

TECHNICAL NOTE

DATE:	19 October 2023	CONFIDENTIALITY:	Public
SUBJECT:	Greater Exeter Model Update - Exeter Local Plan Development Impact		
PROJECT:	70105008	AUTHOR:	Jo Riley
CHECKED:	Kerry Hellewell	APPROVED:	Kerry Hellewell

INTRODUCTION

WSP has been commissioned by Devon County Council (DCC) to prepare 2040 forecasts for the Greater Exeter model which include all developments from the forthcoming Exeter, East Devon, Mid Devon and Teignbridge Local Plans. The preparation of these forecasts has been reported in an addendum to the existing Greater Exeter Model Forecasting Report.

WSP has also produced a 2040 forecast scenario which reflects only the developments in the Exeter Local Plan. This technical note briefly details the methodology followed to create these forecasts, and presents the impact of these developments, background growth and windfall in all Greater Exeter districts on the highway network in and around the Exeter area.

METHODOLOGY

Demand Matrices

The methodology for creating the full 2040 forecasts is detailed fully in the Greater Exeter Forecasting Addendum. These forecasts were used as a starting point for creating the 'Exeter Only' development scenario. Development sites in East Devon, Teignbridge and Mid Devon districts were removed from these forecasts, leaving only the Exeter developments. The remaining development sites represented in Exeter are shown in Table 1. In total these sites comprise around 6,200 new dwellings, with no employment land assumed. Other factors such as background growth and windfall remain the same in this scenario as the full 2040 Greater Exeter forecast scenario.

Note that the Cranbrook development trips were adjusted from the 2040 Greater Exeter forecast trip generation to match the 2030 Greater Exeter forecasts.

Table 1 – Development sites in Exeter district (2017-40)

Site	Quantum (2017-2040)	
	Residential (dwellings)	Employment (Ha)
Marsh Barton	1,880	-
Water Lane	1,180	-
East Gate	750	-
Red Cow / St Davids	430	-
Sandy Gate	250	-
North Gate	200	-
West Gate	200	-
South Gate	170	-
Land at St Bridget Nurseries, Old Rydon Lane / St Bridget Nurseries, Old Rydon Lane	334	-

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Land to the north, south and west of the Met Office	225	-
Land south of the A379	184	-
12-31 Sidwell Street	51	-
Land east of Newcourt Road, Topsham	43	-
Devon & Exeter Squash Club, Prince of Wales Road	40	-
Land at Newcourt Road, Topsham	38	-
Land adjoining Silverlands, Chudleigh Road	37	-
Belle Isle Depot, Belle Isle Drive	33	-
Land west of Newcourt Road, Topsham	31	-
Chestnut Avenue	26	-
Former overflow car park, Tesco, Russell Way	18	-
Land behind 66 Chudleigh Road	16	-
Land east of Pinn Lane	14	-
Land at Hamlin Lane	13	-
Yeomans Gardens, Newcourt Road, Topsham	13	-
Fever & Boutique, 12 Mary Arches Street	10	-
88 Honiton Road	10	-
Garages at Lower Wear Road	9	-
99 Howell Road	6	-
Total	6,211	0.00

Model Network

No network changes were made to create the Exeter Only scenario. As agreed with DCC, the traffic signal timings were optimised globally in the network during the model assignments.

RESULTS

The following plots have been included below to show the impact of the Exeter Local Plan developments in the 2040 future year. These plots are for the AM and PM peak hours. Note that any impacts are a result of the Local Plan development, as well as background growth and windfall in the other Greater Exeter districts.

- Actual flow difference plots (2030 vs 2040)
- Volume/Capacity ratio plots identifying nodes with V/C greater than 90%
- Volume/Capacity difference plots (2030 vs 2040)



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Traffic Flows

There is an increase in traffic flow on some routes within Exeter due to traffic associated with the developments but in general the flow differences are small. The Strategic Road Network (SRN) sees a moderate increase in traffic flow, particularly between M5 J29-31 and on the A30 with increases in flow of around 200-300 vehicles per hour.

