving, with queues and delays along this stretch. Development proposals will need to consider the detailed operation of all junctions to determine whether additional mitigation is required.

4.2. Elm High Road and Weasenham Lane

4.2.1. Elm High Road A1101/A47 roundabout

This roundabout is at or over capacity in all scenarios in all years. Delays are relatively modest although they exceed 5 minutes on Outwell Road by 2031. Only the A47 eastbound approach flows freely without delay. This is due to the nature of the roundabout, with flows into Wisbech being relatively small compared to flows to the A47.

Conditions do not appear to change materially with development growth, or be affected by the introduction of the new roundabout on the A47 giving access to the South West Wisbech site.

Other studies are investigating potential options to reduce congestion and delay at this roundabout.

4.2.2. Weasenham Lane/Elm High Road/Ramnoth Road

During the AM peak periods in all years, this junction suffers from congestion on the right turn movements, with non-turning traffic being able to proceed relatively easily. However, all traffic experiences some level of delay, generally between 1 and 2 minutes, due to the operation of the traffic signals and the associated queues. The worst of the delays are to outbound traffic. In the PM period, for all years, the patterns are generally the same, although delays are slightly higher and affect inbound traffic. By 2031 some delays are reaching 3 minutes for some busy turns.

The pattern of changes in flows and delays is not uniform throughout time, with delays falling in some cases to 2031. This reflects changes in traffic patterns as developments elsewhere in Wisbech, including the opening of the Boleness Road/New Bridge Lane Link and South West Wisbech development, affect other junctions elsewhere in the town. This is typical of conditions on a congested network, where a change in one location can have unanticipated effects elsewhere.

The opening of the South West Wisbech access on the A47 has a marked impact at this location. Flows on Elm High Road reduce dramatically, as traffic uses alternative routes to the A47. This allows the model to reassign green time at the signals to turning movements which were previously limited. Some of these then have a large increase in flow, indicative of traffic rerouting through this junction where previously it took an alternative route to avoid the congestion. Overall, the level of flows and delays falls, but not uniformly. The junction continues to operate generally within capacity, but with more ability to handle turning traffic than it had previously. As a result, non-turning traffic, although lower in volume, experiences a greater level of delay than it did previously.

The junction is showing signs of being close to capacity on most major arms. Any significant increase in traffic flow through the junction would risk pushing the junction over capacity, extending the queues and delays.

4.2.3. Weasenham Lane/Boleness Road

This junction handles a reasonable amount of traffic without any significant level of delay. At present it is coded as a reasonably high capacity priority junction in the model. A detailed design and engineering assessment would be required to confirm this configuration is optimal.

The heaviest flows are those from Boleness Road in the PM peak, which is consistent with the nature of the South West Wisbech development. This traffic splits in to several routes across Wisbech, turning both west and east along Weasenham Lane. Traffic heading east on the A47 travels through Wisbech rather than along Elm High Road, accessing the A47 along either Broadend Road or Lynn Road.

4.2.4. Weasenham Lane/New Drove/Half Penny Lane

This junction gives access to the housing in Phase 2 of the South West Wisbech development. The model's representation of this junction is simplified compared to the layout on the ground, as the model cannot replicate the detail of the turning movements involved at this junction. However, the model indicates that the flows are well within the capacity of the junction, and so it is unlikely that problems will arise as a result of the anticipated housing development.

4.2.5. Elm High Road : Weasenham Lane/Ramnoth Road to A47 roundabout

The junctions at either end of this stretch of road are discussed in sections 4.2.1 and 4.2.2. As with many roads in urban areas, the ultimate capacity and travelling conditions are dictated by the junctions along the road. Both these junctions experience congestion and delays which will lead to queuing and slow moving traffic on Elm High Road between the junctions. It is noticeable that the model predicts that traffic heading east on the A47 will use Broadend Road and Lynn Road to reach the A47, rather than Elm High Road and the A1101/A47 roundabout.

As with Cromwell Road, traffic flows decrease on Elm High Road in the PM peak over time, reflecting increased congestion and greater development traffic flows, both along Elm High Road and at the A47 roundabout.

Given these conditions, additional junctions or development related traffic would only lengthen the queues and delays.

4.3. A47

Conditions at the junctions with Cromwell Road and Elm High Road are discussed in sections 4.1 and 4.2 above. These are significant junctions between the A47 and radial routes into Wisbech and suffer from delays and congestion as a result of heavy traffic flows.

4.3.1. South West Wisbech access roundabout

This roundabout was provided with similar capacity as the adjacent Cromwell Road and Elm High Road roundabouts. There are no significant delays forecast at the roundabout, although the A47 eastbound flow is approaching the capacity of the roundabout in the AM peak period even by XXXX. It should be noted therefore that only minor increases in flow may cause this roundabout to be over capacity, and therefore, suffer from queues. This may be the case for instance if improvements are made to the A47/Cromwell Road roundabout to reduce queues and delays there.

4.3.2. East Wisbech access roundabout – Broadend Road

This roundabout is unlikely to be as large as the other roundabouts on the A47 reflecting the lower flows, but would need to be designed to have sufficient capacity for the anticipated flows.

Analysis of the model results shows that the volume of A47 through traffic is not heavily affected by the addition of the roundabout, and continues to flow well, although with a small amount of delay consistent with having to slow to negotiate a new roundabout. However, traffic on Broadend Road (E) is subject to delay, extending to several minutes for traffic approaching from the east in the 2031 PM peak period. Careful design of the roundabout to increase capacity of this approach should be able to resolve the problem with little impact on the A47.

The Broadend Road entry from Wisbech is operating at a level at which queues are not long, with a waiting time of around 30 seconds per vehicle. However, any increases in flow here will result in queues and longer delays developing.

As commented on in section 3.3 above, this new junction draws traffic from Wisbech on to the A47 through the new development. This may be undesirable, and measures might be built in to the development to discourage or prevent this movement. In turn, a reduction in traffic volume using this road would then mean the roundabout would perform with lower levels of delay than currently seen. Figure 3-4 shows that there is a sizeable number of vehicles traveling from Broadend Road east to Broadend Road west. If they are continuing to Wisbech town centre, and are prevented from doing so, that may remove the need to consider a greater capacity entry for Broadend Road east.

4.4. Western Link Road

The Western Link Road carries a two-way flow of approximately 1100 vehicles/hour at its southern end by 2031. The Link Road is not complete by this time, and it will be serving a housing development of significant size in the future, both of which factors will increase the flows on the link road.

Analysis shows that in the AM and PM peak hours, 85% of traffic (950 vehicles) using the section of the link road to and from the A47 junction is general traffic, i.e. not associated with the adjacent development. This is traffic that otherwise would have used Cromwell Road or Elm High Road to access Wisbech town centre. Some now uses Barton Road to access Wisbech instead. Further north, past Barton Road, the proportion of non-development traffic is higher, with the link road having a 2-way flow of 800 vehicles in the peak hours, being mainly vehicles not travelling to the centre of Wisbech. As the size of the development grows, this proportion will change as more development traffic uses the link road. However, the link road is likely to continue to carry a significant proportion of traffic to and from the town centre, and not the associated development.

Some assumptions were made about the size and capacity of the junctions along the link road for the purposes of this modelling work. These junctions were of a medium size with one lane approaches, appropriate for a distributor road at the edge of a town. However, the model is showing that these junctions are approaching capacity, although without any sizeable delay. Given that the flow on the road is expected to increase in the future, it is likely that the roundabouts would need to be larger, with two lane entries, especially where large turning flows are anticipated. In particular, the Barton Road junction has a lack of capacity in the PM peak, possibly because traffic uses this route to avoid the congestion on Cromwell Road. It is possible that the junctions will still be operating at capacity in the future once the development is complete. Further analysis is required.

At the southern end of the road, the roundabout with the A47 causes a high level of delay, approaching 9 minutes in the AM peak by 2031. As discussed in section 4.1.1 above, further work is required at this roundabout to identify a solution which reduces the level of delay and queuing for all traffic.

5. Average speeds

Six key routes have been identified in Wisbech where it is felt the majority of the impact from the development sites will be felt. These routes cover the A47 between Cromwell Road and Elm High Road in both directions, Cromwell Road itself in both directions and Elm High Road in both directions. A speed assessment has been made on each of these corridors for the three ‘No rail’ models (2020, 2026 and 2031) and for the four railway scenarios in 2031. Average speeds along the six route (JT1 – 6) have been compared between the seven modelled scenarios for the AM and PM peaks. The results of this assessment can be seen in Figure 5-1 and Figure 5-2.

It can be seen that the average speeds generally decrease with increasing years, which is expected due to traffic growth over time. The most noticeable difference can be seen when comparing rail tests 1 and 3 (new railway station utilising existing roads for access) with rail tests 2 and 4 (new railway station with access via a new roundabout on the A47). Rail tests 2 (orange) and 4 (navy) offer an increase in speeds on Elm High Road and Cromwell Road in the AM peak as traffic is able to access the railway station via the new junction, reducing the amount of traffic using the existing roads. The new junction also offers an alternative route into

central Wisbech from the south, again alleviating congestion on the existing routes. Average speeds on the A47 do reduce slightly due to the introduction of a new junction, although the net benefit outweighs the disbenefit as the main areas of congestion (Cromwell Road and Elm High Road) are likely to improve due to the provision of an additional route which dilutes the traffic.

Detailed graphs showing journey time over the length of Cromwell Road and Elm High Road are included in Appendix C. These show where delays occur along the route and how the amount of delay changes across years and scenarios.

Figure 5-1 AM Peak - Average Speeds

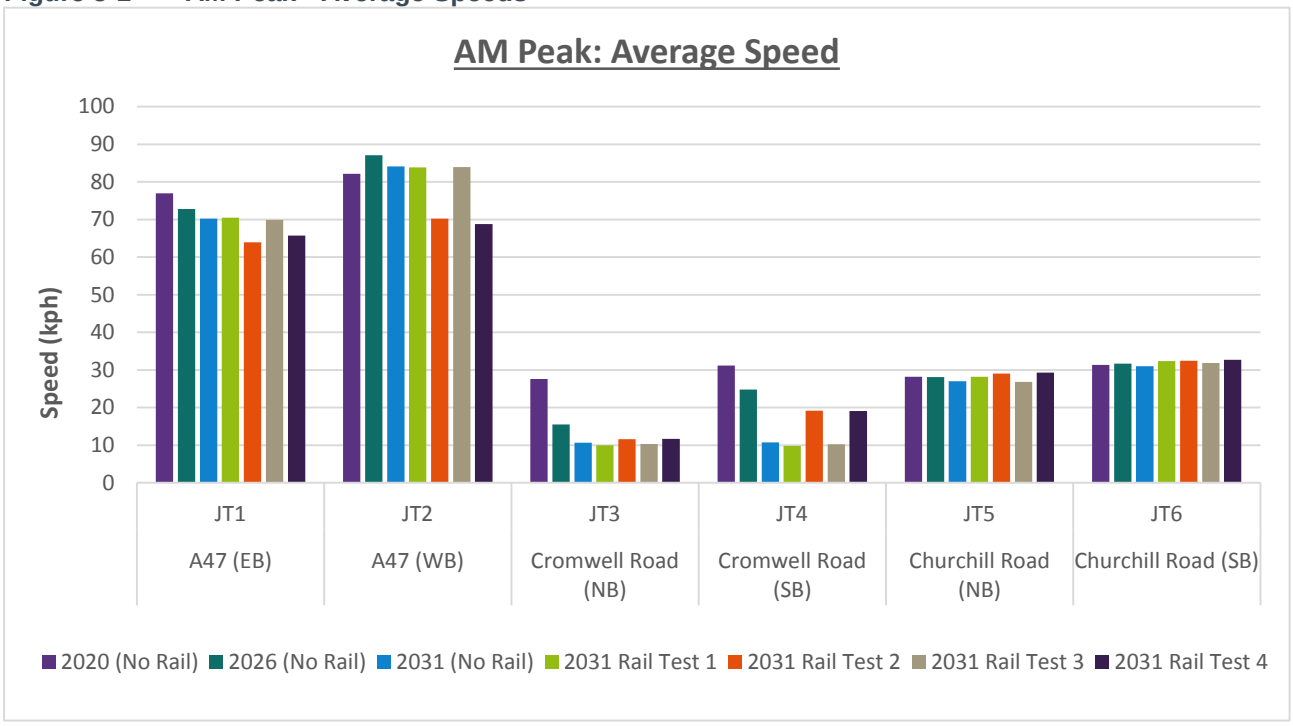
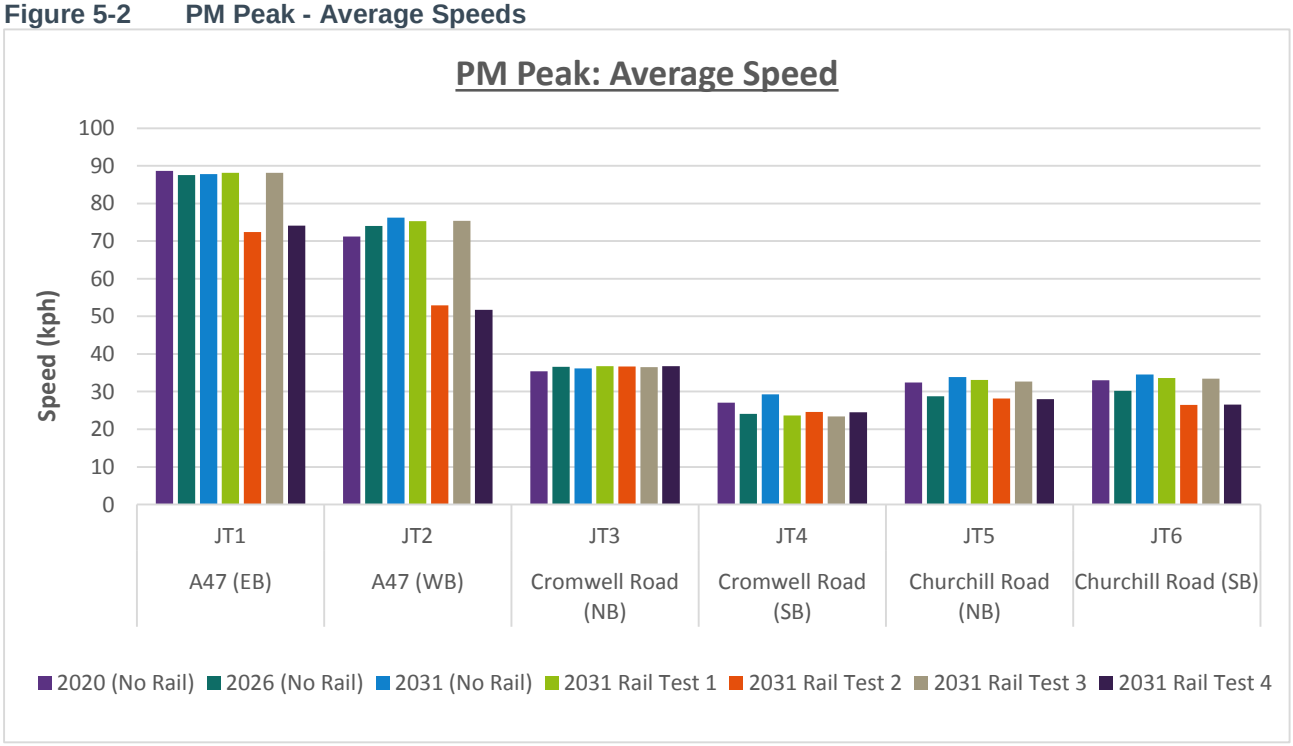


Figure 5-2 PM Peak - Average Speeds



6. Railway station tests

Four tests were undertaken to examine the traffic sensitivity to the location of the proposed railway station (north or south of the A47) and how it might connect onto the existing road network (through a new A47 roundabout or via existing infrastructure).

