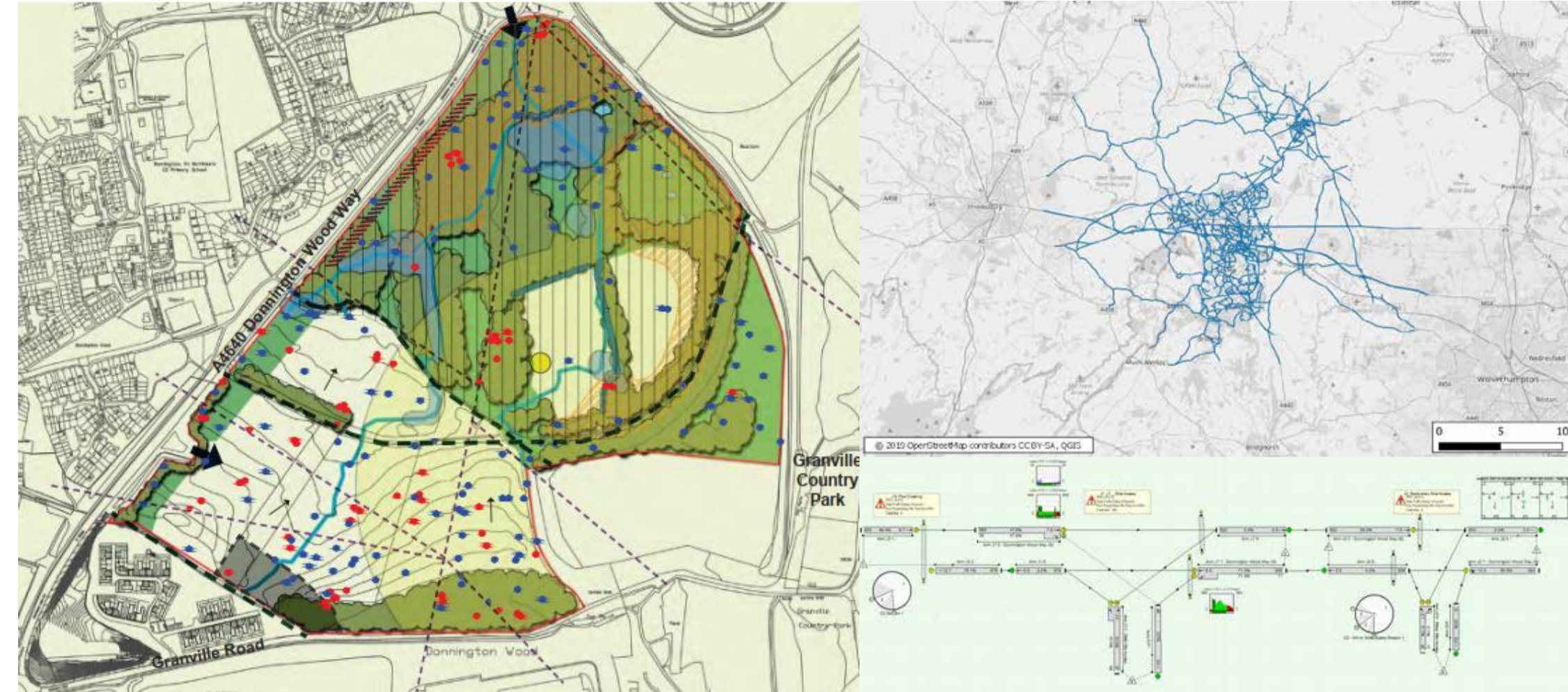


Highways



Donnington LDO Transport Assessment

(September 2020)

