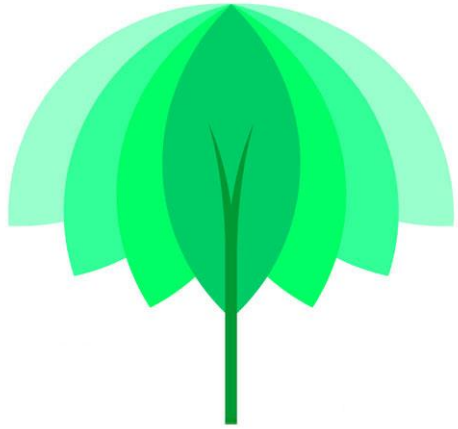




# Knowle Transport Study

**The meeting will commence  
at 7.30pm**



# Knowle Transport Study

**Dave Pinwell**

**15 February 2021**



# Introduction

- **The Transport Study was prepared for Solihull Council by specialist consultants Mott Macdonald**
- **It was published in October 2020**
- **It projects traffic levels and how to manage them assuming the two Local Plan Development Sites are built**
- **This presentation summarises the Study Report**
- **It is an objective review, neither advocating the findings or providing a critique**



# Core Objectives of Study

- To assess the likely impacts on the local highway network, of the various emerging strategies concerning the delivery of housing through the Draft Local Plan
- To identify the necessary mitigation measures that are required to support planned growth, which can be delivered as part of the planning process or strategic transport interventions.



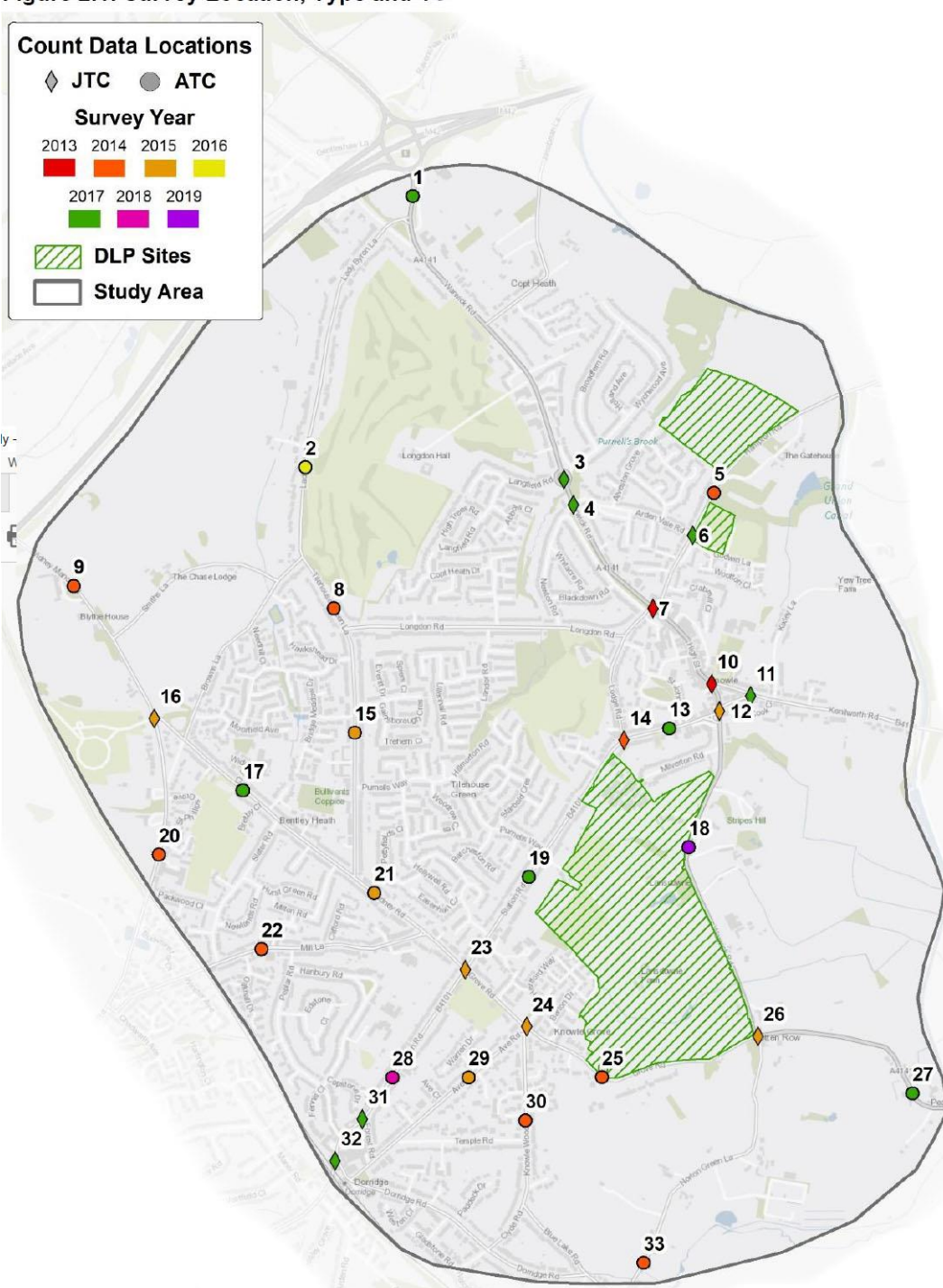
# Wider Objectives of Study

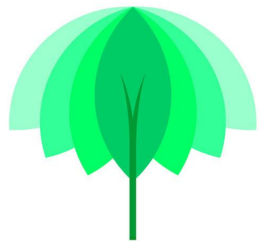
- Recognise the challenges and opportunities related to substantial housing and employment growth and ensure integrated planning of land use and transport
- Promote active travel to provide health, air quality, greenhouse gas and congestion benefits and reduce the barriers to movement, including walking & cycling
- Ensure that transport is inclusive and accessible for all needs
- Enhance road safety.



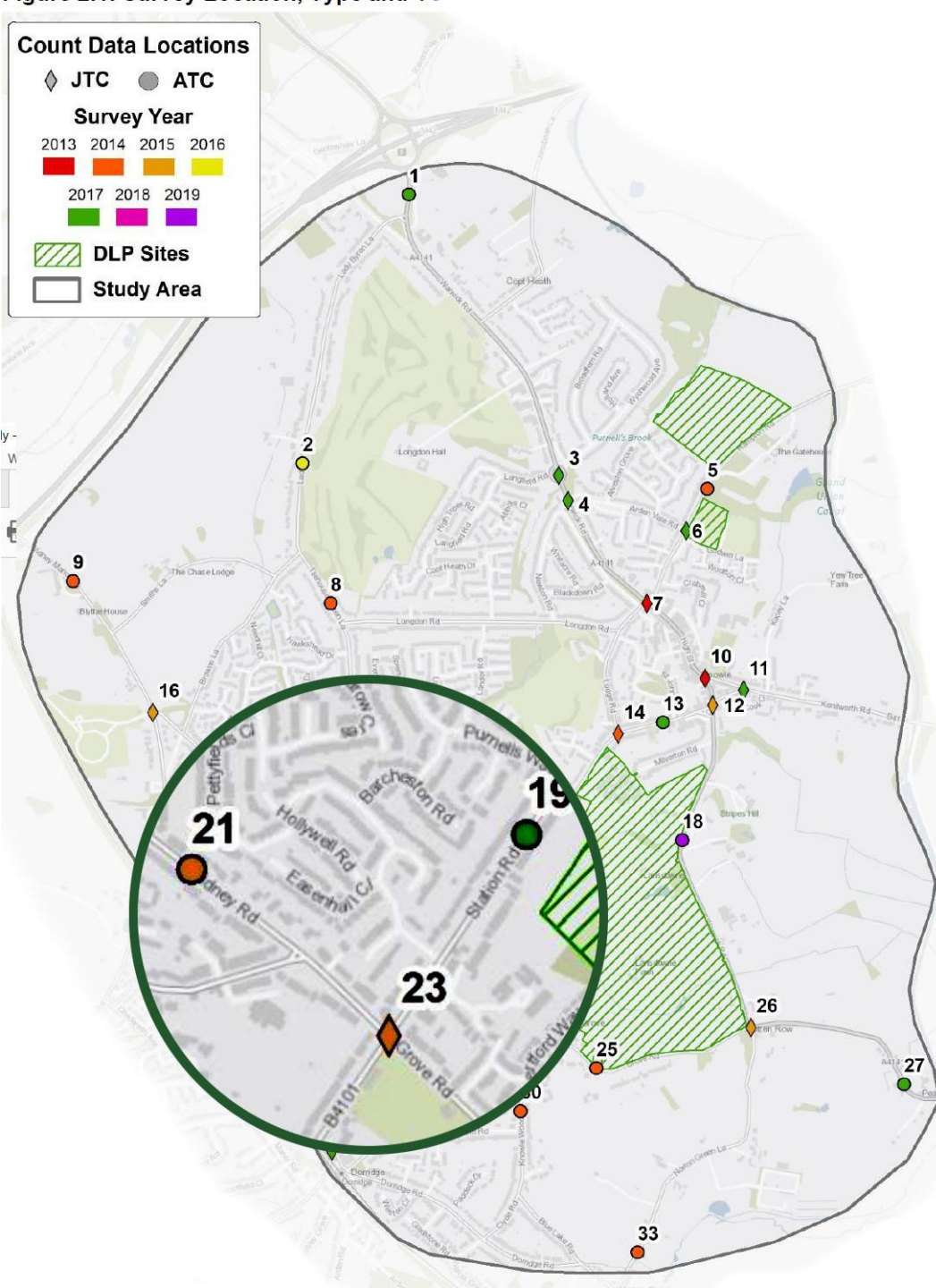
# Building & Running the Model

- Reliance on previous traffic data as a result of the pandemic (33 Traffic Assessments, 2013-2019) and Trafficmaster congestion data
- Projecting 2017 levels by applying growth factors
- Then projecting to 2026 and 2036
- Then adding predicted extra traffic from new housing
- Identifying junctions at risk
- Remodelling with potential improvement options
- Suggesting priorities for more detailed study





# Previous Traffic Data

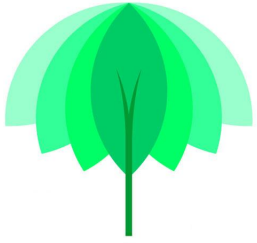




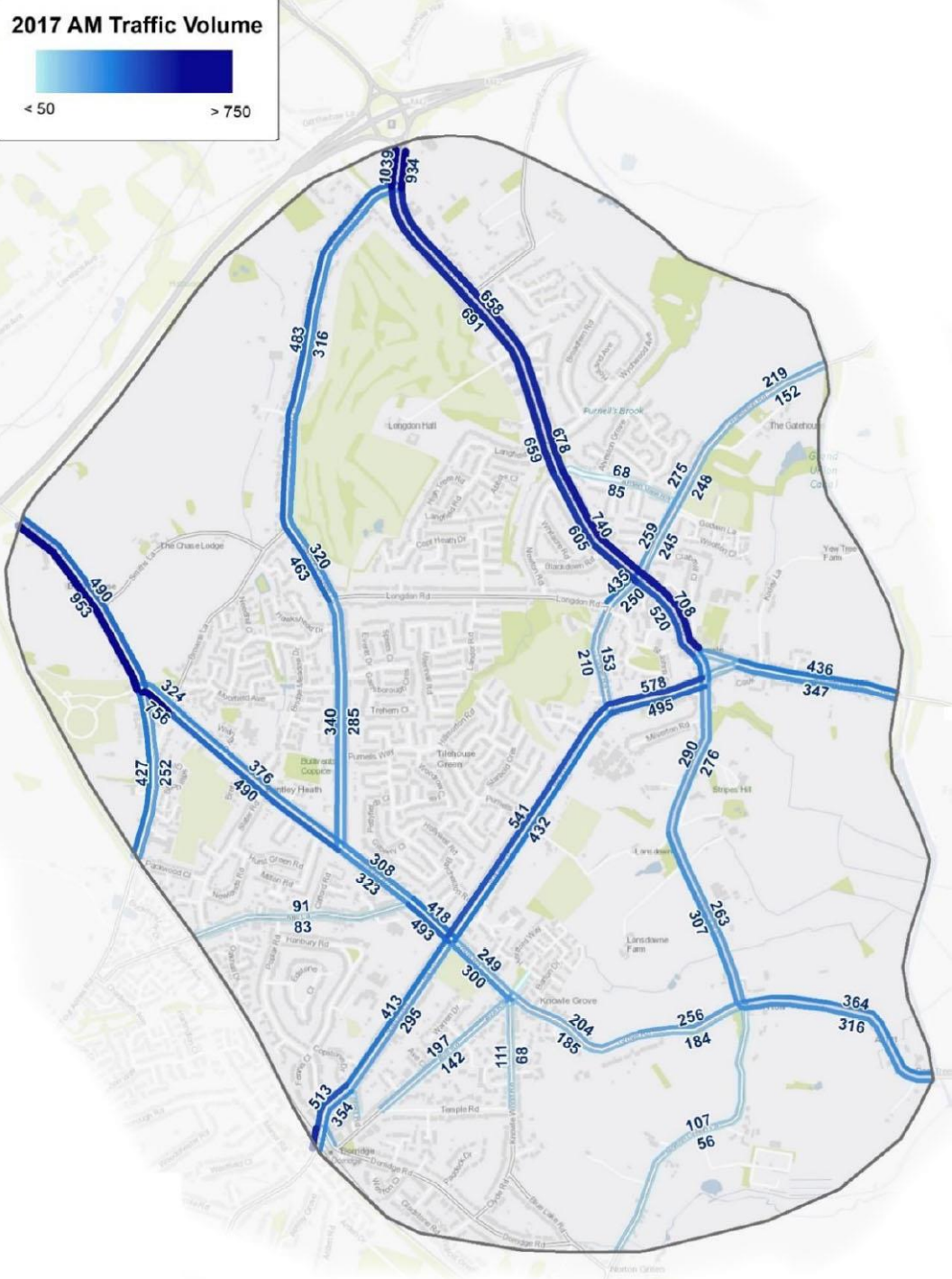


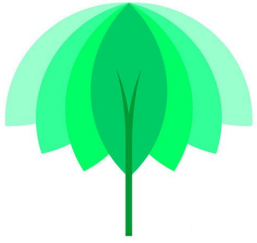
# Modelling to 2026 and 2036

Year	AM Factor	PM Factor
2013	1.050	1.049
2014	1.039	1.038
2015	1.028	1.027
2016	1.011	1.011
2018	0.989	0.990
2019	0.979	0.979
2026	1.056 (+5.6%)	1.053 (+5.3%)
2036	1.095 (+9.5%)	1.091 (+9.1%)

