TETRA TECH

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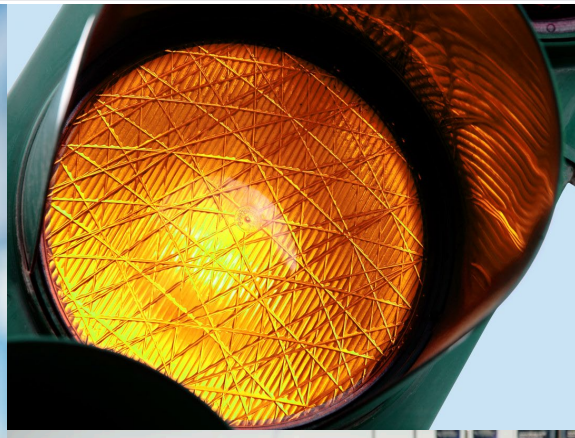
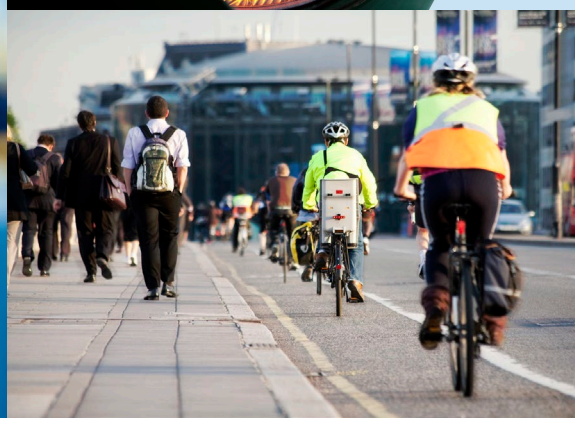
Uttlesford Transport Study

784-B029347

Pre Reg 19 Model Outputs: Saffron Walden





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1.1 OVERVIEW

1.1.1 This technical note details the impacts of Uttlesford Local Plan development on the performance of the road network in Saffron Walden. **It builds upon previous analysis to focus on the revised allocations now envisaged to come forward in the Regulation 19 iteration of the Local Plan.**

1.1.2 It also examines the ability of supporting interventions to mitigate Local Plan development impacts on the corridor, together with the wider changes in travel demand that the area will face by 2040.

1.2 DEVELOPMENT SITES MODELLED & PROPOSALS IN THE LOCAL PLAN

1.2.1 The following sites and quantum of housing were modelled and assessed in Saffron Walden:

- 001 RES – Land east of Shire Hill Farm and south of Radwinter Road.
- 003 RES – Land south of Radwinter Road, (East of Griffin Place).
- 008 RES – Land north-east of Thaxted Road, Saffron Walden.
- 037 RES – Land to the south of Debden Road.

1.2.2 Together the sites can accommodate some 900 dwellings.

1.2.3 No new sites for employment provision are proposed.

1.2.4 No new sites for education provision are proposed.

1.3 PERMITTED DEVELOPMENT

1.3.1 The overall volume of growth envisaged to come forward through the Local Plan is now less than that previously modelled. This is due to the site at [INSERT – Radwinter Road?] being granted planning permission for XXX dwellings in 2023.

1.3.2 The impact of this site on the future performance of the highway network are captured in the Reference Case scenario.

1.4 SCENARIOS & FOCUS OF ASSESSMENT

1.4.1 The assessment of the impacts of Local Plan development has been undertaken using the Saffron Walden VISUM Model. Technical details of the model and the methodology applied in the assessment of the network are described in separate technical notes.

1.4.2 Four scenarios have been assessed focusing upon the AM and PM peak periods for the following scenarios:

- Base Year (2021)
- Reference Case (2040)
- Local Plan Growth (2040)
- Mitigation Package – sustainable transport interventions plus junction capacity improvements (2040)

1.4.3 The assessment of the performance of the corridor is based upon the following metrics:

- The volume of traffic.
- Journey times and the associated speed of traffic.
- Junction delays.

1.5 FURTHER READING

1.5.1 This technical note focuses on the performance of the A120 corridor. It should be read in conjunction with the following technical notes:

- TN110 | Uttlesford Transport Study Baseline Report
- TN401 | Strategic Impacts Technical Note
- TN402 | Saffron Walden Model Outputs Technical Note.
- TN403 | Great Dunmow Model Outputs Technical Note.
- TN404 | Takeley Model Outputs Technical Note.
- TN405 | Stansted Mountfitchet Model Outputs Technical Note.
- TN406 | Thaxted & Newport Model Outputs Technical Note.
- TN407 | A120 Corridor Model Outputs Technical Note.

2.0 PROPOSED MITIGATION

2.1 INTERVENTIONS

2.1.1 Following the identification of the impacts of the Local Plan related growth a series of interventions were agreed. These sought to maximise the future role of sustainable transport in accommodating future demand, and only when realistic opportunities had been exhausted were further capacity enhancements considered.

2.1.2 The resultant package of interventions to come forward within the town are detailed within **Table 2-1**.

Table 2-1: Proposed Interventions in Saffron Walden

Ref	Proposal
Traffic Management	
TM.03	**Gateway Features - all routes into the town centre:** Provide gateway features, using alternative surface markings on the and visual narrowing of the carriageway.
TM.06	**Junction Improvements - Reconfiguration (Fairycroft Road - Common Hill - Hill Street):** Remove left turn movement from Fairycroft Road to Common Hill and from Hill Street to Common Hill (except for buses) to enable the creation of a priority give-way junction in place of the current roundabout.
TM.07	**Junction Improvements - Traffic Signals (London Road - Audley Road):** Provision of signals at the junction of Audley Road and London Road.
TM.08	**Junction Improvements - Traffic Signals (London Road - Newport Road):** Provision of signals at the junction of Audley End Road / Newport Road / London Road / Borough Road.
TM.09	**Junction Improvements - Traffic Signals (Radwinter Road):** Provision of signals at the junction of Radwinter Road and Leverett Way.
TM.10	**Junction Improvements - Traffic Signals (Thaxted Road - Peaslands Road):** Provision of signals at the junction of Thaxted Road and Peaslands Road (set to be delivered through committed scheme) but also include left turn filter for westbound traffic.
TM.13	**Junction Improvements - Traffic Signals (Windmill Hill):** Provision of signals at the junction of Windmill Hill (B184) and Bridge Street. Provide priority access to New Pond Lane (for access to Swan Meadow). Minimise inter-green time for northbound traffic.
TM.15	**One-Way Traffic (Borough Lane):** Make Borough Lane one-way (westbound) between Debden Road and Newport Road.
TM.17	**One-Way Traffic (Debden Road):** Make Debden Road one-way (southbound) between London Road and Borough Lane.
TM.22	**Pedestrianisation (Church Street):** Remove general traffic, allowing access, cycling and buses only. Resurface with high quality materials and provide associated public amenities.
TM.24	**Pedestrianisation (Market Square, Market Hill, Market Row, King Street):** Permanently ban traffic and remove car parking. Resurface with high quality materials and provide associated public amenities.
TM.25	**Signage of Strategic Movements:** Promote the use of Peaslands Road - Mount Pleasant Road - Borough Lane - Debden Road for strategic east-west movements.
Freight	
FR.02	**Clear Zone (commuting focus):** Prohibit deliveries within the town centre during peak commuting times (8am - 9am and 5pm - 6pm).
FR.04	**Community Cargo Bike:** Resource to encourage the use of cycle based freight logistics.
FR.05	**Delivery / Package Collection Points:** Wider roll out of 'deposit boxes' for the delivery of personal items in such as those provided by Amazon.

Ref	Proposal
FR.12	**Strategic Signing of Freight Routes:** Encourage alternative routing for freight movements without an origin or destination in the town.
Car Parking	
CP.01	**Capacity - Increase (Extend Swan Meadow Car Park):** Increase capacity at the car park (by installing a decked level above existing spaces).
CP.02	**Capacity - Reduction (Market Place):** Permanent removal of car parking in the market square on selective days.
CP.04	**Charging - Introduce Car Park Charges:** Increase car parking charges, targeting all day commuting trips.
CP.05	**Electric Vehicle Charging Points (Availability):** Provide EV charging points in dedicated off-street car parks (both UDC owned and those within private ownership)
CP.07	**Electric Vehicle Charging Points (Residents):** Roll-out the capacity of charging points across the town, commensurate with an increase in EV ownership.
CP.08	**Enforcement:** Improve the enforcement of parking restrictions including the use of cashless payments and ANPR cameras.
CP.09	**On-Street Parking - Removal (Town Centre Wide):** Remove all on-street parking (with the exception of residents parking) to consolidate provision in dedicated off-street locations.
CP.10	**On-Street Parking - Restrictions (Peak Hours):** Peak hour suspension of on-street parking on sensitive routes (around schools, in the town centre etc).
CP.11	**On-Street Parking (School Access):** Local lining and signing schemes adjacent to schools to restrict parking in areas with high numbers of pedestrians.
CP.13	**Park and Ride (Multimodal Park Active / Park and Choose):** Identify locations on the edge of the town where cars can park and individuals choose how to travel into the town centre.
CP.14	**Park and Ride ('Pocket' Park and Ride Sites):** Utilise pub car parks on the routes of existing bus services into Saffron Walden as informal Park and Ride sites.
CP.15	**Signage (Off-Street Parking):** Signage and wayfinding to increase awareness of suitable parking provision.
CP.16	**Signage (Variable Message Signage):** Install VMS displays on all major routes into the town centre.
Cycling	
CY.14	**Cycle Parking:** Roll out the provision of basic Sheffield stands across the town centre, including at all main bus stops.
CY.15	**ebike Cycle Hire:** Introduce an ebike cycle hire scheme with hubs located across the town (specific locations to be determined).
CY.16	**ebike Parking:** Provide cycle lockers for safe and secure ebike parking.
CY.17	**Junction Improvement (B1383 London Road):** Upgrade the existing uncontrolled crossing to toucan crossing to provide a safe crossing point for pedestrians and cyclists.
CY.18	**Junction Improvements (Debden Road / Borough Lane / Mount Pleasant Road):** Improve facilities for cyclists, which could include early start facilities and two-stage right turns. Consider tightening corner radii to move pedestrian crossings closer to the desire line.
CY.19	**Junction Improvements (Radwinter Road / Elizabeth Way / Horn Brook):** Junction improvements with dedicated pedestrians and cycle crossing.
CY.21	**Segregated Cycle Lane (Little Walden Road):** The existing verge on the B1052 and/or Little Walden Road could be used on the western side of the carriageway to provide either a segregated facility or a service-road style route parallel to the carriageway. Along the remainder of the route, if segregation is not achievable, improve conditions for cycling through speed limit reduction, traffic calming, centre-line removal and providing crossing facilities along the route.
CY.22	**Shared Use Path (Ashdon Road):** Between Elizabeth Way and Hollyhocks Road.
CY.24	**Shared Use Path (Audley End Road):** Upgrade the existing southern section of the footway to shared-use path and widen the shared-use path to achieve a minimum width of 3m (where possible) to enable cycle access.

