

COVID-19 Pandemic Statement

This work has not considered the impact of the COVID-19 pandemic. Whilst we are continuing, where possible, to develop the Greater Manchester Clean Air Plan, the pandemic has already had an impact on our ability to keep to the timescales previously indicated and there may be further impacts on timescales as the impact of the pandemic becomes clearer.

We are also mindful of the significant changes that could result from these exceptional times. We know that the transport sector has already been impacted by the pandemic, and government policies to stem its spread. The sector's ability to recover from revenue loss, whilst also being expected to respond to pre-pandemic clean air policy priorities by upgrading to a cleaner fleet, will clearly require further thought and consideration.

The groups most affected by our Clean Air Plan may require different levels of financial assistance than we had anticipated at the time of writing our previous submission to Government.

More broadly, we anticipate that there may be wider traffic and economic impacts that could significantly change the assumptions that sit behind our plans. We have begun to consider the impacts, and have committed to updating the government as the picture becomes clearer over time.

We remain committed to cleaning up Greater Manchester's air. However, given the extraordinary circumstances that will remain for some time, this piece of work remains unfinished until the impact of the COVID-19 pandemic has been fully considered by the Greater Manchester Authorities.

Technical Note 14 Appendix A: Local Exceedance Measures Analysis

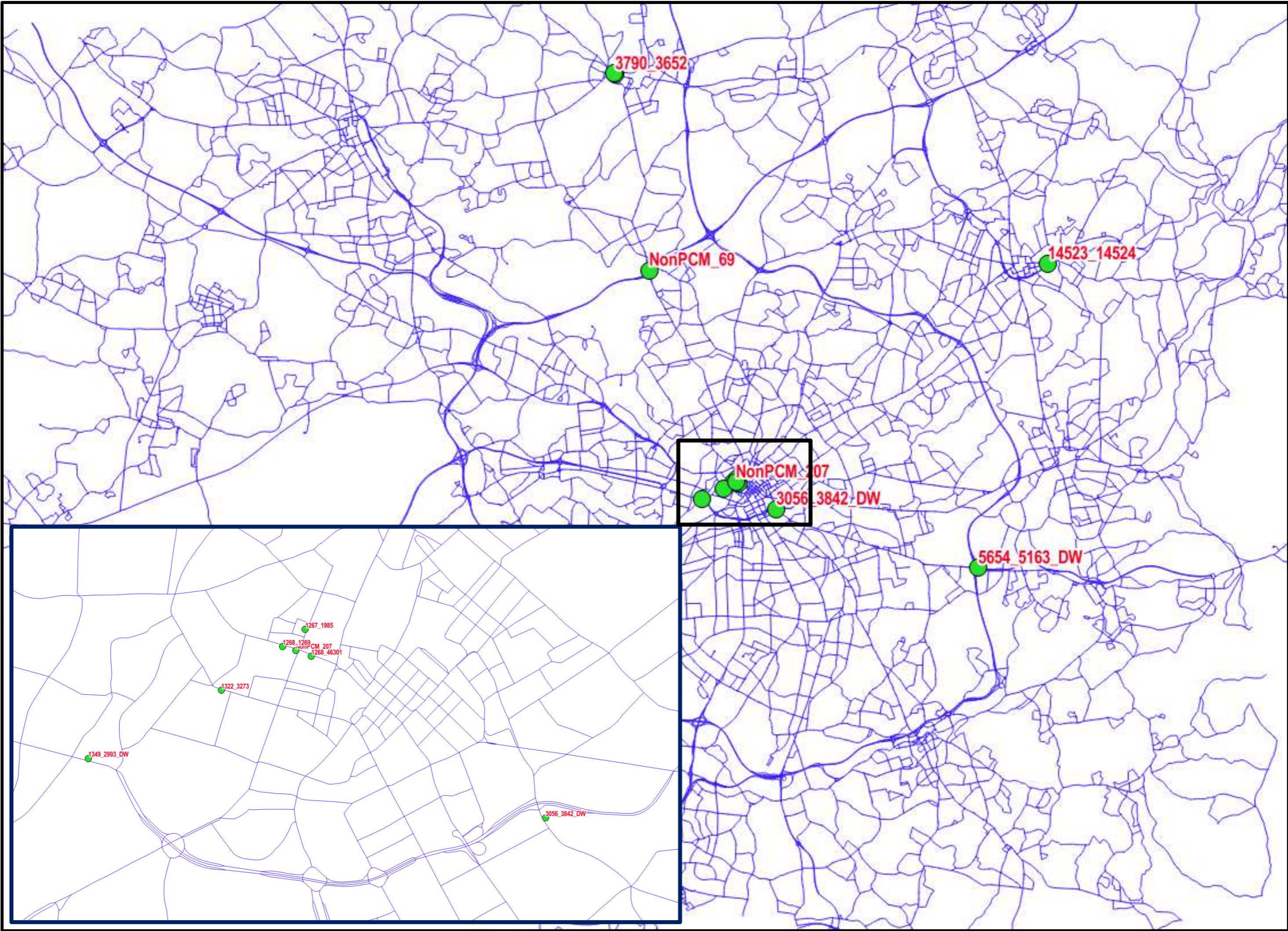
Local Exceedance Measures Analysis Information

This document summaries key information on the last points of exceedance, based on the OBC results (v11.2).

Option 7 2023 exceedances		
Site ID	Authority	Road Name
1267_1985	Manchester	A56 DEANSGATE
1268_1269	Manchester	BRIDGE STREET
1268_46301	Manchester	BRIDGE STREET
NonPCM_207*	Manchester	JOHN DALTON STREET
1322_3273	Manchester	A34 QUAY STREET
3056_3842_DW	Manchester	A6 STOCKPORT ROAD
1349_2993_DW	Salford	A57 REGENT ROAD
14523_14524	Oldham	A62 HUDDERSFIELD ROAD
2237_3790_DW	Bury	A58 BOLTON STREET
3790_3652	Bury	A58 BOLTON STREET
NonPCM_69*	Bury	A56 BURY NEW ROAD
5654_5163_DW	Tameside	A57 MANCHESTER ROAD

*These sites are not compatible with the siting requirement of the EU AQ Directive, and therefore are considered to be part of the primary spending objectives. However, they are representative of exposure under the LAQM Regulations, and should be included in the assessment.

Last Exceedance Sites (Option 7 – 2023) – Overview Map

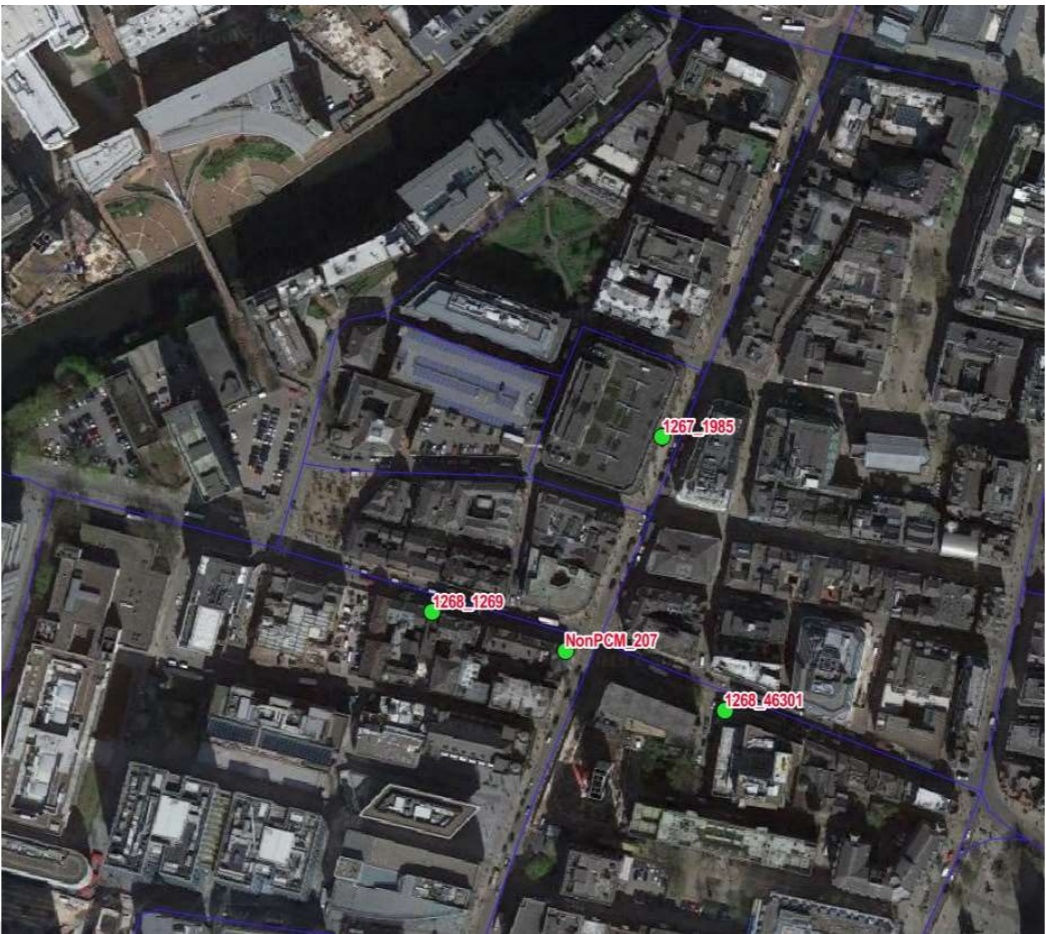


Site ID	Authority	Road Name
1267_1985	Manchester	A56 DEANS_GATE

Do Min. NO ₂ Conc	BG NO ₂ Conc
45.5	23.4

Vehicle Flow (veh/day)				
Car	LGV	OGV	Bus	All Veh
6,624	1,340	162	748	8,875

Model Period Speeds (kph)					
Link ID Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
25	24	23	3	11	15



Observations

All 4 sites in this vicinity have very high bus contributions.

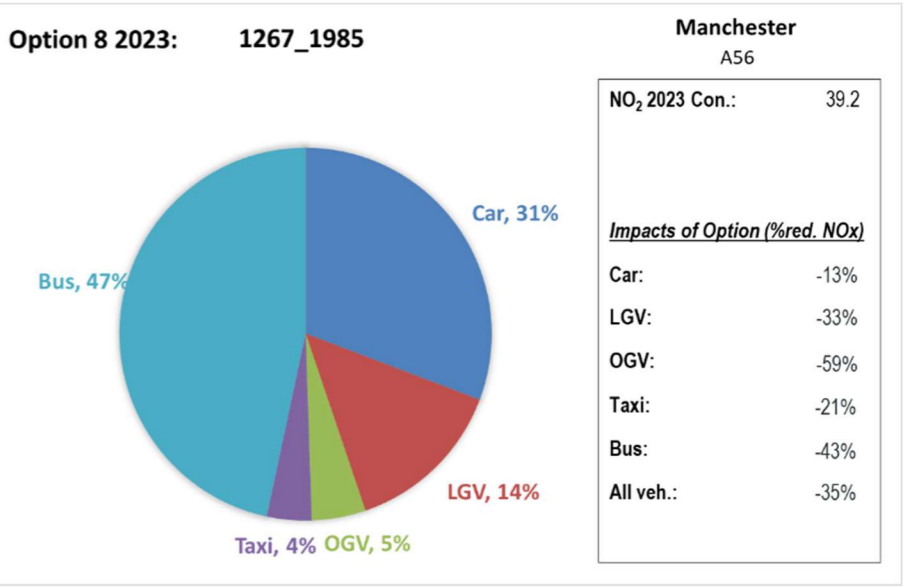
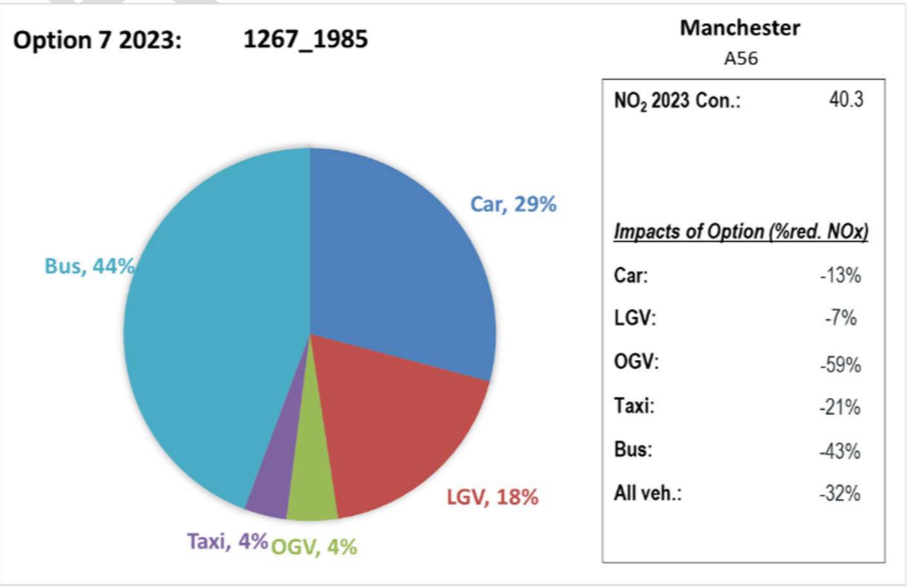
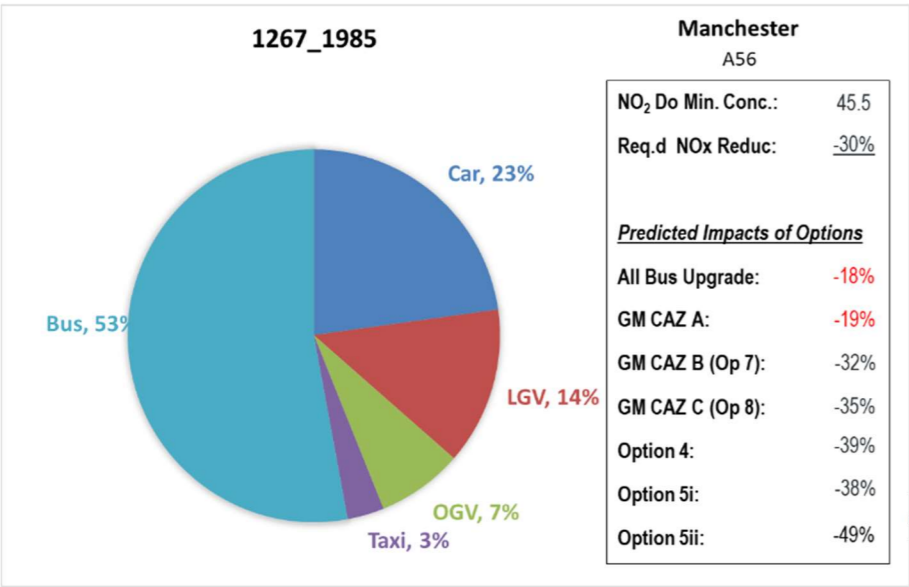
Very low speeds in the AM peak

