

Whittlesford Parkway Station Transport Masterplan

Stage Two Report: Plans and Proposals



18 December 2018



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Executive Summary

A grayscale photograph of a train station platform. The tracks run parallel to the platform, receding into the distance. On the left side of the platform, there are several benches and a small shelter. On the right side, there are more benches and a bicycle rack. In the background, there are some buildings and a cloudy sky. The text "Executive Summary" is overlaid in a large, dark blue font.

Executive Summary

Overview

- i. In April 2018, WYG were commissioned by the Greater Cambridge Partnership to produce a Transport Masterplan for Whittlesford Parkway Station. At the heart of this was the need to enhance the capacity and connectivity of the Parkway to help facilitate sustainable growth in the local area and reduce the impacts of car-based travel into Cambridge.
- ii. Whittlesford was identified as a location for a pilot Rural Travel Hub following a feasibility study of potential sites across South Cambridgeshire in November 2017. As such the Masterplan details the areas of investment through which to create a multi-modal transport interchange to accommodate demand from both the village itself and the large rural hinterland the station serves.
- iii. This Report forms the second of two documents which together comprise the Whittlesford Parkway Station Masterplan. This document sets out the plans and proposals, the delivery of which will see the creation of a modern, accessible rural interchange.

Summary of Issues

- iv. Issues which have been highlighted with the current operation of the Parkway Station relate to concerns associated with its capacity and connectivity. The station has the potential to both stimulate and stifle growth in South Cambridgeshire and at present there are major constraints limiting its use, such as its inability to be safely or efficiently served by buses, insufficient car parking and the lack of step free access between platforms.
- v. Whilst traditionally a commuter station, local growth, particularly in terms of employment will see its role increase as a destination station, and the severely limited travel choice available for onward travel, for those arriving at the station by train, presents further problems which this Masterplan seeks to address.

Strategic Approach

- vi. A vision, together with supporting objectives and key principles, has been identified through which to provide a framework for investment in and around the Parkway Station. The vision seeks to:
"Create an accessible multi modal travel hub which forms a strategically important interchange and gateway to facilitate sustainable local economic growth"
- vii. In turn the objectives reflect the need to provide the capacity for growth at the station, improve connectivity, particularly by sustainable modes of travel, and to create a safe and attractive gateway into South Cambridgeshire.

Scheme Selection & Prioritisation

- viii. A long list of over 150 schemes were identified in the Stage 1 Baseline Report, each of which was assessed in line with the overarching objectives of the Masterplan and the specific issues to be addressed at the Parkway.
- ix. In a number of cases schemes selected themselves for inclusion in the Masterplan, in that they represented the only realistic approach to addressing a particular problem. However, a number of key issues emerged from the Baseline Report for which several alternative schemes and interventions could be considered.

- x. A preferred approach to addressing each issue was identified, cumulating in 33 schemes being taken forward as part of a comprehensive package of measures to transform the capacity and connectivity of the Parkway. These include:
- A new lift and footbridge between the station platforms
 - An extended network of dedicated cycle links and safe crossing points
 - A bus turning circle to enable safe and efficient interchange with train services
 - Improved junctions on the A505 to improve safety, access and capacity
 - A new decked car park, increasing the number of parking spaces by around 50%
 - A transformed public realm which prioritises pedestrians in the immediate vicinity of the station.
- xi. Following the identification of the package of measures to be taken forward, each individual scheme was prioritised based upon the acuteness of need and issues to be addressed. It is envisaged that the high priority schemes directly associated with the functioning of the station, should be taken forward initially, with less critical medium priority and longer-term aspirations considered as and when opportunities arise.

Benefits

- xii. The investment identified within the Masterplan will have a transformative effect on the capacity of the station, its connectivity with surrounding communities and business parks, and the comfort (or conviviality) of the local area.
- xiii. Capacity enhancements will be seen in terms of the volume of cycle parking and car parking, in terms of the number of buses which can safely access the station, and on the wider road network associated with junction improvements on the A505.
- xiv. Those same junction improvements will reduce the severing effect of the A505, whilst connectivity will also be improved for all station users, particularly those with limited mobility through the provision of step-free access between platforms and dedicated disabled parking bays. The ability to undertake more seamless interchange between different modes of travel will become a realistic proposition, with significant benefits for bus users and cyclists.
- xv. Investment in the transport infrastructure at the station will in turn provide opportunities for wider planning benefits. Scope for the redevelopment of the current highway depot sites will be enhanced through the reconfiguration of the junction of Station Road East and the A505, whilst enhancements to the public realm on Station Road East itself could prompt the introduction of land uses which would complement the operation of the station.

Implementation

- xvi. The success of the Masterplan will be dependent on close liaison and partnership with a series of stakeholders and interested bodies who have helped shape the direction of investment. With an estimated £23m worth of improvements identified, a strong alliance will be required between all parties to ensure the efficient delivery of the Masterplan and the realisation of the benefits it could generate.
- xvii. Various funding opportunities exist which could be capitalised upon to secure the necessary investment in the parkway; continuation of the ongoing collaboration between Greater Anglia and the Greater Cambridge Partnership could secure investment through centrally held competitive funding streams.



1. Background

1.0 Background

1.1 Introduction

- 1.1.1 In April 2018, WYG were commissioned by the Greater Cambridge Partnership to produce a Masterplan for Whittlesford Parkway Station. At the heart of this was the need to enhance the capacity and connectivity of the Parkway to help facilitate sustainable growth in the local area and reduce the impacts of car-based travel into Cambridge.
- 1.1.2 Whittlesford was identified as a location for a pilot Rural Travel Hub following a feasibility study of potential sites across South Cambridgeshire in November 2017. As such the Masterplan will detail the areas of investment through which to create a multi-modal transport interchange to accommodate demand from both the village itself, and the large rural hinterland the station serves.
- 1.1.3 This Report forms the second of two documents which together will comprise the Whittlesford Parkway Station Masterplan. This document details the areas of intervention, schemes and ideas through which to transform the Parkway into a Rural Travel Hub and world class interchange, together with the key areas to be considered to ensure the implementation of the plan.