- **Test 1** - Station north of the A47, access via New Bridge Lane.
- **Test 2** - Station north of the A47, access via a new roundabout on A47 between Cromwell Road and Churchill Road.
- **Test 3** - Station south of the A47, access via Redmoor Lane.
- **Test 4 -** Station south of the A47, access via a new roundabout on A47 between Cromwell Road and Churchill Road.

Using rail demand analysis previously prepared by Atkins, it was estimated that the station would attract approximately 50 cars during the peak periods, inbound during the morning peak and outbound in the evening peak. The trips that these vehicles would otherwise have made were removed from journeys between Wisbech and March on the A47.

In scenarios without access from the A47, access was provided to the station from local roads. It is recognised these roads may not be entirely suitable for access to a railway station and may require some upgrading (particularly Redmoor Lane).

The provision of an additional roundabout on the A47 was assumed to be of a similar size to the adjacent roundabouts at Cromwell Road and Churchill Road. The model does not include the section of New Bridge Lane to the south of the A47**,** and so this was not added to the roundabout. A further sensitivity test may be required to examine whether a new roundabout would increase flow on this minor road.

It was found that the presence and location of the station made little impact on traffic conditions, but the presence of the roundabout on the A47 caused a significant amount of re-routing. This is primarily because the roundabout provides access to the South West Wisbech development site, avoiding the congested Cromwell Road. Figure 6-1 and Figure 6-2 show the changes in flows when the roundabout is included. A green line shows a greater flow, with a blue line showing a lower flow. The A47 is excluded because it is affected directly by the roundabout.

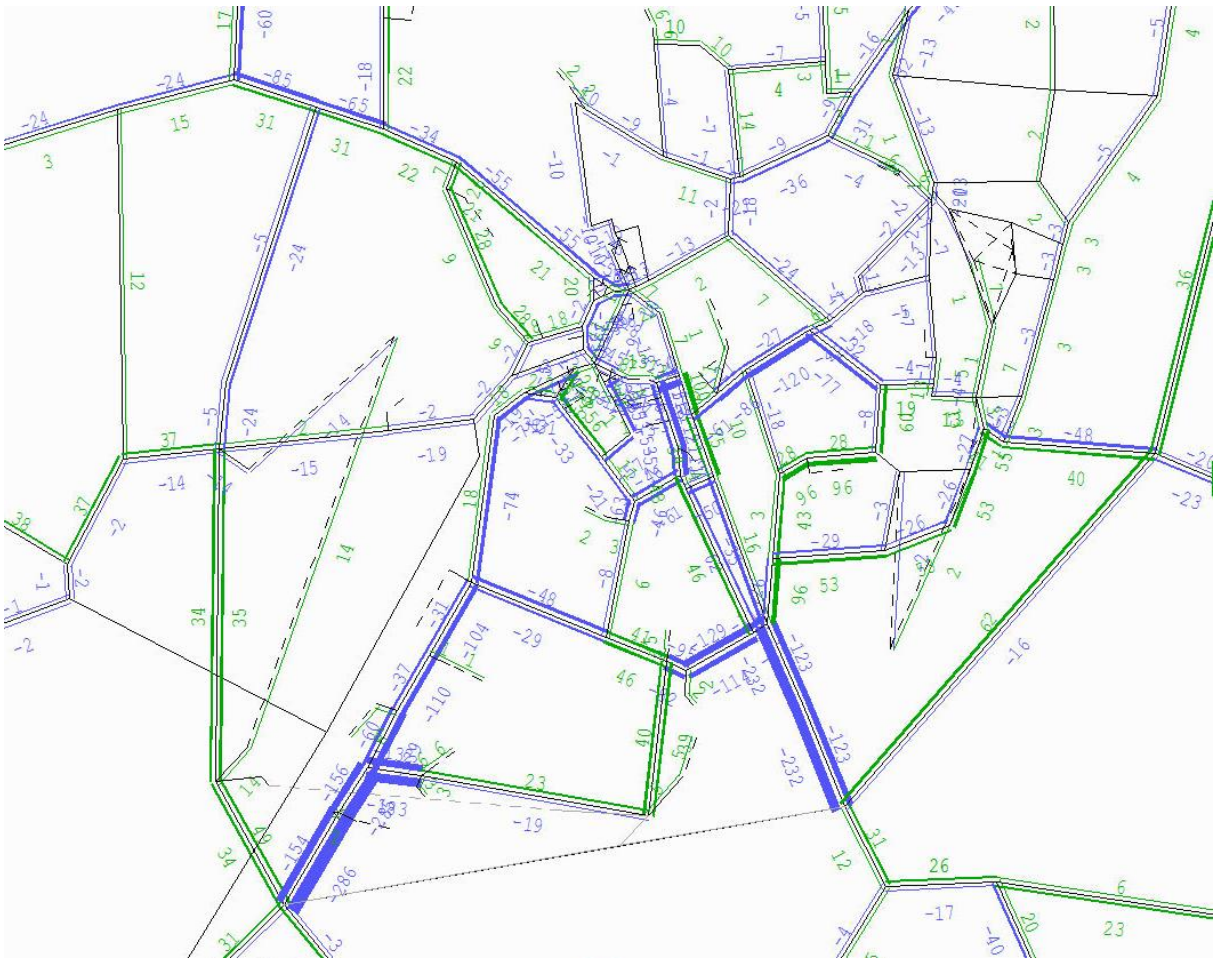


Figure 6-1 Hourly traffic flow impact of SW Wisbech access roundabout, 2031 AM

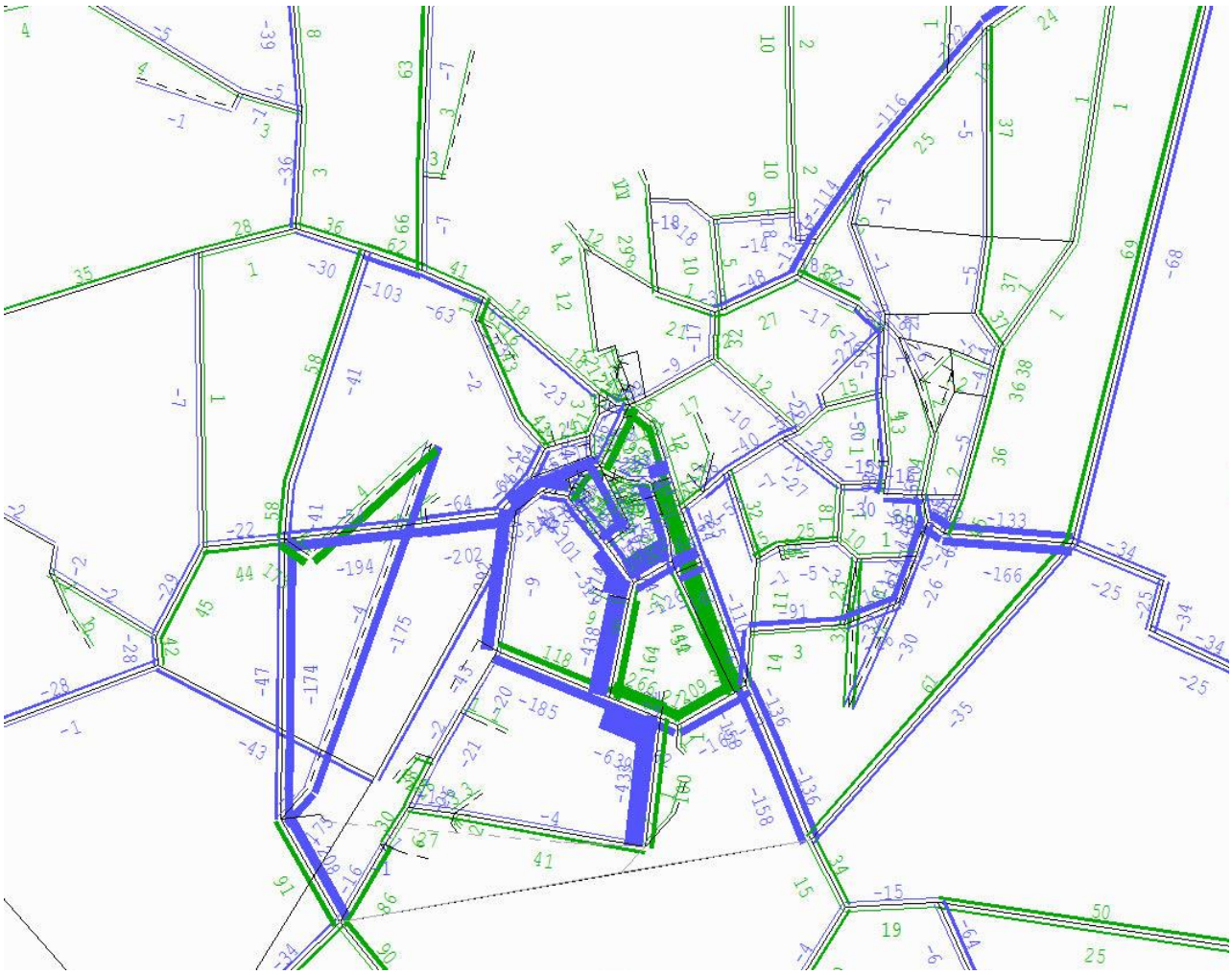


Figure 6-2 Hourly traffic flow impact of SW Wisbech access roundabout, 2031 PM

The diagrams show that in the AM peak period, the roundabout has the expected result, removing traffic from Cromwell Road and Elm High Road as traffic accesses the development directly via the roundabout.

In the PM peak the changes are more complex, reflecting the nature of the forecast congestion at that time of day. There is some relief to Elm High Road, but little change on Cromwell Road. The model shows a significant reduction in traffic on Boleness Road, as vehicles are able to access the A47 directly. Changes on Churchill Road are more complex. With the reduction in traffic on Elm High Road, signal timings can be adjusted to give greater priority to traffic from Weasenham Lane. This results in a reassignment of traffic from Cromwell Road and Sandall Road to the north of Weasenham Lane, on to Churchill Road, resulting in an overall increase in traffic on Churchill Road.

The addition of the roundabout and consequent changes in flow and congestion on Elm High Road also results in a noticeable decrease in traffic flow on Broadend Road as fewer vehicles use that route to avoid congestion on the A47 roundabouts.

7. Conclusions and recommendations

7.1. Network conditions

The road network in Wisbech is congested, and continues to remain congested in the future. Additional development and traffic growth will put pressure on the current network, and is likely to result in a spreading of congestion across the network.

The traffic conditions discussed in this note are forecasts, based on anticipated levels of development, traffic growth and infrastructure changes at discrete points in time. Specific infrastructure changes associated with the development areas are noted and discussed in the report. In addition, a number of mitigation measures within Wisbech have been assumed to be in place across all scenarios, as outlined in 7.4.1.Appendix A. These infrastructure changes improve traffic flow within Wisbech town centre, and provide a western link road and improvements to the A47.

Overall, the infrastructure measures improve accessibility to Wisbech as a whole and the development sites in particular. The development sites identified are facilitated by the provision of this infrastructure. Without the infrastructure improvements the proposed scale of development would be unlikely to be tenable. A more detailed, trigger based, study would be required to determine what level of development leads to the compelling need for each piece of infrastructure for each individual site or combination of sites.

On Cromwell Road, the PM peak period is very congested, as vehicles leaving the office and industrial developments mix with traffic to and from the supermarkets and retail areas along Cromwell Road. Combining these various flows and conflicting requirements for capacity at junctions will be one of the challenges of the future.

Junctions on the A47 are congested, with large delays occurring. By 2031 these junctions are having a limiting effect on traffic flow and encouraging more traffic to travel through Wisbech in preference to using the bypass.

Adding a new junction on the A47 to directly serve the South-West Wisbech development and the proposed railway station does give some relief to traffic within Wisbech. The net effect is to redistribute traffic away from over-congested parts of the network resulting in a more uniform level of congestion. Hotspots still remain on Cromwell Road, Elm High Road and their junctions with the A47.

Aside from these specific challenges, some of which have no clear solution, the network performs adequately, if with some delay. During model development, it was noticed that the performance of some signalised junctions could be improved through reconfiguring the operation of the signals. It is recommended that this is undertaken in conjunction with further detailed work on junction capacity.

7.1.1. Recommendations

- Review options for reducing delay at the A47 junctions
- Undertake comprehensive review of future year signal settings to optimise performance

7.2. South West Wisbech

The South West Wisbech development adds a significant amount of traffic to the network. Access is concentrated on Cromwell Road and Elm High Road, but the proposed new link between Boleness Road and New Bridge Lane helps to distribute traffic across the network.

The modelling work indicates that the network, as a whole, can accommodate the level of traffic anticipated. However there are specific congestion issues at the points of access which will need to be reviewed and detailed junction designs developed. This is particularly true of Cromwell Road in the PM peak period.

Congestion and delay on the A47 junctions are significant and by 2031 reaches levels which may be considered unacceptable. This development contributes to that congestion. Traffic from this development also contributes to congestion across Wisbech as vehicles avoid the A47 junctions to reach their destination.

The provision of a new access junction on the A47 provides congestion relief to traffic in Wisbech, both that travelling to this development and general conditions, without having a significant detrimental effect on A47 through traffic. However it is not sufficient in itself to relieve all the congestion in the vicinity.

7.2.1. Recommendations

- Undertake detailed junction capacity analysis at all junctions in the vicinity of the development to identify issues and solutions, particularly along Cromwell Road
- Consider role of the development in contributing to issues and solutions at the A47 / Cromwell Road and A47 / Elm High Road junctions
- Continue to plan for a new junction on the A47 providing access to the development.

7.3. East Wisbech

The details and access arrangements for this development are still being progressed, but this initial assessment hasn't shown any significant capacity issues.

The improved access to the A47 does draw a reasonable flow of traffic from Wisbech, which may not be ideal through the residential quarter. However, this flow can be shown to reduce when other infrastructure could lead to congestion on Elm High Road and the A47 being eased (such as the SW Wisbech A47 dedicated access).