Given the very high bus flows, why does bus compliance not deliver greater benefits? Check fleet mix assumptions

Street canyons

High BG concs

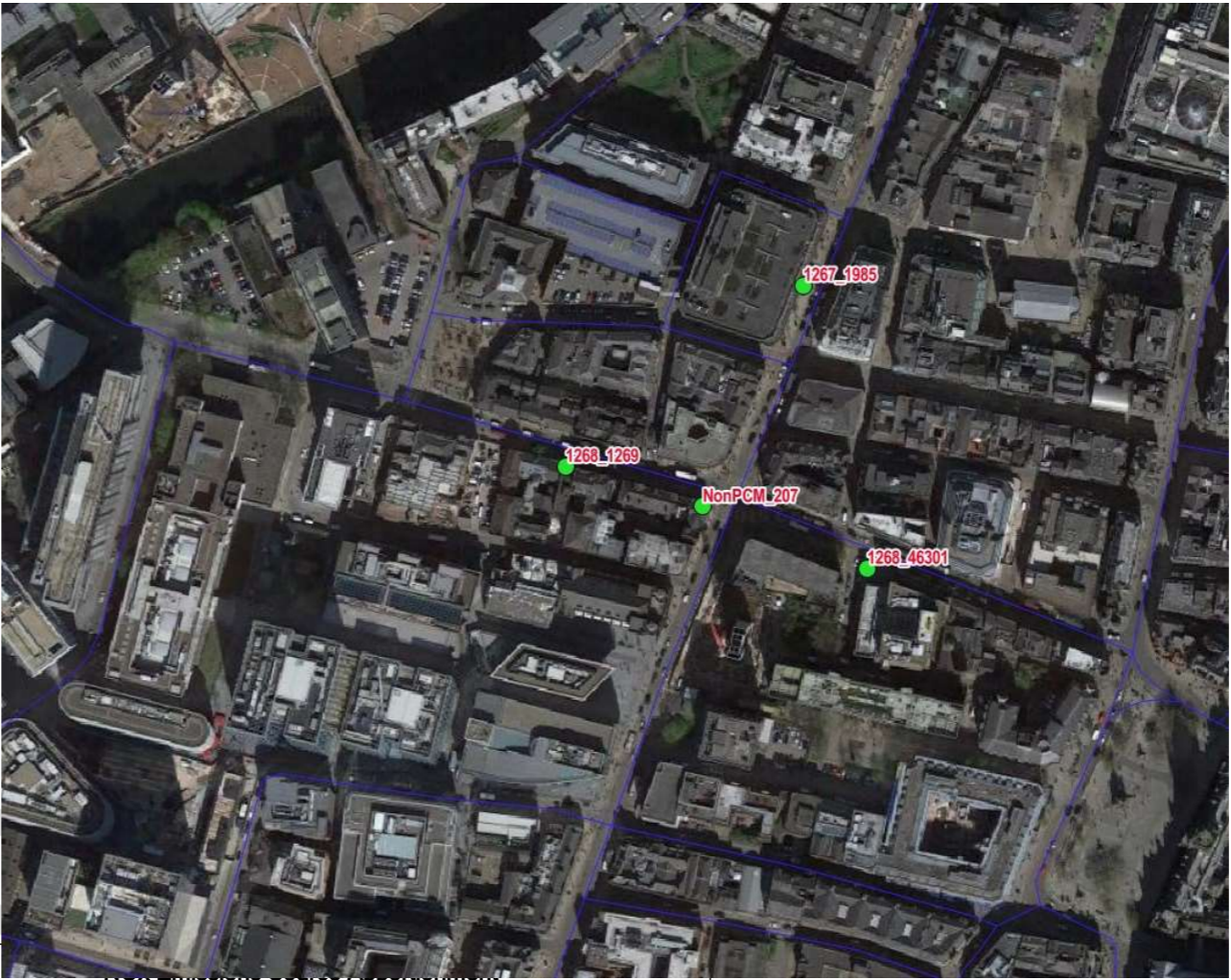
NO_x Emissions Source Apportionment



1268_1269	Manchester	BRIDGE ST
Do Min. NO2	BG NO2 Conc	
44.9	23.4	

Car	LGV	OGV	Bus	All Veh
6,653	1,248	149	1,250	9,300

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
13	15	20	4	10	8



Observations

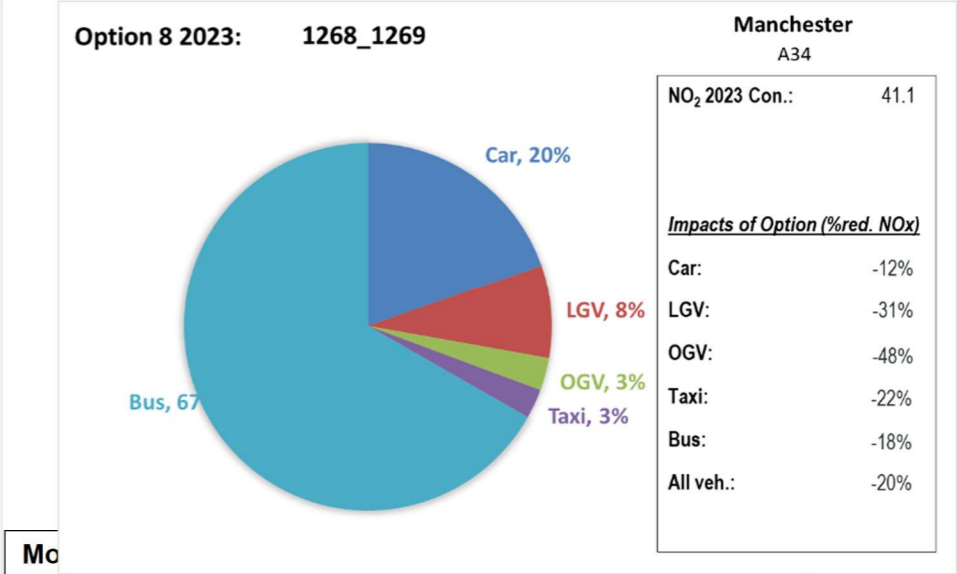
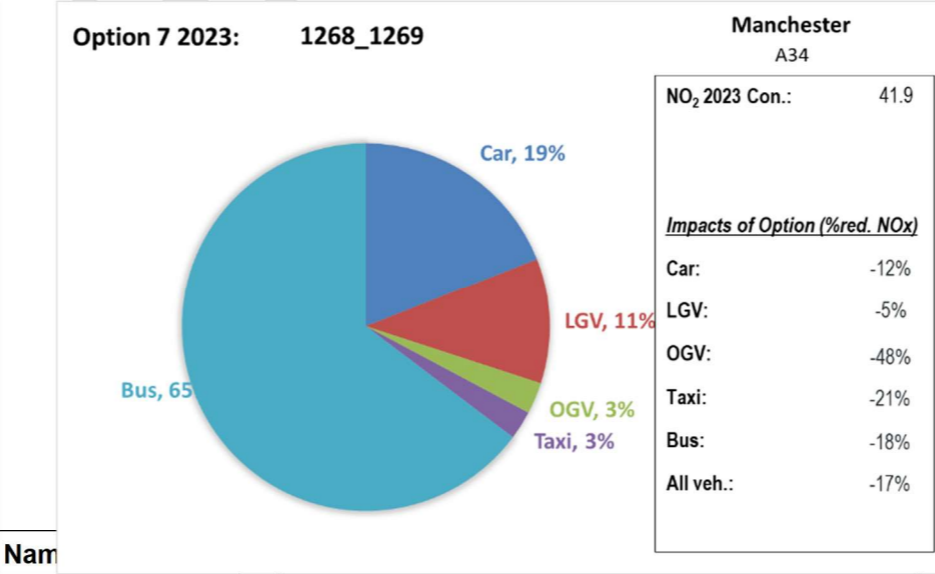
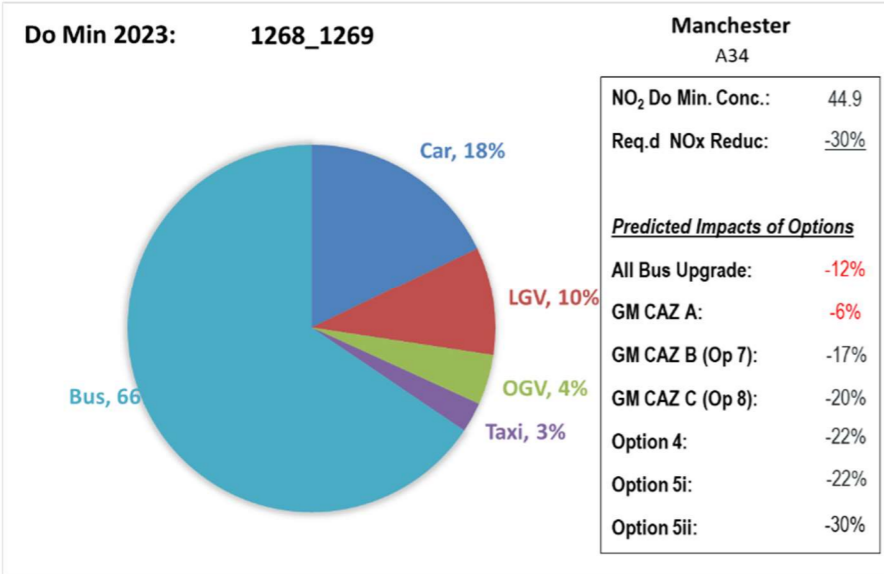
All 4 sites in this vicinity have very high bus contributions.

Very low speeds in Rev.Direction

Given the very high bus flows, why does bus compliance not deliver greater benefits? Check fleet mix assumptions

Street canyons

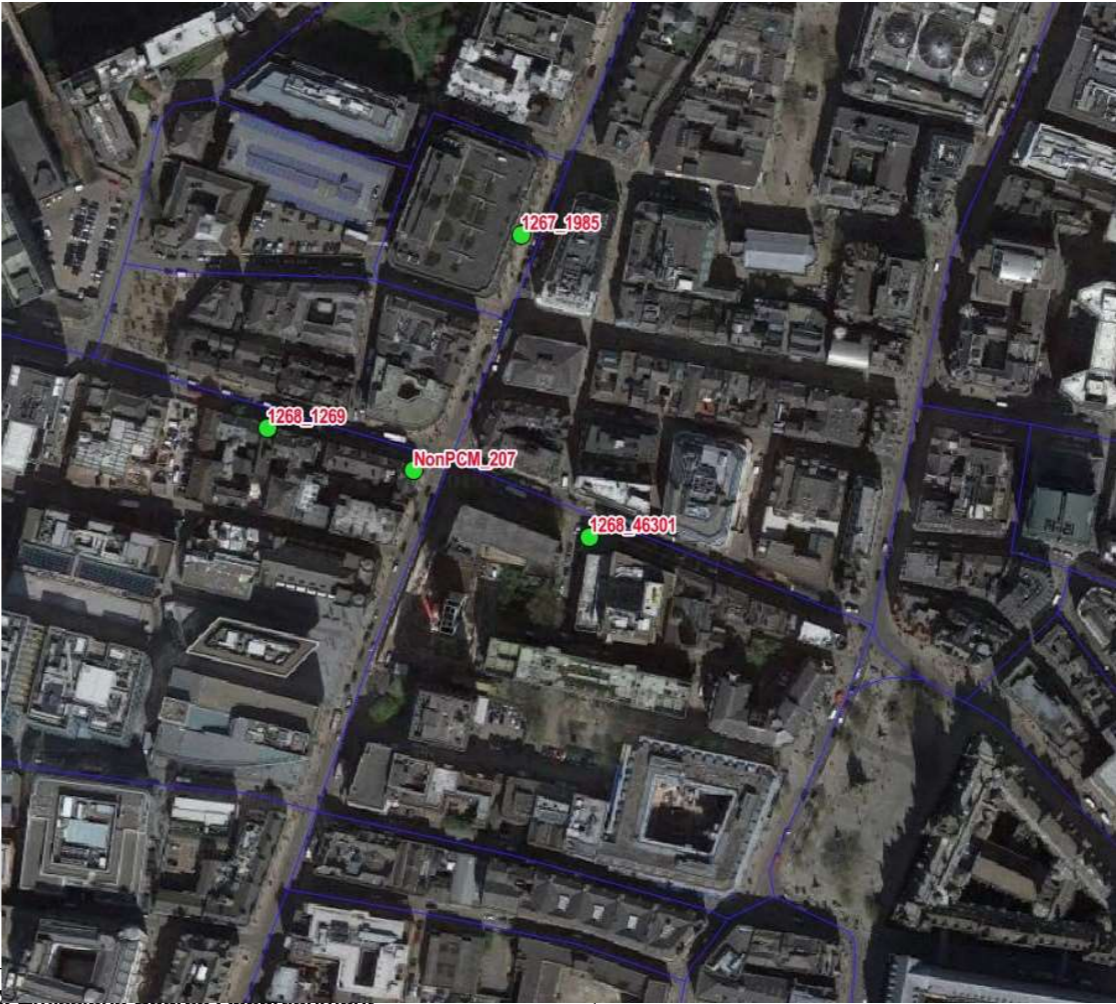
High BG concs



1268_46301	Manchester	BRIDGE ST
Do Min. NO2	BG NO2 Conc	
43.4	23.4	

Car	LGV	OGV	Bus	All Veh
5,849	1,357	234	1,188	8,628

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
38	48	41	4	4	2



Observations

All 4 sites in this vicinity have very high bus contributions.