Ref	Proposal
CY.25	**Shared Use Path (between battle ditches from Abbey Lane to Saxon Way):** Widen existing tarmac path to create shared use path along top of battle ditches.
CY.26	**Shared Use Path (London Road to Gibson Gardens):** Remove cycle prohibition to enable cyclists to formally use the cut through behind UDC offices.
CY.28	**Shared Use Path (Station Road, Audley End):** Extend the shared-use path on Station Road to the entrance of Audley End Station.
CY.29	**Shared Use Path (The Common):** Upgrade the existing footpath in the Common into shared use path by resurfacing and widening the path to achieve a minimum 3m width where feasible.
CY.30	**Strategic Cycle Route (Hinxton to Saffron Walden):** Introduce cycle route to Hinxton to the north of the town (light touch only - e.g. signage of route).
CY.31	**Strategic Cycle Route (Wimbish to Saffron Walden):** Introduce cycle route (light touch only - e.g. signage of route).
Walking	
WK.01	**Decluttering of Footways (town wide):** Removal of all non-essential street furniture, including guard railing and obsolete signage.
WK.02	**Lighting of Footways (Chaters Hill to Shire Hill Lane via Thaxted Road):** Provide lighting along the traffic-free section of the route to ensure the route is usable when dark and year-round.
WK.03	**Maintenance - vegetation (town wide):** Regular cutting of vegetation to maximise the usable space on footways.
WK.04	**Pedestrian Crossings - major junctions (town wide):** Provide raised tables and widen the crossing points for pedestrians.
WK.05	**Pedestrian Crossings - side roads (town wide):** Improve side road junctions by tightening corner radii and ensuring dropped kerbs and tactile paving are provided as a minimum level of provision to assist pedestrians.
WK.06	**Resurfacing - Audley End Road from junction with Newport Road to County High School:** New footway along Audley End Road (south of the carriageway) to connect with junction at Newport Road. Include hard surfacing, lighting and signage.
WK.07	**Wayfinding - Pedestrian Signage (town wide):** Provide more comprehensive signage of the town centre for pedestrians, including distances in time, and focusing on destinations and provision such as car parking.
WK.08	**Widening of Footways (town wide):** Widen and resurface footways throughout the town so that they are smooth, level and at least 2m wide where possible.
Public Transport	
PT.01	**Information - Real Time Information:** Provision of RTI displays at all bus stops and in public buildings (including the County High School, hotels, Waitrose etc). Train service information should also be provided.
PT.04	**Infrastructure - Bus Stop Enhancement Programme:** Town wide improvements to ensure that all stops have raised kerbs, lighting, timetables, seating/shelter.
PT.05	**Infrastructure - Selective Vehicle Detection:** Introduce SVD at major junctions to give buses a green wave of traffic lights through the town.
PT.07	**Service Provision - Citi 7 (Frequency):** Increase the frequency of the Citi 7 service to Cambridge.
PT.08	**Service Provision - Citi 7 (Routing):** Increase access to the service by re-directing services so that they incorporate both the town centre and the Peaslands Road - Borough - Lane corridor.
PT.09	**Public Transport Interchange:** Create a travel hub on land adjacent to Common Hill comprising bus stops, information provision and waiting facilities, ebike hire, cycle parking and taxi rank facilities.

2.2 MODE SHIFT ASSUMPTIONS

2.2.1 A high level of modal shift was applied to reflect the nature and scale of investment that would be provided.

2.2.2 [UDC to provide justification for the levels of demand reduction applied].

3.0 VOLUME OF TRAFFIC

3.1 OVERVIEW

3.1.1 This section discusses the volume of traffic in Saffron Walden in the AM and PM peak periods for the following scenarios:

- Base Year (2021)
- Reference Case (2040)
- Local Plan Growth (2040)
- Mitigation Package – sustainable transport interventions plus junction capacity improvements (2040)

3.1.2 Comparisons are drawn between the scenarios to identify the impacts of Local Plan traffic on the corridor and the ability of the supporting interventions to mitigate and manage flow.

3.2 IMPACT OF THE LOCAL PLAN ALLOCATIONS

3.2.1 Both committed development and the Local Plan allocations will impact on the volume of traffic on the road network across the district.

3.2.2 The Saffron Walden Transport Model has generated a considerable amount of data on flows for the Base Year (2021), Reference Case (2040) and Local Plan Case (2040). However, the key area of analysis relates to the changes in flow, and **Figure 3-1** to **Figure 3-4** illustrate changes between the Base Year flows and Reference Case flows, and the Reference Case flows and Local Plan Case flows respectively. In Saffron Walden the data highlights:

- Committed development will see increases in the volume of traffic across the town. The increases will be particularly noticeable on Cardamon Road between Thaxted Road and Radwinter Road.
- The new through route which this will form on the back of committed housing allocations with however reduce the flow of traffic on both Thaxted Road and Radwinter Road on their approaches to the town centre, together with Ashton Road.
- With Local Plan growth in place, a second link will be provided between Thaxted Road and Radwinter Road and this will accommodate most of the increase in flow.
- Nevertheless, there will be further albeit marginal increases in demand to travel through the town centre to access strategic routes north and south of the town.

3.3 IMPACT OF INTERVENTIONS ON THE VOLUME OF TRAFFIC

3.3.1 The proposed interventions to mitigate the impact of Local Plan growth are detailed in **Chapter 2.0**. The ability of these measures to alleviate increases in the volume of traffic is illustrated in the AM and Pm peak periods is illustrated in **Figure 3-5** and **Figure 3-6**. The data highlights that in Saffron Walden:

- The interventions proposed in the town will help to reduce the volume of traffic on numerous links. The mitigation package focuses on providing realistic and more attractive alternatives to the car and as such it is envisaged that reliance on the car can be reduced.
- The closure of Church Street to general traffic will see vehicles re-routing through the centre. This will see more vehicles on Audley Road and northbound traffic on High Street, but the roads in question are more suitable than Church Street to accommodate such flows.
- The introduction of a one-way gyratory comprising Borough Lane – Debden Road and the two-way operation of London Road will see changes in flows locally.

Figure 3-1: Changes in Flow between the Base Year (2021) and Reference Case (2040) - AM Peak

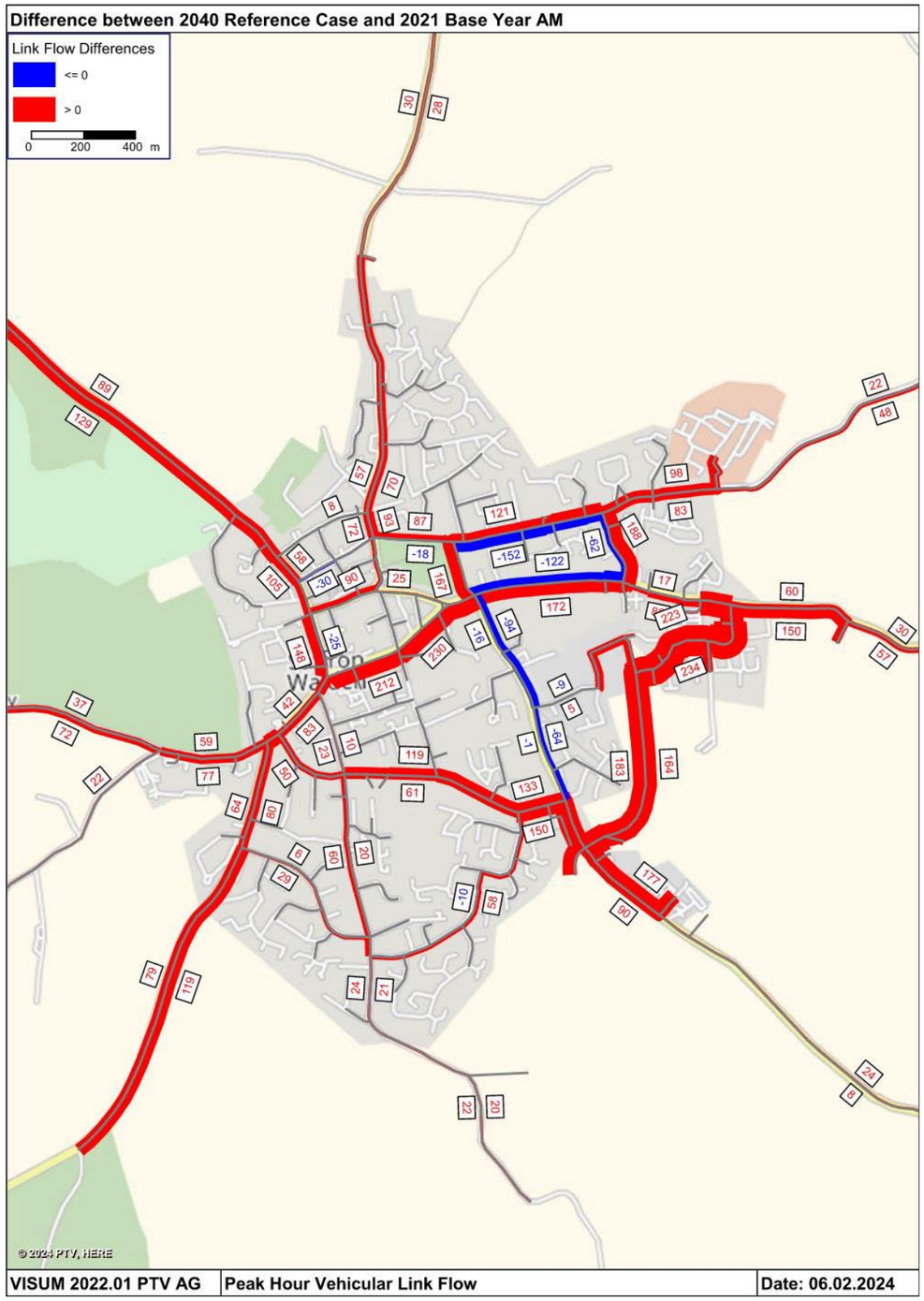


Figure 3-2: Changes in Flow between the Base Year (2021) and the Reference Case (2040) - PM Peak

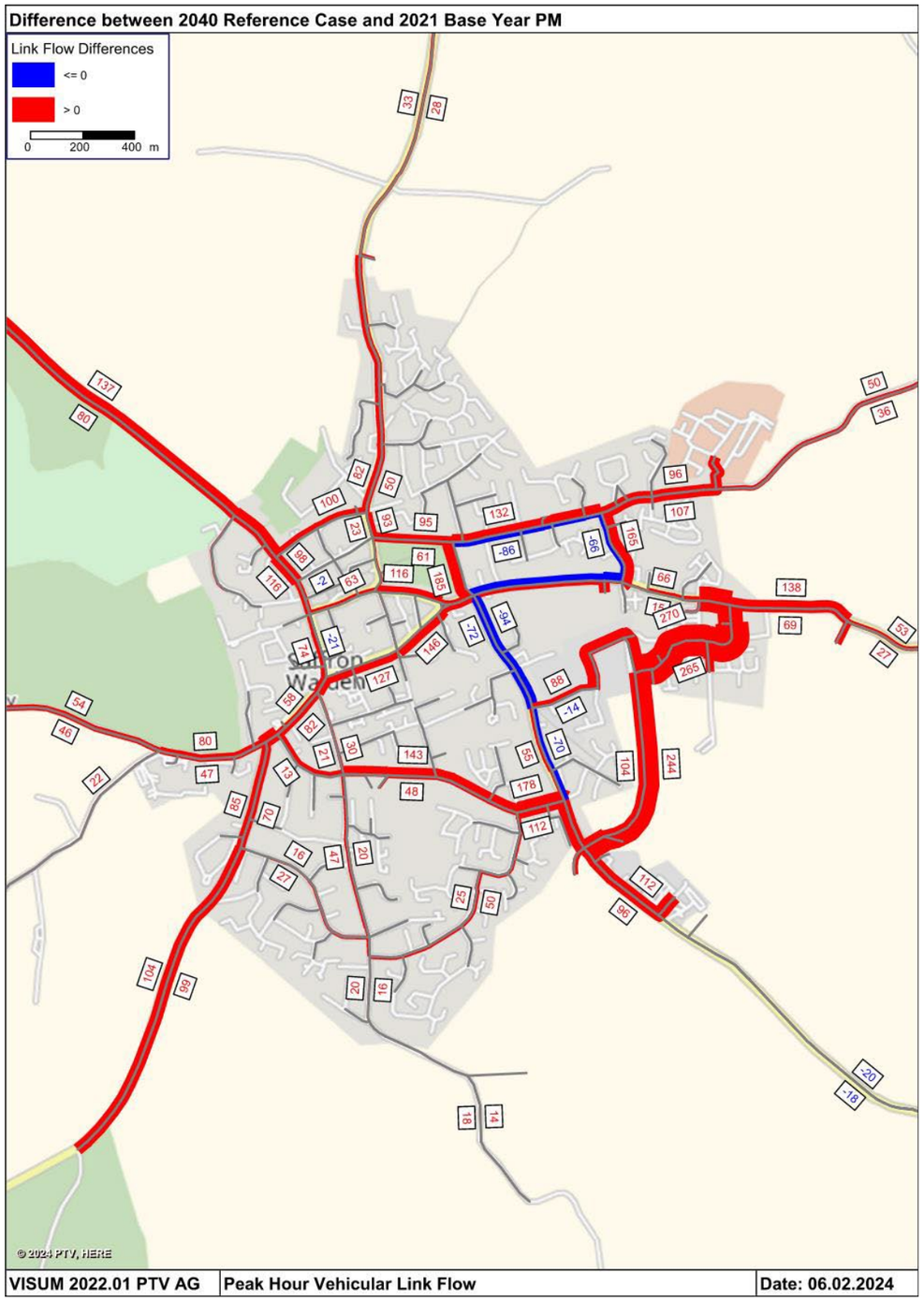


Figure 3-3: Changes in Flow between the Reference Case (2040) and Local Plan Case (2040) - AM Peak

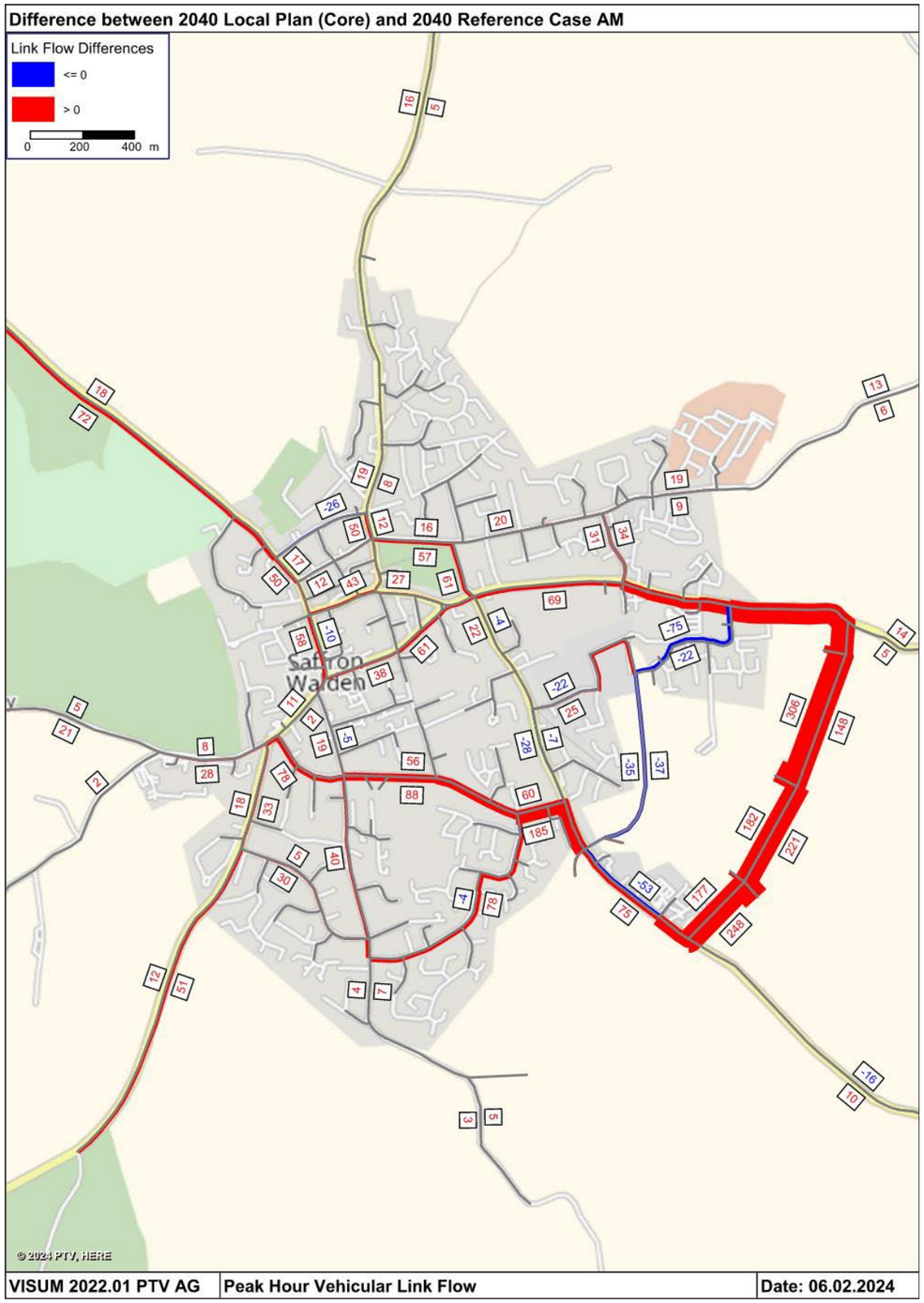


Figure 3-4: Changes in Flow between the Reference Case (2040) and the Local Plan Case (2040) - PM Peak

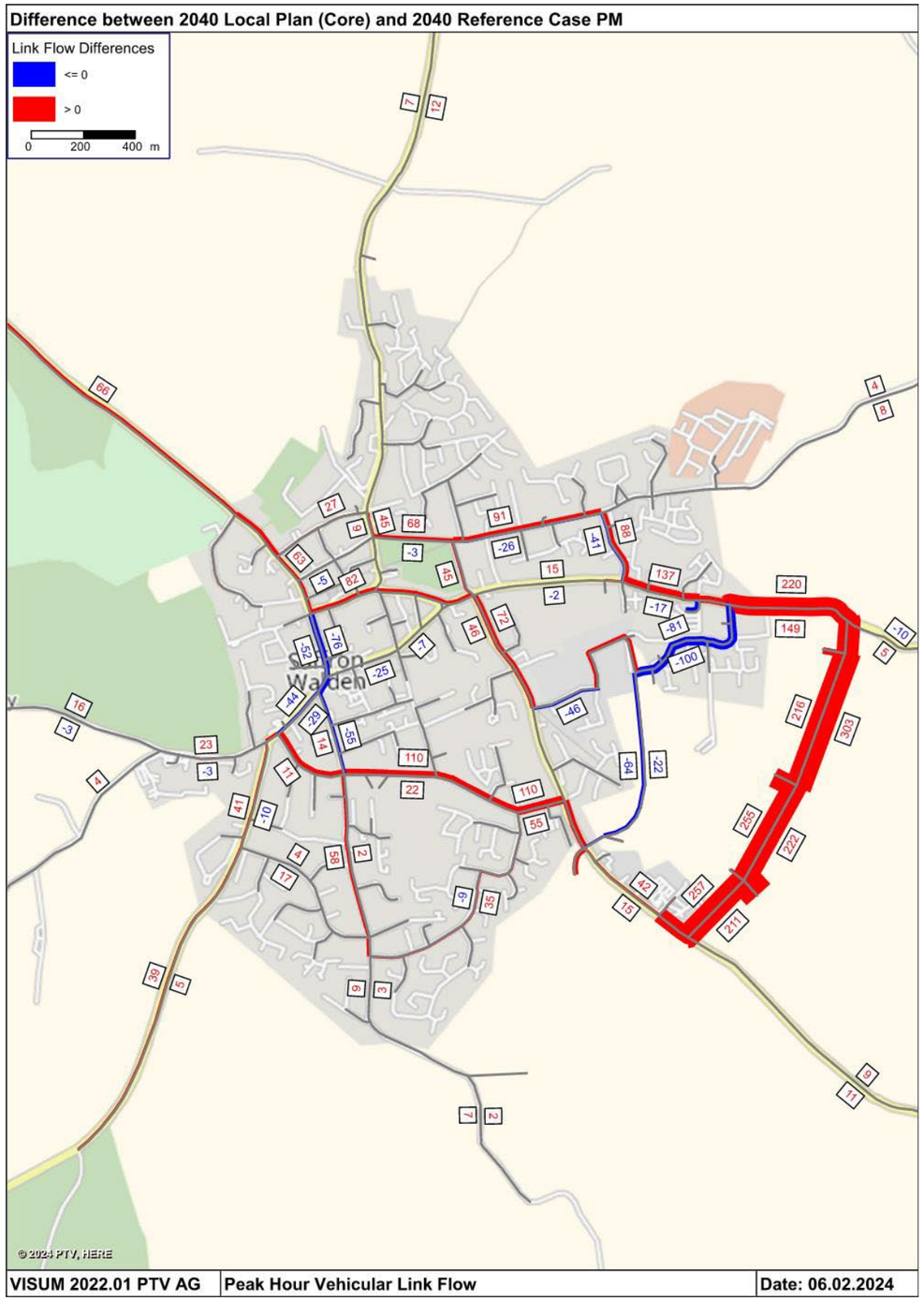


Figure 3-5: Changes in Flow between the Local Plan Case (2040) and Mitigation - AM Peak