1.2 Structure of the Report

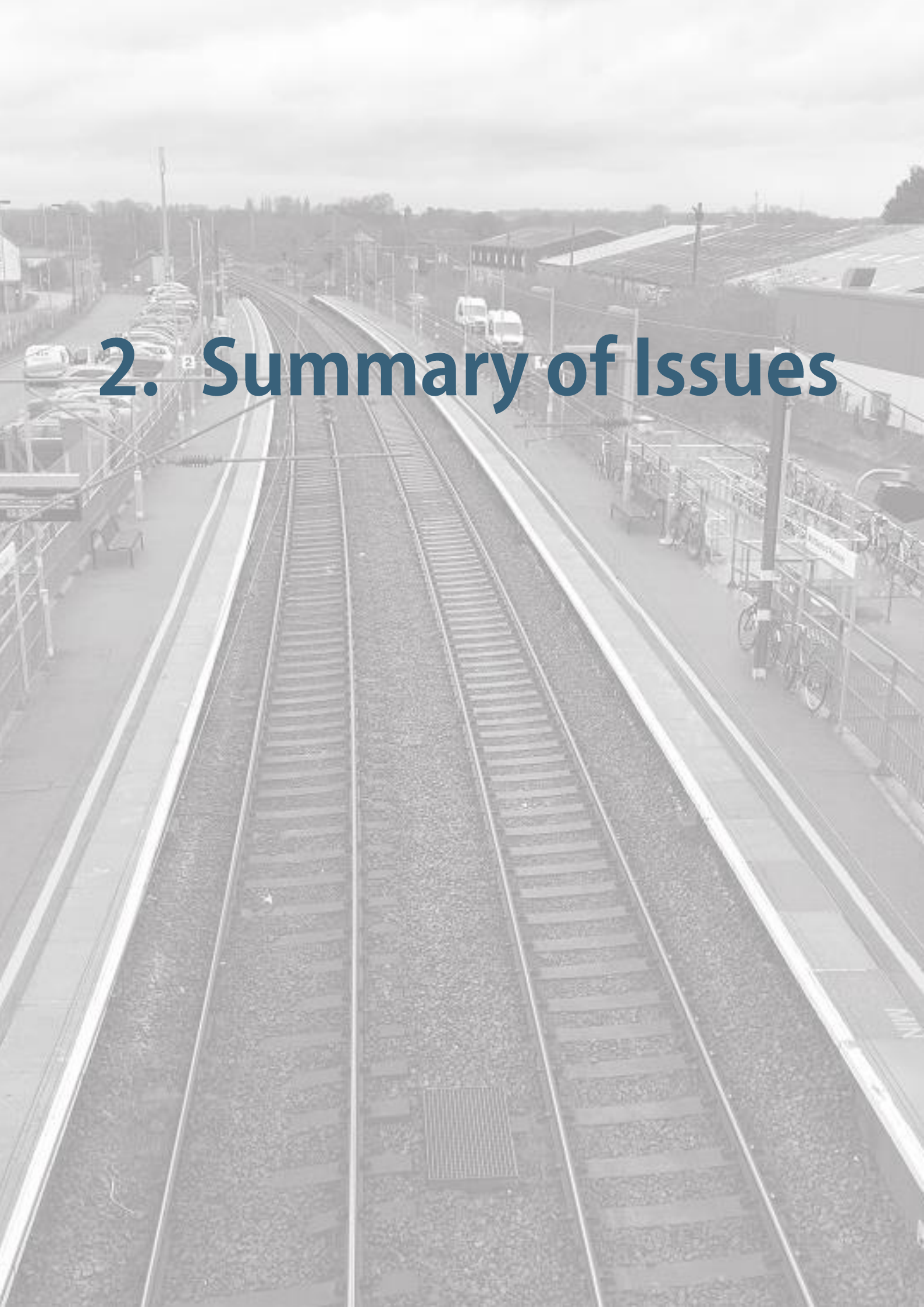
- 1.2.1 This Report is structured as follows:
 - **Chapter 2: Summary of Issues** – Summarises the issues highlighted in the Baseline Report.
 - **Chapter 3: Strategic Approach** – Details the overarching vision and objectives for the Masterplan, and the core principles which have been applied in the identification of interventions.
 - **Chapter 4: Scheme Selection** – Reviews the scheme selection process and the initiatives included on the short list of measures to be taken forward as part of the Masterplan.
 - **Chapter 5: Prioritisation** – Establishes the respective priority of the schemes to be delivered and includes technical illustrations of how those critical to the success of the Masterplan can be implemented.
 - **Chapter 6: Benefits** – Draws out the transport and wider land use planning benefits of the Masterplan and some of the schemes it contains.
 - **Chapter 7: Implementation** – Provides details of the deliverability of the Masterplan in terms of the indicative costs of schemes, funding sources, timeframes for delivery and risk management.
 - **Chapter 8: Summary** – Forms an overview of the Masterplan.

1.3 More Information

- 1.3.1 For more information on anything contained within this Report please contact:

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2. Summary of Issues



2.0 Summary of Issues

2.1 Overview

- 2.1.1 The issues facing the Parkway now and into the future can be categorised in terms of the current provision in place, travel patterns and practice, stakeholders' perceptions of the station and its accessibility, and the proposals in place with regard to future development.

2.2 Provision

- 2.2.1 There is a juxtaposition between excellent rail based strategic connections to both Cambridge and London, and a lack of comprehensive, consistent, coherent or convivial provision for local access by all modes of travel.
- 2.2.2 Facilities provided to access the station are focused on car-based travel but are not the standard expected of a modern interchange. Turning restrictions at the junctions of the A505 with both Station Road East and Moorfield Road make accessing and exiting the station car parks difficult for some, whilst the car parks themselves are of poor quality in terms of the demarcation of bays, lighting, information and ticket machines. The management and enforcement of on-street provision appears inconsistent and in need of rationalisation.
- 2.2.3 Provision for sustainable modes of travel is far worse. Whilst the Parkway is potentially very well connected by cycle links, key pieces of the jigsaw are missing which would make cycling to the station a safer and more pleasant experience.
- 2.2.4 Gaps in the network and the quality of existing routes are factors likely to undermine the ability of potential cyclists to make end-to-end trips on dedicated or quiet links, and the lack of step-free access between platforms at the Parkway could form a physical barrier to many.
- 2.2.5 The lack of a lift between platforms also makes the station effectively inaccessible for those with limited mobility or a pushchair, for example. Although pedestrians could generally benefit from footpaths alongside all roads into the station, a lack of dropped kerbs and tactile paving on these links could again limit accessibility to many, and the absence of any existing dedicated provision for pedestrians on the final stretch of Station Road East between the car park and the station presents a potential safety risk to even the most mobile.
- 2.2.6 Bus services do not provide a realistic alternative to the car due to the limited route options and frequencies in place. Local infrastructure and access compounds this problem with the station effectively on a cul-de-sac for most routes, with restrictions on right turning movements onto the A505 from Station Road East, and lack of turning points at the end of either Station Road East or Station Road West increasing the difficulties in serving the Parkway.

2.3 Practice

- 2.3.1 A review of travel patterns associated with Whittlesford Parkway and changes in travel demands and pressures in the wider area highlights increasing pressure on existing capacity and provision. It is clear that there is a heavy reliance on the private car to access the Parkway, whether that be individuals driving to the station alone, as a passenger in a car or being dropped off.
- 2.3.2 This contributes to the high volumes of traffic on the surrounding network (potentially up to 8% of trips on the A505) and parking on local streets, which in turn deter more sustainable forms of travel.
- 2.3.3 The reliance on the car to access the station is at odds with the efforts of local business parks to encourage sustainable access to their sites. Both Granta Park and the Wellcome Genome Campus put considerable effort into encouraging sustainable travel, including from the Whittlesford Parkway.
- 2.3.4 There is scope to build upon this best practice in the vicinity of the station to address the current modal split and reduce the growing pressures on the A505 and other local routes.
- 2.3.5 What is also noticeable is the high level of cycle trips to the station. With 17% of station users recorded as cycling to the station, this far outstrips the national trend, and is somewhat at odds with the lack of supporting infrastructure in place for cyclists in the form of dedicated cycle lanes and cycle parking.
- 2.3.6 This demonstrates that there is a cycle culture in place in Whittlesford and the wider South Cambridgeshire area, along with the potential for suppressed demand to be released, both of which are key strengths to build upon when looking to further reduce reliance on the private car.