Very low speeds in the AM peak

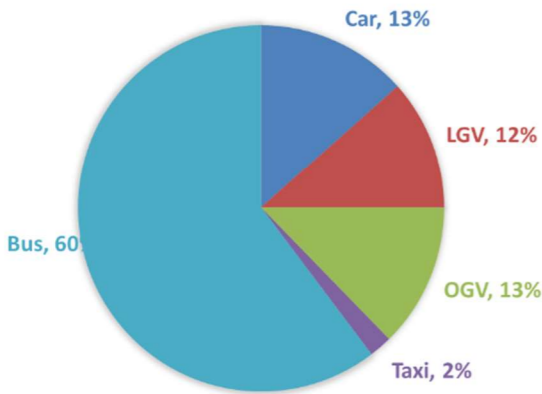
Given the very high bus flows, why does bus compliance not deliver greater benefits? Check fleet mix assumptions

Street canyons

High BG concs

Do Min 2023: 1268_46301

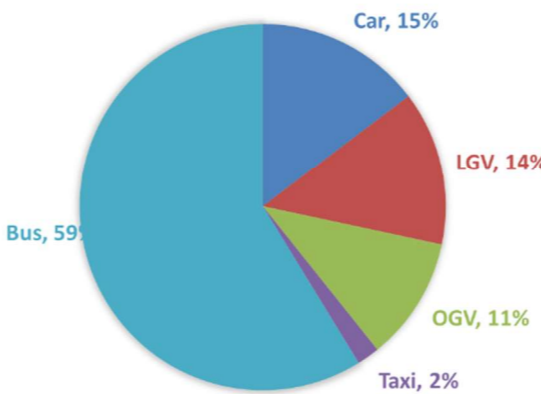
Manchester
A34



NO ₂ Do Min. Conc.:	43.4
Req.d NO _x Reduc:	-22%
Predicted Impacts of Options	
All Bus Upgrade:	-13%
GM CAZ A:	-7%
GM CAZ B (Op 7):	-19%
GM CAZ C (Op 8):	-23%
Option 4:	-24%
Option 5i:	-24%
Option 5ii:	#N/A

Option 7 2023: 1268_46301

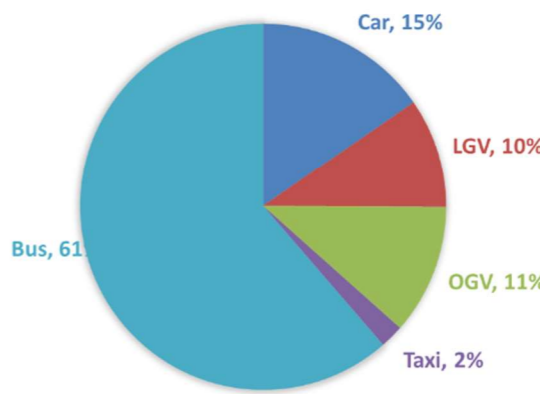
Manchester
A34



NO ₂ 2023 Con.:	40.3
Impacts of Option (%red. NO_x)	
Car:	-12%
LGV:	-5%
OGV:	-31%
Taxi:	-21%
Bus:	-21%
All veh.:	-19%

Option 8 2023: 1268_46301

Manchester
A34

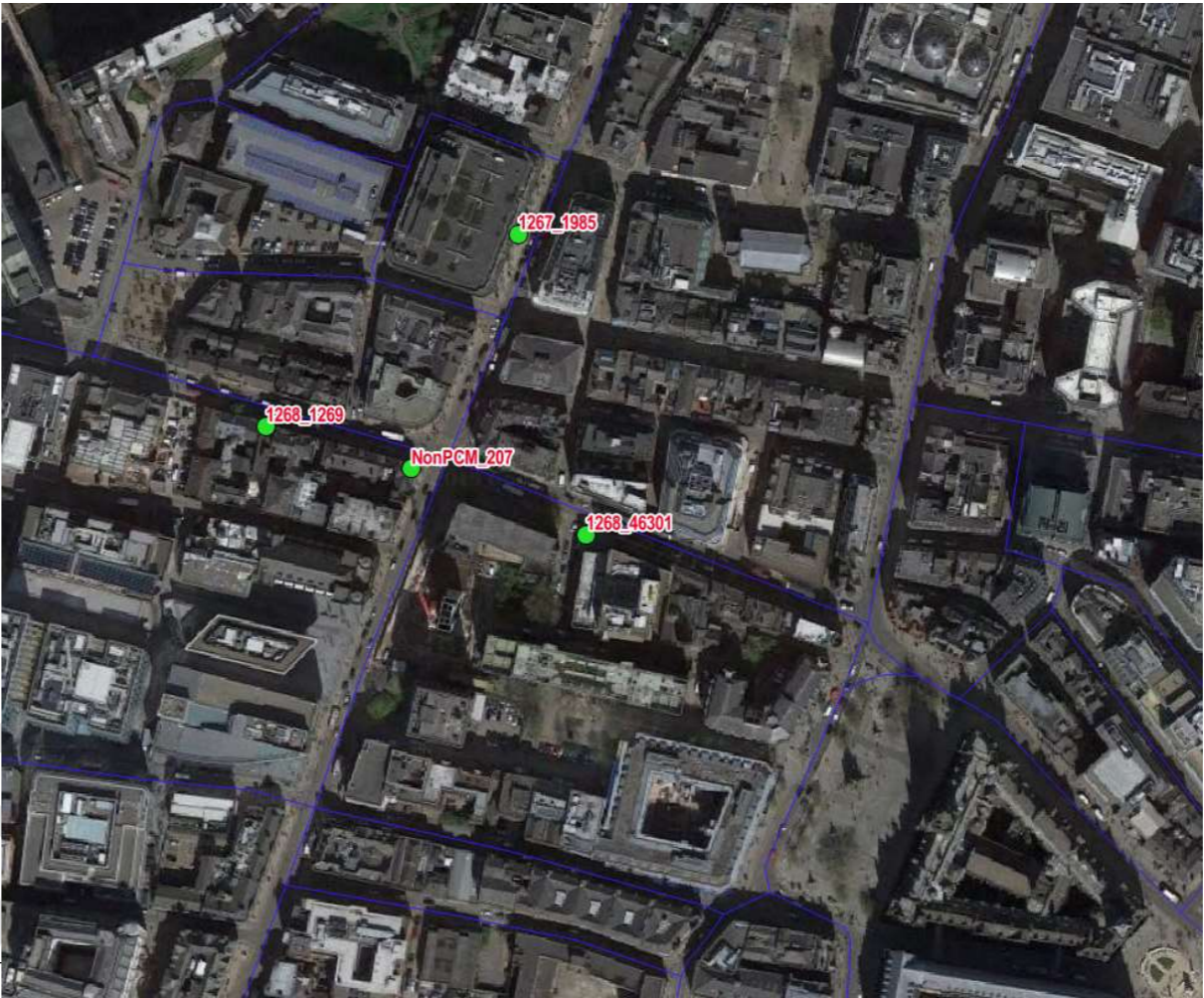


NO ₂ 2023 Con.:	39.3
Impacts of Option (%red. NO_x)	
Car:	-11%
LGV:	-35%
OGV:	-30%
Taxi:	-20%
Bus:	-21%
All veh.:	-23%

NonPCM_207	Manchester	BRIDGE STREET
Do Min. NO2	BG NO2 Conc	
43.8	23.4	

Car	LGV	OGV	Bus	All Veh
11,084	2,327	316	288	14,016

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
Junc.					



Observations

All 4 sites in this vicinity have very high bus contributions.

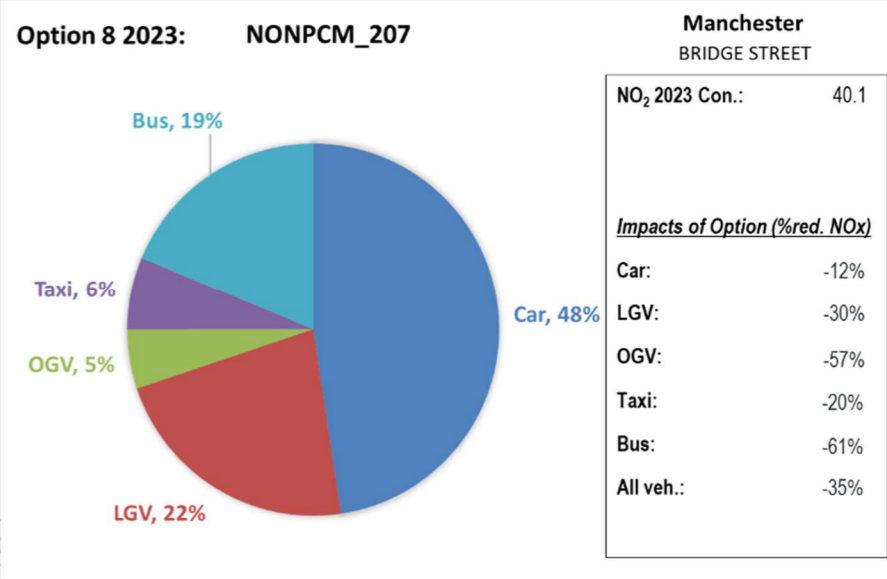
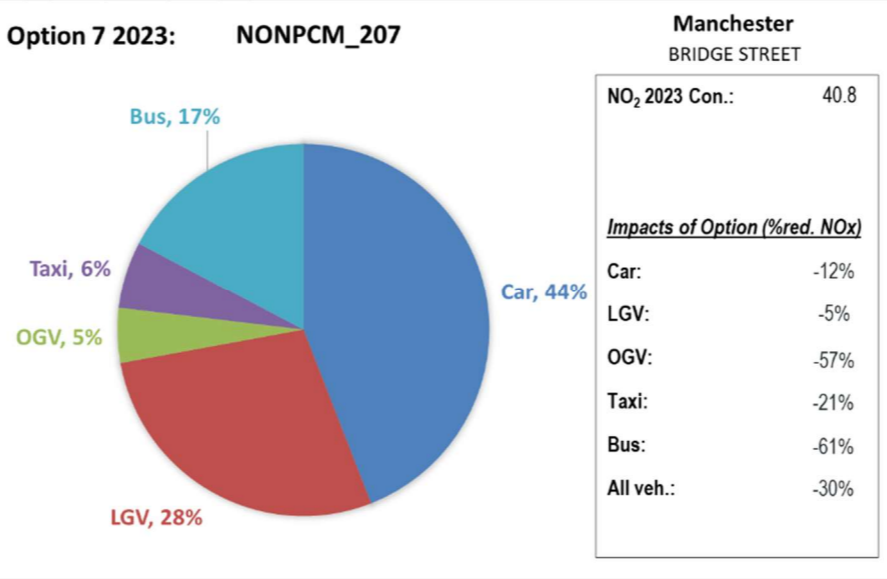
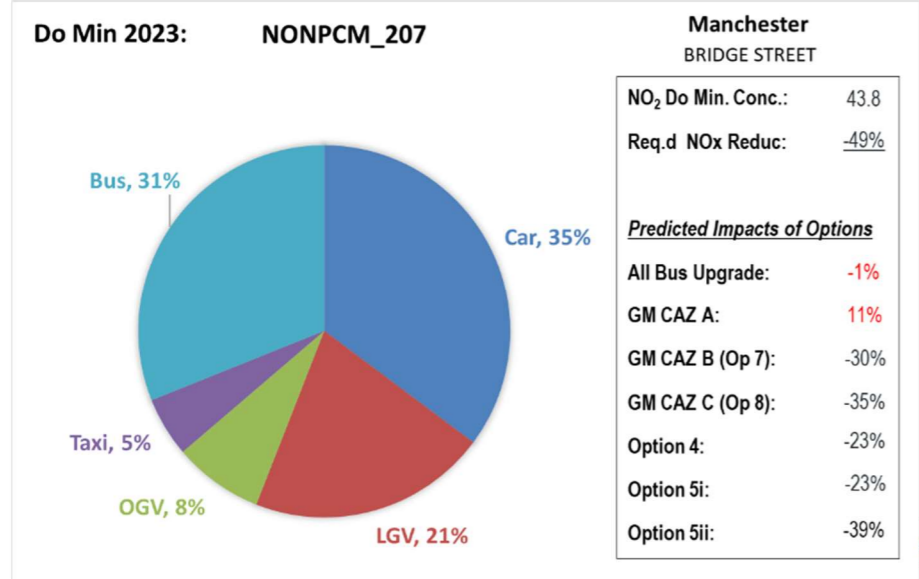
Located on junction, and queuing not represented in the model. Source apportionment may be incorrect as assigned to one road only.