The new roundabout with the A47 and Broadend Road doesn't cause delays for A47 traffic, but there are some issues with Broadend Road. However, this may be related to the volume of traffic from Wisbech using this as a shorter route to the A47.

7.3.1. Recommendations

- Examine the access arrangements and potential for reducing through traffic to and from the A47
- Undertake a detailed capacity analysis and engineering design of the A47/Broadend Road junction to determine the appropriate design to reduce delay and congestion

7.4. West Wisbech

The level of development included in these tests is relatively small, and there are no specific issues identified with traffic from the development.

Associated with the West Wisbech development is the Western Link Road. This modelling has identified that further work is required on the capacity of junctions on this link road to ensure that queuing is not extensive. This will require additional modelling work to determine traffic flows once the development and link road is fully complete.

The junction at the southern end of the link road, with the A47 and Cromwell Road shows signs of significant congestion and delay by 2031. Further work will be needed to determine the best form and function for a junction here.

7.4.1. Recommendations

- Undertake further modelling to assist with determining the capacity required on the Western Link Road and its junctions.
- Consider the contribution of this development to the cause and solution of congestion at the A47/Cromwell Road roundabout.

Appendices

Appendix A. Modelling assumptions

A.1. General approach

The basis of this work was the previous analysis undertaken by Atkins as part of the Wisbech Area Transport Study (WATS). That study focused on assessing the transport impacts of housing and employment growth in and around Wisbech in North Cambridgeshire. The study principally uses a SATURN (Simulation and Assignment of Traffic in Urban Road Networks) model for the purposes of testing different scenarios. This document should be read in conjunction with some of the other technical documents that form part of WATS. These documents can be found on Fenland District Council website at:
http://www.fenland.gov.uk/article/7085/Wisbech-Area-Transport-Study

The most recent iteration of that study is reported in Technical Note H. Relevant details are repeated below.

A.2. Development traffic

Levels of development traffic were calculated from information provided by Fenland District Council. Trip rates used to convert from land areas to numbers of vehicles were consistent with previous work. Vehicle movements from new developments were assumed to be identical to adjacent existing developments of the same land use.

A.3. Infrastructure

The previous study made some assumptions about infrastructure changes in future years. Those changes away from the development areas are retained in this model test. The former Western Route with a bridge linking in to Cromwell Road has been replaced by the Western Link Road joining at the A47 junction.

Infrastructure changes made in the previous work which has been maintained in this work include:

- The new junction layout at Freedom Bridge Roundabout.
- One way regulations near Nene Waterfront.
- New traffic signals at Lynn Road / De Havilland Road junction.
- Changes to the bus station entrance and corresponding changes to Freedom Bridge Roundabout junction layout
- Increased capacity at A47 Guyhirn roundabout
- Increased capacity at A47/Cromwell Road roundabout

Many of the infrastructure changes associated with the developments included in this study were previously tested in the earlier work. Where possible, this analysis has made the same assumptions about road and junction forms and capacities.

A.4. Matrix updating

The previous Wisbech study used a spreadsheet based matrix forecasting system to produce matrices for the future years incorporating development growth. This spreadsheet system ensured that overall growth within Wisbech, Fenland and Cambridgeshire matched forecasts from the suite of national traffic models, as presented in the TEMPRO programme.

For this analysis, the TEMPRO forecasts were updated to the most recent figures, ensuring that the model outputs represent current expectations about traffic growth.

The developments considered were added as new zones in to the model, permitting detailed analysis of the traffic patterns where appropriate.

A.5. Railway station demand

WATS Technical Note C reports the previous work undertaken to estimate the patronage of the proposed railway line between Wisbech and March. This concentrates on predicting annual patronage and revenue to support the business case for re-opening the line.

As part of this work, a review was undertaken of the detailed assumptions supporting that assessment, with the aim of identifying a reasonable number of vehicle trips to and from the railway station during the modelled peak hours. Based on the day-long demand, and considering the likely travel patterns, a figure of 50 vehicle trips was identified.

This number considers the following factors:

- Each vehicle may contain more than one rail passenger
- Some rail passengers will arrive on foot or bicycle
- The peak times for rail travel to reach March and Cambridge for work will be before 8am and after 6pm, and therefore will not be included in the model peak hours.
-

To allow the matrix to be adjusted to represent trips to the station, the following process was used:

1. The vehicle trips from Wisbech to March and beyond were identified
2. 50 trips were removed from the matrix (or all trips if fewer than 50 made that movement)
3. These trips had their destination set as the railway station, factored to 50 trips if necessary, and added back in to the matrix.

For the PM period, trips to Wisbech were identified, with origins at the station.

The table below shows the number of trips in the matrix and the changes made to accommodate the station demand.

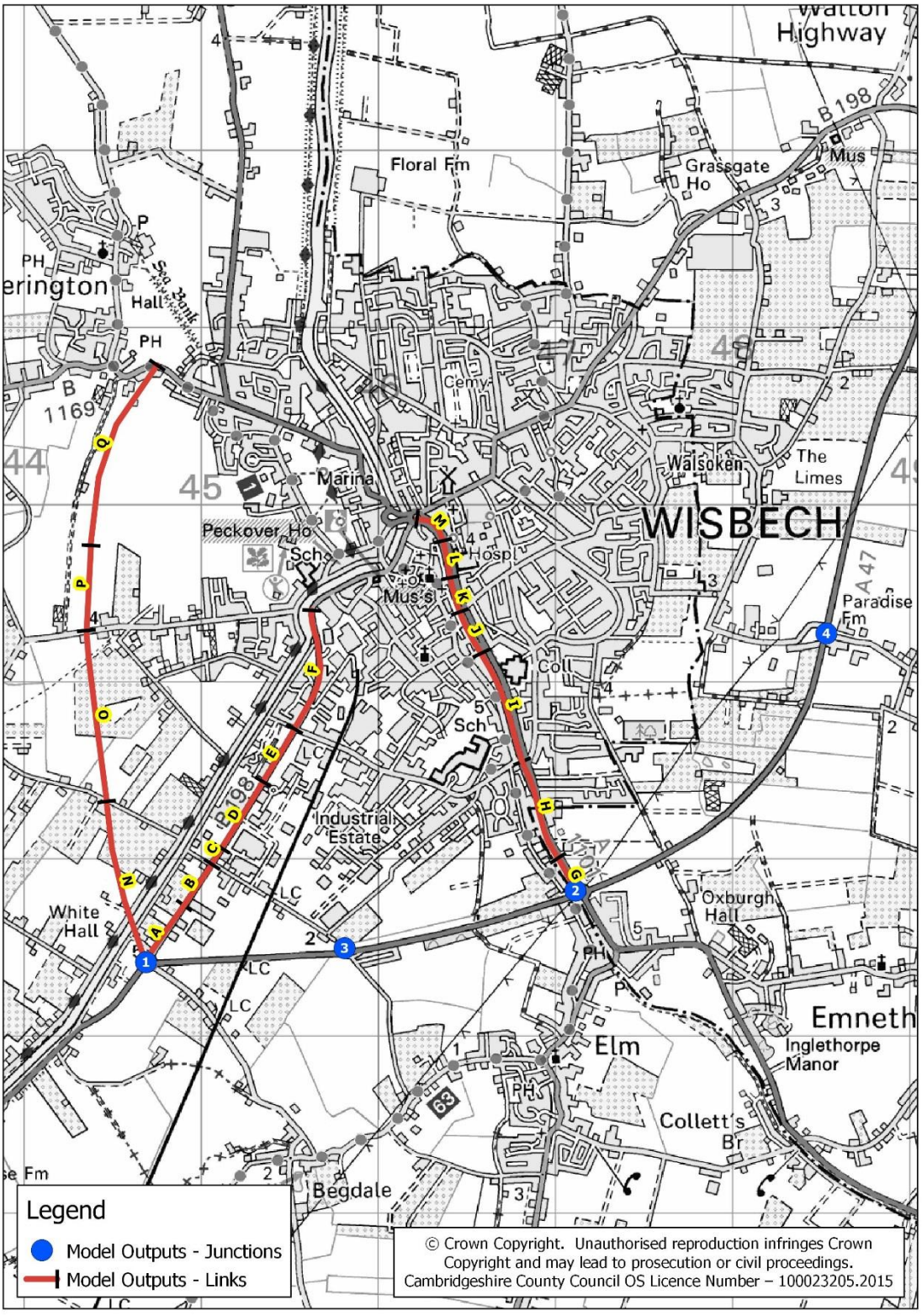
Table A-1 Railway station demand (2031)

	AM Peak	PM Peak
Trips in original matrix	14851	16171
Trips removed from matrix	39	42
Trips added to matrix	50	50
Trips in adjusted matrix	14862	16179

Appendix B. Detailed modelling results

The tables below show flows, delays and flow to capacity ratio for key links and junctions in Wisbech, as referenced on the map below.

Flow to capacity ratio is a useful indicator for showing where links and junctions are experiencing problems. In general terms


Watton Highway
B 198
Floral Fm
Grassgate Ho
Mus
PH
Hall
PH
B 1169
Cemy
Walsoken
The Limes
Marina
WISBECH
Peckover Ho
Sch
Hosp
Mus
Paradise Fm
A47
Coll
Sch
Industrial Estate
LC
White Hall
Oxburgh Hall
PH
Emneth
Elm
Inglethorpe Manor
Collett's Br
Begdale
Legend
Model Outputs - Junctions
Model Outputs - Links
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			Actual Flow (PCUs / hr)								
			2020			2026			2031		
Junction	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
A47 / Cromwell Road	Cromwell Road	A47 (East)	99	203	262	138	197	80	170	123	70
	Cromwell Road	Redmoor Lane	10	75	125	17	88	108	22	97	74
	Cromwell Road	A47 (West)	338	430	470	344	272	301	319	281	297
	Cromwell Road	Link Road				110	137	137	163	163	127
	A47 (East)	Redmoor Lane	0	0	0	0	0	0	0	0	0
	A47 (East)	A47 (West)	999	804	770	897	746	783	887	905	882
	A47 (East)	Link Road				27	49	70	33	86	141
	A47 (East)	Cromwell Road	291	331	244	613	360	199	562	321	171
	Redmoor Lane	A47 (West)	62	13	1	20	13	1	31	34	1
	Redmoor Lane	Link Road				24	46	58	30	62	70
	Redmoor Lane	Cromwell Road	184	48	20	169	62	22	181	96	25
	Redmoor Lane	A47 (East)	0	0	0	0	0	0	0	0	0
	A47 (West)	Link Road				133	290	313	202	371	506
	A47 (West)	Cromwell Road	472	362	392	525	302	198	553	310	127
	A47 (West)	A47 (East)	664	598	908	684	654	989	657	679	963
	A47 (West)	Redmoor Lane	2	11	22	2	11	24	1	11	26
	Link Road	Cromwell Road				380	311	156	458	368	185
	Link Road	A47 (East)				8	125	200	23	183	293
	Link Road	Redmoor Lane				9	54	97	15	72	113
	Link Road	A47 (West)				214	360	308	271	388	354
A47 / Churchill Road	Churchill Road	A47 (East)	34	48	45	43	64	32	11	68	2
	Churchill Road	Outwell Road	400	563	575	390	471	530	399	553	576
	Churchill Road	A47 (West)	392	192	114	424	102	106	498	152	102
	A47 (East)	Outwell Road	120	51	175	101	67	199	41	83	219
	A47 (East)	A47 (West)	754	699	685	861	742	686	806	878	821
	A47 (East)	Churchill Road	101	42	44	36	41	29	118	34	1
	Outwell Road	A47 (West)	154	244	221	341	311	267	305	303	317
	Outwell Road	Churchill Road	454	495	487	320	427	402	337	394	358
	Outwell Road	A47 (East)	70	54	111	54	71	143	63	78	153
	A47 (West)	Churchill Road	76	57	132	62	59	134	83	66	197
	A47 (West)	A47 (East)	505	515	679	555	607	730	494	655	780
	A47 (West)	Outwell Road	181	230	343	202	309	389	224	255	333
New A47 Roundabout for Station Access	New Bridge Lane (North)	A47 (East)									
	New Bridge Lane (North)	New Bridge Lane (South)									
	New Bridge Lane (North)	A47 (West)									
	A47 (East)	New Bridge Lane (South)									
	A47 (East)	A47 (West)									
	A47 (East)	New Bridge Lane (North)									
	New Bridge Lane (South)	A47 (West)									
	New Bridge Lane (South)	New Bridge Lane (North)									
	New Bridge Lane (South)	A47 (East)									
	A47 (West)	New Bridge Lane (North)									
	A47 (West)	A47 (East)									
	A47 (West)	New Bridge Lane (South)									
dend Road	A47 (North)	Broadend Road (East)	36	36	65	58	37	68	147	40	74
	A47 (North)	A47 (South)	857	704	719	921	746	764	924	882	892
	A47 (North)	Broadend Road (West)	58	74	111	90	78	131	85	98	169
	Broadend Road (East)	A47 (South)	0	0	0	19	0	0	40	0	0
	Broadend Road (East)	Broadend Road (West)	156	76	120	179	64	124	224	126	116
	Broadend Road (East)	A47 (North)	98	35	49	121	36	51	135	42	55

Actual Flow (PCUs / hr)

Junction	From	To	2020			2026			2031		
			AM	IP	PM	AM	IP	PM	AM	IP	PM
A47 / Broa	A47 (South)	Broadend Road (West)	46	54	113	48	92	187	63	121	289
	A47 (South)	A47 (North)	559	563	719	596	650	715	493	676	638
	A47 (South)	Broadend Road (East)	0	0	0	0	0	0	0	0	0
	Broadend Road (West)	A47 (North)	63	71	81	76	78	161	110	102	183
	Broadend Road (West)	Broadend Road (East)	59	35	147	71	34	95	97	65	119
	Broadend Road (West)	A47 (South)	116	89	185	59	103	149	4	113	149