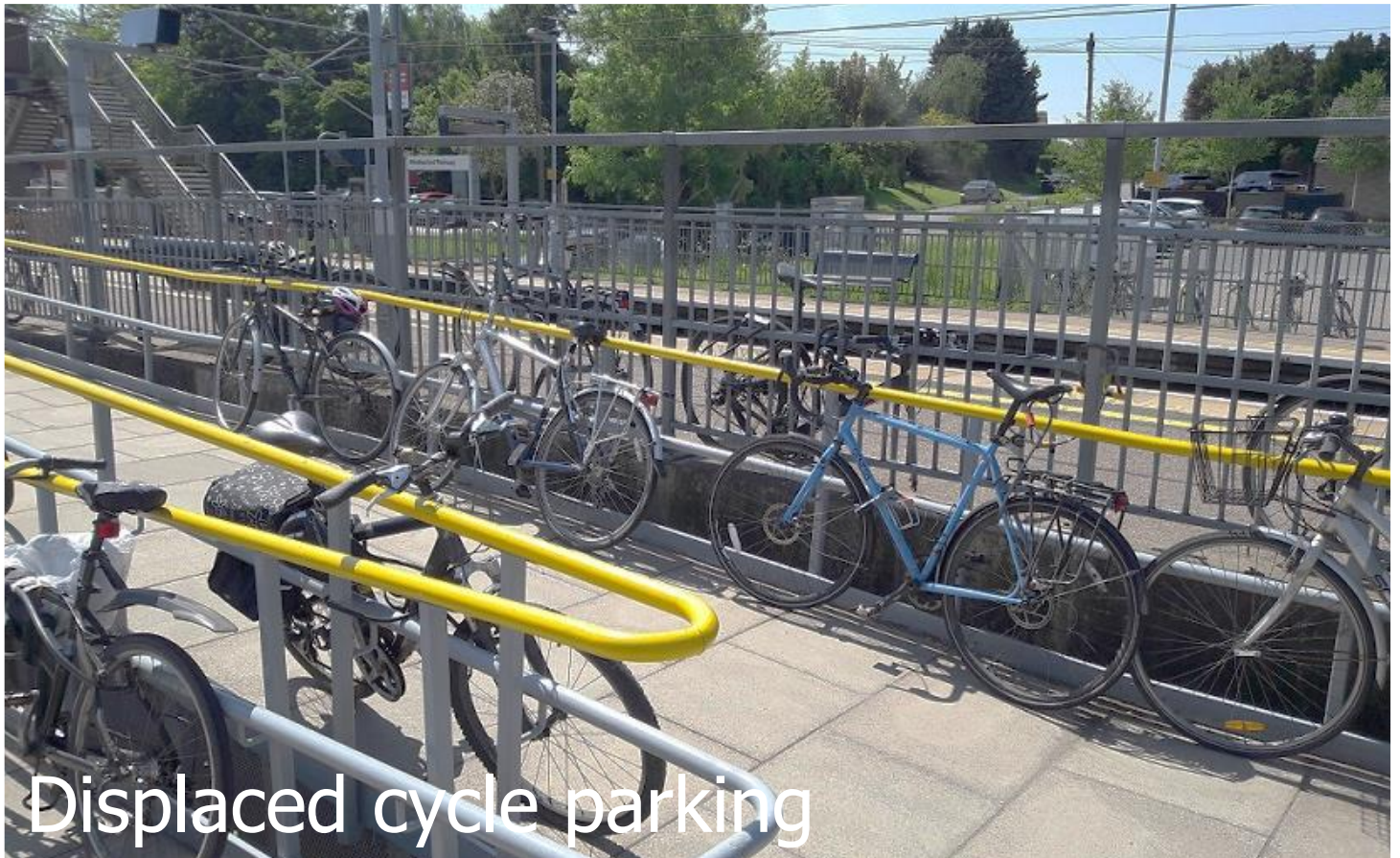
2.4 Perceptions

- 2.4.1 There is considerable interest in the development of Whittlesford Parkway as a multi-modal interchange to better serve the needs of the local community and its wider catchment area. Without exception, investment is supported across all stakeholder groups, and with pro-active interest groups pushing for change, there is a clear mandate to address the shortcomings of the existing provision.
- 2.4.2 The engagement process has highlighted consistencies in the perceived nature of current issues. Poor access to the station particularly by bus, bike and on foot are clear concerns which have emerged from station users, non-users, elected members, and transport providers alike.
- 2.4.3 Car parking is also a concern, but for slightly different reasons depending upon the viewpoint of the individual. However, it is clear that the current lack of spaces is of importance to local residents, commuters, and Greater Anglia (as the train operator), in terms of the limitations it places upon their revenue streams.
- 2.4.4 The general satisfaction with access to the station expressed in the survey of current station users shouldn't mask the problems which exist. As regular station users, many have adopted a routine which negates the obvious problems which exist. The harder to reach non-station users provide evidence of the untapped demand and barriers to access the rail connectivity the station provides.
- 2.4.5 In terms of the interventions through which to transform Whittlesford into a world-class travel hub, there is again broad support and consistency in the messages received from stakeholders. The need to focus on sustainable transport is clear, addressing actual and perceived safety concerns, and addressing the wider problems of the highway network, particularly the A505.
- 2.4.6 However, the nuances of future provision highlight some differences of opinion, in terms of the treatment of car parking, access onto the platforms for pedestrians and cyclists from the south, and the nature of bus service provision and supporting infrastructure.

2.5 Proposals

- 2.5.1 South Cambridgeshire has seen significant growth in recent years and housing and employment proposals in the pipeline look set to see this continue into the foreseeable future. Of particular note is the increasing role Whittlesford may play as a destination station, due to the sizeable expansion of existing business parks within close proximity, including expansions at Granta Park, Wellcome Genome Campus and Babraham Research Campus. A proposed redevelopment of Sawston Trade Park will essentially create another new business park significant in size.
- 2.5.2 A new garden village in North Uttlesford would form the single biggest residential development in the catchment area of the station, the details of which are being developed as part of the emerging Uttlesford Local Plan.
- 2.5.3 The other large housing development with the potential to effect demand at Whittlesford Parkway is on land to the north of Haverhill, although sites allocated for growth in and around Cambridge City are not expected to make a significant impact upon the use of the station.
- 2.5.4 A small residential development of up to 60 dwellings was granted planning permission on land immediately to the west of the station in autumn 2018.
- 2.5.5 In terms of transport proposals, the new railway station to the south of Cambridge to support a further expansion of Cambridge Biomedical Campus around Addenbrooke's Hospital, could significantly increase demand at Whittlesford. Due to parking pressures at Addenbrooke's, it has the potential to draw in rail-based commuters who may use Whittlesford, which would be less than a 10-minute journey from the south.

Figure 2.1: Existing Problems at Whittlesford Parkway



3. Strategic Approach

A grayscale photograph of a train station platform. The tracks run parallel to the platform, receding into the distance. On the left, there are several train cars parked. On the right, there are bicycles parked in racks. The sky is overcast. The text '3. Strategic Approach' is overlaid in a large, dark blue font.

3.0 Strategic Approach

3.1 Vision

- 3.1.1 Whittlesford Parkway has been designated as a pilot Rural Travel Hub defined by the Greater Cambridge Partnership as:

"...a transport facility that serves as an interchange, close to existing transport corridors (that are served by a reliable and relatively frequent public transport service), where residents in rural areas can walk, cycle or drive to and continue their onward journey using a sustainable mode of travel..."

- 3.1.2 This is supported by the Greater Cambridge Partnership's broader transport vision to:

"Create better and greener transport networks, connecting people to homes, jobs, study and opportunity".

- 3.1.3 Given this policy context, the current pressures and future demands anticipated to be placed on the station, an overarching vision for the Masterplan was identified which seeks to:

"Create an accessible multi modal travel hub which forms a strategically important interchange and gateway to facilitate sustainable local economic growth".

- 3.1.4 This vision encapsulates the core functions of the station and the desire to maximise the ability of the facility to stimulate growth, reduce reliance on the car and promote social inclusion.

3.2 Core Principles

- 3.2.1 In order to achieve the overarching vision, a series of principles have been identified, the application of which has ensured that the most appropriate and cost-effective schemes have been incorporated into the Masterplan. These principles comprise the following:

- Adopting an integrated approach to delivery
- Maximising strategic benefits
- Applying a hierarchy of needs
- Securing marginal gains

Integrated Approach to Delivery

- 3.2.2 The success of the Masterplan will be dependent upon applying an integrated approach on a number of different levels particularly in terms of land use planning, different modes of travel and service providers. To this end, the Masterplan has sought the input of stakeholders to shape a framework for investment and promotes continued and ongoing engagement as part of the delivery of the vision.

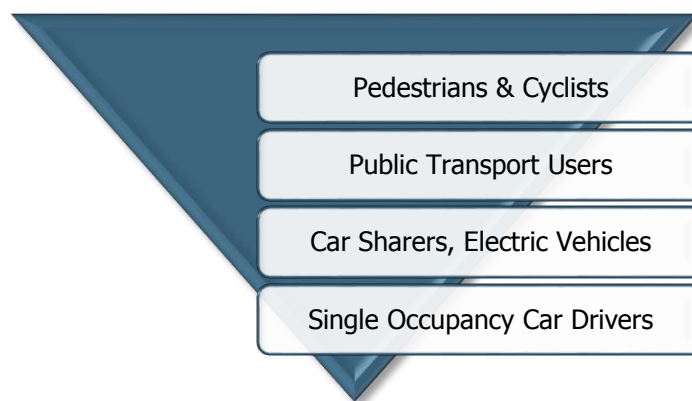
Strategic Benefits

- 3.2.3 The focus of the Masterplan and subsequent investment focuses on maximising connectivity and capacity improvements to Whittlesford Parkway. Notwithstanding this focus, where wider, strategic benefits can be secured both in terms of transport and wider land use issues, such opportunities should be prioritised and maximised.