Given the very high bus flows, why does bus compliance not deliver greater benefits? Check fleet mix assumptions

Street canyons

High BG concs

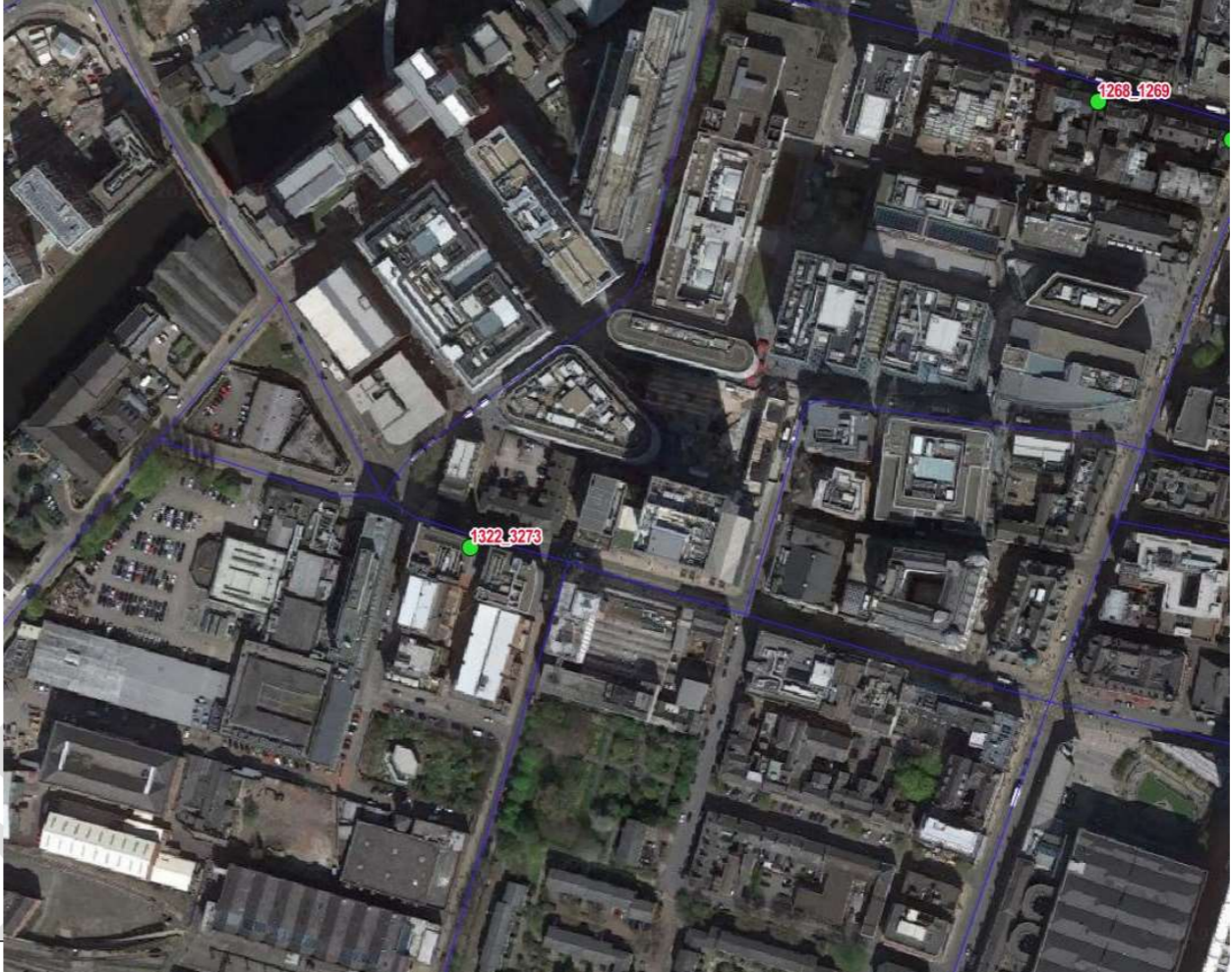
Not an AQ Directive location



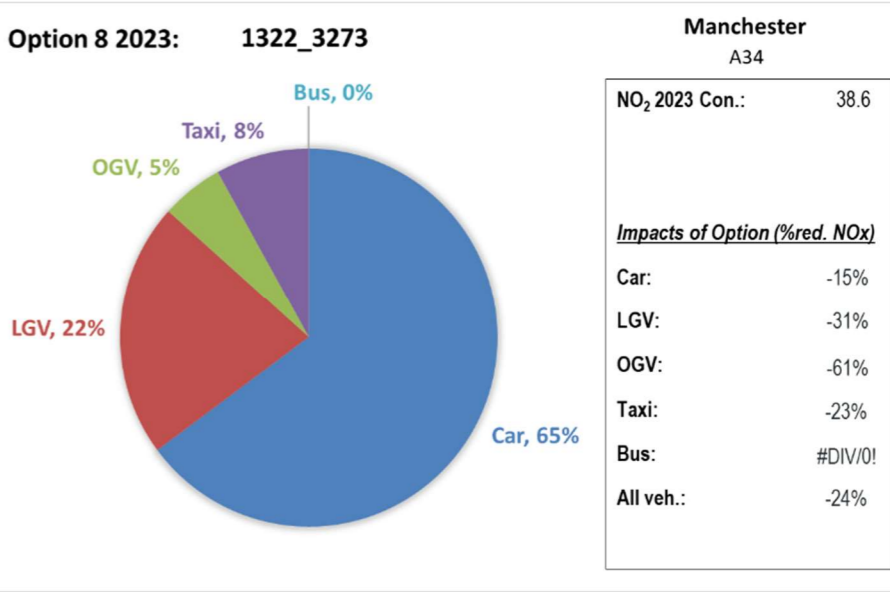
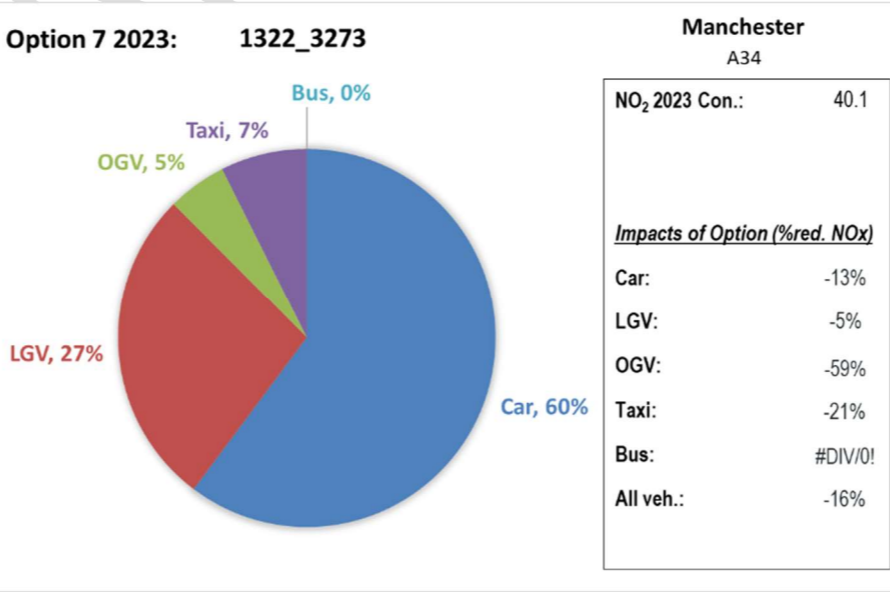
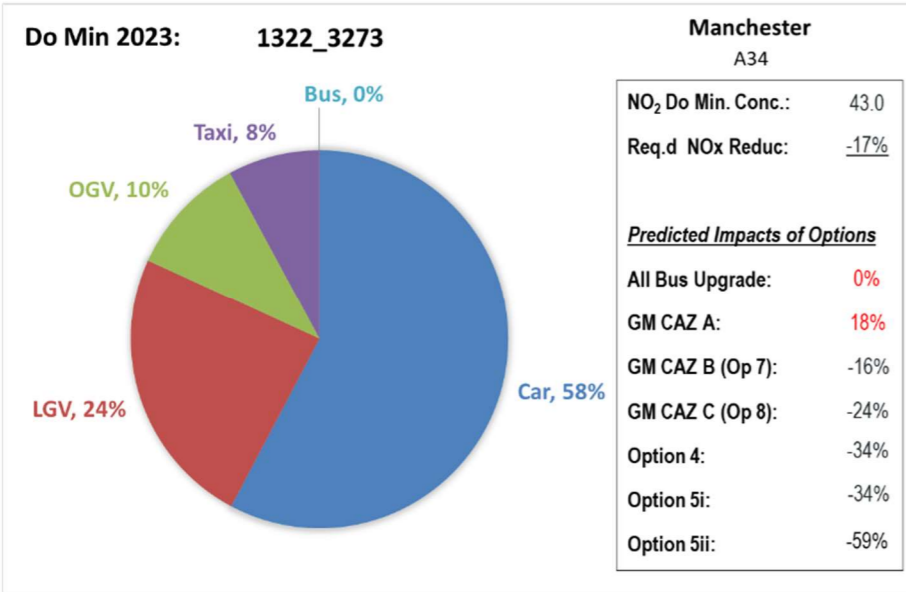
1322_3273	Manchester	A34 QUAY STREET
Do Min. NO2	BG NO2 Conc	
43.0	23.4	

Car	LGV	OGV	Bus	All Veh
12,967	1,893	270	86	15,216

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
10	28	19	18	15	18



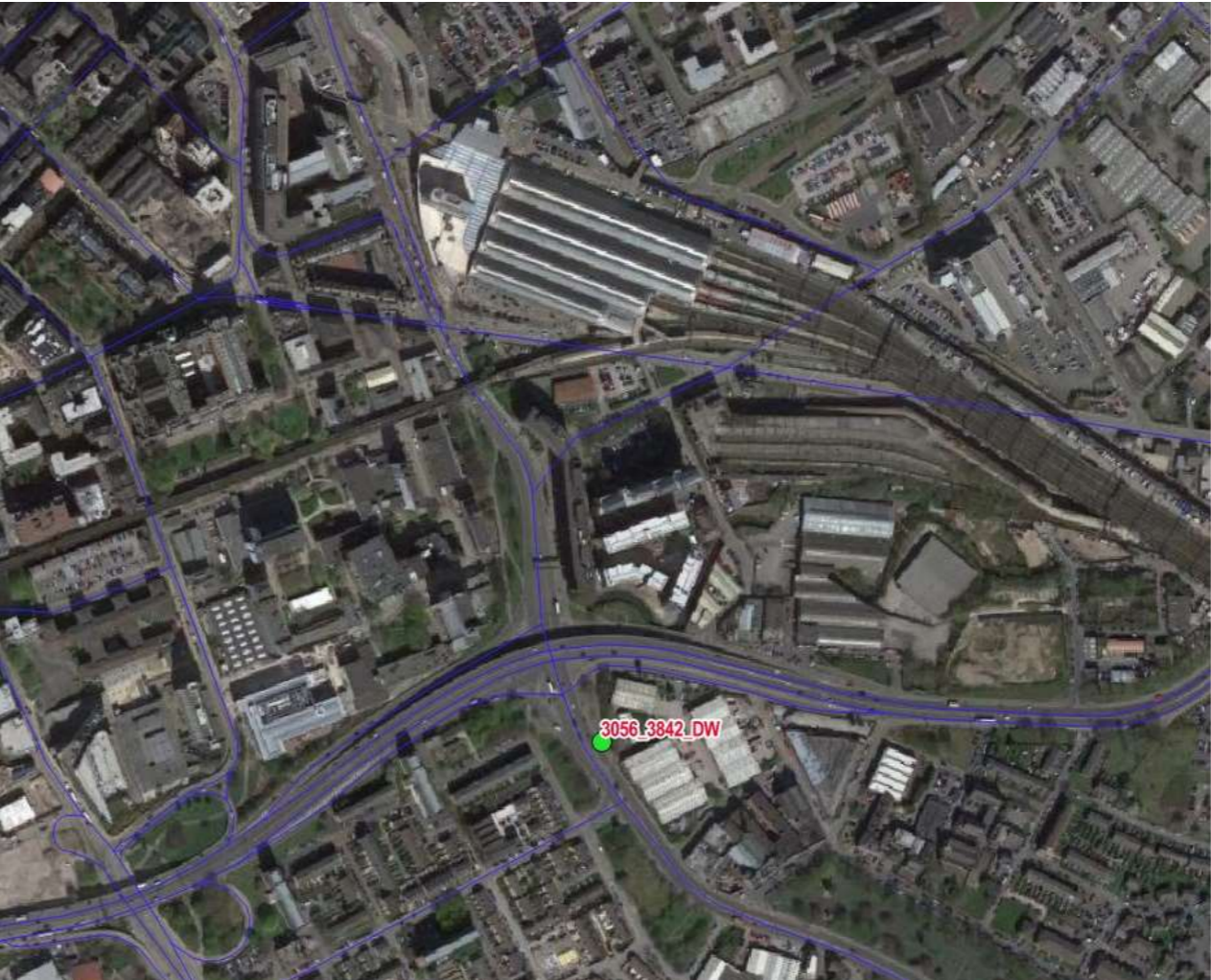
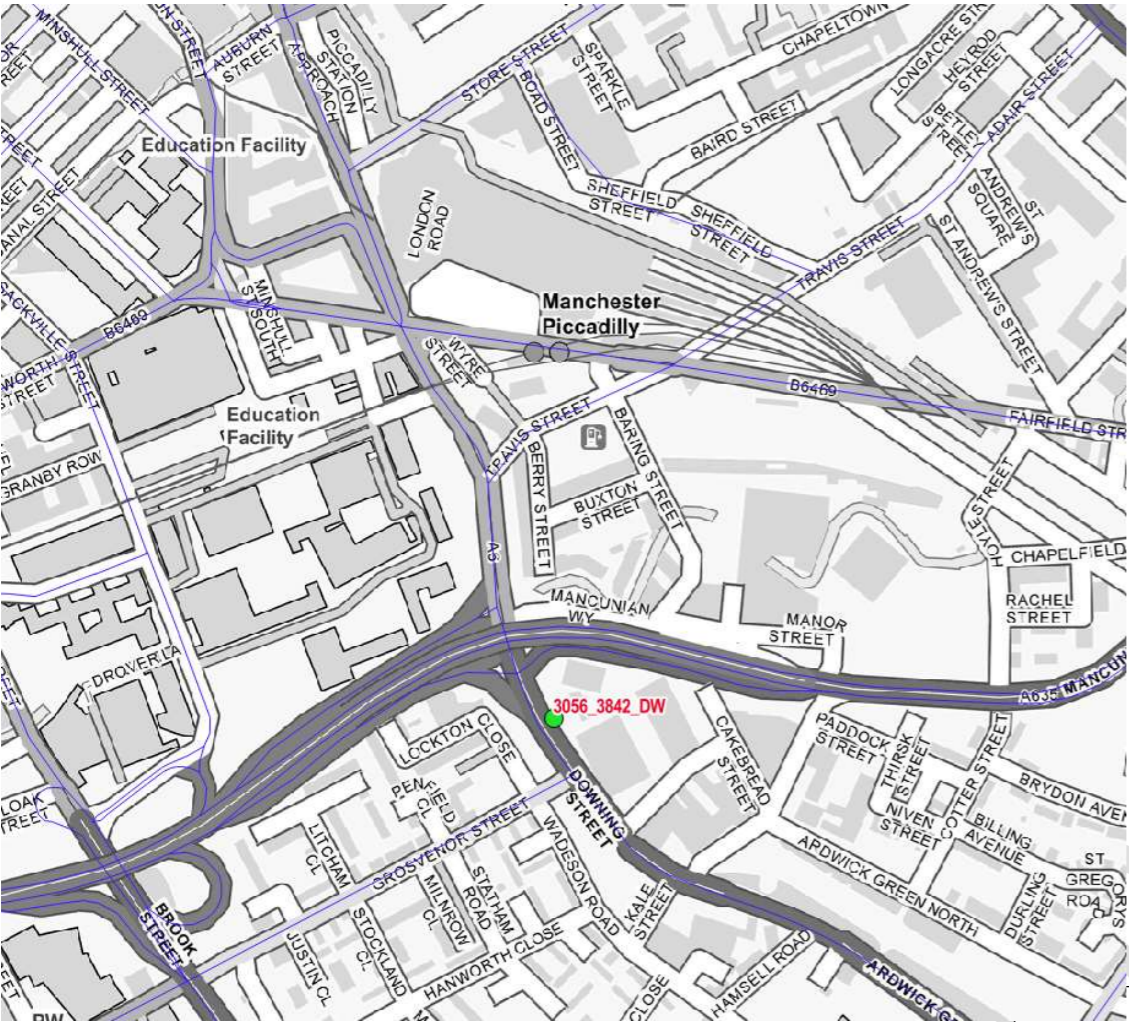
Observations
No bus, mainly car & vans
Street canyons
High BG concs