Links	From	To	2020			2026			2031		
			AM	IP	PM	AM	IP	PM	AM	IP	PM
Cromwell Road Northbound	A47	Development access	947	741	656	1692	1036	575	1672	1087	509
	Development access	New Bridge Lane	867	759	782	925	983	1142	890	1033	1078
	New Bridge Lane	Tesco site	573	659	769	497	720	892	467	682	971
	Tesco site	Sandown Road	549	775	846	372	784	915	316	777	989
	Sandown Road	Weasenham Lane	568	804	872	380	795	881	317	797	880
	Weasenham Lane	Barton Road	528	724	818	344	636	885	283	650	1071
Cromwell Road Southbound	Barton Road	Weasenham Lane	661	611	532	664	369	274	668	417	271
	Weasenham Lane	Sandown Road	752	658	574	761	492	317	790	547	361
	Sandown Road	Tesco site	710	634	547	729	488	285	766	538	319
	Tesco site	New Bridge Lane	595	500	456	722	384	261	796	367	266
	New Bridge Lane	Development access	535	721	792	766	632	364	828	594	366
	Development access	A47	446	708	857	688	695	626	761	664	568
Churchill Road Northbound	A47	B&Q	600	594	663	371	527	564	469	472	554
	B&Q	Weasenham Lane	600	594	663	371	527	564	469	472	554
	Weasenham Lane	Elm Road	509	582	781	409	500	469	412	487	386
	Elm Road	Norwich Road	473	695	837	415	601	565	352	563	468
	Norwich Road	Stermyn Street	679	692	722	597	531	380	582	512	327
	Stermyn Street	Whitby Street	639	748	1005	495	647	764	485	636	693
	Whitby Street	Lynn Road	639	748	1005	495	647	764	485	636	693
Churchill Road Southbound	Lynn Road	Whitby Street	892	657	649	582	340	376	686	387	411
	Whitby Street	Stermyn Street	892	657	649	582	340	376	686	387	411
	Stermyn Street	Norwich Road	719	715	774	547	389	501	586	424	583
	Norwich Road	Elm Road	817	636	560	714	324	311	731	372	301
	Elm Road	Weasenham Lane	628	457	497	500	220	291	522	280	295
	Weasenham Lane	B&Q	826	802	735	857	638	668	907	773	679
	B&Q	A47	826	802	735	857	638	668	907	773	679
Western Link N/b	A47	West Wisbech Site				289	521	550	408	676	815
	West Wisbech Site	Barton Road				289	521	550	364	682	833
	Barton Road	Leverington Common							296	466	535
Western Link S/b	Leverington Common	Barton Road							509	552	402
	Barton Road	West Wisbech Site				610	850	761	636	900	773
	West Wisbech Site	A47				610	850	761	768	1010	945

Actual Flow (PCUs / hr)

Junction	From	To	2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A47 / Cromwell Road	Cromwell Road	A47 (East)	139	76	60	31	138	69	68	32	166	83	81	38	164	77	92	37
	Cromwell Road	Redmoor Lane	17	116	16	88	19	109	16	90	22	84	19	72	23	74	19	71
	Cromwell Road	A47 (West)	341	304	202	269	346	304	208	268	315	291	201	295	318	296	206	296
	Cromwell Road	Link Road	110	145	104	233	111	145	103	231	159	123	132	249	147	121	131	248
	A47 (East)	Redmoor Lane	0	0	0	22	46	0	0	21	0	0	0	1	44	0	0	1
	A47 (East)	A47 (West)	871	783	958	946	861	780	953	946	866	887	960	1019	849	877	955	1016
	A47 (East)	Link Road	29	68	37	147	26	67	36	148	33	150	53	219	31	155	53	220
	A47 (East)	Cromwell Road	630	196	507	152	606	196	503	145	598	168	517	123	573	171	510	119
	Redmoor Lane	A47 (West)	21	1	45	1	25	1	45	1	31	1	47	7	36	1	49	6
	Redmoor Lane	Link Road	24	58	31	58	24	89	30	58	29	70	39	70	30	102	39	70
	Redmoor Lane	Cromwell Road	174	22	190	22	175	22	191	22	181	25	199	25	189	25	200	25
	Redmoor Lane	A47 (East)	0	0	8	0	0	19	9	0	0	0	0	0	0	19	0	0
	A47 (West)	Link Road	125	316	152	279	132	302	152	277	192	482	236	422	201	468	238	423
	A47 (West)	Cromwell Road	526	198	404	124	526	198	403	124	552	126	435	126	557	128	431	126
	A47 (West)	A47 (East)	685	959	806	1017	685	972	806	1018	657	954	774	950	651	965	778	946
	A47 (West)	Redmoor Lane	2	24	2	77	2	24	2	77	1	26	1	90	1	26	1	94
	Link Road	Cromwell Road	379	156	392	176	384	158	391	178	457	196	473	221	457	202	474	219
	Link Road	A47 (East)	8	201	33	47	8	200	33	47	23	285	37	110	23	275	37	109
	Link Road	Redmoor Lane	9	96	9	99	9	96	9	99	13	109	17	137	12	107	18	139
	Link Road	A47 (West)	206	303	251	198	210	304	249	198	261	344	288	269	268	356	289	272
A47 / Churchill Road	Churchill Road	A47 (East)	45	43	8	67	41	29	7	67	12	2	5	61	15	2	3	62
	Churchill Road	Outwell Road	392	526	288	421	388	534	282	423	403	565	295	418	402	585	282	424
	Churchill Road	A47 (West)	420	110	382	66	430	107	406	65	494	115	483	64	497	102	492	64
	A47 (East)	Outwell Road	99	196	111	183	95	197	107	183	41	213	39	204	43	214	40	204
	A47 (East)	A47 (West)	856	682	901	679	863	681	889	675	819	813	913	786	824	821	909	784
	A47 (East)	Churchill Road	45	30	4	28	37	30	3	21	108	11	0	16	102	8	0	19
	Outwell Road	A47 (West)	343	261	335	319	333	262	334	317	314	329	416	327	308	330	414	312
	Outwell Road	Churchill Road	315	420	303	396	319	420	300	399	329	354	234	381	335	353	233	396
	Outwell Road	A47 (East)	55	133	63	131	54	135	63	130	64	148	68	136	64	146	67	136
	A47 (West)	Churchill Road	61	119	57	0	62	129	57	0	83	208	58	0	78	219	58	0
	A47 (West)	A47 (East)	552	716	612	858	555	736	613	862	487	757	561	847	488	772	565	843
	A47 (West)	Outwell Road	201	387	316	493	202	380	323	491	221	339	351	525	222	328	360	517
New A47 Roundabout for Station Access	New Bridge Lane (North)	A47 (East)			241	540			241	536			273	611			274	607
	New Bridge Lane (North)	New Bridge Lane (South)							2	0							7	0
	New Bridge Lane (North)	A47 (West)			222	333			238	334			243	320			259	318
	A47 (East)	New Bridge Lane (South)							46	0							39	0
	A47 (East)	A47 (West)			1280	934			1254	925			1287	1041			1259	1037
	A47 (East)	New Bridge Lane (North)			265	129			254	131			375	119			367	107
	New Bridge Lane (South)	A47 (West)							0	0							0	0
	New Bridge Lane (South)	New Bridge Lane (North)							0	46							0	47
	New Bridge Lane (South)	A47 (East)							0	4							0	3
	A47 (West)	New Bridge Lane (North)			159	280			161	281			154	329			159	334
	A47 (West)	A47 (East)			744	812			752	813			697	762			709	750
	A47 (West)	New Bridge Lane (South)							0	0							0	0
A47 / Broadend Road	A47 (North)	Broadend Road (East)	58	68	48	68	64	68	51	68	147	78	147	74	147	77	147	74
	A47 (North)	A47 (South)	934	756	951	741	913	759	947	732	930	888	946	845	922	892	944	846
	A47 (North)	Broadend Road (West)	82	131	75	131	86	131	75	131	81	160	98	148	86	163	98	148
	Broadend Road (East)	A47 (South)	19	0	1	0	16	0	1	0	41	0	6	0	32	0	6	0
	Broadend Road (East)	Broadend Road (West)	176	120	159	87	179	118	160	87	224	114	236	91	224	115	236	91
	Broadend Road (East)	A47 (North)	120	51	112	51	120	51	112	51	135	55	133	55	135	55	133	55
	A47 (South)	Broadend Road (West)	48	163	53	114	48	186	53	117	62	265	70	170	61	274	70	169
	A47 (South)	A47 (North)	597	726	623	888	594	712	623	889	489	639	552	819	494	636	553	816
	A47 (South)	Broadend Road (East)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Broadend Road (West)	A47 (North)	75	153	73	53	76	162	73	53	108	177	87	72	105	179	87	72
	Broadend Road (West)	Broadend Road (East)	70	93	60	93	72	94	61	93	96	121	77	85	96	123	80	84
	Broadend Road (West)	A47 (South)	46	153	64	148	66	150	51	148	0	150	0	161	17	151	0	160

Links	From	To	2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 4	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Cromwell Road Northbound	A47	Development access	1707	572	1460	474	1696	574	1457	469	1696	515	1505	492	1692	527	1498	486
	Development access	New Bridge Lane	939	1139	693	1059	927	1135	692	1055	915	1072	718	1109	915	1095	713	1103
	New Bridge Lane	Tesco site	505	893	462	877	498	879	464	877	472	1005	425	1008	473	1012	421	1003
	Tesco site	Sandown Road	374	918	336	872	373	921	338	872	321	987	300	987	327	987	297	987
	Sandown Road	Weasenham Lane	383	881	344	881	381	882	347	881	327	880	306	880	333	880	304	880
	Weasenham Lane	Barton Road	346	883	344	793	344	893	347	792	290	1048	307	779	298	1071	305	777
Cromwell Road Southbound	Barton Road	Weasenham Lane	666	273	655	252	664	272	657	252	666	259	659	263	667	254	661	263
	Weasenham Lane	Sandown Road	761	316	735	312	760	318	738	312	770	347	756	341	769	338	757	342
	Sandown Road	Tesco site	730	284	703	279	728	285	706	279	740	303	726	298	740	294	726	298
	Tesco site	New Bridge Lane	730	260	694	258	722	267	696	259	770	272	724	240	764	274	723	240
	New Bridge Lane	Development access	756	385	492	334	768	381	508	336	809	384	533	371	810	367	553	371
	Development access	A47	681	641	401	621	691	627	413	622	746	581	466	653	743	568	483	652

			Actual Flow (PCUs / hr)															
			2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
Junction	From	To	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Churchill Road Northbound	A47	B&Q	375	570	333	424	371	579	329	421	452	570	250	396	447	577	250	414
	B&Q	Weasenham Lane	375	570	333	424	371	579	329	421	452	570	250	396	447	577	250	414
	Weasenham Lane	Elm Road	412	521	371	786	408	463	369	787	409	398	347	830	408	369	344	842
	Elm Road	Norwich Road	408	607	439	787	418	559	438	796	338	438	372	834	340	428	372	833
	Norwich Road	Stermyn Street	595	435	594	662	598	373	589	668	573	290	562	739	571	281	559	736
	Stermyn Street	Whitby Street	491	810	496	827	495	765	492	832	490	664	485	832	492	643	484	834
	Whitby Street	Lynn Road	491	810	496	827	495	765	492	832	490	664	485	832	492	643	484	834
Churchill Road Southbound	Lynn Road	Whitby Street	614	377	534	298	584	371	513	299	741	424	687	417	686	420	677	406
	Whitby Street	Stermyn Street	614	377	534	298	584	371	513	299	741	424	687	417	686	420	677	406
	Stermyn Street	Norwich Road	561	514	540	513	549	487	520	514	620	605	667	595	579	596	659	592
	Norwich Road	Elm Road	742	302	725	238	718	309	704	237	767	304	790	237	744	311	786	234
	Elm Road	Weasenham Lane	527	303	476	169	498	294	458	170	558	323	521	185	531	333	519	186
	Weasenham Lane	B&Q	858	679	678	554	859	670	694	554	909	682	783	543	913	689	777	550
	B&Q	A47	858	679	678	554	859	670	694	554	909	682	783	543	913	689	777	550
Western Link N/b	A47	West Wisbech Site	283	557	322	702	290	574	319	699	393	799	443	907	390	819	445	907
	West Wisbech Site	Barton Road	283	557	322	702	290	574	319	699	350	822	399	786	346	839	401	787
	Barton Road	Leverington Common									289	584	289	593	266	582	290	592
Western Link S/b	Leverington Common	Barton Road									441	387	482	361	460	384	483	361
	Barton Road	West Wisbech Site	602	756	685	519	612	758	682	522	621	761	669	599	628	770	670	601
	West Wisbech Site	A47	602	756	685	519	612	758	682	522	754	934	815	737	761	940	817	740

			Delay (seconds)								
			2020			2026			2031		
Junction	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
A47 / Cromwell Road	Cromwell Road	A47 (East)	12	14	162	16	59	521	19	129	589
	Cromwell Road	Redmoor Lane	17	19	167	20	63	525	23	133	593
	Cromwell Road	A47 (West)	22	24	172	24	67	529	27	137	597
	Cromwell Road	Link Road				28	71	533	31	141	601
	A47 (East)	Redmoor Lane	16	15	14	29	13	11	40	25	13
	A47 (East)	A47 (West)	21	20	19	33	17	15	44	29	17
	A47 (East)	Link Road				37	21	19	48	33	21
	A47 (East)	Cromwell Road	26	25	24	41	25	23	52	37	25
	Redmoor Lane	A47 (West)	31	18	16	295	22	16	584	47	20
	Redmoor Lane	Link Road				299	26	20	588	51	24
	Redmoor Lane	Cromwell Road	36	23	21	303	30	24	592	55	28
	Redmoor Lane	A47 (East)	41	28	26	307	34	28	596	59	32
	A47 (West)	Link Road				63	11	12	164	14	15
	A47 (West)	Cromwell Road	19	14	36	67	15	16	168	18	19
	A47 (West)	A47 (East)	24	19	41	71	19	20	172	22	23
	A47 (West)	Redmoor Lane	29	24	46	75	23	24	176	26	27
	Link Road	Cromwell Road				329	18	16	510	80	19
	Link Road	A47 (East)				333	22	20	514	84	23
	Link Road	Redmoor Lane				337	26	24	518	88	27
	Link Road	A47 (West)				341	30	28	522	92	31
A47 / Churchill Road	Churchill Road	A47 (East)	22	22	156	33	19	183	72	44	208
	Churchill Road	Outwell Road	27	27	161	38	24	188	77	49	213
	Churchill Road	A47 (West)	32	32	166	43	29	193	82	54	218
	A47 (East)	Outwell Road	37	17	24	130	16	24	194	49	126
	A47 (East)	A47 (West)	42	22	29	135	21	29	199	54	131
	A47 (East)	Churchill Road	47	27	34	140	26	34	204	59	136
	Outwell Road	A47 (West)	187	38	28	355	33	24	451	149	40
	Outwell Road	Churchill Road	192	43	33	360	38	29	456	154	45
	Outwell Road	A47 (East)	197	48	38	365	43	34	461	159	50
	A47 (West)	Churchill Road	12	12	21	11	13	31	11	13	49
	A47 (West)	A47 (East)	17	17	26	16	18	36	16	18	54
	A47 (West)	Outwell Road	22	22	31	21	23	41	21	23	59
New A47 Roundabout for Station Access	New Bridge Lane (North)	A47 (East)									
	New Bridge Lane (North)	New Bridge Lane (South)									
	New Bridge Lane (North)	A47 (West)									
	A47 (East)	New Bridge Lane (South)									
	A47 (East)	A47 (West)									
	A47 (East)	New Bridge Lane (North)									
	New Bridge Lane (South)	A47 (West)									
	New Bridge Lane (South)	New Bridge Lane (North)									
	New Bridge Lane (South)	A47 (East)									
	A47 (West)	New Bridge Lane (North)									
	A47 (West)	A47 (East)									
	A47 (West)	New Bridge Lane (South)									
dend Road	A47 (North)	Broadend Road (East)	6	5	6	6	5	6	6	6	7
	A47 (North)	A47 (South)	6	5	6	6	5	6	6	6	7
	A47 (North)	Broadend Road (West)	6	5	6	6	5	6	6	6	7
	Broadend Road (East)	A47 (South)	21	11	14	39	11	15	221	16	21
	Broadend Road (East)	Broadend Road (West)	21	11	14	39	11	15	221	16	21
	Broadend Road (East)	A47 (North)	21	11	14	39	11	15	221	16	21