Hierarchy of Access Needs

- 3.2.4 In seeking to improve sustainable access and capacity at the station, a hierarchical approach has been applied which prioritises the needs of pedestrians and those with limited mobility, cyclists and public transport users, ahead of catering for car-share trips and finally single occupancy car users. This approach ensures that sustainability is at the heart of future investment, that realistic alternatives to the car are provided and that opportunities to reduce car use are maximised.

Figure 2.1: Hierarchy of Access Needs



- 3.2.5 Within this structure, it is recognised that needs are often conflicting, and a balance has to be struck between these different access needs. The challenge is to ensure that these are not competing needs, but requirements which can be harmonised.

Marginal Gains

- 3.2.6 Providing small scale, local level, low cost improvements to transport provision can have a cumulative impact on the travel choices individuals make. A core principle of this Masterplan is therefore to ensure that transport works at a human level, so that through a series of marginal improvements, the transport network and public realm is more inclusive and comfortable.

3.3 Objectives

- 3.3.1 A series of supporting objectives have been identified which seek to complement the overarching vision of the Masterplan and which have helped to both inform the nature of the interventions taken forward and provide a basis upon which to quantify the effectiveness of investment in and around the Parkway.
- 3.3.2 These can be seen as the 3C's and comprise:
- **Capacity:** Provide the capacity in the local transport network to accommodate the increase in demand to use the station.
 - **Connectivity:** Improve access to and from the station by all modes to stimulate local economic growth and connect labour markets with employment opportunities.
 - **Comfort:** Create a safe, attractive and welcoming gateway to South Cambridgeshire, removing conflict between road users and between commuters and local residents.

3.4 Performance Indicators

- 3.4.1 A series of performance indicators have been identified (and are included in **Table 3.1** below) against which progress towards the overarching vision and supporting objectives can be quantified. They contain both output and outcome measurables, are proportionate in number and seek to minimise any further monitoring burden.

Table 3.1: Performance Indicators

Ref	Indicator	Baseline (Year)	Target (Year)	Source of Data	Related Objectives
01.	Increase in the patronage of the Station (annual throughput of the station).	510,000 (2016/17)	t.b.c.	Office of Road & Rail.	(1) Capacity
02.	Increase in the modal split of journeys to the station by sustainable transport (walk, cycle, bus).	29% (2018)	t.b.c.	Annual Station User Surveys.	(2) Connectivity
03.	Increase in the number of cyclists using the National Cycle Network in close proximity to the station (annual seven-day average).	81 (2016)	t.b.c.	Cambridgeshire County Council Automatic Traffic Counters.	(1) Capacity (2) Connectivity
04.	Increase in the number of bikes parked at the station (daily average).	83 (2018)	t.b.c.	Annual Station User Surveys.	(1) Capacity
05.	Increase in the number of buses serving the station (daily services).	11 (2018)	t.b.c.	Bus timetable information.	(1) Capacity (2) Connectivity
06.	Minimise the number of KSIs on approaches to the station (five year averaged personal injury accidents).	0 (2018)	t.b.c.	Police Stats 19 Database	(2) Connectivity (3) Comfort
07.	Increase in the satisfaction level associated with commuters' access to the station (% of respondents who stated good or satisfied).	33% (2018)	t.b.c.	Online Annual Station User Surveys.	(1) Capacity (2) Connectivity (3) Comfort
08.	Increase in the satisfaction level associated with car parking at the station (% of respondents who stated good or satisfied).	52% (2017)	t.b.c.	National Rail Passenger Surveys & Annual Station User Surveys.	(1) Capacity (3) Comfort
09.	Increase in the satisfaction level associated with transport access for local businesses (% of respondents who stated good or satisfied).	t.b.c.	t.b.c.	Annual Survey.	(1) Capacity (2) Connectivity (3) Comfort
10.	Increase in the satisfaction level associated with local residents perceived impact of station use on their quality of life (% of respondents who stated good or satisfied).	t.b.c.	t.b.c.	Annual Survey.	(3) Comfort
11.	Increase in the number of visitors to Duxford Chapel (annual patronage).	t.b.c.	t.b.c.	English Heritage.	(2) Connectivity (3) Comfort

- 3.4.2 These indicators should be measured on an annual basis and changes in performance viewed alongside the timing of interventions delivered to identify the relative impact of individual measures within the broader framework of investment detailed within this Masterplan.

4. Scheme Selection

A grayscale photograph of a railway station platform and tracks. The tracks run parallel to the platform, receding into the distance. On the left, there are several parked trains or carriages. On the right, there are bicycles parked near the platform edge. The sky is overcast.

4.0 Scheme Selection

4.1 Overview

- 4.1.1 This chapter details the assessment of the long list of schemes, options and ideas identified in the Stage One Baseline Report, and through additional analysis undertaken, draws out those schemes taken forward for inclusion in the Masterplan. The advantages and disadvantages of each scheme are summarised, and in instances where a more appropriate intervention is available, the rationale behind the decision making is set out.

4.2 Assessment of the Long List

- 4.2.1 Over 150 schemes were identified through which to potentially address the current and potential future issues facing the Parkway Station. The long list was derived from analysis of the policy, provision, practice, perceptions and proposals in place in and around the station.
- 4.2.2 Feedback from stakeholders through various forums including a workshop, surveys of station users and non-users and a series of tele-conferences assisted in the development of a comprehensive list of ideas. These have been assessed based upon the strategic approach iterated in Chapter 3 and their respective deliverability. A summary of each scheme is contained within **Appendix A**.
- 4.2.3 Some schemes have been included on the short list for inclusion in the Masterplan which provide the only solution to specific problems highlighted in the Baseline Report. In a number of other cases however, particularly those where the issues identified were most acute, alternative approaches to address the same issues were identified and a decision had to be taken as to which would form the most effective. The key issues and the options considered to address each are summarised in **Table 4.1**.

Table 4.1: Key Issues and Options

Issue	Options
Lack of step free access between platforms.	<ul style="list-style-type: none">• Provision of a lift.• Provision of a ramped bridge.• Do nothing.
The safety and functioning of Station Road East.	<ul style="list-style-type: none">• Pedestrianisation.• Creation of shared space.• Widen footways.• Do nothing.
Poor accessibility of the station by bus.	<ul style="list-style-type: none">• Provision of a bus turning circle.• Provision of bus stops on the A505.• Do nothing.
Congestion and severance issues on the A505.	<ul style="list-style-type: none">• Junction treatments.• Dualling of the carriageway.• Do nothing.
Quantity, quality and location of car parking provision.	<ul style="list-style-type: none">• Provide more parking.• Provide less parking.• Enhance existing parking provision.• Consolidate car parking off-street.• Cater for on-street parking.• Do nothing.
Sustainable transport access from Duxford.	<ul style="list-style-type: none">• New junction and crossing on A505.• Bridge over the A505.• New link onto station platform from south of the A505.

4.3 Step Free Access between Platforms

- 4.3.1 The lack of step free access between platforms is a major barrier to increasing station use, particularly for those with limited mobility, but it is an issue which can be addressed through the provision of a ramped bridge, lift or both. Doing nothing is not a realistic option in seeking to transform Whittlesford into a modern multi-modal interchange.
- 4.3.2 The preferred approach is to include the provision of a lift and new footbridge within the Masterplan based upon the following rationale:
- A lift would provide the easiest method of transfer between platforms for those with limited mobility. A ramped bridge would still provide difficulties for wheelchair access.
 - A lift would have minimal land take requirements, compared to a ramped bridge which would occupy a sizeable footprint and land which could be designated for other uses.
 - A lift would have less of a visual presence than a bridge. The bridge would constitute a much larger structure in close proximity to residential properties and listed buildings.
 - It is recognised that the bridge would provide more capacity and have lower maintenance costs than a lift. On balance, it was considered that this would not outweigh the other benefits of lift access.
- 4.3.3 The costs of providing both a bridge and a lift would be excessive and, in many respects, duplicate the required functions, and so this option has been discounted.