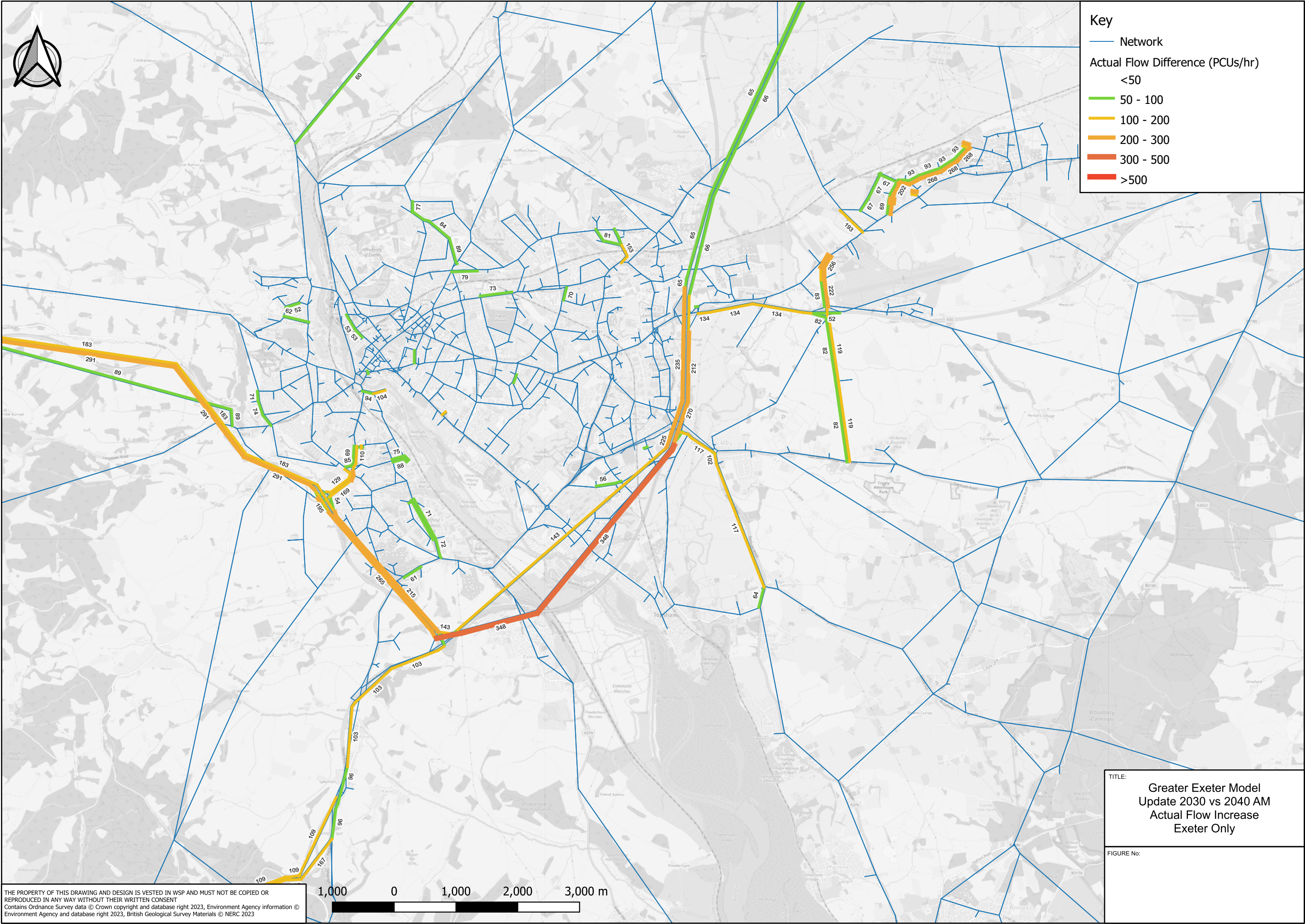
Volume/Capacity Ratios

These diagrams indicate that there are a number of junctions within Exeter which would be operating close to or over capacity by the 2040 future year. However, there are only a limited number of locations where junctions are made significantly worse by the development sites in Exeter.