3056_3842_DW	Manchester	A6 STOCKPORT ROAD
Do Min. NO2	BG NO2 Conc	
46.6	21.6	

Car	LGV	OGV	Bus	All Veh
30,403	6,673	673	972	38,721

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
16	18	19	6	7	24



Observations

Contributions from all vehicle types

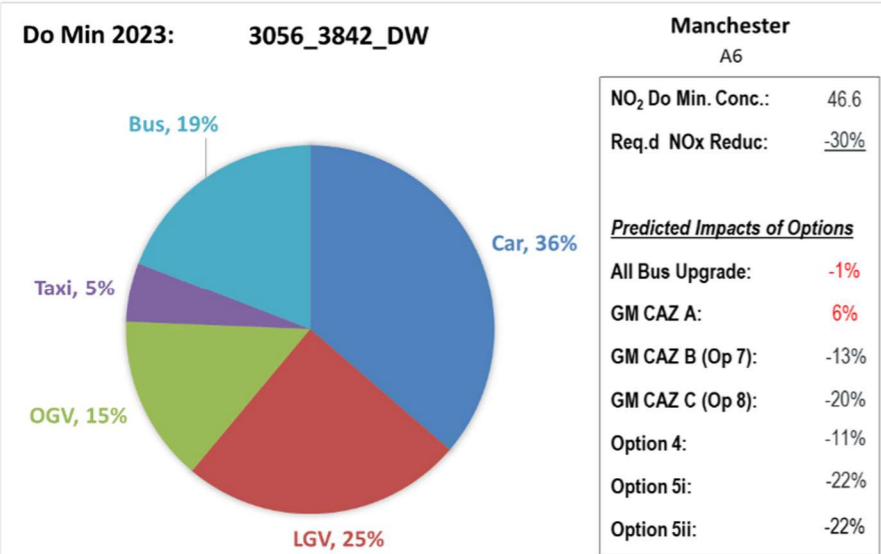
Very low speeds in the AM peak

Given the very high bus flows, why does bus compliance not deliver greater benefits? Check fleet mix assumptions

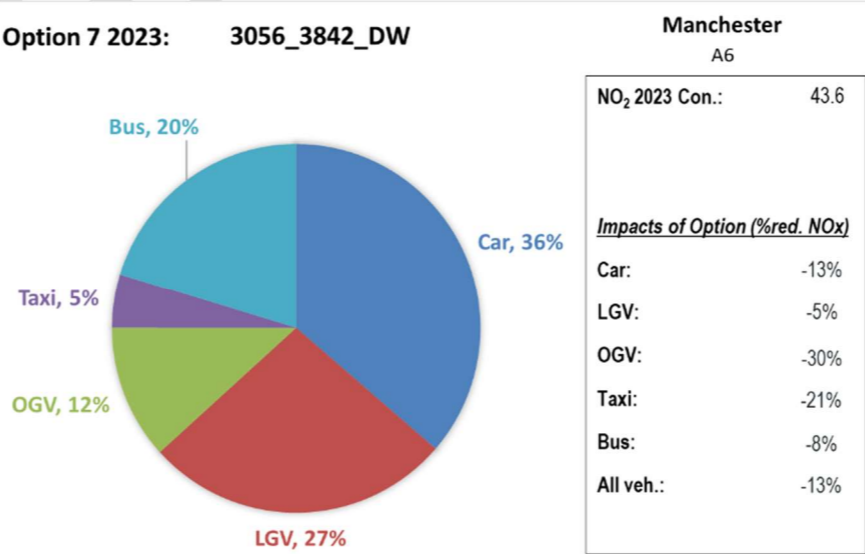
Close to a very complex junction/flyover, traffic lights and on a gradient.

Is there a lot of traffic/taxis accessing the station? Could EV charging for taxis be effective?

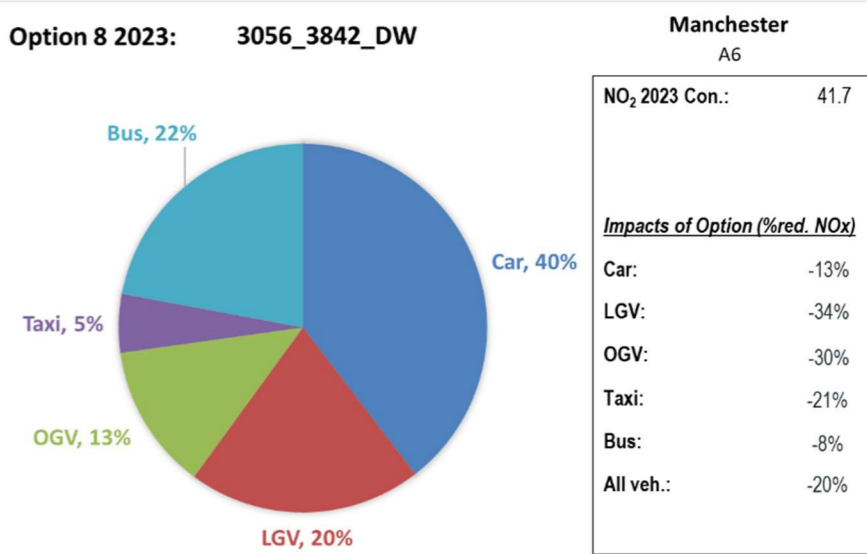
High BGs – are they affected by the train station?



Nam



Mo

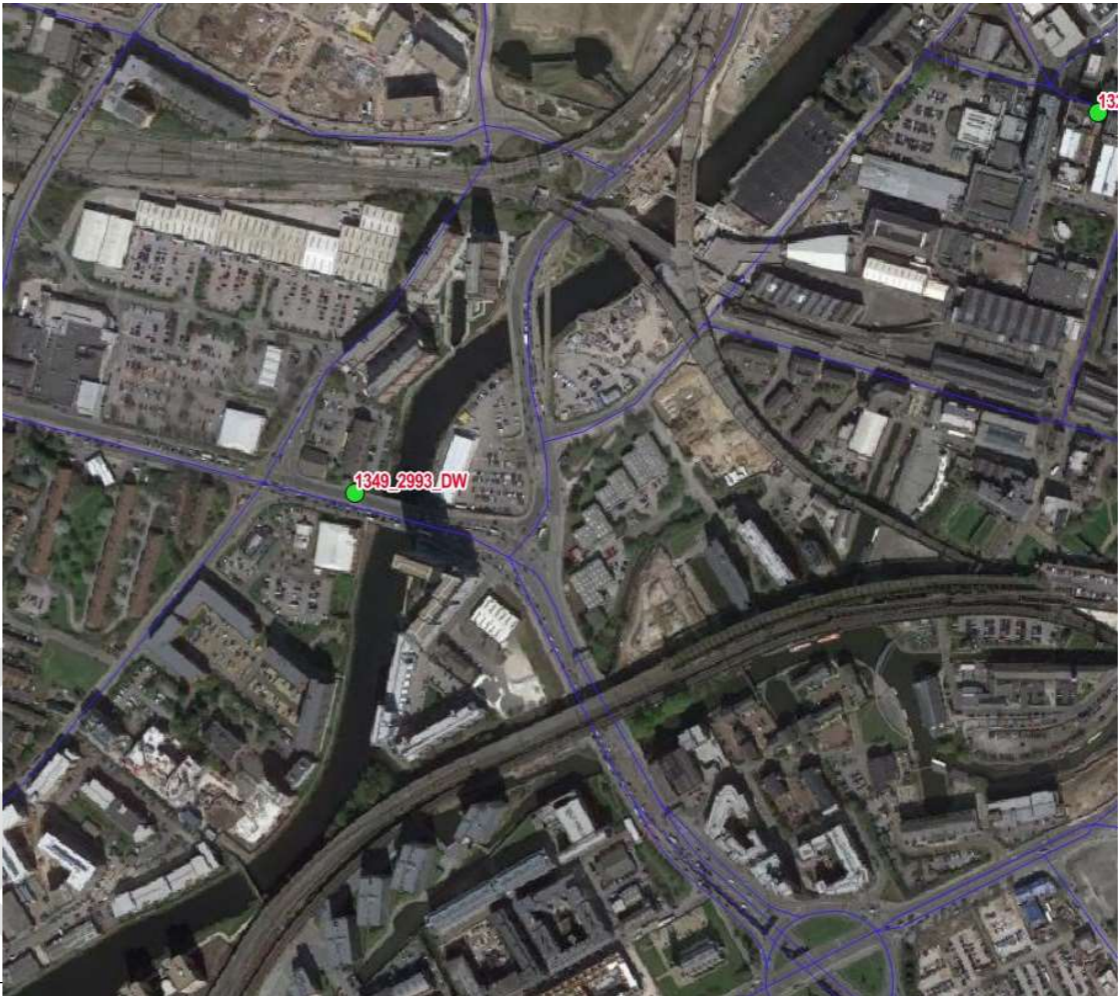
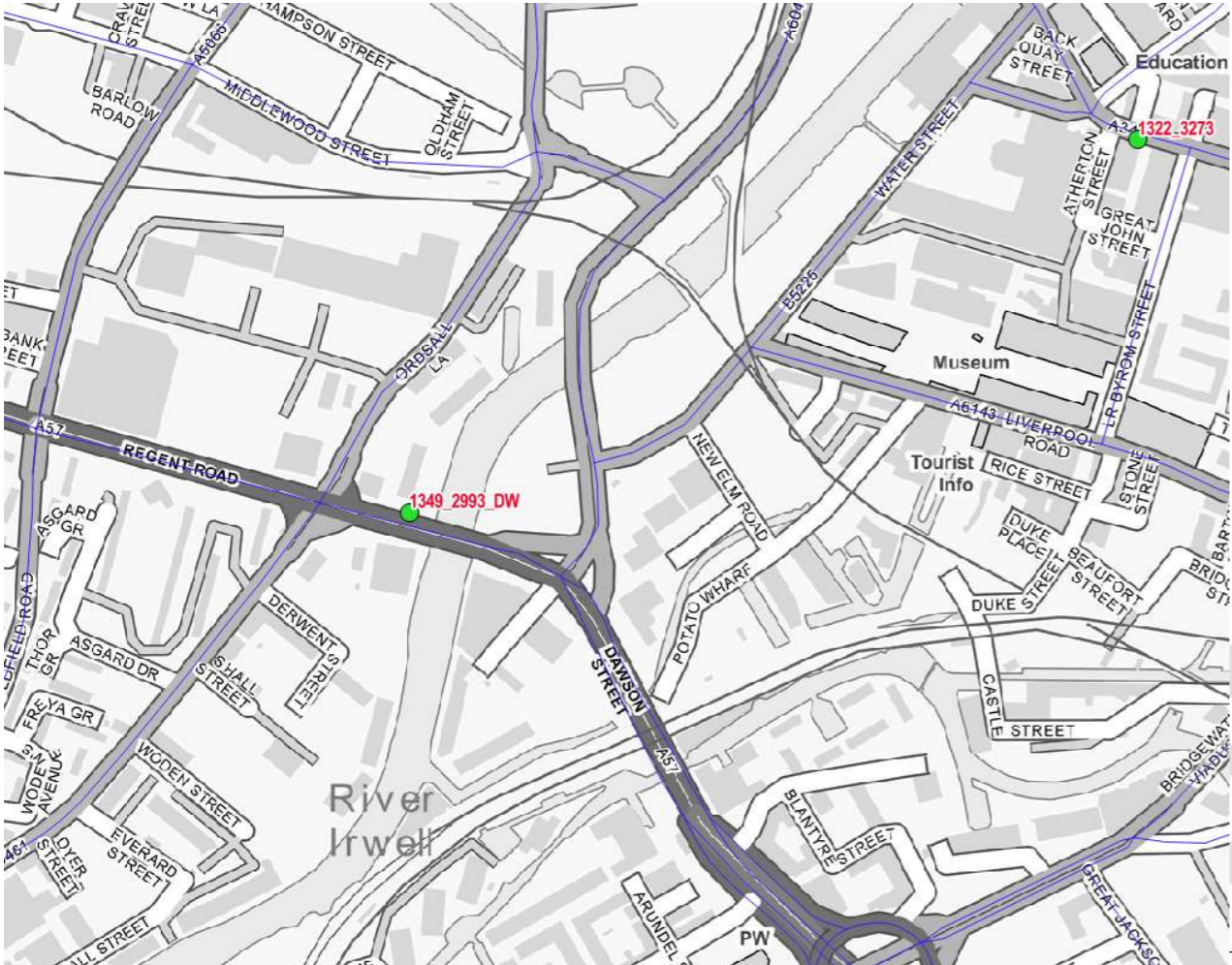


1349_2993_DW	Salford	A57 REGENT RD
--------------	---------	---------------

Car	LGV	OGV	Bus	All Veh
44,054	10,568	2,683	57	57,362

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
34	57	44	13	13	12

Do Min. NO2	BG NO2 Conc
46.9	17.2



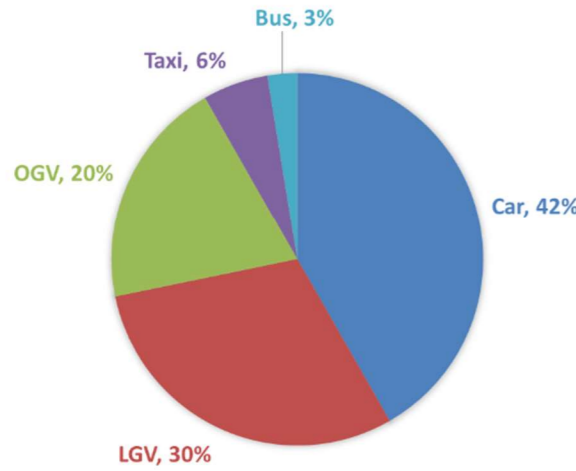
Observations

Very high flows leading to Mancunian Way. Mainly car & van emissions.