			Delay (seconds)								
			2020			2026			2031		
Junction	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
A47 / Broa	A47 (South)	Broadend Road (West)	5	5	6	5	5	6	5	5	6
	A47 (South)	A47 (North)	5	5	6	5	5	6	5	5	6
	A47 (South)	Broadend Road (East)	5	5	6	5	5	6	5	5	6
	Broadend Road (West)	A47 (North)	11	10	28	11	11	26	10	13	31
	Broadend Road (West)	Broadend Road (East)	11	10	28	11	11	26	10	13	31
	Broadend Road (West)	A47 (South)	11	10	28	11	11	26	10	13	31

			2020			2026			2031		
Links	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
Cromwell Road Northbound	A47	Development access	14	11	11	20	24	79	21	28	62
	Development access	New Bridge Lane	7	4	3	16	4	4	35	5	3
	New Bridge Lane	Tesco site	38	184	169	35	220	239	46	334	311
	Tesco site	Sandown Road	26	69	86	28	63	234	32	64	412
	Sandown Road	Weasenham Lane	13	19	20	13	18	19	14	21	54
	Weasenham Lane	Barton Road	0	0	0	0	0	0	0	0	0
Cromwell Road Southbound	Barton Road	Weasenham Lane	102	68	43	104	52	59	111	49	84
	Weasenham Lane	Sandown Road	41	77	48	48	50	27	40	56	29
	Sandown Road	Tesco site	18	163	240	21	180	363	23	255	486
	Tesco site	New Bridge Lane	2	2	2	2	1	1	2	1	1
	New Bridge Lane	Development access	14	19	27	31	33	84	30	38	424
	Development access	A47	20	21	168	24	65	528	27	136	596
Churchill Road Northbound	A47	B&Q	0	0	0	0	0	0	0	0	0
	B&Q	Weasenham Lane	60	73	99	70	72	102	56	85	107
	Weasenham Lane	Elm Road	1	1	1	1	1	1	1	1	1
	Elm Road	Norwich Road	41	23	51	30	24	72	31	27	78
	Norwich Road	Stermyn Street	31	20	41	15	23	49	21	25	48
	Stermyn Street	Whitby Street	0	0	0	0	0	0	0	0	0
	Whitby Street	Lynn Road	19	18	24	17	17	18	17	18	18
Churchill Road Southbound	Lynn Road	Whitby Street	0	0	0	0	0	0	0	0	0
	Whitby Street	Stermyn Street	19	11	18	9	14	18	13	14	18
	Stermyn Street	Norwich Road	34	31	27	35	30	26	35	28	22
	Norwich Road	Elm Road	18	16	9	17	15	13	18	16	13
	Elm Road	Weasenham Lane	75	64	72	81	58	66	85	67	67
	Weasenham Lane	B&Q	0	0	0	0	0	0	0	0	0
	B&Q	A47	29	28	162	40	25	189	80	50	214
Western Link N/b	A47	West Wisbech Site				5	6	6	6	8	10
	West Wisbech Site	Barton Road				5	7	8	6	9	17
	Barton Road	Leverington Common							0	0	0
Western Link S/b	Leverington Common	Barton Road							12	10	8
	Barton Road	West Wisbech Site				7	10	8	7	12	9
	West Wisbech Site	A47				333	24	23	514	86	25

Delay (seconds)

Junction	From	To	2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A47 / Cromwell Road	Cromwell Road	A47 (East)	16	506	13	179	16	520	13	183	18	571	13	494	18	588	14	496
	Cromwell Road	Redmoor Lane	20	510	17	183	20	524	17	187	22	575	17	498	22	592	18	500
	Cromwell Road	A47 (West)	24	514	21	187	24	528	21	191	26	579	21	502	26	596	22	504
	Cromwell Road	Link Road	28	518	25	191	28	532	25	195	30	583	25	506	30	600	26	508
	A47 (East)	Redmoor Lane	24	12	13	17	30	11	13	16	36	13	16	73	38	13	15	75
	A47 (East)	A47 (West)	28	16	17	21	34	15	17	20	40	17	20	77	42	17	19	79
	A47 (East)	Link Road	32	20	21	25	38	19	21	24	44	21	24	81	46	21	23	83
	A47 (East)	Cromwell Road	36	24	25	29	42	23	25	28	48	25	28	85	50	25	27	87
	Redmoor Lane	A47 (West)	278	16	172	20	251	18	174	19	575	19	474	24	524	22	471	24
	Redmoor Lane	Link Road	282	20	176	24	255	22	178	23	579	23	478	28	528	26	475	28
	Redmoor Lane	Cromwell Road	286	24	180	28	259	26	182	27	583	27	482	32	532	30	479	32
	Redmoor Lane	A47 (East)	290	28	184	32	263	30	186	31	587	31	486	36	536	34	483	36
	A47 (West)	Link Road	78	12	21	14	65	12	20	13	187	14	115	19	170	15	111	19
	A47 (West)	Cromwell Road	82	16	25	18	69	16	24	17	191	18	119	23	174	19	115	23
	A47 (West)	A47 (East)	86	20	29	22	73	20	28	21	195	22	123	27	178	23	119	27
	A47 (West)	Redmoor Lane	90	24	33	26	77	24	32	25	199	26	127	31	182	27	123	31
	Link Road	Cromwell Road	326	15	282	12	332	16	267	12	519	18	518	13	539	20	517	13
	Link Road	A47 (East)	330	19	286	16	336	20	271	16	523	22	522	17	543	24	521	17
	Link Road	Redmoor Lane	334	23	290	20	340	24	275	20	527	26	526	21	547	28	525	21
	Link Road	A47 (West)	338	27	294	24	344	28	279	24	531	30	530	25	551	32	529	25
A47 / Churchill Road	Churchill Road	A47 (East)	33	171	22	79	34	171	24	83	65	186	44	83	75	194	45	83
	Churchill Road	Outwell Road	38	176	27	84	39	176	29	88	70	191	49	88	80	199	50	88
	Churchill Road	A47 (West)	43	181	32	89	44	181	34	93	75	196	54	93	85	204	55	93
	A47 (East)	Outwell Road	129	24	122	19	130	23	124	19	200	140	205	79	198	136	206	76
	A47 (East)	A47 (West)	134	29	127	24	135	28	129	24	205	145	210	84	203	141	211	81
	A47 (East)	Churchill Road	139	34	132	29	140	33	134	29	210	150	215	89	208	146	216	86
	Outwell Road	A47 (West)	350	25	253	26	346	25	263	25	451	51	443	39	451	41	445	39
	Outwell Road	Churchill Road	355	30	258	31	351	30	268	30	456	56	448	44	456	46	450	44
	Outwell Road	A47 (East)	360	35	263	36	356	35	273	35	461	61	453	49	461	51	455	49
	A47 (West)	Churchill Road	11	25	12	150	11	31	12	147	11	37	11	155	11	55	11	158
	A47 (West)	A47 (East)	16	30	17	155	16	36	17	152	16	42	16	160	16	60	16	163
	A47 (West)	Outwell Road	21	35	22	160	21	41	22	157	21	47	21	165	21	65	21	168
New A47 Roundabout for Station Access	New Bridge Lane (North)	A47 (East)			12	13			10	11			12	13			10	11
	New Bridge Lane (North)	New Bridge Lane (South)							15	16							15	16
	New Bridge Lane (North)	A47 (West)			18	20			20	21			18	20			20	21
	A47 (East)	New Bridge Lane (South)							18	11							29	12
	A47 (East)	A47 (West)			19	13			23	16			30	13			34	17
	A47 (East)	New Bridge Lane (North)			26	20			28	21			36	20			39	22
	New Bridge Lane (South)	A47 (West)							16	14							18	14
	New Bridge Lane (South)	New Bridge Lane (North)							21	19							23	19
	New Bridge Lane (South)	A47 (East)							26	24							28	24
	A47 (West)	New Bridge Lane (North)			12	13			11	11			12	13			11	11
	A47 (West)	A47 (East)			19	19			16	16			19	19			16	16
	A47 (West)	New Bridge Lane (South)							21	21							21	21
A47 / Broadend Road	A47 (North)	Broadend Road (East)	6	6	6	6	6	6	6	6	6	7	6	6	6	7	6	6
	A47 (North)	A47 (South)	6	6	6	6	6	6	6	6	6	7	6	6	6	7	6	6
	A47 (North)	Broadend Road (West)	6	6	6	6	6	6	6	6	6	7	6	6	6	7	6	6
	Broadend Road (East)	A47 (South)	36	15	27	13	37	15	26	13	219	20	165	17	209	21	163	17
	Broadend Road (East)	Broadend Road (West)	36	15	27	13	37	15	26	13	219	20	165	17	209	21	163	17
	Broadend Road (East)	A47 (North)	36	15	27	13	37	15	26	13	219	20	165	17	209	21	163	17
	A47 (South)	Broadend Road (West)	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6
	A47 (South)	A47 (North)	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6
	A47 (South)	Broadend Road (East)	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6
	Broadend Road (West)	A47 (North)	11	25	11	20	11	26	11	20	10	30	10	20	10	31	10	19
	Broadend Road (West)	Broadend Road (East)	11	25	11	20	11	26	11	20	10	30	10	20	10	31	10	19
	Broadend Road (West)	A47 (South)	11	25	11	20	11	26	11	20	10	30	10	20	10	31	10	19

Links	From	To	2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 2		2031 Rail Test 4	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Cromwell Road Northbound	A47	Development access	21	76	17	66	21	72	17	64	21	61	18	68	22	70	18	65
	Development access	New Bridge Lane	18	4	7	4	16	4	7	4	37	3	9	4	39	3	18	65
	New Bridge Lane	Tesco site	35	235	36	264	35	248	36	265	37	360	42	298	38	336	18	65
	Tesco site	Sandown Road	28	239	28	146	28	245	28	145	29	413	29	412	29	413	18	65
	Sandown Road	Weasenham Lane	13	19	7	19	13	19	8	19	14	42	7	19	13	46	18	65
	Weasenham Lane	Barton Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	65
Cromwell Road Southbound	Barton Road	Weasenham Lane	109	59	94	49	104	59	96	49	105	87	97	55	107	92	18	65
	Weasenham Lane	Sandown Road	48	27	46	27	48	27	46	26	49	31	47	29	49	30	18	65
	Sandown Road	Tesco site	21	364	22	410	21	377	23	408	25	531	28	496	26	530	18	65
	Tesco site	New Bridge Lane	2	1	2	1	2	1	2	1	2	1	2	1	2	1	18	65
	New Bridge Lane	Development access	31	102	34	106	30	104	36	107	30	474	33	167	31	436	18	65

			Delay (seconds)															
			2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
Junction	From	To	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
	Development access	A47	24	513	21	187	24	527	21	191	26	578	21	503	26	596	18	65
Churchill Road Northbound	A47	B&Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	65
	B&Q	Weasenham Lane	70	100	61	87	69	101	61	87	56	100	66	88	57	105	18	65
	Weasenham Lane	Elm Road	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	65
	Elm Road	Norwich Road	35	69	34	46	30	74	34	50	32	80	35	42	32	78	18	65
	Norwich Road	Stermyn Street	16	47	10	29	15	46	10	29	23	50	15	26	22	50	18	65
	Stermyn Street	Whitby Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	65
	Whitby Street	Lynn Road	17	18	17	20	17	18	17	20	17	18	16	21	17	17	18	65
Churchill Road Southbound	Lynn Road	Whitby Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	65
	Whitby Street	Stermyn Street	10	17	5	16	9	18	5	16	14	20	7	14	14	20	18	65
	Stermyn Street	Norwich Road	35	25	39	23	37	25	37	23	36	21	36	20	36	21	18	65
	Norwich Road	Elm Road	16	12	12	16	18	12	12	16	17	11	12	13	20	10	18	65
	Elm Road	Weasenham Lane	86	67	70	67	80	65	68	67	87	61	82	66	84	62	18	65
	Weasenham Lane	B&Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	65
	B&Q	A47	40	176	30	84	41	177	32	88	72	192	52	88	83	199	18	65
Western Link N/b	A47	West Wisbech Site	5	6	5	7	5	6	5	7	6	10	6	12	6	10	18	65
	West Wisbech Site	Barton Road	5	8	5	9	5	8	5	9	6	17	6	20	6	18	18	65
	Barton Road	Leverington Common									0	0	0	0	0	0	18	65
Western Link S/b	Leverington Common	Barton Road									11	7	13	7	12	7	18	65
	Barton Road	West Wisbech Site	7	8	7	6	7	8	7	6	7	9	7	7	7	9	18	65
	West Wisbech Site	A47	331	22	286	18	336	23	272	18	524	24	522	20	544	26	18	65

