PRTMv2

Leicester City Local Plan: Interim Forecasting Report

Quality Information

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Revision History

Revision	Revision date	Details	Authorised	Name	Position
v0.2	2021-07-01	Internal draft			
v1.0	2021-08-02	Client draft	Yes	Mark Dazeley	Regional Director
v2.0	2021-12-10	Client draft following changes to TCF mode shift approach	Yes	Mark Dazeley	Regional Director
v2.1	2022-03-09	Minor changes following comments from National Highways	Yes	Mark Dazeley	Regional Director

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Section 1 – Overview

1.1 Introduction

1.1.1 Leicester City Council (LCiC) is currently in the process of developing a new Local Plan that covers a 15-year timescale to 2036. The draft Local Plan sets out a need for:

- a total of 29,104 new homes; and
- a total of 200,400m^2 of employment floorspace.

1.1.2 An assessment of the forecast transport impacts of the Local Plan has been requested using Leicestershire County Council's (LCC) Pan-Regional Transport Model (PRTMv2). This assessment seeks to understand the forecast impacts of the proposed developments on the transport network. The outcomes of this assessment will then be used to develop and test proposed mitigation measures.

1.1.3 The model version used for this assessment is PRTMv2 which draws together improvements identified as part of recent applications such as Leicester City Strategic Sites and Charnwood Local Plan. AECOM has already undertaken a base year model review[1] which found that the model was a suitable tool for undertaking this assessment. Some items were noted as part of the model review which required minor corrections to the model and these are detailed later in the report.

1.1.4 Of the 29,104 new homes set out in the draft Local Plan, 12,377 are considered committed and will be included in the baseline assumptions. The remaining 16,727 homes are considered not committed and will be tested as part of the Local Plan scenario. The additional employment to be tested as part of the Local Plan scenario amounts to 200,400m^2 of floorspace, split between B1, B2 and B8 uses.

1.1.5 The following forecast year scenarios have been produced as part of this assessment:

- 2036 Baseline; and
- 2036 With Local Plan.

1.2 Report Structure

1.2.1 Following this introduction, this technical note contains the following sections:

- Section 2 – Forecasting Approach and Assumptions: this section details the forecasting assumptions adopted for the assessment of the Leicester City Local Plan.
- Section 3 – Forecast Model Results: this section details the forecast results based on the agreed forecasting assumptions.
- Section 4 – Summary: this section provides a summary of the Local Plan transport assessment.

[1] PRTM - Leicester City Local Plan - Base Year Model Review v2.pdf, October 2020

Section 2 – Forecasting Approach and Assumptions

2.1 Introduction

2.1.1 This section sets out the forecasting assumptions applied for this application, and the methodology adopted to create the required model forecasts. All the forecasts have made use of the highway, public transport and variable demand model components of PRTMv2. The forecasts therefore include the forecast response of travel demand to changes in the costs of travel (including congestion, fuel prices and public transport fares) and changes in assumed highway and public transport infrastructure over time.

2.2 Base Year Network Changes

2.2.1 As a result of the base year model review, a number of minor network changes were implemented as follows:

- correction to lane allocation on the Glenhills Way eastbound entry to the 'Pork Pie' roundabout;
- correction to lane coding at the Aylestone Road/Welford Road junction; and
- correction to lane allocation at the Leicester Road exit of the A50/A46 gyratory.

2.2.2 These changes were tested by rerunning the base model and were shown to produce very minor flow changes which have no bearing on model performance.

2.3 Baseline Forecasting Assumptions

2.3.1 The Baseline scenario builds on the Core Scenario produced as part of the development of the PRTMv2 model. A detailed review of scheme assumptions was undertaken and updates applied to the networks for input into the 2036 Baseline scenario.

2.3.2 Table 2.1 provides the uncertainty log for highway schemes included in the model within Leicester City and the wider area.

Table 2.1: Highway Network Scheme Uncertainty Log

Location	Scheme	Timescale	Certainty
Catthorpe	M1 Junction 19	2016/17	Complete
Kegworth	M1 Junction 24	Oct-14	Complete
Nottingham	M1 Junction 23a-25 Smart Motorway	2018	Complete
Leicestershire	M1 J19-23a	-	Reasonably Foreseeable[2]
Lubbesthorpe	Access arrangements for SUE including strategic traffic link to the A563 Lubbesthorpe Way	2017	Complete
Lubbesthorpe	Link across M69 to join north and south of the Lubbesthorpe development.	2031	Near certain
Lubbesthorpe	Highway improvements for SUE	2031	Near certain
NWL	M1 Junction 22	2016	Complete
North of East Leicester	North of East Leicester Development Network - Thorpebury (previously Thurmaston) SUE	2026/2031	Near certain
Leicester City	Removal of Belgrave Flyover	2014/15	Complete

[2] Not included in the Baseline forecast network

Location	Scheme	Timescale	Certainty
Leicester City	Saffron Lane - Old Velodrome Improvements	2016	Complete
Leicester City	Traffic Calming Schemes	2016-2021	Complete
Leicester City	East of Hamilton Development Improvements	2016	Complete
Leicester City	Pedestrianisation of Hotel Street, St Martins	2016	Complete
Leicester City	Haymarket/Charles St Bus Station Development	2016	Complete
Leicester City	Existing and proposed 20mph zones	2012-2016	Complete
Leicester City	St Nicholas Circle	2015	Complete
Leicester City	Welford Road	2018	Complete
Leicester City	Waterside Development	2026	Near certain
Leicester City	Belgrave Gate South	2019	Near certain
Leicester City	Belvoir Street	2017	Complete
Leicester City	York Road/Bonners Lane/Grange Road	2019	Complete
Leicester City	King St	2018	Complete
Leicester City	Lancaster Road	2019	Complete
Leicester City	Mansfield Street & Church Gate	2020	Complete
Leicester City	St Margaret's Bus Station Access to Burleys Way	2022	Near certain
Leicester City	Vaughan Way	2019	Complete
Leicester City	Ashton Green	2021	Near certain
Leicester City	London Road	2019	Complete
Leicester City	LNW2 Ravensbridge Drive/Blackbird Road	2019	Complete
Leicester City	Beaumont Leys Anstey Lane Improvements	2019	Complete
Leicester City	Putney Road West Improvement	2023	Near certain
Leicester City	Granby Street/Halford Street Improvements	2017	Complete
Leicester Forest East	Ratby Lane/Wembley Road junction	2018	Complete
Leicester City	A50 Groby Road Bus Lane	2022	Near certain

2.3.3 Table 2.2 provides the uncertainty log for public transport schemes included in the model within Leicester City and the wider area.

Table 2.2: Public Transport Network Scheme Uncertainty Log

Location	Scheme	Timescale	Certainty
North of East Leicester	Miscellaneous services (Charnwood/Thurmaston)	2016	Complete
Blaby	Leicester North West Project Phase 1	2015-2016	Complete
East Midlands	East Midlands Railway frequency changes	2021	More than likely
Ashton Green	Extension of services and provision of new services for SUE	2021	More than likely
North of East Leicester	Package of bus measures to accommodate SUE	2024	Near certain
Broadnook	Extension of bus services 22A/B/C to SUE	2026	More than likely
Midlands	Midland Mainline Electrification	2026	Near certain

2.3.4 Baseline household planning data assumptions were provided by LCiC for Leicester City and are summarised in Table 2.3. For employment, around 6,000 additional jobs were added to existing PRTM Core planning data assumptions to ensure growth from 2014 to 2036 matches TEMPro 7.2 assumptions of around 16,000 extra jobs in total. These have been distributed uniformly across years and around Leicester City based on the 2014 base year employment distribution.

Table 2.3: Leicester City Baseline Planning Data Assumptions

Description	Timescale	Number of dwellings
Delivered	2014-2018	6,367
Residential Land Availability	2019-2028	9,827
Windfall	2019-2035	2,550

2.3.5 For the neighbouring borough of Charnwood, the latest assumptions from the emerging Charnwood Borough Council Local Plan of 9,105 homes and 5 hectares of employment by 2037 were incorporated using anticipated build out profiles provided by Charnwood Borough Council. For the neighbouring district of Blaby, latest Baseline assumptions provided by Blaby District Council as part of a recent assessment of Local Plan development options were incorporated. However, given the preliminary nature of these Local Plan options, none were included in the Baseline for this assessment.

2.4 Local Plan Assumptions – Planning Data

2.4.1 This section details the development of the planning data inputs to represent the household and employment growth set out in the Local Plan.

2.4.2 Table 2.4 summarises the Local Plan housing assumptions. The unmet need dwellings were distributed across a number of neighbouring districts, solely for modelling purposes, in-line with allocations agreed through the Strategic Growth Plan (with an adjustment within Blaby to represent aspiration for a mixed-use community at Whetstone Pastures).

Table 2.4: Local Plan Housing Assumptions

Area	Timescale	Number of dwellings
Non-Central Development Area	2021-2035	4,080
Central Development Area	2019-2033	4,905
Unmet need	2029-2035	7,742
- *Melton*		*748*
- *Harborough*		*2,206*
- *Hinckley and Bosworth*		*524*
- *North West Leicestershire*		*432*
- *Blaby*		*3,831*

2.4.3 Table 2.5 summarises the Local Plan employment assumptions.

Table 2.5: Local Plan Employment Assumptions

Area	Timescale	Size of Development
New Strategic Employment Sites	2028-2032	34.2 hectares
Small Sites	2028-2032	4.8 hectares
Existing Ashton Green Consent	2028-2032	5 hectares
St George's	2025-2032	20,000m^2

2.4.4 To represent the loading and scale of development traffic at key sites more accurately, as well as to make allowance for the potential for more detailed analysis of individual sites, a number of development zones have been adopted within the model. In all, 11 development zones have been used for the following sites:

- Western Park Golf Course Employment (20.5 hectares, zone 9047);
- Western Park Golf Course Housing (466 dwellings, zone 9046);
- Beaumont Park (8.8 hectares, zone 9045);
- Ashton Green East Employment (4.9 hectares, zone 9044);
- Ashton Green East Housing (660 dwellings, zone 9043);
- General Hospital (532 dwellings, zone 9042);
- Land West of Anstey Lane (325 dwellings, zone 9041); and
- Thurcaston (611 dwellings, zone 9040).

2.4.5 An indication of the access points for each of these developments was provided by LCiC and these were coded into the highway network.

2.4.6 Trip rate information by mode was provided for the Western Park Golf Course, Beaumont Park and Ashton Green East sites as part of the previous Leicester City Strategic Sites assessment undertaken by AECOM in 2020 and were used for this assessment[3]. For the General Hospital, Land West of Anstey Lane and Thurcaston sites the following was assumed:

- the same residential trip rates as was assumed for the previous Strategic Sites work;
- the same mode splits as those derived for Western Park Golf Course for the General Hospital site; and
- the same mode splits as those derived for Ashton Green East for the Land West of Anstey Lane and Thurcaston sites.

2.4.7 Table 2.6 shows the outturn trip generation by site and time period for the highway and public transport models. Factors were applied to the model assignment matrices to match these figures.

[3] LSD-BWB-GEN-XX-RP-TR-0001-S2-P3_Trip Generation Technical Note.pdf, BWB, 10 February 2020

Table 2.6: Development Zone Trip Generation

Site	Zone	Highway Trips (PCUs[4])						Public Transport Trips (Persons)					
		AM Peak Hour (Arrive/Depart/ 2-way)			PM Peak Hour (Arrive/Depart/ 2-way)			AM Peak Average Hour (Arrive/Depart/ 2-way)			PM Peak Average Hour (Arrive/Depart/ 2-way)		
Western Park Golf Course Employment	9047	521	108	629	202	363	565	48	10	57	18	33	52
Western Park Golf Course Housing	9046	112	179	291	207	69	276	35	56	92	65	22	87
Beaumont Park	9045	224	46	270	87	156	243	23	5	27	9	16	25
Ashton Green East Employment	9044	124	26	150	48	87	135	13	3	15	5	9	14
Ashton Green East Housing	9043	158	254	413	293	98	391	33	53	85	61	20	81
General Hospital	9042	128	205	333	236	79	315	40	64	105	74	25	99
Land West of Anstey Lane	9041	78	125	203	144	48	193	16	26	42	30	10	40
Thurcaston	9040	147	235	382	271	91	362	30	49	79	56	19	75

2.4.8 Where sites have been placed within their respective geographical zones, the trip rates for these sites will reflect base year matrix trip rates.

2.5 Local Plan Assumptions – Schemes

2.5.1 In addition to the planning data changes associated with the Local Plan, a number of proposed transport schemes have been included in the Local Plan scenario which are not present in the Baseline scenario. These have been included in the Local Plan scenario only as they are designed to support the Local Plan growth. The schemes focus on improving public transport and active travel provision and most are associated with the recently awarded Transforming Cities Fund (TCF) Tranche 2 funding.

2.5.2 Table 2.7 provides a list of the schemes assumed to be included only as part of the Local Plan scenario.

[4] Passenger Car Units

Table 2.7: Additional Local Plan Scenario Schemes

Scheme
Central Ring Road Cycle Provision
Abbey Park Road Cycle Provision
Bike Share Scheme
City Centre Electric Bus
Electrification of Meynell's Gorse and Enderby Park-and-Ride Services
New Beaumont Leys Park-and-Ride Site
Soar Valley Way Bus Priority
Melton Road (A607)
St Margaret's to Birstall (A6)
Anstey Lane (A5630)
Abbey Park Rd/Beaumont Leys Lane
Great Central Street/Groby Road (A50)
Ashton Green (Walking & Cycling corridor)
Connecting Leicester Neighbourhoods - Beaumont Leys
Duns Lane/Braunstone Gate
Saffron Lane (B5366)
Aylestone Road (Saffron Lane to Oxford St) (A426)
Great Central Way Cycle & Walk Corridor
Real Time Bus Information
Traffic Signal Bus Priority
Market Place South
Beaumont Leys Park-and-Ride - Hospital Hopper
Abbey Street
Electric Buses for Birstall Park-and-Ride
THI including Millstone Lane and Friars Lane

2.5.3 The schemes listed above are expected to generate a significant shift away from private car use towards public transport and active travel modes when combined with measures such as better marketing of sustainable alternatives for travellers. The expected changes in public transport and active mode trips between 2020 and 2023 as a result of these schemes has been provided by Leicester City Council and are as follows:

- 31% increase in cycling in the TCF area (see Figure 2.1);
- 0.3% increase in walking in the TCF area;
- 5% increase in bus patronage across the whole City; and
- 10% increase in bus patronage in specific growth corridors (see Figure 2.2).

Figure 2.1: TCF Area Definition (Grey Shaded Area)

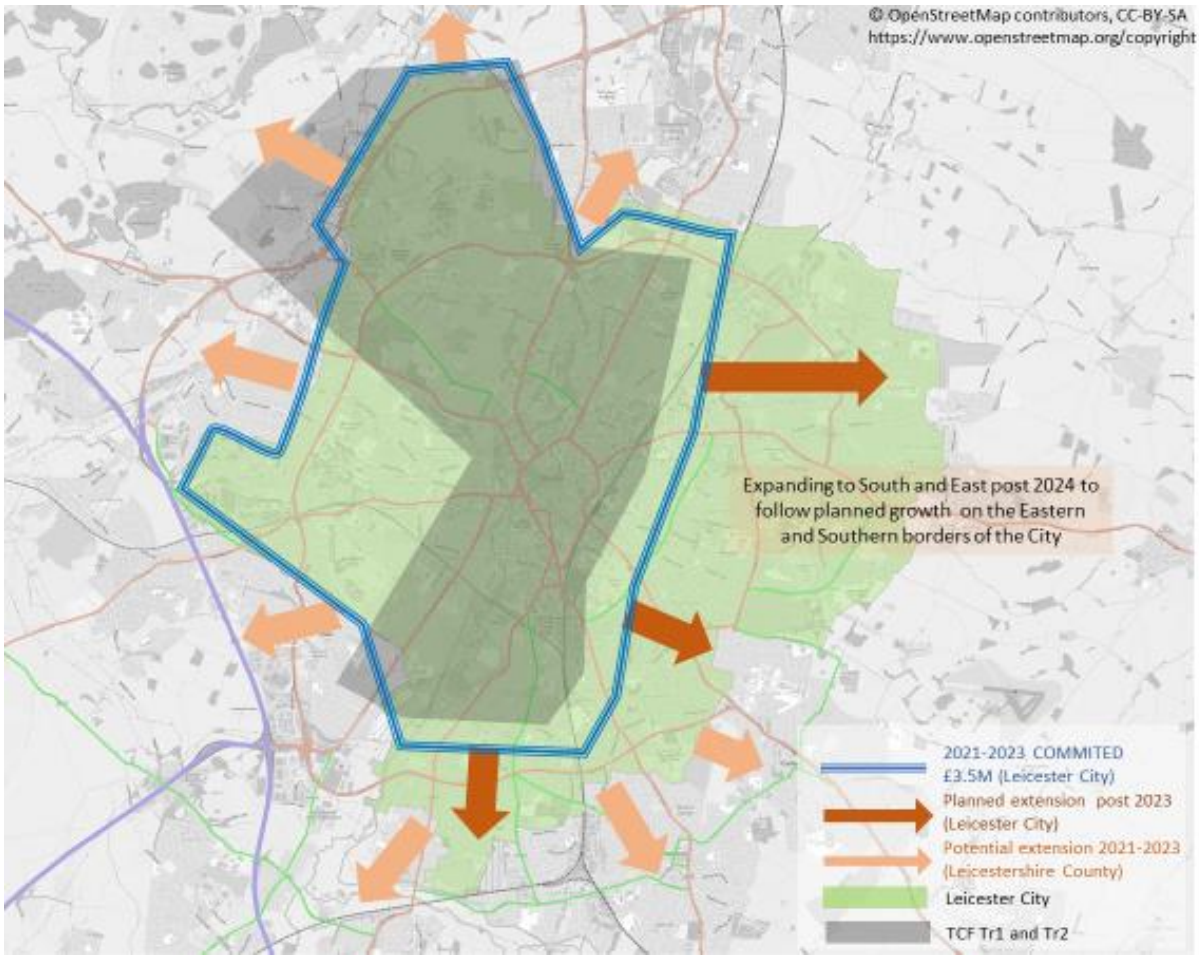
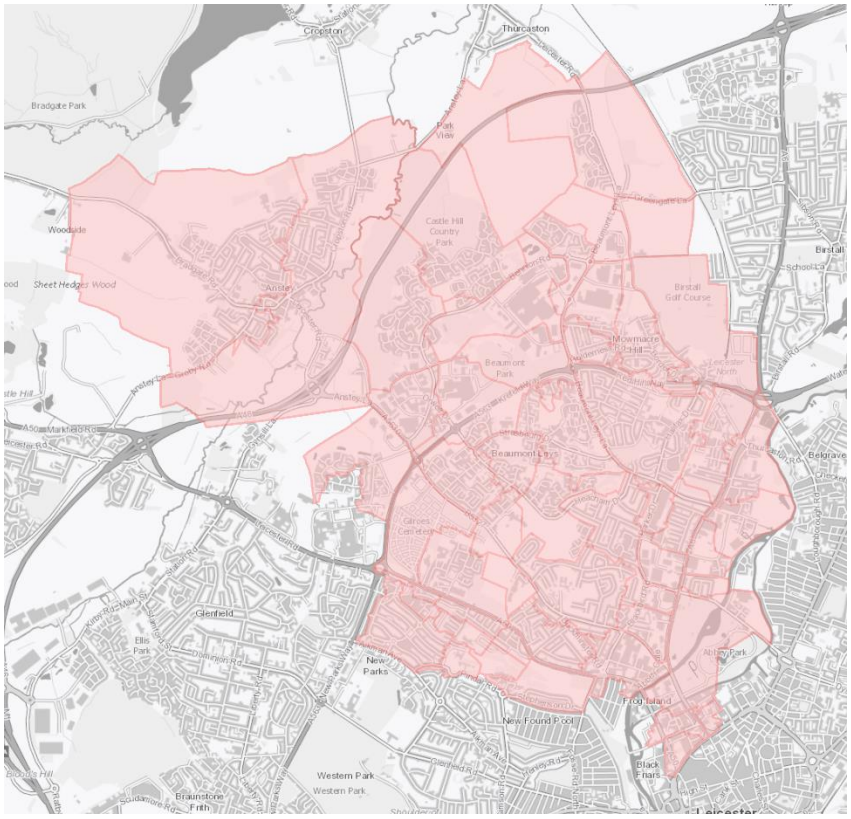


Figure 2.2: Model Zones Associated with TCF Growth Corridors



2.5.4 Some of the additional schemes and/or their likely impact are unable to be represented explicitly in the model and therefore it was agreed to apply a manual adjustment to represent the expected mode shift.

2.5.5 The changes are expected to take place between 2020 and 2023 but exclude the effect of population growth and so 2023 models were run without and with those schemes that could be modelled. Analysis of 24-hour productions and attractions by mode and area was undertaken for each scenario to determine the impact of including these schemes, and assess the adjustment that would be required to achieve the target increase by mode and area. A process of calibrating alternative specific constants for each mode and area was then undertaken until a reasonable fit was achieved. These constants were then applied in the 2036 With Local Plan scenario.

2.5.6 Table 2.8 below summarises the outcome of the model adjustments. It was not possible to match the targets exactly as each element is dependent on each other with overlaps between productions and attractions, areas and modes. The model represents walk and cycle together in Active Mode and so the target increase of 2.6% is a combination of the targets for walk and cycle, weighted by demand.

Table 2.8: Summary of Model Adjustments

		Modelled Increase		Corresponding Reduction in Daily Car Trips	
	Target Increase	**Productions**	**Attractions**	**Productions**	**Attractions**
Active Mode in the TCF Area	2.6%	2.4%	3.1%	-3,149	-2,617
Bus in the City	5.0%	4.7%	5.9%	-2,745	-2,556
Bus in the growth corridors	10.0%	11.1%	9.1%	-1,174	-887

Section 3 – Forecast Model Results

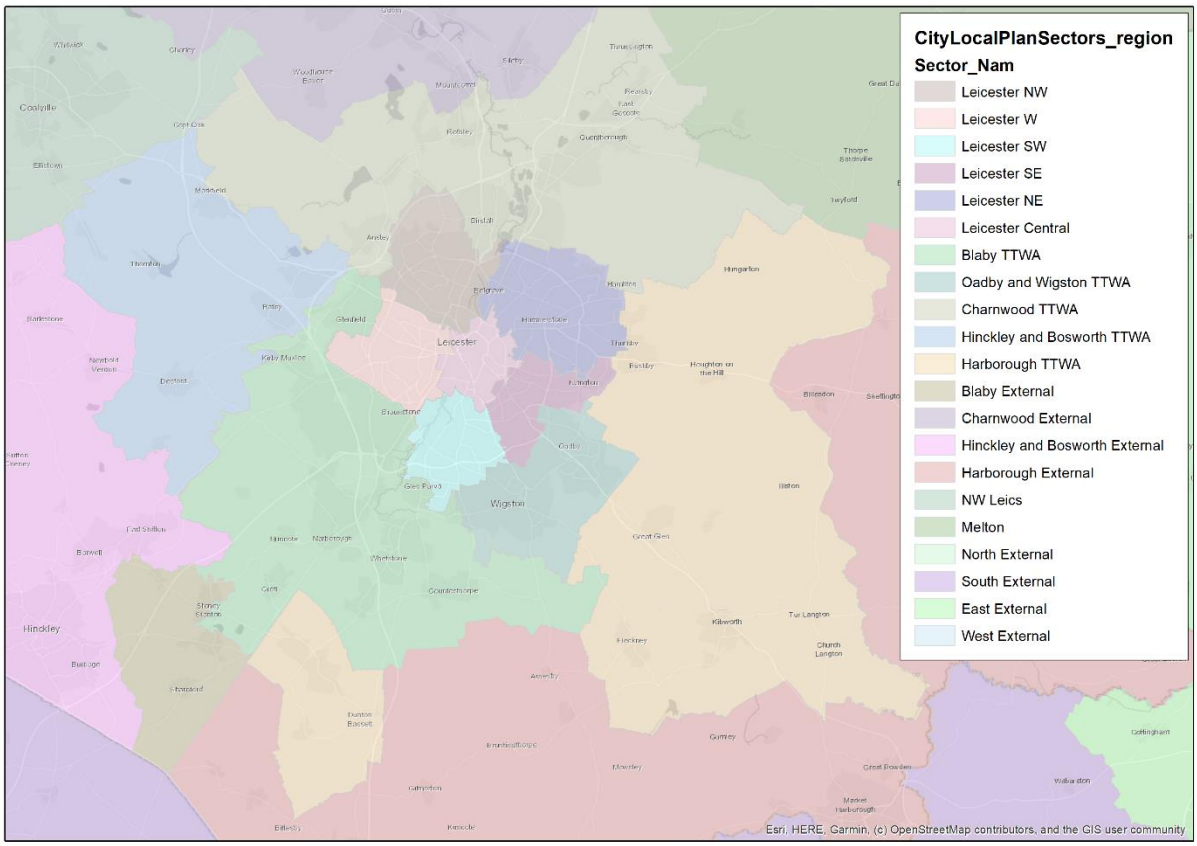
3.1 Introduction

3.1.1 Based on the forecasting assumptions set out in Section 2, this section details the model forecasts produced in the assessment of the proposed Local Plan development. This analysis includes:

- forecast demand changes by sector and mode;
- forecast mode shares by sector;
- forecast highway network statistics;
- forecast changes in highway flow;
- forecast changes in highway delay;
- forecast junction congestion analysis; and
- forecast changes in public transport passenger flow.

3.1.2 This section includes analysis broken down by sector, using a sector system as defined in Figure 3.1. The sector system features six sectors covering Leicester City, five sectors covering the travel to work area (TTWA) split by Leicestershire district/borough, and a further ten sectors covering the remainder of the districts and areas external to Leicestershire.

Figure 3.1: Model Analysis Sector System



3.1.3 Assignment convergence statistics for the 2036 Baseline and With Local Plan scenarios, AM and PM Peaks, are shown in Table 3.1 and Table 3.2 below. The results show that all of the assignments are well converged.

Table 3.1: 2036 Baseline Assignment Convergence Statistics

AM Peak Hour			PM Peak Hour		
Iteration	**%Delays**	**%Gap**	**Iteration**	**%Delays**	**%Gap**
50	99.2	0.0056	59	99.5	0.0059
51	99.4	0.0040	60	99.5	0.0051
52	99.4	0.0039	61	99.6	0.0049
53	99.4	0.0046	62	99.6	0.0048

Table 3.2: 2036 With Local Plan Assignment Convergence Statistics

AM Peak Hour			PM Peak Hour		
Iteration	**%Delays**	**%Gap**	**Iteration**	**%Delays**	**%Gap**
33	99.3	0.0038	49	99.6	0.0054
34	99.5	0.0050	50	99.6	0.0053
35	99.3	0.0035	51	99.6	0.0053
36	99.5	0.0046	52	99.5	0.0054

3.2 Forecast Demand Changes by Sector and Mode

3.2.1 This section reports the travel demand statistics by sector and mode for 2014 and the 2036 Baseline and With Local Plan scenarios.

3.2.2 Table 3.3 to Table 3.6 show the origin travel demand totals by sector for all modes and then separately for highway, public transport and active mode. Figure 3.2 summarises growth by mode as a result of the Local Plan development.

3.2.3 The results show that most of the total growth in the City is concentrated in the Leicester North West, Leicester West and Leicester Central sectors, with these areas seeing between 5% and 10% increases in origin trips. However, the impact of the TCF schemes means that much of that growth is seen in public transport (10-25%) and active mode (5-13%) trips. In contrast highway trip growth is relatively low.

3.2.4 Outside Leicester, there is modest growth of up to 4% for all modes combined in some of the surrounding sectors such as the Blaby and Harborough TTWA reflecting the unmet need element allocated to these. Highway growth outside Leicester is more similar in scale to the public transport and active mode growth as the TCF scheme mode shift mainly impacts on the Leicester City sectors.

Table 3.3: Origin Travel Demand Totals by Sector, 24 Hour Trips, People (PCUs for Highway)

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	107,486	126,695	18%	138,879	10%
Leicester W	135,162	137,041	1%	144,805	6%
Leicester SW	92,065	93,622	2%	96,066	3%
Leicester SE	112,700	113,268	1%	115,053	2%
Leicester NE	252,924	261,133	3%	266,566	2%
Leicester Central	320,473	356,276	11%	375,083	5%
Blaby TTWA	281,073	316,580	13%	329,055	4%
Oadby and Wigston TTWA	139,085	146,911	6%	148,137	1%
Charnwood TTWA	163,799	224,326	37%	225,677	1%
Hinckley and Bosworth TTWA	52,808	55,513	5%	56,132	1%
Harborough TTWA	75,579	86,603	15%	89,679	4%
Blaby External	15,736	18,099	15%	18,372	2%
Charnwood External	367,124	419,643	14%	421,488	0%
Hinckley and Bosworth External	252,822	287,858	14%	290,932	1%
Harborough External	189,603	243,398	28%	250,885	3%
NW Leicestershire	334,026	411,323	23%	413,801	1%
Melton	153,621	182,365	19%	185,776	2%
North External	60,375,990	66,587,069	10%	66,585,651	0%
South External	75,929,541	89,193,629	17%	89,197,845	0%
East External	8,324,639	10,074,184	21%	10,073,733	0%
West External	23,113,513	26,176,546	13%	26,175,396	0%

Table 3.4: Origin Travel Demand Totals by Sector, 24 Hour Highway Trips (Excluding Freight), PCUs

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	56,545	70,534	25%	74,737	6%
Leicester W	71,609	77,645	8%	80,377	4%
Leicester SW	48,890	53,220	9%	54,295	2%
Leicester SE	63,702	68,312	7%	69,329	1%
Leicester NE	138,541	151,857	10%	153,937	1%
Leicester Central	138,505	167,913	21%	171,957	2%
Blaby TTWA	164,768	190,894	16%	198,475	4%
Oadby and Wigston TTWA	71,491	80,313	12%	81,193	1%
Charnwood TTWA	94,613	134,382	42%	134,807	0%
Hinckley and Bosworth TTWA	29,548	31,630	7%	32,036	1%
Harborough TTWA	42,909	51,710	21%	53,570	4%
Blaby External	8,978	10,887	21%	11,081	2%
Charnwood External	205,094	241,520	18%	242,830	1%
Hinckley and Bosworth External	149,800	172,777	15%	174,982	1%
Harborough External	109,231	140,256	28%	145,048	3%
NW Leicestershire	200,974	248,804	24%	250,576	1%
Melton	90,904	111,739	23%	113,856	2%
North External	32,019,538	37,842,740	18%	37,841,602	0%
South External	38,412,216	47,301,186	23%	47,302,584	0%
East External	4,701,169	5,922,967	26%	5,922,471	0%
West External	10,905,542	13,080,096	20%	13,080,261	0%

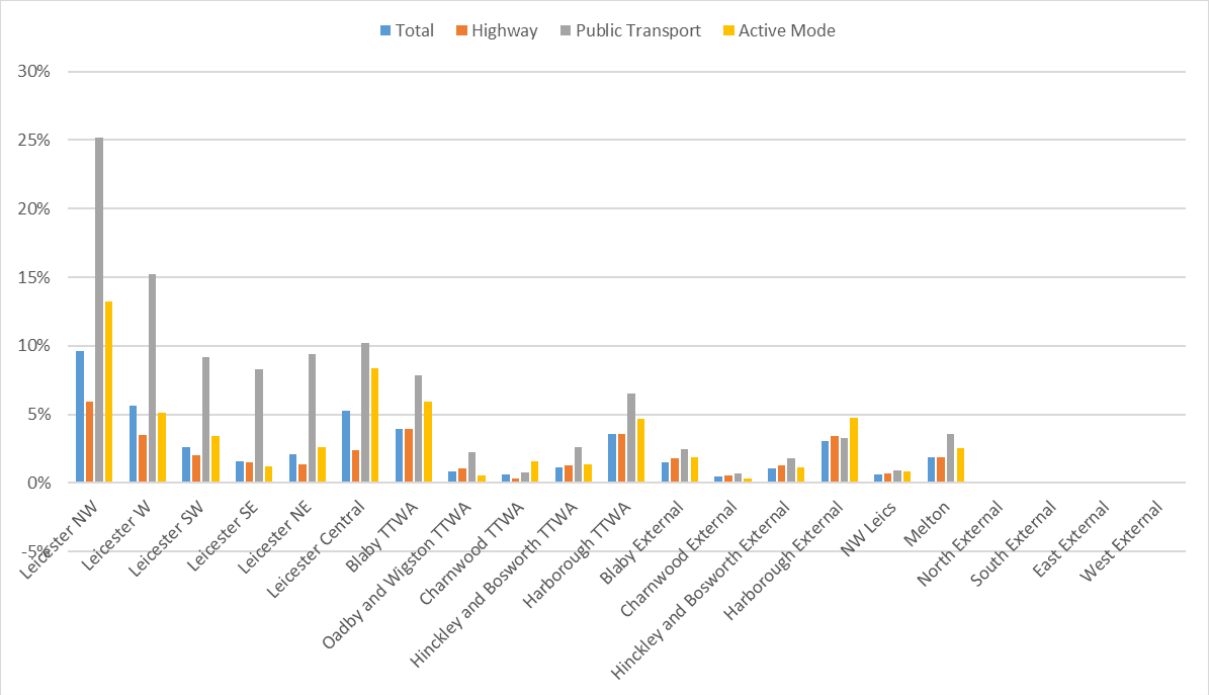
Table 3.5: Origin Travel Demand Totals by Sector, 24 Hour Public Transport Trips, People

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	7,755	8,203	6%	10,269	25%
Leicester W	8,823	7,903	-10%	9,103	15%
Leicester SW	5,672	5,116	-10%	5,587	9%
Leicester SE	4,872	4,501	-8%	4,875	8%
Leicester NE	15,871	14,671	-8%	16,050	9%
Leicester Central	53,138	53,603	1%	59,063	10%
Blaby TTWA	7,726	8,518	10%	9,188	8%
Oadby and Wigston TTWA	6,168	6,069	-2%	6,207	2%
Charnwood TTWA	5,795	8,314	43%	8,377	1%
Hinckley and Bosworth TTWA	1,257	1,128	-10%	1,157	3%
Harborough TTWA	1,303	1,710	31%	1,822	7%
Blaby External	77	79	2%	80	2%
Charnwood External	17,316	18,627	8%	18,756	1%
Hinckley and Bosworth External	5,293	5,765	9%	5,869	2%
Harborough External	3,102	4,521	46%	4,669	3%
NW Leicestershire	6,262	7,325	17%	7,390	1%
Melton	3,172	3,814	20%	3,950	4%
North External	688,311	626,594	-9%	626,598	0%
South External	3,464,613	3,625,918	5%	3,626,216	0%
East External	51,674	56,742	10%	56,740	0%
West External	236,867	235,228	-1%	235,234	0%

Table 3.6: Origin Travel Demand Totals by Sector, 24 Hour Active Mode Trips, People

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	29,270	29,698	1%	33,620	13%
Leicester W	42,550	37,769	-11%	39,711	5%
Leicester SW	29,436	26,276	-11%	27,176	3%
Leicester SE	37,145	32,400	-13%	32,796	1%
Leicester NE	74,906	68,123	-9%	69,913	3%
Leicester Central	103,279	105,324	2%	114,168	8%
Blaby TTWA	72,129	71,223	-1%	75,435	6%
Oadby and Wigston TTWA	44,639	40,404	-9%	40,617	1%
Charnwood TTWA	43,284	53,667	24%	54,524	2%
Hinckley and Bosworth TTWA	14,904	13,496	-9%	13,682	1%
Harborough TTWA	24,012	23,691	-1%	24,798	5%
Blaby External	3,896	4,078	5%	4,155	2%
Charnwood External	112,095	119,249	6%	119,665	0%
Hinckley and Bosworth External	71,107	71,047	0%	71,835	1%
Harborough External	52,687	55,067	5%	57,684	5%
NW Leicestershire	79,951	85,117	6%	85,819	1%
Melton	44,676	46,035	3%	47,197	3%
North External	20,289,521	18,668,005	-8%	18,669,967	0%
South External	23,851,980	24,876,132	4%	24,881,805	0%
East External	2,562,506	2,737,519	7%	2,737,889	0%
West External	8,304,954	8,203,574	-1%	8,203,465	0%

Figure 3.2: Change in 24 Hour Demand by Mode and Sector from 2036 Baseline to With Local Plan



3.2.5 Further demand statistics by mode and trip purpose, as well as by destination sector, are provided in spreadsheets accompanying this report.

3.3 Forecast Mode Shares by Sector

3.3.1 This section reports the forecast mode shares by sector for 2014 and the 2036 Baseline and With Local Plan scenarios.

3.3.2 Table 3.7 to Table 3.9 show the forecast mode shares for each scenario by sector and the change (in percentage points) from 2014 to the 2036 Baseline scenario, and from the 2036 Baseline to With Local Plan scenario. Figure 3.3 summarises the pattern of change as a result of the Local Plan development and associated schemes.

3.3.3 The results here are consistent with those seen in the previous section, with highway mode share reducing and active mode share increasing across the City. There is also a small increase in public transport mode share in these sectors. These results show the impact of the mode shift brought about by the TCF schemes resulting in growth being focussed on sustainable modes rather than on highway.

Table 3.7: Highway Origin Mode Shares by Sector

Sector	2014	2036 Baseline	Change from 2014 (p.p.[5])	2036 With Local Plan	Change from Baseline (p.p.)
Leicester NW	60%	65%	5%	63%	-2%
Leicester W	58%	63%	5%	62%	-1%
Leicester SW	58%	63%	5%	62%	-1%
Leicester SE	60%	65%	5%	65%	0%
Leicester NE	60%	65%	4%	64%	-1%
Leicester Central	47%	51%	4%	50%	-2%
Blaby TTWA	67%	71%	3%	70%	0%
Oadby and Wigston TTWA	58%	63%	5%	63%	0%
Charnwood TTWA	66%	68%	3%	68%	0%
Hinckley and Bosworth TTWA	65%	68%	4%	68%	0%
Harborough TTWA	63%	67%	4%	67%	0%
Blaby External	69%	72%	3%	72%	0%
Charnwood External	61%	64%	2%	64%	0%
Hinckley and Bosworth External	66%	69%	3%	69%	0%
Harborough External	66%	70%	4%	70%	0%
NW Leicestershire	70%	73%	3%	73%	0%
Melton	66%	69%	4%	69%	0%
North External	60%	66%	6%	66%	0%
South External	58%	62%	4%	62%	0%
East External	64%	68%	4%	68%	0%
West External	56%	61%	5%	61%	0%

[5] Percentage point

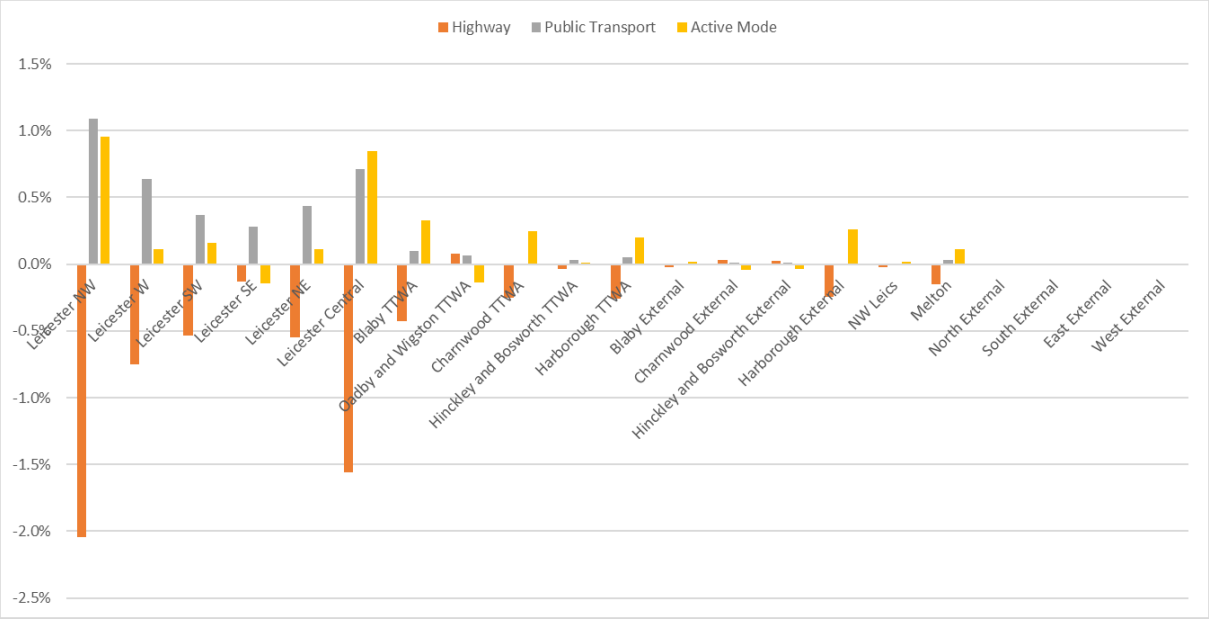
Table 3.8: Public Transport Origin Mode Shares by Sector

Sector	2014	2036 Baseline	Change from 2014 (p.p.)	2036 With Local Plan	Change from Baseline (p.p.)
Leicester NW	8%	8%	-1%	9%	1%
Leicester W	7%	6%	-1%	7%	1%
Leicester SW	7%	6%	-1%	6%	0%
Leicester SE	5%	4%	0%	5%	0%
Leicester NE	7%	6%	-1%	7%	0%
Leicester Central	18%	16%	-2%	17%	1%
Blaby TTWA	3%	3%	0%	3%	0%
Oadby and Wigston TTWA	5%	5%	0%	5%	0%
Charnwood TTWA	4%	4%	0%	4%	0%
Hinckley and Bosworth TTWA	3%	2%	0%	2%	0%
Harborough TTWA	2%	2%	0%	2%	0%
Blaby External	1%	1%	0%	1%	0%
Charnwood External	5%	5%	0%	5%	0%
Hinckley and Bosworth External	2%	2%	0%	2%	0%
Harborough External	2%	2%	0%	2%	0%
NW Leicestershire	2%	2%	0%	2%	0%
Melton	2%	2%	0%	2%	0%
North External	1%	1%	0%	1%	0%
South External	5%	5%	0%	5%	0%
East External	1%	1%	0%	1%	0%
West External	1%	1%	0%	1%	0%

Table 3.9: Active Mode Origin Mode Shares by Sector

Sector	2014	2036 Baseline	Change from 2014 (p.p.)	2036 With Local Plan	Change from Baseline (p.p.)
Leicester NW	31%	27%	-4%	28%	1%
Leicester W	35%	31%	-4%	31%	0%
Leicester SW	35%	31%	-4%	31%	0%
Leicester SE	35%	31%	-4%	31%	0%
Leicester NE	33%	29%	-4%	29%	0%
Leicester Central	35%	32%	-3%	33%	1%
Blaby TTWA	29%	26%	-3%	27%	0%
Oadby and Wigston TTWA	36%	32%	-5%	32%	0%
Charnwood TTWA	30%	27%	-3%	28%	0%
Hinckley and Bosworth TTWA	33%	29%	-3%	29%	0%
Harborough TTWA	35%	31%	-4%	31%	0%
Blaby External	30%	27%	-3%	27%	0%
Charnwood External	34%	31%	-2%	31%	0%
Hinckley and Bosworth External	31%	28%	-3%	28%	0%
Harborough External	32%	28%	-4%	28%	0%
NW Leicestershire	28%	25%	-3%	25%	0%
Melton	32%	28%	-4%	29%	0%
North External	38%	33%	-6%	33%	0%
South External	36%	33%	-3%	33%	0%
East External	35%	31%	-4%	31%	0%
West External	43%	38%	-5%	38%	0%

Figure 3.3: Change in Mode Share by Sector from 2036 Baseline to With Local Plan



3.4 Forecast Highway Network Statistics

3.4.1 This section reports highway network statistics focussing on vehicle kilometres, total vehicle delay and average speed broken down by sector[6]. Results are presented for 2014 and the 2036 Baseline and With Local Plan scenarios. Further statistics and breakdown by road type are provided separately in the accompanying spreadsheets.

3.4.2 Table 3.10 displays highway vehicle kilometres by sector for the AM Peak. There are small increases in vehicle kilometres across most sectors as a result of the Local Plan development, with Leicester West, and Harborough TTWA showing the largest changes. However, none of the changes is greater than 4%.

Table 3.10: Highway Vehicle Kilometres by Sector – AM Peak

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	65,591	77,611	18%	78,944	2%
Leicester W	37,943	43,472	15%	45,141	4%
Leicester SW	34,059	37,470	10%	37,992	1%
Leicester SE	28,293	32,602	15%	33,238	2%
Leicester NE	54,654	62,971	15%	64,177	2%
Leicester Central	43,274	49,282	14%	50,227	2%
Blaby TTWA	323,568	396,986	23%	401,546	1%
Oadby and Wigston TTWA	34,154	39,894	17%	40,613	2%
Charnwood TTWA	152,640	206,547	35%	211,123	2%
Hinckley and Bosworth TTWA	137,505	173,095	26%	175,372	1%
Harborough TTWA	75,501	103,837	38%	106,580	3%
Blaby External	21,766	26,208	20%	26,722	2%
Charnwood External	144,473	186,802	29%	188,726	1%
Hinckley and Bosworth External	187,349	241,233	29%	242,446	1%
Harborough External	196,661	276,049	40%	280,632	2%
NW Leicestershire	452,850	602,216	33%	604,678	0%
Melton	117,361	168,030	43%	170,083	1%
North External	434,354	594,311	37%	595,161	0%
South External	615,785	854,187	39%	855,919	0%
East External	15,173	20,050	32%	20,220	1%
West External	479,715	637,731	33%	638,724	0%

[6] Statistics are presented only for the area of detailed modelling and so external sector totals are partial.

3.4.3 Table 3.11 displays the highway vehicle kilometres by sector for the PM Peak. Analogous to the AM Peak there are small increases in vehicle kilometres across most sectors, but generally less in magnitude with only Harborough TTWA showing a larger than 2% increase.

Table 3.11: Highway Vehicle Kilometres by Sector – PM Peak

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	66,545	77,677	17%	79,055	2%
Leicester W	38,311	44,469	16%	45,571	2%
Leicester SW	34,297	37,172	8%	37,469	1%
Leicester SE	25,844	28,921	12%	29,622	2%
Leicester NE	53,626	61,768	15%	63,002	2%
Leicester Central	43,280	49,487	14%	50,301	2%
Blaby TTWA	328,397	405,905	24%	410,366	1%
Oadby and Wigston TTWA	35,402	41,560	17%	42,181	1%
Charnwood TTWA	156,416	211,628	35%	214,731	1%
Hinckley and Bosworth TTWA	141,626	177,023	25%	179,234	1%
Harborough TTWA	77,145	109,971	43%	112,830	3%
Blaby External	23,139	28,589	24%	28,678	0%
Charnwood External	146,766	188,406	28%	189,440	1%
Hinckley and Bosworth External	194,443	252,830	30%	254,480	1%
Harborough External	203,181	282,863	39%	287,289	2%
NW Leicestershire	471,547	622,608	32%	625,072	0%
Melton	120,898	172,587	43%	174,274	1%
North External	465,207	629,054	35%	629,952	0%
South External	635,857	879,282	38%	880,658	0%
East External	14,637	19,662	34%	19,782	1%
West External	522,784	696,316	33%	697,752	0%

3.4.4 Table 3.12 displays the total vehicle delay by sector in the AM Peak. Increases of between 4% and 14% can be seen across the Leicester City sectors as a result of the Local Plan development, particularly in the North West and West sectors which coincide with the Western Park Golf Course development. There are also increases of 4-6% in the TTWA sectors. The magnitude of these changes compared with those seen in vehicle kilometres suggests that parts of the network are already heavily congested and so even a small increase in vehicle kilometres can lead to large increases in delay.

Table 3.12: Vehicle Delay (Hours) by Sector – AM Peak

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	699	1,090	56%	1,240	14%
Leicester W	497	724	46%	793	10%
Leicester SW	655	836	28%	868	4%
Leicester SE	438	548	25%	578	5%
Leicester NE	799	1,131	42%	1,208	7%
Leicester Central	1,307	1,839	41%	1,932	5%
Blaby TTWA	1,987	3,228	62%	3,410	6%
Oadby and Wigston TTWA	394	491	25%	510	4%
Charnwood TTWA	626	1,264	102%	1,326	5%
Hinckley and Bosworth TTWA	319	585	83%	619	6%
Harborough TTWA	198	328	65%	341	4%
Blaby External	51	84	65%	86	3%
Charnwood External	1,028	1,700	65%	1,734	2%
Hinckley and Bosworth External	591	892	51%	909	2%
Harborough External	523	951	82%	976	3%
NW Leicestershire	1,251	2,683	114%	2,724	2%
Melton	248	380	53%	388	2%
North External	1,457	2,988	105%	2,996	0%
South External	1,397	3,037	117%	3,057	1%
East External	6	13	108%	14	2%
West External	1,823	3,413	87%	3,433	1%

3.4.5 Table 3.13 displays the total vehicle delay by sector in the PM Peak. Increases are generally more modest than in the AM Peak, with up to 10% increases in the Leicester City sectors. Charnwood TTWA has an increase of 10%, however around half of this increase is attributable to traffic exiting a single zone which is unrelated to the Local Plan development. The zone loads traffic onto Wanlip Road, west of the A607, and around 60 additional PCUs are being held back from entering the network in the With Local Plan scenario compared to the Baseline as a result of this delay.

Table 3.13: Vehicle Delay (Hours) by Sector – PM Peak

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	757	1,130	49%	1,245	10%
Leicester W	487	731	50%	777	6%
Leicester SW	615	789	28%	807	2%
Leicester SE	380	464	22%	481	4%
Leicester NE	792	1,081	37%	1,118	3%
Leicester Central	1,262	1,804	43%	1,899	5%
Blaby TTWA	1,768	3,211	82%	3,385	5%
Oadby and Wigston TTWA	410	510	25%	527	3%
Charnwood TTWA	616	1,516	146%	1,671	10%
Hinckley and Bosworth TTWA	360	618	72%	634	3%
Harborough TTWA	203	366	81%	386	5%
Blaby External	55	93	69%	94	1%
Charnwood External	972	1,670	72%	1,707	2%
Hinckley and Bosworth External	609	928	52%	946	2%
Harborough External	462	1,028	123%	1,059	3%
NW Leicestershire	1,450	2,970	105%	3,006	1%
Melton	289	414	43%	413	0%
North External	1,849	4,067	120%	4,073	0%
South External	1,332	3,347	151%	3,355	0%
East External	5	12	131%	12	2%
West External	2,489	4,379	76%	4,401	1%

3.4.6 Table 3.14 displays the average speed by sector for the AM Peak. There are generally slight reductions across Leicester and the TTWA, with a larger reduction of 6% in the Leicester North West sector which coincides with the location of the Western Park Golf Course development.

Table 3.14: Average Speed (kph) by Sector – AM Peak

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	37.3	32.4	-13%	30.5	-6%
Leicester W	27.5	24.8	-10%	24.3	-2%
Leicester SW	23.5	21.8	-7%	21.5	-1%
Leicester SE	24.1	23.0	-4%	22.7	-1%
Leicester NE	25.3	23.0	-9%	22.5	-2%
Leicester Central	18.0	15.9	-12%	15.6	-2%
Blaby TTWA	53.6	48.2	-10%	47.2	-2%
Oadby and Wigston TTWA	28.5	27.9	-2%	27.6	-1%
Charnwood TTWA	55.9	49.2	-12%	48.6	-1%
Hinckley and Bosworth TTWA	73.6	67.0	-9%	66.0	-1%
Harborough TTWA	58.6	56.3	-4%	56.0	0%
Blaby External	61.8	58.0	-6%	57.8	0%
Charnwood External	41.8	38.8	-7%	38.7	0%
Hinckley and Bosworth External	56.7	54.2	-4%	53.9	0%
Harborough External	61.6	60.0	-3%	59.7	-1%
NW Leicestershire	66.2	59.4	-10%	59.2	0%
Melton	57.4	59.1	3%	59.0	0%
North External	64.2	57.8	-10%	57.8	0%
South External	72.9	66.5	-9%	66.4	0%
East External	77.9	76.7	-2%	76.7	0%
West External	55.7	51.2	-8%	51.1	0%

3.4.7 Table 3.15 displays the average speed by sector for the PM Peak. Reductions in average speed are generally more modest than in the AM Peak with a number of sectors in Leicester and the TTWA seeing a reduction of between 1 and 4%. There are also 1% reductions in average speed in the Charnwood External and Harborough External sectors.

Table 3.15: Average Speed (kph) by Sector – PM Peak

Sector	2014	2036 Baseline	% Change from 2014	2036 With Local Plan	% Change from Baseline
Leicester NW	36.6	32.1	-12%	30.7	-4%
Leicester W	27.8	25.1	-10%	24.7	-2%
Leicester SW	24.3	22.3	-8%	22.2	0%
Leicester SE	24.7	23.7	-4%	23.5	0%
Leicester NE	25.4	23.4	-8%	23.2	-1%
Leicester Central	18.4	16.1	-13%	15.7	-2%
Blaby TTWA	55.9	48.8	-13%	47.8	-2%
Oadby and Wigston TTWA	28.5	27.9	-2%	27.7	-1%
Charnwood TTWA	56.7	46.9	-17%	45.4	-3%
Hinckley and Bosworth TTWA	72.9	66.9	-8%	66.4	-1%
Harborough TTWA	58.8	55.9	-5%	55.5	-1%
Blaby External	61.2	57.7	-6%	57.6	0%
Charnwood External	43.2	39.6	-8%	39.4	-1%
Hinckley and Bosworth External	57.0	54.3	-5%	54.1	0%
Harborough External	63.2	59.7	-6%	59.3	-1%
NW Leicestershire	64.7	58.0	-10%	57.9	0%
Melton	56.5	58.6	4%	58.7	0%
North External	61.5	53.2	-14%	53.2	0%
South External	74.1	65.6	-12%	65.5	0%
East External	78.4	77.1	-2%	77.1	0%
West External	52.9	48.7	-8%	48.6	0%

3.4.8 Figure 3.4 and Figure 3.5 present the results above in graphical format. They demonstrate how the impact on highway conditions in both peaks is generally focussed on the Leicester North West and Leicester West sectors, as well as, to a lesser extent, the TTWA.

Figure 3.4: Highway Statistics Change from 2036 Baseline to With Local Plan, AM Peak

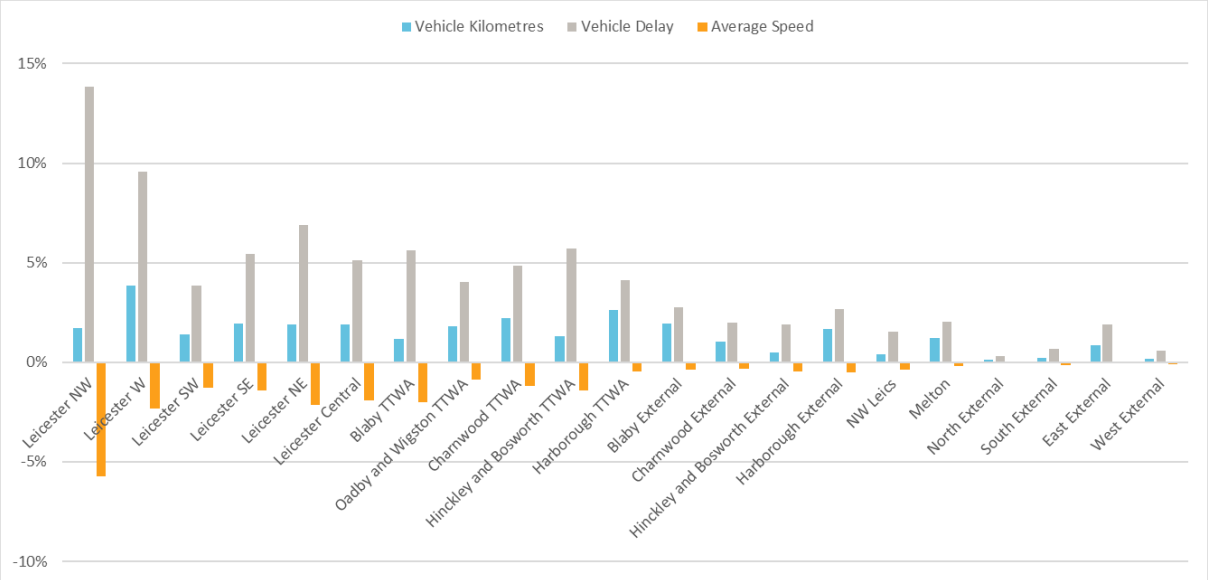
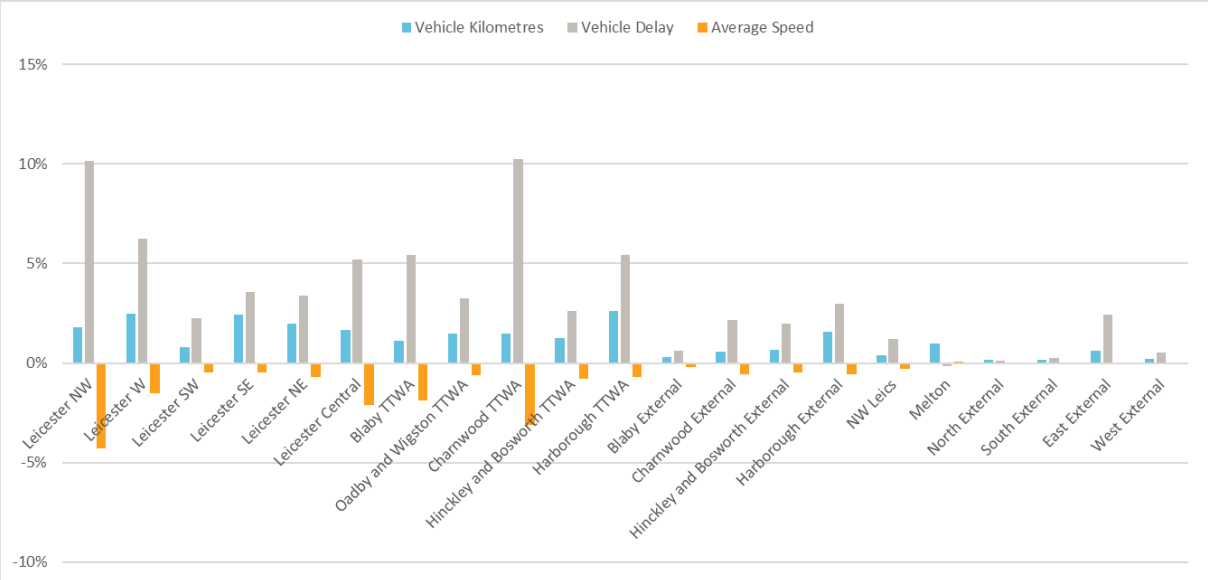


Figure 3.5: Highway Statistics Change from 2036 Baseline to With Local Plan, PM Peak



3.5 Forecast Changes in Highway Flow

3.5.1 Figure 3.6 to Figure 3.7 show the forecast highway flow changes in the AM and PM Peaks between the Baseline and Local Plan scenario.

3.5.2 In the AM Peak, increases in flow can be seen across the City, particularly in the vicinity of the strategic housing and employment development sites. Increases in traffic to and from developments at Ashton Green East and Thurcaston spread out towards Anstey and rural areas to the north as well as towards the Birstall area. There are also significant changes in traffic flow around the proposed Western Park Golf Course development site, where additional traffic to and from this area puts pressure on the roundabout on Ratby Lane proposed to provide access to the west of this development. The increases in delay at this junction (as observed in the next section) cause some non-development traffic to route away from this area resulting in some reductions in traffic.

3.5.3 Smaller increases in traffic are seen across the City, in particular to the east of the City centre associated with the General Hospital development. There are also increases in traffic in the Blaby/Countesthorpe/Cosby area stretching up to the Fosse Park/M1 Junction 21 area associated with the unmet need allocated to the proposed new development at Whetstone Pastures.

3.5.4 Some reductions in traffic can be seen in the City centre associated with the complementary TCF schemes which were introduced in the With Local Plan scenario. In particular the new bus lane on the A6 St Margaret's Way southbound means that the capacity for general traffic is reduced causing some local rerouteing to parallel routes. Similarly, the new bus lane on the Fosse Road North approach to the A50 Groby Road is resulting in rerouteing of traffic due to the reduced capacity on this route.

3.5.5 The PM Peak reflects a similar picture to that seen in the AM Peak, although there is generally more secondary rerouteing in the PM Peak. Flow increases can be seen around the Ashton Green East and Thurcaston strategic development sites, and the impact of the Western Park Golf Course development is also prominent, resulting in rerouteing of non-development traffic similar to that seen in the AM Peak. Modest reductions in flow can also be seen on the A46 between the M1 and the Anstey Lane junction, which is likely to be due to slight changes in delay along this already congested route leading to some rerouteing along parallel local routes.

3.5.6 The impacts of the A6 and Fosse Road North TCF schemes can be seen to the north and north west of the City centre, with some rerouteing of traffic onto more minor routes. There is also some local rerouteing taking place to the south of the City centre around Saffron Lane and Aylestone Road which is likely to be due to slight changes in delay as a result of the Local Plan development and associated schemes.

Figure 3.6: Highway Traffic Flow Change, 2036 Local Plan minus Baseline, AM Peak

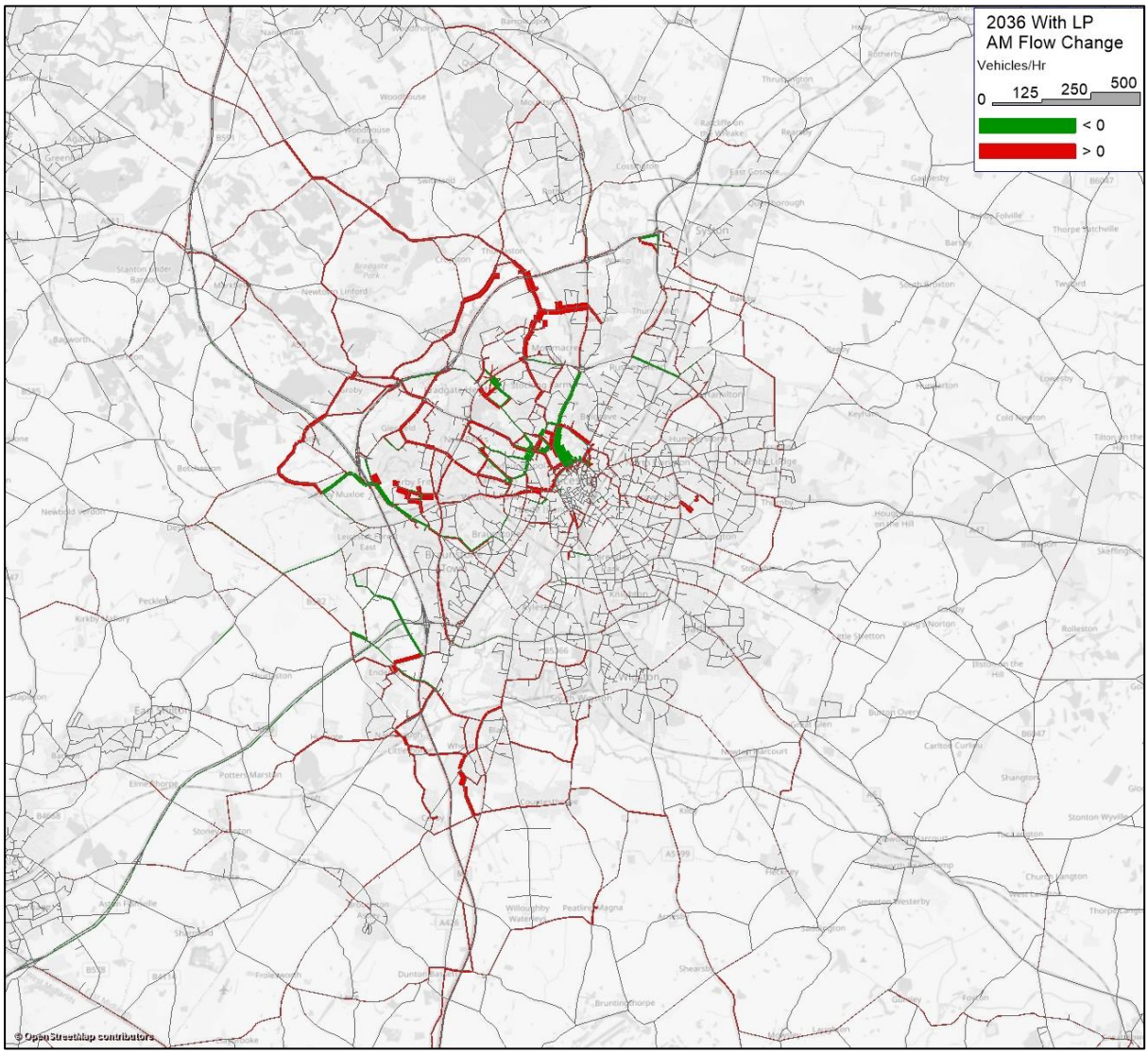
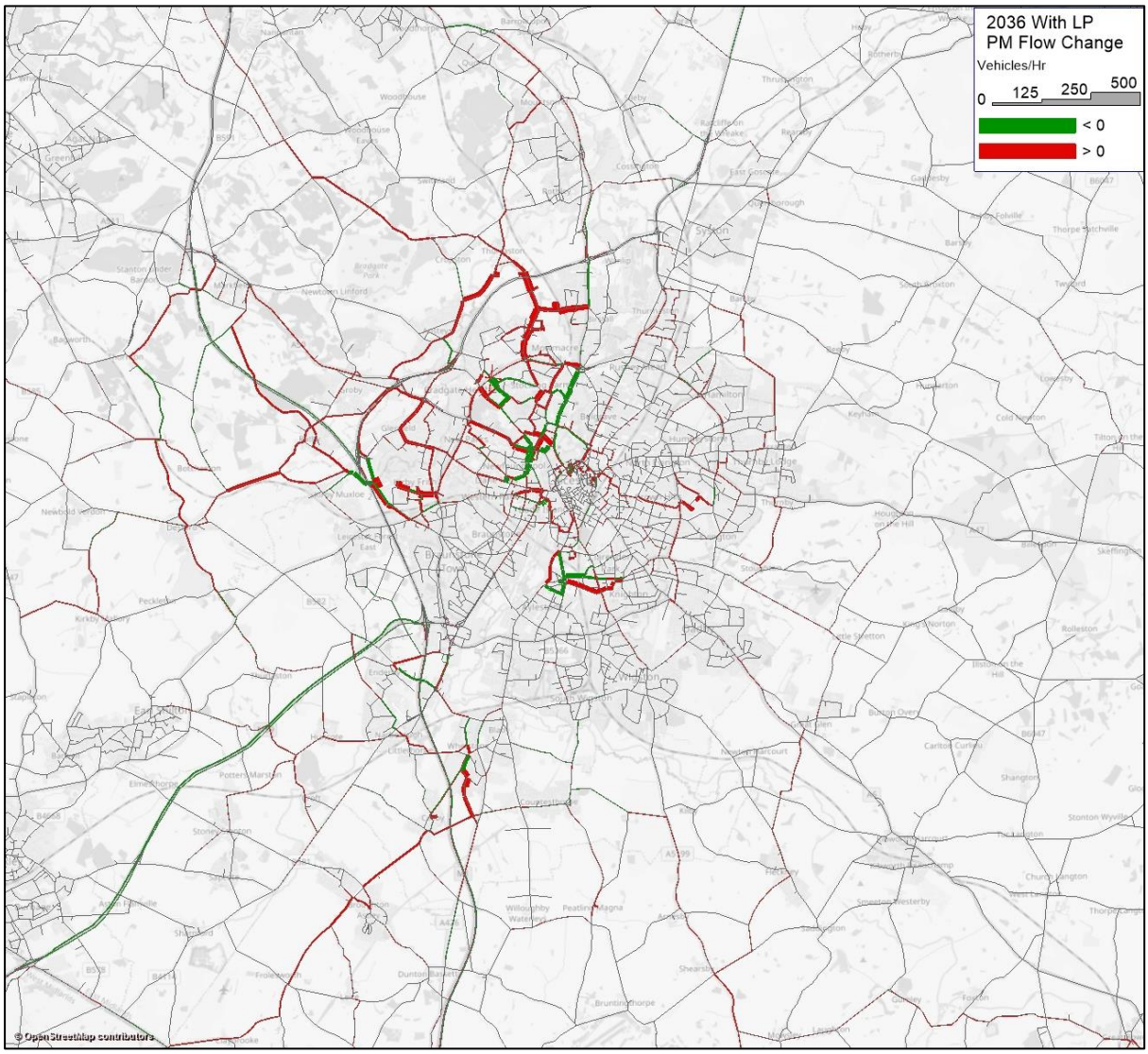


Figure 3.7: Highway Traffic Flow Change, 2036 Local Plan minus Baseline, PM Peak



3.6 Forecast Changes in Highway Delay

3.6.1 Figure 3.8 to Figure 3.9 show the forecast highway delay change in the AM and PM Peaks between the Baseline and With Local Plan scenarios.

3.6.2 In the AM Peak, the largest increase in delay associated with the Local Plan development can be seen at the Ratby Lane roundabout to the west of the Western Park Golf Course development. This is consistent with the changes in flow reported on in the previous section. Some medium to large increases in delay can also be seen on eastbound approaches to the City on Meridian Way, the M69 and Leicester Lane (to the east of Enderby). There is also an increase in delay at the Abbey Park Road approach to Belgrave Circle.

3.6.3 Some large increases in delay in the City centre are caused by the introduction of the TCF schemes rather than the increase in development traffic; in particular on the A6 St Margaret's Way southbound and on the Fosse Road North approach to the A50 Groby Road.

3.6.4 In the PM Peak, the largest increases in delay can again be seen to the west of the Western Park Golf Course development. Other large increases in delay can be seen on Fosse Road North and on the Dillon Way approach to New Parks Way. There are also some modest changes in delay along Saffron Lane northbound which corresponds to the local rerouteing observed in the previous section.

Figure 3.8: Highway Delay Change, 2036 Local Plan minus Baseline, AM Peak

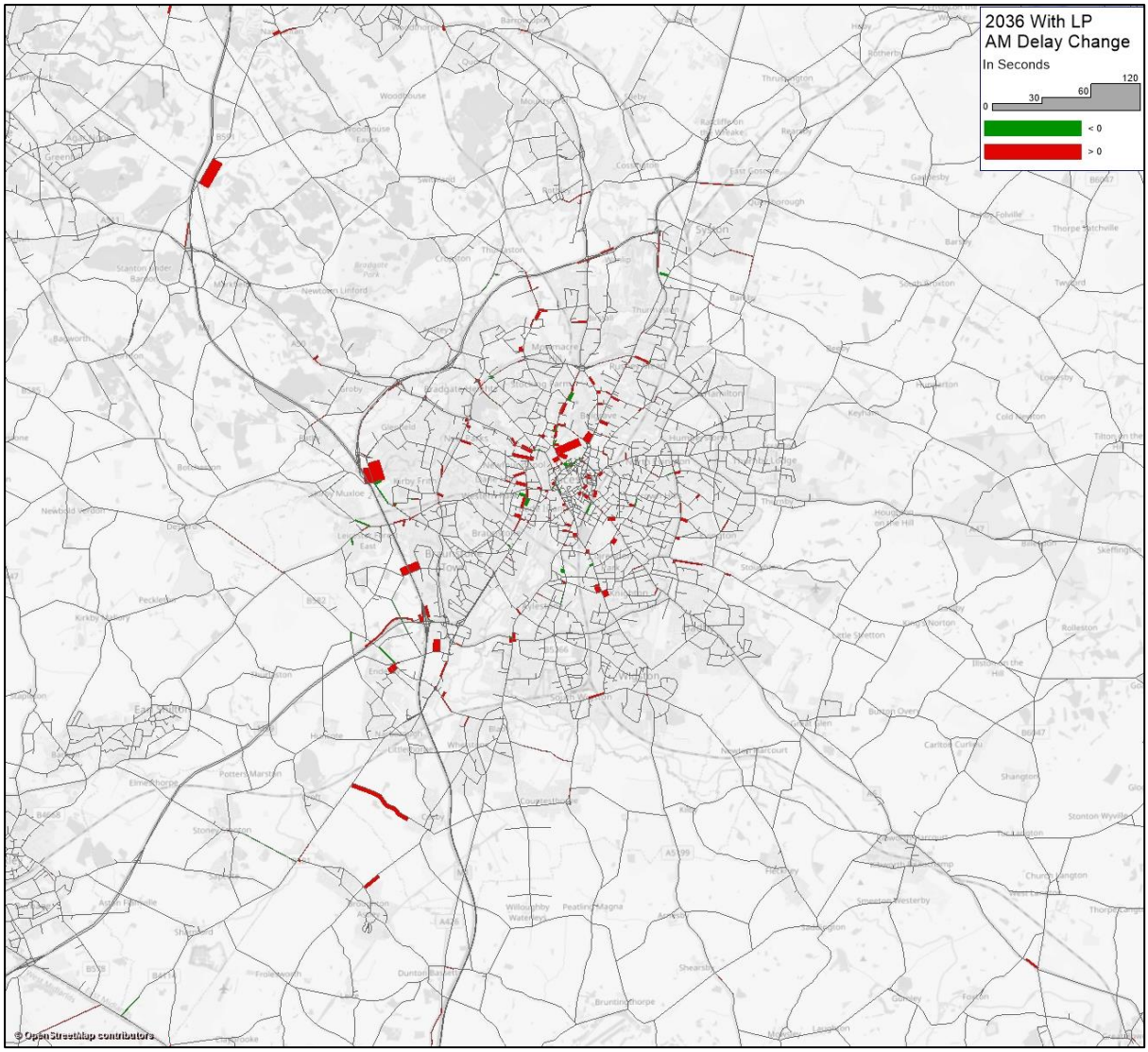
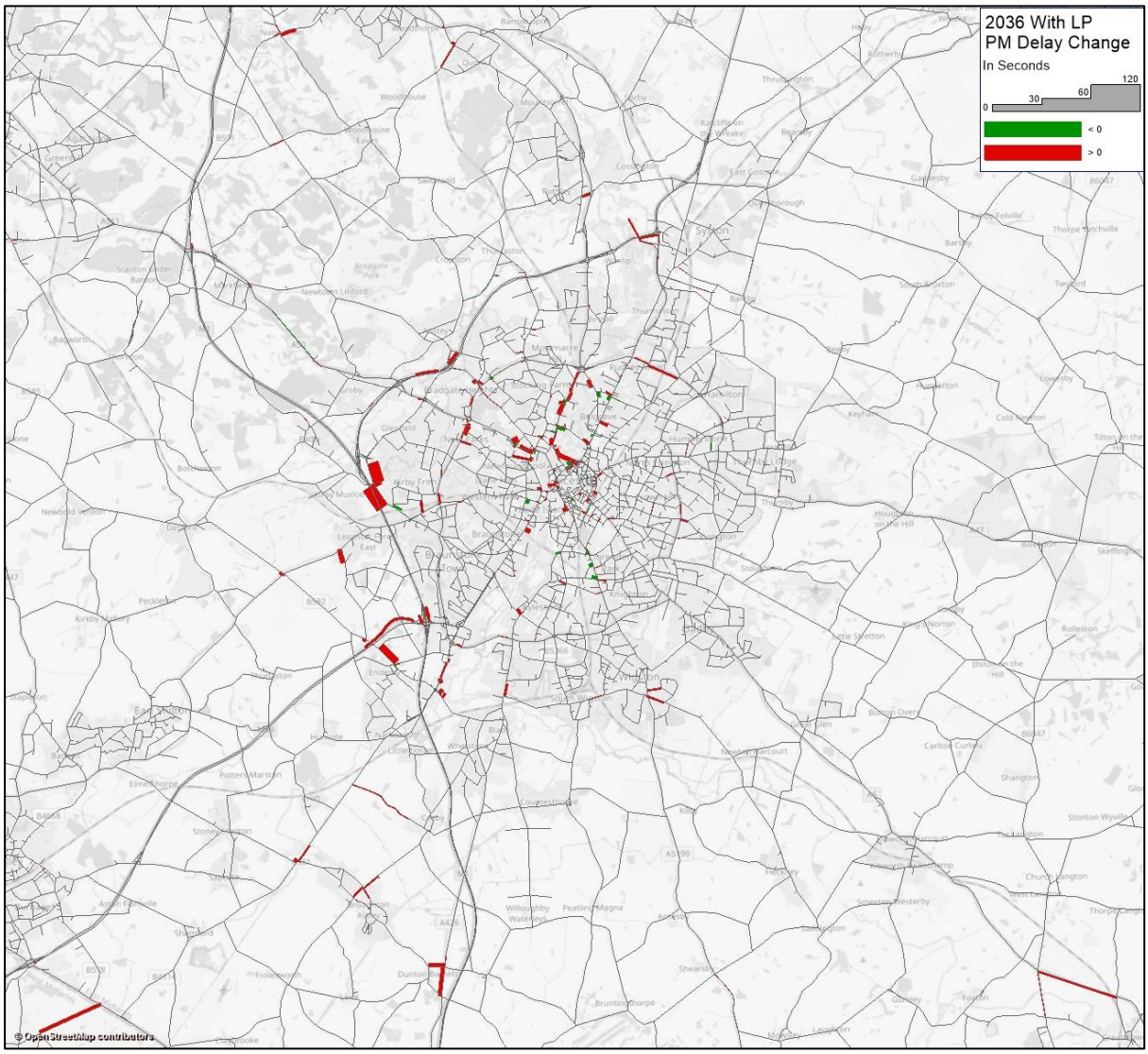


Figure 3.9: Highway Delay Change, 2036 Local Plan minus Baseline, PM Peak



3.7 Forecast Junction Congestion Analysis

3.7.1 This section reports on analysis to understand the location of junctions that are forecast to be particularly affected by the Local Plan development. This was done by looking at the maximum volume over capacity (VoC) ratio forecast across the approach arms at each junction in the 2036 Baseline and With Local Plan scenarios and identifying those junctions which are over the thresholds of 85% and 100%.

3.7.2 Figure 3.10 to Figure 3.13 show the junctions which have a maximum VoC of greater than 85% and greater than 100% in the 2036 Baseline and With Local Plan scenarios, for the AM and PM Peaks.

Figure 3.10: Junctions with Maximum VoC Greater than 85% and 100%, 2036 Baseline, AM Peak

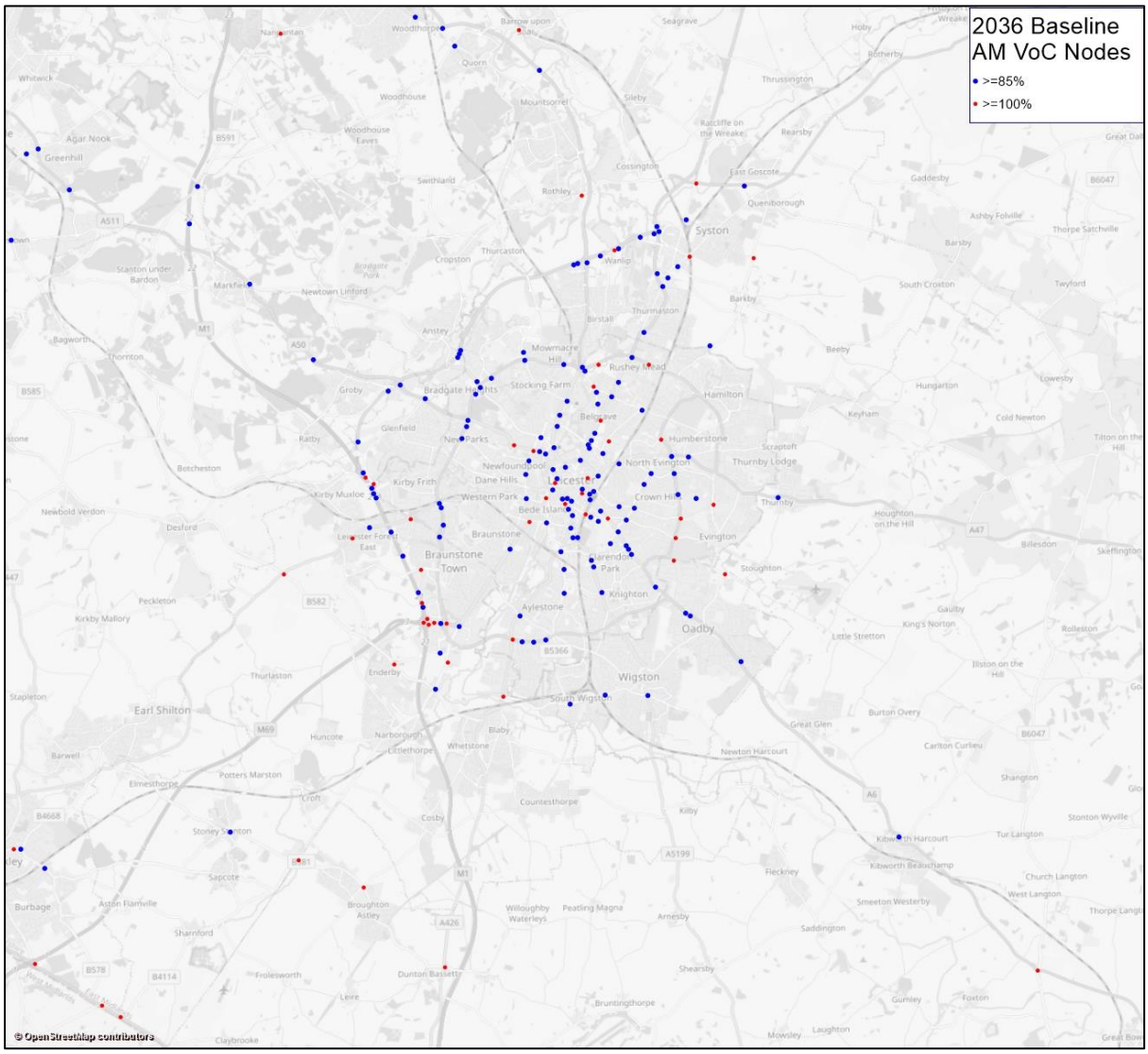


Figure 3.11: Junctions with Maximum VoC Greater than 85% and 100%, 2036 With Local Plan, AM Peak

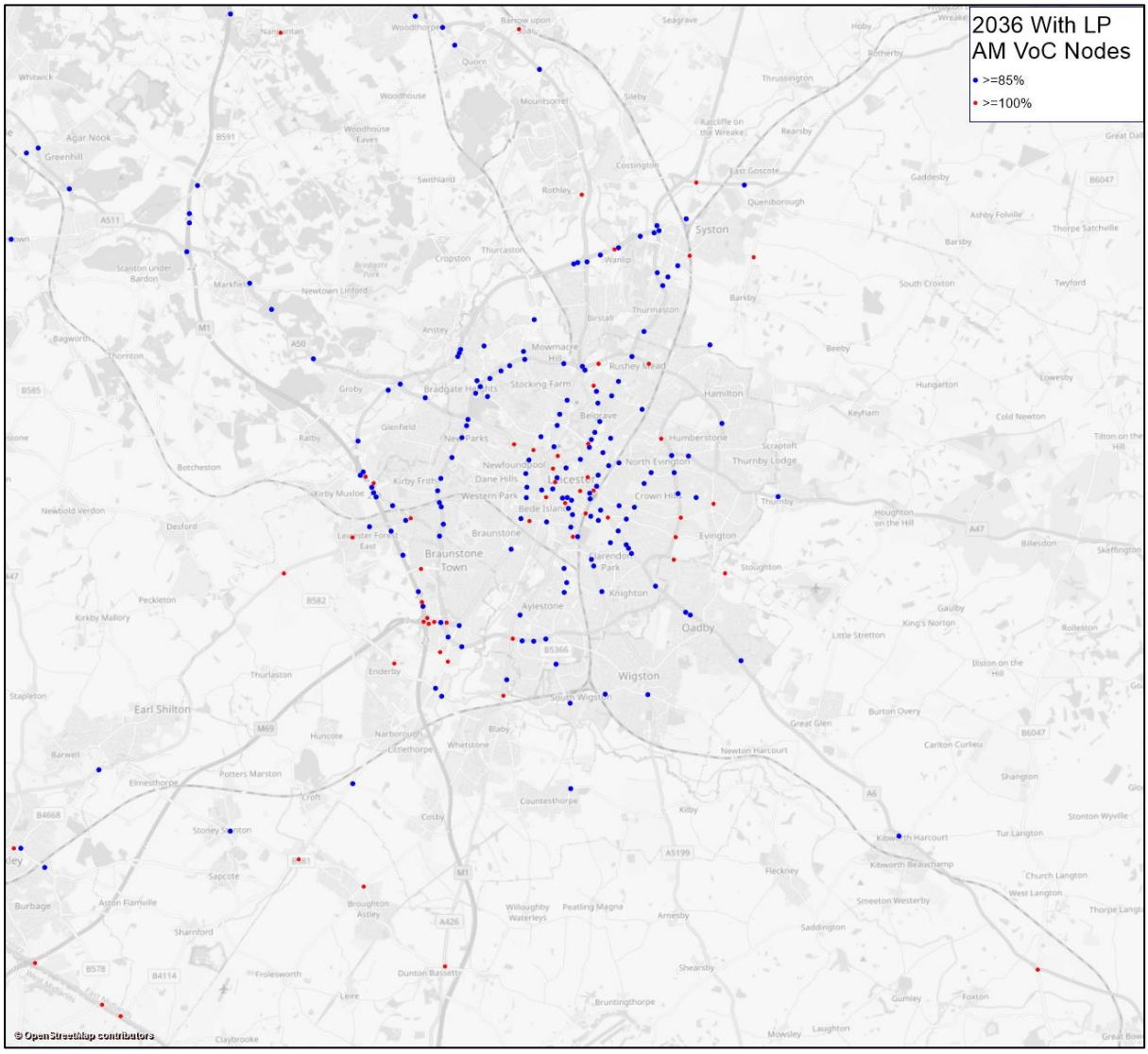


Figure 3.12: Junctions with Maximum VoC Greater than 85% and 100%, 2036 Baseline, PM Peak

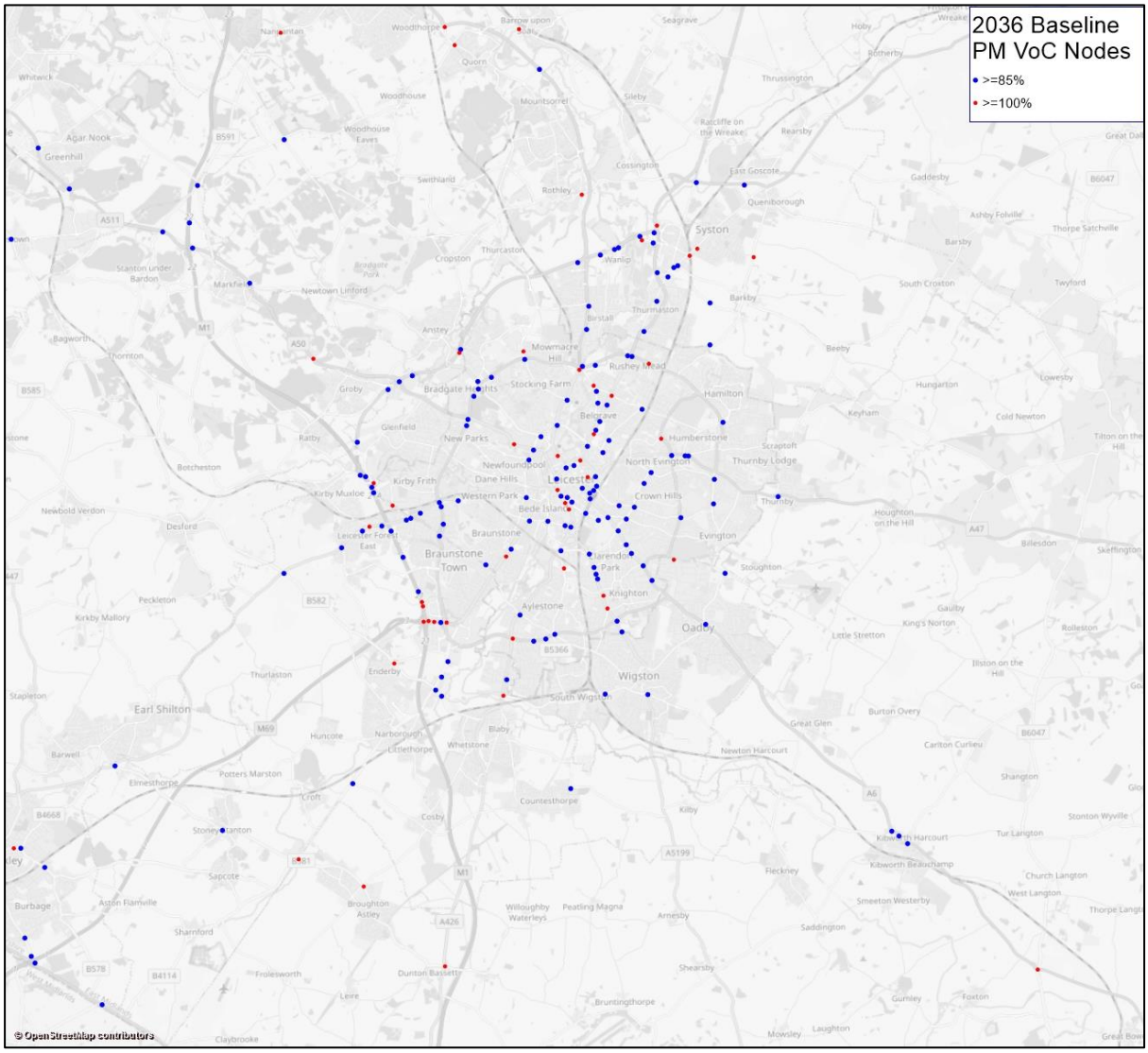
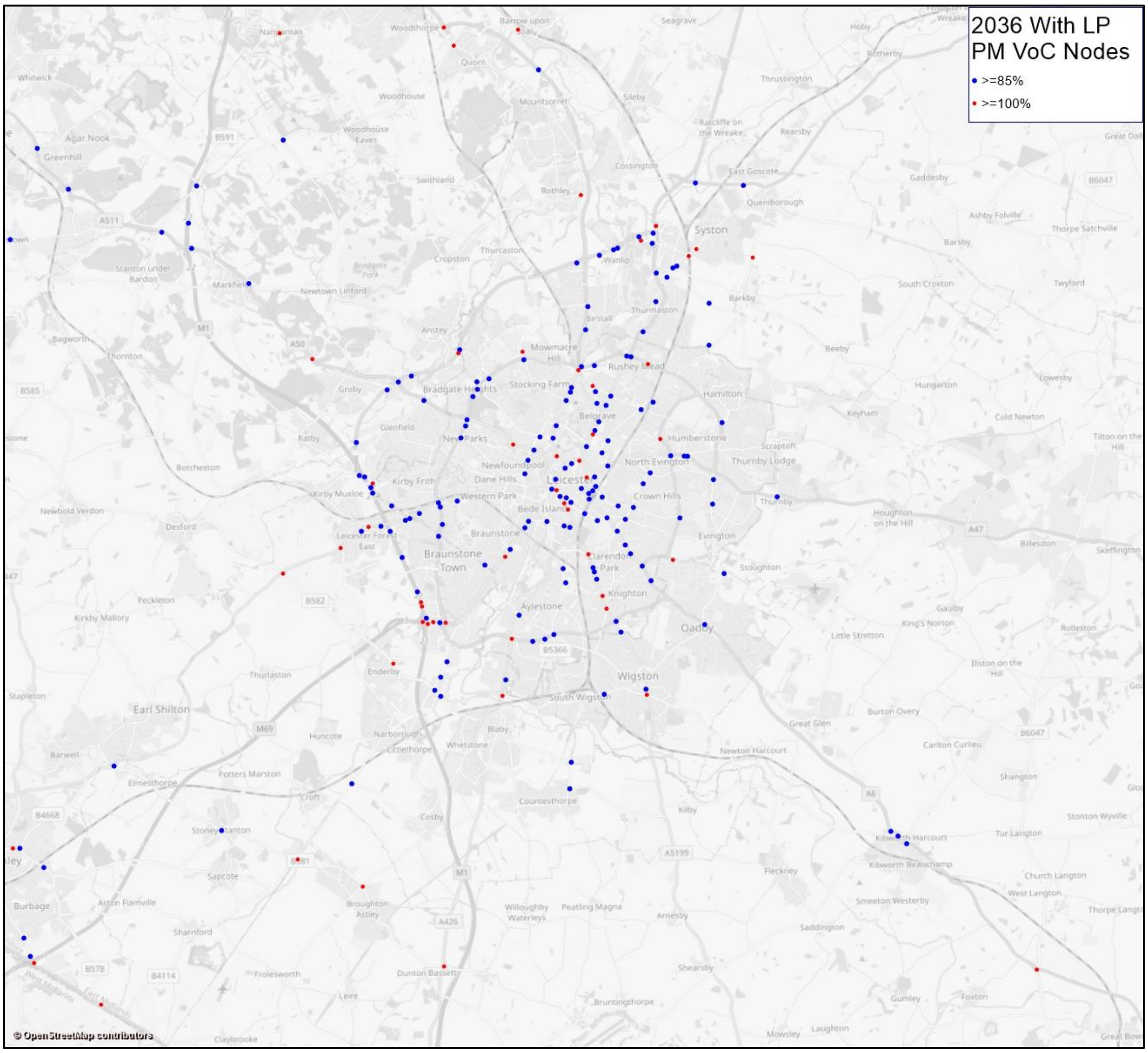


Figure 3.13: Junctions with Maximum VoC Greater than 85% and 100%, 2036 With Local Plan, PM Peak



3.7.3 To understand how the proposed Local Plan development is forecast to impact junction VoCs, analysis has been undertaken to assess those junctions which:

1. have a maximum VoC which increases by at least 5% and is at least 85% in the With Local Plan scenario; or
2. have a maximum VoC which increases from less than to greater than 100% from the Baseline to the With Local Plan scenario.

3.7.4 Table 3.16 to Table 3.19 present the junctions identified using the 85% threshold criteria and the 100% threshold criteria. Figure 3.14 and Figure 3.15 provide maps of the locations of these junctions. As would be expected, most of the junctions fall within the Leicester City area or slightly outside. It should be noted that further analysis of flow and delay changes at each of these locations is recommended as part of any development of mitigation, bearing in mind the strategic nature of the model and the coverage of count and journey time data used in model calibration.

Table 3.16: Junctions Identified Using 85% Criteria – AM Peak

Junction Description	Maximum VoC	
	2036 Baseline	2036 With Local Plan
Junction of Upperton Road and Fosse Road South, Leicester	84%	91%
Junction of Glenfield Road with Fosse Road North/Central, Leicester	82%	90%
Junction of A6 St. Margaret's Way and Abbey Park Road, Leicester	64%	103%
Junction of Saffron Lane and Knighton Lane East, Leicester	65%	95%
Junction of Leicester Road and Foston Road, Countesthorpe	81%	89%
A607 Belgrave Gate approach to St Matthews Way/Burleys Way roundabout, Leicester	88%	94%
Abbey Park Road approach to Belgrave Circle, Leicester	88%	100%
Junction of Victoria Park Road and Queens Road, Leicester	90%	95%
Junction of B4114 Coventry Road and Croft Road, Croft	71%	87%
Junction of A47 and A5460, Leicester	79%	85%
Junction of Burleys Way, Vaughan Way and St Margaret's Way, Leicester	86%	95%
Western side of A563/Beaumont Leys Lane roundabout, Leicester	86%	99%
Junction of Ashton Green Road with new northern access to Ashton Green East, Leicester	77%	95%
Junction of Hinckley Road and Holmfield Avenue West, Leicester Forest East	75%	88%
Junction of Ratby Lane, Wembley Road and Oak Spinney Park, Leicester	82%	90%
Junction of Anstey Lane and Darenth Drive, Leicester	78%	85%

Table 3.17: Junctions Identified Using 85% Criteria – PM Peak

Junction Description	Maximum VoC	
	2036 Baseline	2036 With Local Plan
Junction of A50 Groby Road and Blackbird Road, Leicester	58%	93%
Junction of A6 St Margaret's Way and Abbey Retail Park access, Leicester	74%	96%
Junction of Saffron Lane and Knighton Lane East, Leicester	62%	96%
Junction of Burleys Way and Abbey Street, Leicester	80%	94%
Junction of A6 Abbey Lane and Wade Street, Leicester	49%	86%
Junction of B591 Copt Oak Road and Whitwick Road, Markfield	93%	99%
Western side of A563/Beaumont Leys Lane roundabout, Leicester	90%	97%
Junction of B591 Beacon Road and B5330, Charnwood Forest	86%	91%
Junction of A5460 Narborough Road and Walton Street, Leicester	82%	88%
Junction of A6 Abbey Lane and Sudeley Avenue, Leicester	48%	88%
Junction of A6 Abbey Lane and Abbey Rise, Leicester	50%	88%
Junction of A50 Groby Road and Fosse Road North, Leicester	97%	103%
M1 Junction 21 Southbound Offslip	70%	94%
Junction of New Parks Way, Kemp Road and Dillon Way, Leicester	90%	97%

Table 3.18: Junctions Identified Using 100% Criteria – AM Peak

Junction Description	Maximum VoC	
	2036 Baseline	2036 With Local Plan
Junction of A6 St. Margaret's Way and Abbey Park Road, Leicester	64%	103%
Junction of Rutland Street and Charles Street, Leicester	99%	100%
Abbey Park Road approach to Belgrave Circle, Leicester	88%	100%
Junction of St Georges Way and Swain Street, Leicester	97%	100%
A46 eastbound main carriageway approach to Fillingate onslip	100%	101%
Junction of Wakerley Road and Ethel Road, Leicester	100%	100%
Junction of Queniborough Road and Barkby Road, Syston	100%	100%
Junction of A50 Groby Road and Fosse Road North, Leicester	100%	103%
Junction of Leicester Lane and Smith Way, Enderby	99%	103%

Table 3.19: Junctions Identified Using 100% Criteria – PM Peak

Junction Description	Maximum VoC	
	2036 Baseline	2036 With Local Plan
Junction of Wanlip Road and Melton Road, Syston	100%	100%
Junction of A50 Groby Road and Fosse Road North, Leicester	97%	103%
B5380 Ratby Lane roundabout (access to Western Park Golf Course development)	100%	103%

Figure 3.14: Junctions Identified Using 85% and 100% Criteria – AM Peak

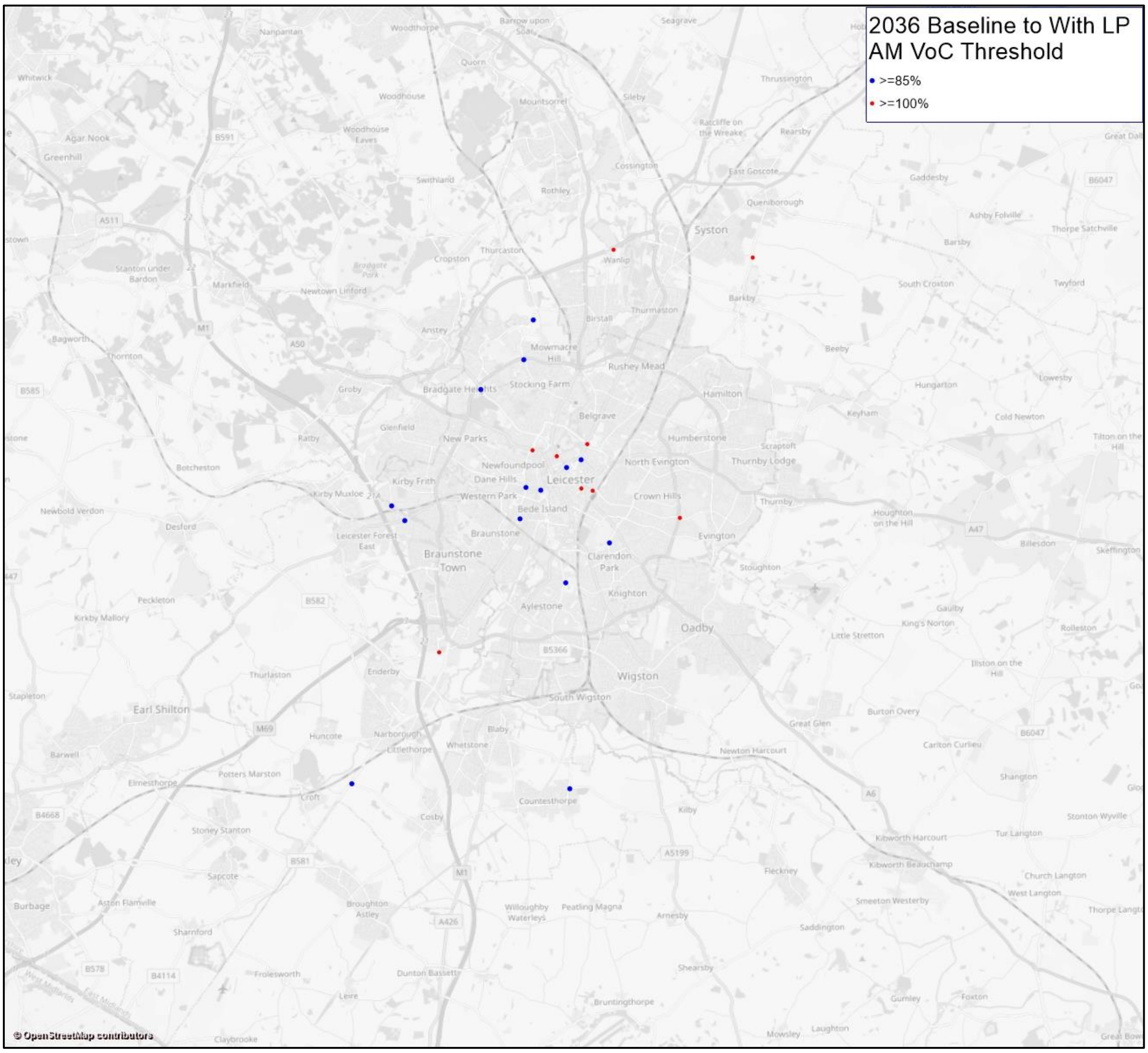
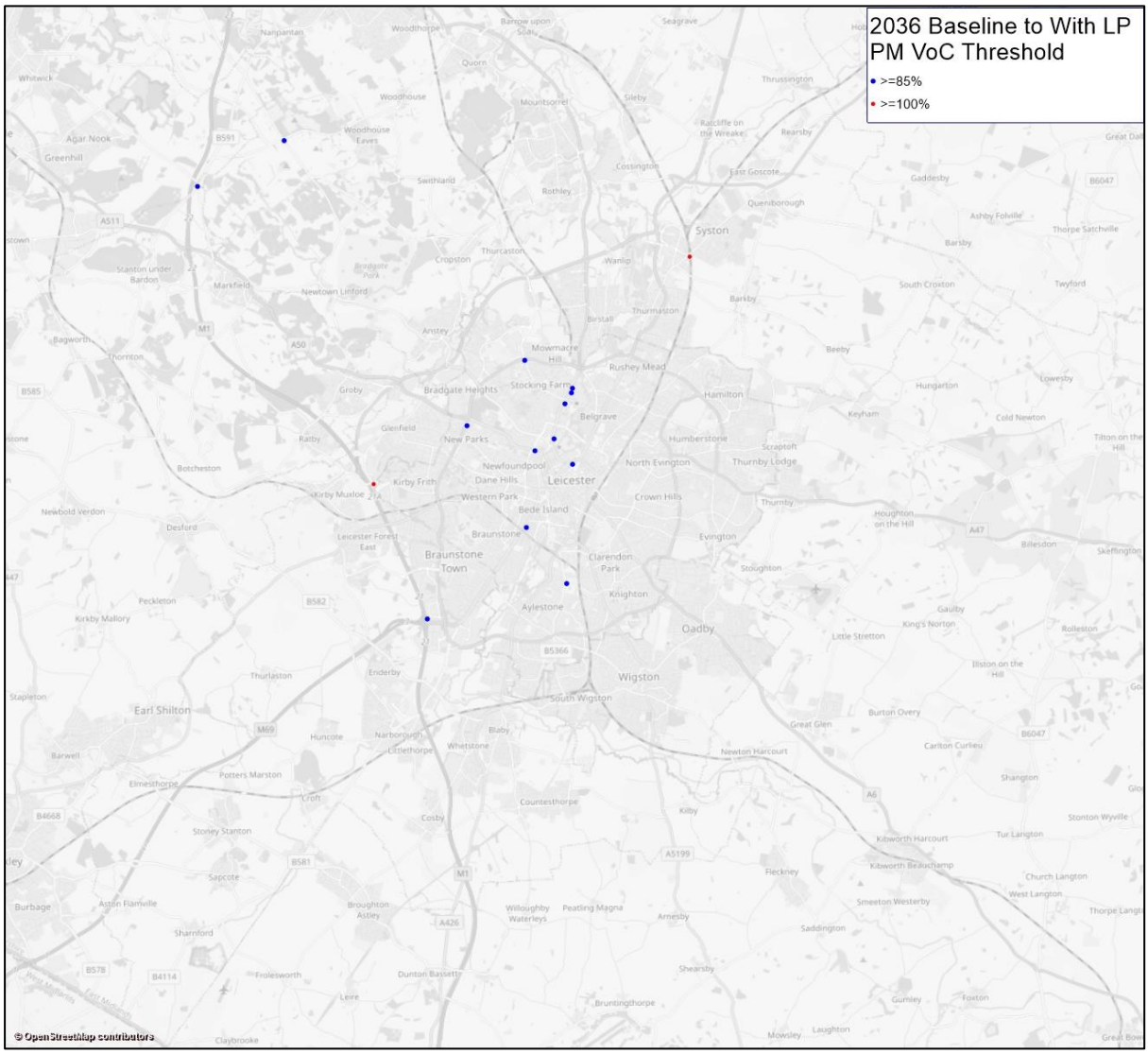


Figure 3.15: Junctions Identified Using 85% and 100% Criteria – PM Peak



3.8 Forecast Changes in Public Transport Passenger Flow

3.8.1 This section reports on the forecast change in public transport passenger flow from the 2036 Baseline to the 2036 With Local Plan scenario.

3.8.2 Figure 3.16 and Figure 3.17 show the forecast public transport passenger flow change as a result of the Local Plan development and associated schemes, in the AM and PM Peak respectively. Increases in passenger flow can be seen across the City in particular along bus routes between the strategic housing and employment sites, and the City centre. Increases in flow can also be seen on rail routes, particularly to the south of Leicester. The plots also show rerouteing of public transport passengers along the new bus link introduced between Anstey and Beaumont Leys, as part of the TCF package of schemes.

Figure 3.16: Public Transport Flow Change, 2036 Local Plan minus Baseline, AM Peak

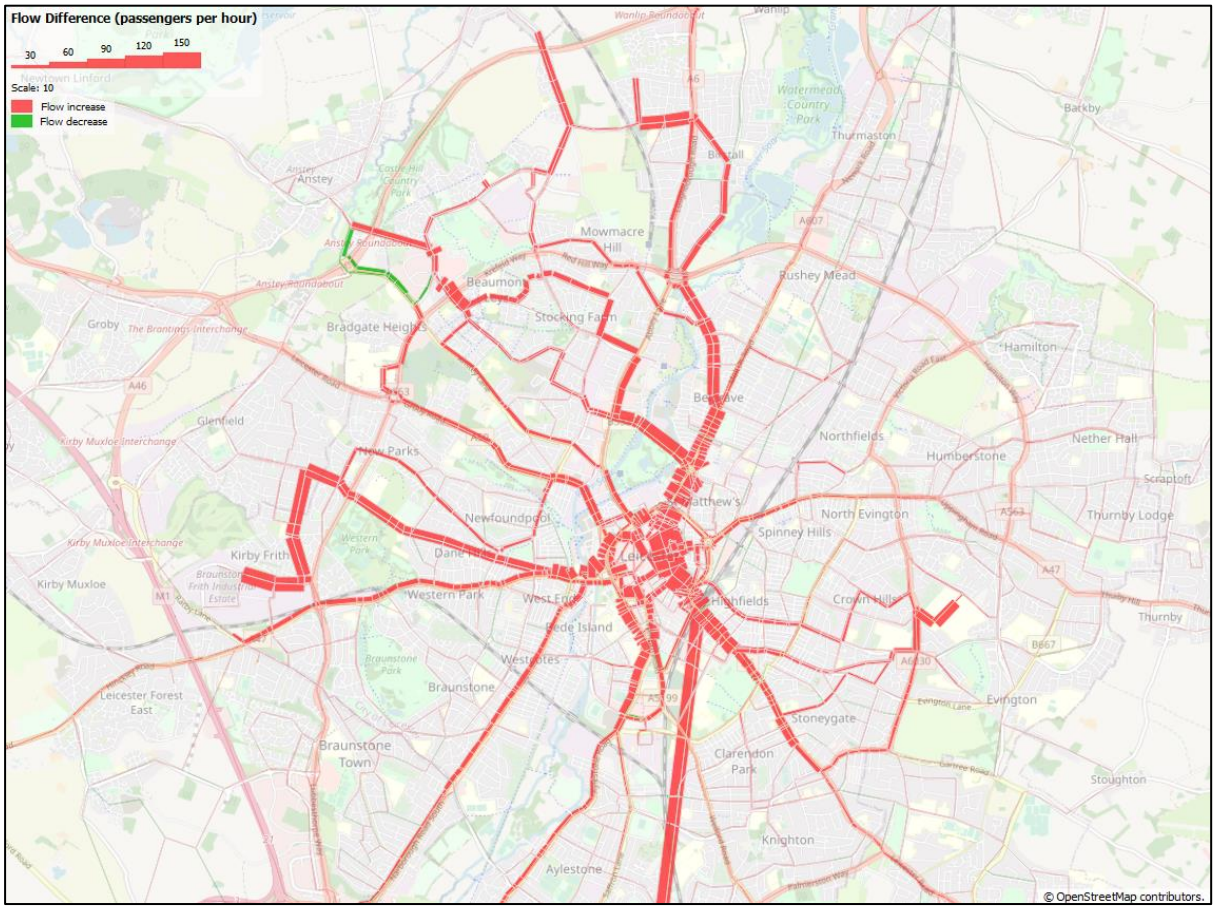
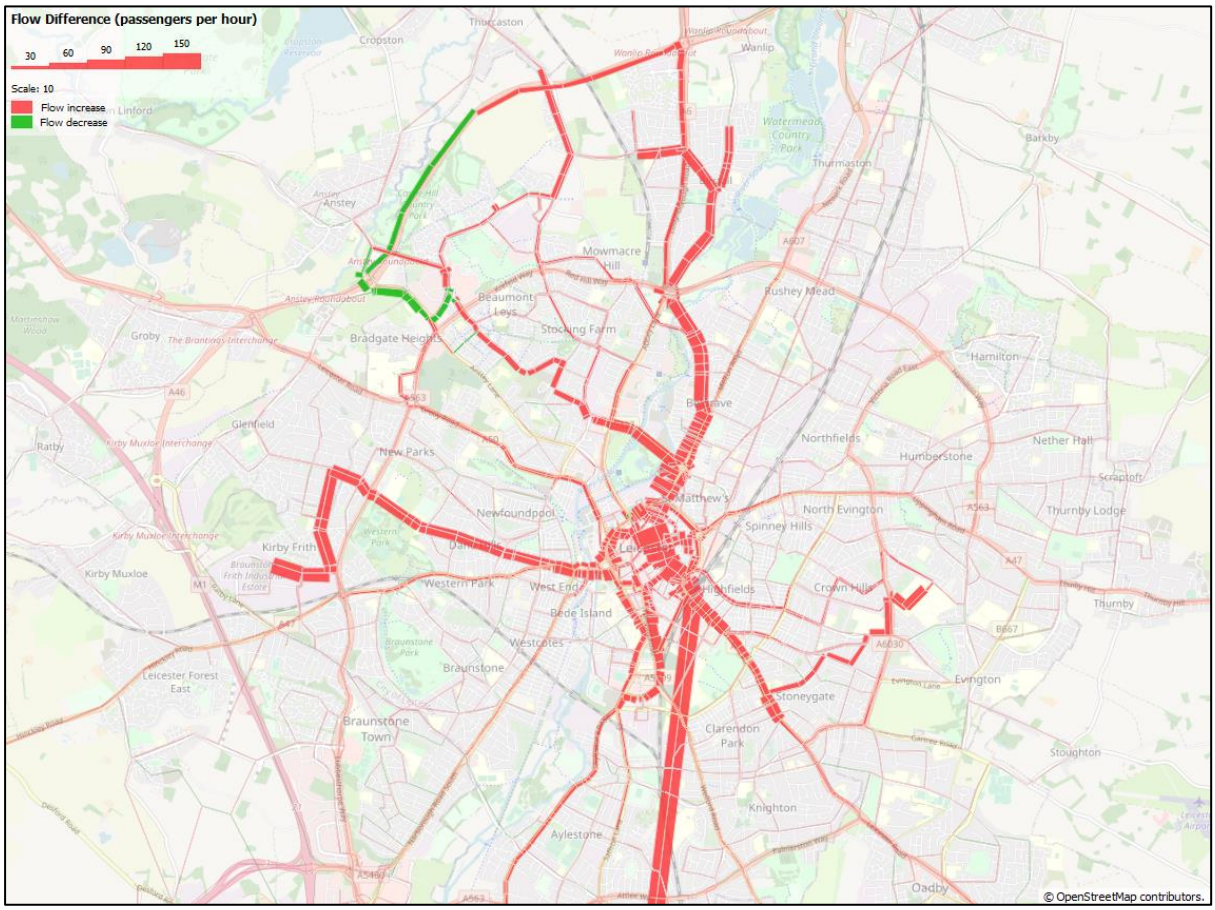


Figure 3.17: Public Transport Flow Change, 2036 Local Plan minus Baseline, PM Peak



Section 4 – Summary and Conclusions

4.1.1 This report has set out some of the key analysis and findings of an assessment of the forecast transport impacts of LCiC's new Local Plan. This follows on from a base year model review and has considered the following forecast year scenarios using LCC's PRTMv2:

- 2036 Baseline; and
- 2036 With Local Plan.

4.1.2 Baseline forecasting assumptions build on the standard Core PRTM assumptions and feature changes as a result of a detailed review of forecast year schemes as well as recent updates to planning data within Leicester City and the surrounding boroughs/districts.

4.1.3 Local Plan forecasting assumptions feature 16,727 new homes and 200,400m^2 of employment floorspace. 11 development zones have been used to represent the larger developments, with detailed trip rate information being used to ensure the number of highway and public transport trips matches expectations. Also included in the With Local Plan scenario are a number of schemes designed to support the proposed growth.

4.1.4 Forecast demand changes by sector and mode demonstrate that total growth in the City is concentrated in the Leicester North West, Leicester West and Leicester Central sectors. However, the schemes associated with the Local Plan which feature significant levels of mode shift away from private car result in that growth being focussed on active modes and public transport. This is also reflected in the mode share results which show sustainable mode share increasing and highway mode share decreasing.

4.1.5 The forecast highway network statistics show that although the increase in vehicle kilometres is relatively small, increases in vehicle delay are larger, particularly across the Leicester North West and Leicester West sectors. This reflects the congestion that already exists in the Baseline scenario.

4.1.6 Forecast changes in highway flow as a result of the Local Plan development are widespread, with the largest associated either with the strategic development sites or locations where the associated schemes have impacted significantly on capacity. The area to west of the Western Park Golf Course development is significantly impacted with some non-development traffic rerouteing away from the area due to increases in highway delay.

4.1.7 The junction congestion analysis provides an overview of the spread of locations where the proposed Local Plan development is forecast to have an adverse impact. A more detailed review of each location should be undertaken before any specific mitigation measures are developed.

4.1.8 The assessment of changes in public transport passenger flow show that there are increases across the City, particularly to and from the strategic development sites. It also demonstrates the impact of the new Beaumont Leys bus link in the north west of the City.

4.1.9 The outcomes of this assessment will now be used to develop and test mitigation measures.

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