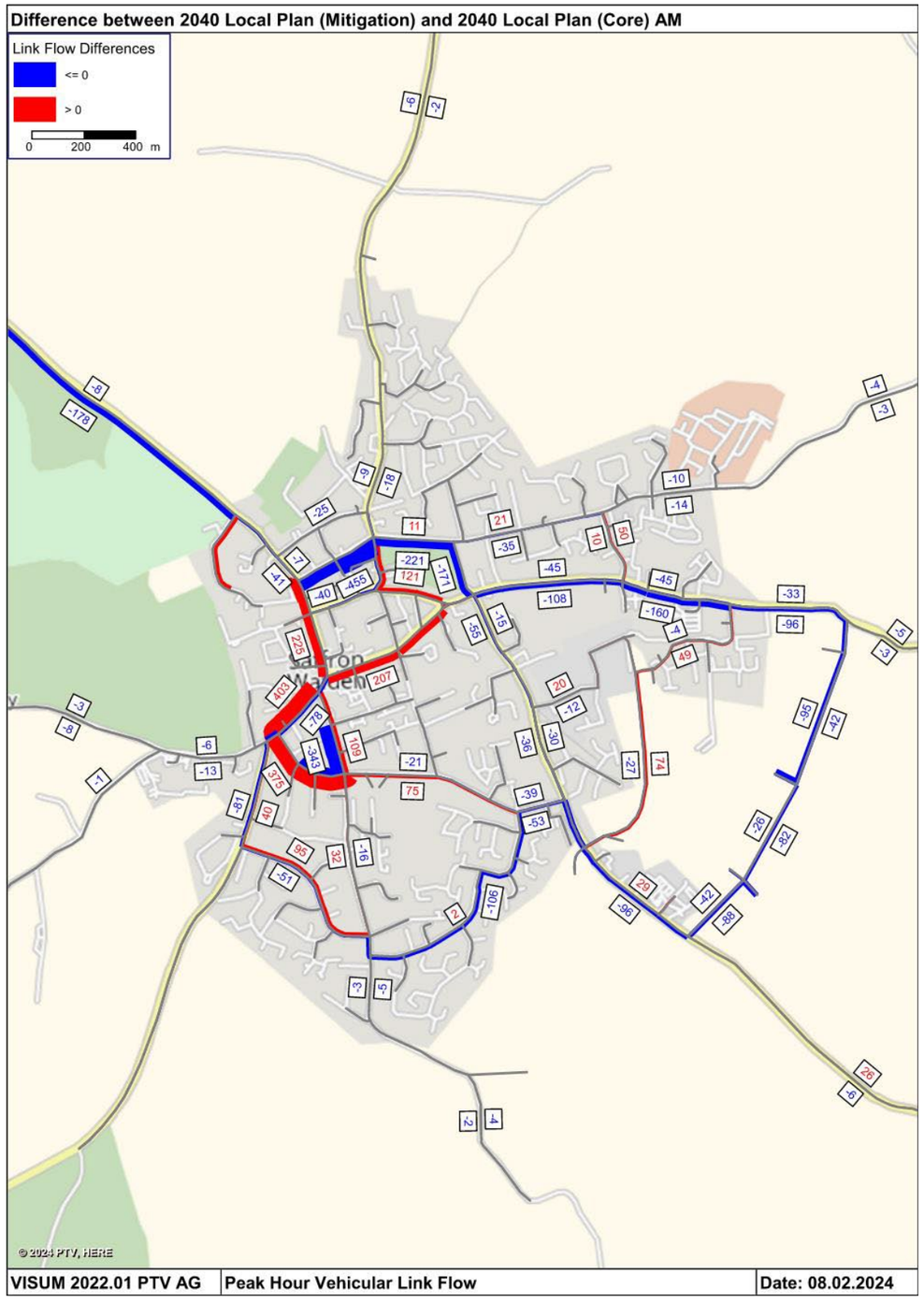
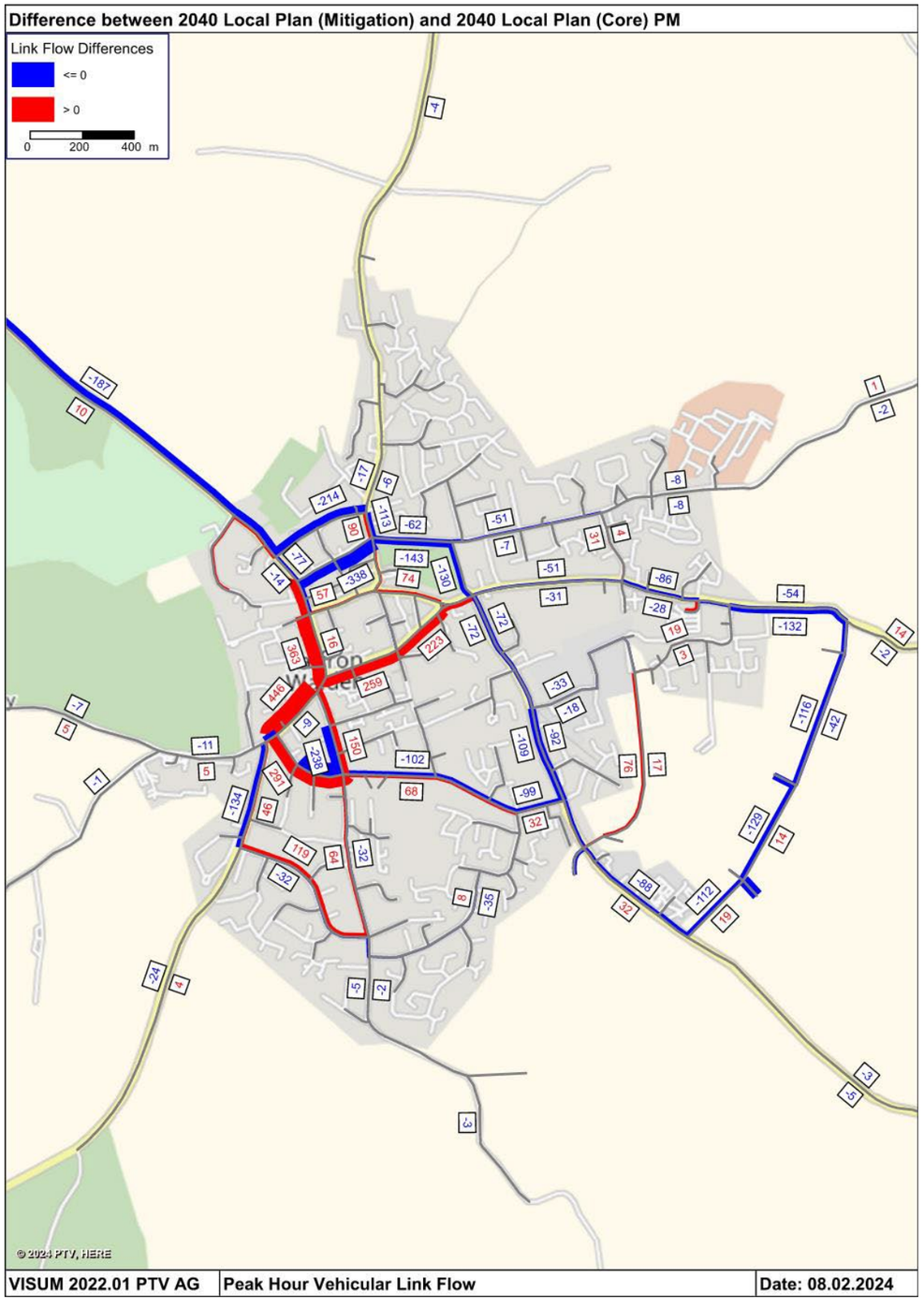


Figure 3-6: Changes in Flow between the Local Plan Case (2040) and Mitigation - PM Peak



4.0 JOURNEY TIMES & THE SPEED OF TRAFFIC

4.1 OVERVIEW

4.1.1 This section discusses journey times and the speed of traffic in Saffron Walden in the AM and PM peak periods for the following scenarios:

- Base Year (2021)
- Reference Case (2040)
- Local Plan Growth (2040)
- Mitigation Package – sustainable transport interventions plus junction capacity improvements (2040)

4.1.2 Comparisons are drawn between the scenarios to identify the impacts of Local Plan traffic on the corridor and the ability of the supporting interventions to mitigate and manage flow.

4.2 IMPACT OF THE LOCAL PLAN ALLOCATIONS

4.2.1 Journey times and the associated speed of traffic has been assessed on six routes in the town, and these are presented in **Figure 4-1**.

4.2.2 **Table 4-1** demonstrates the impact of the increase in demand to travel associated with committed development and the Local Plan in the AM peak period, whilst **Table 4-2** provides the same overview of the PM peak period. In Saffron Walden:

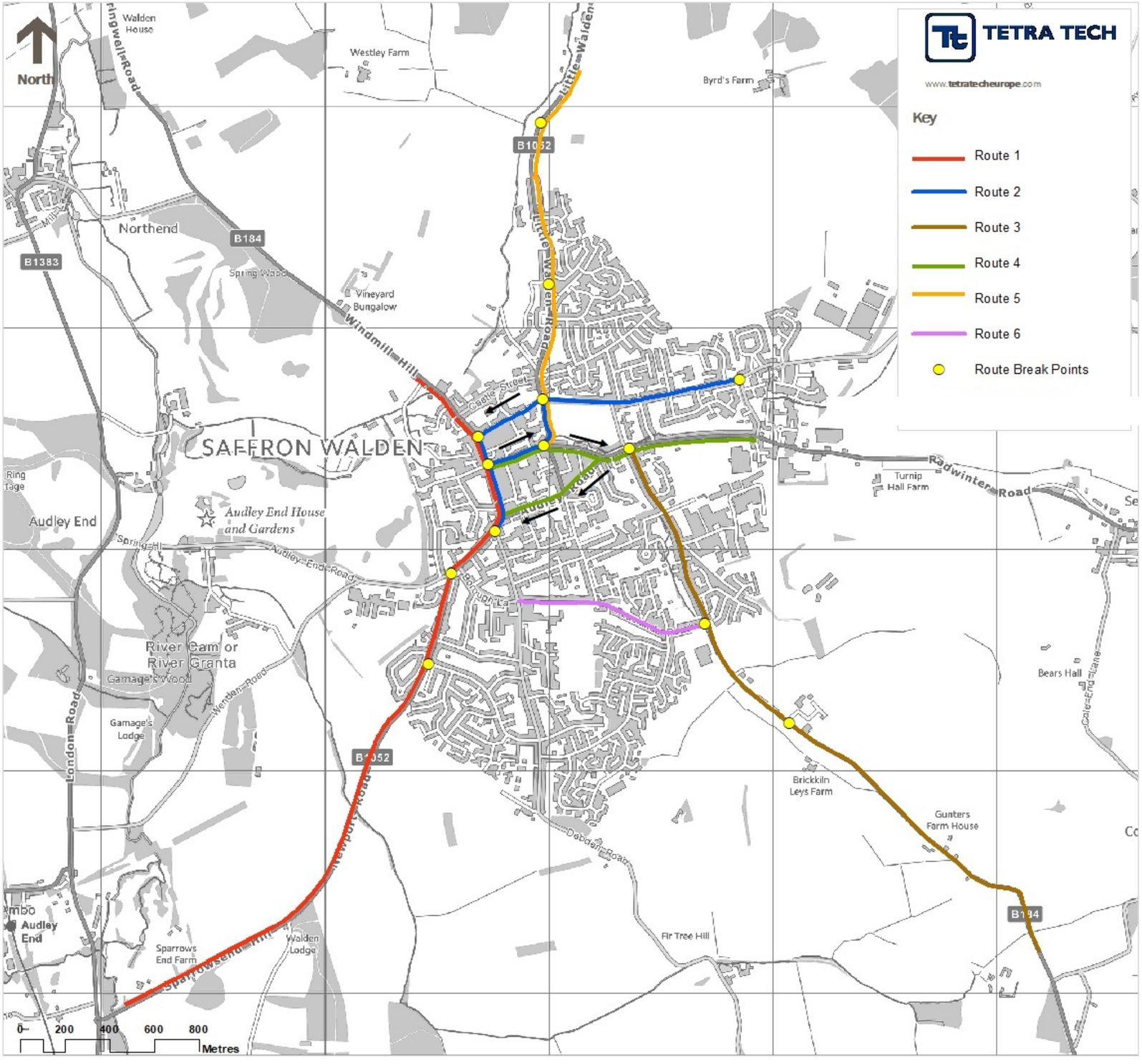
- The Local Plan allocations will only have a marginal impact on journey times and the speed of traffic in the town compared to those set to be experienced in the Reference Case.
- All routes assessed will see speeds decrease by less than 2mph in the AM and PM peak periods.
- The exception to this is westbound traffic on Route 6 (Peaslands Road – Mount Pleasant Road – Borough Lane) in the PM peak, which will see speeds reduce by 8.5mph from 17.5mph to 9.0mph.

4.3 IMPACT OF INTERVENTIONS ON JOURNEY TIMES & AVERAGE SPEEDS

4.3.1 The proposed interventions to mitigate the impact of Local Plan growth are detailed in **Chapter 2.0**. The ability of these measures to alleviate increases in journey times is illustrated in the AM and PM peak periods is illustrated in **Table 4-3** and **Table 4-4**.