			Flow to Capacity Ratio (%)								
			2020 (NO RAIL)			2026 (NO RAIL)			2031 (NO RAIL)		
Junction	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
A47 / Cromwell Road	Cromwell Road	A47 (East)	16	43	107	46	101	126	63	104	129
	Cromwell Road	Redmoor Lane	2	22	107	10	101	126	18	104	129
	Cromwell Road	A47 (West)	40	61	107	68	101	126	76	104	129
	Cromwell Road	Link Road				40	101	126	62	104	129
	A47 (East)	Redmoor Lane	0	0	0	0	0	0	0	0	0
	A47 (East)	A47 (West)	89	83	76	100	76	67	101	97	79
	A47 (East)	Link Road				89	17	15	101	74	38
	A47 (East)	Cromwell Road	71	67	51	99	60	34	101	91	42
	Redmoor Lane	A47 (West)	36	4	0	111	7	0	127	42	0
	Redmoor Lane	Link Road				111	20	16	127	57	24
	Redmoor Lane	Cromwell Road	63	13	5	111	25	7	127	67	10
	Redmoor Lane	A47 (East)	0	0	0	111	0	0	127	0	0
	A47 (West)	Link Road				102	45	54	107	66	80
	A47 (West)	Cromwell Road	72	47	87	102	46	43	107	62	51
	A47 (West)	A47 (East)	78	59	94	102	64	79	107	78	89
	A47 (West)	Redmoor Lane	1	3	27	102	3	8	107	6	17
	Link Road	Cromwell Road				115	66	42	125	102	59
	Link Road	A47 (East)				115	44	48	125	102	70
	Link Road	Redmoor Lane				115	25	31	125	102	47
	Link Road	A47 (West)				115	69	59	125	102	74
A47 / Churchill Road	Churchill Road	A47 (East)	31	39	106	73	32	107	102	99	109
	Churchill Road	Outwell Road	84	88	106	96	78	107	102	100	109
	Churchill Road	A47 (West)	84	72	106	96	43	107	102	100	109
	A47 (East)	Outwell Road	95	22	74	105	26	76	108	101	105
	A47 (East)	A47 (West)	99	80	92	105	79	92	108	101	105
	A47 (East)	Churchill Road	94	19	41	105	17	32	108	101	105
	Outwell Road	A47 (West)	108	97	86	117	94	82	122	106	99
	Outwell Road	Churchill Road	108	98	93	117	96	88	122	106	99
	Outwell Road	A47 (East)	108	87	76	117	79	72	122	106	98
	A47 (West)	Churchill Road	14	11	71	10	16	97	13	16	101
	A47 (West)	A47 (East)	51	54	93	49	67	100	47	66	101
	A47 (West)	Outwell Road	27	34	86	26	50	99	29	43	101
New A47 Roundabout for Station Access	New Bridge Lane (North)	A47 (East)									
	New Bridge Lane (North)	New Bridge Lane (South)									
	New Bridge Lane (North)	A47 (West)									
	A47 (East)	New Bridge Lane (South)									
	A47 (East)	A47 (West)									
	A47 (East)	New Bridge Lane (North)									
	New Bridge Lane (South)	A47 (West)									
	New Bridge Lane (South)	New Bridge Lane (North)									
	New Bridge Lane (South)	A47 (East)									
	A47 (West)	New Bridge Lane (North)									
	A47 (West)	A47 (East)									
	A47 (West)	New Bridge Lane (South)									
A47 / Broadend Road	A47 (North)	Broadend Road (East)	5	4	10	9	4	10	22	6	15
	A47 (North)	A47 (South)	56	45	54	61	49	56	64	59	68
	A47 (North)	Broadend Road (West)	8	8	15	13	9	18	14	14	29
	Broadend Road (East)	A47 (South)	0	0	0	41	0	0	109	0	0
	Broadend Road (East)	Broadend Road (West)	60	20	38	87	18	41	109	43	49
	Broadend Road (East)	A47 (North)	48	10	20	82	11	22	109	20	31
	A47 (South)	Broadend Road (West)	5	5	14	6	9	23	7	14	34
	A47 (South)	A47 (North)	38	36	50	42	43	53	36	47	53
	A47 (South)	Broadend Road (East)	0	0	0	0	0	0	0	0	0

			Flow to Capacity Ratio (%)								
			2020 (NO RAIL)			2026 (NO RAIL)			2031 (NO RAIL)		
Junction	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
	Broadend Road (West)	A47 (North)	20	19	69	22	23	78	27	35	88
	Broadend Road (West)	Broadend Road (East)	19	10	80	21	11	67	25	26	83
	Broadend Road (West)	A47 (South)	32	22	83	18	28	76	2	38	86

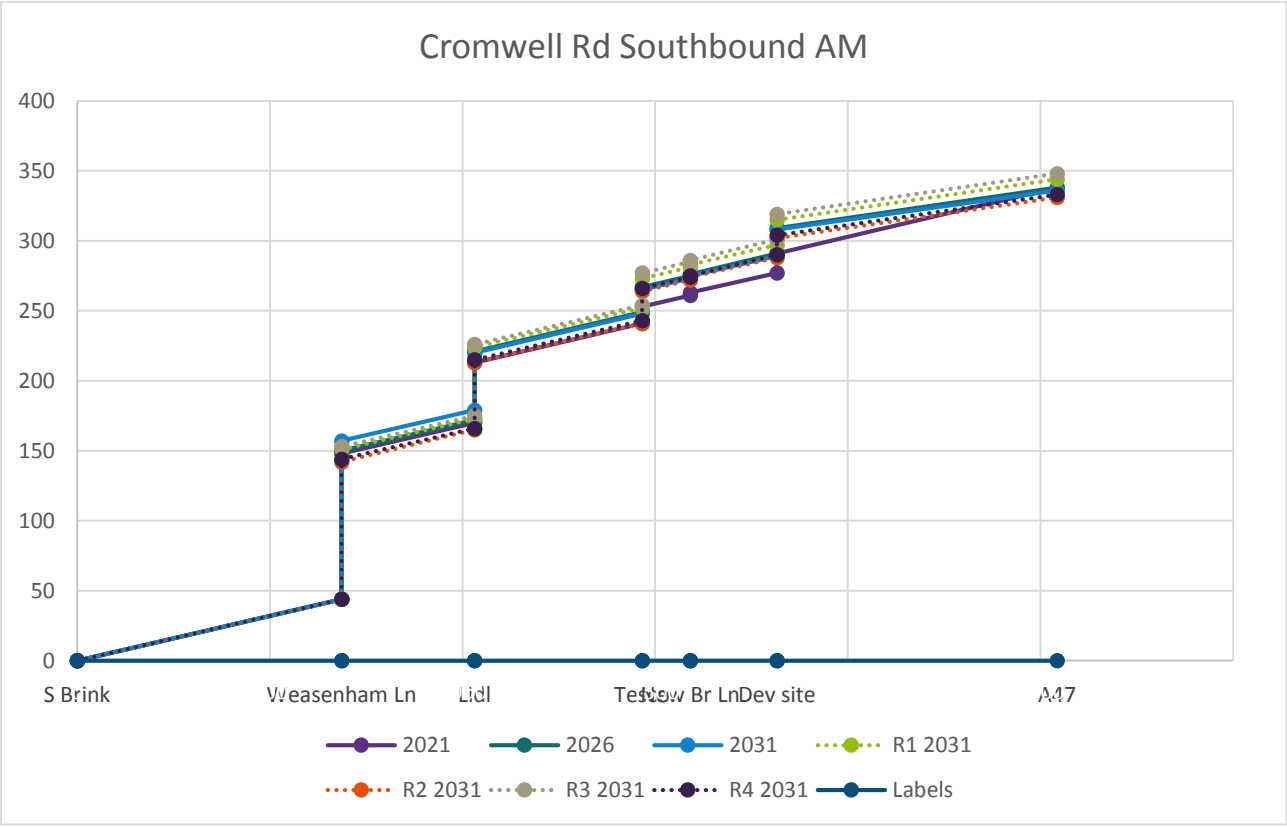
			2020			2026			2031		
Links	From	To	AM	IP	PM	AM	IP	PM	AM	IP	PM
Cromwell Road Northbound	A47	Development access	40	33	31	77	54	50	76	57	47
	Development access	New Bridge Lane	40	35	35	44	43	48	43	45	46
	New Bridge Lane	Tesco site	56	68	74	47	69	84	52	70	106
	Tesco site	Sandown Road	67	86	87	52	86	96	45	89	105
	Sandown Road	Weasenham Lane	46	64	70	31	58	61	26	60	68
	Weasenham Lane	Barton Road	33	46	51	22	40	56	18	41	67
Cromwell Road Southbound	Barton Road	Weasenham Lane	49	46	40	48	35	35	47	37	47
	Weasenham Lane	Sandown Road	50	62	47	50	45	26	49	51	31
	Sandown Road	Tesco site	58	54	49	68	43	28	70	40	27
	Tesco site	New Bridge Lane	21	18	16	26	14	9	29	13	10
	New Bridge Lane	Development access	29	38	44	44	43	50	46	41	62
	Development access	A47	47	72	107	81	101	126	89	104	129
Churchill Road Northbound	A47	B&Q	6	6	7	4	5	6	5	5	6
	B&Q	Weasenham Lane	72	75	90	59	71	87	55	77	91
	Weasenham Lane	Elm Road	11	13	17	9	11	10	9	11	9
	Elm Road	Norwich Road	30	32	34	28	27	22	24	26	18
	Norwich Road	Stermyn Street	61	46	77	37	41	66	43	41	60
	Stermyn Street	Whitby Street	20	23	31	15	20	24	15	20	22
	Whitby Street	Lynn Road	62	67	91	46	60	66	47	61	61
Churchill Road Southbound	Lynn Road	Whitby Street	28	21	20	18	11	12	21	12	13
	Whitby Street	Stermyn Street	32	32	33	22	18	20	25	19	23
	Stermyn Street	Norwich Road	80	71	70	72	51	52	74	51	50
	Norwich Road	Elm Road	24	19	17	20	9	9	21	11	9
	Elm Road	Weasenham Lane	71	55	66	77	28	45	58	43	48
	Weasenham Lane	B&Q	8	8	7	9	6	7	9	8	7
	B&Q	A47	92	92	106	98	83	107	102	100	109
Western Link N/b	A47	West Wisbech Site				26	47	50	37	63	79
	West Wisbech Site	Barton Road				27	52	60	39	72	93
	Barton Road	Leverington Common							3	5	5
Western Link S/b	Leverington Common	Barton Road							72	69	49
	Barton Road	West Wisbech Site				55	77	69	59	84	74
	West Wisbech Site	A47				115	84	78	125	102	88

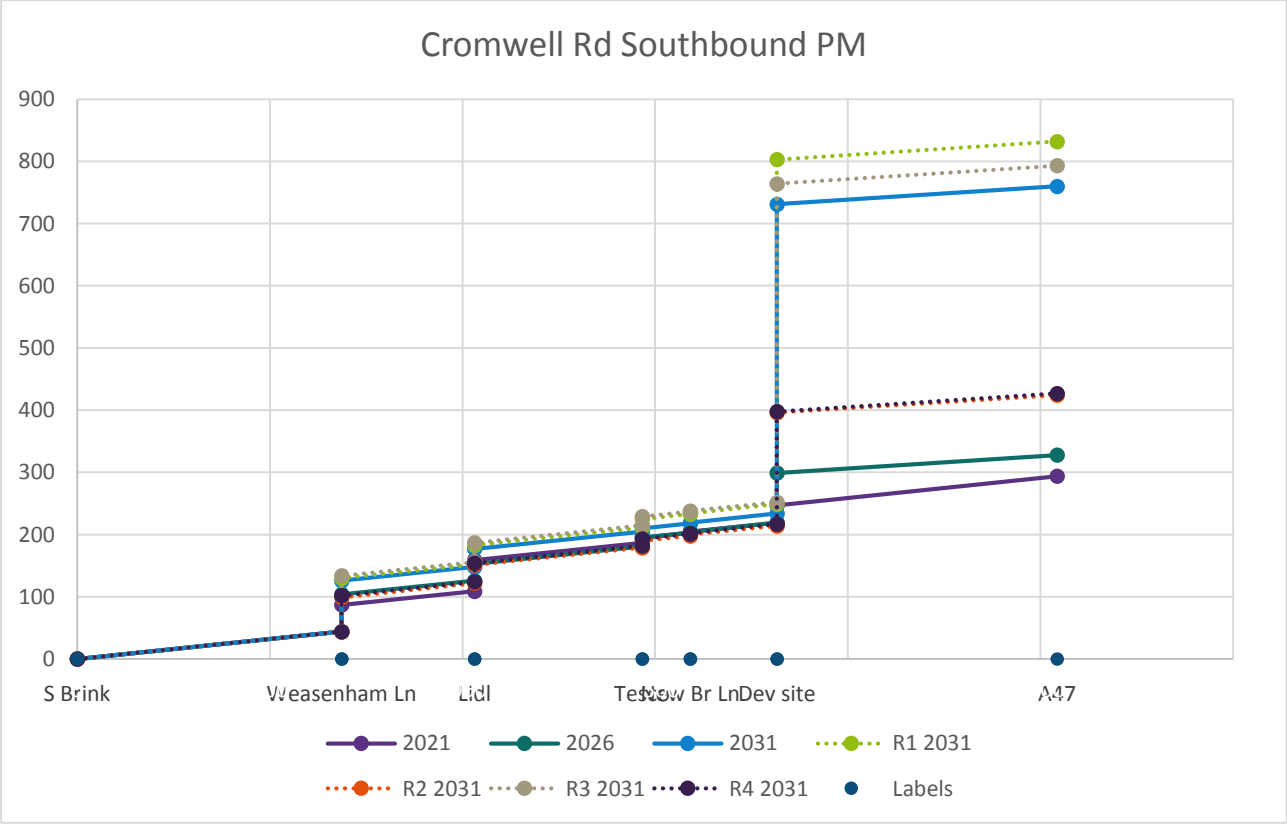
			Flow to Capacity Ratio (%)															
			2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
Junction	From	To	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
A47 / Cromwell Road	Cromwell Road	A47 (East)	44	125	15	107	46	126	17	107	58	128	20	124	57	129	24	124
	Cromwell Road	Redmoor Lane	9	125	4	107	10	126	5	107	15	128	6	124	16	129	6	124
	Cromwell Road	A47 (West)	66	125	36	107	68	126	38	107	72	128	39	124	72	129	41	124
	Cromwell Road	Link Road	38	125	23	107	40	126	23	107	57	128	29	124	54	129	31	124
	A47 (East)	Redmoor Lane	0	0	0	15	98	0	0	14	0	0	0	102	100	0	0	102
	A47 (East)	A47 (West)	98	67	84	89	100	67	83	88	100	79	90	102	100	79	89	102
	A47 (East)	Link Road	58	15	17	55	97	15	16	53	100	39	33	102	100	40	31	102
	A47 (East)	Cromwell Road	97	34	73	56	100	33	72	53	100	42	83	102	100	43	82	102
	Redmoor Lane	A47 (West)	110	0	105	0	108	0	105	0	126	0	121	4	124	0	121	4
	Redmoor Lane	Link Road	110	16	105	20	108	26	105	20	126	24	121	30	124	37	121	30
	Redmoor Lane	Cromwell Road	110	7	105	9	108	8	105	9	126	10	121	13	124	13	121	13
	Redmoor Lane	A47 (East)	110	0	105	0	108	7	105	0	126	0	121	0	124	10	121	0
	A47 (West)	Link Road	102	52	72	62	102	55	71	61	108	76	105	89	108	81	104	89
	A47 (West)	Cromwell Road	102	41	87	42	102	44	87	41	108	45	105	71	108	55	104	70
	A47 (West)	A47 (East)	102	77	93	86	102	80	93	85	108	86	105	95	108	90	104	95
	A47 (West)	Redmoor Lane	102	8	3	31	102	9	2	30	108	14	105	64	108	20	104	63
	Link Road	Cromwell Road	115	39	112	26	115	42	112	27	126	57	126	40	127	64	126	39
	Link Road	A47 (East)	115	45	112	9	115	47	112	9	126	66	126	25	127	71	126	24
	Link Road	Redmoor Lane	115	28	112	17	115	30	112	17	126	42	126	29	127	48	126	29
	Link Road	A47 (West)	115	55	112	29	115	58	112	29	126	70	126	45	127	76	126	45
A47 / Churchill Road	Churchill Road	A47 (East)	74	107	8	101	75	107	8	101	101	107	99	101	102	108	100	101
	Churchill Road	Outwell Road	96	107	75	101	97	107	79	101	101	107	100	101	102	108	100	101
	Churchill Road	A47 (West)	96	107	80	101	97	107	84	101	101	107	100	101	102	108	100	101
	A47 (East)	Outwell Road	105	75	105	62	105	75	105	60	109	106	109	102	109	105	109	102
	A47 (East)	A47 (West)	105	91	105	86	105	91	105	85	109	106	109	102	109	105	109	102
	A47 (East)	Churchill Road	105	32	105	20	105	31	105	15	109	106	109	102	109	105	109	102
	Outwell Road	A47 (West)	117	83	111	88	116	83	112	87	122	100	122	99	122	100	122	99
	Outwell Road	Churchill Road	117	89	111	90	116	89	112	89	122	100	122	99	122	100	122	99
	Outwell Road	A47 (East)	117	72	111	75	116	72	112	72	122	100	122	97	122	99	122	98
	A47 (West)	Churchill Road	9	81	12	107	10	98	12	106	13	100	10	107	12	101	11	107
	A47 (West)	A47 (East)	48	96	58	107	49	100	59	106	46	100	52	107	46	101	53	107
	A47 (West)	Outwell Road	26	93	42	107	26	99	43	106	28	100	41	107	28	101	42	107
New A47 Roundabout for Station Access	New Bridge Lane (North)	A47 (East)			18	48			19	46			21	51			21	50
	New Bridge Lane (North)	New Bridge Lane (South)							0	0							1	0
	New Bridge Lane (North)	A47 (West)			17	36			18	35			19	36			20	34
	A47 (East)	New Bridge Lane (South)							19	0							31	0
	A47 (East)	A47 (West)			86	58			86	57			93	64			94	63
	A47 (East)	New Bridge Lane (North)			56	16			56	16			81	17			81	15
	New Bridge Lane (South)	A47 (West)							0	0							0	0
	New Bridge Lane (South)	New Bridge Lane (North)							0	9							0	10
	New Bridge Lane (South)	A47 (East)							0	1							0	1
	A47 (West)	New Bridge Lane (North)			16	30			16	30			15	33			15	33
	A47 (West)	A47 (East)			47	55			47	55			44	53			44	53
	A47 (West)	New Bridge Lane (South)							0	0							0	0
A47 / Broadend Road	A47 (North)	Broadend Road (East)	9	10	8	10	10	10	8	10	22	16	23	13	22	16	23	13
	A47 (North)	A47 (South)	61	55	62	54	61	55	61	53	64	68	65	63	64	68	65	63
	A47 (North)	Broadend Road (West)	12	18	11	17	13	18	11	17	13	27	16	23	14	28	16	23
	Broadend Road (East)	A47 (South)	36	0	2	0	33	0	1	0	109	0	106	0	108	0	106	0
	Broadend Road (East)	Broadend Road (West)	84	39	71	28	85	39	69	27	109	47	106	35	108	48	106	35
	Broadend Road (East)	A47 (North)	78	21	63	18	79	21	61	18	109	30	106	25	108	31	106	25
	A47 (South)	Broadend Road (West)	6	20	6	17	6	23	6	18	6	31	8	24	7	32	8	24
	A47 (South)	A47 (North)	42	53	43	62	42	53	43	62	35	51	41	60	36	52	41	60
	A47 (South)	Broadend Road (East)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Broadend Road (West)	A47 (North)	21	76	22	35	23	77	21	35	27	86	22	43	27	88	22	42
	Broadend Road (West)	Broadend Road (East)	20	65	18	48	22	67	18	48	24	81	20	47	26	83	20	46
	Broadend Road (West)	A47 (South)	14	76	19	60	21	76	16	60	0	84	0	62	6	86	0	62