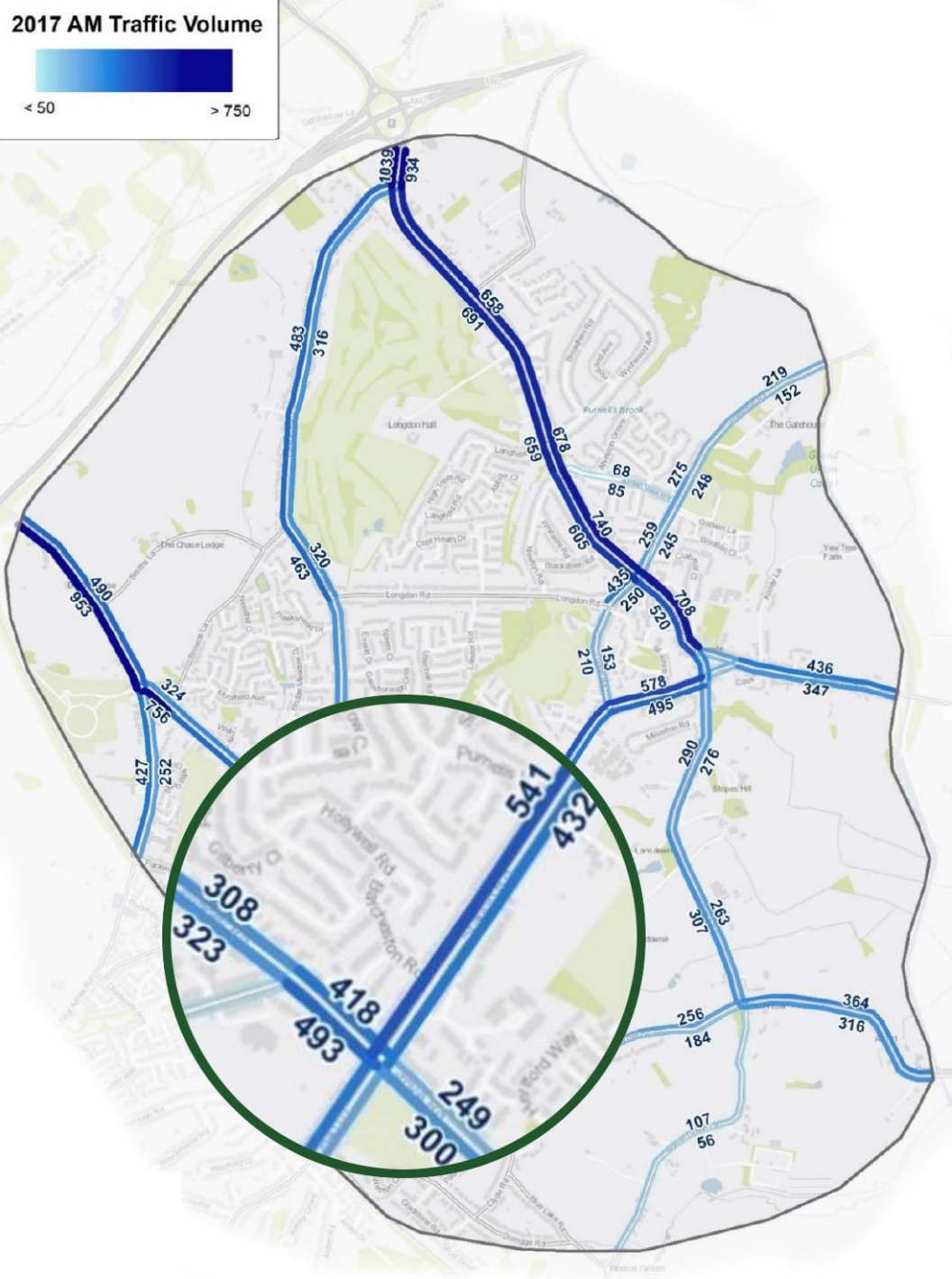


# 2017 AM Traffic Model





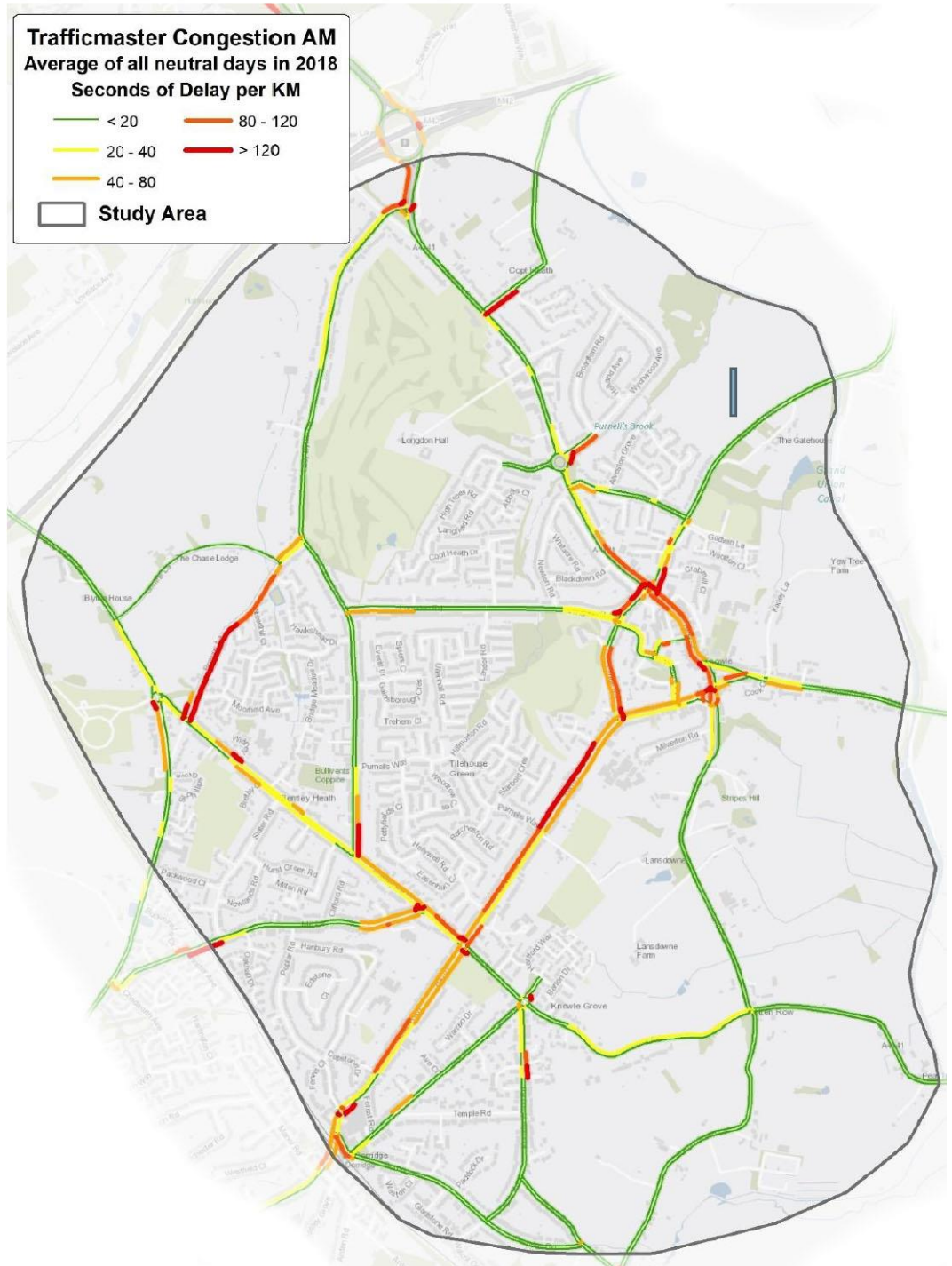
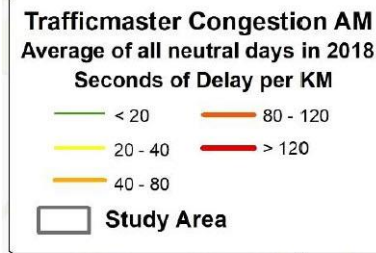
# 2017 AM Traffic Model

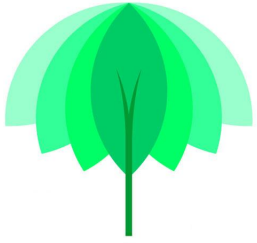




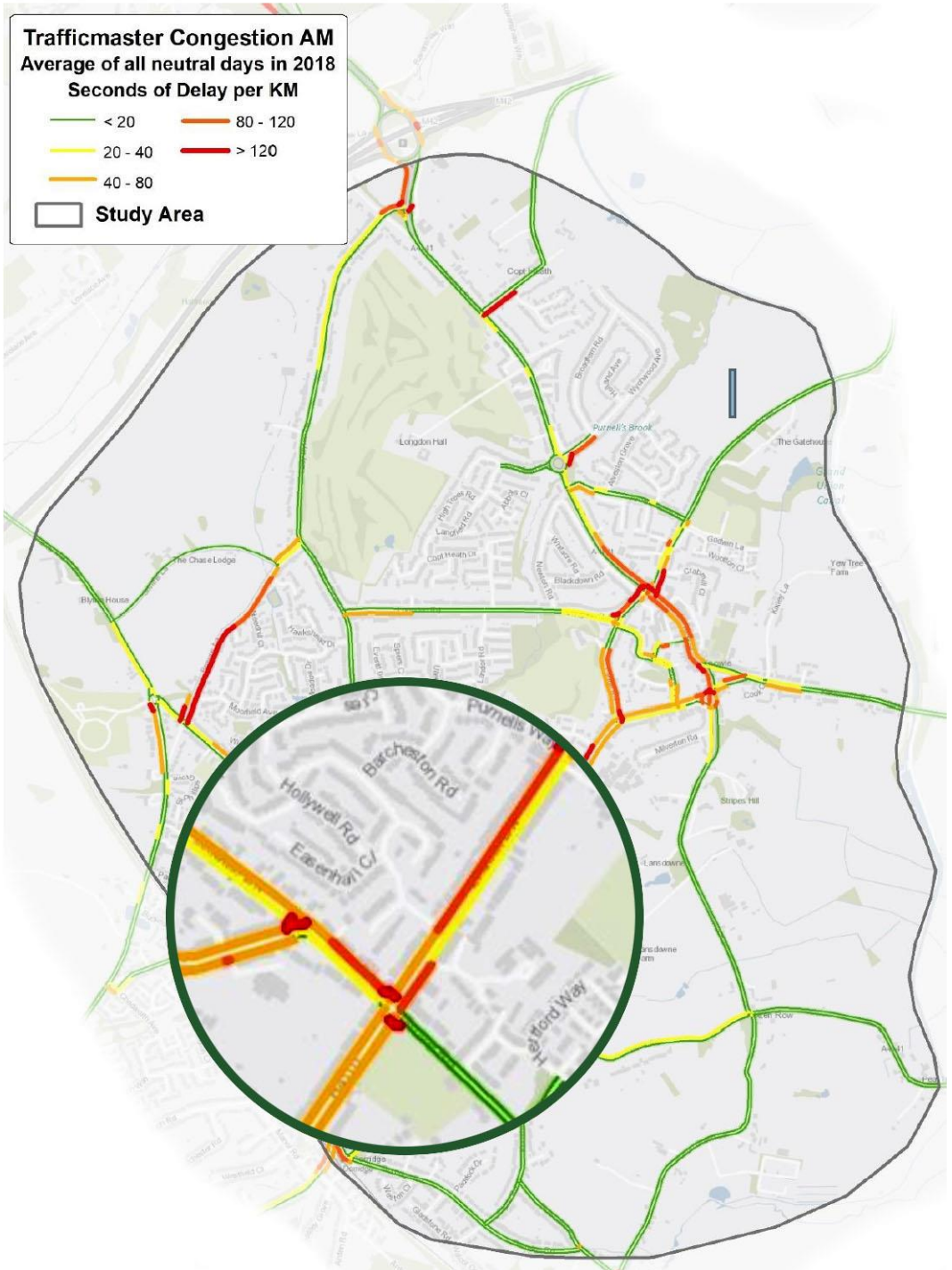


# 2018 AM T'master Delays





# 2018 AM T'master Delays





# Current Congestion Hot Spots

- Knowle High Street
- Station Road
- Lodge Road
- Browns Lane
- A4141 Warwick Road / Lodge Road / Hampton Road junc'n
- High Street / Kenilworth Road junction
- High Street / Wilsons Road / Station Road junction
- Station Road / Lodge Road junction
- Station Road / Grove Road / Widney Road junction



# Housing / Extra Traffic Predictions

Site	Development by 2026	Development by 2036
8A (north)	50 dwellings	150 dwellings
8B (South)	50 dwellings	150 dwelling
9	200 dwellings	600 dwellings

Source: SMBC

Site	DLP Year	Development	AM (08:00-09:00)		PM (17:00-18:00)	
			Arr	Dep	Arr	Dep
Site 8 (8A and 8B combined)	2026	100 dwellings	14	41	38	16
	2036	300 dwellings	41	124	113	47
Site 9	2026	200 dwellings	27	83	76	31
	2036	600 dwellings	81	248	227	93

Source: Mott MacDonald



# 2026 AM Development Flow Site 8

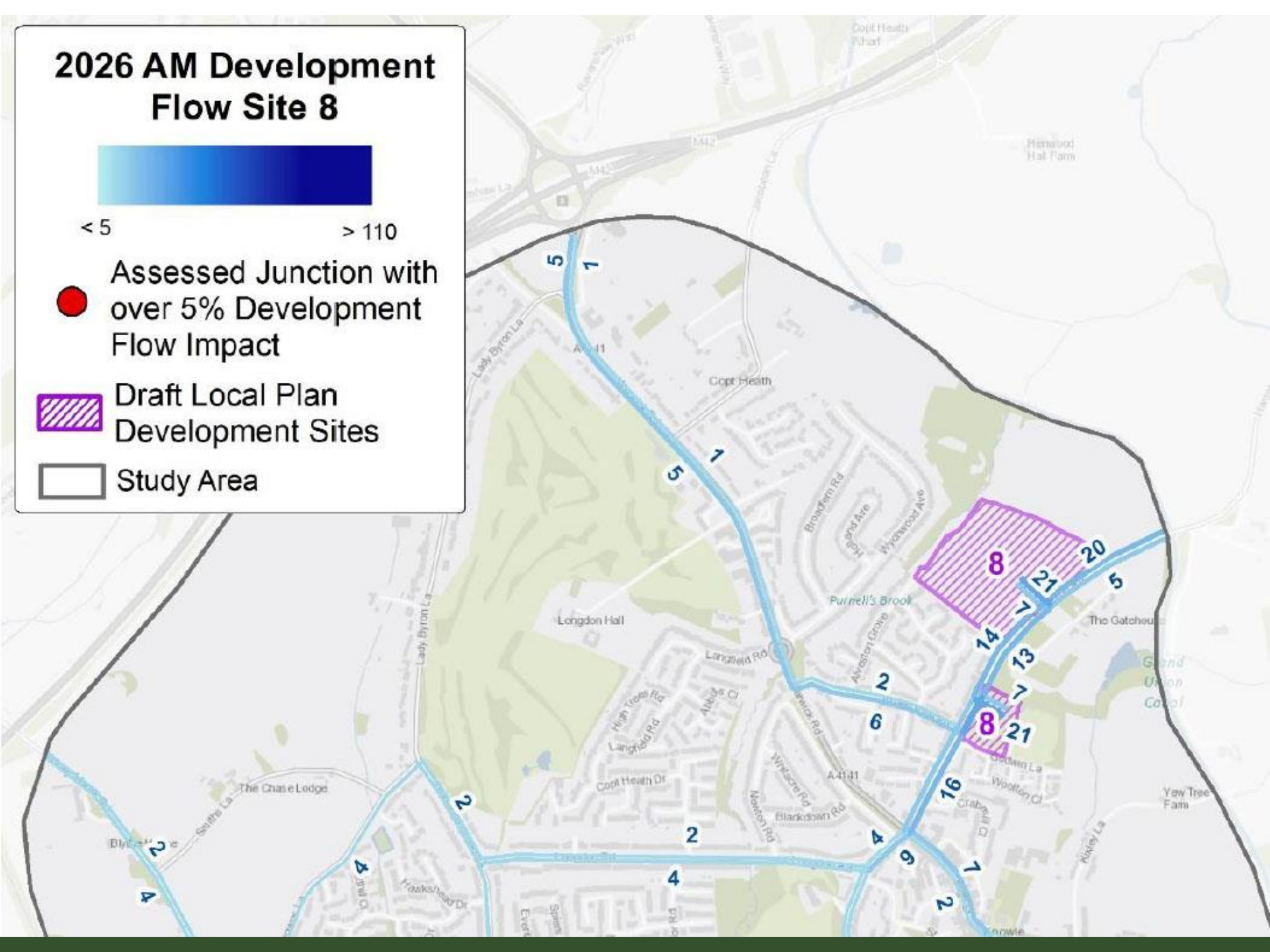


< 5                      > 110

● Assessed Junction with  
over 5% Development  
Flow Impact

▨ Draft Local Plan  
Development Sites

▭ Study Area





# 2036 AM Development Flow Site 8



< 5                      > 110



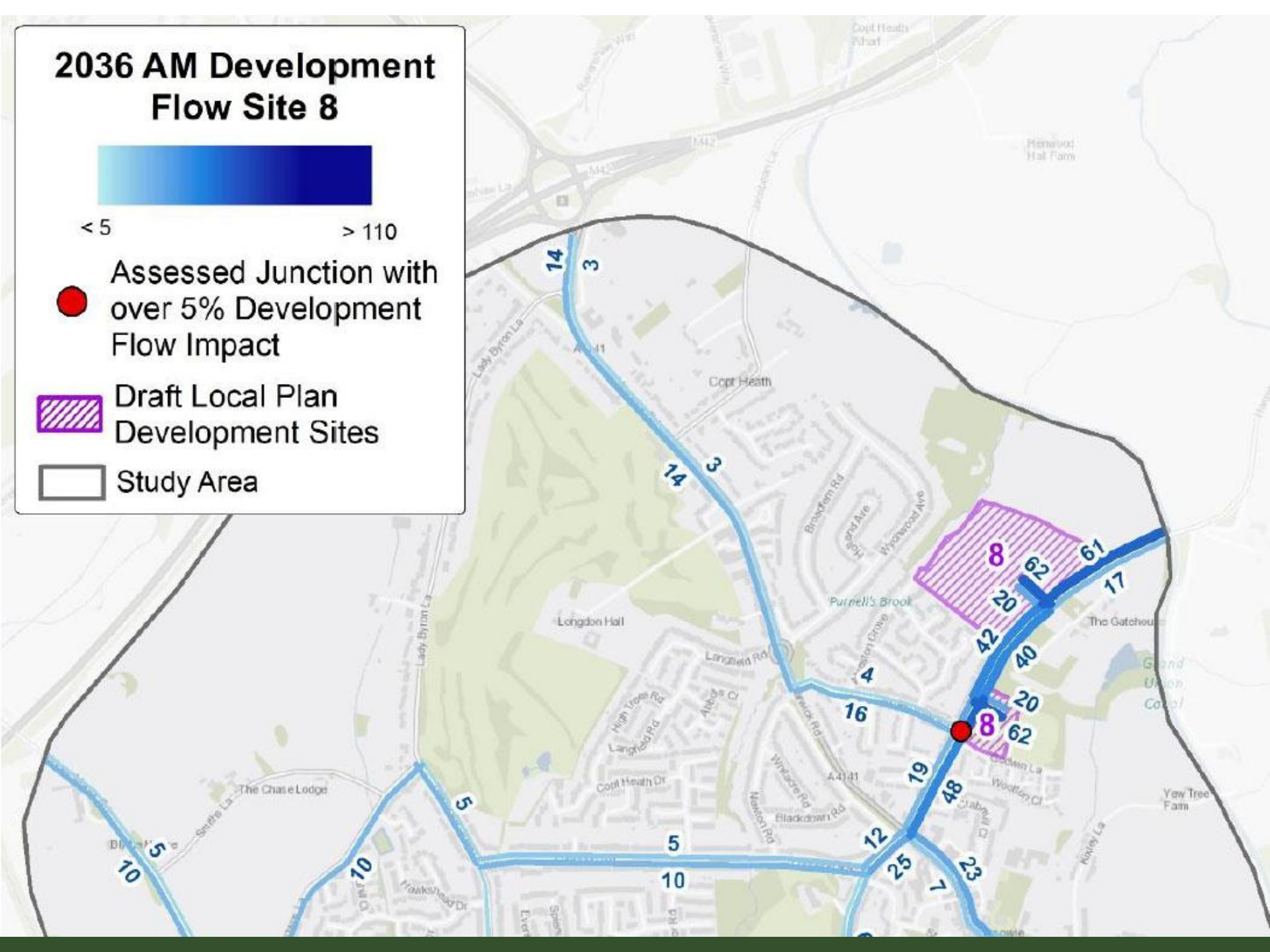
Assessed Junction with  
over 5% Development  
Flow Impact

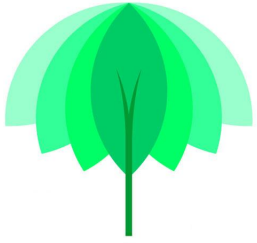


Draft Local Plan  
Development Sites

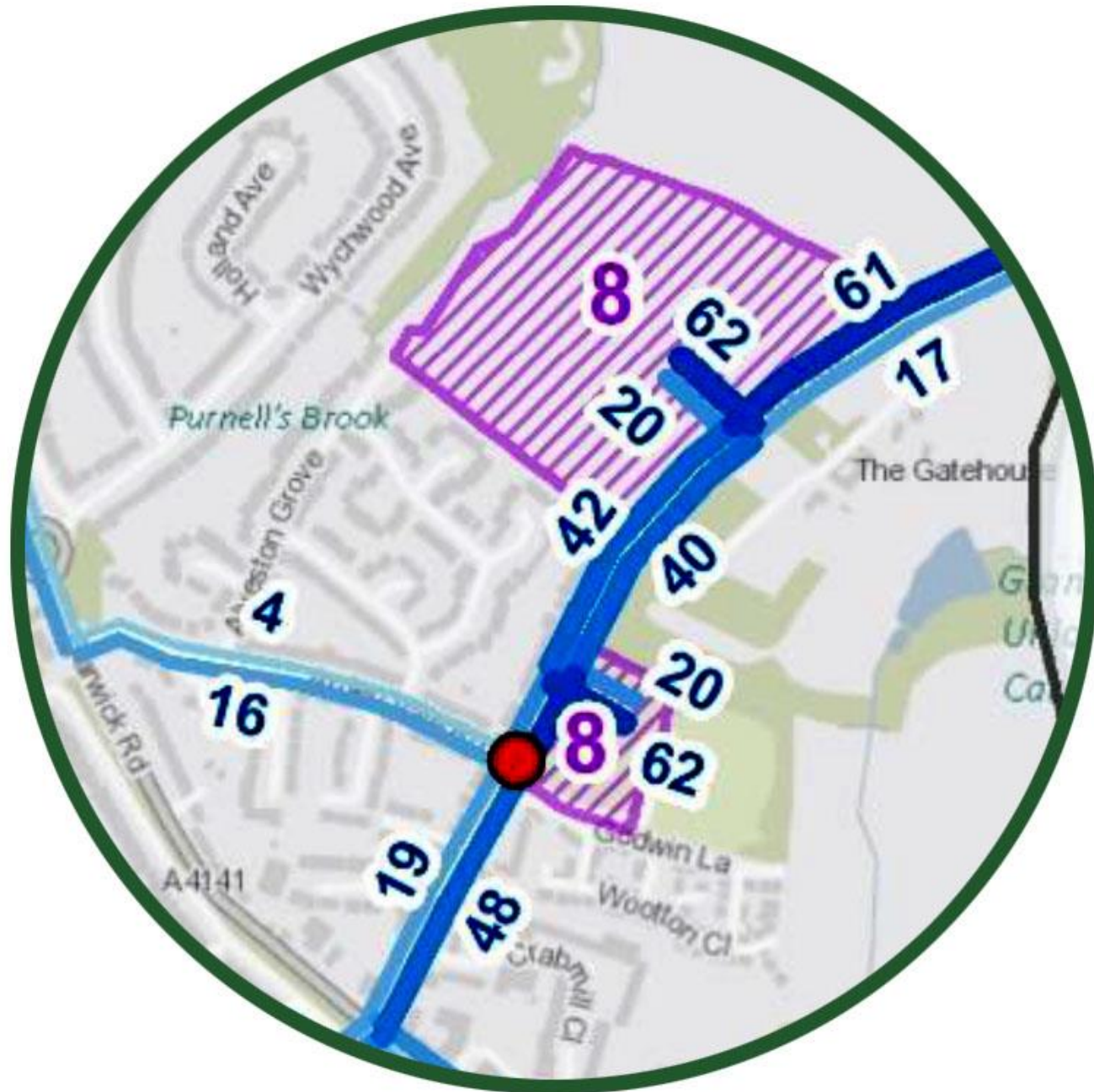


Study Area





# Site 8 Traffic 2036 AM





# 2026 AM Development Flow Site 9



< 5                      > 110



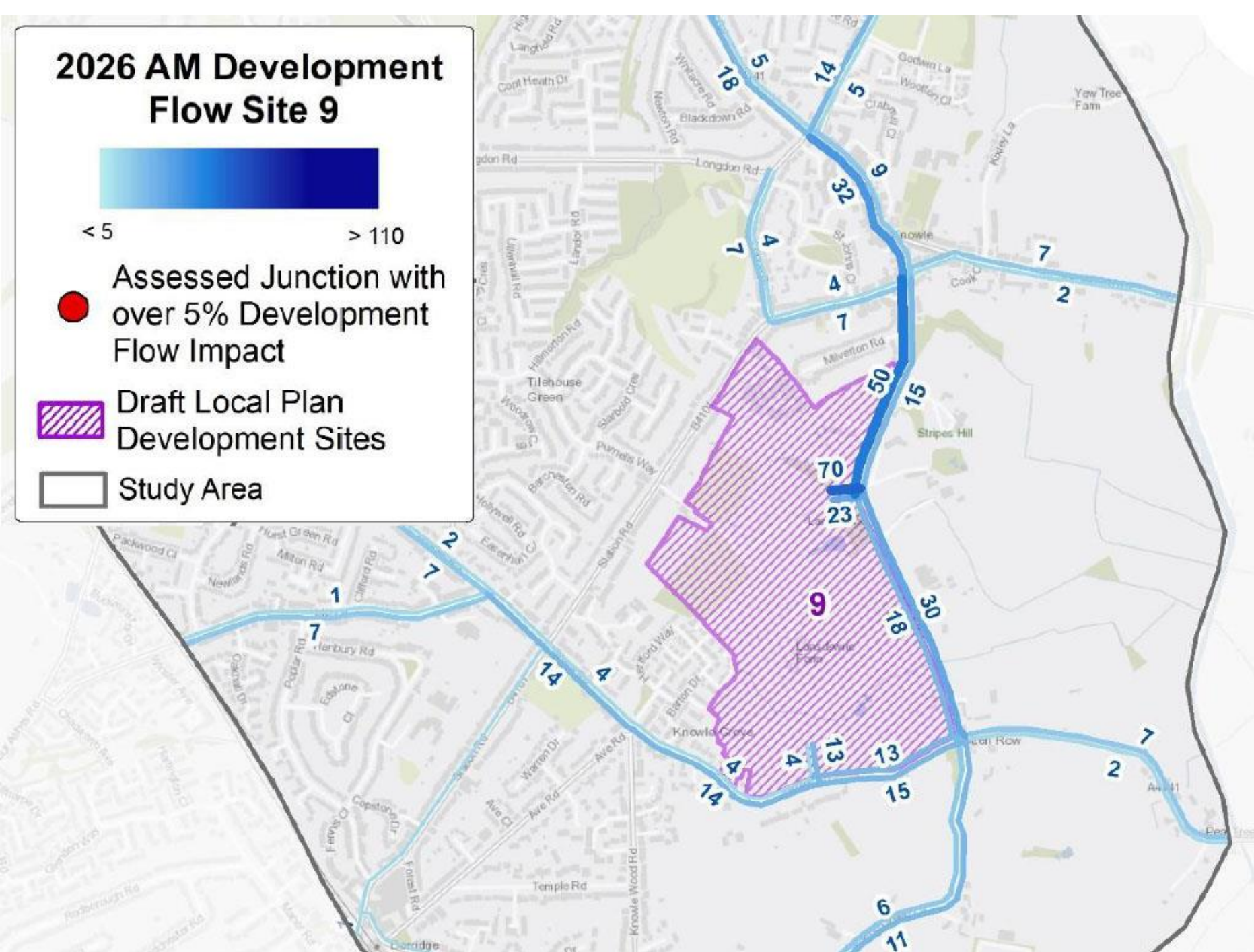
Assessed Junction with  
over 5% Development  
Flow Impact



Draft Local Plan  
Development Sites



Study Area



# 2036 AM Development Flow Site 9



< 5

> 110



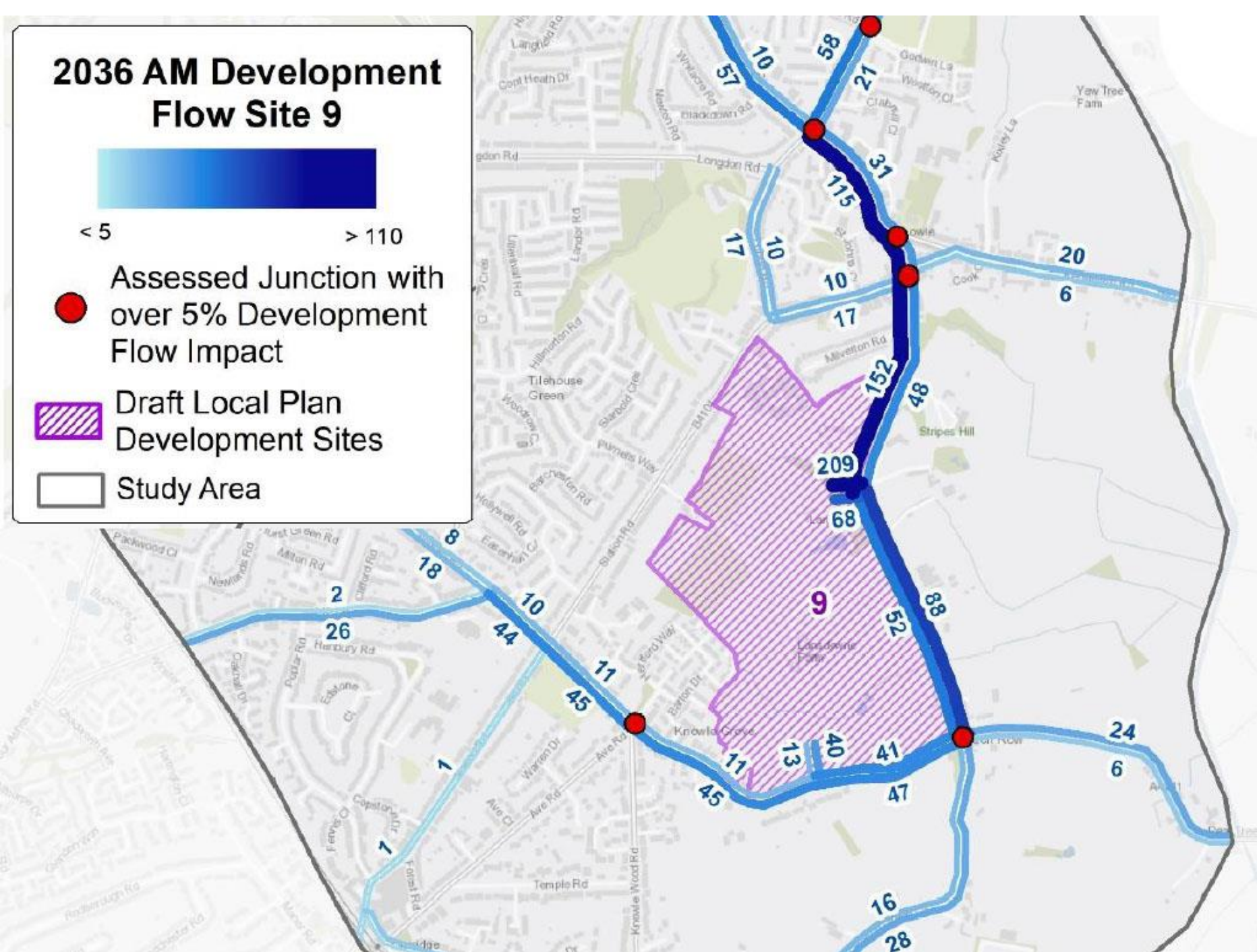
Assessed Junction with  
over 5% Development  
Flow Impact



Draft Local Plan  
Development Sites



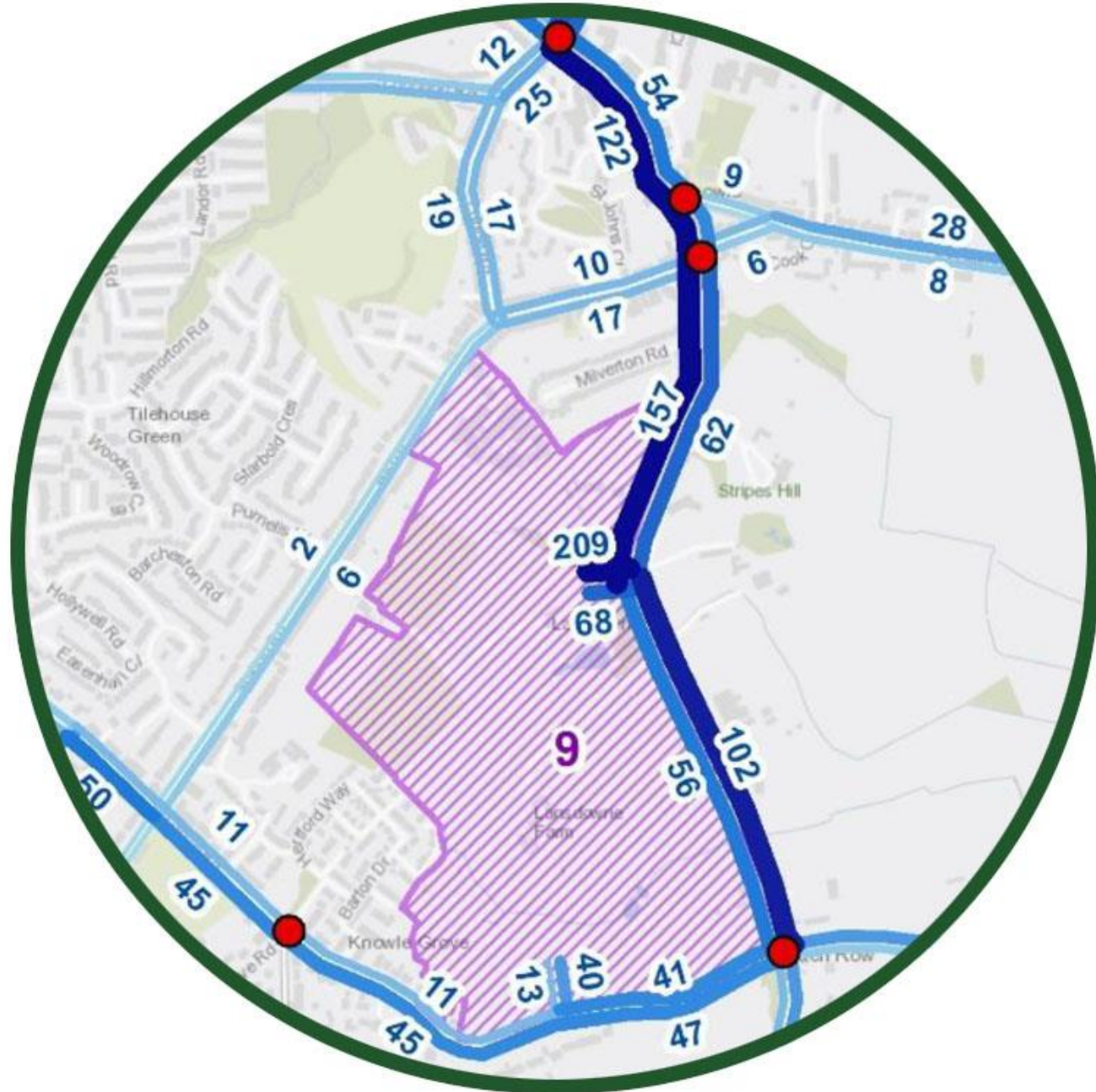
Study Area

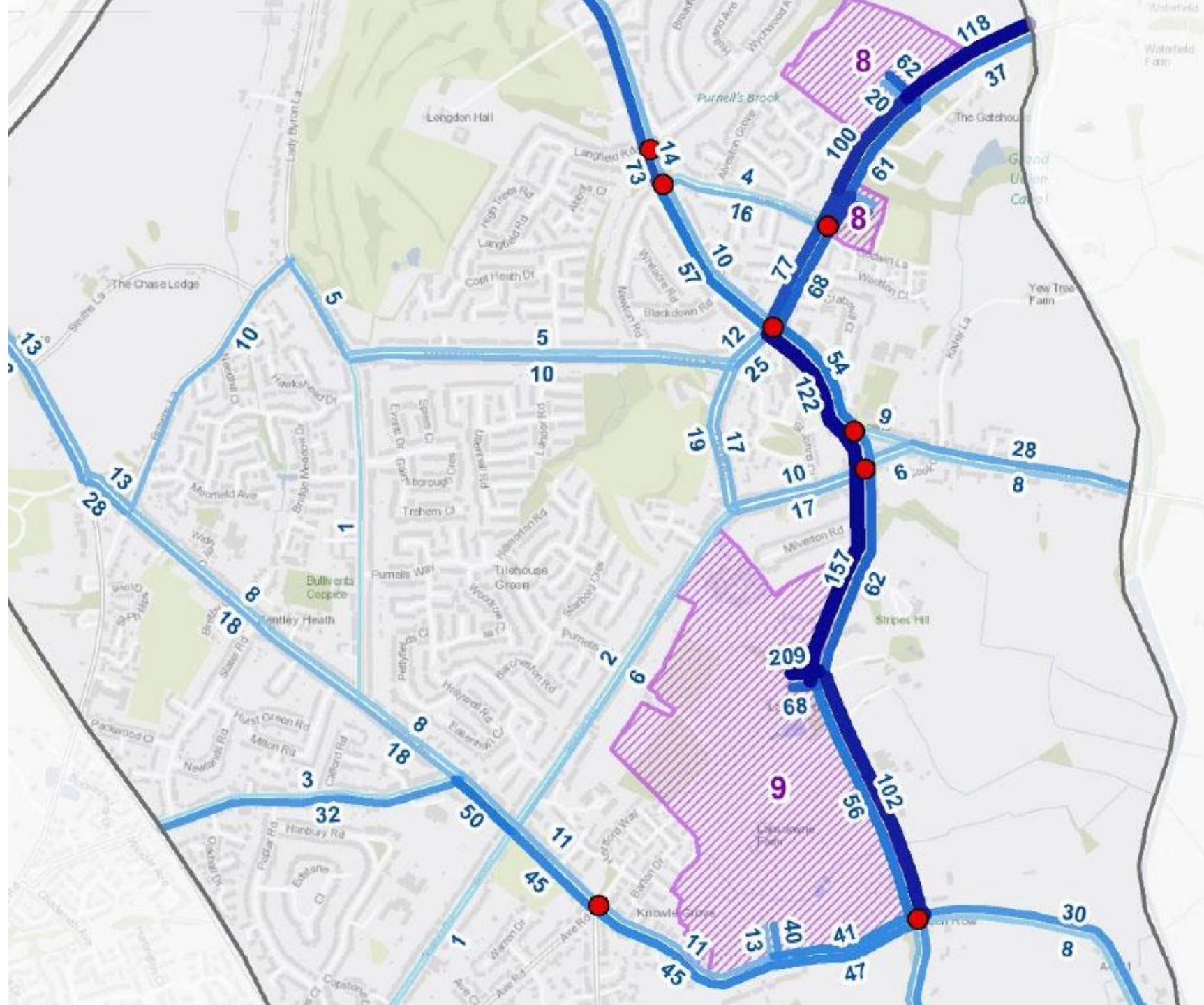






# Site 9 Traffic 2036 AM

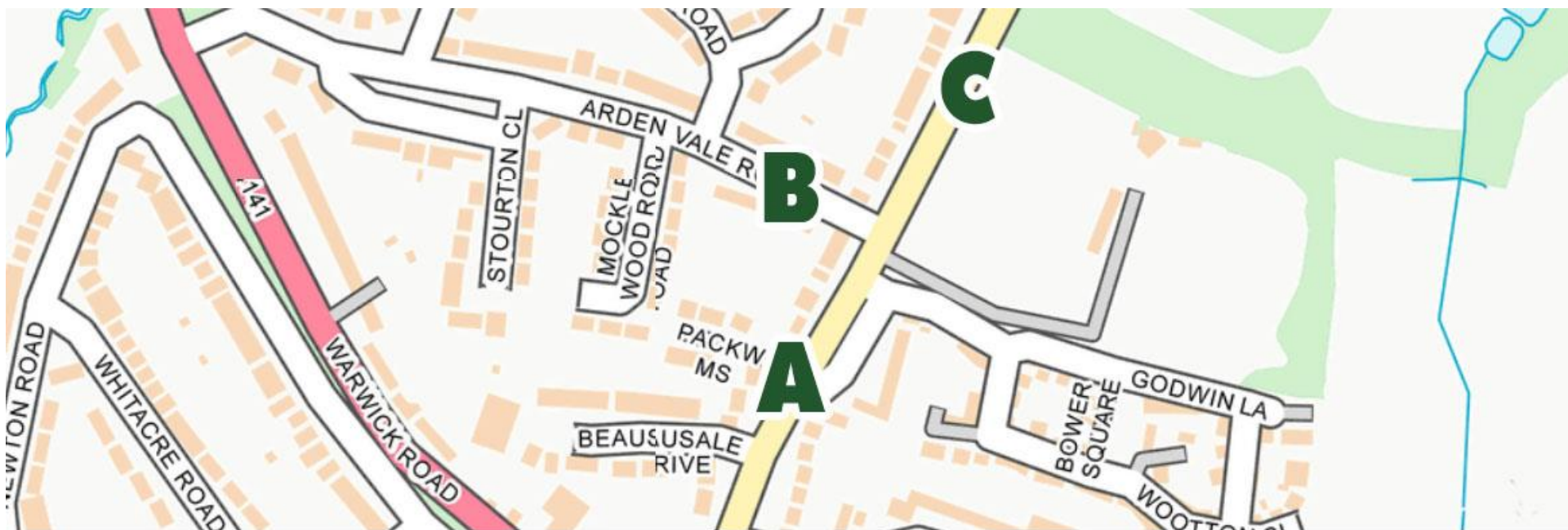








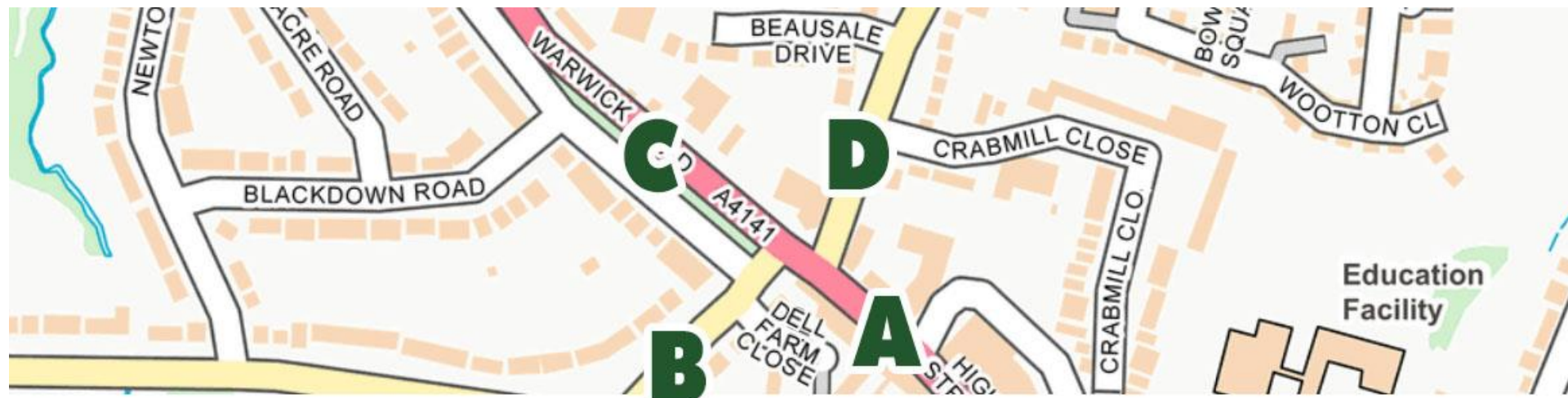
# Hampton /Arden Vale – 2036



Movement	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
B-C	0.1	8.14	0.07	A	0.1	7.18	0.08	A
B-A	0.2	12.1	0.16	B	0.1	13.85	0.11	B
C-AB	0.2	5.04	0.09	A	0.7	5.83	0.28	A



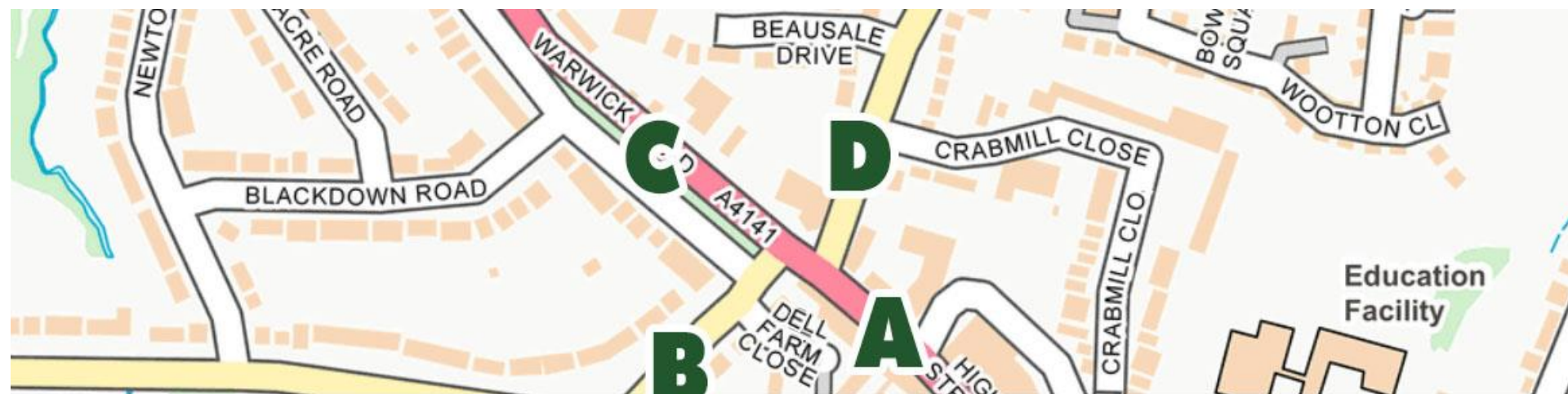
# By Wilson Arms – 2036







# By Wilson Arms – 2036



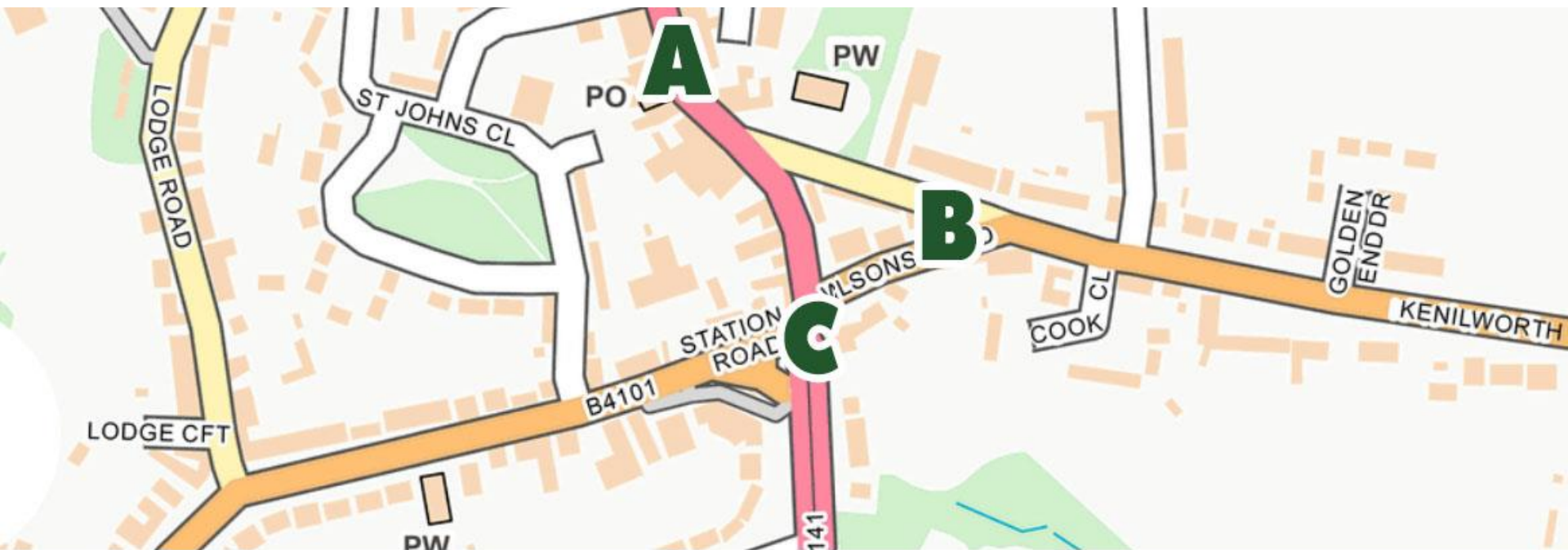
AM

PM

Movement	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
B-C	2.6	31.82	0.74	D	2.8	28.97	0.75	D
B-AD	15.5	245.41	1.08	F	1.1	33.67	0.53	D
A-BCD	1.3	16.91	0.54	C	0.3	9.66	0.22	A
D-A	4.3	69.8	0.86	F	1.4	20.16	0.59	C
D-BC	3.1	124.39	0.83	F	0.6	28.62	0.4	D
C-ABD	0.7	10.64	0.4	B	0.5	9.79	0.35	A

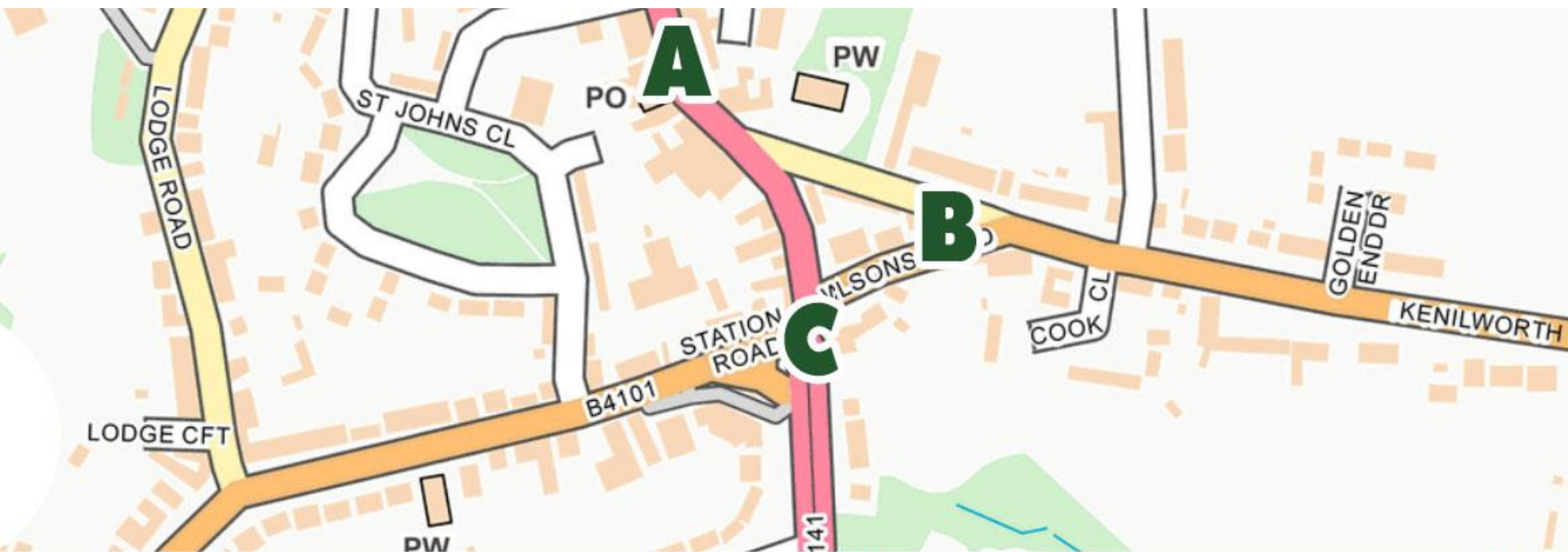


# By Knowle Church – 2036





# By Knowle Church – 2036

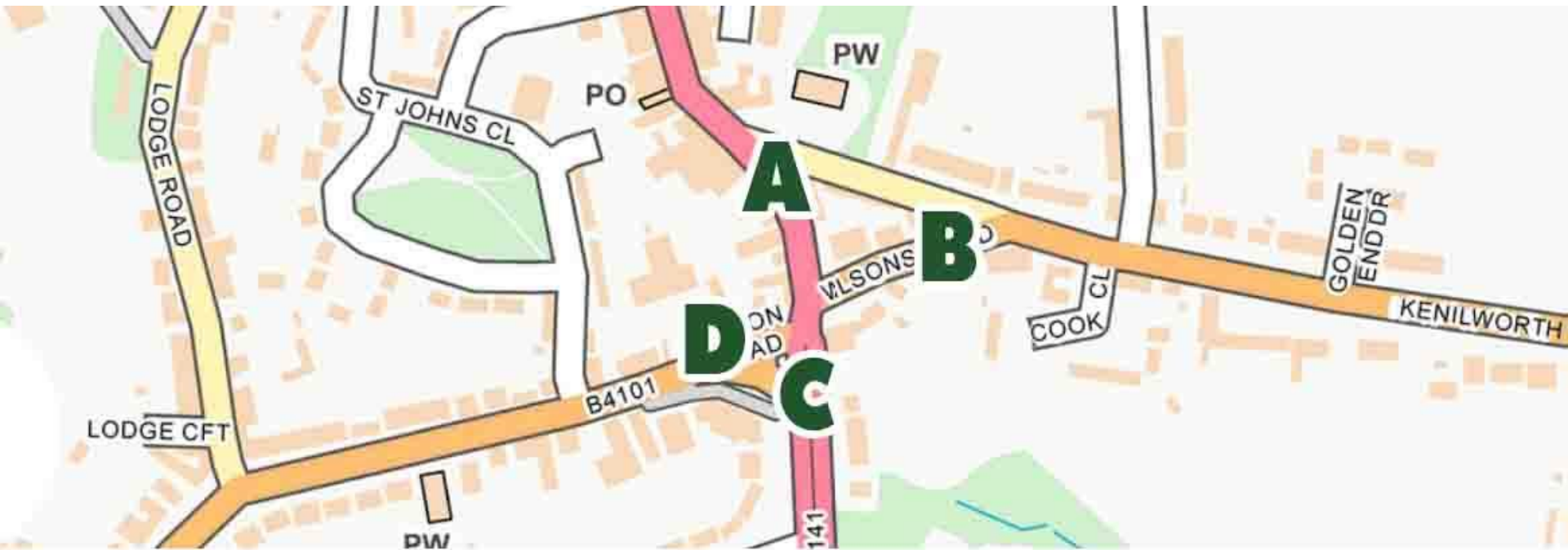


Movement	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
B-C	0.1	19.3	0.05	C	0	13.23	0.04	B
B-A	2.9	43.5	0.76	E	2.2	33.98	0.70	D
C-AB	0.2	4.95	0.10	A	0.1	4.87	0.06	A



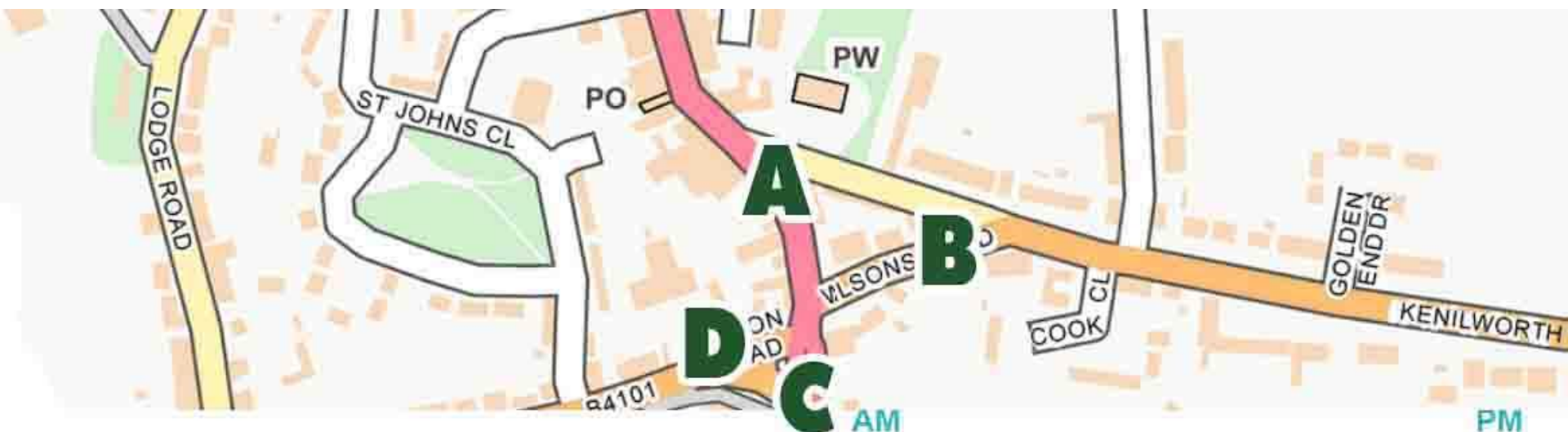


# By Milverton House – 2036





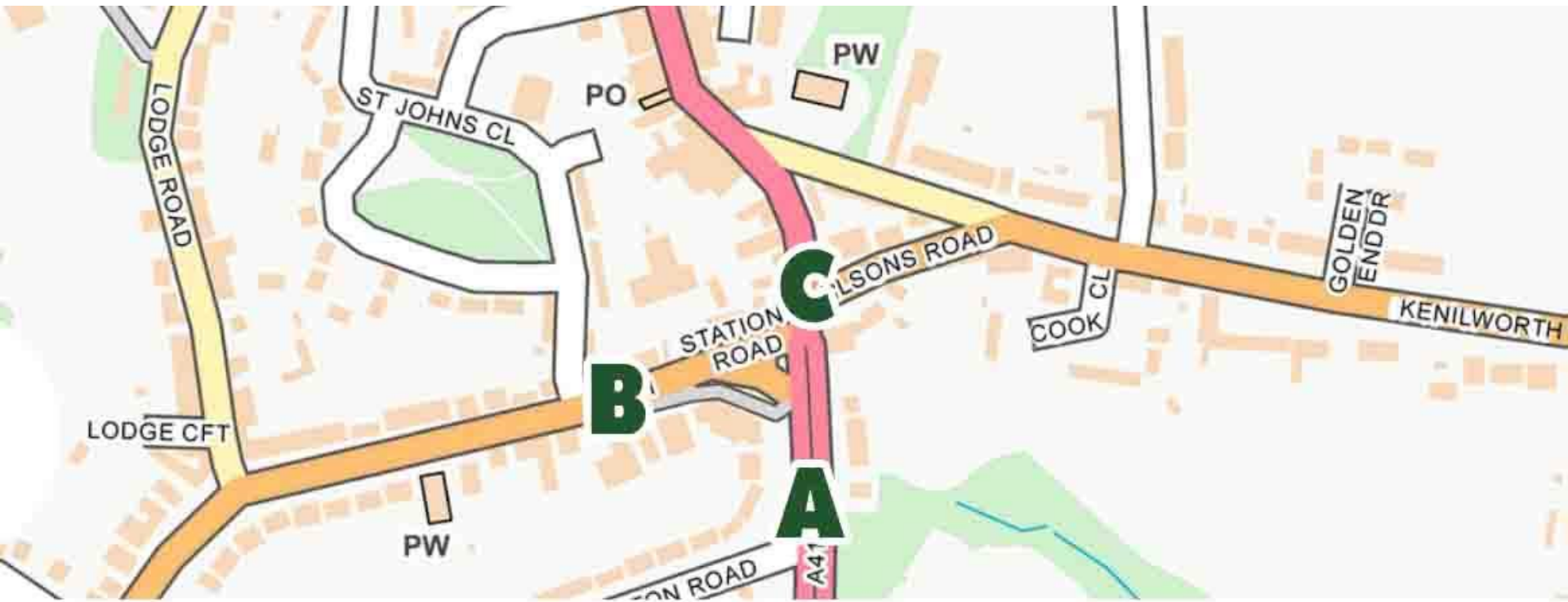
# By Milverton House – 2036



Movement	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
J1: B-CD	0.8	12.04	0.44	B	1.8	21.52	0.65	C
J1: B-A	0.1	24.64	0.07	C	0.2	28.97	0.15	D
J1: AB-CD	0.0	0.00	0.00	A	0.0	0.00	0.00	A
J1: D-AB	11.6	86.89	0.98	F	1.9	20.18	0.67	C
J1: D-C	0.4	16.04	0.26	C	0.7	20.46	0.42	C
J1: CD-AB	12.2	40.72	0.90	E	2.0	9.54	0.53	A

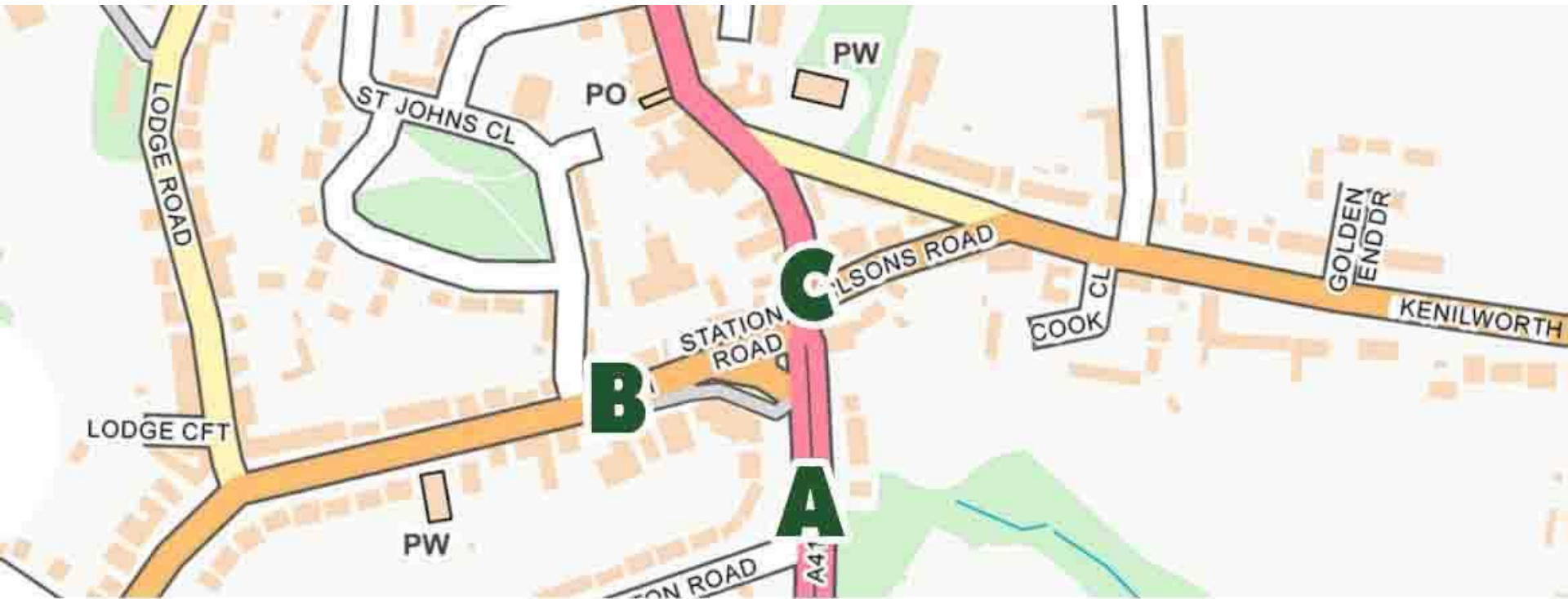


# By Bus Shelter – 2036





# By Bus Shelter – 2036

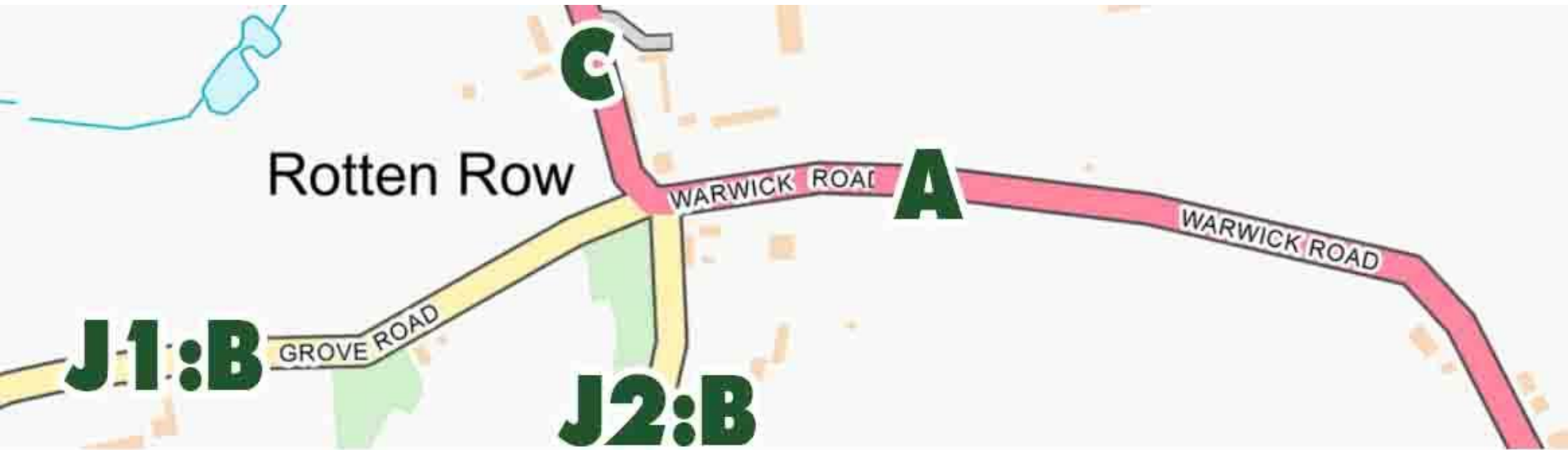


Movement	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
J2: C-AB	2.1	16.88	0.67	C	27.5	82.98	1.00	F





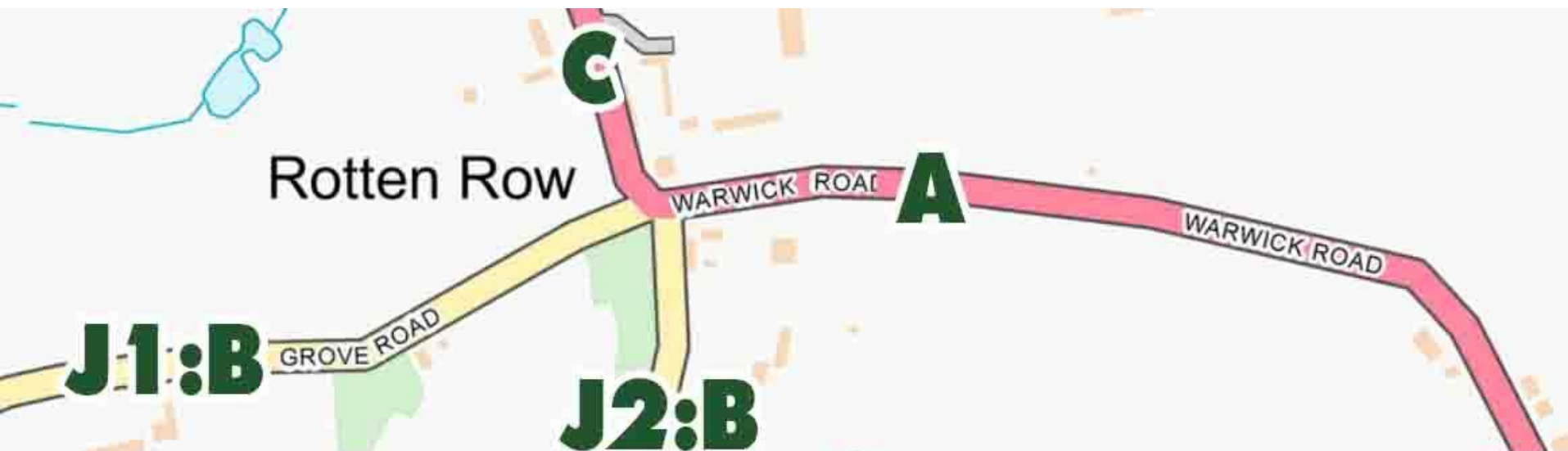
# Rotten Row – 2036







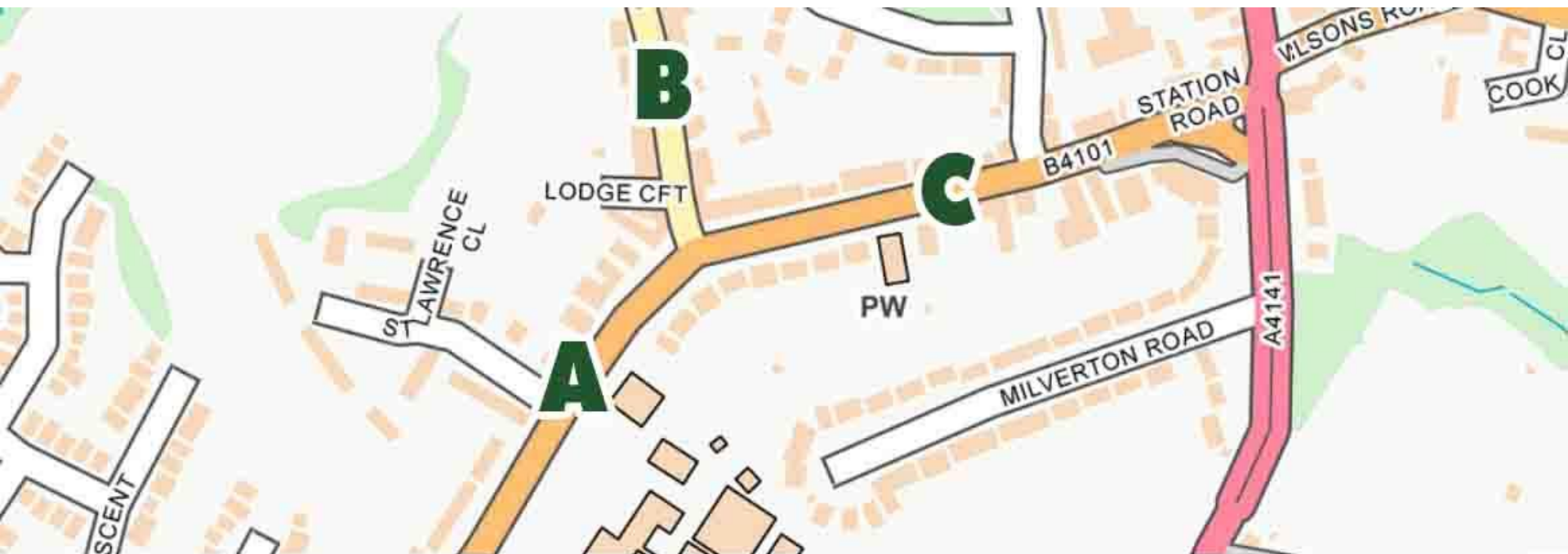
# Rotten Row – 2036



Movement	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
J1: B-C	0.7	16.61	0.42	C	0.2	12.43	0.18	B
J1: B-A	1.8	34.62	0.66	D	1.2	29.44	0.56	D
J1: C-AB	0.7	7.37	0.31	A	0.8	7.25	0.31	A
J2: B-AC	0.4	9.96	0.31	A	0.3	10.22	0.25	B
J2: C-AB	0.6	5.8	0.25	A	0.8	6.34	0.3	A

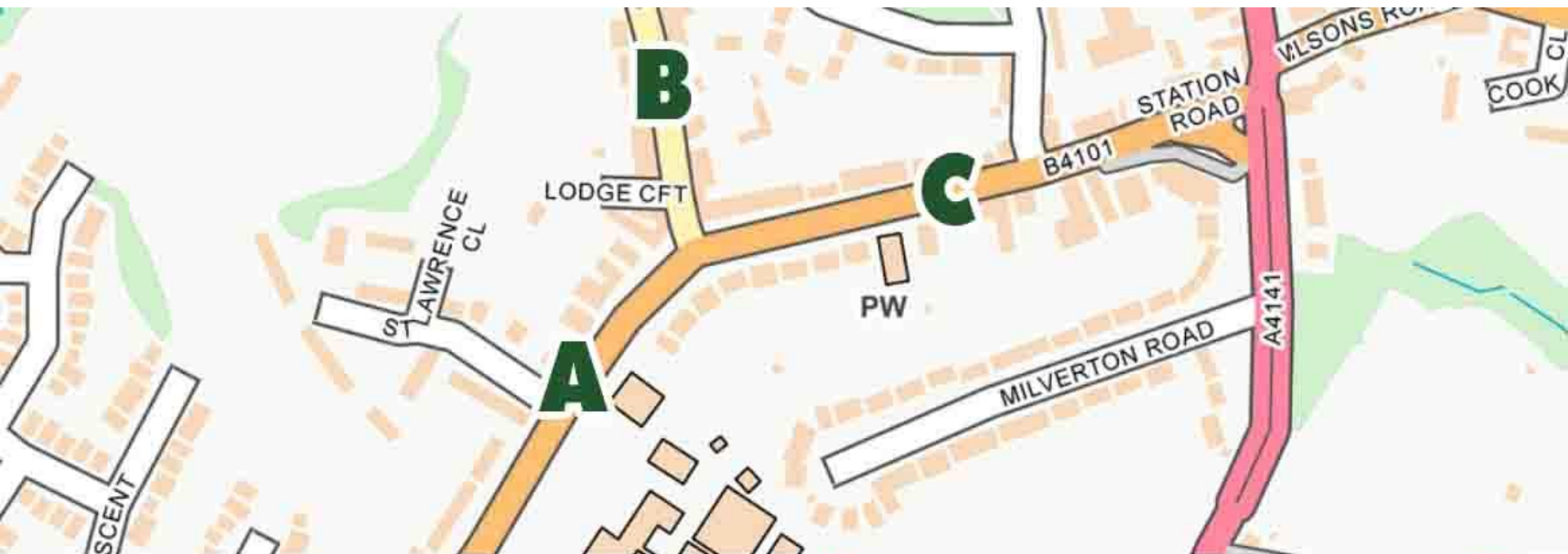


# Holland's Corner – 2036





# Holland's Corner – 2036



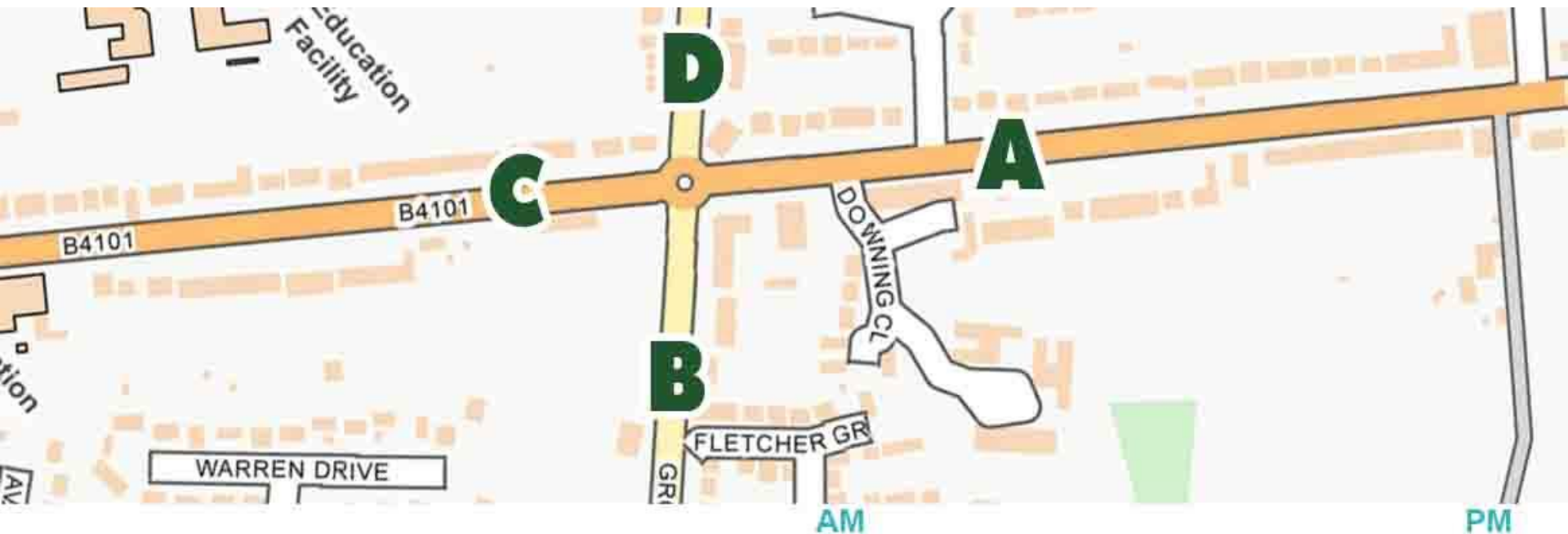
Movement	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
B-C	0.1	8.88	0.08	A	0.3	19.31	0.21	C
B-A	0.8	17.82	0.43	C	3.4	42.29	0.79	E
C-AB	0.1	8.25	0.09	A	0.1	7.4	0.11	A







# By Cricket Club – 2036



Arm	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
A	1.7	12.43	0.63	B	4.1	25.34	0.81	D
B	1.2	10.91	0.56	B	2	16.5	0.67	C
C	1.7	12.86	0.64	B	3.1	19.31	0.76	C
D	1.9	13.76	0.66	B	3.7	23.23	0.80	C

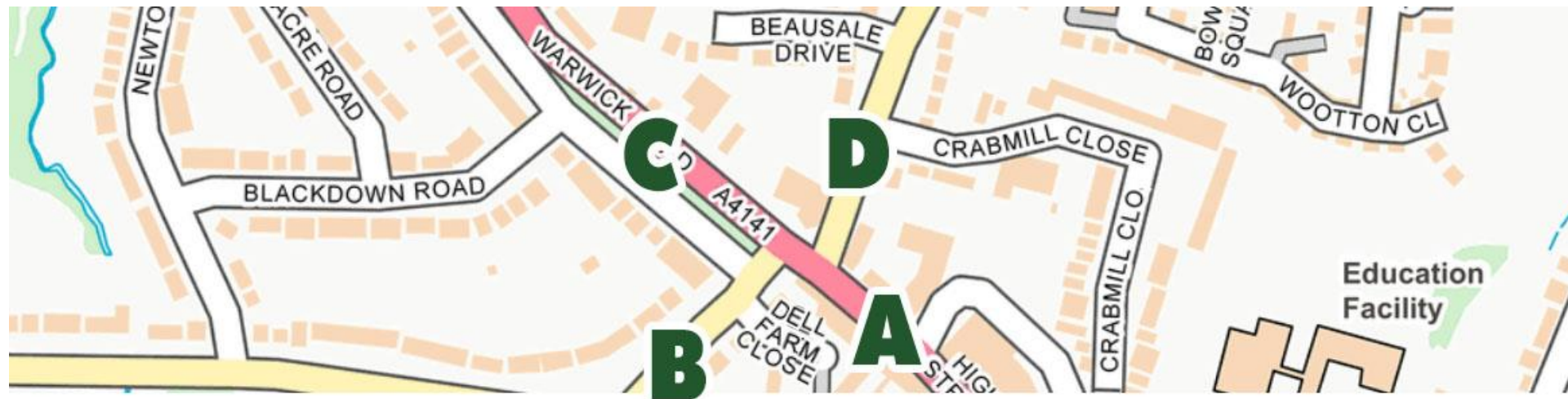


# Need for Options Review

- **A4141 Warwick Road / Lodge Road / Hampton Road junc'n**
- **High Street / Wilsons Road / Station Road junction**
- **High Street / Kenilworth Road junction**
- **Station Road / Lodge Road junction**
- **Station Road / Grove Road / Widney Road junction**



# By Wilson Arms



- **Option 1 – Tuning the Layout**
- **Option 2 – Traffic Lights**
- **Option 3 – Double Mini-Roundabout**



# By Wilson Arms



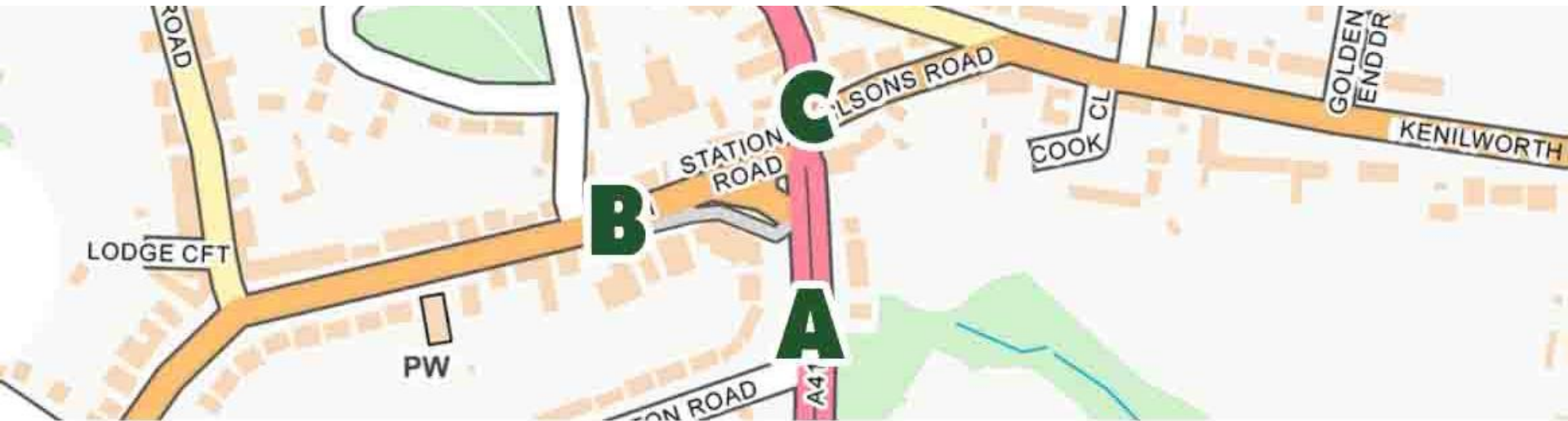
However, even remodelling this option leaves significant delays  
Particularly on Warwick Road and Lodge Road exits

Current	AM – B+C+D+2F	PM – 2A+C+3D
Option	AM – B+C+D+E+2F	PM – 2B+2C+D+F





# By Milverton House



- **Option 1 – Tuning the Layout**
- **Option 2 – Traffic Lights**
- **Option 3 – Traffic Lights with Left Filter from Station Road**



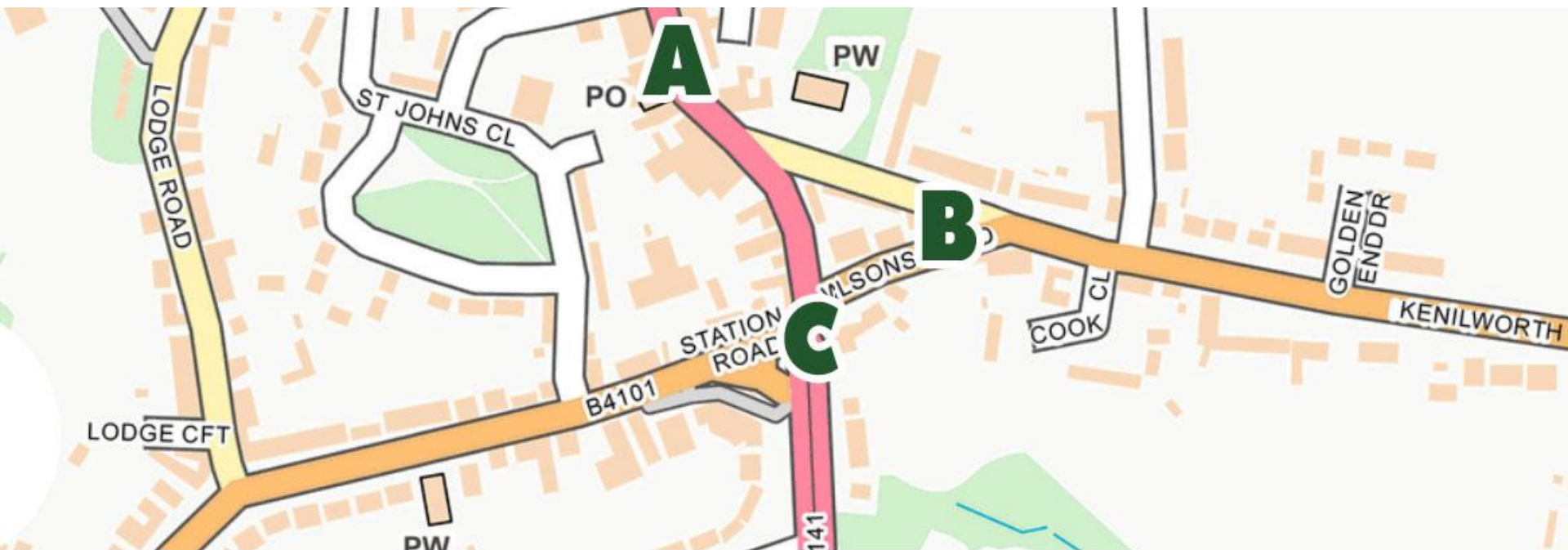
# By Milverton House



**Signalling, with left filter at end of Station Road -  
The only option with delays eradicated**



# By Knowle Church

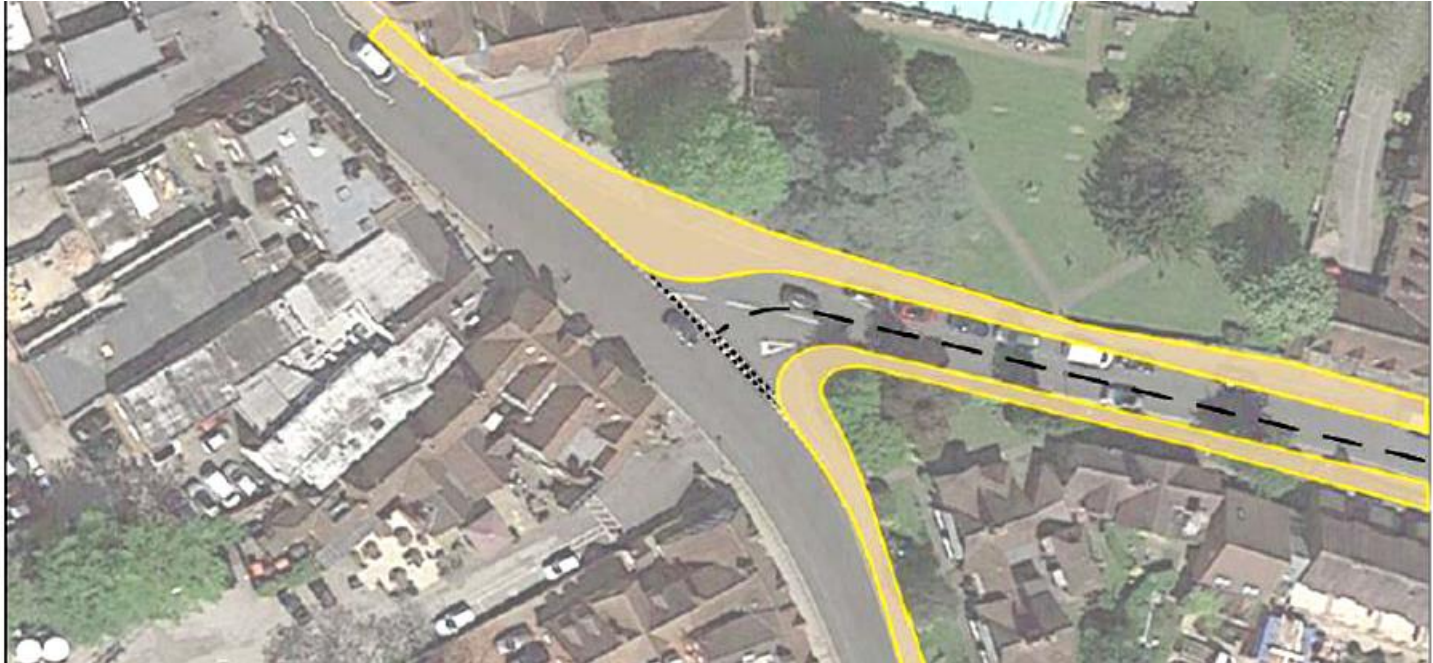


- Option 1 – Narrow the junction and remove parking
- Option 2 – Narrow the junction and leave parking





# By Knowle Church

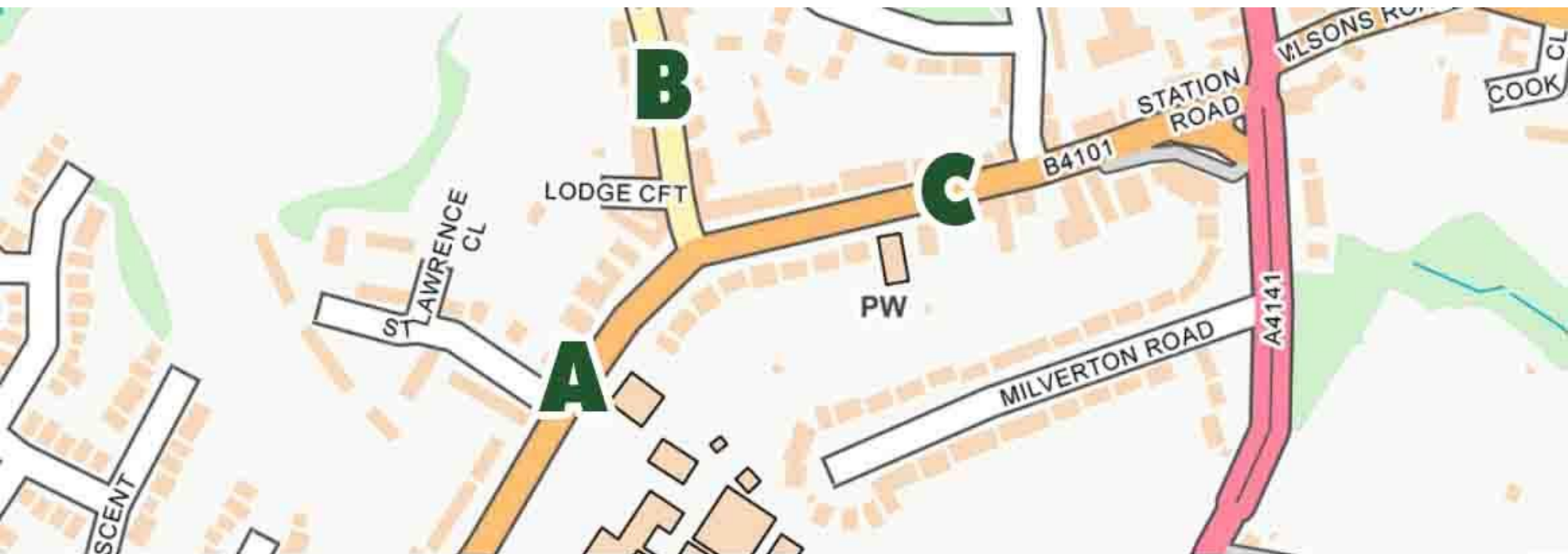


Only without parking is remodelled, and this generates:  
LOS Category E delays exiting Kenilworth Road (AM+PM)  
(currently Category E AM and Category D PM)





# Holland's Corner – 2036



- **Only Option – Tune the layout and remove right turn lane into Lodge Road (on Station Road leaving village)**



# Hollands Corner

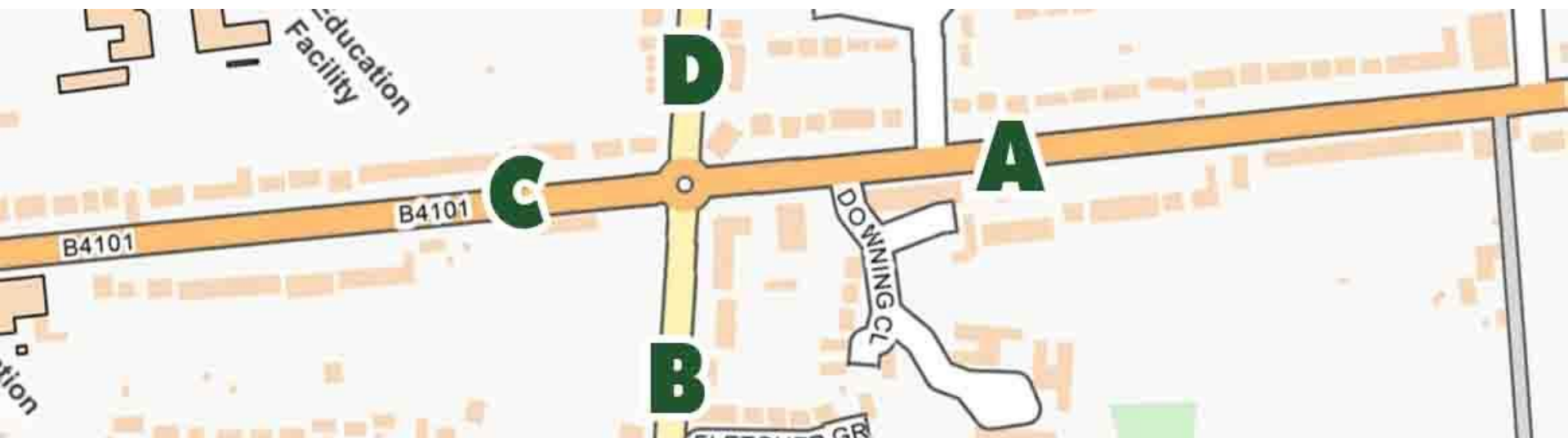


However, remodelling this option shows no improvement, still  
LOS Category E delays exiting Lodge Road towards Dorridge (PM)

Current	AM – 2A + 1C	PM – 1A + 1C + 1E
Option	AM – 2A + 1C	PM – 1A + 1C + 1E



# By Cricket Club



- **Option 1** – Zebra Crossing on each Arm
- **Option 2** – Convert to Mini-Roundabout
- **Option 3** – Mini-Roundabout plus Zebra Crossings



# By Cricket Club



Current	AM – 4B	PM – 2C + 1D
Option 1	AM – 2B + 2C	PM – 1C + 2D + 1E
Option 2	AM – 1D + 2C + 1F	PM – 2D + 2F
Option 3	AM – 2D + 1E + 1F	PM – 2D + 2F





# Also considered ...

## 'Dutch Style' Roundabout at Wychwood





# Also considered ...

## Active Travel





# Priorities for Further Assessment

## **Active travel**

**Warwick Road / Hampton Road / Lodge Road (Double mini roundabout)**

**High Street / Kenilworth Road (removed parking)**

**High Street / Kenilworth Road (with parking)**

**High Street/ Wilsons Road/ Station Road (signalling + left turn filter)**

**Station Road / Lodge Road (simplified junction/footway improvements)**

**Station Road (Roundel - pedestrian crossings)**

**Warwick Road / Wychwood Avenue Roundabout (cycle route segregation)**



# **YOUR OBSERVATIONS**