Significant roadworks currently in place. Are the improvements in the 2023 model?

NOx Emissions Source Apportionment

Do Min 2023: 1349_2993_DW



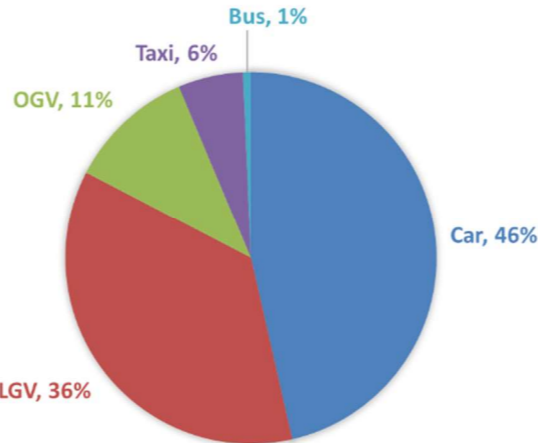
Salford
A57

NO ₂ Do Min. Conc.:	46.9
Req.d NOx Reduc:	-27%

Predicted Impacts of Options

All Bus Upgrade:	-2%
GM CAZ A:	3%
GM CAZ B (Op 7):	-21%
GM CAZ C (Op 8):	-28%
Option 4:	-28%
Option 5i:	-30%
Option 5ii:	-30%

Option 7 2023: 1349_2993_DW



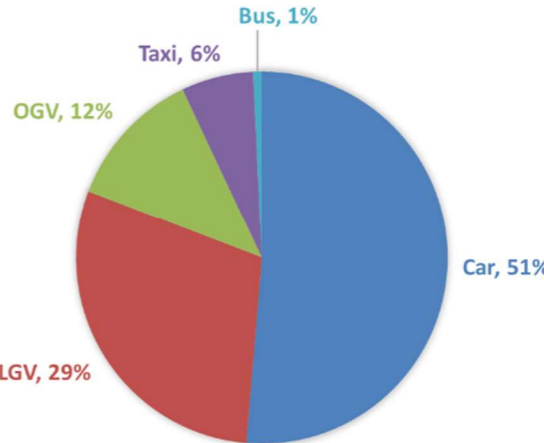
Salford
A57

NO ₂ 2023 Con.:	42.2
----------------------------	------

Impacts of Option (%red. NOx)

Car:	-12%
LGV:	-5%
OGV:	-56%
Taxi:	-21%
Bus:	-79%
All veh.:	-21%

Option 8 2023: 1349_2993_DW



Salford
A57

NO ₂ 2023 Con.:	39.8
----------------------------	------

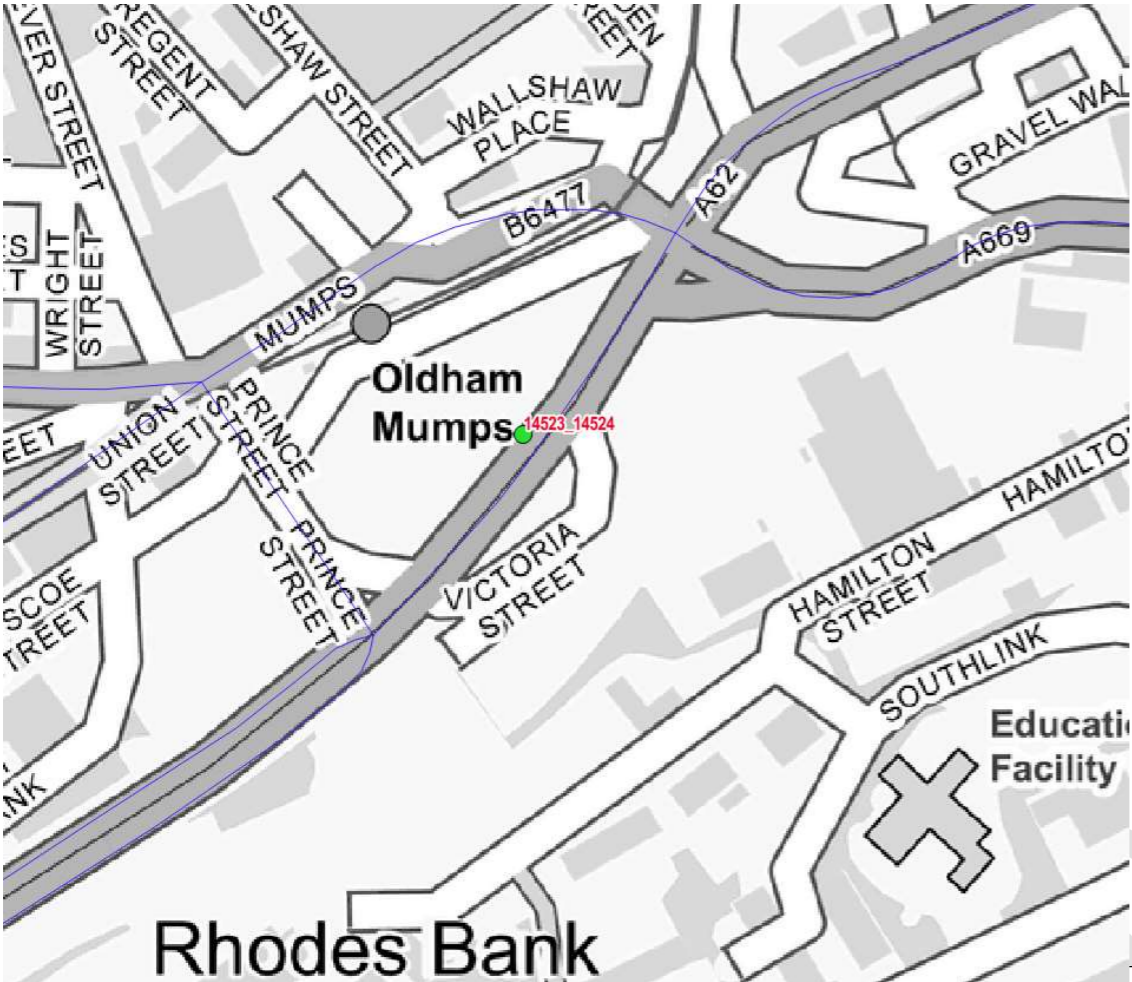
Impacts of Option (%red. NOx)

Car:	-12%
LGV:	-30%
OGV:	-56%
Taxi:	-21%
Bus:	-79%
All veh.:	-28%

14523_14524	Oldham	A62
Do Min. NO2	BG NO2 Conc	
46.4	17.8	

Car	LGV	OGV	Bus	All Veh
41,906	9,789	1,608	10	53,313

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
14	16	13	21	30	27



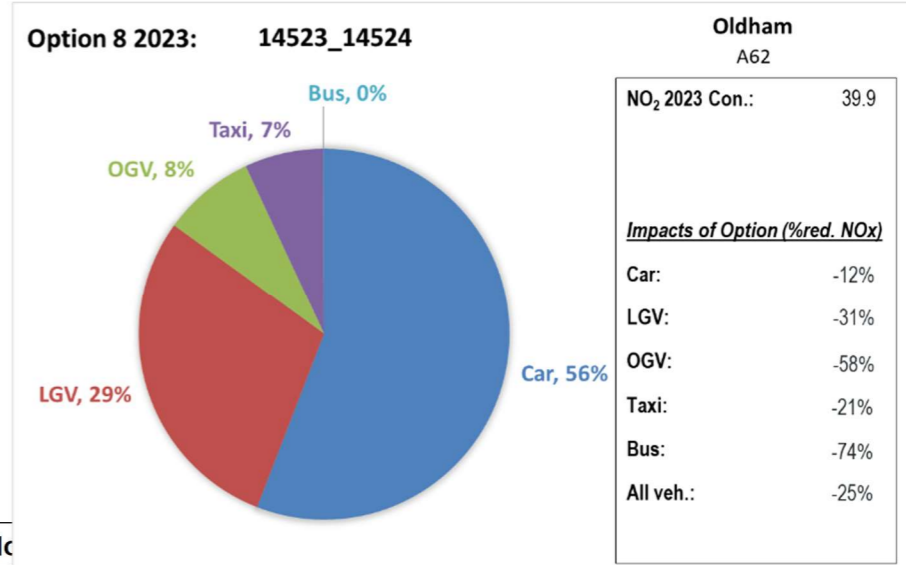
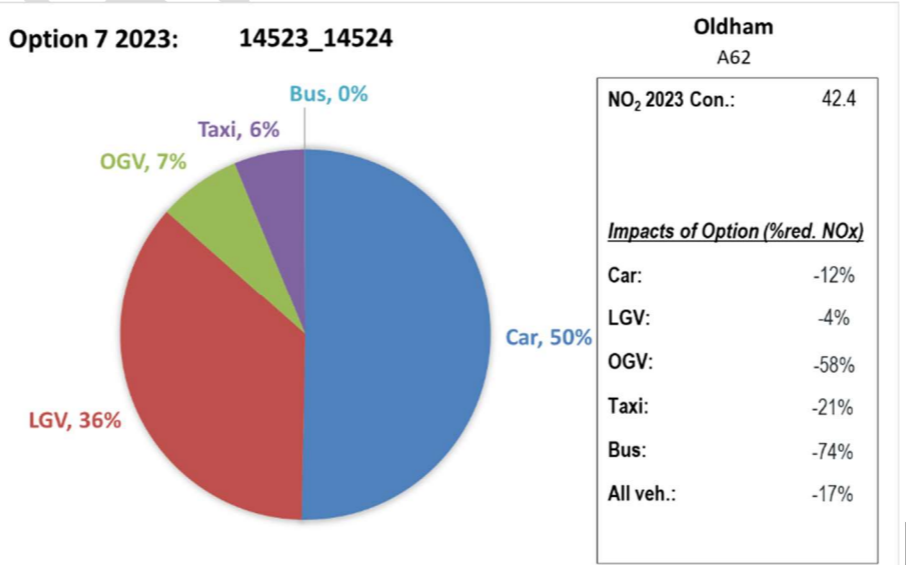
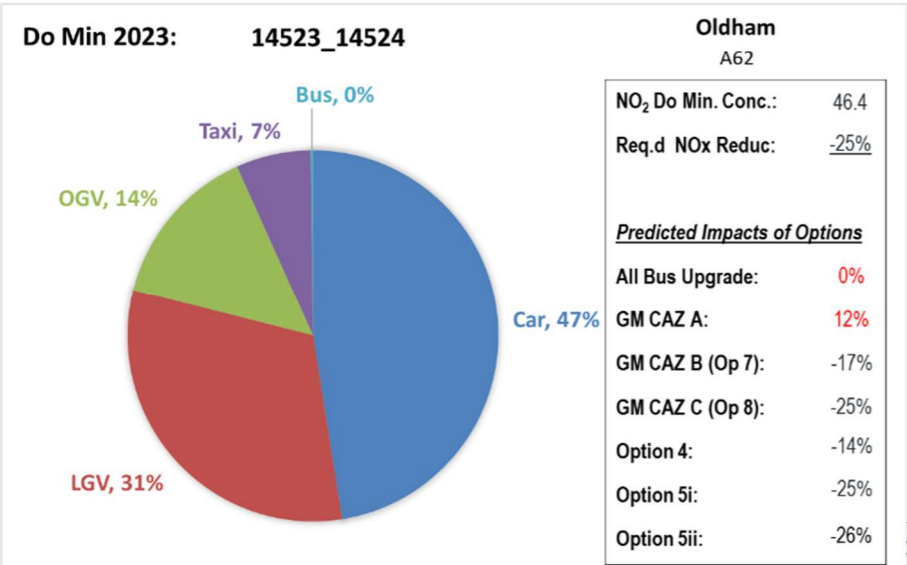
Observations

Very high flows. Mainly car & van emissions.

Located beside carpark

Close to Oldham Mumps tram.
Could car trips be switched to tram?