4.3.2 In Saffron Walden:

- The impact on journey times and vehicle speeds is not just as a consequence of the new junctions and closure of Church Street, but also the introduction of a new 20mph speed limit across the town.
- In this respect, it highlights that the objective of the strategy is not to necessarily reduce journey times and increase the speed of traffic, but to rebalance road user priorities, civilise the streets and make the town safer for all.
- Traffic will travel slower across the town. The average speed of traffic will not exceed 20mph on any of the selected routes. This has significant advantages in terms of the safety of all road users.
- Changes in the routing of traffic will actually see the journey times on some routes reduce, particularly in the PM peak period when compared to the Local Plan growth scenario.
- Where there are increases in journey times (and subsequent reductions in the speed of traffic), the changes in most cases are negligible. In the Local Plan growth case, none of the routes will see a reduction in vehicle speed of more than 4mph, with the exception of northbound traffic on Thaxted Road in the AM peak.



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Key

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Figure 4-1: Saffron Walden Journey Time Routes

TTE Proj No	Drwn by	Date	Ch'ked by	Date	Appr'd by	Date	Scale @ A3	Suitability
B029347	BK	Jul 21	SB	Jul 21	ASG	Jul 21	n/a	S1

Client Proj No	Origin	Vol/System	Level/Location	Type/Code	Role	Drawing No	Revision
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Table 4-1: Saffron Walden Journey Times and Speed of Traffic (AM Peak)

Route	Dir.		Base Year (2021)		Reference Case (2040)		Local Plan Case (2040)		Difference – Reference/Local Plan Case	
		Distance (miles)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)
1	Eastbound	1.74	341	**18.4**	393	**16.2**	431	**14.8**	38	-1.4
	Westbound	1.74	314	**19.9**	374	**17.0**	387	**16.5**	13	-0.5
2	Eastbound	1.24	363	**12.3**	429	**10.6**	474	**9.6**	45	-1
	Westbound	1.24	455	**9.8**	507	**8.9**	583	**7.7**	76	-1.2
3	Eastbound	1.93	362	**19.2**	388	**17.7**	417	**16.4**	29	-1.3
	Westbound	1.93	236	**29.4**	359	**19.1**	358	**19.1**	-1	0
4	Northbound	0.87	289	**10.8**	287	**9.6**	328	**8.4**	41	-1.2
	Southbound	0.87	267	**11.7**	254	**12.7**	262	**12.3**	8	-0.4
5	Northbound	0.99	153	**23.4**	160	**22.6**	163	**22.2**	3	-0.4
	Southbound	0.99	179	**20.0**	189	**19.1**	192	**18.8**	3	-0.3
6	Eastbound	0.56	129	**15.6**	137	**14.5**	150	**13.2**	13	-1.3
	Westbound	0.56	107	**18.8**	157	**12.6**	180	**11.0**	23	-1.6

Table 4-2: Saffron Walden Journey Times and Speed of Traffic (PM Peak)

Route	Dir.		Base Year (2021)		Reference Case (2040)		Local Plan Case (2040)		Difference – Reference/Local Plan Case (%)	
		Distance (miles)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)
1	Eastbound	1.74	322	**19.5**	430	**14.8**	477	**13.4**	47	-1.4
	Westbound	1.74	376	**16.7**	453	**14.1**	506	**12.6**	53	-1.5
2	Eastbound	1.24	352	**12.7**	461	**9.8**	525	**8.6**	64	-1.2
	Westbound	1.24	441	**10.1**	513	**8.8**	563	**8.0**	50	-0.8
3	Eastbound	1.93	322	**21.5**	391	**17.5**	411	**16.7**	20	-0.8
	Westbound	1.93	248	**28.0**	275	**18.1**	407	**16.8**	132	-1.3
4	Northbound	0.87	245	**12.8**	275	**10.1**	272	**10.2**	-3	0.1
	Southbound	0.87	262	**12.0**	272	**11.9**	305	**10.6**	33	-1.3
5	Northbound	0.99	160	**22.4**	167	**21.7**	168	**21.5**	1	-0.2
	Southbound	0.99	175	**20.5**	191	**20.7**	200	**18.1**	9	-2.6
6	Eastbound	0.56	114	**17.7**	123	**17.4**	130	**15.2**	7	-2.2
	Westbound	0.56	113	**17.8**	185	**17.5**	221	**9.0**	36	-8.5

Key:

Increased Speed >1mph
Reduction in Speed <2mph
Reduction in Speed >2mph

Table 4-3: Saffron Walden Journey Times and Speed of Traffic – with Mitigation (AM Peak)

Route	Dir.		Local Plan Case (2040)		Local Plan Case – with Mitigation (2040)		Difference – Local Plan Case / Mitigation	
		Distance (miles)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)
1	Eastbound	1.74	431	**14.8**	553	**11.5**	+ 122	**- 3.3**
	Westbound	1.74	387	**16.5**	404	**15.8**	+ 17	**- 0.7**
2	Eastbound	1.24	474	**9.6**	439	**10.3**	- 35	**+ 0.8**
	Westbound	1.24	583	**7.7**	511	**8.8**	- 72	**+ 1.1**
3	Eastbound	1.93	417	**16.4**	561	**12.2**	+ 144	**- 4.2**
	Westbound	1.93	358	**19.1**	417	**16.4**	+ 59	**- 2.7**
4	Northbound	0.87	328	**8.4**	398	**7.0**	+ 70	**- 1.5**
	Southbound	0.87	262	**12.3**	291	**11.1**	+ 29	**- 1.2**
5	Northbound	0.99	163	**22.2**	191	**18.9**	+ 28	**- 3.3**
	Southbound	0.99	192	**18.8**	238	**15.2**	+ 46	**- 3.6**
6	Eastbound	0.56	150	**13.2**	162	**12.2**	+ 12	**- 1.0**
	Westbound	0.56	180	**11.0**	165	**12.0**	- 15	**+ 1.0**

Table 4-4: Saffron Walden Journey Times and Speed of Traffic – with Mitigation (PM Peak)

Route	Dir.		Local Plan Case (2040)		Local Plan Case – with Mitigation (2040)		Difference – Local Plan Case / Mitigation (%)	
		Distance (miles)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)	Journey Time (s)	Average Speed (mph)
1	Eastbound	1.74	477	**13.4**	529	**12.0**	+ 76	**- 2.2**
	Westbound	1.74	506	**12.6**	407	**15.7**	- 55	**+ 1.9**
2	Eastbound	1.24	525	**8.6**	456	**9.9**	- 20	**- 0.1**
	Westbound	1.24	563	**8.0**	488	**9.2**	- 11	**- 0.2**
3	Eastbound	1.93	411	**16.7**	434	**15.8**	+ 31	**- 1.3**
	Westbound	1.93	407	**16.8**	439	**15.6**	+ 68	**- 2.8**
4	Northbound	0.87	272	**10.2**	363	**7.6**	+ 101	**- 2.7**
	Southbound	0.87	305	**10.6**	327	**9.9**	+ 44	**- 1.7**
5	Northbound	0.99	168	**21.5**	202	**17.9**	+ 36	**- 3.8**
	Southbound	0.99	200	**18.1**	233	**15.5**	+ 42	**- 3.4**
6	Eastbound	0.56	130	**15.2**	136	**14.6**	+ 5	**- 0.6**
	Westbound	0.56	221	**9.0**	187	**10.6**	- 3	**+ 0.2**

Key:

Increased Speed >1mph
Reduction in Speed <2mph
Reduction in Speed >2mph

5.0 JUNCTION DELAY

5.1 OVERVIEW

5.1.1 This section discusses junction and link delay in Saffron Walden in the AM and PM peak periods for the following scenarios:

- Base Year (2021)
- Reference Case (2040)
- Local Plan Growth (2040)
- Mitigation Package – sustainable transport interventions plus junction capacity improvements (2040)

5.1.2 Comparisons are drawn between the scenarios to identify the impacts of Local Plan traffic on the corridor and the ability of the supporting interventions to mitigate and manage flow.

5.2 IMPACT OF THE LOCAL PLAN ALLOCATIONS

5.2.1 There are known delays and pinch points on the highway network in Saffron Walden. The impacts of committed development and that proposed to come forward through the Local Plan on these and other junctions on the network, are depicted in **Table 5-1** (AM peak period) and **Table 5-2** (PM peak period).

5.2.2 The tables highlight the respective locations which experience delays at junctions of over 60 seconds. The locations of the junctions are illustrated in a series of plans contained within **Appendix A**.

5.2.3 In Saffron Walden:

- More locations will experience delays of more than 60 seconds on the worst performing arm of the respective junctions as a result of both committed development and Local Plan growth.
- The B184 High Street in particular will experience delays at several junctions including with George Street and Church Street in both the AM and PM peak periods.
- Junctions in the south of the town on Thaxted Road and Peaslands Road will also see an increase in delays as a result of both committed growth and Local Plan related growth.
- Conversely, as a result of a new link coming forward as part of a committed site between Thaxted Road and Radwinter Road, delays at the intersection of the links will be mitigated.

5.3 IMPACT OF INTERVENTIONS ON JUNCTION PERFORMANCE

5.3.1 The proposed interventions to mitigate the impact of Local Plan growth are detailed in **Chapter 2.0**. The ability of these measures to alleviate the increases in junction delay is illustrated in **Table 5-3** (AM peak period) and **Table 5-4** (PM peak period). **Appendix A** contains figures showing the spatial distribution of the impact on junction performance. The data highlights:

- The emphasis of the interventions in the town is on seeking to rebalance road user priorities and not necessarily reducing journey times and delays. Notwithstanding this focus, the package of measures identified has been effective in significantly reducing delays in the centre of the town in both peak periods.
- Where increases in delays occur, this is by design in seeking to hold queuing traffic outside of the urban area to enable the more efficient operation of the network in the town centre.
- The greatest benefits are in terms of removing queuing vehicles on Church Street. Its closure sees delays of almost three minutes removed from the network in the AM peak period.