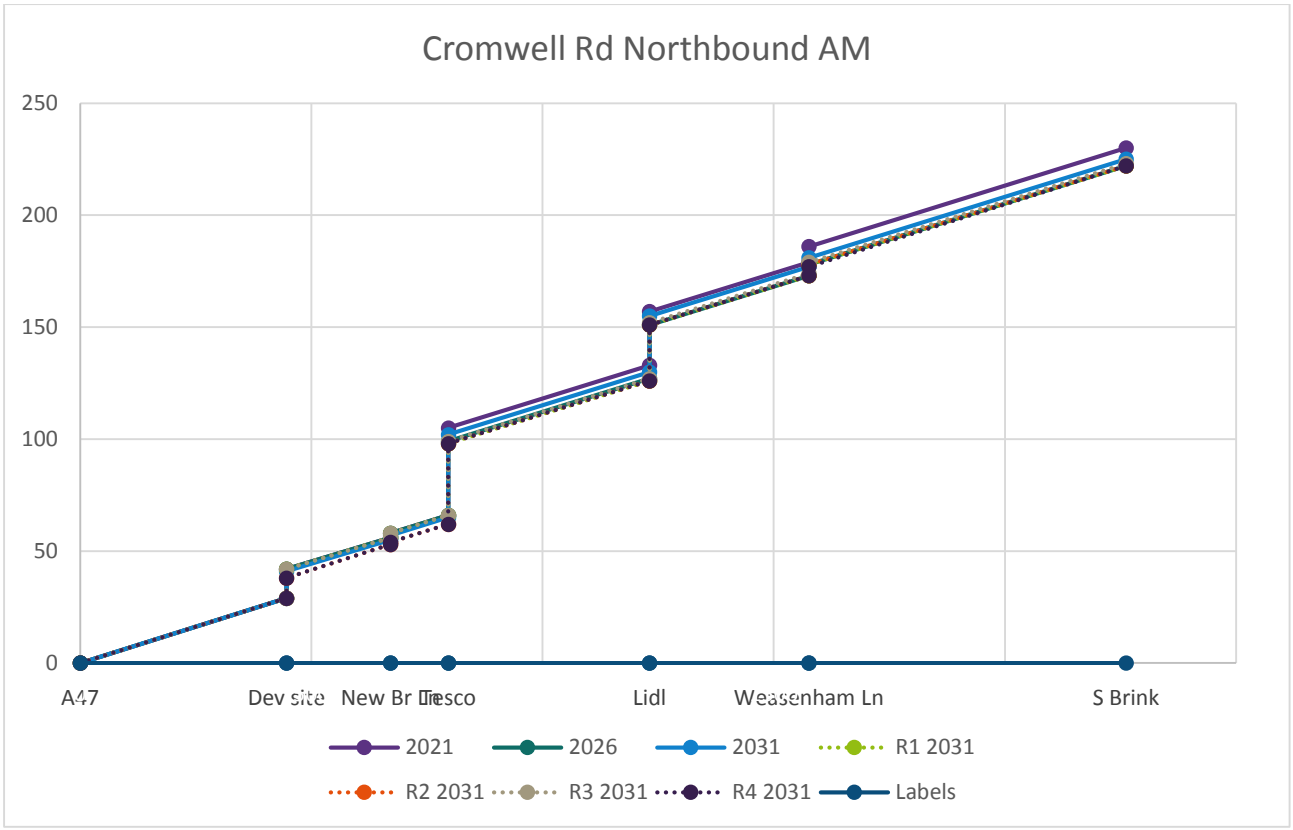
			2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
Links	From	To	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Cromwell Road Northbound	A47	Development access	77	50	64	48	77	50	64	48	77	47	66	49	77	49	66	48
	Development access	New Bridge Lane	45	48	33	45	44	48	33	45	44	45	34	47	44	46	34	46
	New Bridge Lane	Tesco site	47	84	45	80	47	84	46	80	45	112	47	96	46	109	47	95
	Tesco site	Sandown Road	53	96	47	90	53	96	47	91	46	105	42	105	47	105	42	105
	Sandown Road	Weasenham Lane	31	61	28	63	31	61	28	63	26	71	25	61	27	72	24	61
	Weasenham Lane	Barton Road	22	56	22	50	22	56	22	50	18	66	19	49	19	67	19	49
Cromwell Road Southbound	Barton Road	Weasenham Lane	48	35	48	28	48	35	48	28	48	46	48	32	48	48	48	33
	Weasenham Lane	Sandown Road	51	26	49	26	50	26	49	26	51	29	50	29	51	29	50	29
	Sandown Road	Tesco site	69	28	67	28	68	28	67	28	73	31	73	29	74	30	73	29
	Tesco site	New Bridge Lane	26	9	25	9	26	10	25	9	28	10	26	9	27	10	26	9
	New Bridge Lane	Development access	43	53	28	55	44	53	29	55	45	63	31	60	46	62	32	60
	Development access	A47	79	125	53	107	81	126	55	107	86	128	59	124	86	129	62	124
	A47	B&Q	4	6	3	4	4	6	3	4	5	6	3	4	4	6	3	4

			Flow to Capacity Ratio (%)															
			2026 Rail Test 1		2026 Rail Test 2		2026 Rail Test 3		2026 Rail Test 4		2031 Rail Test 1		2031 Rail Test 2		2031 Rail Test 3		2031 Rail Test 4	
Junction	From	To	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Churchill Road Northbound	B&Q	Weasenham Lane	59	87	53	80	59	87	53	79	53	90	42	82	55	91	42	82
	Weasenham Lane	Elm Road	9	12	8	17	9	10	8	17	9	9	8	18	9	8	8	19
	Elm Road	Norwich Road	29	24	31	31	29	22	31	32	23	17	25	33	24	17	25	33
	Norwich Road	Stermyn Street	38	68	31	56	37	62	31	56	45	60	35	55	43	59	35	58
	Stermyn Street	Whitby Street	15	25	15	26	15	24	15	26	15	21	15	26	15	20	15	26
	Whitby Street	Lynn Road	45	70	47	76	46	65	46	77	47	59	46	80	47	57	46	81
Churchill Road Southbound	Lynn Road	Whitby Street	19	12	17	9	18	12	16	9	23	13	21	13	21	13	21	13
	Whitby Street	Stermyn Street	23	20	21	18	22	19	21	18	27	24	26	23	25	25	26	24
	Stermyn Street	Norwich Road	73	51	77	45	75	50	74	45	78	50	81	46	76	50	80	46
	Norwich Road	Elm Road	21	9	21	7	21	9	20	7	22	9	22	7	21	9	22	7
	Elm Road	Weasenham Lane	79	46	73	32	76	44	71	32	63	50	85	38	62	52	85	36
	Weasenham Lane	B&Q	9	7	7	6	9	7	7	6	9	7	8	5	9	7	8	6
	B&Q	A47	98	107	88	101	98	107	90	101	101	107	100	101	102	108	100	101
Western Link N/b	A47	West Wisbech Site	26	50	29	63	26	52	29	63	36	77	40	82	35	79	40	82
	West Wisbech Site	Barton Road	27	60	30	73	27	62	30	72	37	92	42	94	37	94	42	95
	Barton Road	Leverington Common									3	6	3	6	3	6	3	6
Western Link S/b	Leverington Common	Barton Road									66	46	72	41	69	46	73	41
	Barton Road	West Wisbech Site	54	68	62	47	55	69	62	47	57	72	62	57	58	73	62	57
	West Wisbech Site	A47	115	75	112	51	115	77	112	51	126	86	126	69	127	89	126	69

