Annex E: Transport Infrastructure Investment Requirements Study

City of York Council

Local Plan Transport Infrastructure Investments Requirements Study

Draft

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PARSONS BRINCKERHOFF

CITY OF YORK COUNCIL

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Contents

1 Introduction

1.1 Overview of the Project

In September 2013 Parsons Brinckerhoff (PB) was commissioned by City of York Council (CYC) to provide support in developing the evidence base for the delivery of the Local Plan growth aspirations. The commission was split into three workstreams to formulate and deliver a robust strategy that would ensure delivery of the city's Local Plan allocations. The three workstreams can be summarised as:

- Workstream 1 - the assessment of local and strategic transport investment;
- Workstream 2 - working with developers to influence masterplanning; and
- Workstream 3 - providing technical support at the Examination in Public.

This report describes the outcomes of Workstream 1 of the commission, describing the impacts upon the 2031 highway network as a result of both development traffic and background growth, and identifies potential mitigation measures to alleviate congestion issues in areas of network stress. The report identifies of a package of strategic highway mitigation measures to support growth in housing and employment. The report also draws together work from discrete work packages which have assessed impacts on the rail network, bus network, pedestrian and cycle network, car parking and demand management. Finally, the report provides a consideration of the various public and private mechanisms to fund the schemes over the Plan Period.

1.2 Purpose of Report

Two previous Transport Impact Assessment studies were undertaken in 2011 and 2013 to assess the impacts of the growth in housing and employment at that time of assessment. These were:

- Topic Paper on the Transport Implications of the LDF (Sept 2011); and
- Transport Implications of the City of York Local Plan Preferred Options June (2013).

The assessment work undertaken for this report, builds upon that previously undertaken in 2011 and 2013, and uses the very latest (August 2014) housing and employment trajectories to inform the likely spatial and temporal distribution of trips, and their impacts, on York's transport network.

1.3 Report Structure

The remainder of this report is structured as follows:

Section 2	*Assesses the existing traffic congestion on the York road network, presents the allocations for the Local Plan and describes the modelling forecasting procedure to test the Local Plan allocations.*
Section 3	*Presents the results of the 'reference case' testing of the Local Plan, explaining the impacts on the road network to 2031.*
Section 4	*Reviews previous study work into improvements on the A1237 Outer Ring Road (ORR) and presents the modelling results of a 'Do Something' scenario*

	with intervention measures on the ORR.
Section 5	*Looks at the opportunities for sustainable growth to reduce car-based trips with examples from best practice across Europe.*
Section 6	*Reviews other studies pertinent to the Transport Infrastructure Requirements Study - Bus Services, Rail, Car Parking, and HA Strategic Modelling.*
Section 7	*Provides schedules of the transport infrastructure required to deliver the Local Plan with indicative costs and possible funding sources.*
Section 8	*Identifies potential funding mechanisms to fund the Local Plan infrastructure and reviews past available funding.*

2 Existing Situation

2.1 Overview

This Section presents an analysis of the base year traffic conditions on the York transport network. The review draws on recorded speed data from Traffic Master (2012) and explains how the City of York's SATURN and CUBE Transport Models will be used to forecast likely impacts in the future. Using these tools, we are able to identify the current and future constraints to traffic and identify the areas of the network which are likely to be in need of strategic intervention.

2.2 Existing Network Congestion Analysis

2.2.1 Traffic Master

Traffic Master data has been analysed to provide an insight into the existing congestion issues throughout the City of York. From the Traffic Master data it is possible to identify areas of network stress and consider the reasons for the delays and potential mitigation measures to relieve the congestion. The data presented in this section takes the worst case (i.e. slowest speed) found on each particular link for each direction in the AM / PM peak (2012).

2.2.2 Congestion Review - City of York ORR and Radial Routes

As can be seen in **Figure 1** the north and north western extents of the Outer Relief Road (ORR) experience existing delay and journey time reliability issues. Peak hour average speeds between the A1237 / B1224 and A1237 / Strensall Road drop below 20mph and 10mph on some sections. The eastern and southern extents of the ORR do not experience any congestion issues and this can be attributed to a generally lower level of demand relative to capacity.

Main A-road radial links from the south and west (A19 Fulford Road, A59 Boroughbridge Road and A1036 Tadcaster Road), between the ORR and the Inner Ring Road (IRR) experience speeds less than 10 mph for majority of their lengths.

Average speeds tend to be higher on the minor radial routes such as the B1363 Wigginton Road and Haxby Road providing access to the ORR north, and Stockton Lane providing access to the ORR east. A feature of these routes is that they tend to have substantial sections running through rural areas or ribbon development.

2.2.3 Congestion Review – Central York

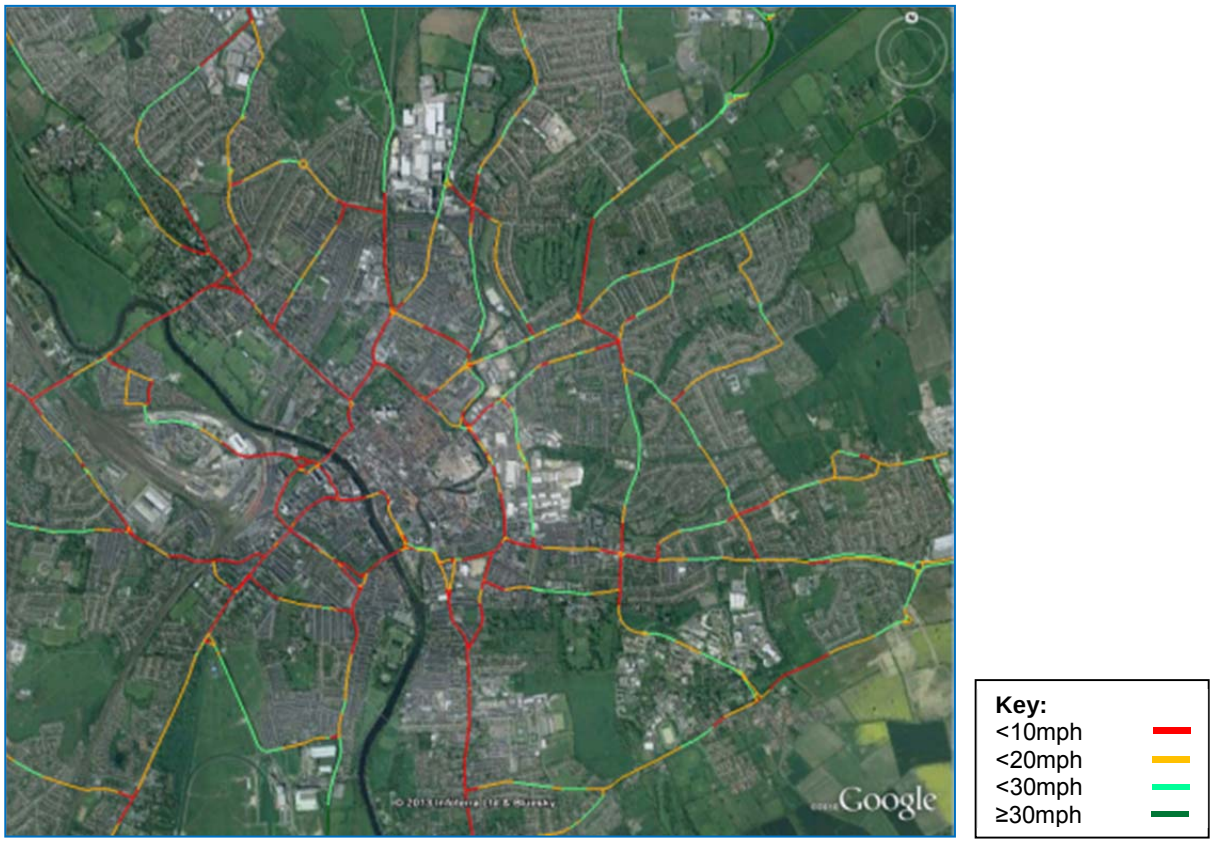
There is significant congestion within central York, most notably around the IRR and the radiating links from it (**Figure 2**). Much of the IRR has average speeds of 10mph or less. Similar speeds are recorded on the A1036 Fishergate / A19 Cemetery Road / A19 Fulford Road approach to the south of the IRR, and the A59 Holgate Road / A1036 Blossom Street approach to the south west of the IRR.

The A19 Bootham and B1363 Clarence Street are also highly congested to the north and west of the IRR, whilst the A1079 Lawrence St link experiences speeds of 20mph or less and pockets dropping down to 10mph or less.

Significant congestion issues appear to occur from approximately 1.5 miles around the IRR from after which speeds improve to 20mph or higher on average, with the exception of the sections of the A-road radial routes.

Figure 1 – 2012 Maximal Congestion Level (Two Way AM/PM peak worst case) – City of York

Figure 2 – 2012 Maximal Congestion Level (Two Way AM/PM peak worst case) – Central York



2.2.4 Summary

The congestion analysis has shown that the following parts of York's transport network are currently experiencing significant congestion at peak travel times:

- ORR between A1237/B1224 in the west and A1237 / Strensall Road in the north;
- Main A-road arterial links: A59, A1036, A19 (N), A19(S) A1079; and
- York IRR and radial approaches within approx 1 mile of York city centre.

2.3 City of York SATURN and CUBE Base Models

The Base Transport Model is representative of the year 2010 and provides the functionality to model modal change (to public transport) arising from fundamental changes to public transport provision (such as Park and Ride). The Base model has been constructed to represent two time periods:

- 2010 - AM Peak Hour (0800-0900); and
- 2010 - PM Peak Hour (1700-1800).

The model contains five user classes as listed in **Table 1**. The trip totals are in PCUs where the factors in **Table 2** have been applied to convert from vehicles to PCU:

Table 1 – City of York Transport Model User Classes & OD Trip Totals

User Class		Base Model Trip Totals (PCU)	
		AM Peak (0800-0900)	PM Peak (1700-1800)
UC1	*Car Commuting*	15,678	15,408
UC2	*Car Employer's Business*	2,409	2,920
UC3	*Car Other*	9,359	13,235
UC4	*Light Goods Vehicles (LGV)*	3,113	2,223
UC5	*Other Goods Vehicles (OGV)*	1,972	870
	Total	**32,532**	**34,656**

Table 2 – Model PCU Factors

Mode	PCU Factor
Car	1
LGV	1
OGV	2
Bus	2.5

Modelled Network

The Base models detailed network lies within the City of York authority area. Beyond the York authority area a topographically correct buffer network covering all the north of England is modelled, and beyond this, representing the external model area, the remainder of the country is modelled to lesser topographic detail.

2.3.1 Limitations of the Base Models

The Transport Implications of the City of York Local Plan Preferred Options Report (June 2013) acknowledges the limitations to the combined SATURN and CUBE model:

- It does not explicitly model walking and cycling;
- It does not fully take into account any decisions of whether to not make a trip or to change the time when a trip is made (peak spreading),
- Trip elasticities (i.e. the propensity to change modes) for car users may not reflect the impacts of increased congestion in the future, as these may change if congestion increases substantially.
- It makes broad assumptions for proposed connections to the network from new development (specific junction details of new developments are not modelled).

These elements are an important consideration when interpreting the model outputs as these elements increase the uncertainty of the model forecasts.

2.4 Forecasting the Transport Impacts - Local Plan Modelling Methodology

2.4.1 Overview

This section outlines the forecasting methodology for the City of York transport model to incorporate the Local Plan land use allocations. The land use allocations identified are likely to generate a certain type and amount of vehicular trips on the York road network. The assessment attempts to predict the amount and geographical spread of these vehicle journeys, and assess their impact on existing and future congested areas of the network. The following details the methodology of predicting these trips and the distribution across the road network.

2.4.2 Land Use Allocations

Table 3 and **Table 4** present the Strategic Employment and Housing developments as identified in the Local Plan for delivery up to 2031.

Table 3 – Strategic Employment Sites 2031

Ref	Development	Employment Type	Quanta (sqm)
ST5	York Central	B1	80,000
E138	Land at Hull Road	B1	16,000
	Upper Poppleton Garden Centre	B1/B2/B8	11,200
E2	Land north of Monks Cross Drive (nee 6b)	B1	3,000
E4/E5	Land at Layerthorpe and James St	B1/B2/B8	3,000
ST18	Monks Cross North	B1	64,000
ST19	Land around Northminster Business Park	B1/B2/B8	9,200
ST21	Land South of Designer Outlet	B1/B2/B8	26,400
SF6	South of Airfield Business Park	B1/B2/B8	30,400
	Total		**243,200**

Table 4 –Strategic Housing Sites 2016 to 2031

Ref	Development	Quanta (dwellings)	Build-out (Percentage Complete)			
			2016	2021	2026	2031
ST1	British Sugar/Manor School	1,140	0	39	83	100
ST2	Former Civil Service Sports Ground Millfield Lane	289	10	100	100	100
ST4	Land adj. Hull Road & Grimston Bar	230	0	87	100	100
ST5	York Central	410	0	20	68	100
ST7	Land East of Metcalfe Lane	1,455	0	19	62	100
ST8	Land North of Monks Cross	1,300	0	25	67	100
ST9	Land North of Haxby	747	0	50	100	100
ST11	Land at New Lane Huntington	365	9	100	100	100
ST12	Land at Manor Heath Road Copmanthorpe	421	0	59	100	100
ST13	Land at Moor Lane Copmanthorpe	125	14	100	100	100
ST14	Land to North of Clifton Moor	2,800	0	28	68	100
ST15	Whinthorpe New Settlement	2,610	0	13	61	100
ST16	Terry's overage	175	17	100	100	100
ST17	Nestle South	130	0	100	100	100
ST29	Land at Boroughbridge Road	135	15	100	100	100
ST30	Land to north of Escrick	172	0	87	100	100
ST31	Land to north of Stockton Lane	165	0	100	100	100
	Total	**12,669**				

2.4.3 Trip Generation

Following consultation with the Highways Agency, the trip rates employed in the assessment of all proposed Local Plan development sites are those which are used in the Gravity Highways Agency Model (GraHAM) and are presented in **Table 5**. These trip rates are founded on the Highway Agency's rates according to Use Class.

Table 5 – GraHAM Development Trip Rate Factors

Land Use Class	AM				PM			
	Average		85th percentile		Average		85th percentile	
	In	Out	In	Out	In	Out	In	Out
B1 (100sqm)	1.27	0.20	2.74	0.50	0.16	1.09	0.32	2.27
B2 (100sqm)	0.43	0.15	1.07	0.37	0.08	0.36	0.23	0.86
B8 (100sqm)	0.14	0.07	0.44	0.06	0.06	0.13	0.20	0.28
Flats (Dwellings)	0.05	0.20	0.13	0.31	0.17	0.07	0.38	0.13
Housing (Dwellings)	0.15	0.41	0.13	0.71	0.38	0.23	0.67	0.18

Trip generation for each development site was thus calculated by applying the trip rate for the relevant land use class to each development type. From the development quanta and trip rates, the trip totals in **Table 6** were calculated.

Table 6 – Strategic Site Development Trips 2031

Land Use Class	AM			PM		
	Arr	Dep	Total	Arr	Dep	Total
Strategic – Housing	1,871	5,120	6,991	4,742	2,868	7,610
Strategic – Employment	2,551	436	2,987	339	2,190	2,529

2.4.4 Final Forecast Matrices 2031

The total number of trip ends (arrivals and departures) resulting from the additional development were converted into an OD trip. The process of converting trip ends into an OD trip is termed furnessing. The furness procedure only converges when row and column totals from the matrix have the same number of trips, so the two estimates of the total number of additional trips in the matrix (one from the rows, productions, and one from the columns, attractions) need to be reconciled.

The furness procedure was undertaken within SATURN. The developments identified in **Table 4** and **Table 3** were assigned a parent zone based on the location of the footprint of the development (sometimes this was apportioned across a number of zones). Using the base car matrix as the base distribution, the trip ends were furnessed using a doubly constrained method to the productions to give the final trip totals for the Local Plan development matrices.

The vehicular trip generation described in **Table 6** accounts for car-based trips only. LGV and HGV trips have been estimated based on the number of car trips and the observed vehicle type splits from the parent zones

The final user class growth factors are displayed in **Table 7**.

Table 7 – Resulting Growth as a Factor of the 2010 Base

User Class	AM Peak Totals (PCU)			PM Peak Totals (PCU)		
	2010	2031	Growth	2010	2031	Growth
UC1	15,678	21,152	1.349	15,408	20,578	1.336
UC2	2,409	3,293	1.367	2,920	3,850	1.318
UC3	9,359	12,114	1.294	13,235	17,609	1.330
UC4	3,113	4,312	1.385	2,223	2,925	1.316
UC5	1,972	2,598	1.317	870	1,075	1.236
Total	**32,532**	**43,469**	**1.336**	**34,656**	**46,037**	**1.328**

2.4.5 Comparison against TEMPRO

The forecasting method described above was compared to trip growth forecasts in TEMPRO. **Table 8** demonstrates this comparison for a scenario which uses TEMPRO growth (adjusted using the proposed Local Plan allocations) with additional Fuel and Income adjustment factors applied. When compared to TEMRPRO forecasts, the bespoke forecasting method, which has allowed the scenarios to be managed and run effectively, provides a robust level of fit with National Forecasts of growth in this area. It has allowed appropriate assessments of the likely traffic impacts in the City of York area to be undertaken for the Strategic Assessment and has provided the platform for establishing suitable infrastructure requirements that will be required going forward.

Table 8 - Comparison against a TEMPRO and Fuel and Income adjusted forecast scenario

Totals	Bespoke Forecasting		TEMPRO Forecasting (with Fuel & Income Adjustment)*	
	2010-2031		2010-2031	
	AM	PM	AM	PM
Total ODs	43,469	46,037	31,922	33,207
Additional Trips	10,937	11,381	8,077	8,405
Additional Households	18,882		19,000	
Additional Jobs	16,000		16,000	

*TEMPRO is presented in 3hr periods (07:00-10:00 & 16:00-19:00), the TEMPRO Additional OD Figures presented in the above Table are representative of 41% (AM) and 37% (PM) of the 3 hr OD trips. These percentages are taken from flow profiles from automatic traffic counters in York. Fuel and Income factor from 2010 to 2031 for York is 10.8%.

2.4.6 Modelled Infrastructure

Building on the two previous studies of 2011 and 2013, and considering impacts the future land use allocations are likely to have on the transport network, a number of infrastructure measures have been identified to support the growth of traffic on the road network. This section details the infrastructure measures included in the modelling phase. The infrastructure schemes are shown in **Table 9** and have been categorised:

- **Committed Schemes** – These are schemes which have already received funding and construction is in progress.
- **Local Plan Infrastructure (Strategic Measures)** – These schemes are strategic and necessary to facilitate the growth in transport associated with the housing and employment aspirations of the Local Plan.
- **Development Led Infrastructure** – These schemes are related to specific developments.
- **Local Plan Infrastructure (Supporting Measures)** – these measures are indicative and relate to changes in the 'reference case' model where congestion has been observed at junctions. These measures require more detailed investigation over the Plan Period and are likely to be development driven.

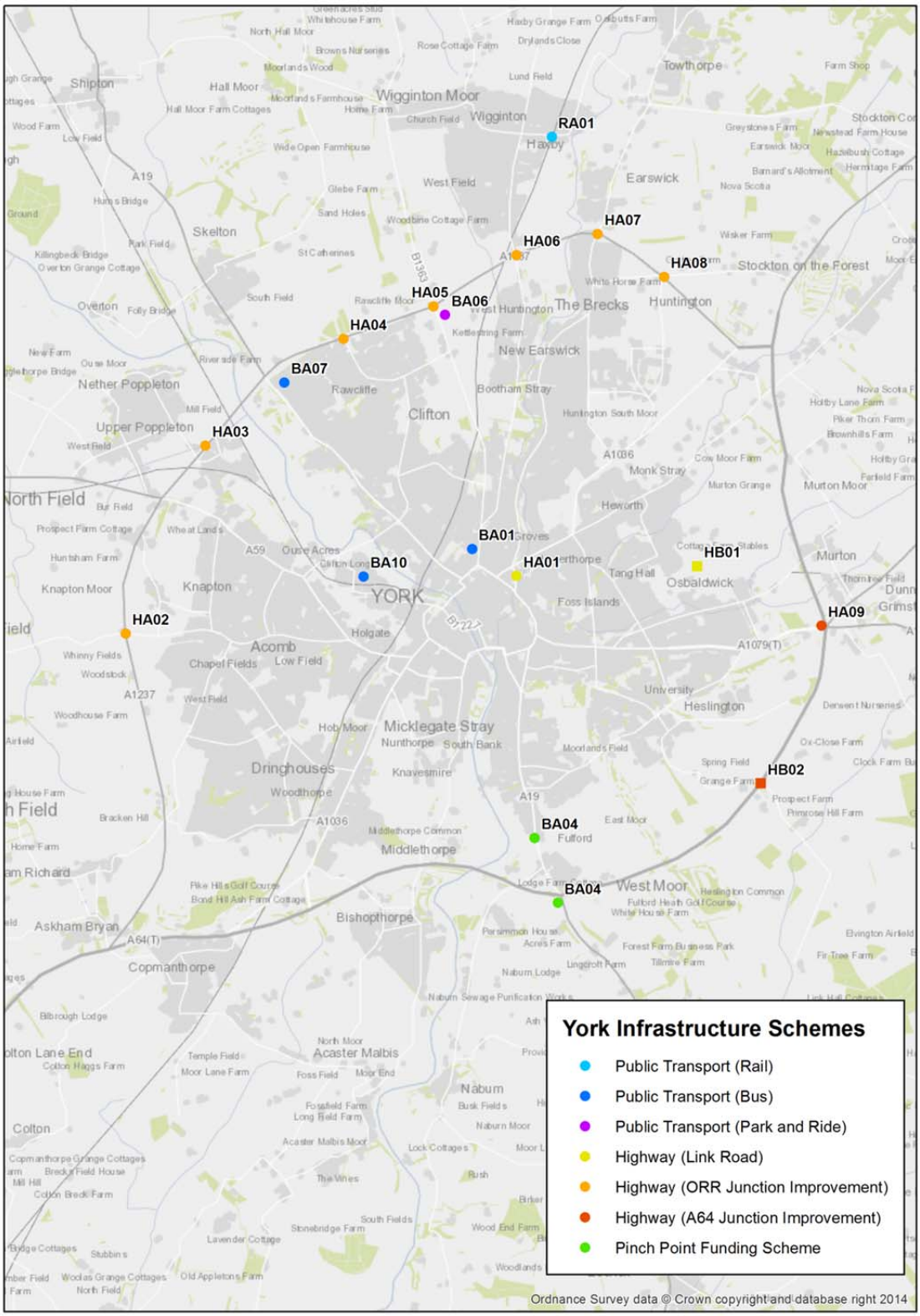
Table 9 – Modelled Infrastructure

Ref	Scheme Description	Scheme Type
Committed Schemes		
CS01	Access York Phase I: Askham Bar Park & Ride relocation and expansion with enhanced bus priority measures.	Public Transport (Park & Ride)
CS02	Access York Phase I: New Park & Ride at Poppleton Bar plus improvements to the A59 / A1237 junction and bus priority measures on A59.	Public Transport (Park & Ride)
Local Plan Infrastructure (Strategic Measures)		
HA01	James Street Link Road, Phase II	Highway (Link Road)
HA02	Wetherby Road roundabout	Highway (ORR Junction improvement)
HA03	Great North Way roundabout	Highway (ORR Junction improvement)
HA04	Clifton Moor Gate roundabout	Highway (ORR Junction improvement)
HA05	Wigginton Road roundabout	Highway (ORR Junction improvement)
HA06	Haxby Road roundabout	Highway (ORR Junction improvement)
HA07	Strensall Road roundabout	Highway (ORR Junction improvement)
HA08	North Lane roundabout	Highway (ORR Junction improvement)
HA09	Grimston Bar Interchange upgrade	Highway (A64 Junction improvement)
BA01	Clarence Street Bus Priority	Public Transport (Bus)
BA04	Germany Beck pinch point	Pinch Point Funding Scheme
BA05	Junction improvements and other highway enhancements to improve public transport reliability	Public Transport (Bus)
BA06	Access York Phase I: New Park & Ride at Clifton Moor with associated bus priority measures on B1363 Wigginton Road.	Public Transport (Park & Ride)
BA07	Manor Lane / Hurricane Way Link	Public Transport (Bus)
BA10	ST5 York Central Access and Link Road	Public Transport (Bus)
RA01	A new railway station at Haxby	Public Transport (Rail)
Development Led Infrastructure		
HB01	ST7 Land East of Metcalfe Lane – Link Road	Highway (Link Road)
HB02	ST15 Whinthorpe – A64 grade separated junction	Highway (A64 Junction improvement)
Local Plan Infrastructure (Supporting Measures)		
HD01	Rawcliffe Bar roundabout	Highway (ORR Junction improvement)
HD02	Clifton Moor Gate roundabout	Highway (ORR Junction improvement)
HD03	Wigginton Road roundabout	Highway (ORR Junction improvement)
HD04	A19 / A64 - Designer Outlet	Highway (Junction improvement)
HD05	A64 / A1237 - Askham Bryan	Highway (Junction improvement)
HD06	Westfield Lane / Mill Lane, Wigginton	Highway (Junction improvement)
HD07	New roundabout Monks Cross Link	Highway (Junction improvement)
HD08	Monks Cross Drive roundabout	Highway (Junction improvement)

The scheme locations are shown in **Figure 3**. The supporting measures are not shown on the plan as these schemes have not been progressed beyond a conceptual stage and in some cases (HD02, HD03, and HD04) represent improvements on schemes already shown. Further detailed study work will be required throughout the plan period to determine the

design requirements of the supporting measures to support developments. Engagement and with developers will underpin the requirements of these schemes and any phasing will need to be clearly justified with the level of demand expected. Schemes CS01 and CS02 are complete and not shown on the plan, and BA05, the public transport reliability package, is also not shown on the plan.

Figure 3 – Location Plan of Strategic and Development-led Infrastructure



3 Results: Local Plan Option Testing (base year and future year with committed mitigation measures – the 'Reference Case')

3.1 Scenario Testing

A number of iterations of the transport model of the Local Plan land use allocations have been previously modelled during the Local Plan consultation process. Through the course of this testing, CoYC have been able gain early insight into the likely transport impacts of the Local Plan and a series of highway schemes (as identified in Table 9) to help alleviate congestion associated with the traffic impacts were tested. With the housing and employment allocations now confirmed, CoYC have modelled these allocations with the schemes identified in Table 9 and the results are presented below. This modelled scenario is termed **Scenario 1 – Reference Case**.

A further scenario, Scenario 2 uses the schemes modelled in Scenario 1 and provides enhancement to the A1237 Outer Ring Road (ORR) in the form of at-grade dualling for the entire route. That scenario is termed **Scenario 2 – Do Something.**

In summary, the following schemes have been modelled:

- **Scenario 1** – **Reference Case** - Models the Land Use Allocations in 2031 with the Schemes Identified in Table 9
- **Scenario 2 – Do Something** - Builds on Scenario 1 and provides at-grade dualling to the entire length of the A1237 ORR

The remainder of Section 3 presents the results of Scenario 1.

3.2 Peak Hour Flow Changes 2010 to 2031

The flow differences between the 2010 model and the 2031 'Reference Case' model were analysed and are plotted in **Figure 4** and **Figure 5**.

The greatest increase in flow throughout the AM and PM peak periods are experienced on the Outer Ring Road and the A64. In the AM peak, the sections of the ORR between Rawcliffe Bar and Clifton Moor Gate, Wigginton Road and Hopgrove, and the sections of A64 between Bishopthorpe and Fulford, and Hull Road and Hopgrove see the greatest increases in flow. In the PM peak, the sections between Rawcliffe Bar and Strensall Road, and the section of A64 between Bishopthorpe and Fulford see the greatest increases in flow.

Most of the radial links see an increase in demand towards the centre of York. Again these are subject to tidal flow with increases experienced towards the city centre in the AM peak and away from the centre in the PM peak. Huntington Road in the PM peak sees the greatest increase in flow with traffic leaving the city centre.

A minor increase is seen on the A59 Boroughbridge Road in the AM peak and a minor decrease in the PM peak. The A19 Fulford Road sees little increase in traffic in the AM peak and a decrease in the PM peak. Little change in traffic levels is shown on Wigginton Road in the AM or PM peak.

Note: on the following drawings (Figure 4 and Figure 5), the A64 between the Designer Outlet Junction (A19) and Grimston Bar shows no change in traffic flow. This is because the base year and reference case networks are different in this location and, therefore, a comparison to show differences in flow cannot be undertaken. The network coding difference is to account for the addition of a junction for the Whinthorpe Development (ST15).

Figure 4 – AM Peak Flow Difference Plots 2010 Base and 2031 Reference Case

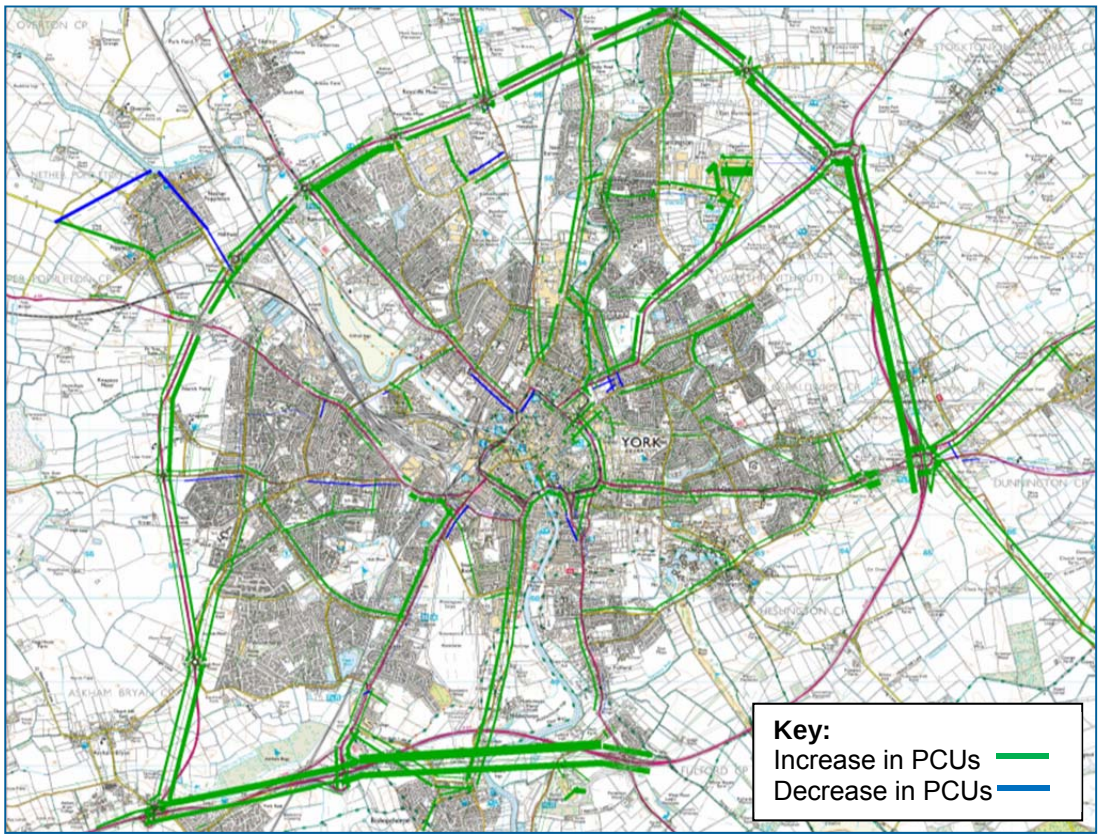
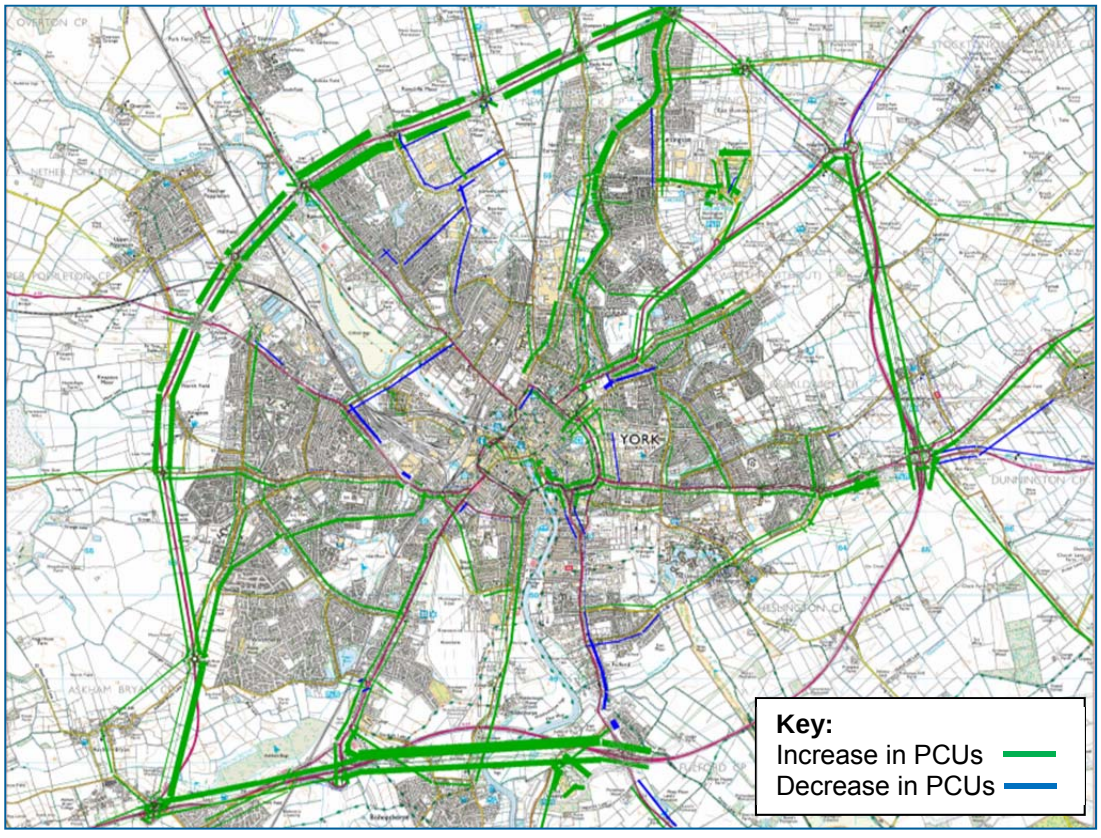


Figure 5 – PM Peak Flow Difference Plots 2010 Base and 2031 Reference Case



3.3 Peak Hour Flow Changes 2010 to 2031 (York City Centre)

Figure 6 and **Figure 7** show the impacts of the change in flow in York City Centre for the Reference Case. They show that the IRR experiences an increase of traffic flow between 2010 and 2031. Small sections experience a reduction, attributed to re-routing to avoid congested links.

Notable increases in demand are shown on A1036 Malton Road and towards Monks Cross Shopping Park in the north east quadrant of the city. The greatest growth in trips towards the city centre is from the east from the Osbaldwick, Heworth and Huntington areas.

Figure 6 – AM Peak Flow Difference Plots in 2010 Base and 2031 Reference Case (central York)

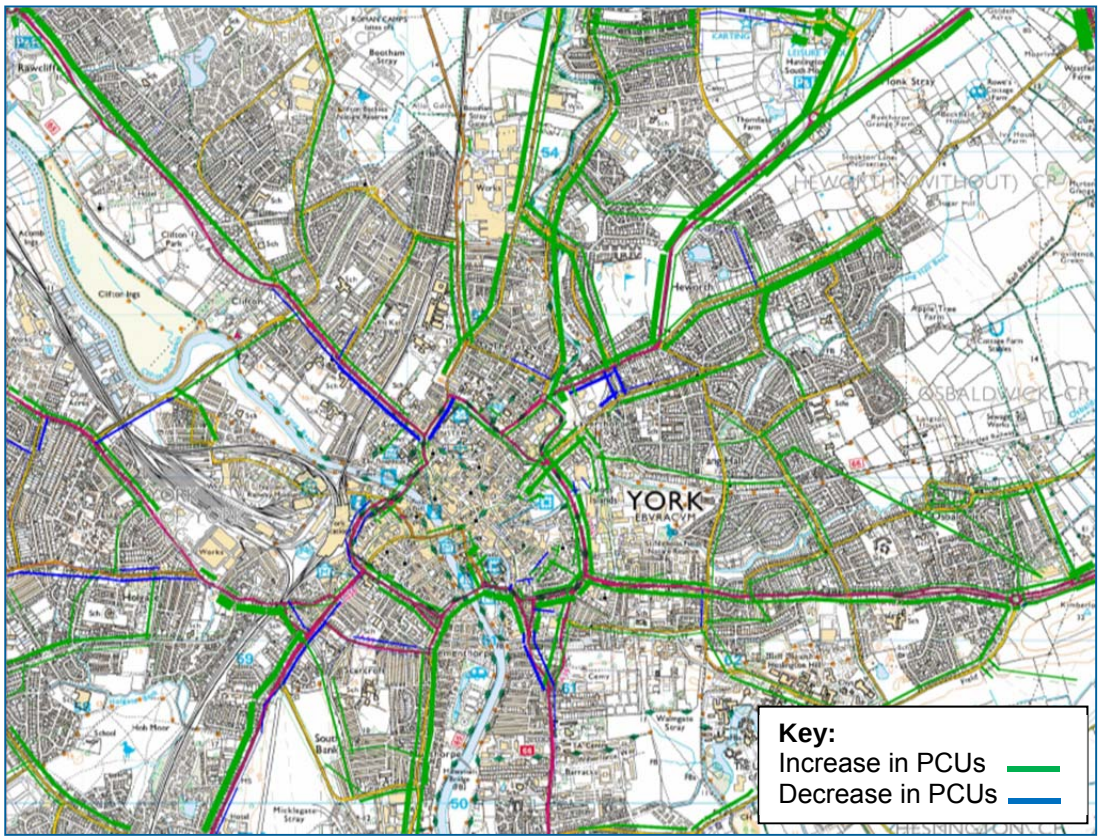
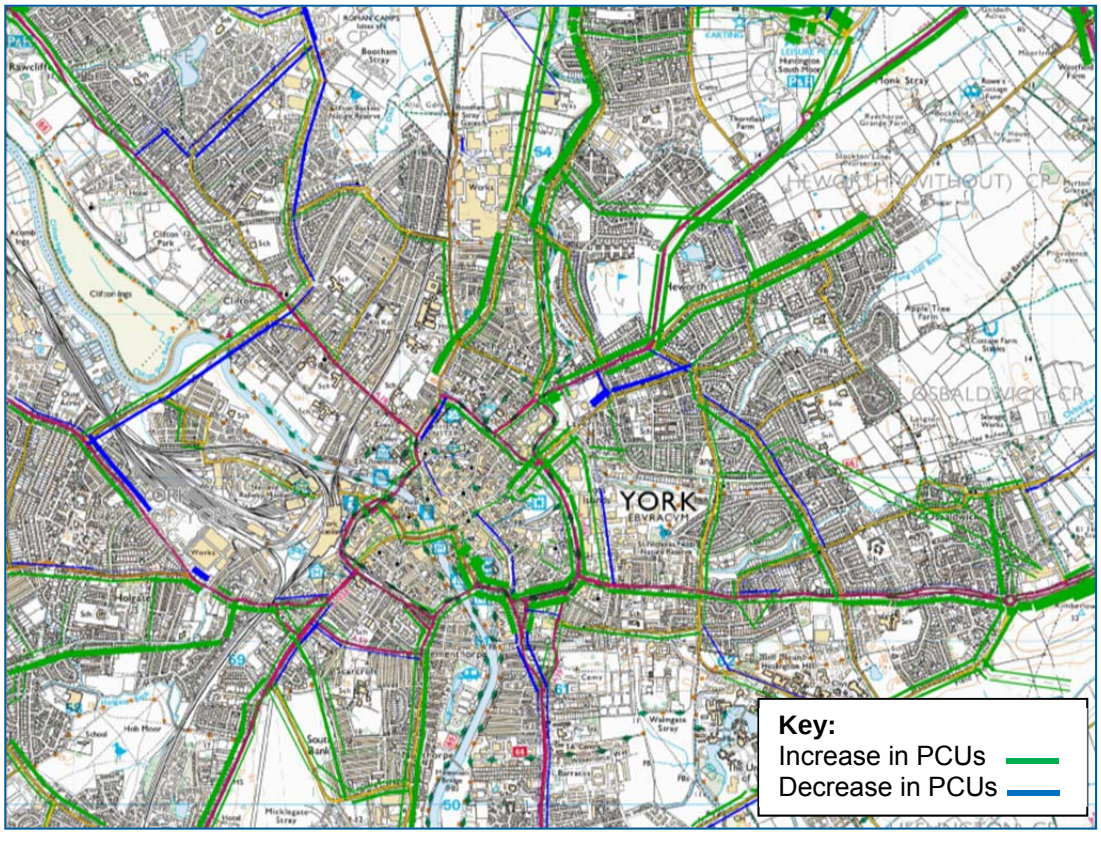


Figure 7 – PM Peak Flow Difference Plots 2010 Base and 2031 Reference Case (City of York)



3.4 Capacity

3.4.1 AM Peak Period

The AM peak model networks were analysed by assessing the ratio of volume to capacity (V/C) on links. Links with a ratio of 85% or higher were highlighted and the differences between 2010 and 2031 Reference Case compared.

In the 2010 base there are a limited number of links which are operating close to capacity (85% or over) or over capacity (100% or over). These are clustered around the IRR and also on the A1036 and A59 radial routes as shown in **Figure 8**. Capacity issues are shown on the approaches to a number of the junctions with the ORR, such as at the A19 / A1237, A59 / A1237, A19 / A64 and A1079 / A64 junctions.

Towards the centre of York there are a few isolated elements of links over capacity on the IRR primarily around the A19 Bootham / Gillygate junction to the north as shown in **Figure 9**. The 2010 model shows that the southern half of the IRR is currently running close to capacity. Other areas experiencing capacity issues are on the radial routes approaching the IRR, specifically on the approaches to junctions. The A1036 and A59 junction to the south west of the ring road is operating over capacity, whist the approaches to the Heworth Road / Heworth Green, Wigginton Road / Crichton Road and the A19 Clifton / Water Lane junctions are operating at 85% capacity or above.

With the increase in demand between 2010 and 2031, and with the highways improvements modelled as presented in Table 9, there is still a negative residual impact on the network. **Figure 10** shows that the ORR operates over capacity in both directions to either side of the Rawcliffe Bar junction, and clockwise between Wigginton Road and North Lane. The ORR operates with a V/C above 85% anticlockwise near the A59 junction, and the A64 operates with a V/C above 85% anticlockwise between Tadcaster Road and Hull Road. Additionally, an increased V/C is shown on some radial routes; in particular Haxby Road and Tadcaster Road.

Towards the centre of the city (shown in **Figure 11**), there are many links on the IRR and radial routes which are forecast to operate with a V/C over 85%. An increase is seen at the junction of the A19 Fulford Road with the IRR, with a number of links operating with a V/C above 100%. Additionally, links around the Hospital on Wigginton Road also operate with a V/C above 85% and above 100%.

Existing capacity issues on the approaches of Stockton Lane and Heworth Road to the A1036 worsen in 2031 as do links around the junction of Holgate Road and The Mount, and around the junction of the A19 and Water Lane in Clifton. The other issues shown in **Figure 11** remain unchanged from the base year and the remainder of the city centre links appear to operate well within maximum capacity.

Figure 8 – 2010 AM Peak Link Capacity: Base

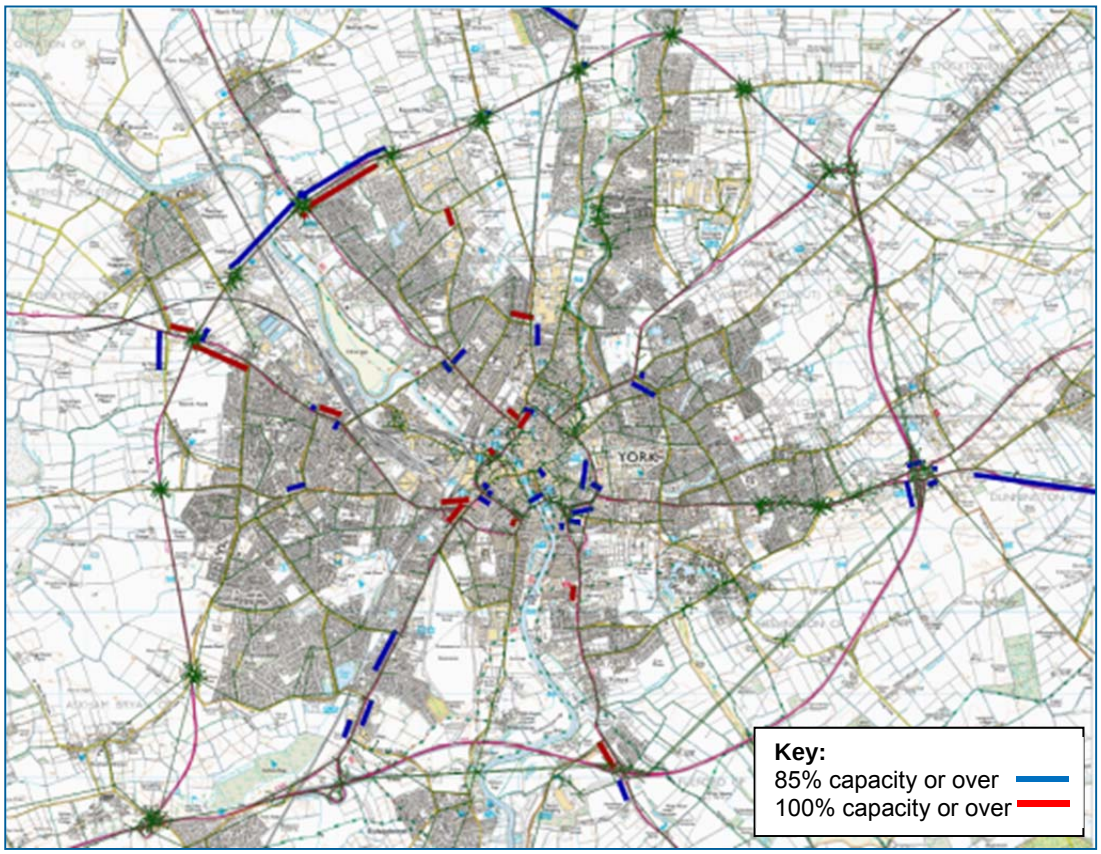


Figure 9– 2010 AM Peak Link Capacity in York City Centre: Base

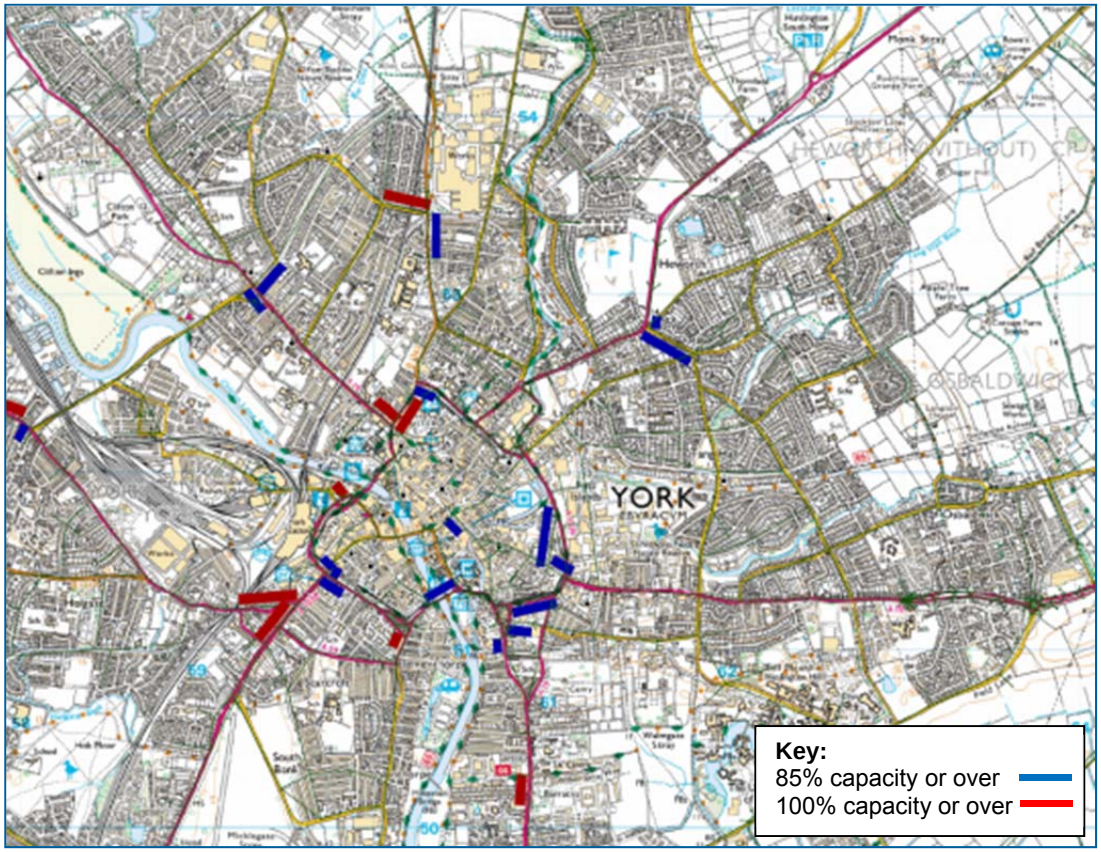


Figure 10 – 2031 AM Peak Link Capacity: Reference Case

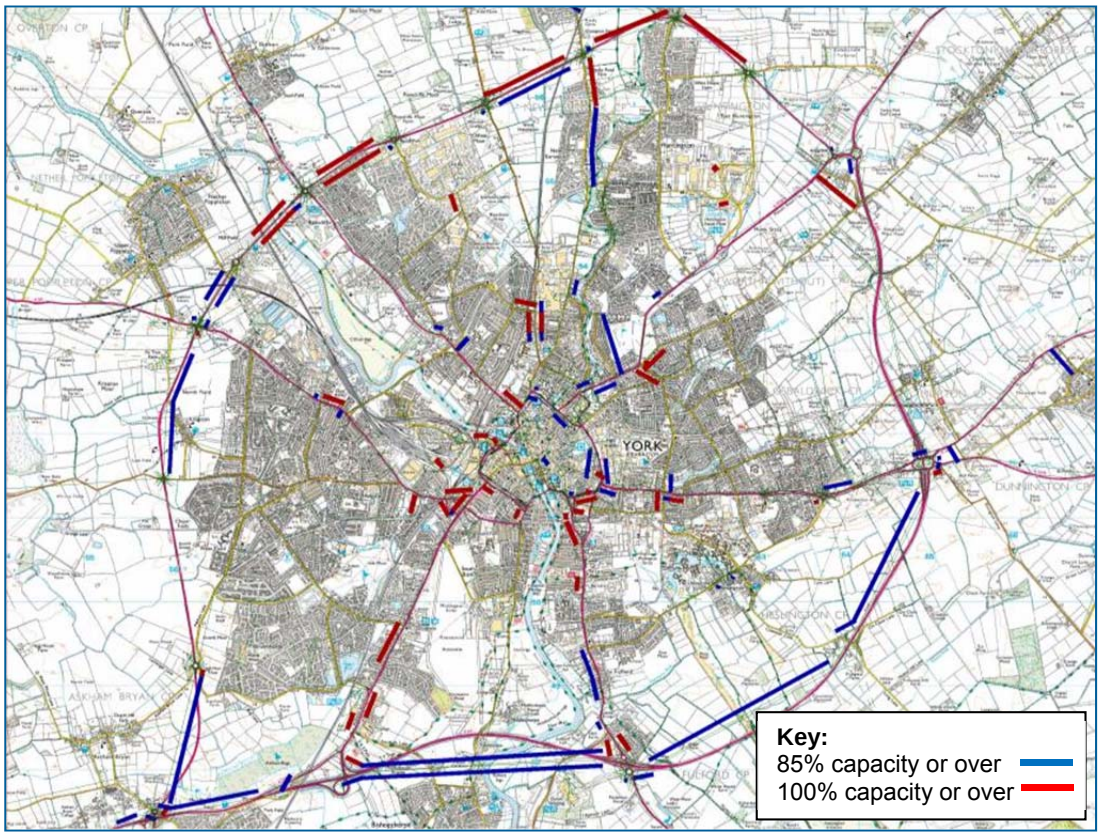
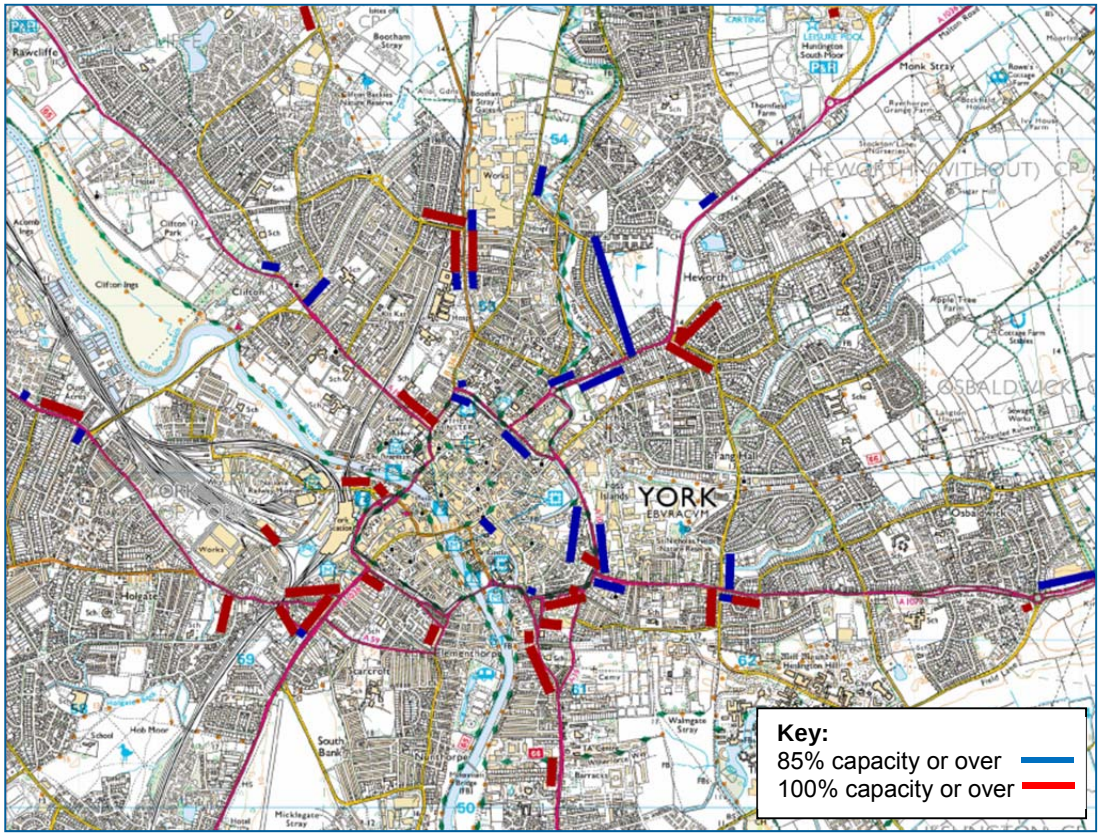


Figure 11 – 2031 AM Peak Link Capacity in York City Centre – Reference Case



3.4.2 PM Peak Period

The PM peak model networks were analysed by assessing the ratio of volume to capacity (V/C) on links. Links with a ratio of 85% or higher were highlighted and the differences between 2010 and 2031 Reference Case compared.

In the 2010 base there are a limited number of links which are operating close to capacity (85% or over) or over capacity (100% or over). **Figure 12** shows there are two links on the ORR operating over capacity; these are on the anticlockwise approach to the A19 / A1237 junction and clockwise approach to the Haxby Road / A1237 junction. The radial roads on the approaches to the ORR are also either over capacity or approaching capacity; these include the A59 at Poppleton Bar, Haxby Road and Hull Road.

Towards the centre of York the IRR experiences more capacity issues in the PM peak than the AM, with much of the IRR operating above 85% and one link over capacity around the A19 Bootham / Gillygate junction. This is shown in **Figure 13**. Additional capacity issues exist at the junction of the A19 / Water Lane / Water End in Clifton and at the junction of Wigginton Road / Crichton Avenue. These junctions also experienced similar levels of congestion in the AM peak.

In 2031, the PM peak capacity issues are exacerbated on the ORR with much of the north and western extents operating at 85% capacity or greater (**Figure 14**). Similarly, the eastbound arms of the ORR between A1237 / A64 at Copmanthorpe and A19 / A64 at Fulford are forecast to operate at 85% capacity or greater. Sections of the A1036 Tadcaster Road, B1363 Wigginton Road and Monks Cross Lane radial routes are forecast to operate above 85% capacity. The remainder of the links throughout the residential areas of York appear to operate with sufficient capacity.

The city centre sees an increase in capacity issues compared to the 2010 base (**Figure 15**). A higher proportion of the IRR links operate over capacity. Capacity issues worsen around the A19 Fulford Road approach to the IRR. Other junctions experiencing capacity issues in the city centre vicinity remain proportionate to those in the 2010 model.

It is worth noting that in the 2010 base case, many of the modelled links and junctions in and around the city centre are operating over at or close to their theoretical capacity. In actuality, traffic is still able to flow along these links and through the junctions, albeit that it is moving slower than the link or junction should allow and queues are, therefore longer. The lack of capacity can also lead to 'incidents' causing or exacerbating delays. The model results indicate that this eventuality is likely to be exacerbated on these links, with junctions and links from further afield being affected in the 2031 Reference Case.

Figure 12 – 2010 PM Peak Link Capacity: Base

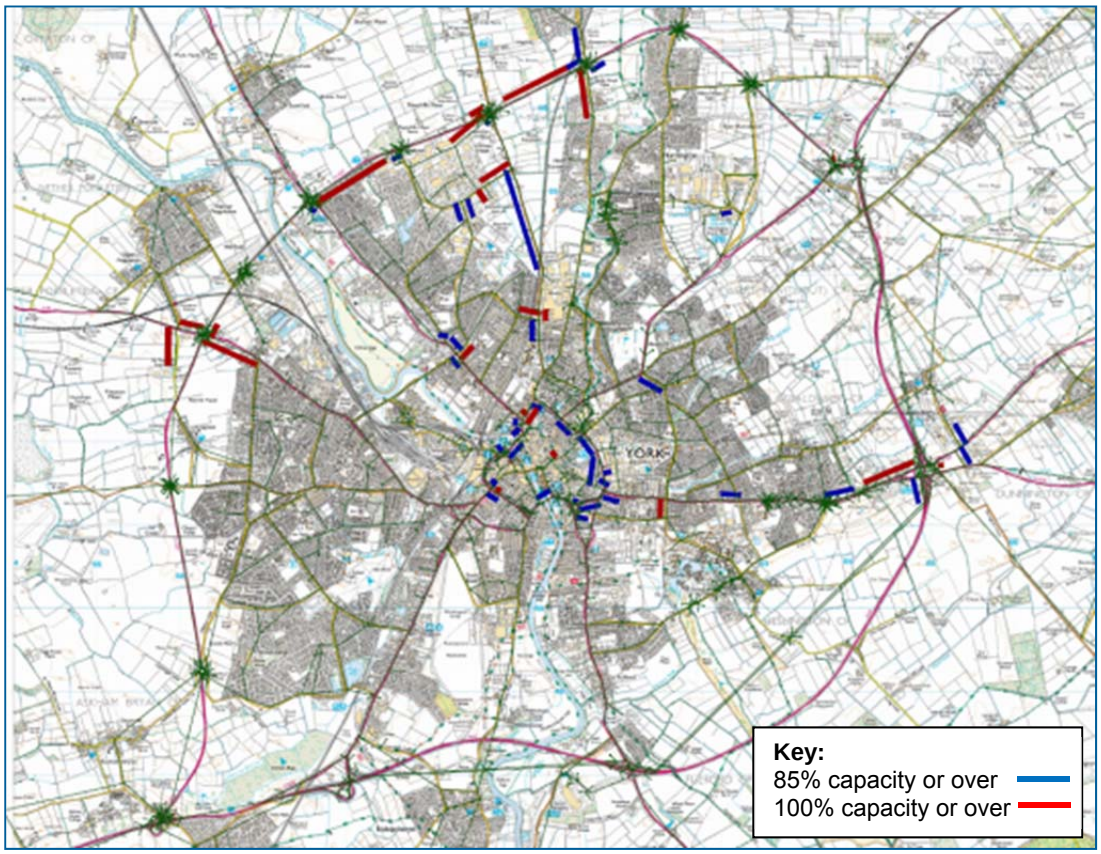


Figure 13 – 2010 PM Peak Link Capacity in York City Centre: Base

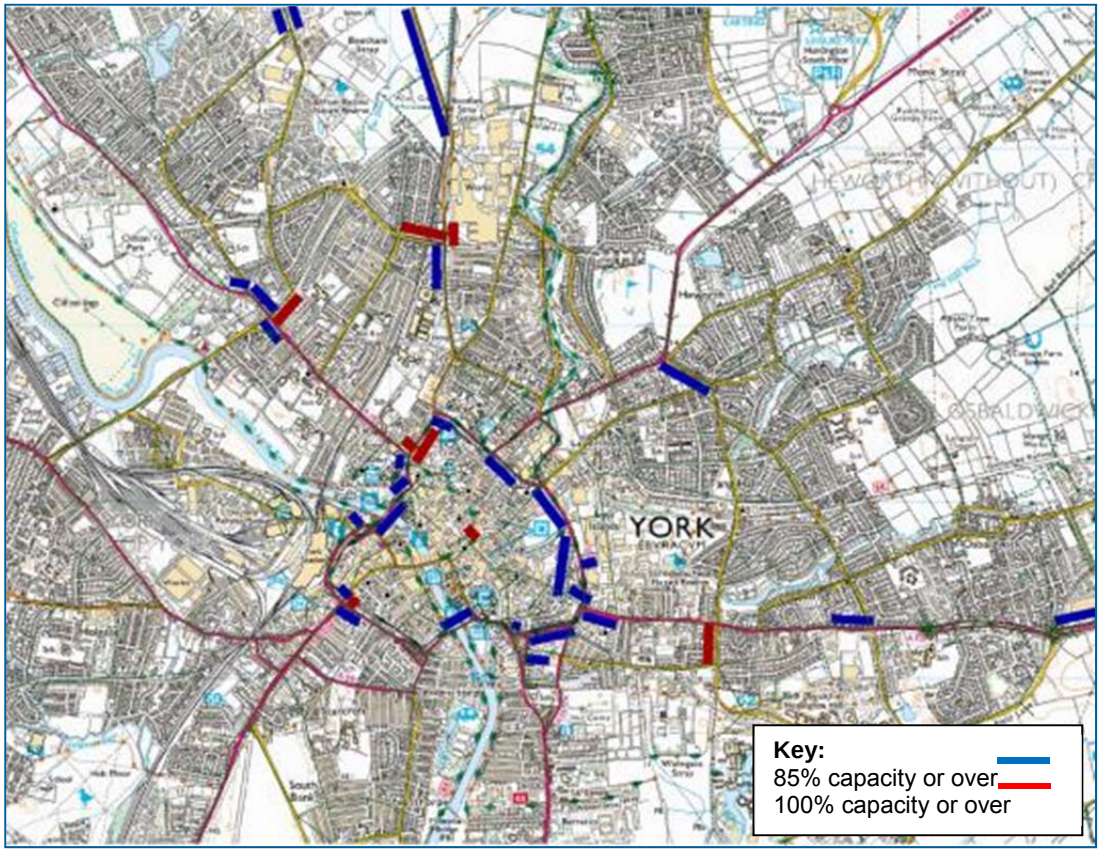


Figure 14 – 2031 PM Peak Link Capacity: Reference Case

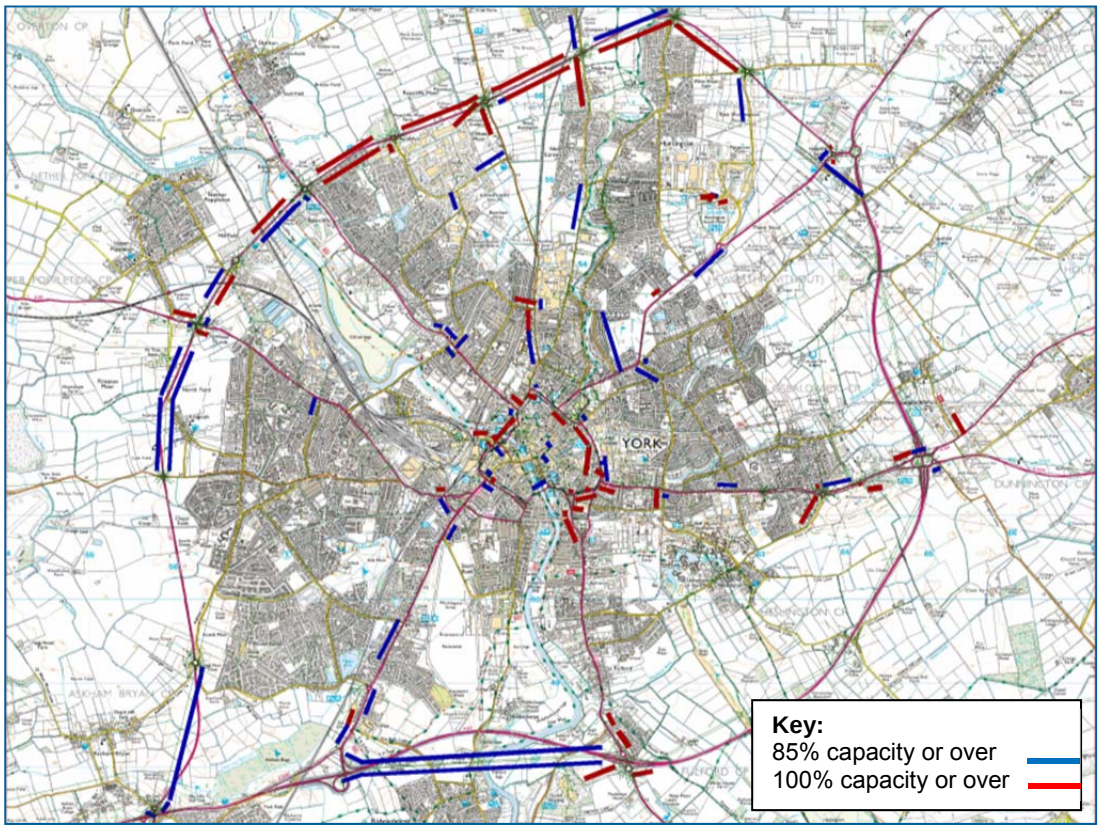
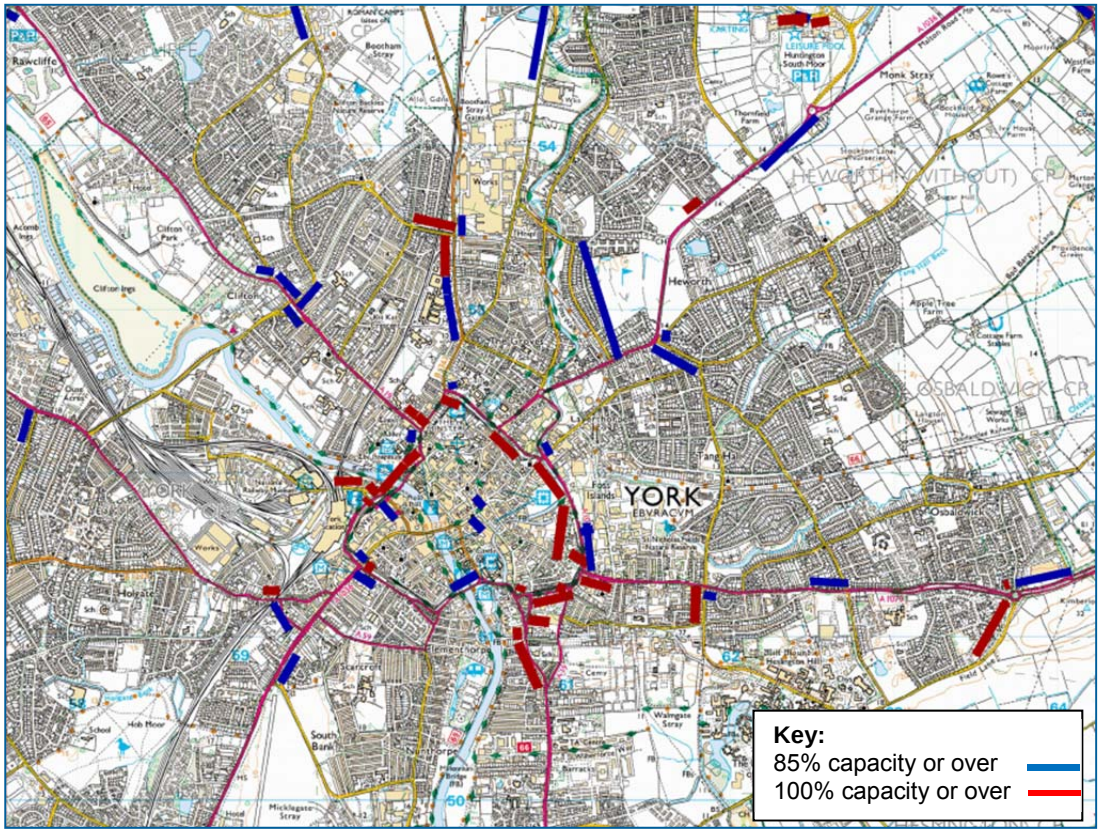


Figure 15 – 2031 PM Peak Link Capacity in York City Centre: Reference Case



4 Scenario 2 - A1237 Outer Ring Road Improvements

4.1 Introduction

The results from section 3 show that the ORR operates over capacity along many sections in the AM and PM peaks with the additional development traffic in 2031.

Previous study work has been undertaken to date by CoYC to ascertain the likely costs and benefits of dualling sections of the ORR. A study analysing Improvement Options was undertaken by Halcrow in 2005 and updated in 2008. The outcomes from this report are summarised here and provide a useful analysis of the dualling options available for the York ORR.

4.2 Outer Ring Road Improvement Options (Halcrow 2005 and 2008)

4.2.1 Overview

Halcrow have undertaken two transport studies of the A1237 York Outer Ring Road. The first study took place in 2005 and investigated existing transport problems and identified a strategy to resolve them including potential improvement measures. In 2008 Halcrow updated the study to include additional testing and analysis of 12 options. A summary of the 12 additional options, which include a Do Minimum option, are presented in the diagrams overleaf. The summary includes an estimated scheme cost and Benefit Cost Ratio (BCR).

The options are split into 5 main bands:

- Option A – Do Minimum;
- Option B – At grade junction improvements only;
- Option C – At grade junction improvements with dualling;
- Option D to H – At grade and grade separated junctions with dualling; and
- Option I – Relief Road to the north of the existing alignment.

The citywide SATURN traffic model and local PARAMICS micro-simulation model were used to assess the options. The modelling indicated that:

- The capacity of the junctions is the principal constraining factor on the capacity of the ring road.
- The links on the sections between Wetherby Road and Clifton Moor are projected to be over capacity with the York Northwest development.

The models indicated that sections of dual carriageway brought about key changes. The busiest section of the ORR was identified between Wetherby Road and Clifton Moor where the theoretical optimal capacity of the links is exceeded. The provision of dual carriageway sections between Wetherby Road and Clifton Moor were found to be beneficial in reducing journey times on the ring road.

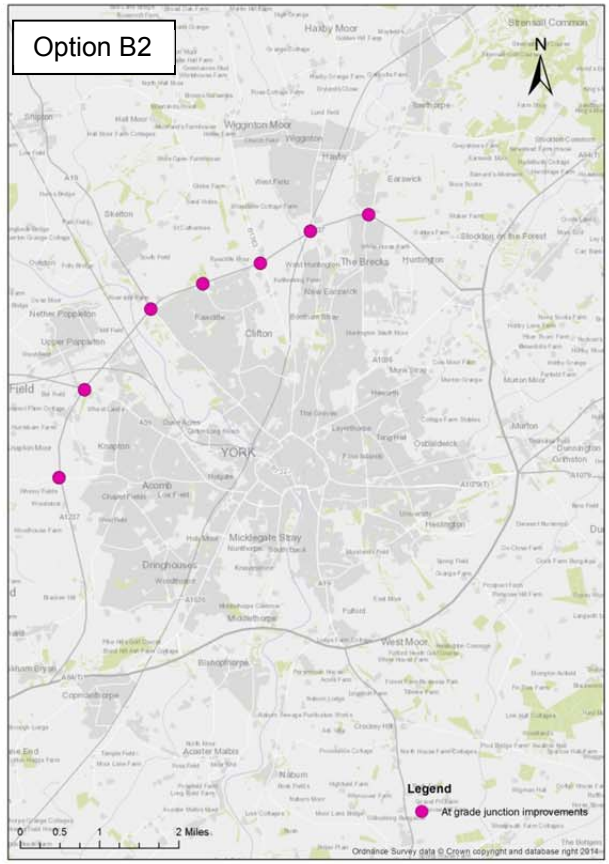
Option Description: Do Minimum (planned at grade improvements to A59 & Hopgrove & minor works at Wetherby Road, 3 new Park & Ride sites)

Option Description: Selected at grade improvements (all junctions from Wetherby Rd to Clifton Moor & Haxby Road)

2014 Outturn Scheme Cost (£K): £21,659

BCR: 4.40

Value for Money: High

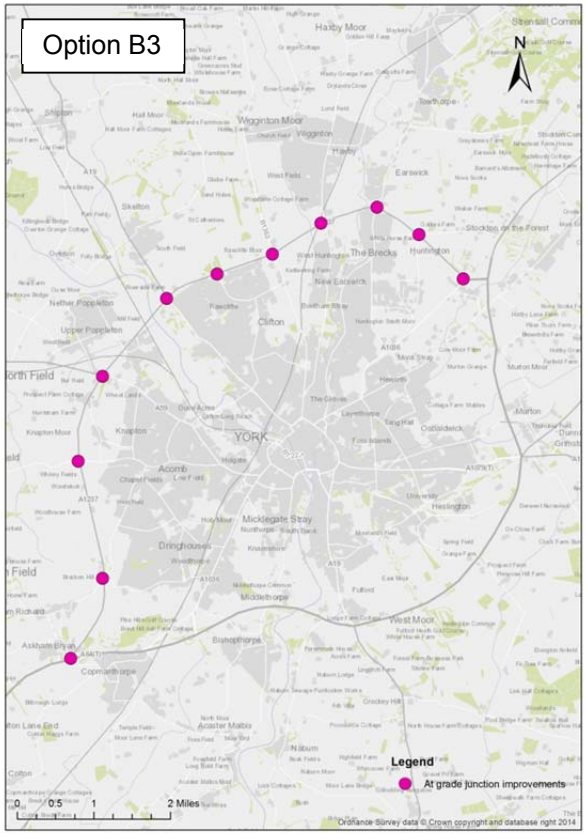


Option Description: Selected at grade improvements (all junctions from Wetherby Rd to Strensall Road)

2014 Outturn Scheme Cost (£K): £36,657

BCR: 2.60

Value for Money: High

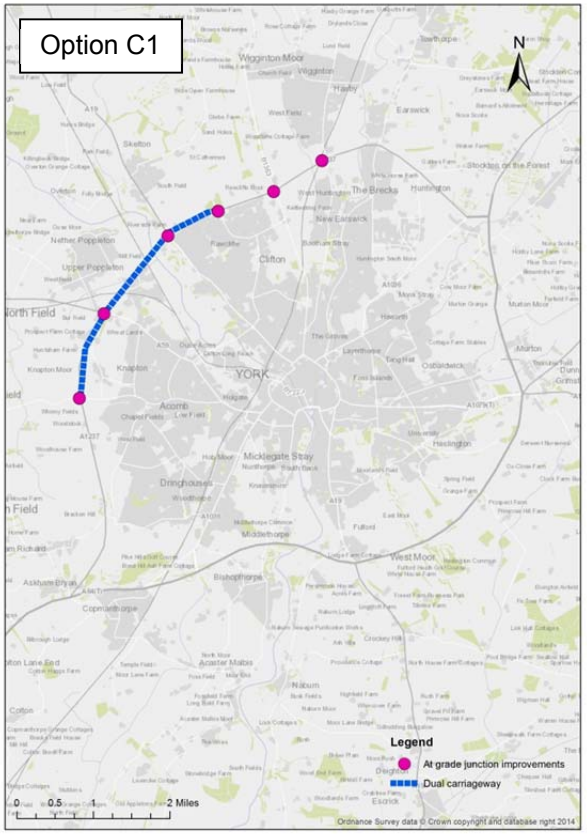


Option Description: At grade improvements at all junctions (Copmanthorpe to Hopgrove (HA Scheme))

2014 Outturn Scheme Cost (£K): £45,290

BCR: 2.32

Value for Money: High

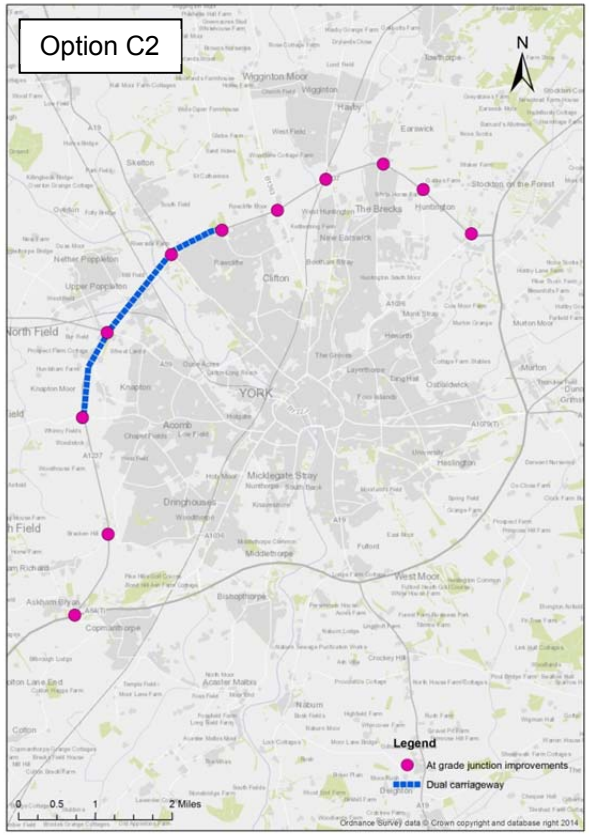


Option Description: At grade improvements (all junctions from Wetherby Rd to Strensall Rd) & dual carriageway Wetherby Rd to Clifton Moor

2014 Outturn Scheme Cost (£K): £61,654

BCR: 1.60

Value for Money: Medium

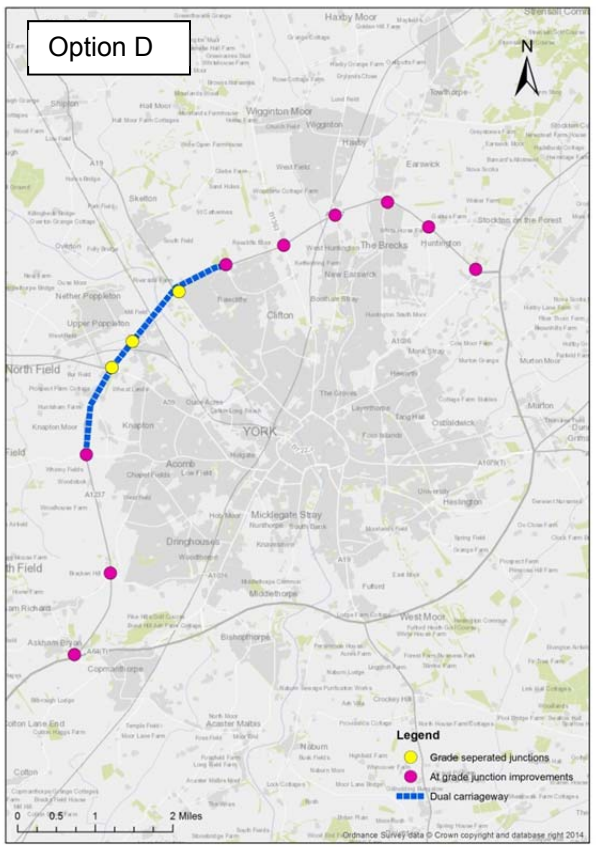


Option Description: At grade improvements at all junctions & dual carriageway Wetherby Rd to Clifton Moor

2014 Outturn Scheme Cost (£K): £70,287

BCR: 1.42

Value for Money: Low

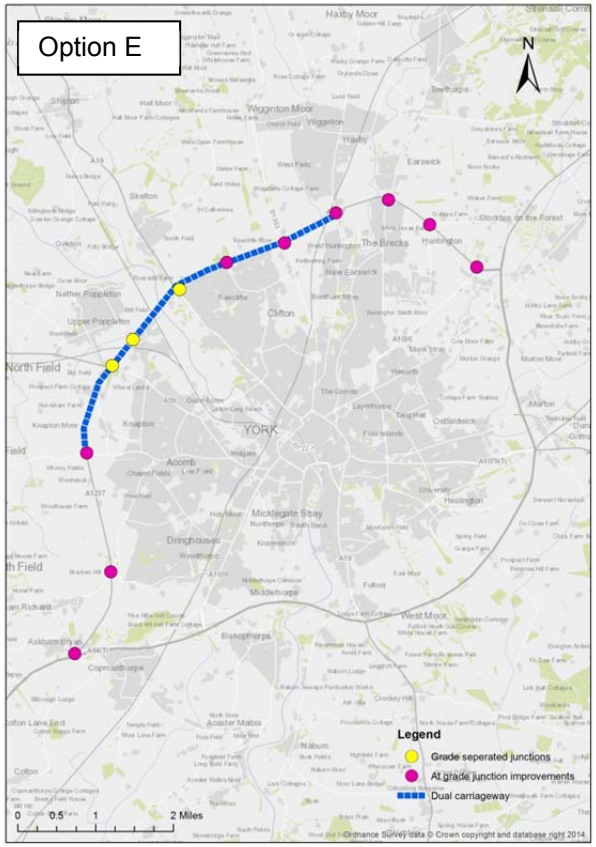


Option Description: Grade separated junctions from A59 to A19 & at grade improvements at all other junctions & dual carriageway Wetherby Rd to Clifton Moor.

2014 Outturn Scheme Cost (£K): £127,225

BCR: 0.90

Value for Money: Poor

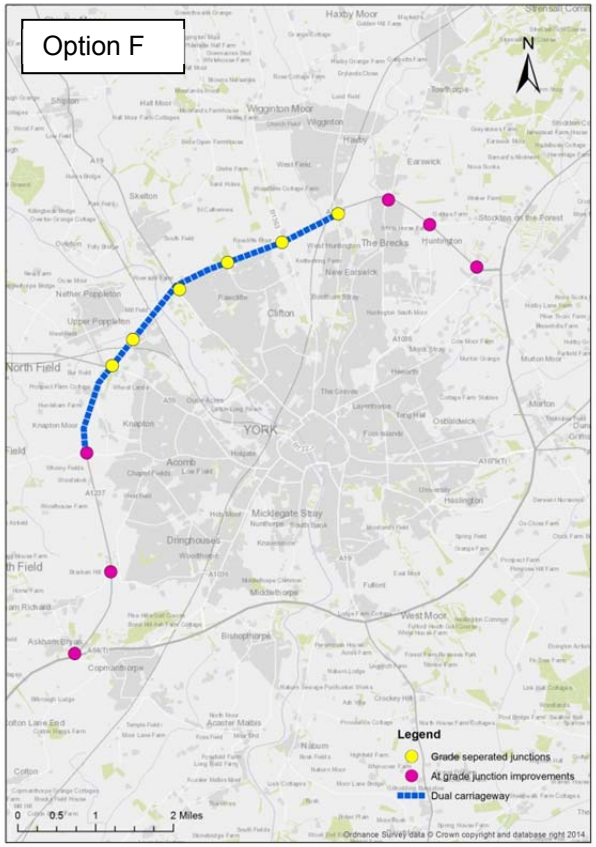


Option Description: Grade separated junctions from A59 to A19 & at grade improvements at all other junctions & dual carriageway Wetherby Rd to Haxby Rd.

2014 Outturn Scheme Cost (£K): £133,022

BCR: 0.92

Value for Money: Poor

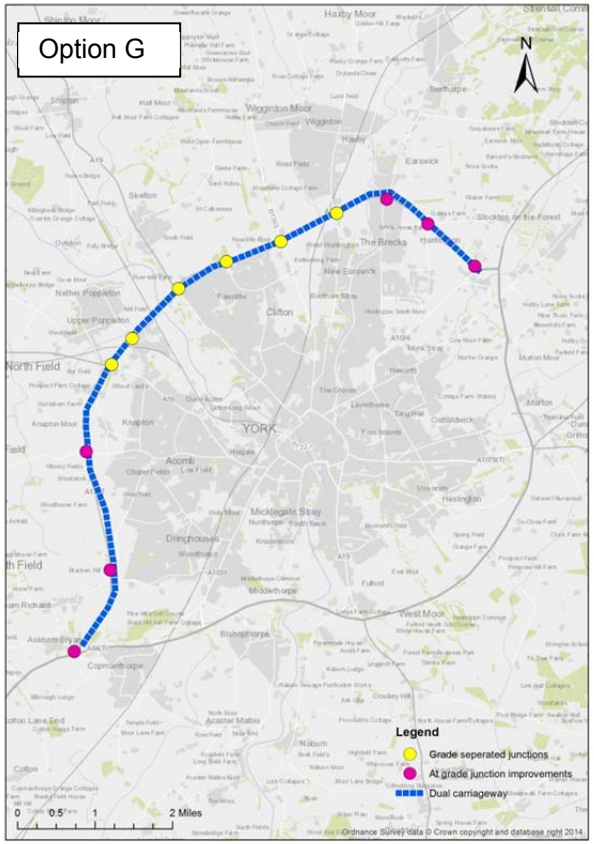


Option Description: Grade separated junctions from A59 to Haxby Rd& at grade improvements at all other junctions & dual carriageway Wetherby Rd to Haxby Rd.

2014 Outturn Scheme Cost (£K): £173,182

BCR: 0.67

Value for Money: Poor

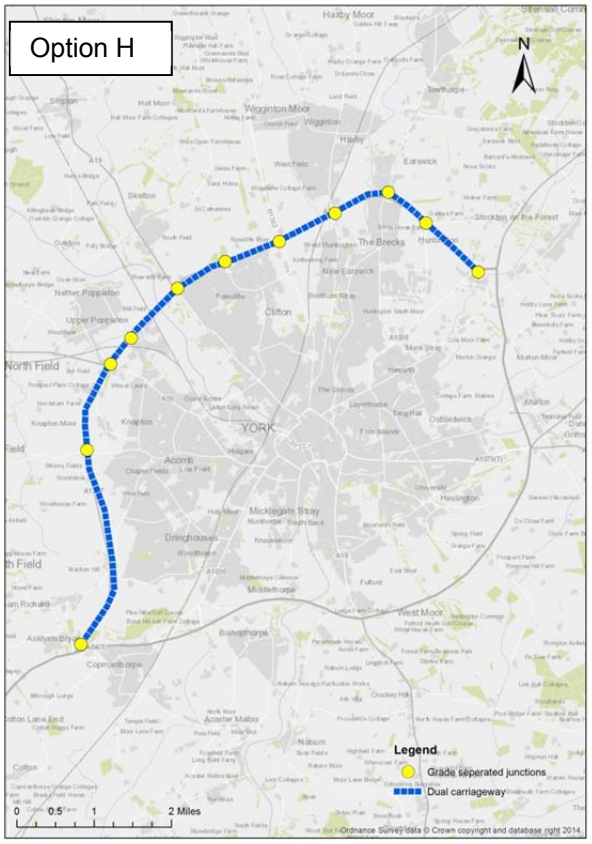


Option Description: Grade separated junctions from Wetherby Road to Haxby Road and grade improvements at all other junctions. Dual carriageway the entire length.

2014 Outturn Scheme Cost (£K): £208,856

BCR: 0.52

Value for Money: Poor

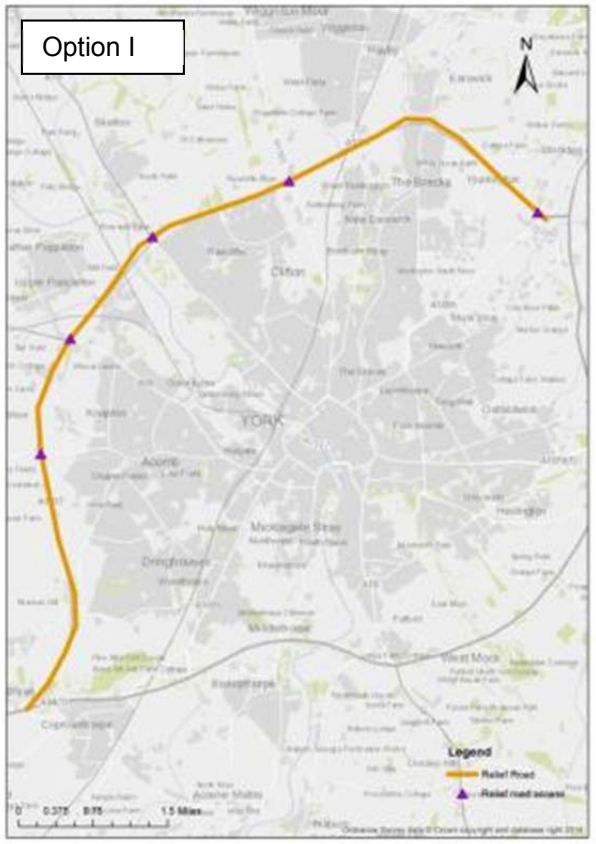


Option Description: Grade separated junctions and dual carriageway to entire length.

2014 Outturn Scheme Cost (£K): £264,884

BCR: 0.44

Value for Money: Poor



Option Description: Relief road Wetherby Rd to Hopgrove. Access to relief road at Wetherby Rd, A59, A19, Wigginton Rd, Hopgrove only.

2014 Outturn Scheme Cost (£K): £187,083

BCR: 0.01

Value for Money: Poor

4.2.2 Travel Time

Table 10 is taken from the Outer Ring Road Improvement Options report (2008) and shows the expected changes in journey time and speed during the AM peak hour. The table shows that travel time savings are predicted across all options when compared to the Do Minimum.

Table 10 – AM Peak Hour Travel Time

Options	Outer Ring Road			Citywide		
	Av Journey Time (mins)	Av Speed (mph)	Area Travel Time (hrs)	Travel Time (hrs)	Av Speed (mph)	Over Capacity Queues (hrs)
Base (existing)	19.0	31.6	1,089	6,432	22.3	269
Do Nothing (2021)	27.0	22.2	1,687	11,674	15.5	2,862
Option A	26.0	23.1	1,886	11,314	16.4	2,502
Option B1	24.0	25.0	1,256	11,091	16.7	2,531
Option B2	22.0	27.5	*(1,225)*	10,899	17.1	2,155
Option B3	21.5	27.9	1,190	10,851	17.2	2,143
Option C1	17.9	33.6	(1,200)	11,013	17.0	2,552
Option C2	17.5	34.3	1,257	10,976	17.0	2,531
Option D	17.5	34.3	1,168	10,064	18.4	1,666
Option E	15.5	38.7	1,115	9,970	18.6	1,582
Option F	14.5	41.4	1,154	9,661	19.0	1,366
Option G	12.0	50.0	1,186	9,397	19.6	1,274
Option H	11.0	54.5	1,140	9,381	19.5	1,301
Option I	17.0	35.3	1,875	10,005	18.9	1,668

4.2.3 Assessment of Costs

Halcrow produced an economic analysis and assessed scheme benefits relative to the costs. The benefits have been focussed on the travel time savings for the Outer Ring Road area. **Table 11** shows the outcome of the assessment. **Table 11** indicates that the at grade junction improvements represent the best value for money, with Option B1 providing the highest BCR. Option B1 only targets the most congested junctions and has a BCR of 4.4. Option B2 includes roundabout improvements and subways at Wigginton and Strensall Road. Option B2 is a high value scheme with additional benefits (addressing severance of local communities) relative to Option B1.

Option C includes at grade junction improvements and sections of dual carriageway and both options provide a BCR greater than 1.00, with C1 and C2 offering Medium and Low value for money respectively. Grade separated Options D-H provide the best journey time savings, however the options are expensive to construct and therefore are poor value for money. The options which include full dualling have a low / poor BCR and are therefore less likely to receive the necessary funding. Option C1, partial dualling, provides a medium level BCR.

Table 11 – Outer Ring Road Scheme Options Value for Money Appraisal

Options	Present Value of Transport Benefits (£k)	Present Value of Cost to Government (£k)	NPV (£k)	BCR	Value for Money
Option B1	69,272	15,734	53,537	4.40	High
Option B2	69,772	26,630	*42,641*	2.60	High
Option B3	76,450	32,928	43,521	2.32	High
Option C1	69,120	43,285	25,835	1.60	Medium
Option C2	69,120	48,580	20,540	1.42	Low
Option D	78,924	88,112	-9,187	0.90	Poor
Option E	84,753	92,418	-7,664	0.92	Poor
Option F	80,420	120,666	-40,246	0.67	Poor
Option G	76,880	148,168	-71,288	0.52	Poor
Option H	81,956	187,957	-106,001	0.44	Poor
Option I	1,203	131,252	-130,049	0.01	Poor

4.2.4 Outcome of the study

Halcrow recommended that Option B2 which includes selected at grade improvements between Wetherby Road to Strensall Road) was the emerging preferred solution of the study. The study suggested that options including grade separation are too expensive for the number of vehicles using the road and recommends that the most cost-effective options are those that target the most congested areas of the ORR.

4.2.5 Relevance and applicability of the study to the Local Plan

The Halcrow study provides insight into the likely costs and benefits of the ORR infrastructure schemes as at 2008. In light of the land use allocations identified in the emergent Local Plan, the study can be used as a high level understanding of the likely costs and benefits of the scheme. However, given the aspirational growth of employment and housing targets for York, the benefits of ORR schemes are likely to be much greater than previously stated.

4.2.6 Deliverability and Objections to Dualling

Significant structures for the dual carriageway options are likely to take up to 1-2 years to construct at each location. To minimise the traffic delays it would be proposed to undertake works to a limited number of sections at any one time and construction periods could range from 3-4 years for at grade roundabout options and 5-6 years for grade separated/dual options. A number of objections have been raised to dualling the A1237, and these are listed in **Table 12**.

Table 12 – Objections to A1237 Outer Ring Road Dualling

Ref No.	Respondent	Objection / Comment
1589/17578	Nether Poppleton Parish Council	Have reservations on the proposal to dual carriageway the A1237 as the land take to facilitate this will take up even more of the Green Belt reserved land.
1665/12997	York Environment Forum	Furthermore grade separation particularly at the B1363 Wigginton Rd junction of the outer ring road would conflict with the primary purpose of the Green Belt within which it is located to preserve the setting and special character of York.
6518/16443	York Green Party	
4648/11775	Individual	Objection – to the A1237 being turned into a dual carriage way outside Knapton. The main bottlenecks are from the roundabout at the A59 and the A1237 towards Clifton Moor and Monks Cross. Until this area and large sections of the A59 are turned into dual carriage way can see no reason for the section of the road near Knapton.
529/16682	Individual	Objection – page 48 of York Biodiversity Action Plan identifies the outer ring road as 'local wildlife corridor no. 12' which connects a number of Sites of Importance for Nature Conservation (SINCs). Widening the outer ring road to accommodate the new housing would obliterate this wildlife corridor.
835/16908	Individual	
6222/15770	Individual	Comment - due to noise and therefore health and safety reasons, would not agree having a dual carriageway built between the Wetherby Road and the A59. The noise level is already very high and it would increase even more if a dual carriageway is built along this road. Knapton's residents would also not be able to turn right on to the Outer Ring Road from the Main Street in Knapton. I believe it would be sufficient having a longer second lane built for driving towards the A59 turning left towards Harrogate.
6510/16291	Individual	Objection – a 'dualled' outer ring road with grade separation at the Rawcliffe roundabout would have a severe impact on the narrow band of green space between Skelton and Rawcliffe.
75/12757	Skelton Parish Council	A duelled ring road with grade separation at the Rawcliffe roundabout would have severe impacts on the narrow band of green space between Skelton and Rawcliffe. An upgraded ring road would create unacceptable risk on coalescence between Rawcliffe and Skelton.
2789/7395	Individual	Comment- an upgraded ring road would create an unacceptable risk of coalescence between Rawcliffe and Skelton.

4.3 Scenario 2 Results: Local Plan Option Testing (future year with Outer Ring Road Dualling Improvements)

4.3.1 Introduction

The results of the Local Plan modelling presented in Section 6 show that sections of the ORR operate over capacity in the AM and PM peak with the additional traffic. As a result, an additional scenario was modelled to include an upgraded A1237 alongside the Local Plan options and proposed mitigation measures modelled for 2031. This is termed **Scenario 2**.

The upgraded A1237 in this scenario consists of a dual carriageway section between the junction with the A64 at Copmanthorpe and the junction with the A64 at Hopgrove, with at grade roundabout junctions in between.

This Section presents the differences between the 2031 model with mitigation (the Reference Case) and the 2031 model with mitigation and ORR improvements and concludes with likely areas that should be targeted for improvement.

4.3.2 Peak Hour Flow Changes

In the AM peak, **Figure 16** shows that increasing the capacity of the A1237 increases the traffic flow, most notably between the Moor Lane junction and the North Lane junction. The improved A1237 also offers an alternative route to the A64 with reductions in traffic shown along the length of the A64, but notably on the sections between the Hull Road and Copmanthorpe junctions.

There is also a reduction in traffic on the A59 Boroughbridge Road and Askham Lane and increases on B1224 Wetherby Road, suggesting that traffic is using a more direct route to the ORR with the increase in capacity.

In the PM peak, **Figure 17** shows a similar result with traffic increases on the ORR between the A59 junction and Hopgrove. Again there are reductions in traffic on the A64 between the Hull Road and Copmanthorpe junctions, but increases between Hull Road and Hopgrove.

There are further decreases in traffic on radial routes, with decreases in flow on Water End and A19 Shipton Road showing that traffic is instead routing via B1224 Wetherby Road and the ORR. Additionally, decreases can be seen on Haxby Road, Strensall Road and North Lane on the approaches to the ORR and on Huntington Road.

In both the AM and PM peaks, **Figure 18** and **Figure 19** demonstrate that improvements to the ORR have a relatively minor impact on the IRR and roads in central York. A decrease in flow is evident in both peaks on the A59 towards its junction with the IRR.

Figure 16 – AM Peak Flow Difference Plots: 2031 Reference Case 2031 Do Something

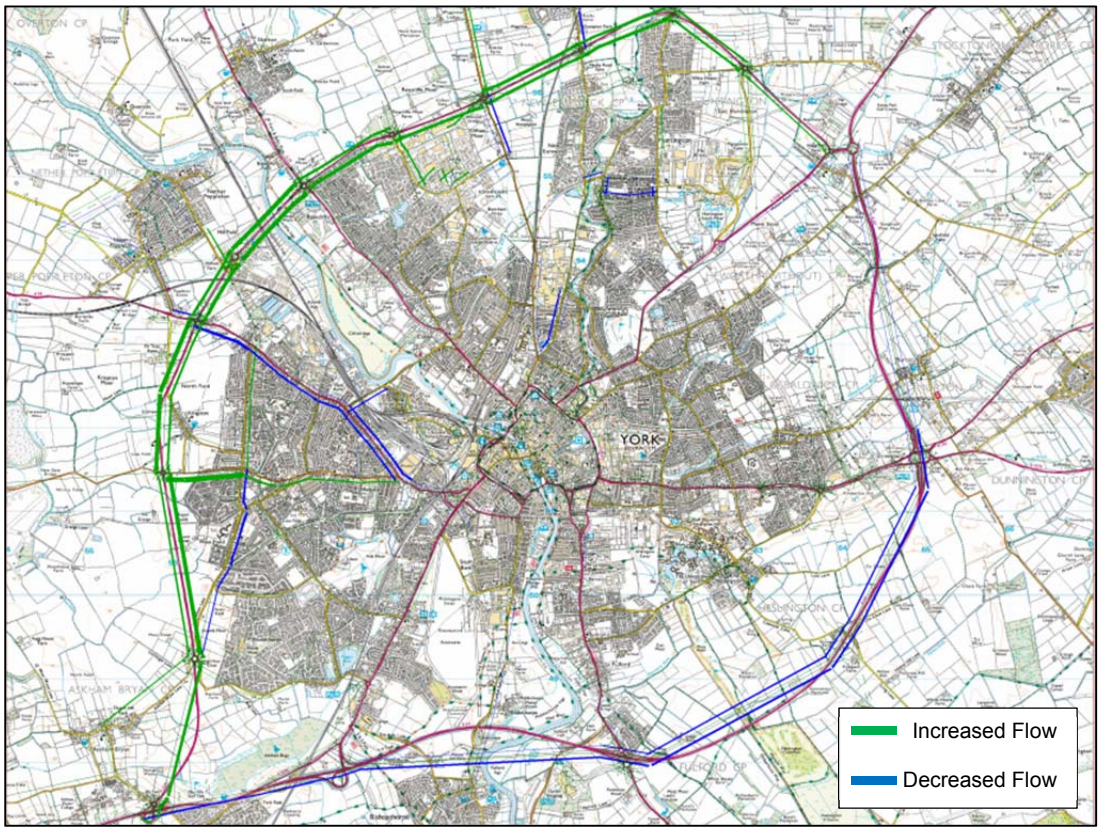


Figure 17 – PM Peak Flow Difference Plots: 2031 Reference Case and 2031 Do Something

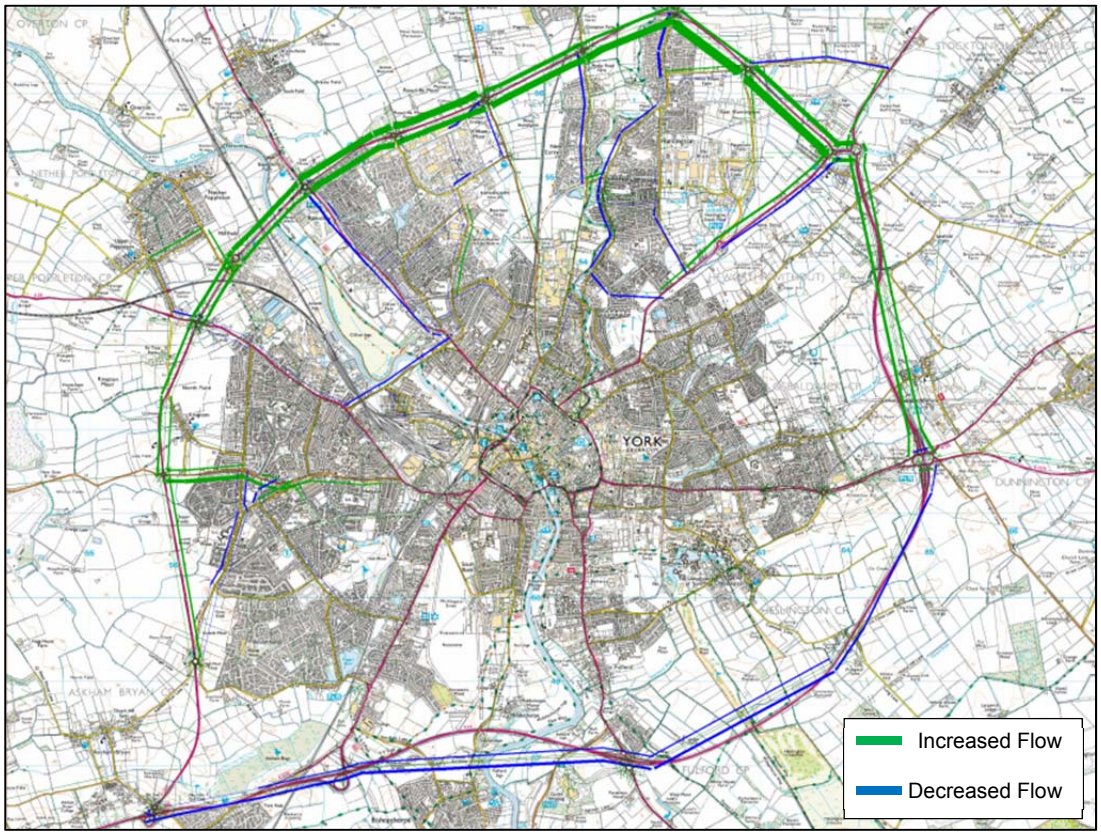


Figure 18 – AM Peak Flow Difference Plots: 2031 Reference Case and 2031 Do Something (York City Centre)

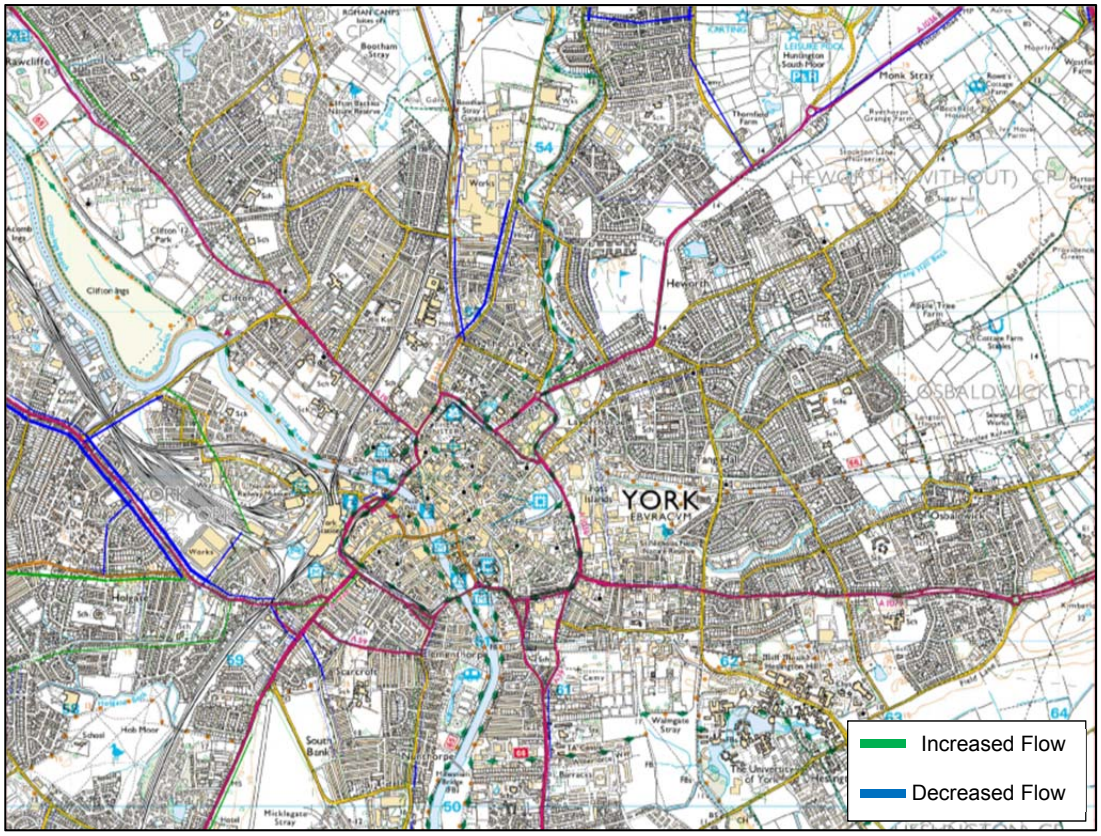
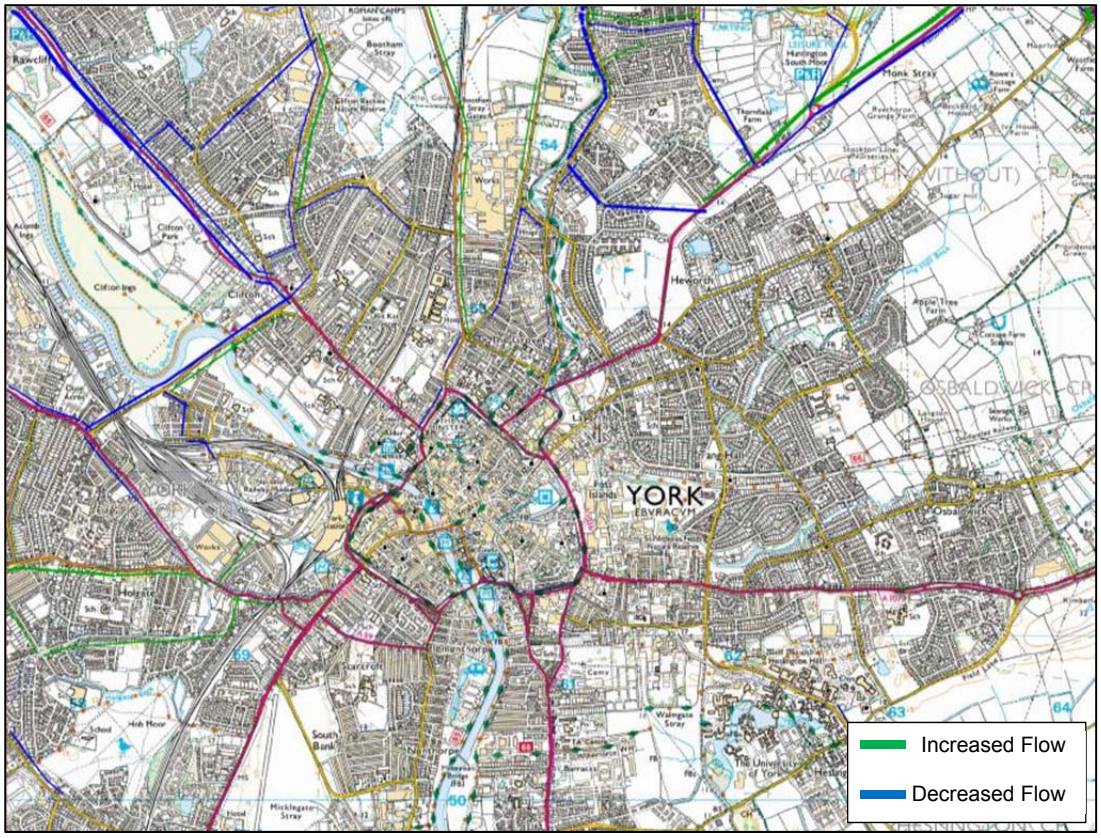


Figure 19 – PM Peak Flow Difference Plots: 2031 Reference Case and 2031 Do Something Dualling (York City Centre)



4.3.3 Capacity

The AM peak model networks were analysed by assessing the ratio of volume to capacity (V/C) on links. Links with a ratio of 85% or higher were highlighted and the differences between the non dualled and dualled A1237 compared.

The dualled A1237 greatly improves V/C on the northern section of the ORR between Wetherby Road and North Road, but does little to change the impact within the city centre. These impacts in the AM peak are shown in **Figure 20** and **Figure 21**.

With the dualling scheme in place, the approaches to Haxby Road and the A59 junctions operate over capacity. This is likely due to insufficient capacity at the junctions causing vehicles to block back onto the link, reducing the effective capacity.

Figure 20 – 2031 AM Peak Link Capacity: Do Something

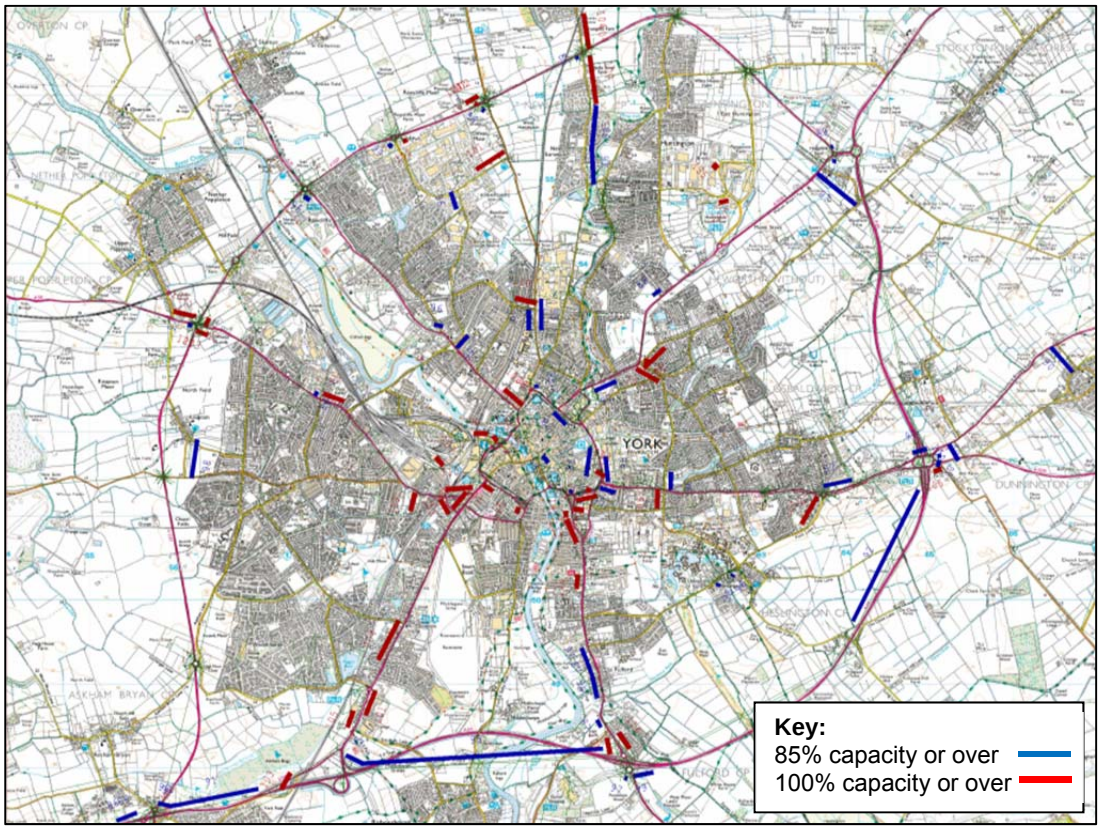
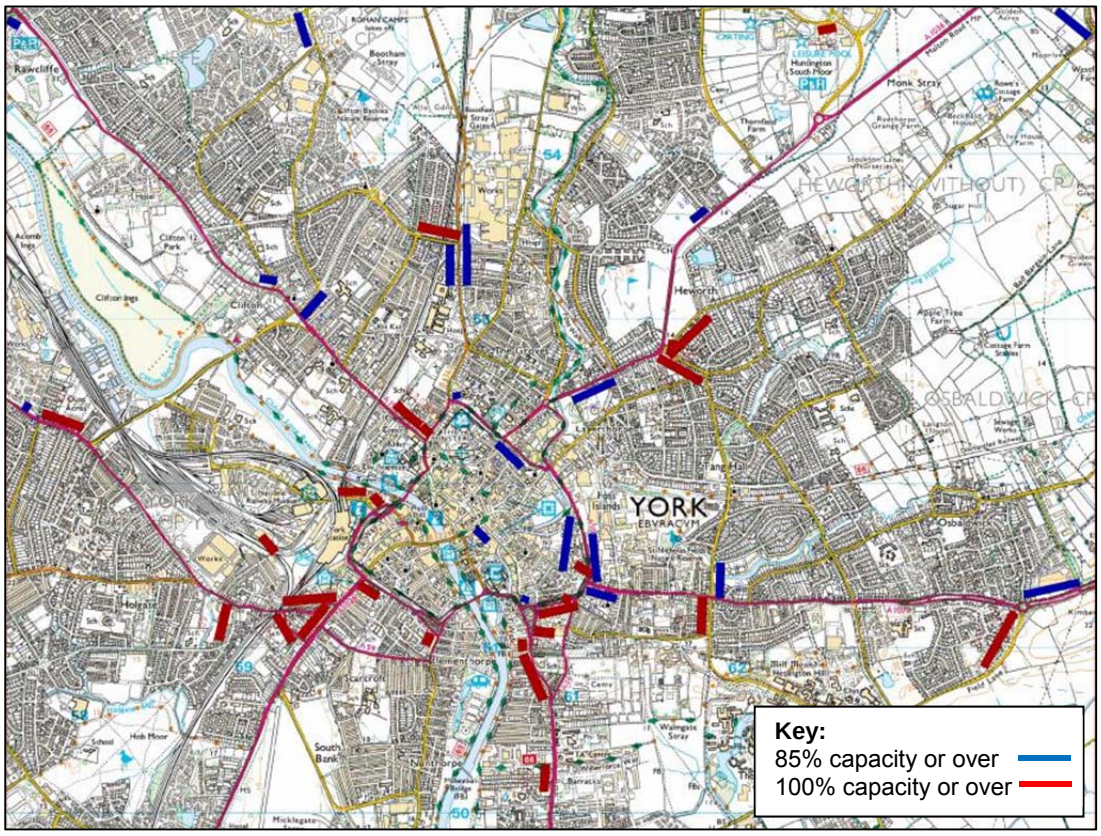


Figure 21 – 2031 AM Peak Link Capacity in York City Centre: Do Something



In the PM peak, the dualled A1237 greatly improves V/C on the northern section of the ORR between Wetherby Road and North Road, but anticlockwise between Strensall Road and Haxby Road still operates over capacity. This is likely due to insufficient capacity at the junctions causing vehicles to block back onto the link, reducing the effective capacity.

These impacts in the PM peak are shown in **Figure 22** and **Figure 23**.

The ORR dualling scheme does little to change the impact within the city centre with many links on the IRR continuing to operate over capacity.

Figure 22 – 2031 PM Peak Link Capacity: Do Something

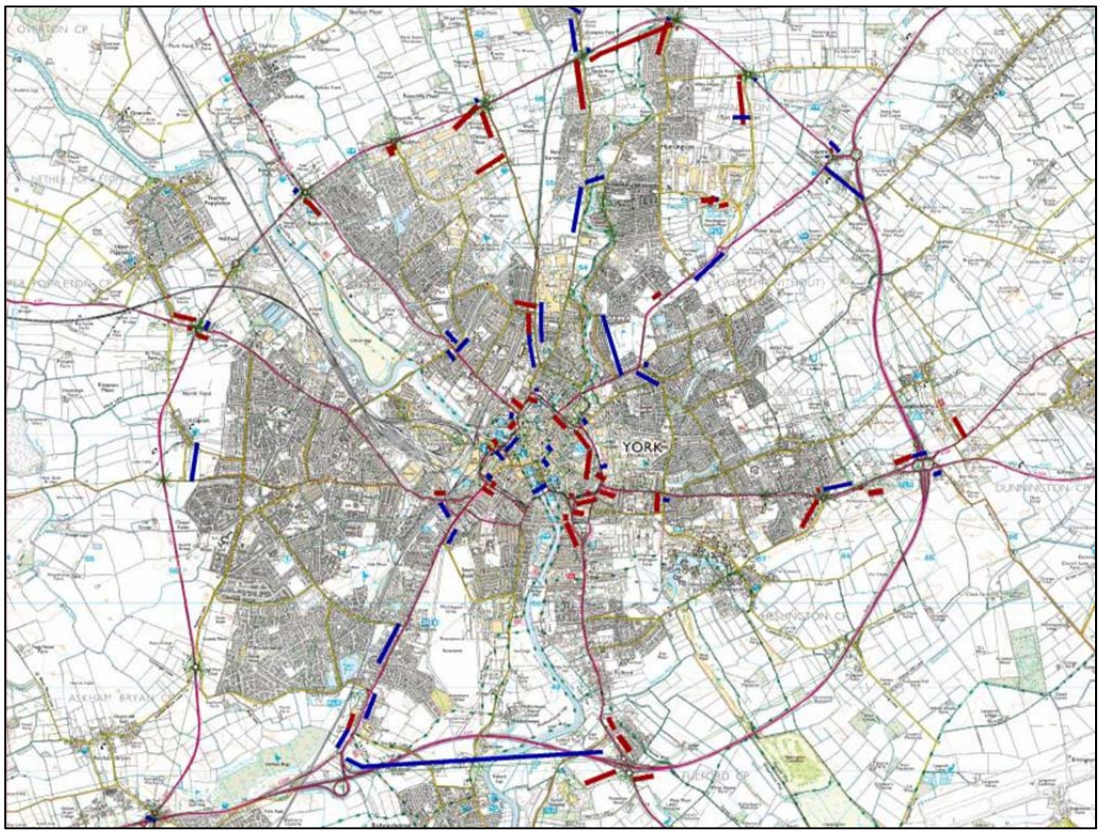
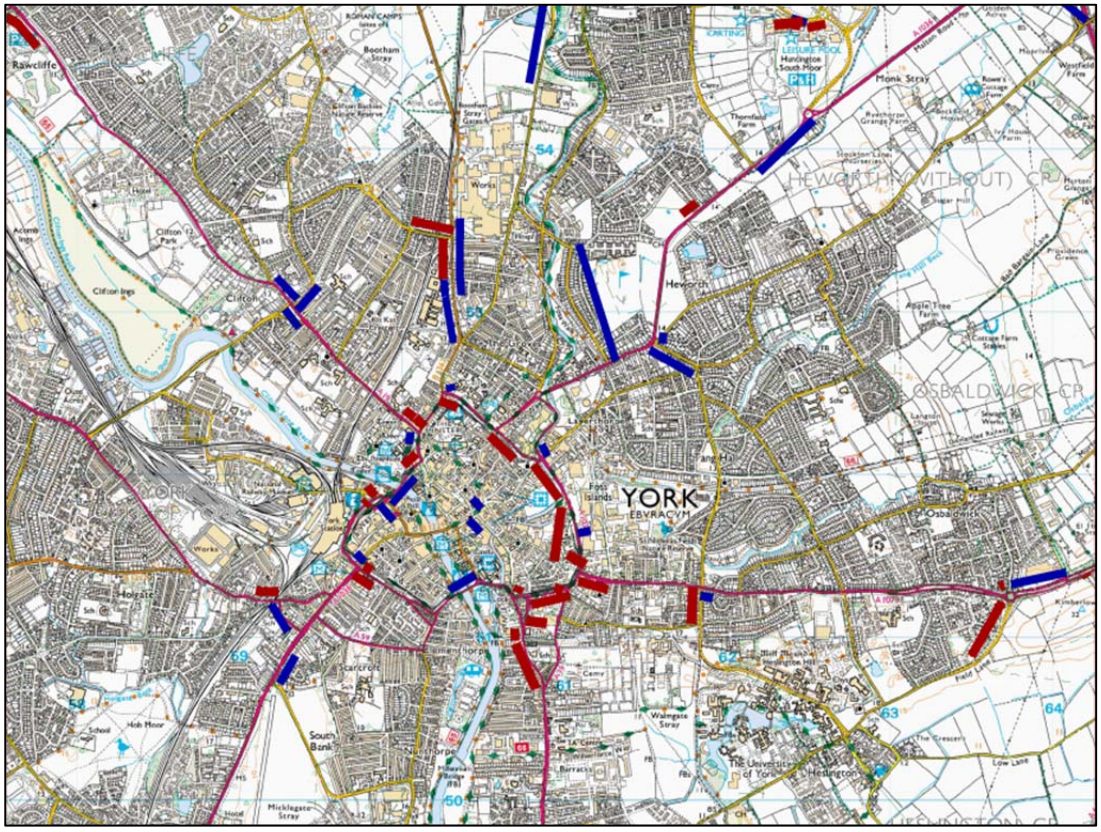


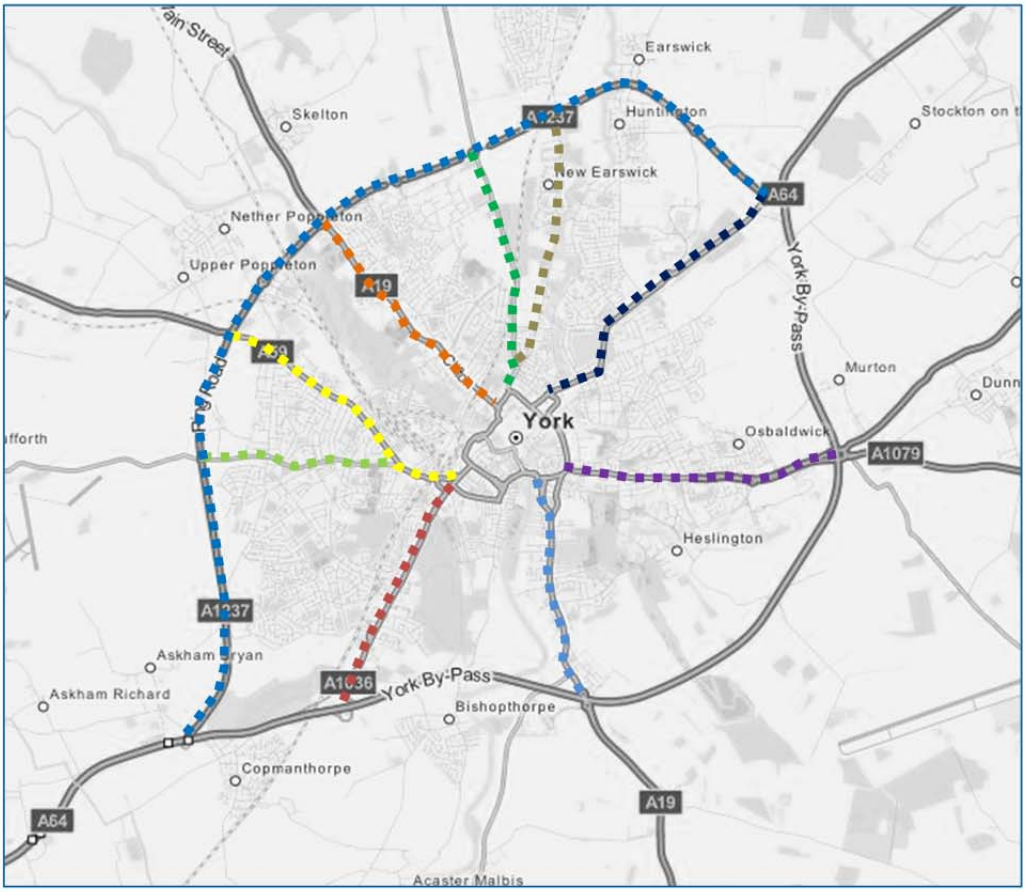
Figure 23 – 2031 PM Peak Link Capacity in York City Centre: Do Something



4.4 Comparison between Modelled Scenarios 1 & 2

Figure 24 shows the impacts on Journey Times on key transport corridors in York in 2031 and a comparison against the base case (2011).

Figure 24 Journey Time Impacts of the Local Plan for Scenarios 1 and 2



Link Speed Analysis - Inbound	Base 2010 Speed (km/hr)		Scenario 1 (Single) Speed Difference		Scenario 2 (Dual) Speed Difference	
	AM	PM	AM	PM	AM	PM
A1036 Tadcaster Road	17.7	25.3	-24%	-17%	-18%	-15%
A19 Fulford Road	24.8	37.7	-10%	-5%	-10%	-5%
A1079 Hull Road	30.3	35.4	-25%	-13%	-20%	-14%
A1036 Malton Road	38.4	39	-19%	-10%	-18%	-9%
B1363 Wigginton Road	38.7	42.5	-3%	0%	-2%	-3%
A19 Bootham / Shipton	26.3	27	-5%	-7%	-7%	-1%
A59 Poppleton / Boroughbridge	28.2	32.4	-9%	-21%	-17%	-27%
B1224 York / Wetherby	45.3	46.7	-9%	-10%	-9%	-10%
Haxby Road	25.9	29.8	-6%	-1%	-13%	-7%
A1237 Clockwise	43.6	33.5	-19%	-4%	-5%	30%
A1237 Anticlockwise	45.6	36	-3%	-4%	19%	44%

Journey Time Analysis - Inbound	Base 2010 Journey Time (Mins)		Scenario 1 (Single) Journey Time Difference		Scenario 2 (Dual) Journey Time Difference	
	AM	PM	AM	PM	AM	PM
A1036 Tadcaster Road	16.2	11.33	33%	19%	22%	18%
A19 Fulford Road	20.31	13.35	9%	3%	9%	3%
A1079 Hull Road	16.95	14.5	33%	17%	25%	20%
A1036 Malton Road	7.49	7.39	23%	11%	23%	10%
B1363 Wigginton Road	13.28	12.09	3%	-1%	2%	3%
A19 Bootham / Shipton	12.1	11.78	5%	7%	7%	2%
A59 Poppleton / Boroughbridge	19.91	17.37	9%	26%	19%	37%
B1224 York / Wetherby	7.87	7.63	10%	10%	10%	11%
Haxby Road	12.95	11.28	6%	1%	15%	7%
A1237 Clockwise	23.5	30.56	24%	3%	5%	-23%
A1237 Anticlockwise	22.97	29.13	2%	3%	-17%	-31%

Figure 24 highlights those corridors which are likely to experience a material increase in Journey Time in Red (>15%), those with a moderate increase in Orange (0-15%), and those with improved journey times in Green (<0%).

For **Scenario 1** the most impacted corridors are:

- A1036 Tadcaster Road (19-33% increase)
- A1079 Hull Road (17-33% increase)
- A1036 Malton Road (10-19% increase)
- A59 Poppleton Road (9-21% increase)
- A1237 Clockwise (4-19% increase)

For **Scenario 2**, the most impacted corridors are:

- A1036 Tadcaster Road (15-18% increase)
- A1079 Hull Road (14-20% increase)
- A1036 Malton Road (9-18% increase)
- A59 Poppleton Road (17-27% increase)
- A1237 Clockwise (4-19% increase)

The impact of dualling in Scenario 2 improves the A1237 journey times in comparison with the Base 2010 for the PM in both clockwise and anticlockwise directions. In the AM, improvements in journey times are experienced anticlockwise, however, dualling does not improve the journey time clockwise against the base. Further interrogation reveals there are two main reasons for this, 1) significant increases in traffic flow on the ORR in 2031 compared with the base 2010 and 2) some junctions on the A1237 require further upgrades over and above that modelled in Scenario 1 to unblock traffic from the dualled carriageway.

4.5 Conclusions

The results of the Local Plan modelling presented in Chapter 3 and Chapter 4 show that sections of the ORR are forecast to operate over capacity in 2031 and that further improvements over-and-bove the junction improvements on the ORR tested in Scenario 1 are required. **The results from this Chapter show that dualling the A1237 provides an option to increase the network capacity and reduce congestion.**

The results from Scenario 1 show that the most congested section in 2031 is between Wetherby Road and North Lane, with the sections between Great North Way and Clifton Moor Gate the worst performing and the likely target for remedial work.

Scenario 2 modelling indicates that dualling of the A1237 will relieve the worst congested sections between Wetherby Road and North Lane and that the remaining sections will continue to be less congested relative to this section. This suggests that at the very least the Section of the A1237 from Wetherby Road to North Lane should be dualled. However, the increase in cost to extend the dualling to incorporate the full length of the A1237 is likely to be relatively small in comparison to the cost of upgrading the section from Wetherby Road to North Lane. Therefore, full daulling the A1237 is warranted to 'futureproof' it and provide a more cost effective and less disruptive package overall, which provides additional network benefits.

Some sections of the A1237 also show congestion in 2031 in the AM and PM peaks despite the dualling in Scenario 2. This is a result of junction constraints along these sections and further work may be required to provide sufficient junction capacity to fully realise the benefits of dualling.

5 Sustainable Transport Infrastructure

5.1 Sustainable Transport Choices

Sections 3 and 4 of this document have outlined the potential vehicular impacts of the Local Plan growth aspirations on the Highway Network in 2031 and a number of schemes have been identified to help alleviate capacity constraints on the network which will help to reduce overall congestion in York. These targeted highway improvements will help unlock economic and housing growth in York.

The continued dominance of the private car, often at the expense of other modes, presents a major challenge to the objective of sustainable development. However, the city is fortunate in having many advantages, such as a compact urban area, flat terrain and high levels of existing sustainable transport measures, for enabling sustainable travel to be a realistic option for a large proportion of its residents.

However, simply increasing road capacity to meet growth is not desirable, nor does it meet wider reaching transport objectives. A balanced approach of highway improvements, targeted at the severest bottlenecks, measures to reduce the reliance on the private car and providing people with travel choices, including public transport improvements, will support the sustainable development of the Local Plan.

5.2 York Transport Modal Share Profile

Population: 198,000 (Office for National Statistics, 2011)

Modal Share: **Table 13** shows the journey to work data from the 2011 Census (excluding the unemployed). From the table it can be seen that, compared to Yorkshire and the Humber and England, York:

- Has a lower car/van/taxi/motorcycle mode share;
- has a relatively high number of trips made by sustainable modes, (more than twice the proportion of walking and cycling trips), and
- has a lower public transport mode share.

It should be noted that Table 13 refers to public transport overall (including rail) which may not accurately reflect bus use in York and the role of Park & Ride as part of bus travel in York

Table 13 – Modal Share in York

Mode	York (UA)	Yorkshire and the Humber	England
Car / Van / Taxi / Motorcycle	52%	66%	60%
Public Transport	10%	11%	16%
Walk / Bicycle	29%	13%	13%
Work from home	9%	9%	10%
Other	0%	0%	0%

Source (Census 2011)

5.3 Influences on Trip Rates and Engagement with Strategic Site Developers

5.3.1 Key Principles of Sustainable Transport

It has long been recognised that the geography of a certain development and the policies that are in place for the local and regional transport network can have a major influence on

the type of trip a person makes, the mode of transport and the time of day the trip is made.

There is a wide range of empirical research on the design and location of new housing and how it influences people's travel patterns. The main factors that affect travel patterns are:

- Location
- Density of development
- Local facilities and Jobs
- Street layout and design
- Public transport quality and proximity
- Car parking
- Car movement restraint
- Smart travel behaviour programmes

The *Sustainable Masterplanning Checklist* (*Campaign for Better Transport 2008*) summarises the most important aspects of reducing trips associated with the private car and these are presented in **Table 14**.

Table 14 – Sustainable Masterplanning Checklist

Influencing Factor	Descriptive Features
Location of new developments	• Not close to motorways, or high-speed dual carriageway roads • Within walking distance of major public transport links • Adjacent to or within urban centres rather than smaller freestanding towns
Density of development	• New developments should be built to high density levels with a minimum net density of 100 dwellings per hectare • Developments in locations close to excellent public transport should be built to net densities above 200 dwellings per hectare
Local facilities and jobs	• Residential developments should include or be closely associated with facilities that are used on an 'every day' basis – i.e. shop selling food and fresh groceries, newsagent, open space with children's play area, post office and cash point, creche/ nursery and primary school, eating and drinking places, supermarket, and secondary school • Larger residential developments should also include or be close to facilities which can capture a large proportion of trips locally – i.e. medical centre, chemist, community centre • Residential developments should include or be close to as wide a range of shops and facilities as possible • The local centre with shops and facilities should be within walking distance of all residences - 800m • Local centres should be pedestrian and cycle access only, so far as possible • Employment planned in association with the development should be able to source the required staff from within a 30 minute travel time catchment on public transport, plus walking and cycling distance around the site • Employment planned in association with the development should include many jobs that can easily be filled from a local pool of unskilled or semi-skilled labour • Car access to planned employment sites and local shopping centres should be more expensive, less convenient, and less rapid in comparison to access by public transport, bike or walking
Street layout and design	• Filtered permeability should be fundamental to the plan

	• Low speed limits (20mph maximum) throughout the estate area • Home zone street design for all residential streets • A network of safe cycling and pedestrian routes • Pedestrianised local centres with cycle access • People-centred attractive street design • Cycle storage at local destinations
Public transport	• Public-transport centred development, based on high quality public transport providing rapid connections to the nearest major centre of employment and major urban facilities. • Sites which currently have poor public transport should not be developed until public transport has been improved. • Dedicated public transport routeways for large developments • 800m maximum distance from residences to the main public transport hub • Direct high quality pedestrian and cycle links to public transport • Cycle storage at transport hubs • Minimal car parking at transport hubs
Parking	• Set parking standards as maxima (definitely not minima) at less than 0.5 spaces per unit i.e. at least 50% of residential units should in effect be 'car-free' • Segregate parking from homes in new residential developments • A high proportion of housing should be car-free and have no dedicated parking space • Residents should be charged the full cost of parking provision • Limited parking at local facilities and shops, all with a parking fee
Restraint to car movement	• Design developments so that other modes are faster and more convenient than the car
Smart travel behaviour change programmes	• Residential travel plan, operative during first marketing of a development, then ongoing • Ongoing finance to employ a travel plan coordinator • Travel plans for local schools and local employers • Car club, up and running before residents move in • Restricted parking

5.3.2 European Best Practice

There are a number of exemplary European examples of sustainable cities and urban settlements outside the UK:

- Freiburg, Germany
- HafenCity, Germany
- Kronsberg, Germany
- Hammarby Sjöstad, Sweden
- Houten, Netherlands
- Amersfoot, Netherlands
- Copenhagen, Denmark
- Adamstown, Ireland

Successful new communities in Europe, as those listed above, have excellent connectivity,

linked to thriving urban conurbations. There is often a choice of jobs within half an hour's travel by good public transport, plus primacy for walking and cycling within the new settlement.

- The integration of transportation and land use planning is at the heart of the planning process.
- Fare structures are integrated, zone based and easy to understand.
- Bicycle prioritisation with segregated cycle lanes, bicycle tunnels and bridges built under and over ring roads.
- Educational programmes, teaching children from a young age about the health benefits of active travel.
- Car free city centres, where cars are banned from the city centre and are restricted in new developments to reduce car dependency.
- Improved access to public transport, with maximum walking distances to bus stops from every house.
- Integration of public transport and non-motorised transport, such as bike rental systems outside bus and rail stations.

In York, sustainable growth and good connectivity will be achieved by following these key principles:

- Choosing the right locations which have ready access to jobs, education and services.
- Draw on the strengths of existing conurbations and add to them, rather than draw resources away from them.
- Build on or add to infrastructure such as rail and bus routes rather than starting from scratch.
- Working with developers, particularly in relation to the Strategic Sites, to engender a 'minimise trip generation and then mitigate residual trips' approach.

5.3.3 iTravel York

The City of York already runs the pioneering iTravel York sustainable transport programme which is recognised by the Department for Transport as an exemplar of sustainable transport policy and delivery. This follows-on from the pioneering 'Footstreets', award winning Park & Ride, the Cycling City Programme and, more recently, the achievements made possible through the LSTF 2011-15 iTravel York programme.

iTravel York aims to reduce traffic congestion, improve the local environment and enhance the city's prosperity and growth by increasing the residents travel choices through travel planning and infrastructure changes. Some of the tools that are available to the public include:

- Walk Planner
- Bike Ride Planner
- Cycle Training
- Bus Information
- Park and Ride Options and Fares
- Car Sharing & Parking

- Electric Vehicles and Charging Points

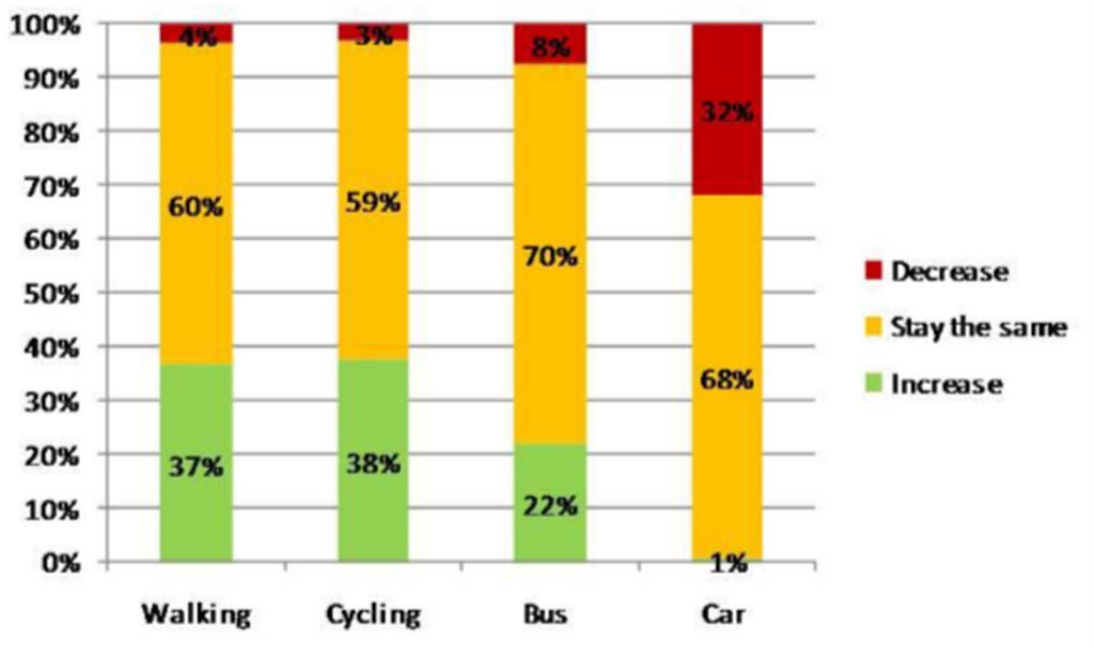
The programme has recently been awarded £1m (July 2014) to continue with the programme and the following workstreams.

- Business engagement
- Personal travel planning
- Marketing and communications
- Public transport initiatives
- Schools engagement
- Health and active leisure
- Infrastructure improvements
- Alternative fuel vehicles

5.3.4 Success of Behavioral Change Measures

The iTravel 2013 Interim Monitoring and Evaluation Report presents results of changes in travel patterns since the initiative was introduced in 2012. Results have demonstrated a favourable outcome for the initiative which reveals that a number of people are changing their mode of transport as a result of the iTravel interventions. Figure 25 presents the results from a survey of 197 people who have taken part in the initiative.

Figure 25 - Self Reported Change in Travel Behaviour as a result of York PTP



Source: iTravel York Interim Monitoring and Evaluation Report 2013

These results demonstrate that local sustainable transport initiatives have positive effects on changing travel behaviour and reduce the reliance on the private car. These initiatives will continue to be promoted and, over a larger geographical coverage, to provide a better offer of travel by sustainable transport to the public

5.3.5 Developer Engagement in Sustainable Transport

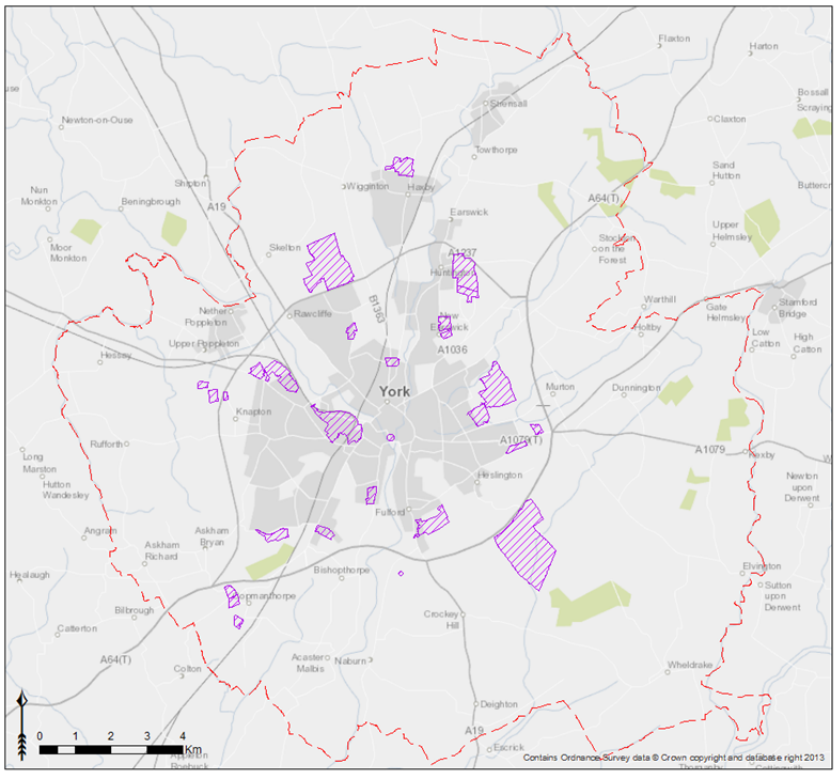
Set within the principles of sustainable transport and drawing on the exemplary European best practice outlined above, CoYC and Parsons Brinckerhoff are liaising with Strategic

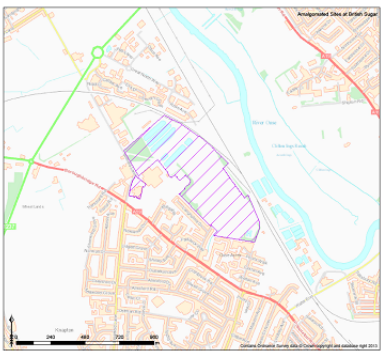
Housing promoters identified in the Local Plan to offer advice and best practice relating to the transport aspects and implications of their new development.

Throughout this engagement process, we have been able offer advice on the approach to masterplanning, informing developers of the key influences on trip productions and transport mode choice and provide an understanding of the implications, both positive and negative, of the impact of new developments on the local and wider transport network.

Below is an extract from the site profiling work which we has been undertaking for each of the strategic sites in which we have analysed a series of accessibility indicators and provided a rating of their score to discuss with developers. Where there are clear deficiencies of existing facilities and connecting transport links, this is conveyed during developer discussions to allow them to improve their offer of transport solutions to the end user.

Figure 26 – Site Profiling of the Connectivity and Accessibility of a Strategic Site





PARSONS BRINCKERHOFF / CITY OF YORK COUNCIL	Amalgomated Sites at British Sugar
Access onto key corridors	Within 1km
Corridor Name	A59
Congestion levels for the majority of links within 500m	<30 mph
Congestion levels for the majority of links within 2500m	<20 mph
Accidents clusters within 500m	Two Or More
Accidents clusters within 2500m	Two or more
Proximity to existing bus stopping points	within 300m
Frequency of existing bus services (if within 400m)	<15 mins
Proximity to existing rail station	Over 1500m
Frequency of existing rail services	<30 mins
Proximity of development site to existing cycle networks	<50m
Distance to nearest services and facilities	<400m
Distance to nearest District Centres	<2km
Distance to nearest school	<400m
Distance to nearest employment concentration	<1km
Proximity to Disused PT Facilities	<250m

To further assist in the engagement process, CoYC have produced a Transport Assessment checklist which is used during the engagement process with developers for the Local Plan consultation process and provides developers with guidance on how to achieve sustainable transport targets. The checklist also provides a consistent approach to transport masterplanning across the entire city and is compatible with the 'minimise trips first' approach discussed above. The outline of this checklist is provided in **Table 15**.

Table 15 – Strategic Sites Transport Assessment Checklist

Section	Requirement
Proposed Development	• Site Location
	• Historical context
	• Scale of development
	• Supporting Transport Infrastructure
	• Parking Provision
	• Provision for non-motorised users
Policy Framework	• To review relevant national and local policy
Existing Conditions	• Description of existing transport infrastructure
	• Review of traffic collision data
Future Conditions	• Committed Development
	• Traffic Growth
Assessment Methodology	• Area of Assessment
	• Time Periods and Years
	• Traffic Data
	• Trip Generation
	• Consideration of Sustainable Transport Measures
	• Trip Distribution
	• Junction or Network Assessments
Base Year, Do Nothing and Do Something Junction Assessments	• Modelling of transport network identified for further assessment
Mitigation	• Review of any mitigation required to address issues identified in the assessment
	• Stage 1 Road Safety Audit
	• Proposed funding mechanisms
	• Travel Plan
Engagement with Highways Agency	• Where development traffic impacts upon the Strategic Road Network
Monitoring	• Monitoring Strategy

Through this engagement we have been able to ensure that sustainable transport measures are at the forefront of the masterplanning exercise and that the predicted impacts of the additional forecasted trips in the 2031 transport model can be further reduced to limit the congestion these trips are likely to create, particularly in the City Centre where the Inner Relief Road has been identified as at or close to capacity in the 2031 Scenarios.

5.4 Local Plan Sustainable Transport Measures

As part of this Local Plan Transport Infrastructure Investment Requirements Study, we have established the need for strategic road infrastructure schemes through the transport modelling process (See Section 3 & 4). However, there is also clearly a need for a number of complimentary sustainable infrastructure and policy initiatives to allow for the sustainable growth of York and to provide travel choices to people to limit reliance on the private car.

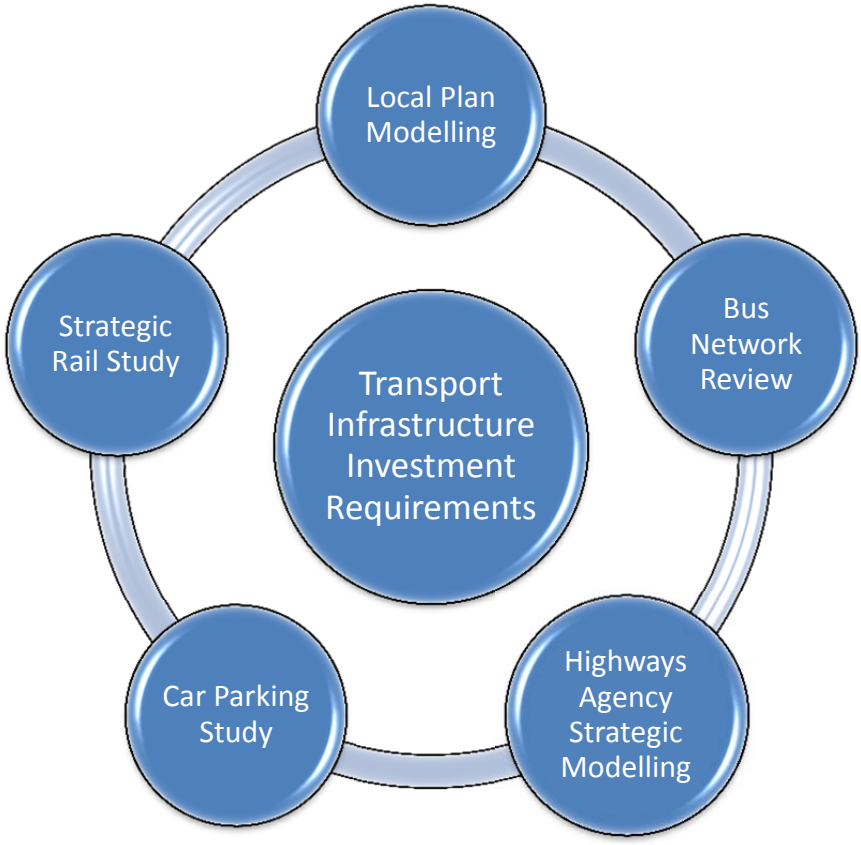
The City Centre in particular is likely to experience significant future congestion if the forecasted traffic growth is realised. It is in the City Centre, where major Public Transport hubs are based, that the trip ends can be constrained by demand management measures and supporting PT improvement schemes.

Section 6 of this report outlines the findings of other discrete work packages which have been undertaken to review the need for improvements to the Public Transport network, both bus and rail, car parking options and pedestrian and cycling schemes. Interventions which have been identified in these studies have been drawn together in Section 7 of this report to provide a comprehensive schedule of infrastructure measures that will form the basis of the Transport Infrastructure Delivery Plan.

6 Links to Other Studies

This section presents a summary of transport related studies that have been prepared for the preparation of the evidence base for the Local Plan. **Figure 27** shows the inter-relationships between these studies.

Figure 27 – Links to Other Activities



6.1 Bus Network Review

The York Bus Network Review, prepared by Steer Davies Gleave in 2014, presents a long term strategic review of the York Bus Network in preparation for York's Local Plan, and for the development of the network more generally in the shorter term.

As a benchmark, York was compared against similar towns in England: Bath, Lancaster, Stratford-upon-Avon, Warwick, Chester, Worcester, Lincoln, and Stafford.
The key findings were as follows:

- York has a relatively low level of household car availability
- York has the highest proportion of workers travelling to work by bus (8%)
- York has the highest level of local bus trips per head
- There is strong competition from the walking and cycling modes
- York has potential for bus punctuality improvement
- York has the highest price multi operator ticket

The report conducted consultations with the bus operators and found that:

- All operators viewed the current York market as either 'Stable' or 'Growing' with market potential
- The resilience of the road network is poor and can cause significant delay to passengers
- Development at Whinthorpe and Monks Cross were seen as the most attractive sites for commercial network development
- A new bus interchange at York Station received mixed responses but all agreed the current facility at the station did not operate effectively
- Provision of additional stop capacity within the city centre was seen as a key issue to meet the future demands generated by new development
- Park and Ride services in the city were seen as central to the bus offer in York. The potential of developing Park and Ride sites as interchange hubs with links to surrounding residential areas was seen to have some merit

To understand in more detail York's bus network requirements as a result of the Local Plan, a "Base Case" model was created by assuming the current York bus mode share (8%) would apply for the additional journeys to work that result from each development.

Using CoYC's Saturn/Cube model, the forecast level of trips that could be generated by the proposed developments included in the Local Plan, is shown in **Table 16**.

Table 16 – Trips by Mode – All Local Plan Sites

Mode	AM Peak		Interpeak		PM Peak	
	Arr	Dep	Arr	Dep	Arr	Dep
Car Driver	6,503	10,491	5,494	5,379	9,177	8,928
Car Passenger	794	1,091	1,090	1,040	1,778	1,747
Pedestrian	1,316	2,065	1,131	1,117	1,886	1,671
PT User	893	1,551	638	623	1,187	1,135
Cyclist	1,070	1,704	690	679	1,297	1,321

The report acknowledges that an increasing proportion of bus usage is required to ensure the road network can operate effectively following the trips generated by the proposed developments included in the Local Plan. With full 2031 development, and an assumed 8% mode share to bus, the base case would be a requirement of around 22 additional buses per peak hour.

To gauge a scenario where sustainable mode usage was very high, "The Sustainable Transport Case" was also developed. "The "Sustainable Transport Case" applies the assumptions first developed by Cambridge City Council, whilst they were overseeing a similar level of growth. It involved the assumptions that all trips from new developments used sustainable modes, with a bias towards public transport. This would involve implementing every possible measure to incentivise public transport usage. The report comments that "The Sustainable Transport Case" is not a viable option.

The report comments that encouraging a very high proportion of the new trip making in York to use bus, as was considered in Cambridge, would involve a doubling or tripling of the number of buses in York city centre. However, a more moderate, but still challenging, assumption of a 15% mode share from the new sites, as assessed by City of York Council, would require an increase of around 50 buses in York in the peak hour – or an increase of approximately 35%-40% on current levels. The report also suggested that there was sufficient capacity at bus stops to accommodate the extra demand.

6.1.1 Specific Bus Service Interventions

Following a review of the results of the assessment, the report scrutinised the existing bus network performance in terms of journey time and journey time variability and recommended the following bus service interventions:

- St Helens Road/Tadcaster Road junction: Potential short-term scheme for bus lanes on approaches to the junction.
- Askham Bar, Moor Lane, York College: Potential medium-term improvements to roundabout such as signalisation.
- Gillygate, Clarence Street past York St. John University: Potential long-term gyratory scheme using Wigginton Road, Haxby Road and Nestle site.
- Haxby Road/Haley's Terrace roundabout: Potential short-term improvements to roundabout such as signalisation.
- Haxby Road approaches to Ring Road: Potential long-term scheme for junction improvement and bus lane approaches.
- Huntingdon Road approaches to Ring Road: Potential long-term scheme for junction improvement and bus lane approaches.
- Hull Road approaches to A64 junction: Potential long-term scheme to increase junction capacity and/or provide bus lanes on the approaches
- Fawcett Street/Kent Street/Heslington Road/Lawrence Street: Potential long-term scheme for gyratory using Lawrence Street, Green Dykes Lane, Heslington Road
- Fulford Road: Potential short-term schemes to introduce bus priority lanes. Proximity merits 'whole corridor' approach.
- City Wide: Long-term traffic restraint measures in the city centre
- City Wide: Short-term improvements to urban traffic control system

A network gap analysis found that the geographic coverage of bus services in the City of York is comprehensive.

6.1.2 Schemes

The full list of schemes generated from the Bus Services Review and CoYC officer Study Partners are detailed in **Table 17**.

Table 17 – Bus Schemes to Improve the Performance of the Existing Network

Ref	Scheme Description
Schemes for the Local Plan	
BA01	Clarence St / Gillygate / Lord Mayors Walk bus/cycle priority measures.
BA02	Exhibition Square Interchange Project
BA03	City Centre Interchange - construction of an improved bus interchange on Rougier Street
BA04	A19 Bus Lanes and Designer Outlet Park & Ride access improvements plus new junction at Germany Beck (ST22)
BA05	Other targeted junction, highway or public transport infrastructure enhancements as set out in the Local Transport Plan 2011-2031 (LTP3) and subsequent investment programmes
BA06	New Park & Ride at Clifton Moor with associated bus priority measures on B1363 Wigginton Road.
BA07	Manor Lane / Hurricane Way link, Clifton
BA08	Further expansion of Park & Ride services in the city (e.g. relocation and expansion of the Designer Outlet" Park & Ride facility).
BA09	York Railway Station – New public transport turn around and interchange facility.
BA10	York Central Access and Station Frontage (Bus interchange and Queen Street Bridge demolition)
BA11	Greening the Bus Fleet (electrically powered bus fleet)
BA12	Access York Phase 2

	PT Improvements 2 – Package of physical measures to improve bus fleet and bus services in York City Centre
Schemes to deliver Strategic Sites	
BB01	Millfield Lane: Provision of bus stops on A59 with frequent service (ST2)
BB02	Provision of accessible bus stops on Hull Road with additional service frequency. (ST4 and ST6)
BB03	Potential long term scheme for segregated route on Derwent Valley Railway alignment or alternative road based scheme on Hull Road (ST7)
BB04	New bus service or augmented existing service to Metcalfe Lane (ST7)
BB05	Potential improvements to Heworth Green / Malton Road roundabout (ST8)
BB06	New bus service or augmented existing service to Land north of Monks Cross (ST8)
BB07	Long term additional bus priority measures on the Malton Road corridor (ST8)
BB08	Reroute existing bus service through site at Manor Heath Road, Copmanthorpe (ST12)
BB09	Augment existing bus service with new route and higher frequency, servicing Moor Lane, Copmanthorpe (ST13)
BB10	Longer term intervention at Wigginton Road / Huntington Road to improve accessibility (ST9 and ST14)
BB11	New link road along the former rail line between the Wigginton Road / Crichton Road junction and Haxby Road, or using a route through the Nestle site to create a traffic gyratory with possible contra-flow bus lanes, or alternative road-based scheme.
BB12	Bus only underpass across A1237 into Clifton Moor (ST14)
BB13	New dedicated bus route (Common Lane upgrade) and service linking the site to with traffic management intervention on approach to Inner Ring Road (ST15)
BB14	Public transport only route through the eastern end of Germany Beck development into the highway network at Heslington Lane (ST22).
Schemes to improve existing bus network performance	
BC01	St Helens Road / Tadcaster Road junction: Potential short-term scheme for bus lanes on approaches to the junction.
BC02	Askham Bar, Moor Lane, York College: Potential medium-term improvements to roundabout such as signalisation.
BC03	Haxby Road / Haley's Terrace roundabout: Potential short-term improvements to roundabout such as signalisation.
BC04	Haxby Road approaches to Ring Road: Potential long-term scheme for junction improvement and bus lane approaches.
BC05	Huntington Road approaches to Ring Road: Potential long-term scheme for junction improvement and bus lane approaches.
BC06	Hull Road approaches to A64 junction: Potential long-term scheme to increase junction capacity and/or provide bus lanes on the approaches.
BC07	Fawcett Street/Kent Street / Heslington Road / Lawrence Street: Potential long-term scheme for gyratory using Lawrence Street, Green Dykes Lane, Heslington Road
BC08	Fulford Road: Potential short-term schemes to introduce bus priority lanes. Proximity merits 'whole corridor' approach.
BC09	City Wide: Short-term improvements to urban traffic control system
BC10	City Wide: Long-term traffic restraint measures in the city centre
Corridor Based Improvements	
BD01	Tadcaster Road Corridor – Improvements on Blossom Street – possible gyratory, SCOOT upgrade.
BD02	Acomb Road Corridor – SCOOT upgrade
BD03	Leeman Road / Shipton Road Corridor – Clifton Green bus priority scheme, SCCOT upgrade.
BD04	Malton Road Corridor – Signals upgrade to bring corridor into UTC system
BD05	Hull Road Corridor – Hull Road bus priority scheme, SCOOT upgrade.

6.2 Highways Agency Strategic Modelling

CoYC and the Highways Agency (HA) have been collaborating on the transport implications of the Local Plan over during the preparation of the evidence base. The A64 is part of the UK Strategic Road Network (SRN) and runs west-to-east from the A1(M) to Scarborough around the southern and western side of York. The A64 is managed by the Highways Agency (HA).

Following adoption of the Local Plans, the HA are seeking to enter into a Memorandum of

Understanding with Local Authorities to minimise or mitigate the impact of any development on the A64. One such MoU has already been established[1]. Assessment of impacts are being undertaken by the HA, using the Dynameq modelling software to build a Dynameq meso model of the A64 and local feeder routes into the A64.

Dynameq is a relatively new modelling tool, and has been extensively used to test the impact of the Local Plan Developments on the SRN in the North East, North West and West Yorkshire. It is able to undertake Dynamic assignments of large area networks and is able to model route choice and traffic patterns under congested conditions. The simulation procedure bears similarities with those of micro-simulation model, for example the model moves individual vehicles and captures lane-based effects, and therefore, is a more appropriate tool for modelling the SRN than macro-simulation tools such as SATURN.

The results of the modelling are under review by the HA who are also engaging with York Local Plan strategic developers in conjunction with CoYC. Through this process, the CoYC modelling team have met with the HA's spatial planning consultant's JMP and have provided outputs from the SATURN/Cube model to feed into the Dynameq model to ensure consistency in approach to the level of demand that is being forecasted by two different tools delivering different types of analyses.

CoYC fully realises the benefits that working in collaboration with the HA brings and is committed to entering into a further Memorandum of Understanding, as may be necessary, in support of the Local Plan.

6.3 Car Parking Study

6.3.1 Introduction

In May 2014, JMP undertook a comprehensive audit and review of the existing parking arrangements for the City of York to produce an overall draft parking strategy.

Parking policy and management practices remains one of the fundamental tools available to the City to control demand for movement and access and enable York to grow economically without increasing levels of traffic congestion.

6.3.2 Travellers to York

To establish a parking strategy, a cognisance of who uses the city centre both in terms of numbers and purpose, and where those people come from was undertaken. The modal splits of differing users are summarised in **Table 18**. It should be noted that shoppers include those who shop in the city centre and those who shop at Monks Cross and Clifton Moor.

Table 18 – Modal Split of Travellers into York City Centre (%)

Journey Purpose	Car Driver	Car Passenger	Walk / Cycle	Public Transport	Other
Workers (from York)	24	6	47	20	3
Workers (from Outside York)	62	7	2	27	2
Shoppers	32		23	44*	1
Visitors	62		-	35	3

*includes Park and Ride

6.3.3 Parking Supply

There are approximately 5,700 publicly available off-street car parking spaces in and around the centre:

[1] Memorandum of Understanding for A64 Trunk Road York - Scarborough Improvement Strategy

- 2,492 in 13 public car parks; and
- 3,232 in 15 private car parks.

The city centre car parks perform a number of functions and broadly these are for commuters, visitors and shoppers. There are also a number of small car parks on the periphery of the city centre which often fulfil a local function. City of York Council has a strategic Variable Message Sign (VMS) system in place which refers drivers to certain car parks with the city.

With the completion of the A59 Park & Ride site and expansion of Askham Bar, there will be six Park & Ride sites with a total of 4,970 parking spaces. Longer term plans exist to provide a further new site at Clifton Moor and there is an aspiration to provide an increase in capacity and relocation to the Designer Outlet Park & Ride site within the timeframe of the Local Plan.

There are also over 5,000m of on-street Pay and Display parking in the City of York.

6.3.4 Parking Demand

Car park utilisation data found that generally there is some spare capacity, particularly on week days. Four car parks have over 80% utilisation by 9am and 18 long-stay car parks have less than 50% utilisation by 9am. Levels of use in 8 of the largest public car parks (1,840 spaces) is a maximum of approximately 60% on a November weekday. On a weekend, five sampled car parks were at or near capacity in the period surrounding midday.

In the Park & Ride car parks, there is a total of 1.7m cars each year. There are currently 4.3m passenger bus boardings per year, of which 3m board at Park & Ride stops and 1.3m at intermediate stops or from York City Centre. Levels of use have nearly trebled since 2000. In the morning peak period approximately 50-60% of users are commuting to work and 20-30% are shopping trips. In the inter-peak period 40-50% are shopping trips and approximately 30% are leisure trips.

6.3.5 Draft Strategy

The Draft Strategy proposes a plan to manage car traffic levels in the city centre by primarily intercepting car drivers at the Park & Ride sites on the Outer Ring Road and provide car parks on the edge of the City Centre. This would be facilitated by more parking capacity at Park & Ride sites and structured pricing to keep Park & Ride competitive.

The Strategy advises that Car parks should be located conveniently on all approaches to the City Centre, so that users can quickly access an appropriate car park without having to travel around the ring road. Tourist oriented parking is particularly required in the west and south of the city. Retail parking is particularly needed in the central area.

A number of options are being trialled to tackle the perceived high cost of parking for shoppers and to incentivise people visiting the city centre on an evening.

6.3.6 Action Plan

The full list of schemes generated from the Car Parking Strategy and CoYC officer Study Partners are presented below.

Table 19 – Car Parking and Demand Management Measures

Ref	Scheme Description
Demand Management Measures	
DM01	Freight Consolidation Centre at site near Askham Bryan
DM02	Various demand management measures on radial, orbital and city centre routes to lock-in the benefits of other network improvements
Parking Demand Management Schemes	
CP01	Develop more effective marketing of Park & Ride as a high quality parking facility as well as a public transport service. The marketing campaigns associated with the opening of new sites at Askham Bar and Poppleton Bar should be used as an imminent opportunity to implement this.
CP02	Improve information concerning car parking for visitors (including private car parks and Park and Ride) in partnership with Visit York
CP03	Implementation of signage strategy
CP04	Seek to improve the City of York sponsored YorkLIVE app (which includes parking information) to provide real time car park information alongside a reinvigorated car park VMS system
CP05	Increase disabled parking provision in off-street car parks – opportunity to incrementally improve high quality disabled parking provision at off-street car parks to meet required levels of provision
CP06	Implementation of improved layout at Castle car park
CP07	Implementation of improved layout at Nunnery Lane car park
CP08	Redevelop the Castle Mills car park to provide a high quality, increased capacity facility to improve parking stock in south eastern quadrant
CP09	Remove on street bays from northern extent of Piccadilly alongside any extension to the Footstreets to this area
CP10	Consult with rail station operator regarding minimising impact of station car park on public realm improvements achieved as part of removal of Queen Street Flyover

6.3.7 Pedestrian and Cycle Schemes

Complimentary to the Demand Management Schemes, a review of the pedestrian and cycle infrastructure has been undertaken and the following schemes have been identified to support the Local Plan.

Table 20 – Pedestrian and Cycle Schemes

Ref	Scheme Description
Schemes Identified to support the Local Plan	
PC01	Links to the new interchange with further links from this to the south-western quadrant of the city centre
PC02	Links to York Central site through the station (including pedestrian crossings of the lines)
PC03	Pedestrian / cycle bridge across the River Ouse between Lendal Bridge and Scarborough Bridge, linking the York Central development site with the north bank of the River Ouse. (Alternatively, enhance the pedestrian/cycle path on Scarborough Bridge in the short-term, following replacement of the bridge deck by Network Rail in early 2015)
PC04	Improved way finding and signage
PC05	Pedestrian / cycle link from the former British Sugar site to York Central via Water End.
PC06	Pedestrian / cycle bridges across the York-Harrogate-Leeds rail line and the East Coast Main Line to facilitate movement between the former British Sugar site, York Business Park and the west bank of the River Ouse (including a potential tram-train halt in the vicinity of the York Business Park).
PC07	Pedestrian / cycle bridge across the River Ouse south of Lendal Bridge connecting Tanner Row with the north side of the River Ouse in between the Guildhall and City Screen
PC08	Pedestrian / cycle bridges across the River Foss (as part of the re-development of the Castle / Piccadilly area)
PC09	Other individual strategic cycle schemes
PC10	Safeguarded Land: Sterling Road (widening for cycle facilities)
PC11	Extending the Footstreets to include Fossgate
PC12	Selective measures for Micklegate
PC13	Safeguarded Land: Site to the south of York Business Park (for footbridge (including ramps as necessary) between platforms to a potential new rail station / halt serving the Former British Sugar / Manor School site and York Business Park and a pedestrian link to York Business Park
PC14	High quality walk and cycle link to Monks Cross Park & Ride Interchange (ST11) (already proposed)

6.4 York Rail Strategy

The York Rail Strategy (2014) aims to help York become an international and enterprising city with good connectivity in order to bring economic prosperity. The Strategy supports York in tackling economic challenges, facilitate growth and provide a clear prioritised plan. Five key themes for the interrelated rail specific objectives include:

- Connectivity;
- Performance;
- Capacity;
- Journey Quality; and
- Network Developments.

6.4.1 Future Provision

The Yorkshire and Humber Route Utilisation Strategy (2009) forecasts that between 2009 and 2021 the number of passengers travelling to York will increase by 41%. Taking this into consideration as well as the ageing diesel fleet, the Government have taken forward the Intercity Express Programme (IEP). The IEP will increase passenger capacity and the associated infrastructure improvements will help alleviate some of the capacity bottlenecks on the East Coast Main Line. In addition to the IEP, Network Rail is undertaking a scheme of electrification in the north including between Manchester and Leeds.

6.4.2 High Speed Rail

Improvements for future long distance north/south movements will be provided by a new high speed rail system called HS2. The proposed network will run from London to Manchester and Leeds with onward links to existing East and West coast mainlines. This will provide York with a direct link with a new high speed line and increased capacity for passengers and freight. York will need to provide sufficient capacity at the station to accommodate HS2 trains.

6.4.3 Local Rail Networks

The Yorkshire Rail Network Study has set out a pathway to creating an integrated rail network for the entire City region and beyond. The study sets a target of 6 trains per hour between Leeds and York with a journey time of 20 minutes. This integrated network is supported by the Governments decision to proceed with the Northern Hub.

6.4.4 Local Accessibility and Connectivity to York

Bus

York Railway Station is highly accessible by local bus services from both York City and from neighbouring and surrounding towns and villages; however, there is currently inconsistency in bus offerings between east and south of York compared to west and north. This inconsistency will need to be improved if bus access to York Station as a rail hub and HS2 hub is to be achieved.

Car Access and Car Parking

No future plans noted for car access and car parking.

Park and Ride

There are currently six Park & Ride sites operating in York and have been an integral part of the transport network. The current opening hours of the sites limits the use of the Park & Ride for passengers catching an early outward or late return trains.

6.4.5 York Station

Due to the predicted growth in demand for rail travel at York Station, improvements will need to be made to rail and passenger infrastructure at the station. This will include accessibility and circulation improvements, taking into consideration parking (cars and cycles), and access by sustainable modes and circulation within the station, both on the concourse and on platforms.

To accommodate increases in frequency for the Leeds-Harrogate-York Line, additional capacity at York Station will be needed, either in the form of a new platform or an additional line to the north of the station.

6.4.6 New Station Proposals

There are a number of long standing proposals for new stations, associated with existing and proposed residential areas. They include:

- Haxby Station;
- Strensall Station;
- Former British Sugar Site;
- Copmanthorpe; and
- York District Hospital.

Previous forecast demand work has identified Haxby station as the best performing station when undertaking a multi-criteria assessment.

6.4.7 Delivery

Short Term Actions (2014-2019):

- HS2 Infrastructure options to maximise future opportunities;
- Progress and build the Harrogate Line Business Case and associated infrastructure requirements;
- Consider improvements to the bus and rail Park & Ride network to facilitate use by rail passengers; and
- Improvements to York station, along with access and signage.

Medium Term Actions (2019-2024):

- Use the York Station Masterplan to consider the future role of walking, cycle and car parking; and
- Examine the potential for station and parking improvements at other local stations.

Long Term Actions (2024-2029):

- Extensions to provide a fully electrified local network; and
- York to become the rail hub and gateway for York and North Yorkshire.

6.4.8 Summary

A number of key messages have come from the rail study and these are highlighted below:

- York's ambition is to become an international and enterprising city and requires the necessary rail improvements to achieve this;
- Tourism is a key market for York with rail of particular importance for visitors;
- York has an aspiration for growth evidenced by the Local Plan employment, population and housing growth targets;
- Good connectivity is crucial and a failure to invest will harm economic growth; and
- York must be 'High Speed-ready'.

The study shows the focus of the rail intervention should be:

- Influencing investment through the franchising process;
- Improvements to York Station (accessibility, interchange, frontage, other facilities and ultimately becoming a High Speed gateway station;
- Influencing investment in CP6 (2019-2024) and beyond;
- Pursue York-Harrogate-Leeds line business case conditional outputs; and
- Pursue construction of Haxby station in-line with housing growth trajectory in Local Plan.

Table 21 – Infrastructure Schemes from Rail Study

Ref	Scheme Description
Short Term Measures	
RB01	HS2 Infrastructure options to maximise future opportunities
RB02	Progress and build the Harrogate Line Business Case and associated infrastructure requirements
RB03	Consider improvements to the bus and rail Park & Ride network to facilitate use by rail passengers
RB04	Improvements to York station to increase capacity, along with access and signage
Medium Term Measures	
RB05	Use the York Station Masterplan to consider the future role of walking, cycle and car parking
RB06	Examine the potential for station and parking improvements at other local stations
Long Term Measures	
RB07	Extensions to provide a fully electrified local network
RB08	York to become the rail hub and gateway for York and North Yorkshire

7 Infrastructure Costs

7.1 Infrastructure Schemes

A schedule of infrastructure identified in the previous sections is presented in Tables 23 to 27 with the following definitions as shown in **Table 22.**

Table 22 – Infrastructure Delivery Schedule Definitions

Criteria	Definition
Ref	Scheme Reference
Scheme	Name of scheme and descriptions
Indicative Cost Estimate (£m)	If an estimate is not documented, an estimate is provided within a range (<£0.5m, £0.5-£1m, £1-£5m or >£5m)
Primary Funding Source Identified	Organisation that is likely to be targeted
Timescale	Timescale for completion (Short 2015-2020, Medium 2020-2025, Long 2025 – 2030)
Source of Cost Estimation	Source document of the cost estimate and likely funding source
Optimism Bias	Has Optimism Bias been included in the costs?
Priority Scheme	What is the Priority of the Scheme?

Schemes have been prioritised into three categories of schemes which aim to support the Local Plan land use allocations. These are

1) **Critical Infrastructure** – is of the highest priority for achieving growth as set out in the Local Plan. These schemes can be defined by meeting one of the following criteria:
    - Without realising this infrastructure the objectives sought in the Local Plan cannot be achieved
    - The infrastructure project unlocks significant growth which, without realising this project, would remain locked up
    - Without realising this infrastructure the impact of growth would be unacceptable for communities and in terms of the overall aims of the Local Plan
    - Funding for this infrastructure project is available and not prioritising this project would miss a unique funding opportunity
2) **Necessary infrastructure** is of the second highest priority for achieving growth as set out in the Local Plan. Infrastructure in this category is characterised by the following:
    - This infrastructure is needed to support growth,
    - It is acceptable, for communities and the overall aims of the Local Plan, to not immediately deliver this infrastructure.
    - Funding for this project may not immediately available and if it is, the funding will remain available over a longer time period.
3) **Desirable infrastructure is characterised by the following:**
    - This infrastructure will support growth and the sustainability of communities, but growth can take place without it.

- The projects in this category are likely to come forward over a longer timeframe and contribute to the longer term aspirations of the area.
- Funding is not yet available for this infrastructure and in some cases a clear project to achieve it has not yet been formulated.

Further discussion about the schemes follows the Infrastructure Schedules.

Table 23 – Highways Schemes

Ref	Scheme	Indicative Cost (£m)	Primary Funding Source Identified?	Timescale	Source of Cost Estimation	Optimism Bias	Priority Scheme
HA01	James Street Link Road Phase II	1.6	Developer funded with CoYC contribution	Short 2015-2020	Leeds City Region - SEP Transport Proposals	Unknown	1
HA02	A1237 junction improvements to B1224 Wetherby Road	3.7	WY+TF	Medium 2020-2025	WY+TF Cost pro forma	44%	1
HA03	A1237 junction improvements to Great North Way	4.2	WY+TF	Short 2015-2020	WY+TF Cost pro forma	44%	1
HA04	A1237 junction improvements to Clifton Moor Gate	2.8	WY+TF	Short 2015-2020	WY+TF Cost pro forma	44%	1
HA05	A1237 junction improvements to B1363 Wigginton Road	3.9	WY+TF	Medium 2020-2025	WY+TF Cost pro forma	44%	1
HA06	A1237 junction improvements to Haxby Road	8.3	WY+TF	Short 2015-2020	WY+TF Cost pro forma	44%	1
HA07	A1237 junction improvements to Strensall Road	6.8	WY+TF	Short 2015-2020	WY+TF Cost pro forma	44%	1
HA08	A1237 junction improvements to North Lane (Monks Cross)	5.5	WY+TF	Medium 2020-2025	WY+TF Cost pro forma	44%	1
HA09	Grimston Bar Interchange upgrade	<10.0	(80% CoYC / 20% East Riding)	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	44%	1
HA10	Carriageway enhancements to the A1237 to improve traffic flow and journey time reliability along it. Upgrading entrire length of A1237 to dual carriageway standard.	111.9	-	Long 2025-2030	Leeds City Region - SEP Transport Proposals	44%	1
HB01	ST7 Land East of Metcalfe Lane – Link Road	Unknown	Developer funded	Medium 2020-2025	Unknown - developer funded	N/A	1
HB02	ST15 Whinthorpe – A64 grade separated junction	Unknown	Developer funded	Long 2025-2030	Unknown - developer funded	N/A	1
HC01	Safeguarded Site: Crichton Avenue / Wigginton Road Junction	0.0	Junction upgrade included in Clifton Moor P&R Scheme costs BA06	Unknown	Unknown	N/A	3
HC02	Safeguarded Site: Piccadilly / A1036 Tower Street junction (Safeguarded Sites)	Unknown	-	Unknown	Unknown	N/A	3

Highways Schemes (continued)

HD01	Rawcliffe Bar roundabout	<1.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD02	Clifton Moor Gate roundabout	<1.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD03	Wigginton Road roundabout	<1.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD04	A19 / A64 - Designer Outlet	<5.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD05	A64 / A1237 - Askham Bryan	<5.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD06	Westfield Lane / Mill Lane, Wigginton	<5.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD07	New roundabout Monks Cross Link	<5.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2
HD08	Monks Cross Drive roundabout	<5.0	Developer funded	Medium to Long 2020-2030	Estimate based on similar junction upgrades in York	NA	2

Table 24 – Public Transport (Bus) Schemes

Ref	Scheme	Indicative Cost (£m)	Primary Funding Source Identified?	Timescale	Source of Cost Estimation	Optimism Bias	Priority Scheme
Schemes Identified to support the Local Plan							
BA01	Clarence St / Gillygate / Lord Mayors Walk bus/cycle priority measures.	0.25	BBAF	Short 2015-2020	BBAF Scheme in 2013/14 Capital Programme – Costs to be confirmed following receipt of utility diversion estimate	Unknown	1
BA02	Exhibition Square Interchange Project	0.4	BBAF	Short to Medium 2015-2025	BBAF Scheme in 2013/14 Capital Programme	Unknown	1
BA03	City Centre Interchange - construction of an improved bus interchange on Rougier Street	0.5	BBAF	Short 2015-2020	BBAF Scheme in 2013/14 Capital Programme. Bus stop/shelter upgrade and kerb realignments	Unknown	1
BA04	A19 Bus Lanes and Designer Outlet Park & Ride access improvements plus new junction at Germany Beck (ST22)	4.7	Local Pinch Point Fund	Short 2015-2020	Local Pinch Point Fund – Tranche 3 Successful Schemes (£2m awarded)	Unknown	1
BA05	Other targeted junction, highway or public transport infrastructure enhancements as set out in the Local Transport Plan 2011-2031 (LTP3) and subsequent investment programmes	3.8	LTP3	Short 2015-2020, Medium 2020-2025, Long 2025-2030	Estimated cost of ongoing programme (£250k per year)	Unknown	1
BA06	New Park & Ride at Clifton Moor with associated bus priority measures on B1363 Wigginton Road.	9.8	WY+TF, Developer Contributions	Medium 2020-2025	Cost based on similar facility at Poppleton Bar	Unknown	1
BA07	Manor Lane / Hurricane Way link, Clifton	<0.5	-	Medium 2020-2025	Estimate – Detailed Feasibility to be completed	Unknown	1
BA08	Further expansion of Park & Ride services in the city (e.g. relocation and expansion of the Designer Outlet" Park & Ride facility).	Unknown	CYC, Developer Contributions	Short 2015-2020	No detailed estimate	N/A	1
BA09	York Railway Station – New public transport turn around and interchange facility.	Unknown	-	Medium to Long 2020-2030	Unknown	N/A	1
BA10	York Central Access and Station Frontage (Bus interchange and Queen Street Bridge demolition)	33.0	£27m WY+TF and £6.0m Developer	Medium to Long 2020-2030	Split £13.7m Bus/Queen Street £19.3m Access Bridge	Unknown	1
BA11	Greening the Bus Fleet (electrically powered bus fleet)	33.2	Green Bus Fund / Ultra Low Emission City	Long 2025-2030	Ultra Low Emmission Bid	44%	3
BA12	Access York Phase 2 PT Improvements 2 – Package of physical measures to improve bus fleet and bus services in York City Centre	7.0	WYTF	Unknown	WY+TF	unknown	2
Schemes Identified by York Bus Network Review - Strategic Site Interventions (June 2014 Draft)							
BB01	Millfield Lane: Providision of bus stops on A59 with frequent service (ST2)	0.1	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB02	Provision of accessible bus stops on Hull Road with additional service frequency. (ST4 and ST6)	<0.5	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB03	Potential long term scheme for segregated route on Derwent Valley Railway alignment or alternative road based scheme on Hull Road (ST7)	Not Costed	Included as an exceptional item in site viability assessment'	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	1
BB04	New bus service or augmented existing service to Metcalfe Lane (ST7)	1.0	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB05	Potential improvements to Heworth Green / Malton Road roundabout (ST8)	1.0	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1

Public Transport (Bus Schemes continued)

BB06	New bus service or augmented existing service to Land north of Monks Cross (ST8)	1.0	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB07	Long term additional bus priority measures on the Malton Road corridor (ST8)	0.5	Developer Contributions	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	1
BB08	Reroute existing bus service through site at Manor Heath Road, Copmanthorpe (ST12)	0.1	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB09	Augment existing bus service with new route and higher frequency, servicing Moor Lane, Copmanthorpe (ST13)	0.25	Developer Contributions	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB10	Longer term intervention at Wigginton Road / Huntington Road to improve accessibilty (ST9 and ST14)	2.0	Developer Contributions	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	1
BB11	New link road along the former rail line between the Wigginton Road / Crichton Road junction and Haxby Road, or using a route through the Nestle site to create a traffic gyratory with possible contra-flow bus lanes	2.0	Developer Contribution, BBAF and/or LTP	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	1
BB12	Bus only underpass across A1237 into Clifton Moor (ST14)	Not Costed	Included as an exceptional item in site viability assessment'	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB13	New dedicated bus route (Common Lane upgrade) and service linking the site to with traffic management intervention on approach to Inner Ring Road (ST15)	Not Costed	Included as an exceptional item in site viability assessment'	unknown	Estimate - detailed feasibility to be undertaken	Unknown	1
BB14	Public transport only route through the eastern end of Germany Beck development into the highway network at Heslington Lane (ST22). A dedicated bus-only route through Walmgate Stray to link into the interventions identified for ST15 (only possible if BB13 goes ahead)	5.0	Developer Contributions	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	1
Schemes Identified by York Bus Network Review - Existing Bus Network Performance Interventions (June 2014 Draft)							
BC01	St Helens Road / Tadcaster Road junction: Potential short-term scheme for bus lanes on approaches to the junction.	0.2	BBAF and/or LTP	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BC02	Askham Bar, Moor Lane, York College: Potential medium-term improvements to roundabout such as signalisation.	0.2	BBAF and/or LTP	Medium 2020-2025	Estimate - detailed feasibility to be undertaken	Unknown	2
BC03	Haxby Road / Haley's Terrace roundabout: Potential short-term improvements to roundabout such as signalisation.	0.2	BBAF and/or LTP	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BC04	Haxby Road approaches to Ring Road: Potential long-term scheme for junction improvement and bus lane approaches.	0.0	WY+TF	Long 2025-2030	Assumed to be accounted for in HA06	Unknown	2
BC05	Huntington Road approaches to Ring Road: Potential long-term scheme for junction improvement and bus lane approaches.	0.0	WY+TF	Long 2025-2030	Assumed to be accounted for in HA07	Unknown	2
BC06	Hull Road approaches to A64 junction: Potential long-term scheme to increase junction capacity and/or provide bus lanes on the approaches.	2.0	WY+TF / Developer Contributions	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	2
BC07	Fawcett Street/Kent Street / Heslington Road / Lawrence Street: Potential long-term scheme for gyratory using Lawrence Street, Green Dykes Lane, Heslington Road	1.0	WY+TF/ CIF	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	2
BC08	Fulford Road: Potential short-term schemes to introduce bus priority lanes. Proximity merits 'whole corridor' approach.	5.0	WY+TF/ CIF	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BC09	City Wide: Short-term improvements to urban traffic control system	2.0	WY+TF/ CIF	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BC10	City Wide: Long-term traffic restraint measures in the city centre	10.0	WY+TF/ CIF	Long 2025-2030	Estimate - detailed feasibility to be undertaken	Unknown	2

Public Transport (Bus Schemes continued)

Bus Corridor-based Improvements							
BD01	Tadcaster Road Corridor – Improvements on Blossom Street – possible gyratory, SCOOT upgrade.	5.0	WY+TF/ CIF	Medium 2020-2025	Estimate - detailed feasibility to be undertaken	Unknown	2
BD02	Acomb Road Corridor – SCOOT upgrade	0.0	WY+TF/ CIF	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BD03	Leeman Road / Shipton Road Corridor – Clifton Green bus priority scheme, SCCOT upgrade.	1.5	WY+TF/ CIF	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BD04	Malton Road Corridor – Signals upgrade to bring corridor into UTC system	0.2	WY+TF/ CIF	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
BD05	Hull Road Corridor – Hull Road bus priority scheme, SCOOT upgrade.	2.5	WY+TF/ CIF	Medium 2020-2025	Estimate - detailed feasibility to be undertaken	Unknown	2

Table 25 – Public Transport (Rail) Schemes

Ref	Scheme	Indicative Cost (£m)	Primary Funding Source Identified?	Timescale	Source of Cost Estimation	Optimism Bias	Priority Scheme
Schemes Identified by Local Plan Preferred Options 2013							
RA01	Provision of a new railway station at Haxby.	4.5	CYC, New Stations Fund, WY+TF	Medium 2020-2025	North Yorks LEP SEP bid	Unknown	1
RA02	Safeguarded Site: Freight sidings at Hessay	<0.5	Waste site operator (YorWaste)	Unknown	No detailed capital costs available. Freight Consolidation Report focussed on operating costs	Unknown	1
Schemes Identified by Strategic Rail Study							
RB01	HS2 Infrastructure options to maximise future opportunities	Unknown	-	Short 2015-2020	(ongioing work for York Station Masterplan expected to establish cost estimate)	Unknown	2
RB02	Progress and build the Harrogate Line Business Case and associated infrastructure requirements	Not Costed	-	Short 2015-2020	Unknown	Unknown	2
RB03	Consider improvements to the bus and rail Park & Ride network to facilitate use by rail passengers	<0.5	-	Short 2015-2020	Estimate - detailed feasibility to be undertaken	Unknown	2
RB04	Improvements to York station to increase capacity, along with access and signage	Unknown	-	Short 2015-2020	(ongioing work for York Station Masterplan expected to establish cost estimate)	Unknown	2
RB05	Use the York Station Masterplan to consider the future role of walking, cycle and car parking	<0.5	-	Medium 2020-2025	Estimate - detailed feasibility to be undertaken	Unknown	2
RB06	Examine the potential for station and parking improvements at other local stations	<1.0	-	Medium 2020-2025	Estimate - detailed feasibility to be undertaken	Unknown	2
RB07	Extensions to provide a fully electrified local network	0.0	-	Long 2025-2030	Costs included in estimate for RB02	Unknown	2
RB08	York to become the rail hub and gateway for York and North Yorkshire	Unknown	-	Long 2025-2030	(ongioing work for York Station Masterplan expected to establish cost estimate)	Unknown	2
Longer Term Aspirations Potentially beyond the Plan Period							
RA03	The introduction of tram/train technology or other technology applications on appropriate rail routes - pursuit in the longer term.	28.0-42.0 (excluding 51.0-80.0 for city centre track)	Leeds City Region authorities	Long 2025-2030	No detailed estimate	N/A	3

Table 26 – Pedestrian, Cycle and Accessibility Schemes

Ref	Scheme	Indicative Cost (£m)	Primary Funding Source Identified?	Timescale	Source of Cost Estimation	Optimism Bias	Priority Scheme
Schemes Identified to Support the Local Plan							
PC01	Links to the new interchange with further links from this to the south-western quadrant of the city centre	<5.0	-	Unknown	No detailed estimate – East Coast/Network Rail Scheme	Unknown	1
PC02	Links to York Central site through the station (including pedestrian crossings of the lines)	<5.0	-	Unknown	No detailed estimate – East Coast/Network Rail Scheme	Unknown	1
PC03	Pedestrian / cycle bridge across the River Ouse between Lendal Bridge and Scarborough Bridge, linking the York Central development site with the north bank of the River Ouse. (Alternatively, enhance the pedestrian/cycle path on Scarborough Bridge in the short-term, following replacement of the bridge deck by Network Rail in early 2015)	<5.0	-	Long 2025-2030	Initial estiamte for new bridge	Unknown	1
PC04	Improved way finding and signage	0.5-1.0	-	Unknown	No detailed estimate – East Coast/Network Rail Scheme	Unknown	1
PC05	Pedestrian / cycle link from the former British Sugar site to York Central via Water End.	0.5	Developer contributions	Short 2015-2020	No detailed estimate	Unknown	1
PC06	Pedestrian / cycle bridges across the York-Harrogate-Leeds rail line and the East Coast Main Line to facilitate movement between the former British Sugar site, York Business Park and the west bank of the River Ouse (including a potential tram-train halt in the vicinity of the York Business Park).	<5.0	CYC, Developer contributions	Medium 2020-2025	No detailed estimate	Unknown	1
PC07	Pedestrian / cycle bridge across the River Ouse south of Lendal Bridge connecting Tanner Row with the north side of the River Ouse in between the Guildhall and City Screen	<5.0	CYC, Developer contributions	Long 2025-2030	No detailed estimate	Unknown	1
PC08	Pedestrian / cycle bridges across the River Foss (as part of the re-development of the Castle / Piccadilly area)	<2.0	CYC, Developer contributions	Long 2025-2030	No detailed estimate	Unknown	1
PC09	Other individual strategic cycle schemes	3.7	CYC, Developer contributions	Throughout the Plan Period	No detailed estimate	Unknown	2
PC10	Safeguarded Land: Sterling Road (widening for cycle facilities)	0.0	-	Unknown	No detailed capital costs available. Freight Consolidation Report focussed on operating costs	Unknown	3
PC11	Extending the Footstreets to include Fossgate	0.3	-	Short 2015-2020	Unknown	Unknown	1
PC12	Selective measures for Micklegate	0.5	-	Short 2015-2020	Unknown	Unknown	1
PC13	Safeguarded Land: Site to the south of York Business Park (for footbridge (including ramps as necessary) between platforms to a potential new rail station / halt serving the Former British Sugar / Manor School site and York Business Park and a pedestrian link to York Business Park	0.0	-	Unknown	Unknown	Unknown	3
PC14	High quality walk and cycle link to Monks Cross Park & Ride Interchange (ST11) (already proposed)	0.0	Developer contributions	Unknown	Unknown	Unknown	2

Table 27 – Demand Management Techniques

Ref	Scheme	Indicative Cost (£m)	Primary Funding Source Identified?	Timescale	Scheme Referenced in Document	Source of Cost Estimation	Optimism Bias	Priority Scheme
Demand management measures								
DM01	Freight Consolidation Centre at site near Askham Bryan	<0.5	Private Sector Operator	Short to Medium 2015-2025	Email Ian Stokes (22/08/2014)	Development Proposal in Representation on Local Plan Preferred Options	Unknown	1
DM02	Various demand management measures on radial, orbital and city centre routes to lock-in the benefits of other network improvements	Unknown	-	Short 2015-2020, Medium 2020-2025, Long 2025-2030	York City Centre Movement and Accessibility Framework, Strategy and Proposals' 2011	unknown	unknown	2
Parking Demand Management Schemes								
CP01	Develop more effective marketing of Park & Ride as a high quality parking facility as well as a public transport service. The marketing campaigns associated with the opening of new sites at Askham Bar and Poppleton Bar should be used as an imminent opportunity to implement this.	<0.1	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP02	Improve information concerning car parking for visitors (including private car parks and Park and Ride) in partnership with Visit York	<0.1	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP03	Implementation of signage strategy	<2.5	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP04	Seek to improve the City of York sponsored YorkLIVE app (which includes parking information) to provide real time car park information alongside a reinvigorated car park VMS system	<0.1	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP05	Increase disabled parking provision in off-street car parks – opportunity to incrementally improve high quality disabled parking provision at off-street car parks to meet required levels of provision	<1.0	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP06	Implementation of improved layout at Castle car park	<1.0	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP07	Implementation of improved layout at Nunnery Lane car park	<1.0	-	Short 2015-2020	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP08	Redevelop the Castle Mills car park to provide a high quality, increased capacity facility to improve parking stock in south eastern quadrant	<5.0	Capital receipts from other locations	Medium 2020-2025	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP09	Remove on street bays from northern extent of Piccadilly alongside any extension to the Footstreets to this area	0.0	Cost absorbed as part of wider public realm scheme	Medium to Long 2020-2030	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1
CP10	Consult with rail station operator regarding minimising impact of station car park on public realm improvements achieved as part of removal of Queen Street Flyover	<0.1	-	Medium to Long 2020-2030	Car Parking Study (2014)	Car Parking Study (2014)	Unknown	1

7.2 Estimated Funding costs and Priorities

Table 28 and **Table 30** identify the current cost estimates of the supporting Infrastructure, identifying the **Critical**, **Necessary** and **Desirable** funding gaps. The likely source of funding is detailed demonstrating that a considerable amount of funding is likely to be sought from either the Local Funding, Central government or Private developers. Further discussion of how the funding gap could be funded over the plan period is detailed in Section 8.

Table 28 – Critical Infrastructure Schemes and Funding Gaps

Scheme Type	Total Funding Required (£m)	Funding Sources Identified (£m)	Funding Required to Support Local Plan (£m)
Highways	158.7	36.8	121.9
Public Transport Bus	65.9	64.7	1.3
Public Transport Rail	4.5	0.0	4.5
Ped / Cycle	15.6	6.5	9.1
Demand Management	6.9	2.5	4.4
Total	**251.6**	**110.5**	**141.1**

Note: Mid Estimate Values have been used for schemes with a range cost e.g. £2.5m for "<£5.0m"

Table 29 – Necessary Infrastructure Schemes and Funding Gaps

Scheme Type	Total Funding Required (£m)	Funding Sources Identified (£m)	Funding Required to Support Local Plan (£m)
Highways	172.7	50.8	121.9
Public Transport Bus	102.7	72.3	30.5
Public Transport Rail	5.5	0.0	5.5
Ped / Cycle	19.3	10.2	9.1
Demand Management	6.9	2.5	4.4
Total	**307.1**	**135.8**	**171.3**

Note: Mid Estimate Values have been used for schemes with a range cost e.g. £2.5m for "<£5.0m"

Table 30 – Desirable Infrastructure Schemes and Funding Gaps

Scheme Type	Total Funding Required (£m)	Funding Sources Identified (£m)	Funding Required to Support Local Plan (£m)
Highways	172.7	50.8	121.9
Public Transport Bus	135.9	105.5	30.5
Public Transport Rail	127.5	0.0	127.5
Ped / Cycle	19.3	10.2	9.1
Demand Management	6.9	2.5	4.4
Total	**462.3**	**169.0**	**293.3**

Note: Mid Estimate Values have been used for schemes with a range cost e.g. £2.5m for "<£5.0m"
Desirable Infrastructure includes for new Light Rail Infrastructure.

8 Funding Mechanisms

8.1 Introduction

The Infrastructure Delivery Schedule has identified those Infrastructure Schemes that are likely to be required to support the delivery of the Local Plan. The schedules have identified most likely sources of funding that currently exist that can be tapped into to deliver the schemes.

However, as the available budgets often change over a 15 year period, we have provided below a summary of the current available funding mechanisms that exist to fund Local Plan Infrastructure.

8.2 Overview

The two overarching considerations in identifying appropriate funding sources for any UK infrastructure schemes and programmes are:

- Who benefits from the infrastructure, and therefore, who has both a legal obligation and a financial incentive to contribute.
- The cost and logistics of obtaining the funding; this is to say that although some parties might either be legal or moral beneficiaries of the new infrastructure, the costs and bureaucracy necessary to collect their contributions have to be borne in mind in developing a funding model. Attracting sufficient funding is the primary goal with equitability of contributions a consideration for political leaders.

8.3 Funding - The Roles of the Public and Private Sector

There is no overall standard, statutory or prescribed process, or framework for seeking funding for a programme of infrastructure improvements such as that identified in this report. This is because in general, public and private sector funding tends to be attached to or associated with individual schemes which consider the costs and benefits of each scheme in isolation. Therefore a bespoke composite solution, promoted by one party, and delivered by many parties, for the specific programme of infrastructure improvements is the best compromise in the absence of any standard model.

In recent years, encouraged by central government, the public sector has moved from a development control culture to a development facilitation role, and although new policy such as the National Planning Policy Framework (NPPF) has promoted and supported this approach, most of the statutory powers needed to enable the facilitation role were in existence prior to 2010. What has changed is the realisation that the public sector is best placed to lead, and in many instances have to act first due to the benefits of public infrastructure accruing to many parties in the private sector. The private sector is often reluctant to act in a cohesive and composite manner (as an effective single entity) and often look to the public sector to act in their collective interest. Therefore City of York's approach in identifying what infrastructure is required to deliver the local plan and support economic growth should be logically extended to leading the development of a funding framework to pay for the infrastructure.

The split responsibilities in the public sector for transport infrastructure (Integrated Transport Authority, Highways Agency, Network Rail, Train Operating Companies and Local Highway Authorities) also necessitate a single party in the public sector taking the lead to guide public sector investment in transport infrastructure within an economic geography to integrate the investment within the spatial planning context.

The private sector's role in the development of a funding framework will be dependent on their willingness to engage both directly as interested parties (land & property owners,

transport operators) and more generally through the Local Enterprise Partnerships (LEP). The private sectors' buy in and political support for the funding framework developed is important and essential if any of the funding requires voluntary agreements with the private sector.

8.4 Funding Baseline - Specific to the City of York Council Local Plan

Section 7 of this report sets out in **Table 28** and **Table 30** the gap between allocated funding and the estimated total cost of the infrastructure necessary to deliver the housing and employment growth within the City of York. To set a baseline it assumed that both the quantum of infrastructure and the estimated costs are reasonable and this section of the report considers the options to find sufficient funding to bridge the calculated gap of approximately £140m, £170m and £290m for Critical, Necessary and Desirable Schemes. The total costs are approximately £250m, £310m, and £460m respectively.

8.5 Funding – Mechanisms

8.5.1 Programme Cash Flow (Timing of capital draw down)

Assuming that sufficient funding can be found to deliver the whole programme the reality is that timing of the implementation of the various schemes that make up the programme of infrastructure improvements and the receipt of funding to pay for it will result in much smaller gap in cash flow in any year of the programme. It is possible that there will not be negative cash flow but as funding generally lags behind planned expenditure in most situations funding will be needed to cover periods of negative cash flow.

To identify the timing and value of negative cash flows it is recommended that a profile of the likely costs of programme implementation against the predicted receipt of funding (funding can be called 'income' to a fund if City of York pursue the use of a Local Infrastructure Fund advocated in section 8.5.2) be carried out as an additional exercise.

There are several ways that City of York Council can temporarily finance periods of negative cash flow with the simplest being to use the Council's existing capital reserves or increasing prudent borrowing to provide capital to the programme. It should be noted that prudent borrowing is also suggested as a means of funding the overall programme but in this context it is simply covering a period of negative cash flow and therefore the risks of repayment should be considerably less than prudent borrowing used a source of investment capital.

8.5.2 Funding – Setting up an Infrastructure Investment Fund

It is recommended that City of York Council set up a Local Infrastructure Investment fund that follows the concept of revolving or circulating infrastructure funds that underpinned the Local Infrastructure Funding (LIF) set up by the Government in 2011. This can either be a real fund with income escrowed to dedicated accounts, or run as virtual fund with only the visibility of the expenditure and income needed to monitor its status.

The benefits of setting up such a fund are that it would be a supporting vehicle to the Local Transport Investment Programme and give confidence to politicians and the private sector that the plans have substance with a visible means of financial management and scrutiny.

An independent study by Peter Brett Associates (PBA) is reviewing the viability of a Community Infrastructure Levy and the Levy that could be set. The review is assessing the impact of a number of Policy requirements including:

- Affordable Housing
- Education
- Transportation Infrastructure
- Public Transport Improvements

- Zero Carbon Dwellings
- Open Space
- District Heating
- Lifetime homes
- Surface water attenuation
- Gypsy and traveller pitches

Independent of the CIL, the following sources of funding can be drawn upon to fund Transport Schemes for the Local Plan.

8.5.3 Funding – Programme and Scheme Viability

Before considering the generic funding sources listed in **Table 31** and

Table 32 that are available to provide contributions from the public and private sector the question of viability needs to considered; both at the overall programme level and the viability of individual schemes.

At the programme level it useful, but not essential, to consider that in macro-economic terms the investment is worthwhile i.e. that the returns to all parties over a realistic timescale are positive. At this level this would include the long term increases in taxation accruing to HM Treasury, whether or not they are channelled back through Government Departments to pay for the infrastructure. In addition adding in the non-transport infrastructure costs that will have to be paid by developments is also useful as it allows a more holistic view of development viability (as is being undertaken by the PBA Study). If this is positive then it gives confidence to politicians there is a powerful overarching economic argument for the investment, and a readymade evidence base should future government funding pots require a macro-economic impact assessment to draw down funding. Many LEPs are using similar evidence in their Strategic Economic Plan (SEP).

A simple high level viability assessment of individual schemes based on existing funding criteria is also a useful tool if in the event the devolved funding from DfT (through either Local Transport Board (LTB) or Single Pot Growth funding) requires minimum BCR levels to be achieved to draw down funding for individual schemes: we understand that at present this likely to be the case. This also applies to other funding pots that may be considered appropriate to fund the overall programme or individual scheme.

8.6 Funding Sources - General

Before looking at more complex sources of funding an obvious initial consideration is whether the future planned housing and commercial development in the York City area can contribute sufficient planning gain to fund the scheme either directly through S106 or a future Community Infrastructure Levy (CIL). This will depend both on the quantum of development and the estimated open market value of the housing or other development on the sites.

As a comparator, the Leeds Community Infrastructure Levy Draft Charging Schedule was found at its examination 'set at a level that will not put the overall development of the Leeds District at risk.' Within this, the CIL rate for residential development in north Leeds was set at £90/m^2. This suggests a CIL income of around £200m if it is applied in York.

Outside Local Authority capital funding and developer contributions, in order to assess realistic sources of funding, City of York Council will have to identify third parties who would benefit financially from the scheme and from whom a contribution can be secured.

In the event that developer and third party contributions have been maximised and there is still a 'funding gap' (i.e. where the estimated contributions are less than the overall cost of the programme), supplementary public sector funding could be justified on the basis of the wider economic benefits the scheme brings. It is important to define these wider benefits as both transport and general economic benefits such as increases in net GVA.

8.7 Funding Sources - Specific

This sub-section considers sources of funding and finance. There are almost infinite variations and hybrids but broadly the funding sources fall into three categories:

8.7.1 Public Sector Grant Funding

Traditional public sector investment considers the wider economic and societal benefits that accrue from specific transport projects. The appraisal approach is based on calculating discounted scheme costs and scheme benefits prior to calculation of the 'Benefit – Cost Ratio' (BCR). If the ratio of benefits over costs exceeds certain thresholds, the scheme is deemed to meet certain 'Value for Money' criteria and may proceed further.

The process for calculating scheme costs and scheme benefits is described in the DfT's WebTAG appraisal guidance.

Also included within this category are any funding contributions that come from other public sector bodies such as Network Rail, Environment Agency etc. Generally this will be where the scheme will provide betterment for their assets and or a reduction in their liabilities.

8.7.2 Public Sector Prudential Borrowing

Public sector prudential borrowing (this is borrowing from the Public Works Loan Board) is an obvious source of scheme specific funding but requires a revenue stream to pay back the borrowed capital. It is not, however, the same as a private sector model, as it allows other (generally future) Local Authority revenue streams to be capitalised to partially or fully justify the investment. An example of this would be an increase in council tax and business rates stimulated by the presence of the scheme. These can be capitalised annually to pay back the prudential borrowing.

The rules for local authority borrowing were set out under the Local Government Act 2003. This permits local authorities to borrow for capital investment purposes and allows authorities to determine their own programmes for capital investment.

Some authorities have used prudential borrowing to raise considerable sums to forward infrastructure that facilitates future development (Swindon BC have committed £45m for infrastructure to both unblock and control housing and commercial development)

8.7.3 Private Sector – Contributions and or direct delivery

In addition to income gained from CIL, there is facility and precedence for the Private Sector to directly fund, (to any value), infrastructure from which they may or may not derive direct benefit from. In most circumstances the private sector will only contribute funds to infrastructure from which they will derive direct benefit from, and only to a minimum value they can negotiate.

There are however circumstances where to unblock a programme the private sector may be willing to fund infrastructure from which they do not receive a direct benefit. In some instances developers have formed consortiums to forward fund infrastructure that is logistically necessary to be implemented (but has not been specifically required) to proceed with their individual developments.

There are also many examples where Local Authorities have added funding to private developers schemes to maximise the benefit of the investment to other parties.

Considering such options would maximise the private sectors contribution and requires astute negotiation to avoid developers taking a back seat and waiting for the public sector to provide and pay for infrastructure.

8.7.4 Capital Sources and Repayment Mechanisms

The following sources of capital funding and repayment mechanisms are currently available to fund transport schemes (and other types of infrastructure schemes) in York.

Table 31 – Potential Sources of Funding Capital

Type	Source	Comments	Repayment Required
LA Grant	City of York Council	Annual Government Capital Allocations to Local Authorities, not usually repaid	No
Council Capital	City of York Council	Own capital on account or from future asset sales	Council's decision
Prudential Borrowing	Public Works Loan Board		Yes
Planning Gain	Developers/Landowners	S106 Monies or CIL	No
Private Capital	Banks	Indirect lending (Debt Finance)	Yes
Private Capital	Private Capital Funds	Channelled through a third party	Yes
Private Capital	Institutional Investors	Pensions Funds	Yes
Private Capital	Developer	Capital receipts to the Council from the sale of Council owned development land (if any is present)	No not unless required by Council Policy
DfT Grant Funding	Central Government	From 2015 the use of devolved Local Major Schemes budget	No
LEP Growing Place Fund	2 LEPS	Capital funding to be repaid in the future.	Yes
Single Growth Pot Funding	Central Government	From 2015 to 2019 a £2bn per anum fund	No

8.8 Repayment of Capital - Introduction

Should a proportion of the funding require repayment, this sub-section considers the different mechanisms for repayment of loaned capital. The mechanism of repayment selected will, to a large extent, reflect the source(s) of funding for the project. If, for example, the scheme were to be funded from a levy or premium on business rates in a defined area, the repayment mechanism will reflect this source of funding.

It is desirable that those deriving the greatest financial benefit should be required to contribute the greatest share. The complexity of collecting contributions from third parties who have gained a real financial benefit from an investment in public infrastructure generally increases in proportion to the diminishing overall level of direct and indirect benefits accrued by the third party.

Table 32 – Potential Sources of Revenue for Repayment of Capital

Type	Mechanism	Debtor
Planning Gain	Section 106	Private Sector Developers
Planning Gain	Community Infrastructure Levy (CIL)	Land Owners/Developers
Tax Incremental Funding (TIF)	% of Future Business Rates in designated areas	Private Sector Businesses
Enterprise Zones	Reduction in business rates to	Private Sector Businesses

	encourage more business to locate/relocate	
New Homes Bonus	Direct grant paid to Local Authorities for delivery of new homes.	Central Government (CLG)
Council Tax	Agreed additional annual charge added to Council Tax	Council Tax payers in City of York Council
LTP Capital Funding	Annual proportion set aside to fund capital repayment	City of York Council
Local Business Rates Retained (LBRR)	Increase in tax base stimulated by new infrastructure	Private Sector Businesses

The potential revenue sources shown in **Table 32** above do not represent an exhaustive list but do illustrate different sources of revenue that could be used to fund repayment of the capital cost of the scheme.

The above concentrates on identifying revenue streams that are either directly or indirectly linked to the presence of the scheme or are from existing revenue and capital funds for transport. The current Government have a stated policy of encouraging Local Authorities to invest and spend their capital and revenue budgets as they see fit, rather than ring fencing for specific departmental spend.

In this context City of York Council could use other sources of capital and revenue available to the Council to provide funding or payback for the scheme. However given the financial constraints and reductions in budgets that Councils are managing, new sources of capital/resources would be required e.g. from the sale of fixed assets or the creation of Public/Private Partnerships (PPPs) that generate a profitable revenue stream; such as an Local Asset Backed Vehicle (LABV).

LABV and other potential PPPs are innovative ways of developing new revenue streams and there are numerous different models that can be created. They are discussed here to ensure that they are taken into consideration as an option in the event they are either pursued generally by City of York Council or if there is still a gap in the Business Case, after the primary sources of revenue outlined in **Table 23** to **Table 27** are exhausted.

There are many informal PPP's already in existence in the UK where the roles played by the public and private sector result in the same desirable outcomes of a formalised PPP. In simple terms these are that public sector provide the policy and planning context for the private sector to invest in infrastructure. The revenue return to the private sector is either provided directly by the public sector (Highways PFI for example) or channelled through the public sector from third party private sector beneficiaries.

8.9 Potential Cost Reductions

There are elements of the cost build up in Section 7 that could be removed as the scheme delivery mechanism becomes clearer, for example land costs could be negated by a developer delivering the land as free issue, and the cost of a planning inquiry being borne by a developer if the road is part of a wider development planning application.

Further, a number of the scheme costs identified in Section 7 include a 44% Optimism Bias which is advised by HM Treasury Green Book to account for optimistic (low) scheme costs. Additionally, some schemes have very broad costs based on schemes of a similar size and there is scope for these costs to reduce as more detailed study work progresses over the Local Plan period. Conversely, price Inflation may mean that some costs rise against what is currently estimated so consideration will need to be given to the refinement of these costs over the course of the Plan Period.

8.10 Options Assessment

8.10.1 Options for possible funding and delivery models

Until a preliminary Business Case is developed for a scheme, a single recommended or preferred model for funding and repayment cannot be identified. Therefore we can consider a number of models that are predicated on capturing a proportion of the wider economic benefits of the scheme, as well as the direct planning gain, to demonstrate how funding sources can work together, an example of which is provided below.

8.10.2 Composite Model of Funding to Illustrate Options

The model in **Table 33**, below, demonstrates how a composite funding model of capital and revenue funding could combine to pay for the scheme. It assumes that City of York Council will deliver the physical schemes and will also be the conduit for repayment and financing of any borrowed capital.

Table 33 – Example Funding Model assuming CoYC Delivery

Capital Cost	£	Description
Cost of scheme	£20m	Capital Cost of Scheme (Including profit and the cost of any financing)
Capital Funding (Grant)		
Council Capital	£5m	Possible contribution from York for transport benefits
Contribution from Network Rail	£1m	Small Grant Fund obtained from Network Rail
Total	£6m	
Capital Funding (Borrowed)		
Prudential Borrowing	£10m	Borrowed against future revenue streams of CIL, TIF, NHB etc.
Contractor Funding	£4m	Capital borrowed or brought by the Private Sector/Contractor
Total	£14m	
Revenue for borrowed capital repayment		
CIL	£10m	Over 5 years at net present value
TIF or LBRR	£2m	Over 10 years at net present value
New Homes Bonus	£2m	Over 6 years at net present value
Total	£14m	

NB: Figures are illustrative only

8.11 City of York Previous Spend Profile

It is useful to understand the mechanisms by which previous transport infrastructure schemes have been funded in York, in order to understand whether a step change in financing mechanisms would be required, or whether the previous provide a solid platform on which to continue.

A review of the capital spend profile of York has been undertaken and is presented below for the last 13 years.

Table 34 – Capital Spend Profile and Funding Sources 2002-2015 (budget provided for 2014/15)

Funding Source	2002/03 Outturn	2003/04 Outturn	2004/05 Outturn	2005/06 Outturn	2006/07 Outturn	2007/08 Outturn	2008/09 Outturn	2009/10 Outturn	2010/11 Outturn	2011/12 Outturn	2012/13 Outturn	2013/14 Outturn	2014/15 Budget
	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s	£1,000s
Local Transport Plan - IT	5,570	6,076	4,849	4,661	4,829	5,344	3,040	3,370	3,247	2,226	1,615	1,297	3,017
Local Transport Plan - CRAM Top-Up												289	811
Other Gov. Grants	179	846	9	16	24							96	122
Road Safety Grant						45	44	43					
Section 106 Funding	610	42	558	1,609	1,367	382	449	65	300	382	160	5	36
Cycling City							312	1,120	1,055				
Local Sustainable Transport Fund										227	594	647	647
Access York Gov. Grant											1,794	13,523	
Access York Other Funding										45	0	290	4,413
Better Bus Area Fund											260	1,191	1,784
A19 Pinchpoint Gov. Grant												31	1,899
Grant Funding - Other	128	115				20	9	26	83	102	12	39	
CYC Capital Funding	68		37		29	-1	60			60	0	410	25
Total	**6,555**	**7,079**	**5,454**	**6,287**	**6,249**	**5,790**	**3,913**	**4,625**	**4,685**	**3,042**	**4,435**	**17,819**	**12,754**
Total 2002-2015 (13 years)	**88,686**												

It can be seen that York has spent approximately £90m on transport schemes within the last 13 years. The total anticipated cost of Priority 1 and 2 schemes identified in this report are estimated to be in the region of £300m. Therefore, the innovative funding mechanisms described in this section will need to be exploited in order for the Local Plan Infrastructure to be delivered over the Plan Period.

8.12 Conclusions

There is a range of possible funding sources and funding mechanisms to fund the identified schedule of Infrastructure identified in Section 7 of this report. Key conclusions are:

- The Local Plan Transport Investment Programme will have several different types of positive impact on the local and regional economy and it is important to distinguish between 'wider economic benefits' that cannot readily be converted into a revenue stream and those (such as TIF or local business rate retention) that can give rise to actual cashflows capable of paying back a proportion of the initial capital investment.
- The preferred funding mechanism must be capable of realistic implementation.
- Developer and other private sector contributions should be maximised before any public sector contributions for gap funding are offered.

8.13 Recommendations for further work

8.13.1 Preliminary Business Case

As has been highlighted throughout the report, the funding and repayment options need to be tested in a preliminary Business Case so that the risks and costs of each option can be evaluated.

8.13.2 Evaluation of Council Borrowing

If any funding is required to be provided, or underwritten, by the Council the Authorities Section 151 Officer (usually the Section 151 officer is the County Treasurer) will need to be consulted to ensure that financial risks to the Council are acceptable. This will particularly be the case if the Council are borrowing against hypothecated revenue streams such as CIL, TIF, LBRR and the New Homes Bonus. It is therefore suggested that this assessment could be undertaken internally in the short or medium term and kept confidential until other funding mechanisms have been considered and their contributions maximised.

Some Local Authorities have already started the process of justifying borrowing against future CIL and the NHB revenues, by preparing estimates of revenue income that would

generated over a fixed investment period as justification (or collateral) for additional prudential borrowing for funding transport infrastructure, so there is already precedence should City of York Council wish to pursue this.

8.13.3 Central Government Grant Funding

Although it is unlikely that any additional Central Government Grant Funding for the programme will be available in the short term, it is recommended that this funding option be regularly reviewed by the Councils. This is because:

- It is a good opportunity if any new grant funding becomes available e.g. from any under spend of the DfT's major scheme capital budget.
- Some of the economic benefit that the scheme generates will be collected by HM Treasury through increased contributions in income and corporation tax (and possibly decreased spending on social security and benefit payments). If there is some 'gap funding' required and this gap is relatively modest (say less than £25m), there would be a compelling argument to central government to provide capital funding if the benefits calculated in the transport economics far outweighs the cost.