4.4 Station Road East

- 4.4.1 Station Road East performs two main functions – acting as a gateway into and out of South Cambridgeshire for those arriving at Whittlesford Station and as a local access route to local residential and business properties. At present it does neither of these particularly well.
- 4.4.2 Whilst minor works could be undertaken to widen footways and smooth the flow of traffic, it was felt that a more comprehensive solution was required to accommodate access to the station, whilst mitigating the impact on local residents and maintaining access for the local businesses.
- 4.4.3 From the A505 junction to just before Duxford Chapel the Masterplan proposes to increase the capacity of the road to accommodate both current and future increases in demand to travel to the station and local businesses by the car, whilst enabling access for buses.
- 4.4.4 Between Duxford Chapel and the station itself the Masterplan places emphasis on the gateway function of Station Road East. The removal of as much traffic as possible and pedestrianisation of the carriageway would transform the feel of the area, prioritises pedestrian and cyclist movements and enhance the setting of the Chapel and the Red Lion Hotel which are both listed buildings. Alternative accesses would need to be provided to the businesses adjacent to the railway tracks, hotels and residential properties.
- 4.4.5 An option to introduce shared space was not pursued at this time, given the current Department for Transport review of policy, the safety concerns such interventions raise amongst visually impaired groups, enforcement requirements and the ongoing resource this would require and the significant compromises that would be seen in terms of the functioning of the street as a public space.
- 4.4.6 However, given the complexities associated with the preferred approach, in particular securing agreements with all of the local stakeholders, an interim scheme could be provided which maintained vehicular access to the hotels and business units but which provided enhanced facilities for pedestrian access.

4.5 Improving Access for Buses

- 4.5.1 Whilst commuter buses provided by Granta Park and the Wellcome Genome Campus are popular with employees, there is extremely limited public bus service connectivity with trains to/from Whittlesford. The main barriers to this are the difficulties associated with physical access for buses onto Station Road East from the A505 and their ability to manoeuvre and turn once near the station.
- 4.5.2 Two options were considered to address this – one involving the provision of a new, all movements junction where Station Road East meets the A505, together with a bus turning circle on land off Station Road East and another providing bus lay-bys on the A505 close to the station.
- 4.5.3 The provision of a turning circle on land immediately to the east of Duxford Chapel on land currently used for car parking was considered the most beneficial due to the following factors:
- It would enable boarding/alighting as close as possible to the station's platforms.
 - It would form a 'good neighbour' to the chapel and a buffer between the chapel and the current car park.
 - It would provide a high-quality waiting environment for passengers.
 - Space could be provided for both public service and private charter operations, together with rail replacement bus services.
 - A new signalised 'all-movements' junction of the A505 / Station Road East junction could incorporate a Selective Vehicle Detection system to prioritise buses and minimise additional journey times for main road movements.
 - Laybys on the A505 may prove difficult to enforce in terms of their use by HGVs or general traffic.
 - There could be safety connotations as a result of buses trying to get up to speed on the A505 when pulling off from the lay-bys and pedestrians crossing the A505.
- 4.5.4 Whilst the preferred approach would see buses deviating from the A505, the additional bus journey time incurred would not be significant and would be justified by the much higher level of service provided for bus users. ¹.
- 4.5.5 In addition, it is felt that any increase in journey times would be more than offset by the increase in demand to travel by bus to Whittlesford and interchange between bus and rail services which the new facility would enable.
- 4.5.6 It also presents opportunities to work with local employers and discuss future bus service operations from the station to their respective business park locations to try and avoid a duplication of provision and co-ordinate service provision.

4.6 Treatment of the A505

- 4.6.1 The A505 forms the main corridor along which the Parkway is accessed and despite proposals for a dedicated strategic study for its long-term future, it was felt that attention had to be paid to how it could be targeted in the short term to make access to the station better for all road users.
- 4.6.2 To this end a series of interventions are proposed to signalise the A505/A1301 junction and provide new 'all-movement' signalised junctions at the A505/ Station Road East and A505 / Moorfield Road intersections.

¹ Bus Services and New Residential Developments: General Highways and Urban Design Advice to Applicants and Highway Authorities; Stagecoach, 2017.

4.6.3 The rationale behind this focused upon:

- The need for increased capacity at the A505/A1301 junction.
- The better regulation of traffic flow which signalisation would provide.
- The improved accessibility for general traffic and buses by enabling all movements at the A505 junctions with Station Road East and Moorfield Road.
- Safety benefits to all road users on Moorfield Road with the inclusion of an at-grade pedestrian and cycle crossing phase.
- Safety benefits to traffic at each junction.
- The reduced mileage achieved by facilitating right turn movements out of Station Road East and Moorfield Road.

4.6.4 The potential dis-benefits to journey times for through traffic could be quantified once the A505 traffic model is completed.

4.6.5 The 'do nothing' alternative to these junction improvements was felt to be unacceptable due to the existing and growing problems with the road. It is felt that an alternative of dualling the road is better considered once a separate study into the longer-term strategic requirements of the route is undertaken in 2019.

4.6.6 The proposed junction improvements represent large scale interventions and if funding dictates, the provision of toucan crossings at the intersections with both the A1301 and Moorfield Road could provide a shorter-term solution, subject to a further safety assessment.

4.7 Car Parking

4.7.1 Whittlesford is a Parkway Station that has insufficient off-street and unsuitable on-street parking provision. Whilst reducing parking provision was considered, many parts of its large rural hinterland are dependent on the car and it is more appropriate that these trips are properly accommodated than left to impact upon local residents through inconsiderate on-street parking.

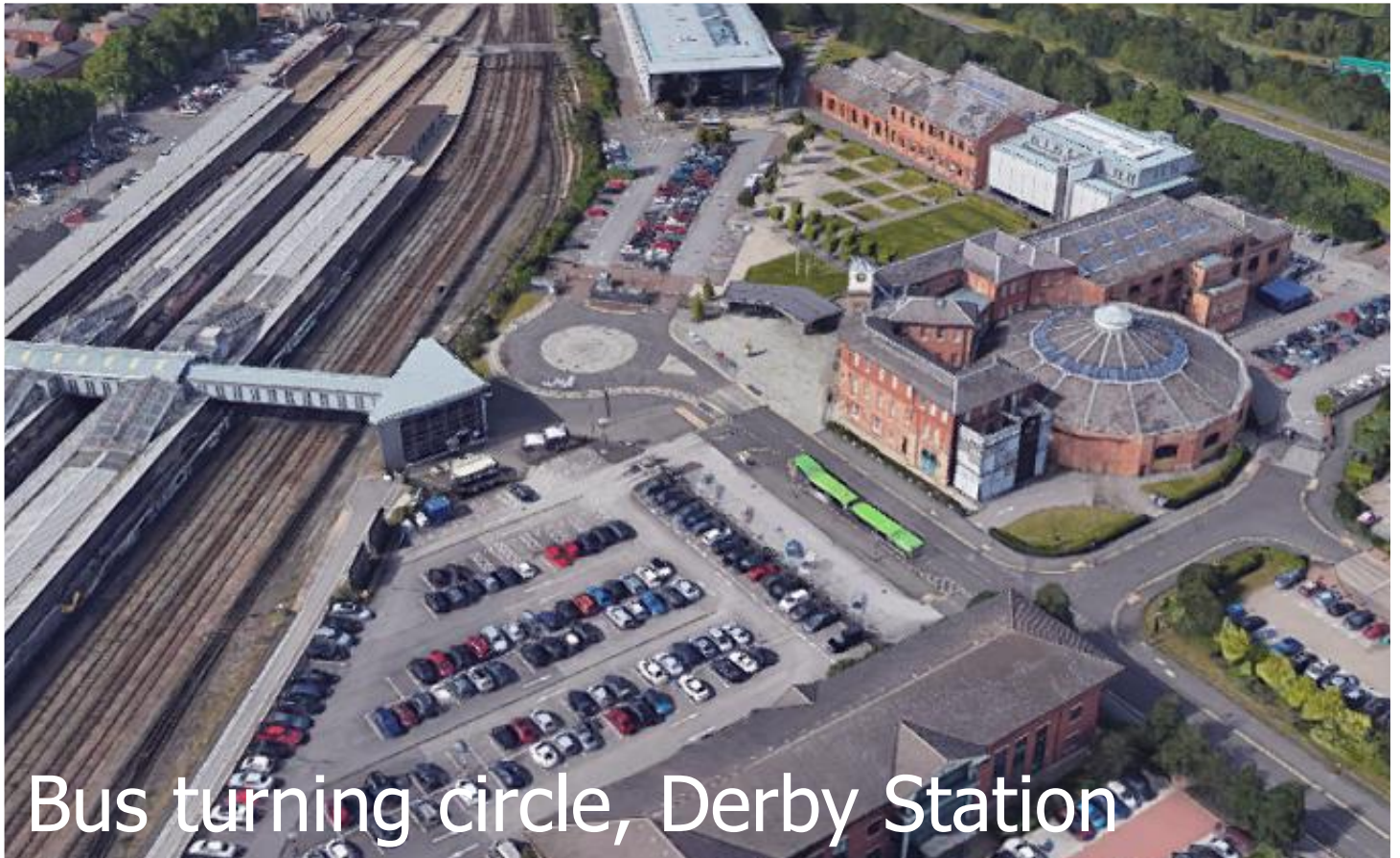
4.7.2 In turn, this has the strategic benefit of reducing longer car-based trips through their transfer to rail, ensuring an overall reduction in vehicle miles.