Appendix C. Journey time graphs



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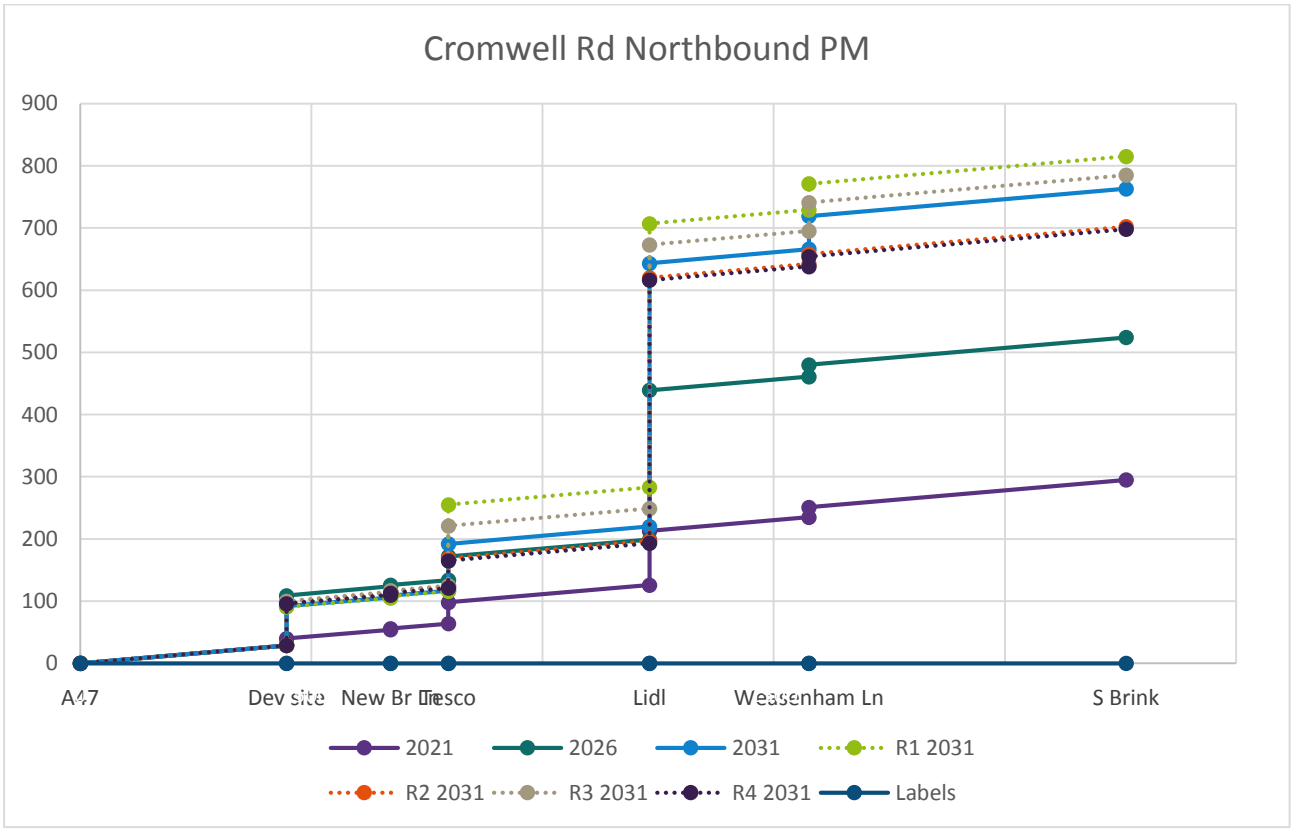
200
150
100
50
0
A47
Dev site
New Br Dr
Tesco
Lidl
Weasenham Ln
S Brink
2021
2026
2031
R1 2031
R2 2031
R3 2031
R4 2031
Labels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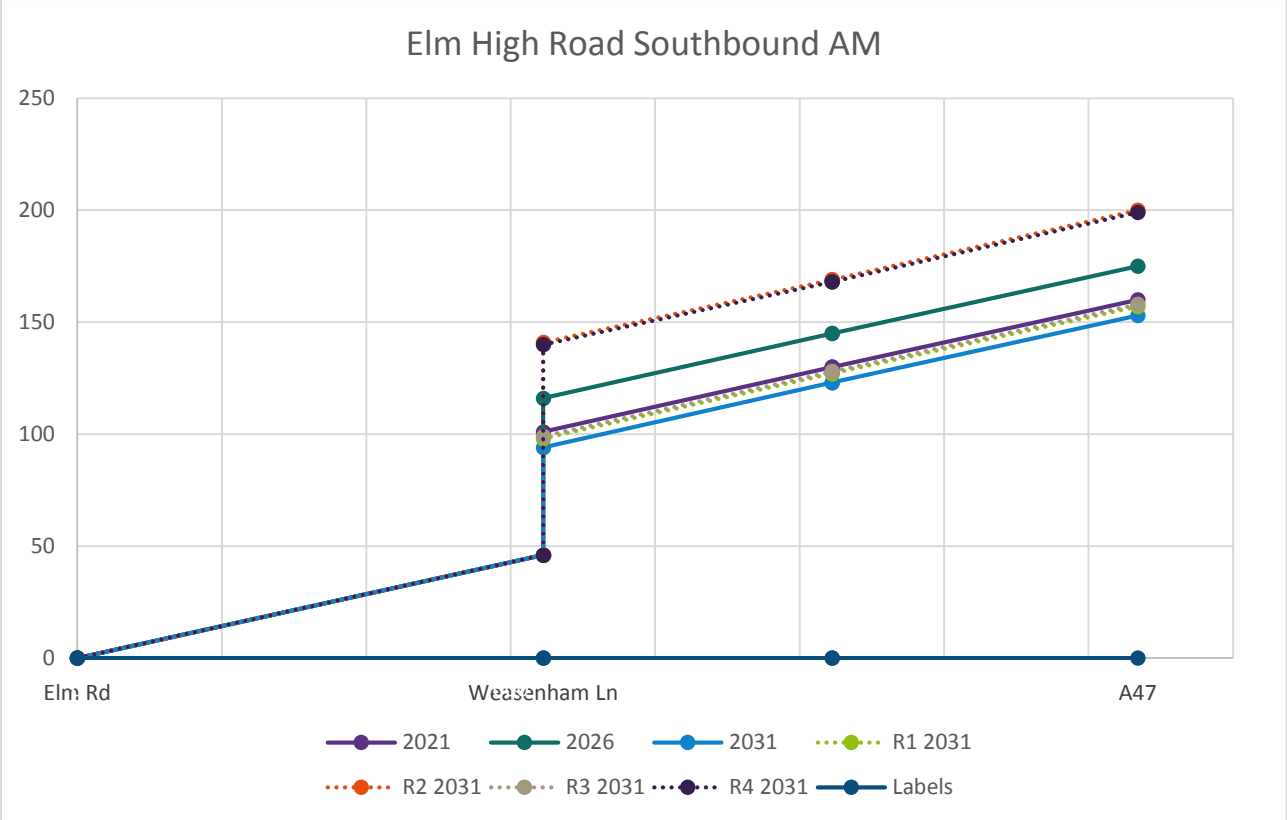
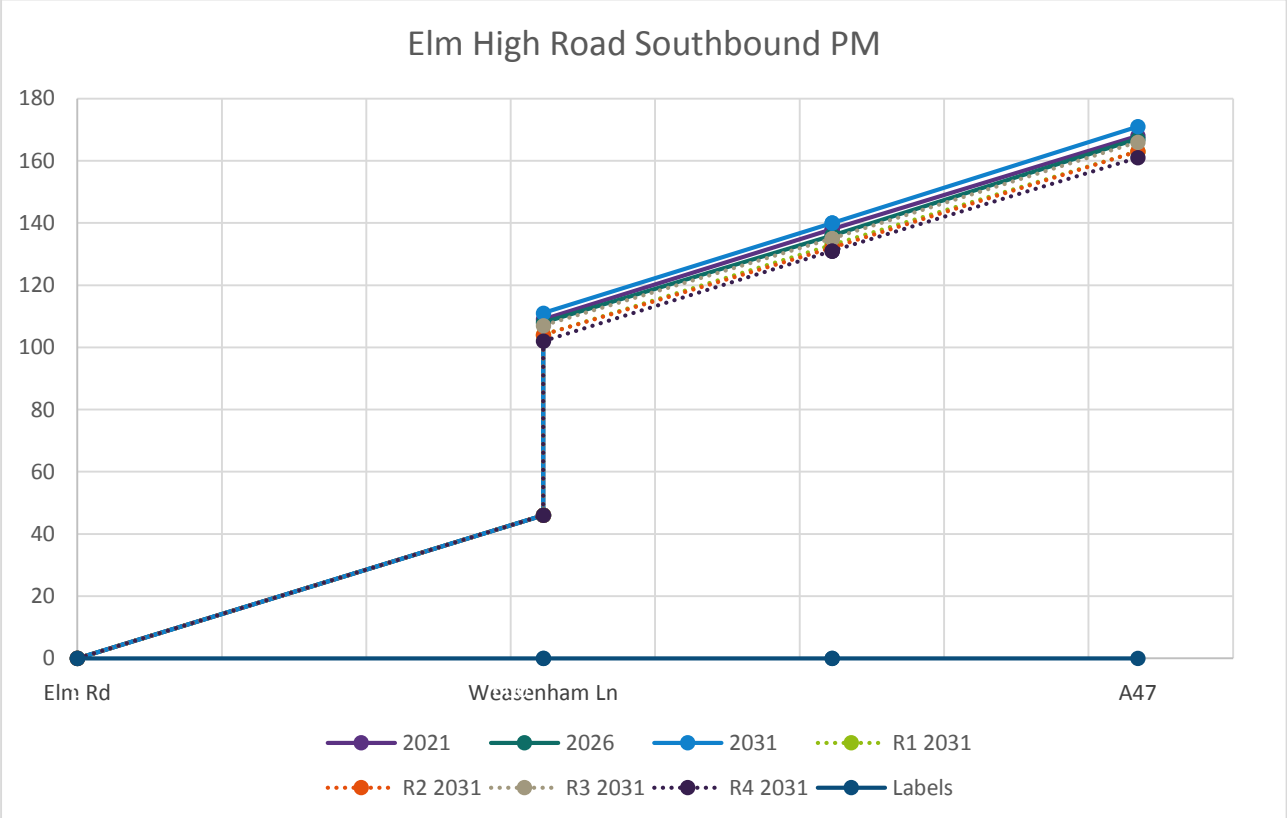
800
700
600
500
400
300
200
100
0
A47
Dev site
New Br Dr
Tesco
Lidl
Weasenham Ln
S Brink
2021
2026
2031
R1 2031
R2 2031
R3 2031
R4 2031
Labels


Elm High Road Southbound AM
250
200
150
100
50
0
Elm Rd
Weasenham Ln
A47
2021
2026
2031
R1 2031
R2 2031
R3 2031
R4 2031
Labels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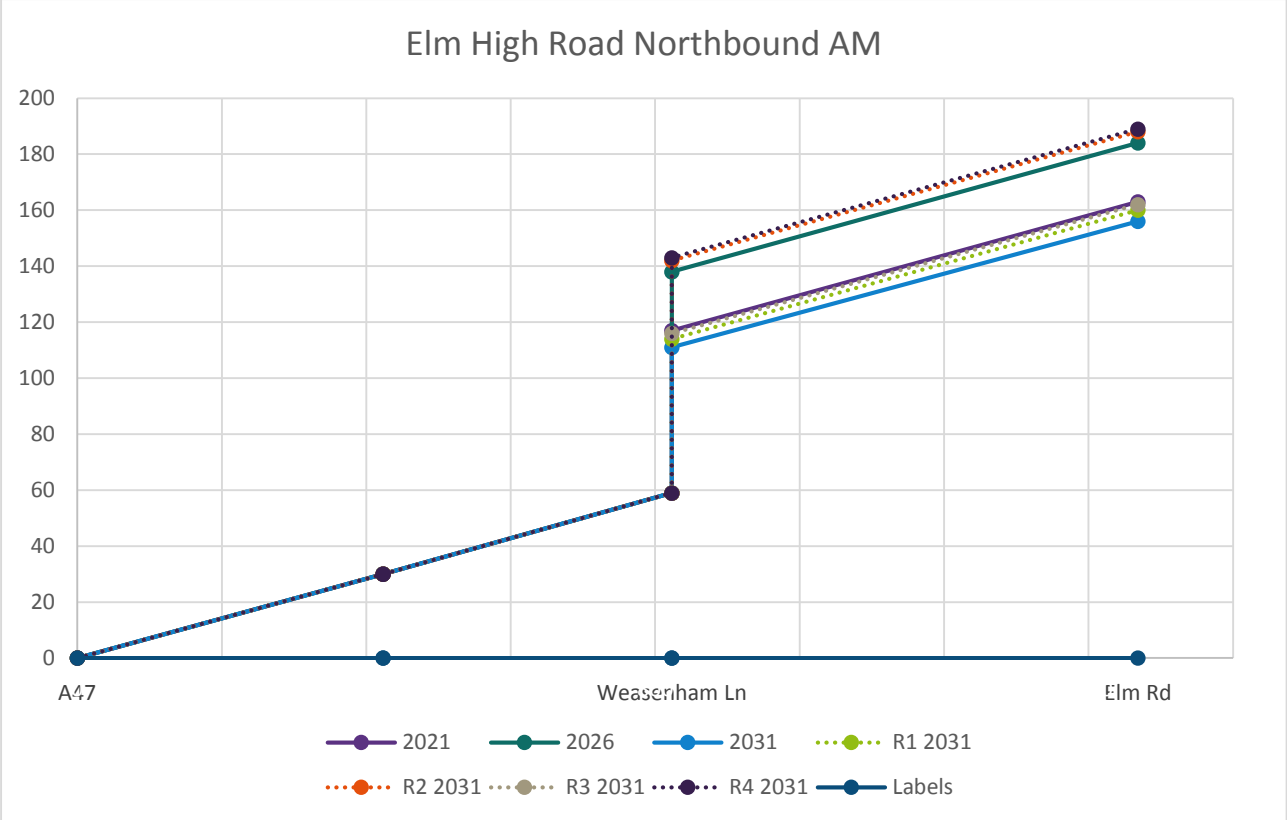
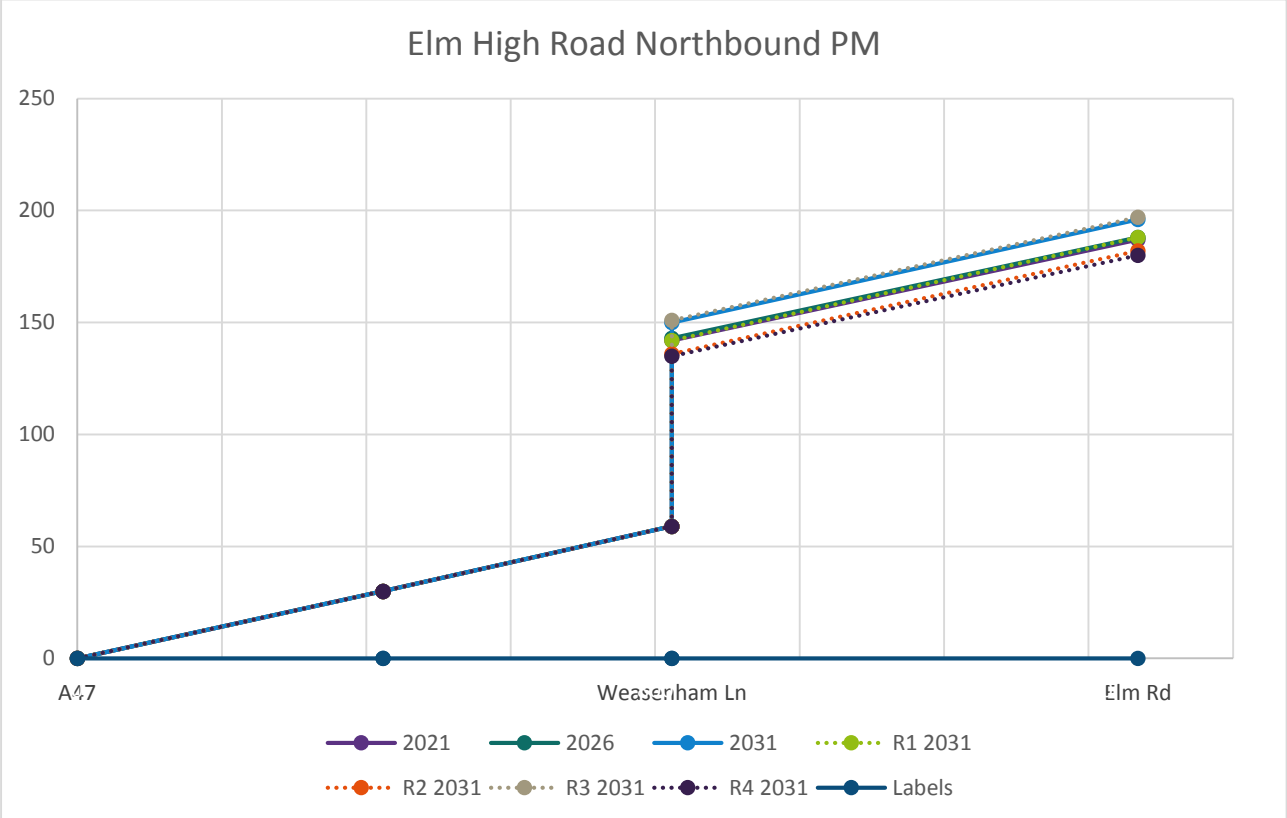
180
160
140
120
100
80
60
40
20
0
Elm Rd
Weasenham Ln
A47
2021
2026
2031
R1 2031
R2 2031
R3 2031
R4 2031
Labels


Elm High Road Northbound AM
200
180
160
140
120
100
80
60
40
20
0
A47
Weasenham Ln
Elm Rd
2021
2026
2031
R1 2031
R2 2031
R3 2031
R4 2031
Labels


Elm High Road Northbound PM
250
200
150
100
50
0
A47
Weasenham Ln
Elm Rd
2021
2026
2031
R1 2031
R2 2031
R3 2031
R4 2031
Labels

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