Assessment Methodology

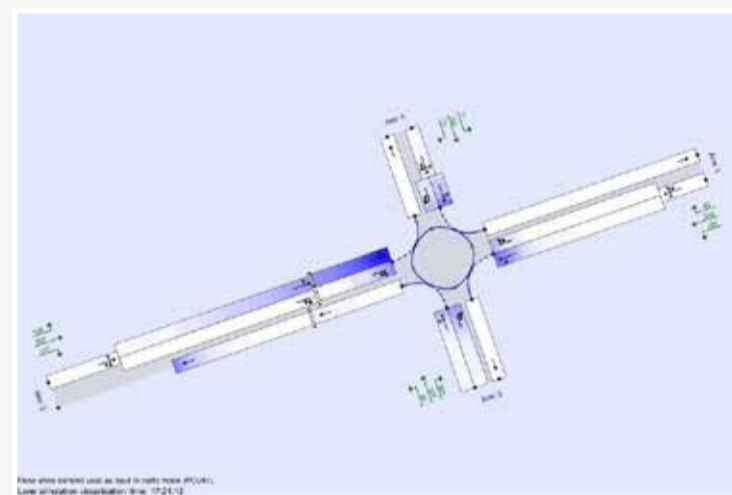
Strategic Modelling

Telford Strategic Transport Model (TSTM)
Overall network impacts
Option testing for form of access



Junction Modelling

Individual junction models
Detailed impact of development at junctions
Feedback results into TSTM



Detailed Design

Design detail developed to enable construction



Telford Strategic Transport Model (TSTM)

Compare impacts of different access arrangements.

- › Changes in flows and delays in scenarios with various access arrangements.
- › Roundabout at main access assessed.
- › Signal control also assessed.
- › Signals identified as preferred site access arrangement.

Option	Main Access	Inter-Connection between Development Parcel A and B	Minor Access	Donnington Wood Way Speed Limit
1	Signalised junction	Yes	Left-in Left-out Priority	As existing (50mph)
2a	Signalised junction	Yes	Left-in Left-out Priority	As existing (50mph)
2b	Signalised junction	No	Left-in Left-out Priority	As existing (50mph)
3	Roundabout	Yes	N/A	As existing (50mph)
4	Roundabout	No	Left-in Left-out Priority	As existing (50mph)
5	Signalised junction	No	Left-in. All movements out Signalised junction.	40mph

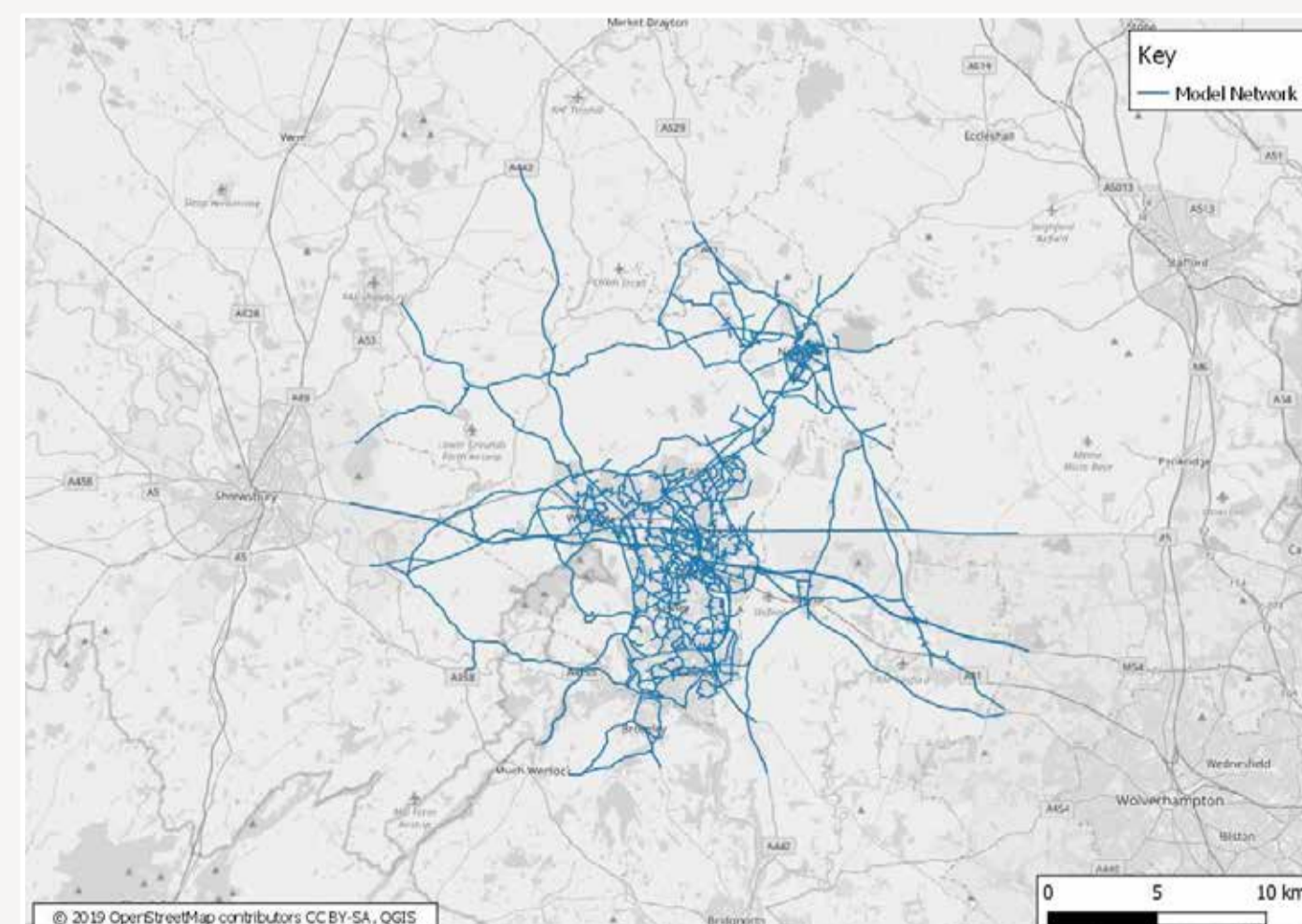


Telford Strategic Transport Model (TSTM)

Strategic Model to assess overall impacts across wider road network.

Compare impacts of different access arrangements into site.

Identify junctions to assess in more detail.



Telford Strategic Transport Model (TSTM)

Identified junctions to assess.

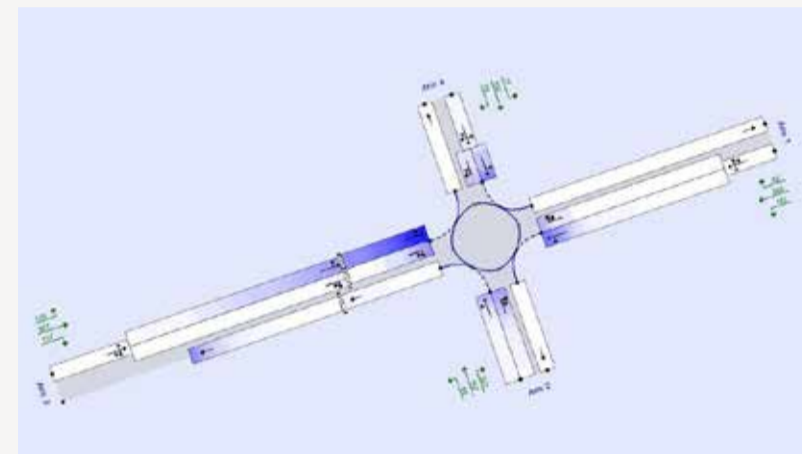
- › Differences in flows or delays in scenarios with and without development traffic.
- › Ten junctions identified. Assessed in more detail.



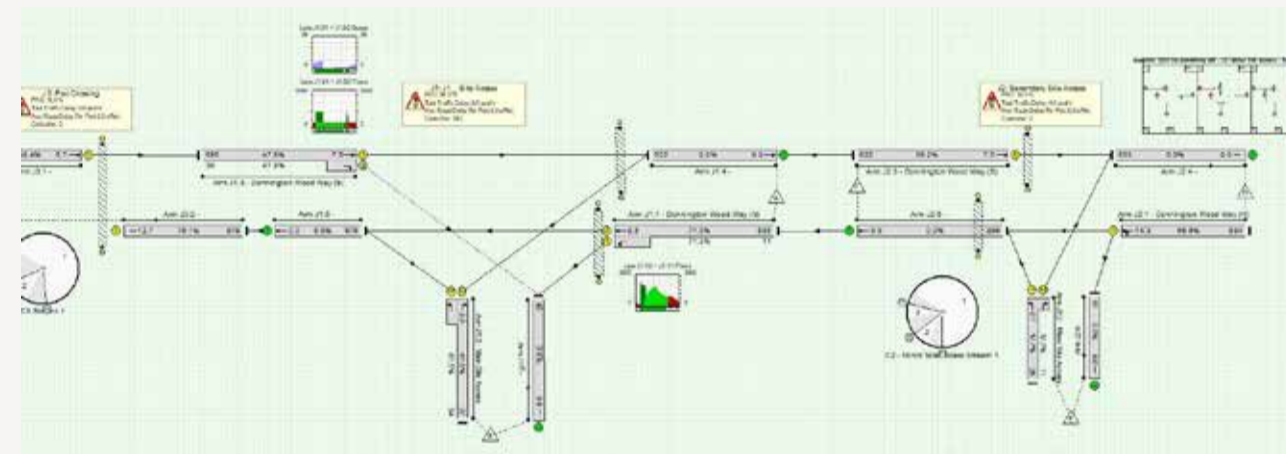
Highways

Standalone Junction Modelling

Roundabouts / priority junctions modelled in ARCADY and PICADY module of Junctions 9



Signals modelled in LinSig



Junction Performance for AM and PM Peak with and without Donnington LDO development.

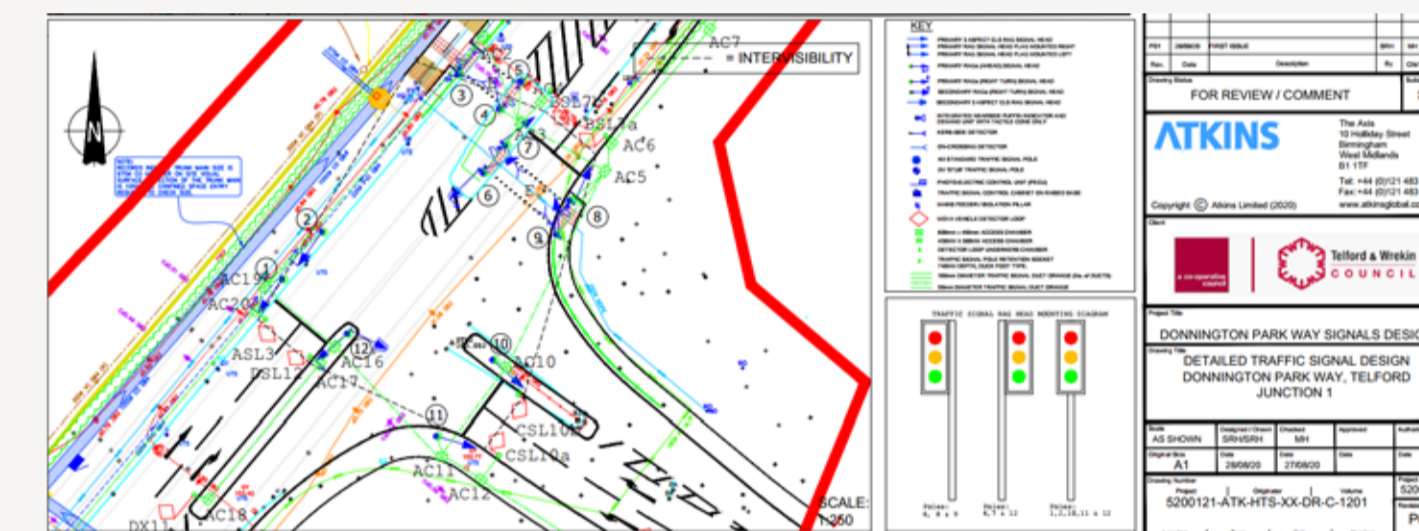
Results for each scenario tested:

2019 Base, 2031 Do Minimum (No LDO), 2031 Do Something (with LDO), 2039 Do Minimum & 2039 Do Something.

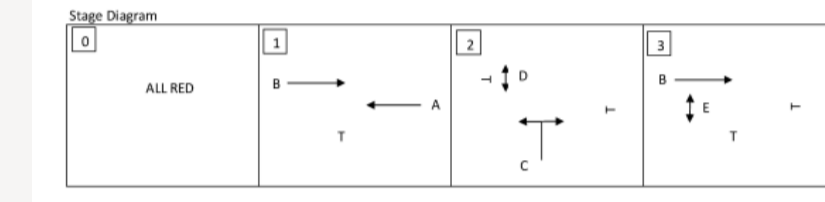
Detailed Design

Develop junction design to enable construction.

- Location of signal heads, ducts, crossings etc.
- Signal specification for operation.



Area Number	Area Size (m ²)	Traffic Head	Traffic Head	Head Mount on Pole	Mounting/Integration Signal/Standard Unit	On Crossing	Service Director	Additional Equipment
1	See Standard	1 x RAG	Primary	Central	-	-	-	AD BOX SIGN
2	See Standard	1 x RAG	Primary	Central	-	-	-	AD BOX SIGN
3	See Standard	1 x RAG	Primary	Central	-	-	-	-
4	See Standard	1 x RAG	Primary	Flag Mount Left Side	-	-	-	-
5	See Standard	-	-	-	1 x PUPIN with tactile	1	1	-
6	See Standard	-	-	-	1 x PUPIN with tactile	1	1	-
7	See Standard	-	-	-	1 x PUPIN with tactile	1	1	-
8	See Standard	1 x RAG	Secondary	Central	-	-	-	1 x PUPIN AD BOX SIGN
9	See Standard	1 x RAG	Primary	Flag Mount Right Side	1 x PUPIN with tactile	1	-	AD BOX SIGN
10	See Standard	1 x RAG	Primary	Flag Mount Right Side	1 x PUPIN with tactile	-	-	AD BOX SIGN
11	See Standard	1 x RAG	Primary	Flag Mount Left Side	1 x PUPIN with tactile	1	-	AD BOX SIGN



Access Chamber From	Access Chamber To	Chamber Diameter	Number of Seats	Approximate Length of Seat Run (m)	Chamber Number	Chamber Size (D10 x D20 x D30)	Loop
AC1	AC2	300	1	1	AC1	X	X
AC2	AC3	300	1	1	AC2	X	X
AC3	AC4	300	1	1	AC3	X	X
AC4	AC5	300	1	1	AC4	X	X
AC5	AC6	300	1	1	AC5	X	X
AC6	AC7	300	1	1	AC6	X	X
AC7	AC8	300	1	1	AC7	X	X
AC8	AC9	300	1	1	AC8	X	X
AC9	AC10	300	1	1	AC9	X	X

Standalone Junction Modelling

Ref No.	Junction Name	AM Peak					PM Peak				
		2019 Base	2031 DM	2031 DS	2039 DM	2039 DS	2019 Base	2031 DM	2031 DS	2039 DM	2039 DS
1	Main Development Access	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
2	Minor Development Access	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
3	Granville Roundabout	Green	Green	Green	Amber	Green	Green	Green	Amber	Green	Green
4	Clock Tower Roundabout	Amber	Amber	Green	Amber	Green	Green	Green	Amber	Green	Green
5	Garrison Roundabout	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
6	Queens Road / Wrekin Drive	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
7	Wrockwardine Wood Way / St Georges Road	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
8	Wrockwardine Wood Way / St Georges Road	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
9	School Road / Donnington Wood Way (Right Turn Blocking)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
9	School Road / Donnington Wood Way (Pedestrian Crossing)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
10	Donnington Wood Way / Marshbrook Way	Green	Green	Green	Green	Green	Green	Green	Amber	Green	Green

Key:

- Green**
Operates within acceptable capacity thresholds.
- Amber**
Operates above acceptable capacity thresholds but below capacity.
- Red**
Operates over capacity

Findings:
Most junctions are forecast to operate within acceptable thresholds of capacity across all scenarios, both with and without Donnington LDO.

Off-site junctions are not adversely impacted by development trips.

In some cases the performance improves in the Do-Something scenarios due to the re-routing of traffic

Donnington LDO Access Development Iterative Process