4.7.3 In terms of the location of an increased parking offer, several sites were considered, including the area currently occupied by Cambridgeshire County Council's and Highways England's Highway Depots, sites either side of the River Cam, and opportunities to the west of the station. However, it was felt that an extension of the existing station car park on Station Road East through the provision of two additional decks would provide the optimal solution based upon:

- It is an established car park and would not require any land take from third parties.
- It is an appropriate land use to be located next to the busy A505.
- The change in levels between the car park and the A505 would minimise the visual impact of decking from the carriageway.
- The additional spaces would provide accessible car parking spaces suitable for modern cars.
- It would enable parking around the station to be consolidated in one place, designed to accommodate such provision, through the removal of on-street provision on Station Road East/West and off-street car parking to the west of the station.
- The removal of the latter would reduce traffic movements on Station Road West, a predominantly residential street.

4.7.4 It is recognised that there is a potential impact of a decked car park on Duxford Chapel. However it is felt that the treatment of the façade closest to the chapel, a buffer zone provided by the bus turning circle and a line of planting could negate the impact on the listed building.

Figure 4.1: Examples of Best Practice



Source: Google Maps

4.8 Access from Duxford

4.8.1 Providing a safe and secure pedestrian and cycle link between Duxford and the station is an important element of the long term sustainable growth of the station. At present the A505 forms a physical and perceptual barrier to this with access via an uncontrolled crossing at the junction with Moorfield Road. Three solutions were considered to address this issue:

- The provision of a signalised, at-grade crossing as part of improvements to the A505 / Moorfield Road junction.
- A shared use bridge over the junction.
- A shared use path to the south of the A505, running parallel with the carriageway, before providing access onto the northbound platform of the station.

4.8.2 It is felt that the best solution to the issue is the at-grade crossing at the A505 / Moorfield Road junction. This is based upon the following:

- Strategic benefits to the National Cycle Network as well as links to the station.
- Improves an established route.
- Minimises land take requirements.
- More deliverable in terms of getting buy-in and support from key partners.
- Ensures users benefit from the natural surveillance provided by existing residential properties.
- Reflects the desire line of users.
- Would align with wider proposals to improve connectivity for pedestrians and cyclists.

4.8.3 Whilst improvements to the A505 / Moorfield Road junction would not prevent the shared use path to the south of the A505 also coming forward, it is felt that there were a number of drawbacks to this approach, not least difficulties in accessing the platforms, the level of use outside of peak periods, the lack of natural surveillance and the resultant personal security concerns this would raise.

4.9 Other Proposals

4.9.1 The full list of measures to be taken forward are detailed in Table 4.2, together with their anticipated contribution towards the overarching objectives of the Masterplan. The mix of multi-modal schemes proposed is illustrated in Figure 4.2 and the Concept Plans which form the crux of this Masterplan in Figure 4.3 and Figure 4.4.

Figure 4.2: Mix of Schemes Included within the Masterplan

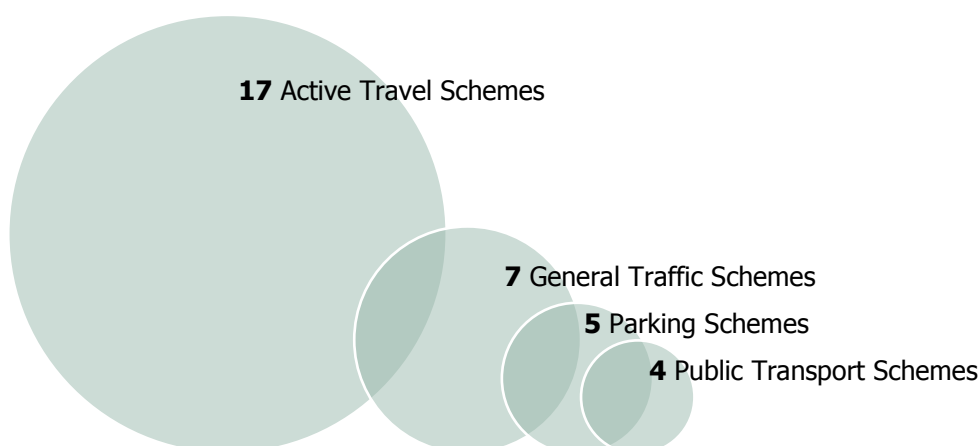


Table 4.2: Masterplan Proposals

Ref.	Scheme	Objectives		
		Capacity	Connectivity	Comfort
Active Travel				
AT.02	Lift and New Footbridge: Replace the existing bridge with a new DDA compliant facility.		✓	✓
AT.03	Station Facilities: Provision of new station buildings on existing car park to the west, incorporating a toilet, café and shop.			✓
AT.04	Cycle Parking: Provision of 200 new, covered and secure cycle parking spaces at the station.	✓	✓	
AT.06	Cycle Hire Facility: Docking stations at both the Parkway and within surrounding business park campuses.		✓	
AT.07	Electric Bike Charging Points: Incorporate within new cycle parking provision (see AT.04).	✓	✓	
AT.09	Pedestrianisation of Station Road East: Between the station and Duxford chapel, together with alternative access to properties.	✓	✓	✓
AT.11	Shared Use Path on London Road, Sawston: Continuation of existing facility on the A1301 into the village.		✓	
AT.12	Widen the Shared Path alongside the A505 between Station Road and the A1301: To the north of the carriageway.	✓	✓	
AT.13	Cycle Path between Highway Depot and Mill Farm Lane: Use of private road and new off-road path between Sawston and the station.		✓	
AT.17	Continuous footway from Duxford Chapel to the junction with the A505: As part of road widening scheme (see GT.11).	✓	✓	
AT.18	Public Realm Enhancements on Station Road West: Redevelopment of the existing car park next to the station.		✓	✓
AT.19	Improved Footways on Royston Road and Station Road West: Resurface, dropped kerbs, tactile paving etc.		✓	
AT.20	Cycle Lanes on both sides of Station Road West: On-road facility between station and National Cycle Network.		✓	
AT.21	Contra-Flow Cycle Lane along Royston Road: As part of wider one-way traffic scheme (see GT.15).		✓	
AT.25	Signalised Crossing on the A505 at Moorfield Road: Pedestrian and cycle facility as part of junction reconfiguration (see GT.12).		✓	✓
AT.29	Multi-Modal Corridor to the Wellcome Genome Campus: Tunnel under the A505 to provide direct access into the expanded campus.	✓	✓	
AT.31	Shared Use Path alongside Duxford Road: Continuous pedestrian and cycle facility between the station and Whittlesford village.		✓	
Public Transport				
PT.02	Bus Turning Circle: Immediately to the east of Duxford Chapel to be provided as part of the redevelopment of the car park (see PRK.02).	✓	✓	
PT.08	Public Transport Information: Real time displays at existing/new bus stops and in the hotels and station waiting areas.		✓	✓
PT.09	Integrated Ticketing: Promotion of 'Plus-Bus' integrated ticketing options (http://www.plusbus.info/cambridge)		✓	
PT.10	Bus Waiting Facilities: Shelters, seating and lighting at stops on Duxford Road, and those provided with the Bus Turning Circle (see PT.02).		✓	✓