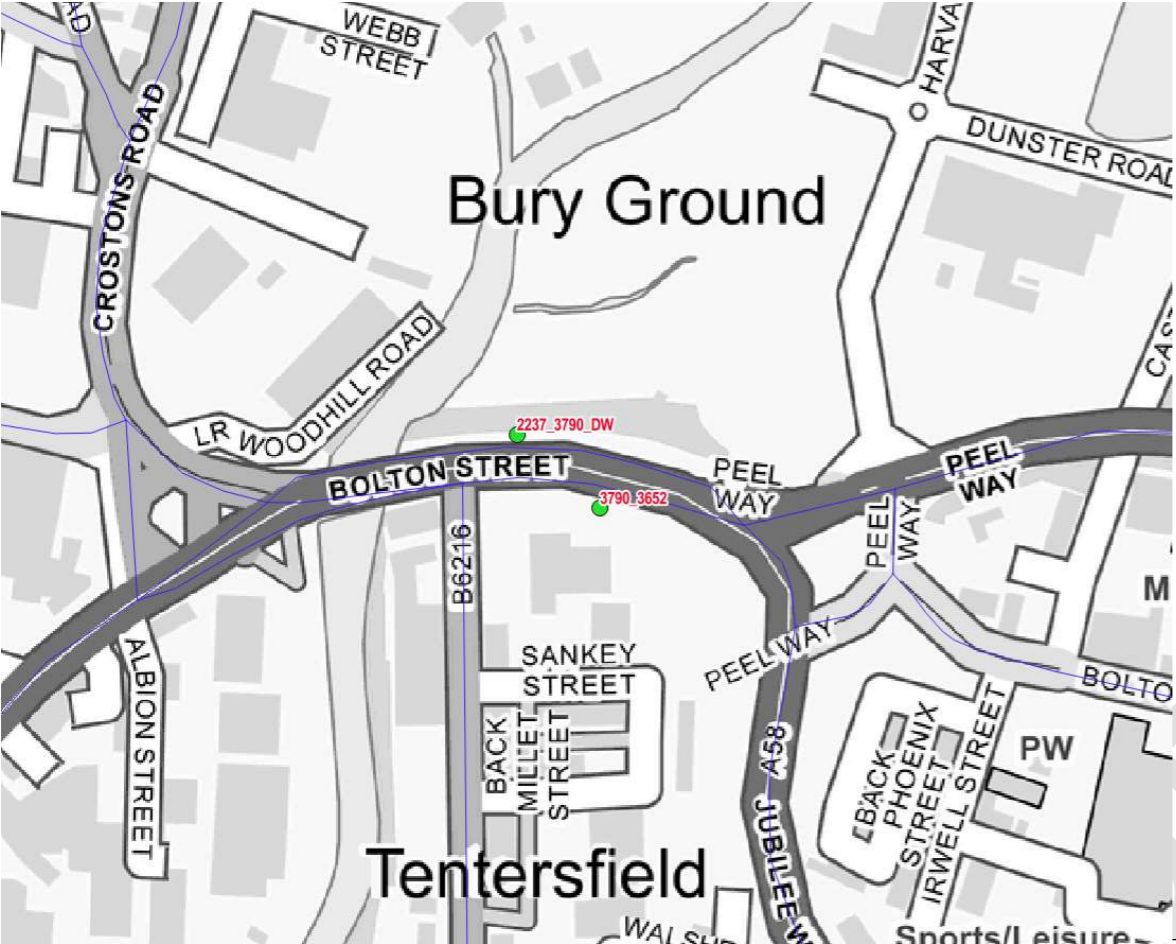
NOx Emissions Source Apportionment



2237_3790_DW	Bury	A58 BOLTON STREET
Do Min. NO2	BG NO2 Conc	
49.0	15.2	

Car	LGV	OGV	Bus	All Veh
64,449	12,037	1,820	950	79,256

Link Name Direction			Reverse Direction		
AM	IP	PM	AM	IP	PM
29	37	32	#N/A	#N/A	#N/A



Observations

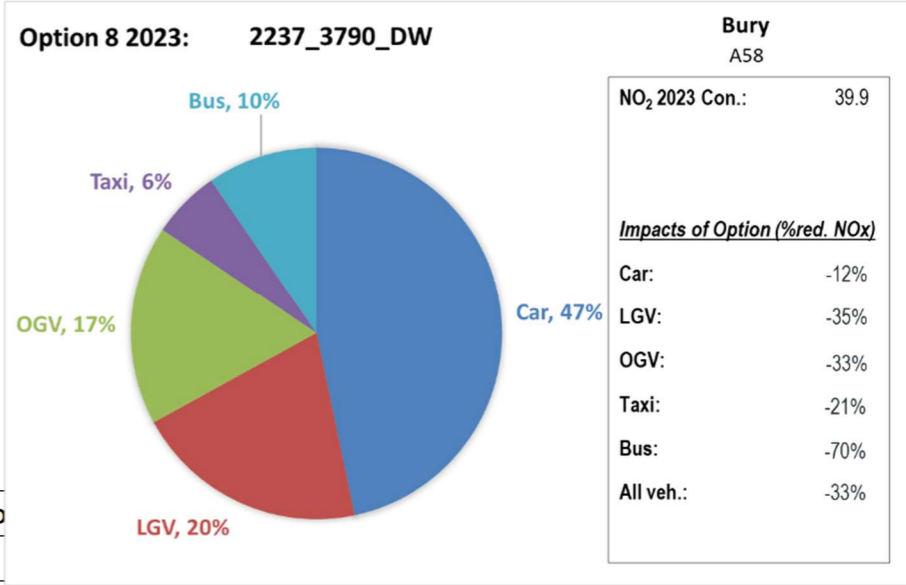
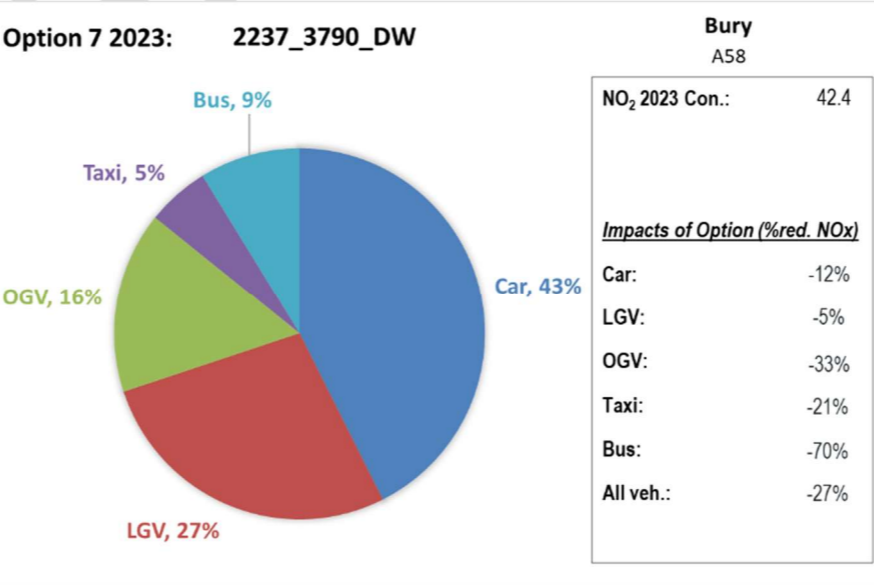
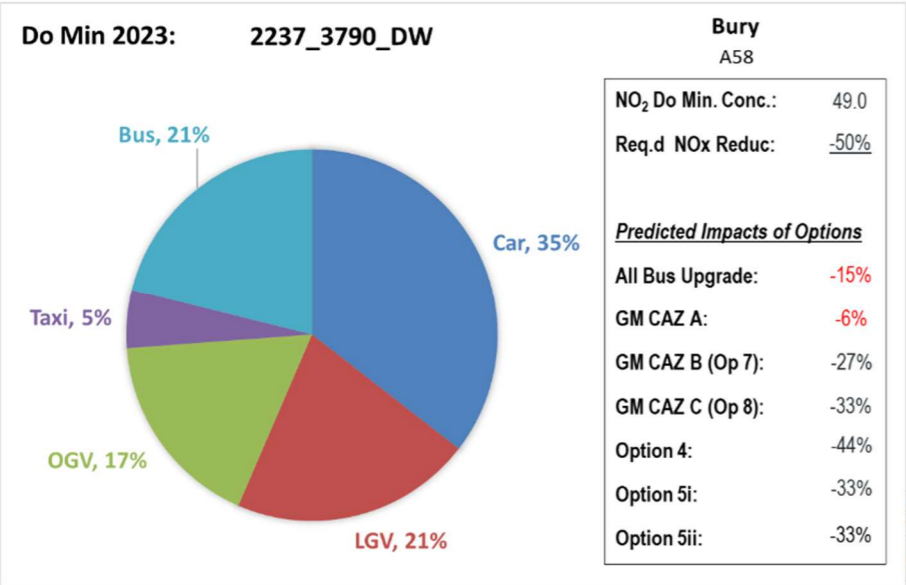
Very high flows at complex junction at confluence of roads accessing bridge leading to ring road.

Both sides of road, up and downwind.

Contributions from all vehicle types

Very low speeds in the IP/PM peak

NOx Emissions Source Apportionment



Do Min. NO2	BG NO2 Conc
46.9	15.2

64,449	12,037	1,820	950	79,256
--------	--------	-------	-----	--------

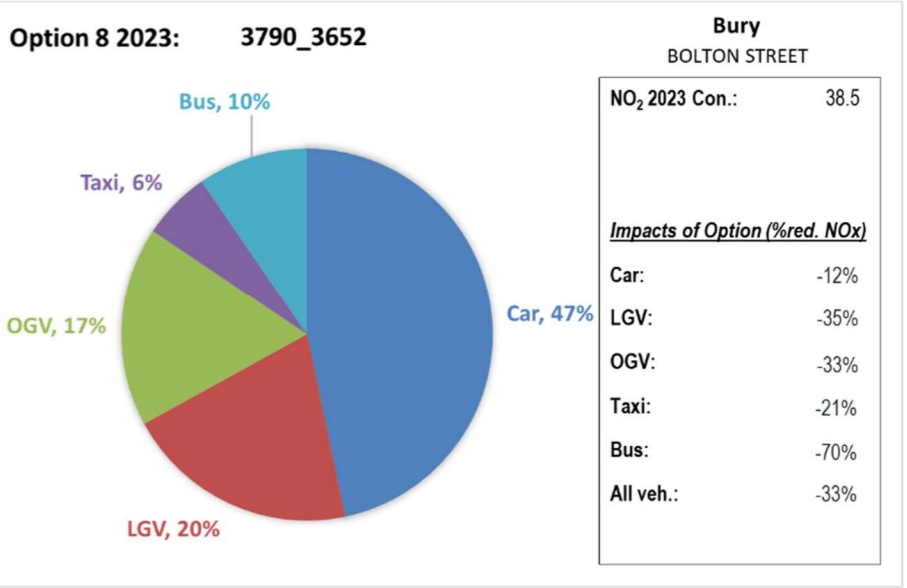
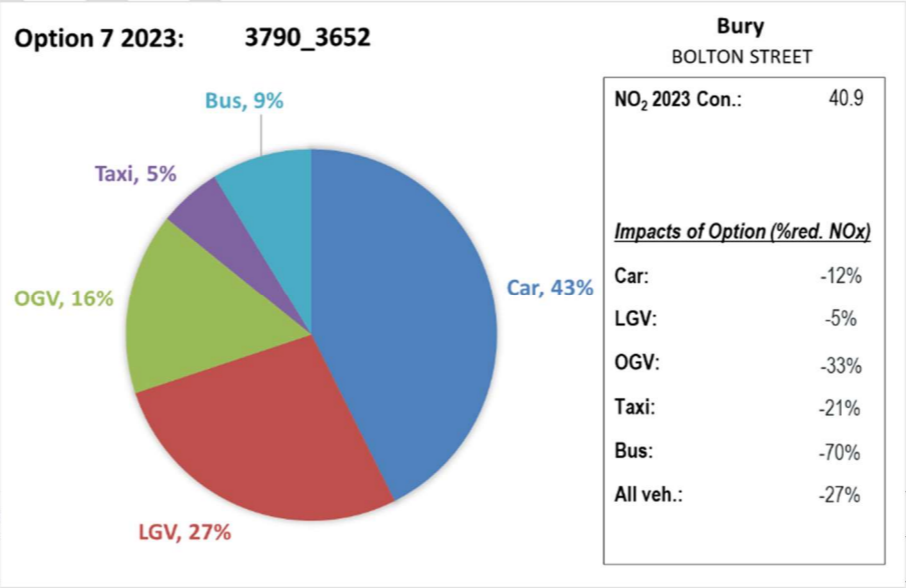
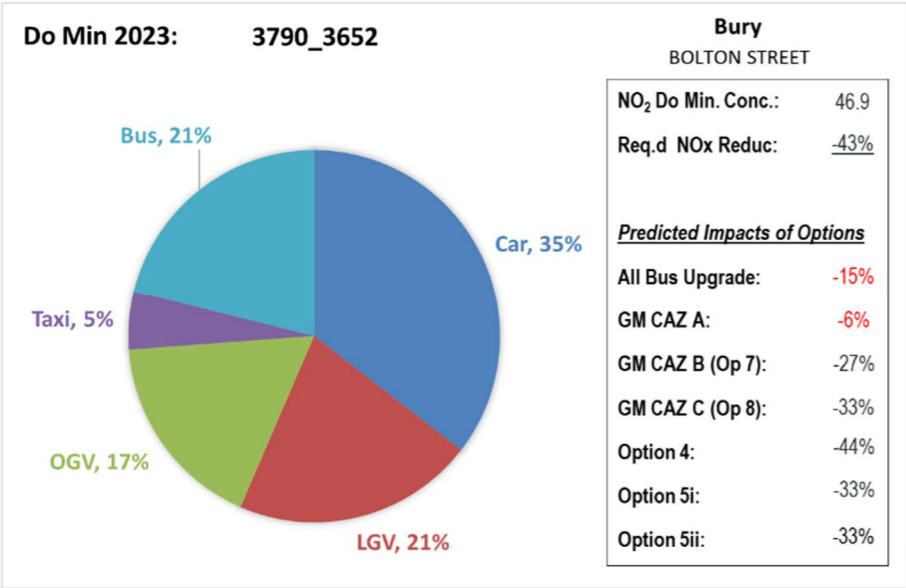
AM	IP	PM	AM	IP	PM
32	7	4	#N/A	#N/A	#N/A



Observations

See DW notes

NOx Emissions Source Apportionment



Do Min. NO2	BG NO2 Conc
45.9	12.4

32,866	6,942	2,963	232	43,002
--------	-------	-------	-----	--------

AM	IP	PM	AM	IP	PM
Junc.					