Table 5-1: Worst Performing Junctions - Delay in Seconds (AM Peak)

2021 (Base Year)	2040 (Reference Case)	2040 (Local Plan Case)
Saffron Walden		
• Radwinter Road – Thaxted Road (**116**)	• B184 High Street – Church Street (**114**)	• B184 High Street – Church Street (**170**)
• Radwinter Road – Elizabeth Way (**89**)	• Thaxted Road – Cardamon Road (**96**)	• Peaslands Road – Witstanley Road (**114**)
• B184 High Street – Church Street (**86**)	• Peaslands Road – Witstanley Road (**72**)	• Thaxted Road – Cardamon Road (**94**)
	• B184 High Street – George Street (**67**)	• B184 High Street – George Street (**74**)
		• B184 High Street – Debden Road (**64**)
		• B184 High Street – Audley Road (**63**)

Table 5-2: Worst Performing Junctions - Delay in Seconds (PM Peak)

2021 (Base Year)	2040 (Reference Case)	2040 (Local Plan Case)
Saffron Walden		
• Radwinter Road – Elizabeth Way (**98**)	• B184 High Street – George Street (**131**)	• Thaxted Road – Retail Park (**594**)
• B184 High Street – Church Street (**81**)	• Thaxted Road – Cardamon Road (**98**)	• B184 High Street – George Street (**181**)
• Radwinter Road – Thaxted Road (**81**)	• Peaslands Road – Witstanley Road (**72**)	• Ashton Road – Elizabeth Way (**123**)
	• Thaxted Road – Retail Park (**67**)	• Thaxted Road – Cardamon Road (**111**)
	• Thaxted Road – Peaslands Road (**65**)	• Peaslands Road – Witstanley Road (**94**)
	• B184 High Street – Church Street (**60**)	• Thaxted Road – Peaslands Road (**82**)
		• B184 High Street – Church Street (**67**)

Table 5-3: Delay at Selected Junctions in Seconds – with Interventions in place (AM Peak)

2040 (Local Plan Case)	2040 (Local Plan with Mitigation)	Change (seconds)
Saffron Walden		
• B184 Windmill Hill – New Pond Lane (**13**)	• B184 Windmill Hill – New Pond Lane (**100**)	**+87**
• B184 High Street – Church Street (**174**)	• B184 High Street – Church Street (**0**)	**-174**
• B184 High Street – George Street (**72**)	• B184 High Street – George Street (**54**)	**-18**
• B184 High Street – Audley Road (**63**)	• B184 High Street – Audley Road (**41**)	**-24**
• B184 High Street – Debden Road (**64**)	• B184 High Street – Debden Road (**1**)	**-63**
• London Road – Newport Road (**34**)	• London Road – Newport Road (**71**)	**+37**
• Newport Road – Rowntree Way (**26**)	• Newport Road – Rowntree Way (**48**)	**+22**
• Thaxted Road – Cardamon Road (**97**)	• Thaxted Road – Cardamon Road (**137**)	**+43**
• Peaslands Road – Witstanley Road (**114**)	• Peaslands Road – Witstanley Road (**127**)	**+13**
• Radwinter Road – Leverett Way (**28**)	• Radwinter Road – Leverett Way (**66**)	**+38**

Table 5-4: Delay at Selected Junctions in Seconds – with Interventions in place (PM Peak)

2040 (Local Plan Case)	2040 (Local Plan with Mitigation)	Change (seconds)
Saffron Walden		
• B184 Windmill Hill – New Pond Lane (**22**)	• B184 Windmill Hill – New Pond Lane (**75**)	**+53**
• B184 High Street – Church Street (**67**)	• B184 High Street – Church Street (**0**)	**-67**
• B184 High Street – George Street (**181**)	• B184 High Street – George Street (**51**)	**-130**
• Ashton Road – Elizabeth Way (**123**)	• Ashton Road – Elizabeth Way (**54**)	**-69**
• B184 High Street – Debden Road (**21**)	• B184 High Street – Debden Road (**1**)	**-20**
• London Road – Newport Road (**39**)	• London Road – Newport Road (**63**)	**+25**
• Newport Road – Rowntree Way (**14**)	• Newport Road – Rowntree Way (**29**)	**+15**
• Thaxted Road – Cardamon Road (**594**)	• Thaxted Road – Cardamon Road (**390**)	**-205**
• Little Walden Road – Castle Street (**68**)	• Little Walden Road – Castle Street (**28**)	**-40**
• Radwinter Road – Leverett Way (**53**)	• Radwinter Road – Leverett Way (**68**)	**+16**

6.0 SUMMARY

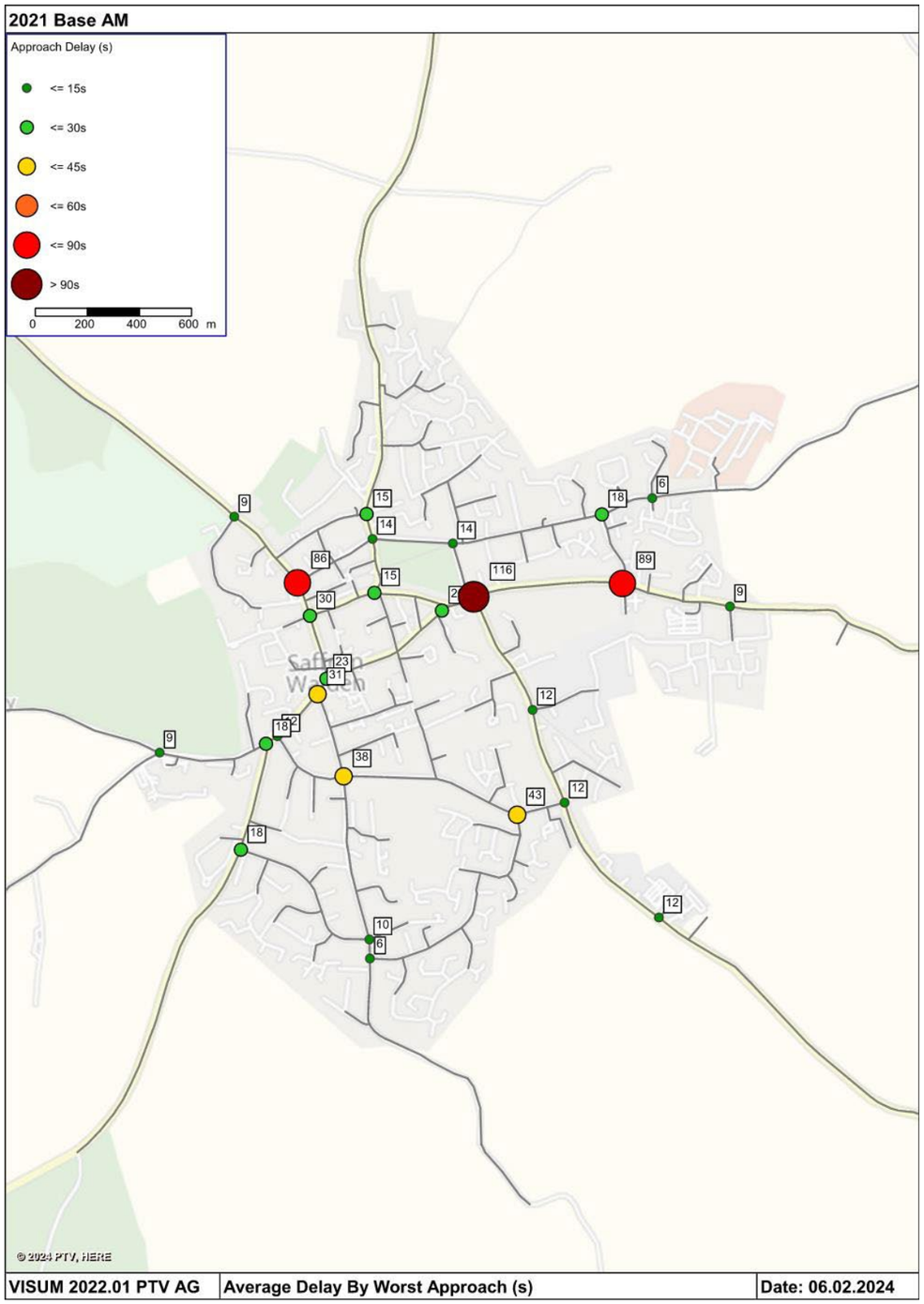
6.1.1 This technical note has detailed the impact of Local Plan allocations in Saffron Walden and the extent to which proposed interventions will mitigate the increases in demand to travel on the network.

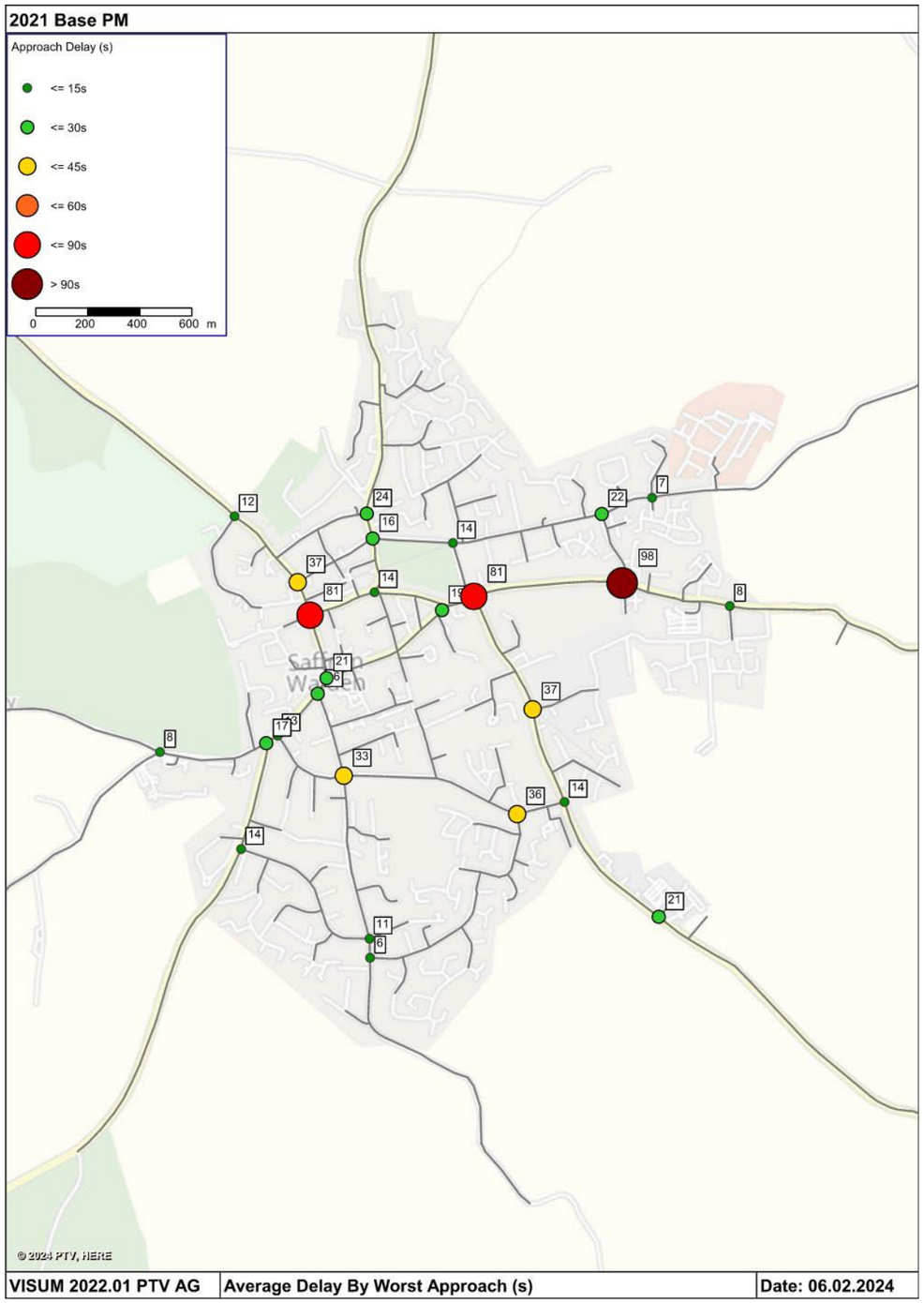
6.1.2 The overall picture is one in which the additional impacts of the site allocations, over and above those set to be experienced as a result of committed growth, are relatively modest.

6.1.3 The package of interventions which have been identified to mitigate the impacts, focuses on the need to improve travel choice and the provision of realistic and attractive alternatives to the car. The resultant reallocation of road space and reprioritisation of road users therefore results in marginal increases to the travel times and delays depicted in the Local Plan Case.

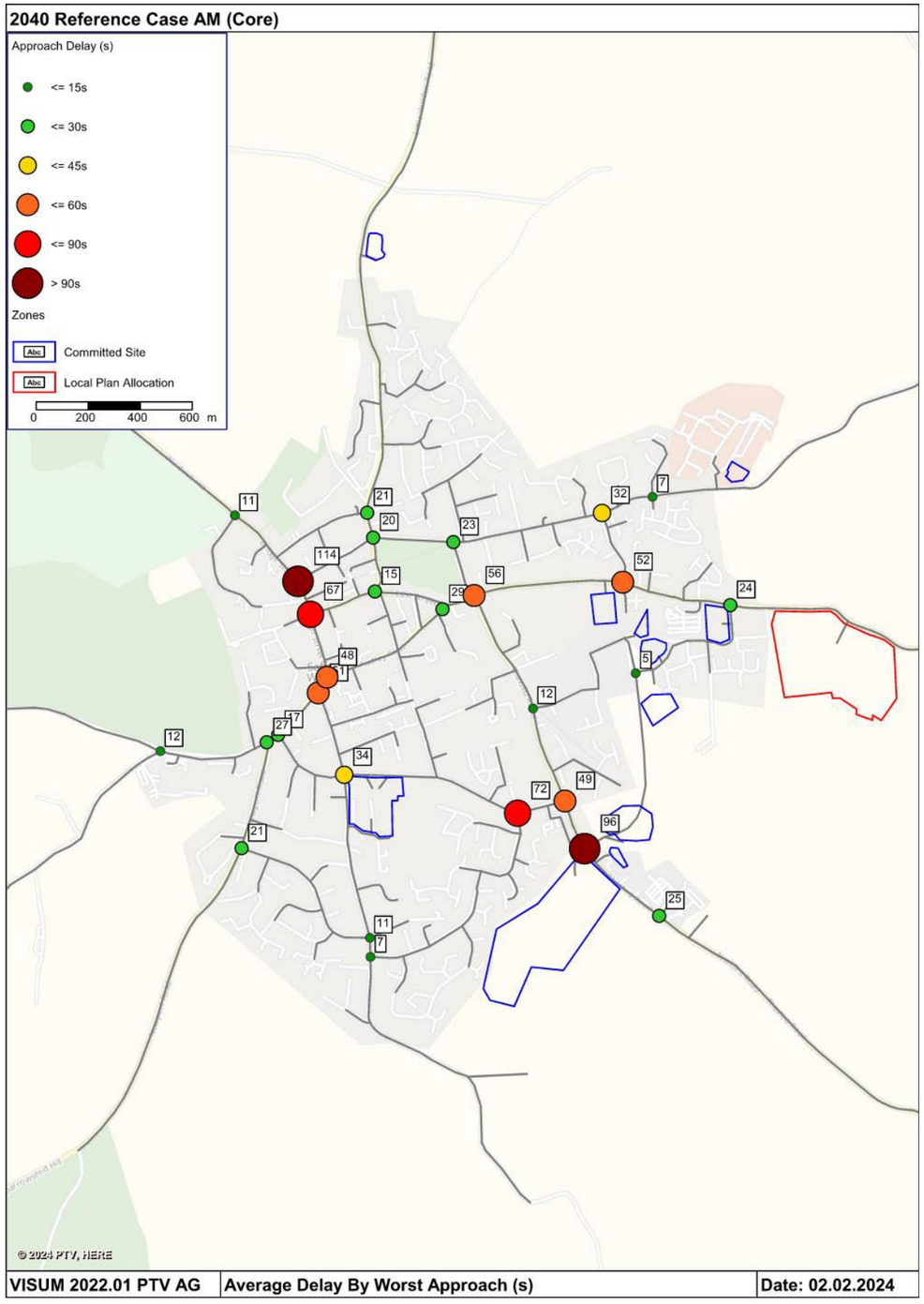
6.1.4 The additional impacts are deemed to be justifiable in the context of the improved travel choice on offer and in seeking to facilitate sustainable growth.

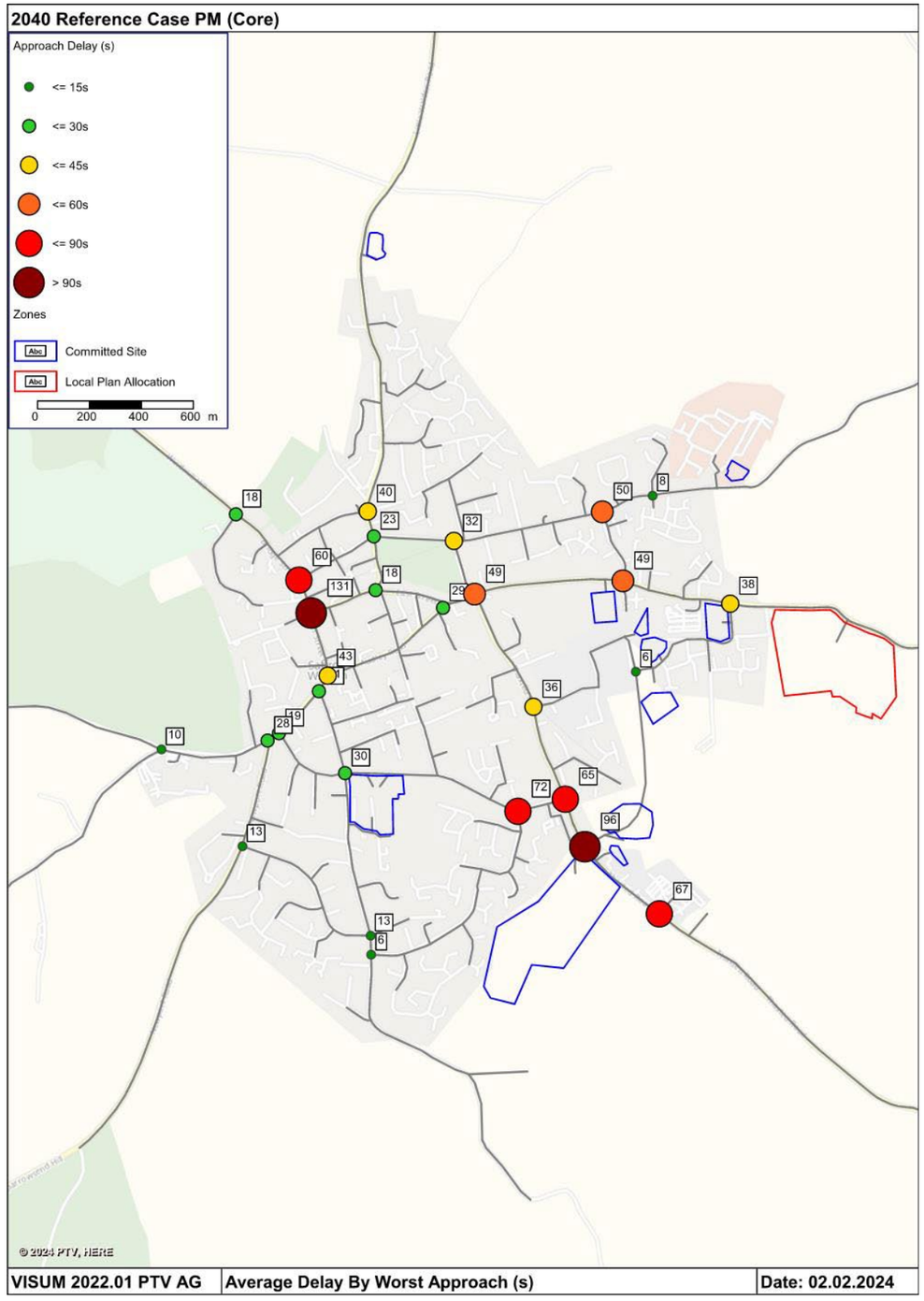
BASE YEAR (2021)