Key

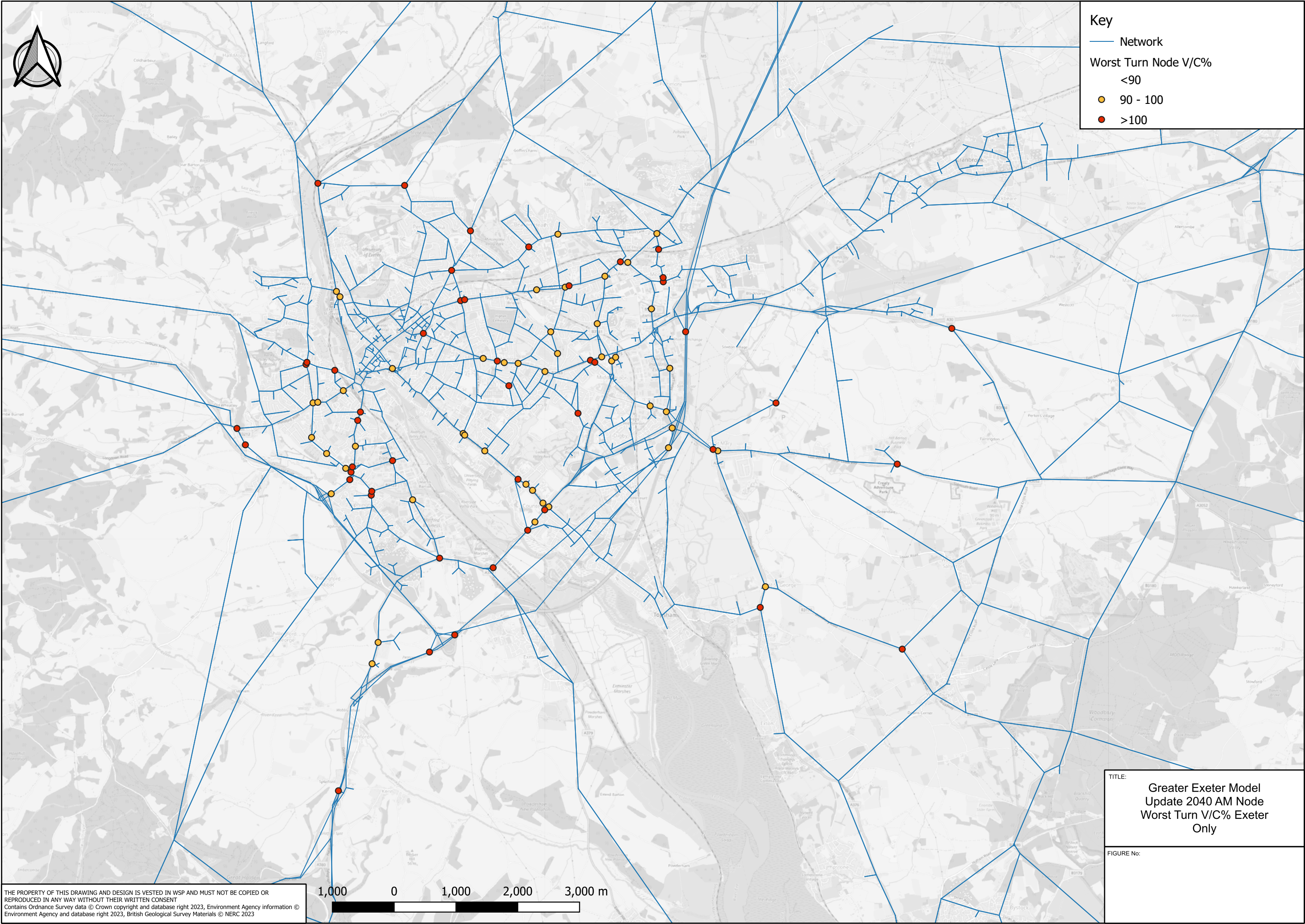
- Network
- Actual Flow Difference (PCUs/hr)
- <50
- 50 - 100
- 100 - 200
- 200 - 300
- 300 - 500
- >500



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TITLE:
Greater Exeter Model
Update 2030 vs 2040 AM
Actual Flow Increase
Exeter Only

FIGURE No:





Key

— Network

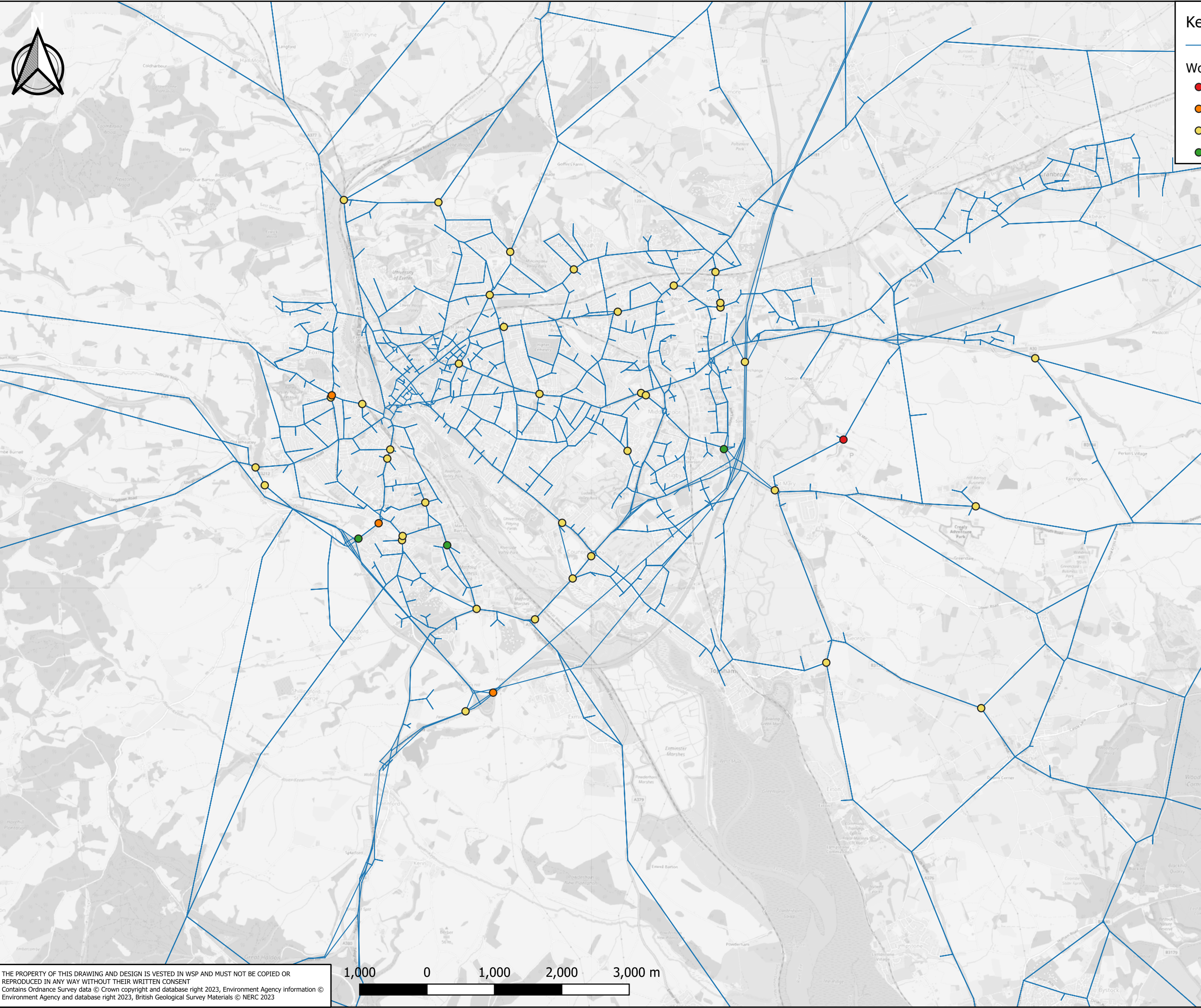
Worst Turn V/C Difference (%)

● Was <90, now >100

● Was between 90 - 100, now >100

● Remains >100

● Was <90, now between 90 - 100



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TITLE:

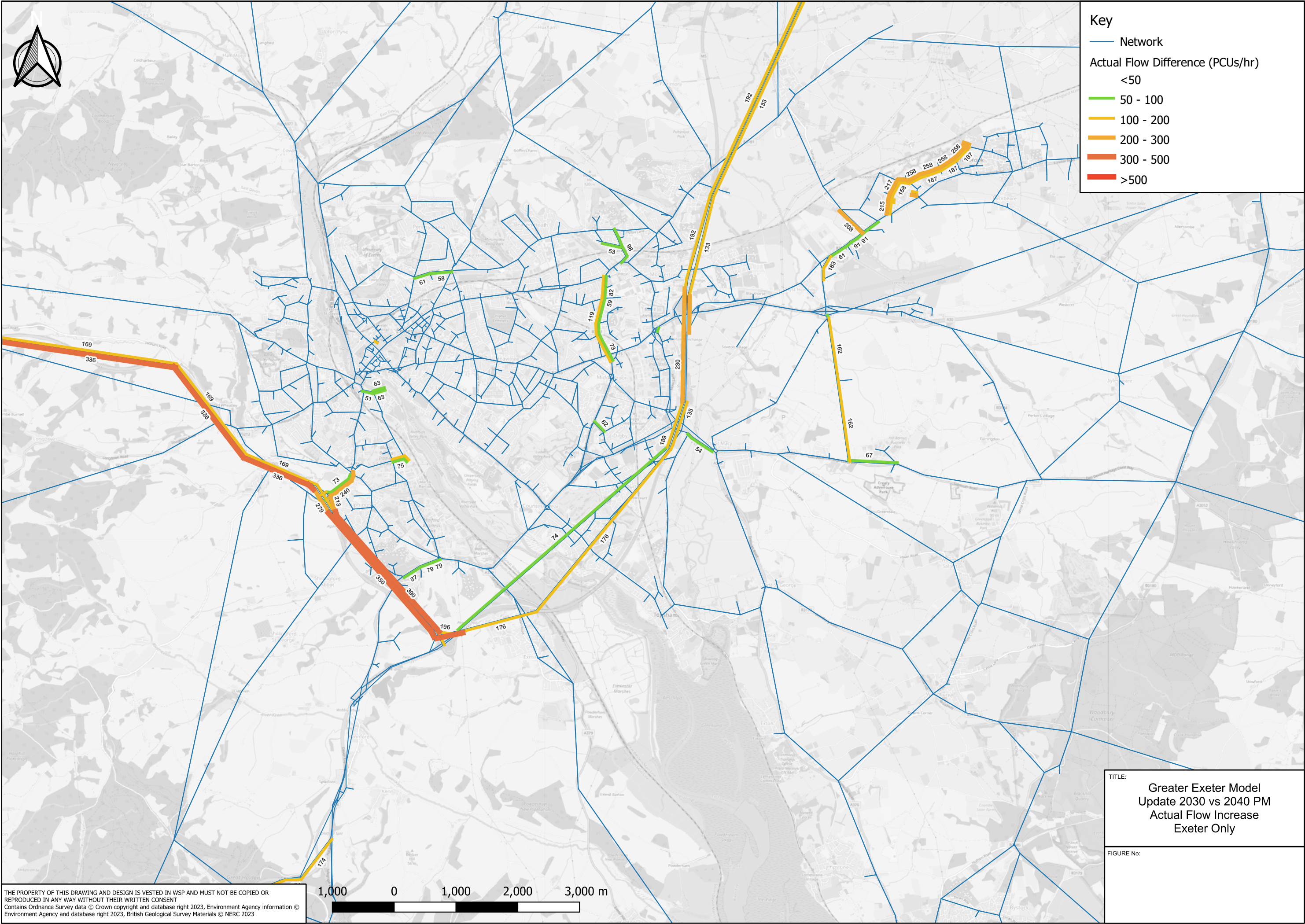
Greater Exeter Model
Update 2030 vs 2040 AM
Node Worst Turn V/C%
Difference Exeter Only

FIGURE No:



Key

- Network
- Actual Flow Difference (PCUs/hr)
 - <50
 - 50 - 100
 - 100 - 200
 - 200 - 300
 - 300 - 500
 - >500



TITLE:
Greater Exeter Model
Update 2030 vs 2040 PM
Actual Flow Increase
Exeter Only

FIGURE No:

