

EEH REGIONAL EVIDENCE BASE: MRN/LLM PROGRAMME

As part of the Government's Transport Investment Strategy, the Department for Transport (DfT) consulted on the creation of a Major Road Network (MRN) for England in the latter part of 2017. The MRN, shown indicatively in purple in **Figure 1**, will form the middle tier of the country's busiest and most economically important local authority 'A' roads, sitting below Highways England Strategic Road Network (SRN) and above the local road network.

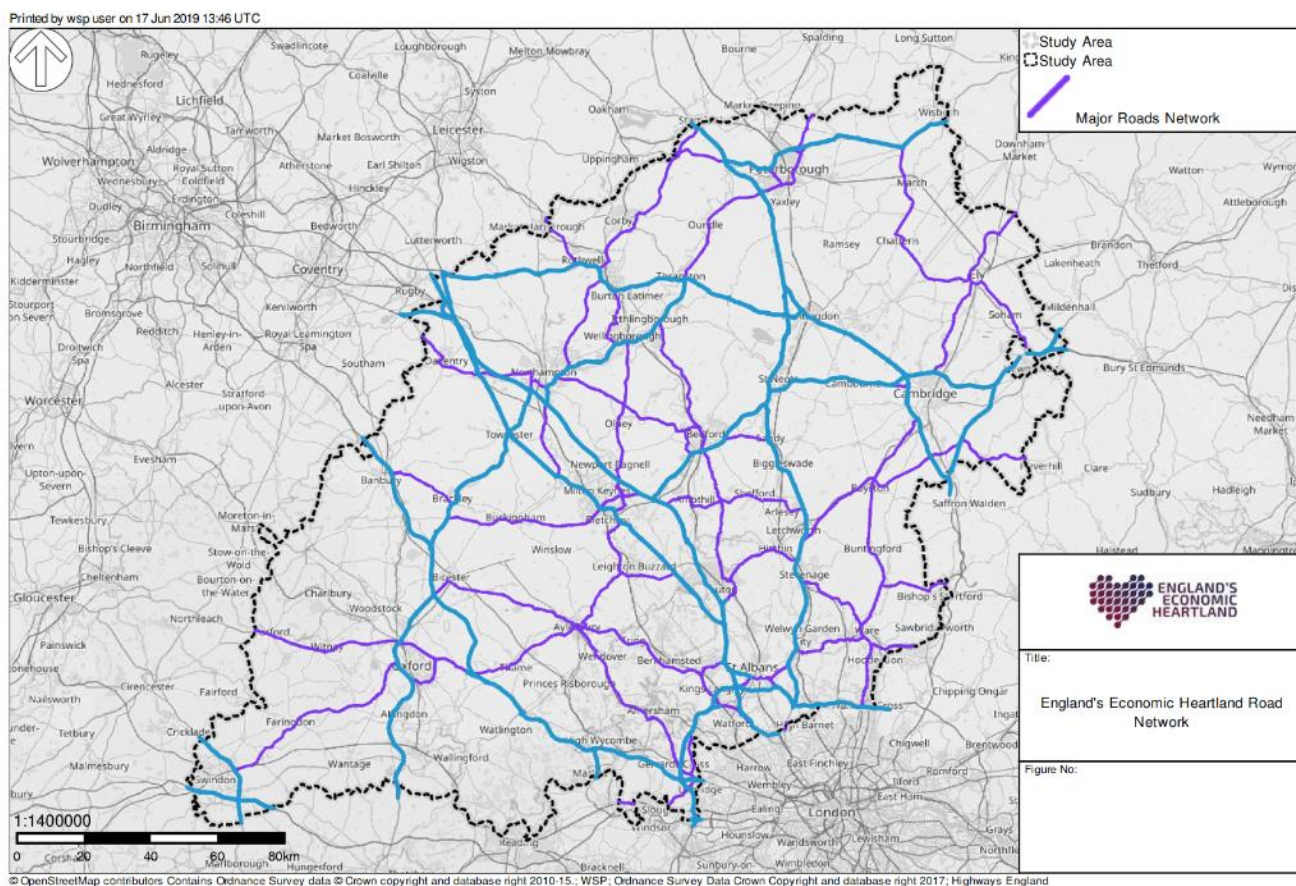


Figure 1 - The Major Road Network included within England's Economic Heartland

The National Roads Fund has been established by the DfT to help fund improvements on the MRN between 2020-2025. In accordance with the requirements of DfT's Investment Planning Guidance for the Major Road Network and Large Local Majors Programmes, England's Economic Heartland (EEH) have prepared this Regional Evidence Base (REB) to support their MRN/LLM scheme submissions. This REB draws on data available in the EEH's ProjectView REB system.

This REB is intended to provide a summary evidence base to support the need for investment in each of the submitted MRN/LLM schemes. The data available in EEH ProjectView REB has been mapped against the DfT MRN objectives and criteria listed in Table 1. Data has been extracted from ProjectView against the DfT MRN objectives and presented in this REB.



Table 1 - MRN DfT Objectives and Project View Data

Objective	Criteria	ProjectView Data
Reducing Congestion	<ul style="list-style-type: none"> Alleviate Congestion Take account of impacts on air quality, biodiversity, noise, flood risk, water quality, landscape and cultural heritage sites 	<ul style="list-style-type: none"> Network flows AM and PM speeds SERTM model volume/capacity, net speeds and delay AQMA sites
Support Economic Growth and Rebalancing	<ul style="list-style-type: none"> Supports regional strategic goals to boost economic growth Improve ability to access new of existing employment sites Improve international connectivity (ports and airports) 	<ul style="list-style-type: none"> Strategic employment sites TEMPRO Jobs forecast HGV/LGV network flows
Support housing delivery	<ul style="list-style-type: none"> Support creation of new housing developments by improving access to future development sites and boosting land capacity 	<ul style="list-style-type: none"> Strategic housing sites TEMPRO household forecast
Supporting all road users	<ul style="list-style-type: none"> Delivering benefits for public transport and non-motorised users, including cyclists, pedestrians and disabled people. Ability to reduce the risk of deaths/serious injuries for all users of the MRN 	<ul style="list-style-type: none"> STATS 19 Accident Data
Supporting the SRN	<ul style="list-style-type: none"> Improved end to end journeys across both networks Improved journey time reliability Improved SRN resilience 	<ul style="list-style-type: none"> Network flows AM and PM speeds SERTM model volume/capacity, net speeds and delay

A1139 UNIVERSITY ACCESS, PETERBOROUGH

Scheme Overview

The University of Peterborough is a new campus based university planned for a site on the Embankment, to the south east of Peterborough City Centre. When fully developed the university will have capacity for 12,500 undergraduate students, with 8,000 students and 1,250 staff forecast by 2035.

Site access to the campus for vehicles will be provided from Bishops Road. The University Access scheme considers the wider transport capacity needed to access the university site, in the context of existing and planned growth in the area. The preferred University Access option would deliver south facing slip roads on the A1139 Fletton Parkway at Bishops Road.

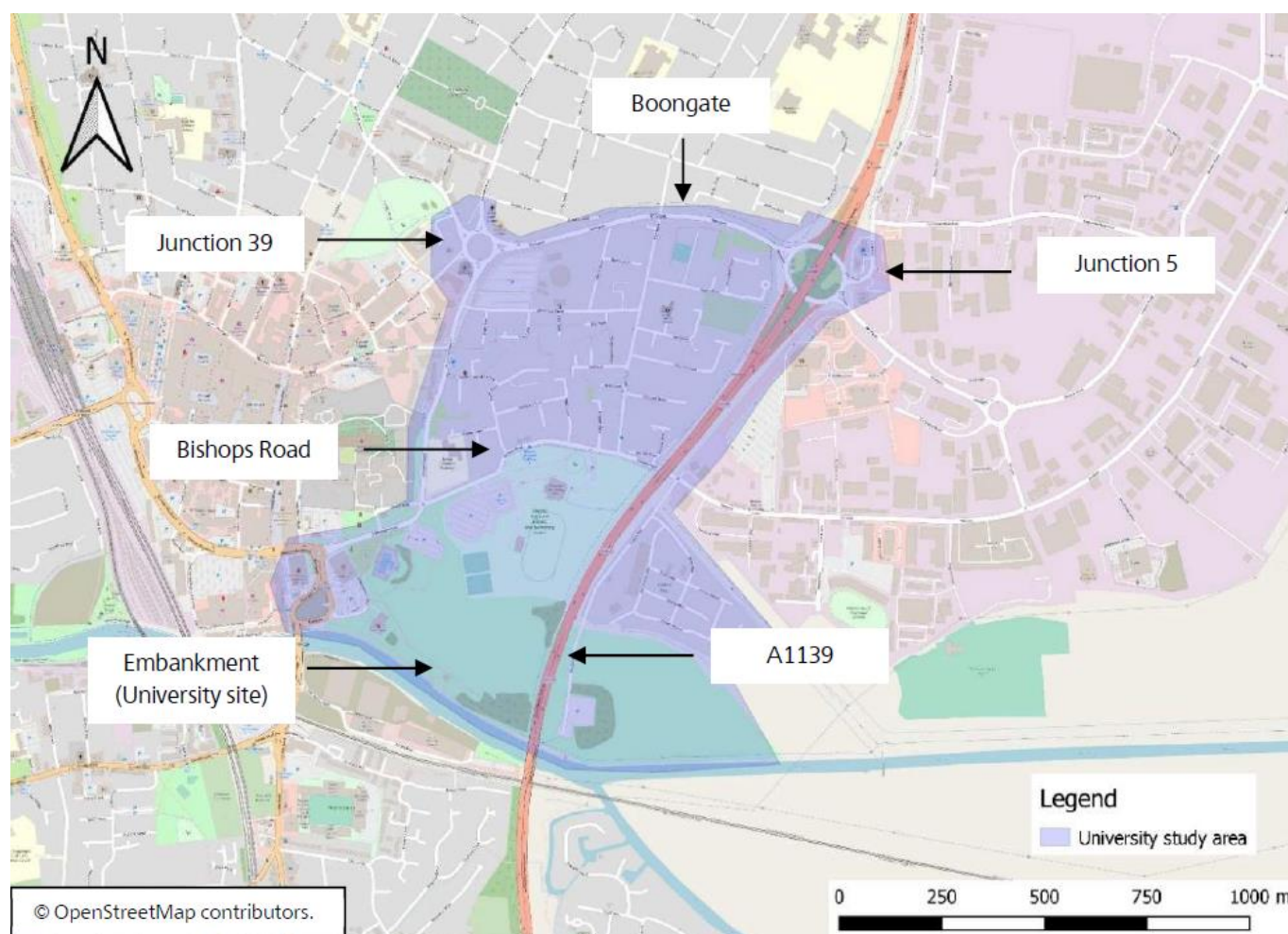


Figure 2 – University Access Study Area

Objective 1 Reducing Congestion

Peterborough's road network was fundamentally redesigned in the 1970s to accommodate the then Peterborough New Town, and has served the city well. However, as a consequence of recent and planned housing and employment growth, significant capacity issues are now emerging on the Parkway network, with queues and delays forming at many junctions.

The A1139 Fletton Parkway / Frank Perkins Parkway provides a key link between the A1 and the A15 / A16 to the north and the A47 to the east. As well as enabling traffic to move strategically around the city, it is a key commercial corridor linking Norfolk, and multiple regional and local businesses, with the strategic road



network. Sections of the A1139 have an Average Annual Daily Traffic flow (AADT) of 64,000 vehicles, and the AADT at the location of the proposed University Access site is approximately 55,000 vehicles

As the A1139 Fletton Parkway / Frank Perkins Parkway becomes heavily congested with increasing queueing and delays, the potential for delivering new homes and jobs in the area is becoming increasingly constrained. This challenge also applies to the aspiration of delivering the Peterborough University.

Junction 5 is a large grade separated junction on the A1139 Frank Perkins Parkway, It provides links to the City Centre and the large industrial and employment area to its east, in Fengate. Typical traffic conditions include extensive queueing occurring during both the AM and PM peak period on the Junction 5 northbound off-slip, as shown in Figures 3 and 4. Queueing in the morning peak can stretch back over a mile on A1139 Frank Perkins Parkway from the Junction 5 off-slip, this more than halves the parkways normal capacity, with one lane effectively acting as a stacking lane, and the other reduced to slow speeds.

Without new or enhanced access arrangements, significant volumes of University traffic will access the university campus using Junction 5, Boongate and St Johns Street before reaching Bishop's Road. As traffic increases and the resultant queues and delays increase, the transport network in the surrounding area will become gridlocked particularly at peak times due to the operational breakdown of Junction 5 and Junction 39. Staff and students may increasingly become frustrated with the difficulty in accessing the University and may look to work or study elsewhere.

Table 2 shows that without intervention, the Over Capacity Queue at Junction 5 will significantly increase in both the AM and PM Peak periods resulting in long queues and delays, principally along the A1139 which is part of the MRN.

Table 2 – Comparison of the Over Capacity Queues at junction 5 between the A1139 and Boongate in 2016 and 2036

Over-Capacity Queue (PCU.hr)	AM Peak (08:00 – 09:00)	Inter Peak (14:00 – 15:00)	PM Peak (17:00 – 18:00)
Base Scenario (2016)	427	22	352
Do Minimum (2036)	3,511	159	2,217
Difference	+3,094	+138	+1,865

The preferred option for the University Access scheme will provide direct access from the south from the A1139 to Bishops Road, providing a shorter route into the site from the south and relieving congestion at junction 5, on Boongate, at junction 39 and on St Johns Street. Economic assessment work indicates that the new junction option could achieve 'very high' value for money, with a high proportion of the benefits coming from user benefits as a result of reduced congestion.

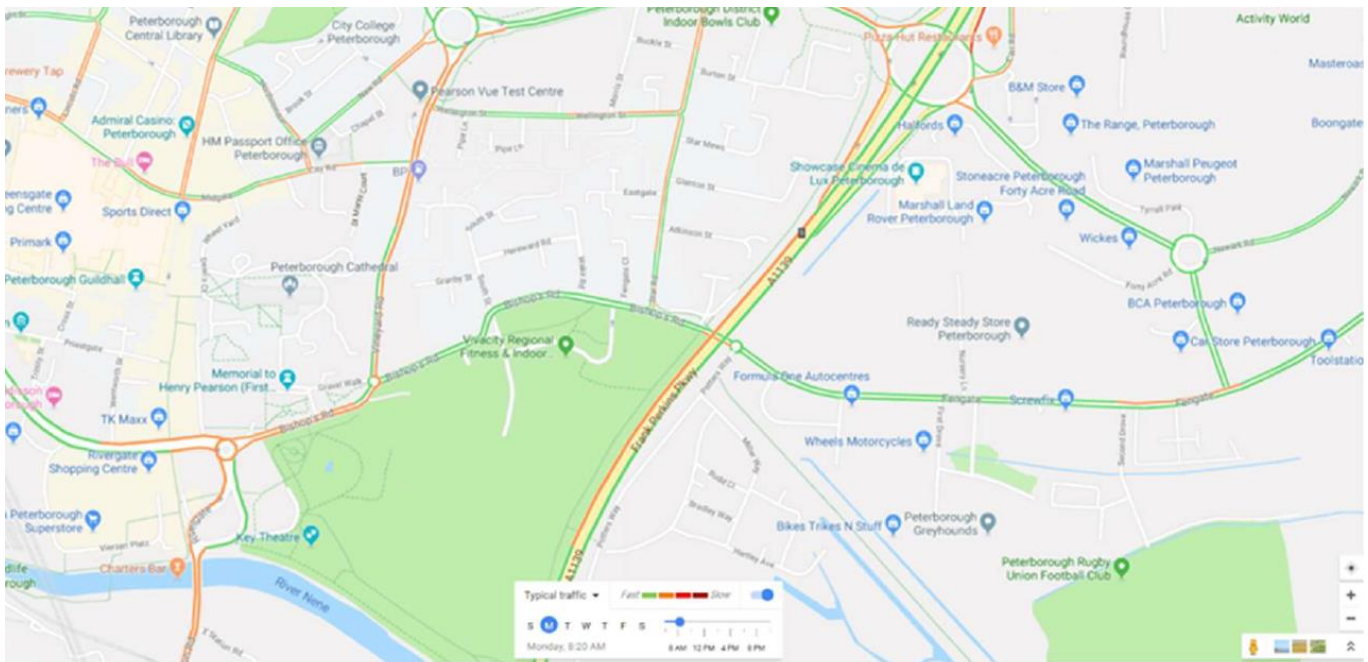


Figure 3 – Typical AM Peak Traffic Conditions in the area around the proposed Peterborough University site

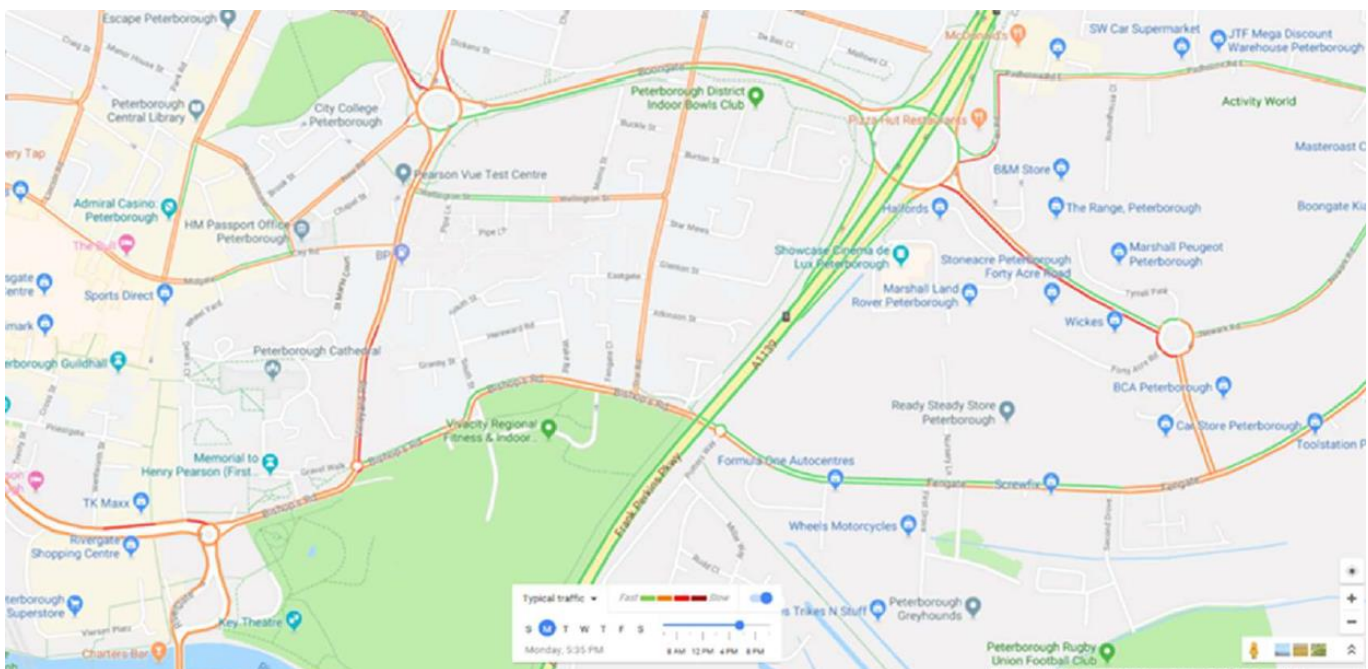


Figure 4 – Typical PM Peak Traffic Conditions in the area around the proposed Peterborough University site

Objective 2 Support Economic Growth and Rebalancing

Peterborough is the 4th fastest growing city in the UK for population. The city is entering a new and exciting phase in its development that will deliver significant levels of growth including ‘urban extensions’, strategic employment sites and an independent campus based university. Table 3 shows the scale of development planned at sites served by the A1139. Many of these growth sites will be directly accessed from the A1139.



Table 3 – Planned development in Peterborough served by the A1139

Development Site	Size of Development	Impact on A1139
Fengate	30ha	Junction 5 Junction 8
Stanground South	1,850 homes (558 to be built)	Junction 3a Junction 4
University of Peterborough	8,000 students 1,250 staff	Junction 4a (proposed direct access) Junction 5
Hampton	8,500 homes (3,500 to be built) Retail, Employment and Leisure	Junction 2 (direct access) Junction 3 (direct access)
Great Haddon	5,000 homes Retail, Employment and Leisure	Junction 1 (direct access) Junction 2 (direct access)
Gateway Peterborough	50ha of B1, B2 and B8	Junction 1 (direct access)

As queuing and delays rise across the highway network, particularly in peak times, businesses and their employees in this area will become increasingly frustrated with the difficulty in accessing the city centre or Fengate. If residents and employees have increasing journey times around the city when accessing employment opportunities, they may choose to work elsewhere. In addition companies looking to relocate to the city may consider other towns and cities with better transport conditions. If existing congestion and journey time issues on major routes across the city are not addressed, and new capacity is not provided to accommodate the transport demand of planned growth, Peterborough's growth aspirations will be compromised.

Objective 3 Support housing delivery

The city is now entering a new and exciting phase in its development that will deliver significant levels of new growth. The Local Plan sets out proposals to deliver 19,440 additional homes from 2016 to 2036, focused within seven 'urban extensions'. The majority of the residential developments will be accessed via the A1139. The University Access scheme, in directly addresses problems at the current junction 5, will have wider growth benefits on the route as a whole, and the residential sites accessed from it.

Objective 4 Supporting all road users

Queuing and congestion throughout the area increases severance, and makes it harder for non-motorised users to move around Peterborough. The University Site includes a new pedestrian / cycle bridge over the River Nene, which will provide an alternative to the current facility on Frank Perkins Parkway. The new bridge will not only be more attractive to users, but will also mean that the existing facility on Frank Perkins Parkway could be removed and the space used to improve that part of the MRN. In addition, safe, high quality pedestrian and cycle facilities will be designed into the University Access scheme.

Objective 5 Supporting the SRN

The A1139 Frank Perkins Parkway cuts a corner on the SRN to connect the A1 with the A47 eastbound and the A16 northbound. For northbound traffic on the A1, using the A1139 to access the A47 and A16 is eight miles shorter than staying on the A1 until its junction with the A47. Addressing congestion on the A1139 will ensure that traffic does not reroute to busy stretches of the A1 and A47, avoiding unnecessary mileage on the SRN.



SUMMARY AND CONCLUSIONS

The A1139 University Access scheme will directly provide transport capacity needed to allow for the development of the new University of Peterborough, and in addressing congestion and delay at junction 5 will support wider growth plans in the city, much of which is planned for sites that are directly served by the A1139.

The scheme will also help ensure that the A1139 is able to continue to efficiently meet its role as part of a regional Major Road Network, and take pressure off the busy A1 and A47 Strategic Road Network routes around the north and west of the city.