Observations

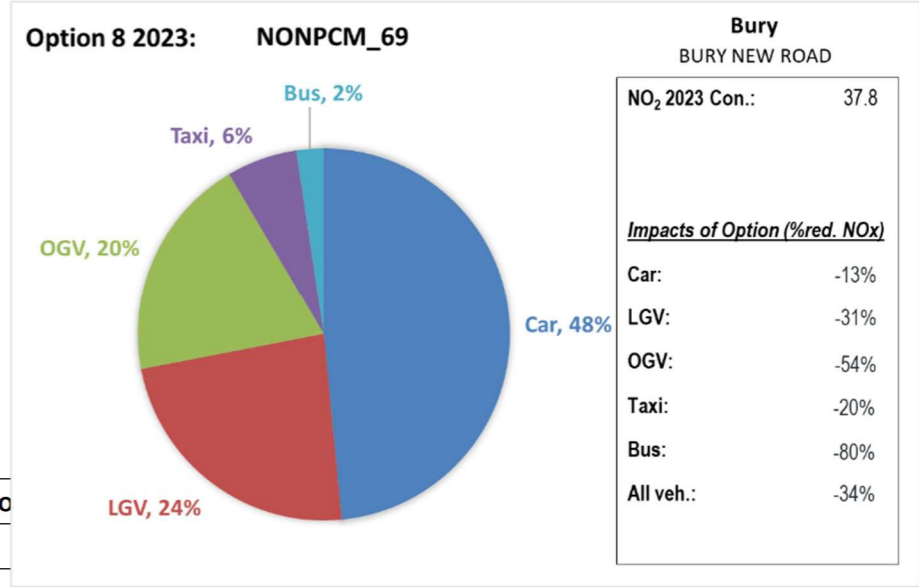
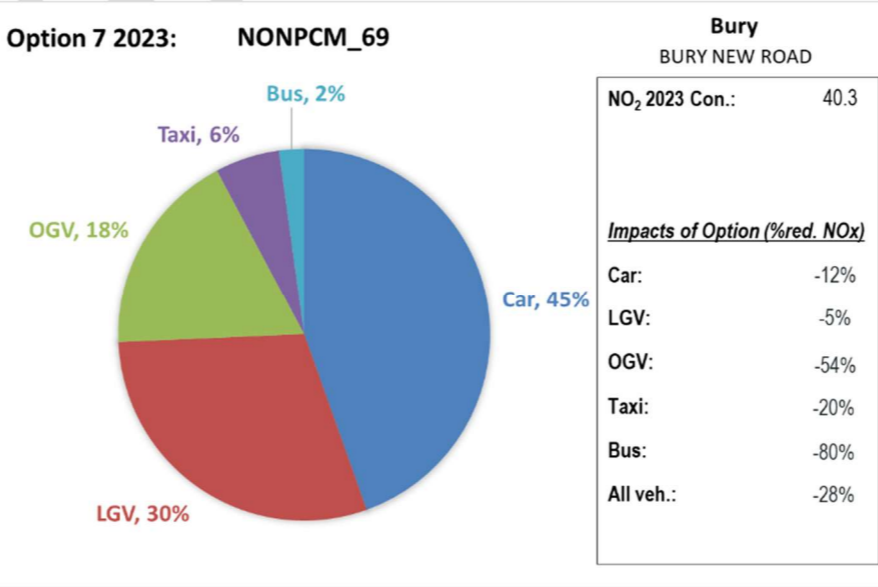
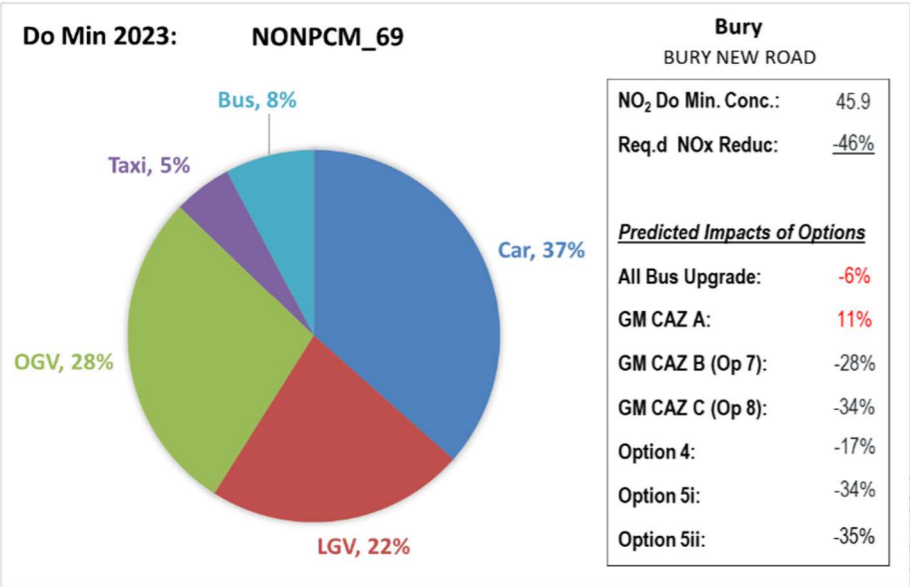
Contributions from all vehicle types

Located on junction, and queuing not represented in the model. Source apportionment may be incorrect as assigned to one road only.

High BG concs

Not an AQ Directive location

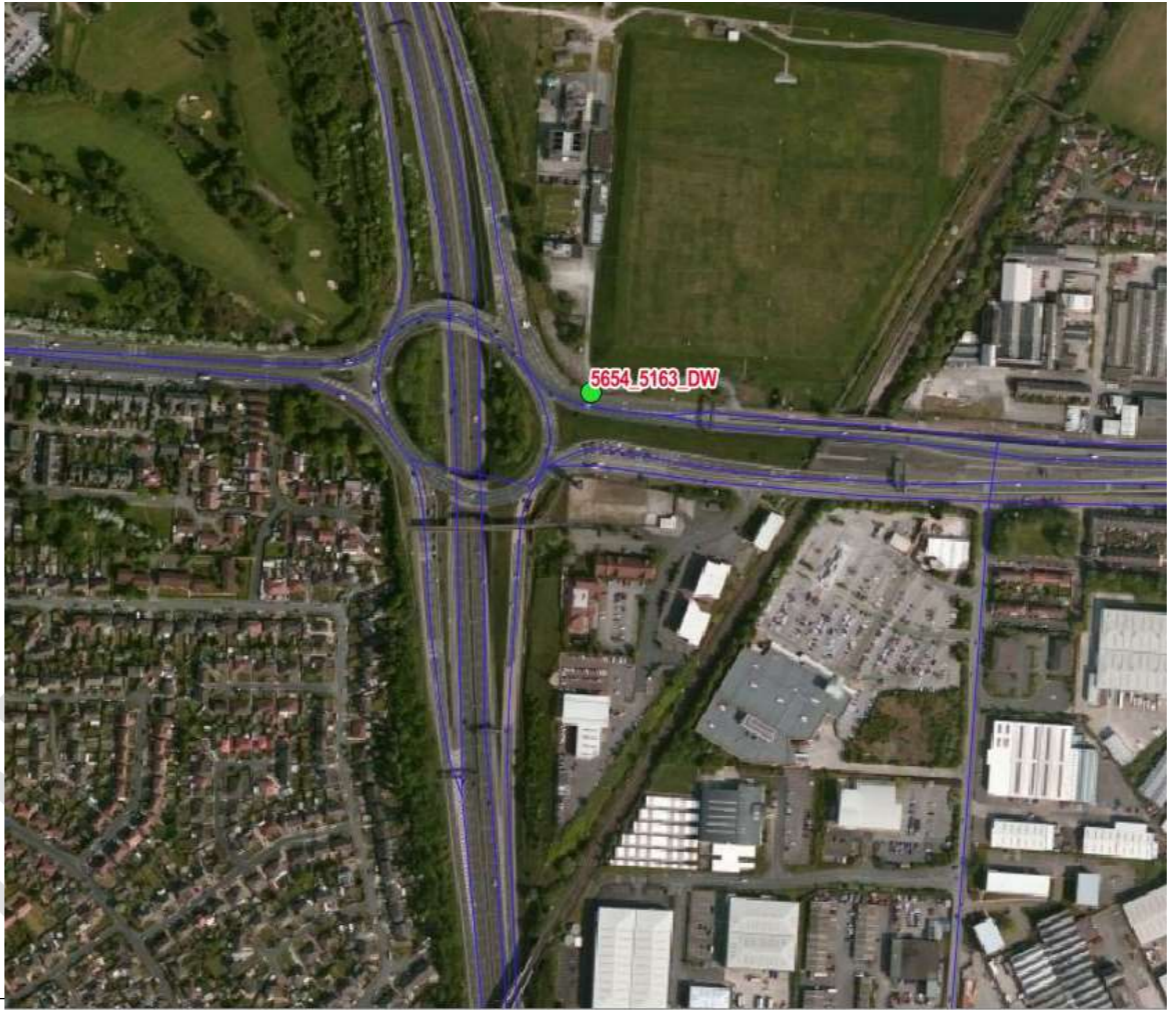
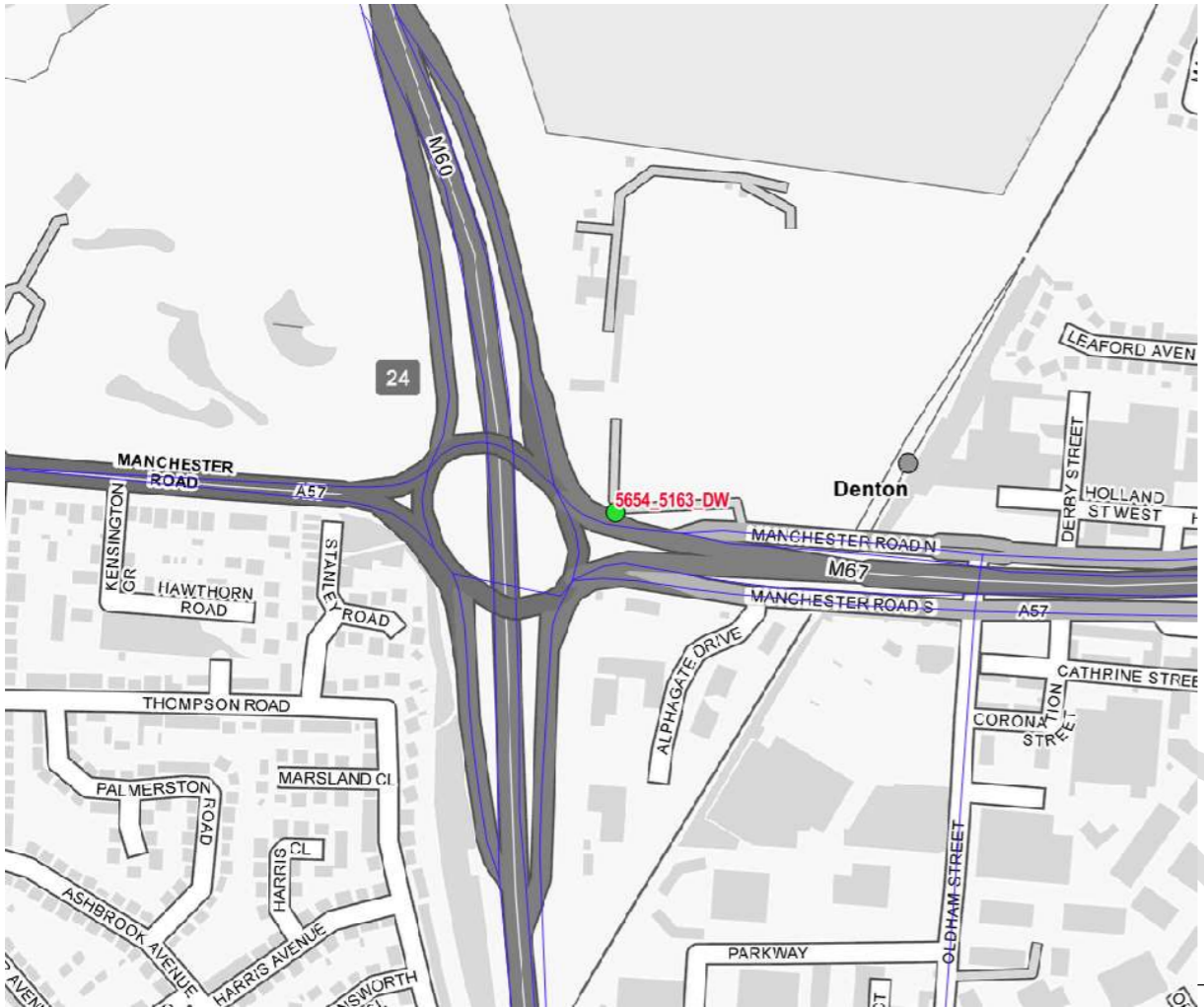
NOx Emissions Source Apportionment



Do Min. NO2	BG NO2 Conc
44.4	14.6

48,756	13,258	4,311	153	66,478
--------	--------	-------	-----	--------

AM	IP	PM	AM	IP	PM
42	58	47	#N/A	#N/A	#N/A



Observations

This site is located next to the SRN (A57 is HE operated). Therefore not part of the GM CAP.

Contributions from all vehicle types

NOx Emissions Source Apportionment