Ref.	Scheme	Objectives		
		Capacity	Connectivity	Comfort
General Traffic				
GT.06	Autonomous Vehicle Link to the Wellcome Genome Campus: Innovative link, via a tunnel under the A505.	✓	✓	
GT.09	A505 / A1301 McDonalds Roundabout Signalisation: Including the provision of pedestrian and cycle crossing phases.	✓	✓	
GT.10	Reduced Speed Limit on the A505: New 40mph speed limit to enable the introduction of signalised junctions on the corridor.			✓
GT.11	Station Road East: Signalisation of the A505 junction and widening to enable two-way flows and continuous shared use path.	✓	✓	✓
GT.12	Signalisation of the A505 / Moorfield Road Junction: Reconfiguration to enable all movements and pedestrian and cycle phases.	✓	✓	
GT.15	Royston Road One-Way Traffic: Allow only east-bound traffic between A505 and the edge of the built-up area.		✓	
GT.16	Station Road West 20mph Zone: Change in limit and introduction of physical speed reduction measures.			✓
Parking				
PRK.02	Redevelopment of the Main Station Car Park: Provision of circa. 570 spaces on three levels, including lifts and drop-off facilities.	✓		
PRK.06	Reconfiguration of 'Side Car Park': Revised demarcation of the bays to accommodate disabled parking and drop-off provision only.			✓
PRK.10	On-Street Parking Restrictions: Single yellow lines on Station Road West, Duxford Road, Royston Road (built-up section) and Moorfield Road.			✓
PRK.13	Bollards to Restrict Verge Parking on Duxford Road: Physical measures to prevent parking.			✓
PRK.14	Formalise On-Street Parking on Royston Road (rural section): Signed and properly demarcated bays.	✓		✓

*Reference numbers related to those assigned in the Long List of Schemes contained within Appendix A.



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Legend

- Listed Building
- Existing Vegetation / Trees
- A505
- Junction Improvements
- Railway Line
- Future / Potential Residential Development
- Potential Redevelopment
- Pedestrianised Public Realm (with emergency and maintenance access)
- Enhanced Greenspace
- Proposed Built Form
- Proposed Improved Access
- Potential Access
- Single Yellow Restrictions
- One Way
- 20mph Zone
- Green Verge Parking
- Road Widening
- New cycle links
- Improved cycle links

REV	DESCRIPTION	BY	CHK	APP	DATE
A	Amendments following review	RR	BK	BK	13.11.18

Client:

**GREATER CAMBRIDGE PARTNERSHIP**

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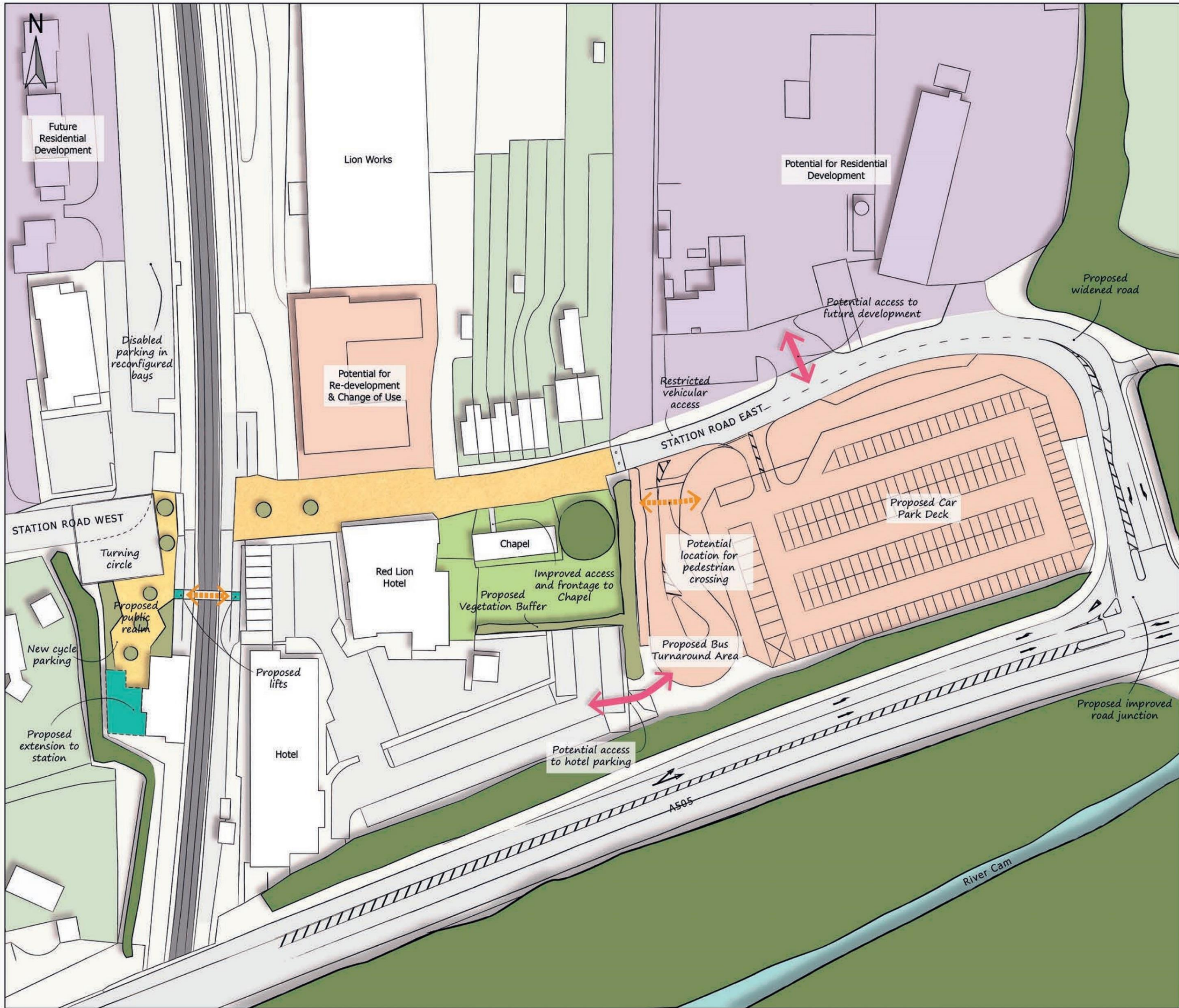
**Urban & Landscape Design**

Figure 4.3: Strategic Concept Plan

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
NTS	RR	13.11.18	BK	13.11.18	BK	13.11.18
Project No.	Office	Type	Drawing No.	Revision		
A107952	-	-	UD-01	A		

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Legend

- Existing / Retained Vegetation & Trees
- Proposed Planting / Landscaping
- Future / Potential Residential Development
- Potential Development
- Proposed Enhanced Greenspace
- Proposed Public Realm
- Proposed Built Form
- Proposed Vehicular Access
- Proposed / Enhanced Pedestrian Access

REV	DESCRIPTION	BY	CHK	APP	DATE
A	Amendments following review	RR	BK	BK	13.11.18

Client:



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Figure 4.4: Station Specific Plan

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
NTS	RR	13.11.18	BK	13.11.18	BK	13.11.18
Project No.	Office	Type	Drawing No.	Revision		
A107952	-	-	UD-02	A		

5. Prioritisation

A grayscale photograph of a railway station platform. The tracks run parallel to the platform, receding into the distance. On the left, there are several parked bicycles and a bench. On the right, there are more bicycles parked in a rack, and a sign is visible. In the background, there are some buildings and a cloudy sky. The text '5. Prioritisation' is overlaid in a large, dark blue font.