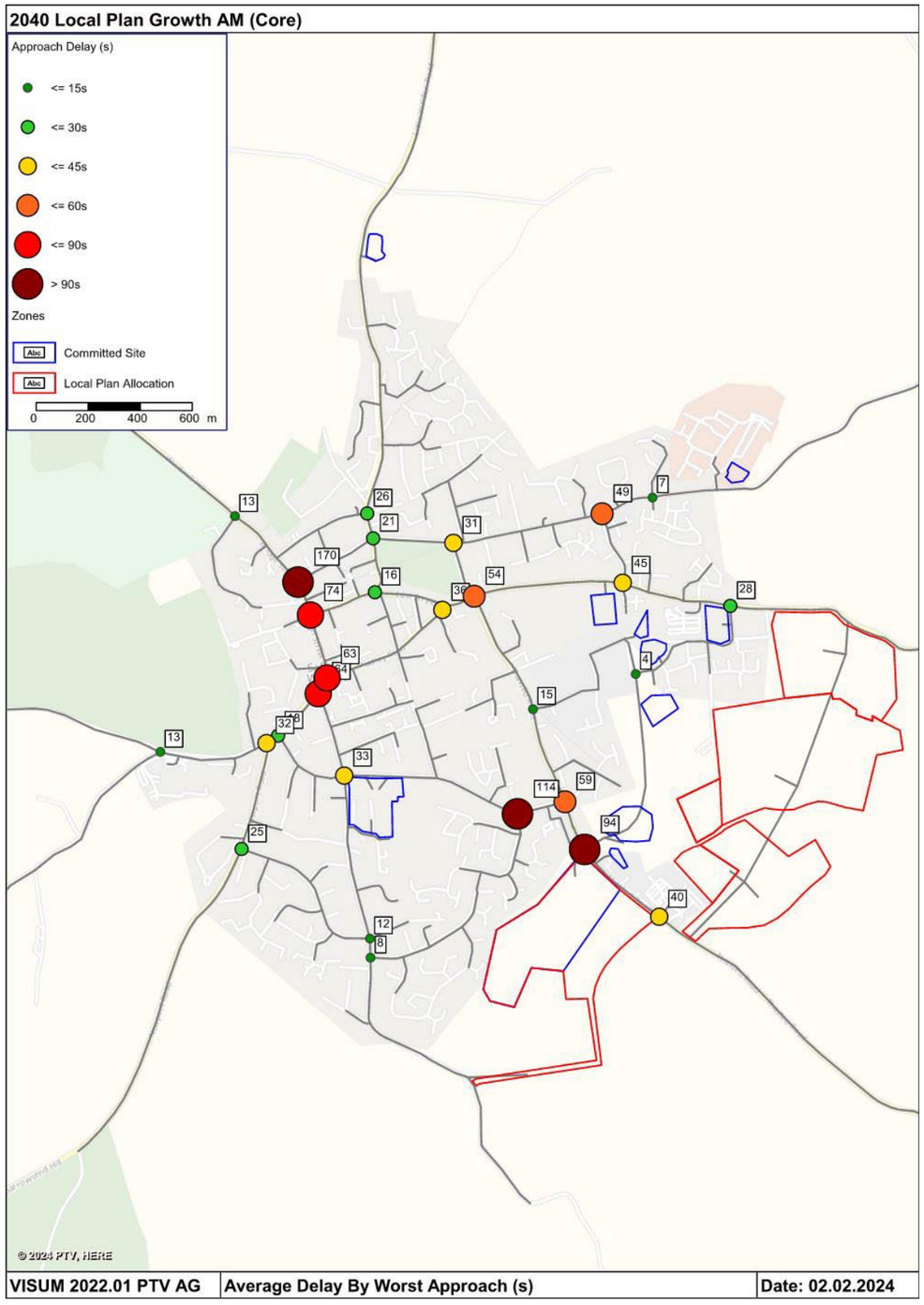


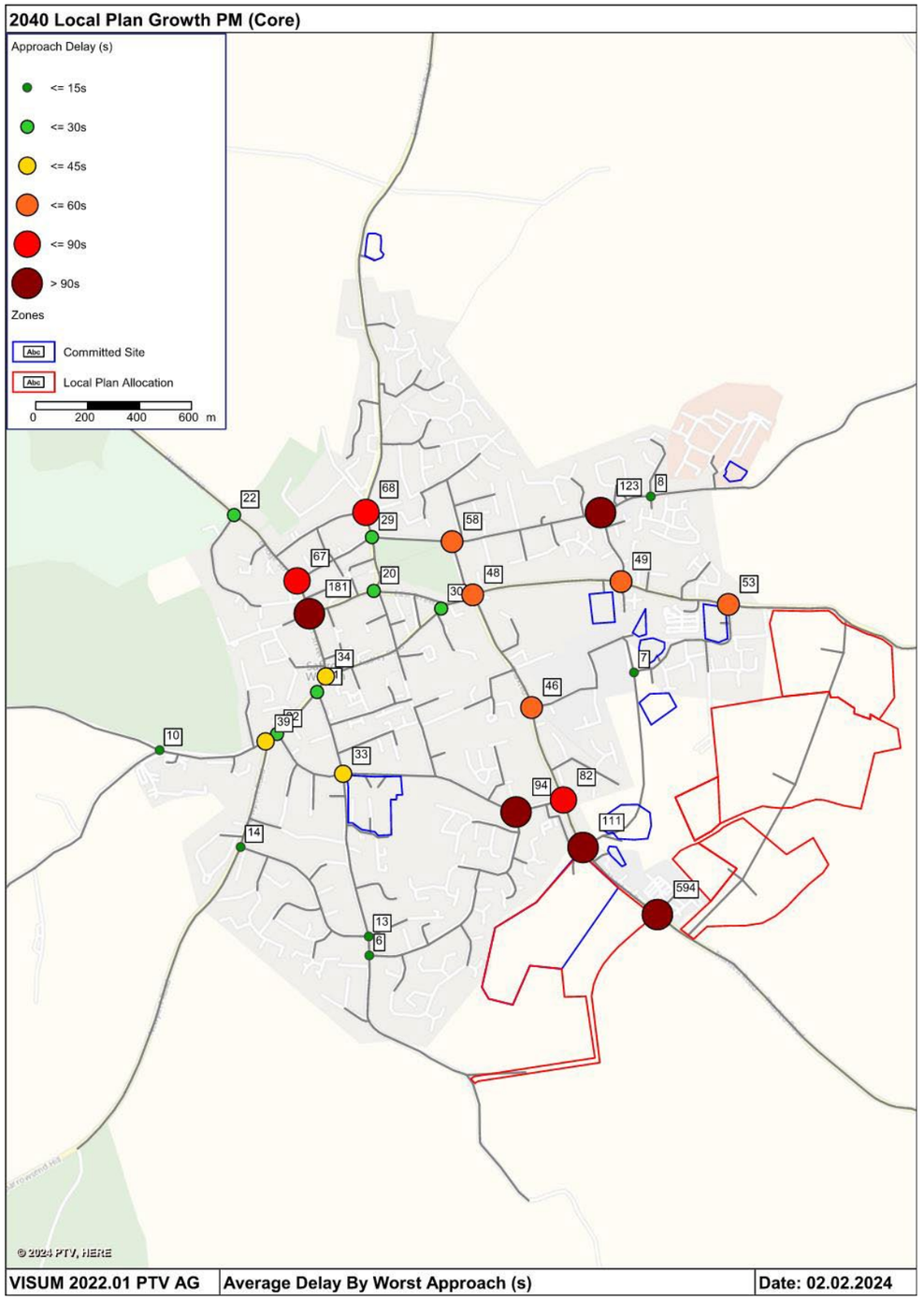
REFERENCE CASE (2040)



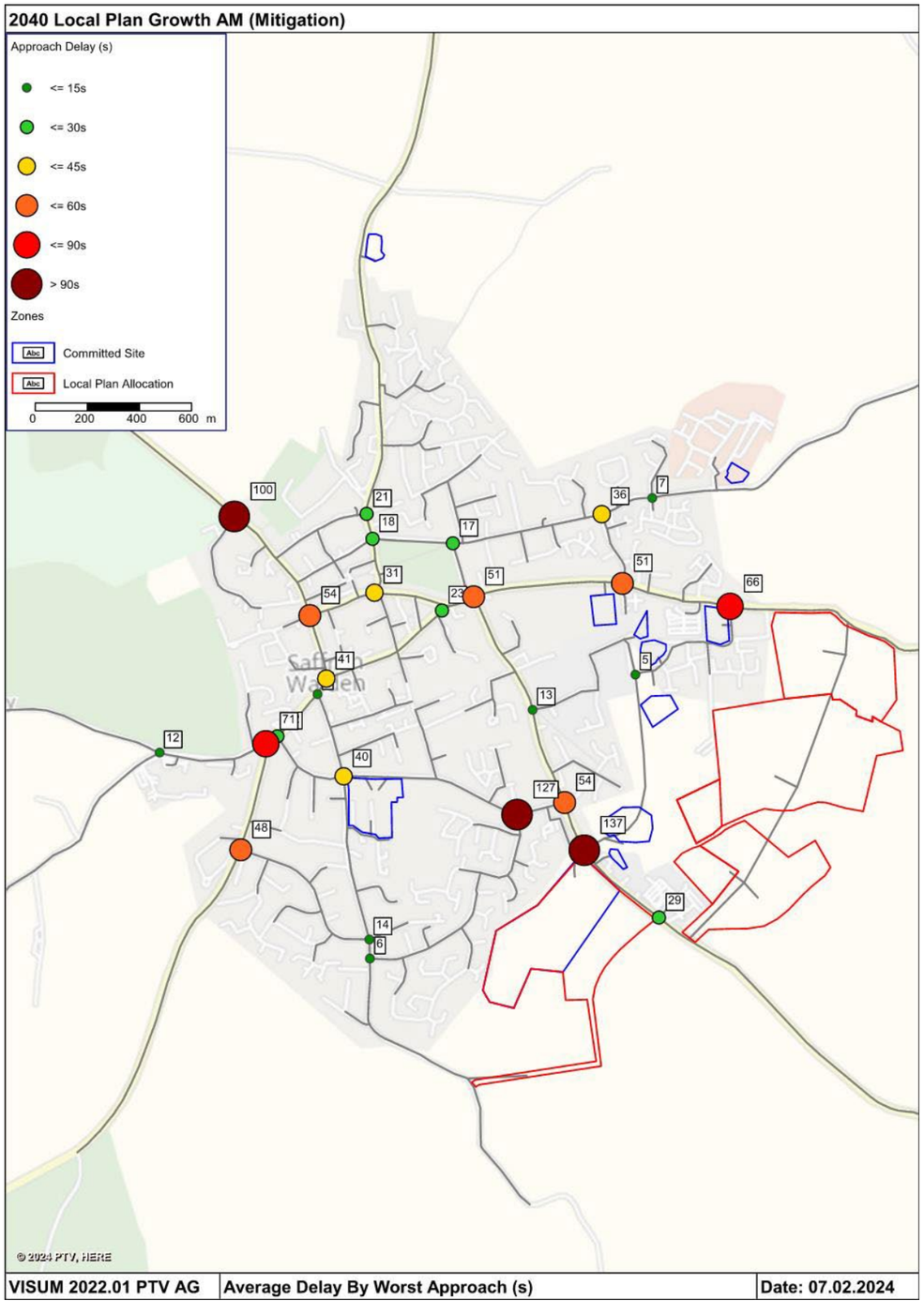


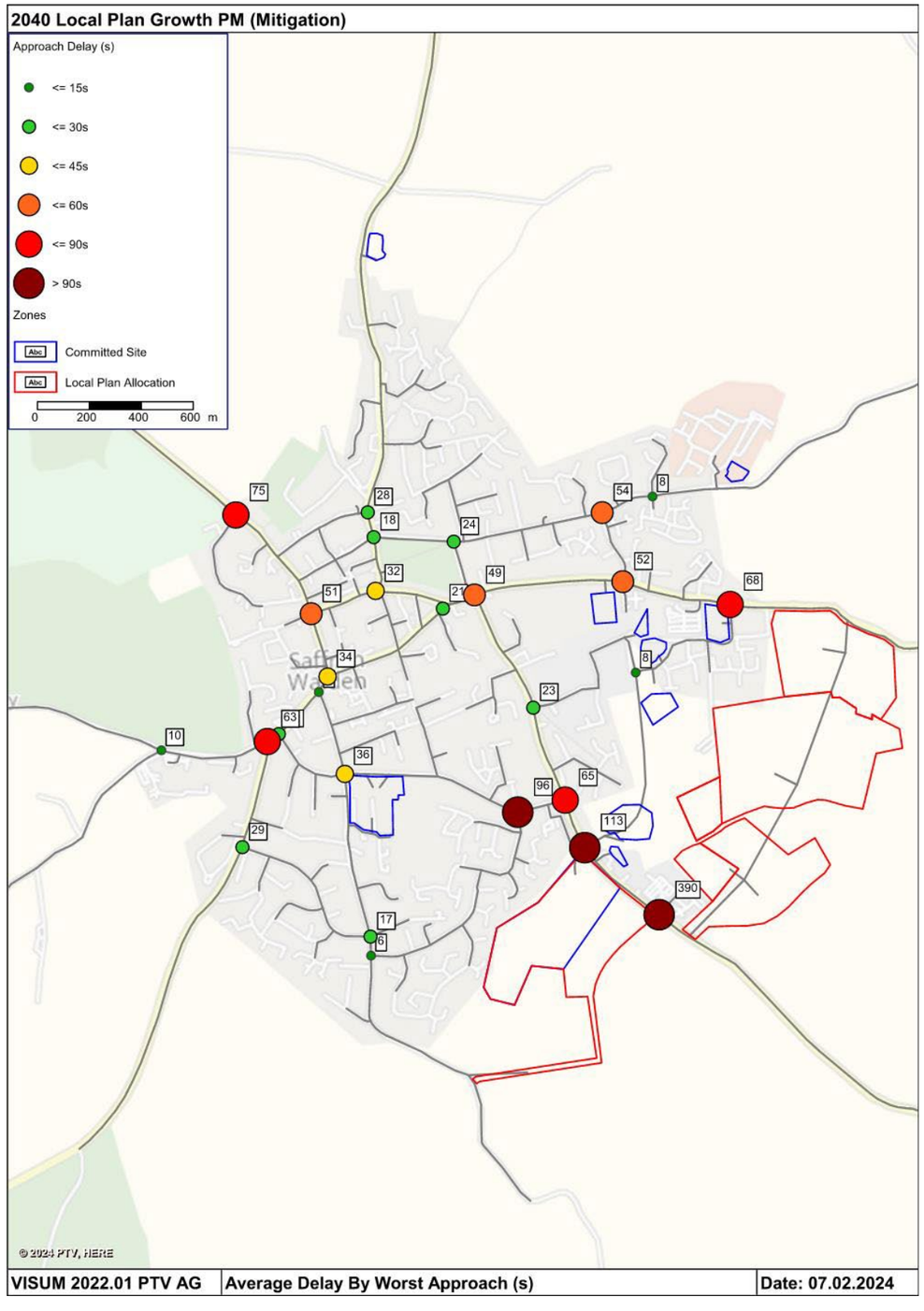
LOCAL PLAN CASE (2040)





LOCAL PLAN WITH MITIGATION (2040)





DIFFERENCE – LOCAL PLAN CASE WITH / WITHOUT MITIGATION (2040)