5.0 Prioritisation of the Short List

5.1 Overview

- 5.1.1 The schemes proposed to be taken forward as part of the Masterplan for the creation of a multi-modal interchange at Whittlesford are detailed within **Table 5.1**. A total of 33 schemes have been identified from the long list of which five are considered to be of high priority, 21 of medium term priority and seven longer term aspirations.

Table 5.1: Schemes Included within the Masterplan

Ref.	Scheme	Priority
GT.11	Station Road East Junction Signalisation and Widening	High
PRK.02	Redevelopment of the Main Station Car Park.	High
PT.02	Bus Turning Circle	High
AT.02	Lift and New Footbridge.	High
AT.04	Cycle Parking.	High
AT.07	Electric Bike Charging Points.	Medium
AT.11	Shared Use Path on London Road, Sawston.	Medium
GT.09	A505 / A1301 McDonalds Roundabout Signalisation.	Medium
GT.10	Reduced Speed Limit on the A505	Medium
GT.12	Signalisation of the A505 / Moorfield Road Junction	Medium
GT.16	Station Road West 20mph Zone.	Medium
PRK.06	Reconfiguration of 'Side Car Park'	Medium
PRK.10	On-Street Parking Restrictions.	Medium
PT.08	Public Transport Information.	Medium
PT.09	Integrated Ticketing.	Medium
PT.10	Bus Waiting Facilities.	Medium
AT.03	Station Facilities.	Medium
AT.06	Cycle Hire Facility.	Medium
AT.09	Pedestrianisation of Station Road East.	Medium
AT.18	Public Realm Enhancements on Station Road West.	Medium
AT.12	Widen the Shared Path alongside the A505 between Station Road and the A1301.	Medium
AT.17	Continuous footway from Duxford Chapel to the junction with the A505	Medium
AT.19	Improved Footways on Royston Road and Station Road West.	Medium
AT.20	Cycle Lanes on both sides of Station Road West.	Medium
AT.25	Signalised Crossing on the A505 at Moorfield Road.	Medium
AT.31	Shared Use Path to the IWM via M11 J10.	Medium
GT.06	Autonomous Vehicle Link to the Wellcome Genome Campus.	Longer Term
GT.15	Royston Road One-Way Traffic.	Longer Term
PRK.13	Bollards to Restrict Verge Parking on Duxford Road.	Longer Term
PRK.14	Formalise On-Street Parking on Royston Road.	Longer Term
AT.13	Cycle Path between Highway Depot and Mill Farm Lane.	Longer Term
AT.21	Contra-Flow Cycle Lane along Royston Road.	Longer Term
AT.29	Multi-Modal Corridor to the Wellcome Genome Campus.	Longer Term

Key: GT = General traffic scheme, PRK = Parking scheme, PT = Public transport scheme, AT = Active travel (walking & cycling) scheme

5.2 High Priority Schemes

- 5.2.1 The schemes designated as being a high priority are those felt to be urgently required to enable the current capacity and connectivity issues at the station to be addressed and which will maximise the ability of the station to facilitate local economic growth.

Lift between Platforms

- 5.2.2 The need to make the station accessible for all is at the heart of this Masterplan and the measures it contains seek to cater for those who may otherwise be unable to take advantage of the service it provides. To this end, the provision of step free access between platforms is essential and sends out the right signals that the station is open and accessible to all. In some respects, this is a stand-alone scheme and can be delivered without any other inter-dependencies. Notwithstanding that, it is felt that it should be introduced as a high priority.

Station Road East Junction and Road Widening

- 5.2.3 The ability of the station to function as an effective parkway is severely impacted by the access issues associated with the junction of the A505 and Station Road East. A junction improvement scheme which provides signals and enables all turning movements will address actual and perceived safety concerns, whilst the introduction of a right turn out of Station Road East provides the scope for the station to be included on through bus routes. This is not viable at present as buses and general traffic have to turn left out of Station Road East and double-back on themselves to travel west along the A505.
- 5.2.4 Associated with the junction improvement scheme is the need to widen the carriageway of Station Road East so that it is of sufficient width to accommodate two-way traffic and a continuous pedestrian / cycle route. This is a further factor inhibiting bus and cycle access to the station in particular.

Bus Turning Circle

- 5.2.5 Together with the Station Road East junction improvement and widening, the final intervention required to facilitate safe, fast and efficient bus-based access to the station is the provision of a bus turning circle. This can be provided on land currently forming part of the Greater Anglia operated car park to enable passengers to be dropped off within 100m of the station platforms, providing almost seamless interchange between the two modes of travel.
- 5.2.6 This provides huge scope for the growth of bus-based travel to and from the station and is central to the concept of Whittlesford forming a truly multi-modal interchange.

Consolidation of Car Parking on Station Road East

- 5.2.7 The provision of a new decked car-park within the footprint of the existing facility is the final high-priority intervention critical to the future operation of Whittlesford Parkway. The current 300-space facility would be replaced with a new triple-decked car park providing around 570 spaces. These would be provided to a modern standard, incorporate dedicated disabled bays and electric charging points. The increase in capacity would in turn facilitate some more medium-term interventions associated with a desire to accommodate all station related car parking in this one location.
- 5.2.8 The delivery of the car park is also a high priority given inter-dependencies associated with its deliverability. In order to maintain parking provision during construction alternative spaces will need to be provided in close proximity to the station. The relocation of the highways depots provides the opportunity for this and given the impending redevelopment of the site, the consolidation of car parking should seek to align with this timeframe.

- 5.2.9 As the above measures are deemed critical to the future success of the Masterplan, an indicative technical design has been produced to illustrate how they can be delivered, as shown in **Figure 5.1**.

Cycle Parking

- 5.2.10 Greater Anglia has committed to the provision of 200 additional cycle parking spaces at the station. Given the high proportion of commuters cycling to the station and the insufficient capacity to cater for current demand, let alone additional demand, the provision of covered and secure cycle parking should be delivered as a high priority.

5.3 Medium Term Priorities

- 5.3.1 Whilst the high priority schemes represent interventions critical to the safe and efficient operation of the station, those envisaged to come forward in the medium term (considered to be within five years) are those which will improve transport choice, increase not just the capacity and connectivity of the interchange, but also contribute towards the creation of a convivial environment and attractive public realm, consistent with Whittlesford's role as a gateway to South Cambridgeshire.

A505 Junctions

- 5.3.2 The signalisation of the A505 junction with the A1301 (McDonalds Roundabout) and the provision of a new all-movements signalised junction with Moorfield Road would provide multi-modal benefits. They would help to better regulate the flow of traffic and improve safety at both inter-sections. Access for buses in particular would be improved by enabling right turns out of Duxford and through the inclusion of Selective Vehicle Detection technology on the signals to provide priority and reduce journey times.
- 5.3.3 Along with buses, cyclists would also benefit from the improvements with the signalisation schemes helping to address the severing effect of the A505 between the station and communities to the south.
- 5.3.4 **Figure 5.2** illustrates how a signalisation scheme could be incorporated at the A505/A1301 junction whilst **Figure 5.3** depicts a potential all-movements junction at the A505/Moorfield Road junction.
- 5.3.5 The cost of these junction improvements is not insignificant, as set out in Section 7.2, and funding may not be available in the short term. However interim arrangements could be provided to ensure pedestrians and cyclists are catered for at these junctions, without the large-scale infrastructure the overarching approach proposes.
- 5.3.6 It should also be noted that a study of the A505, due to be commissioned in 2019, is set to look into the longer term requirements of the corridor and this may supersede the recommendations contained within this Masterplan.

Public Realm Enhancements

- 5.3.7 The consolidation of car parking enabled through the provision of a new decked car park will in turn provide the scope for investment in public realm improvements on either side of the station. In terms of aesthetics, these schemes will create a sense of place, enhance the setting of the listed buildings (Duxford Chapel and the Red Lion Hotel), and provide an attractive gateway into South Cambridgeshire.
- 5.3.8 From a more practical perspective they will prioritise pedestrians and cycle movements and address conflict between different road users in close proximity to the station.

Cycle Links

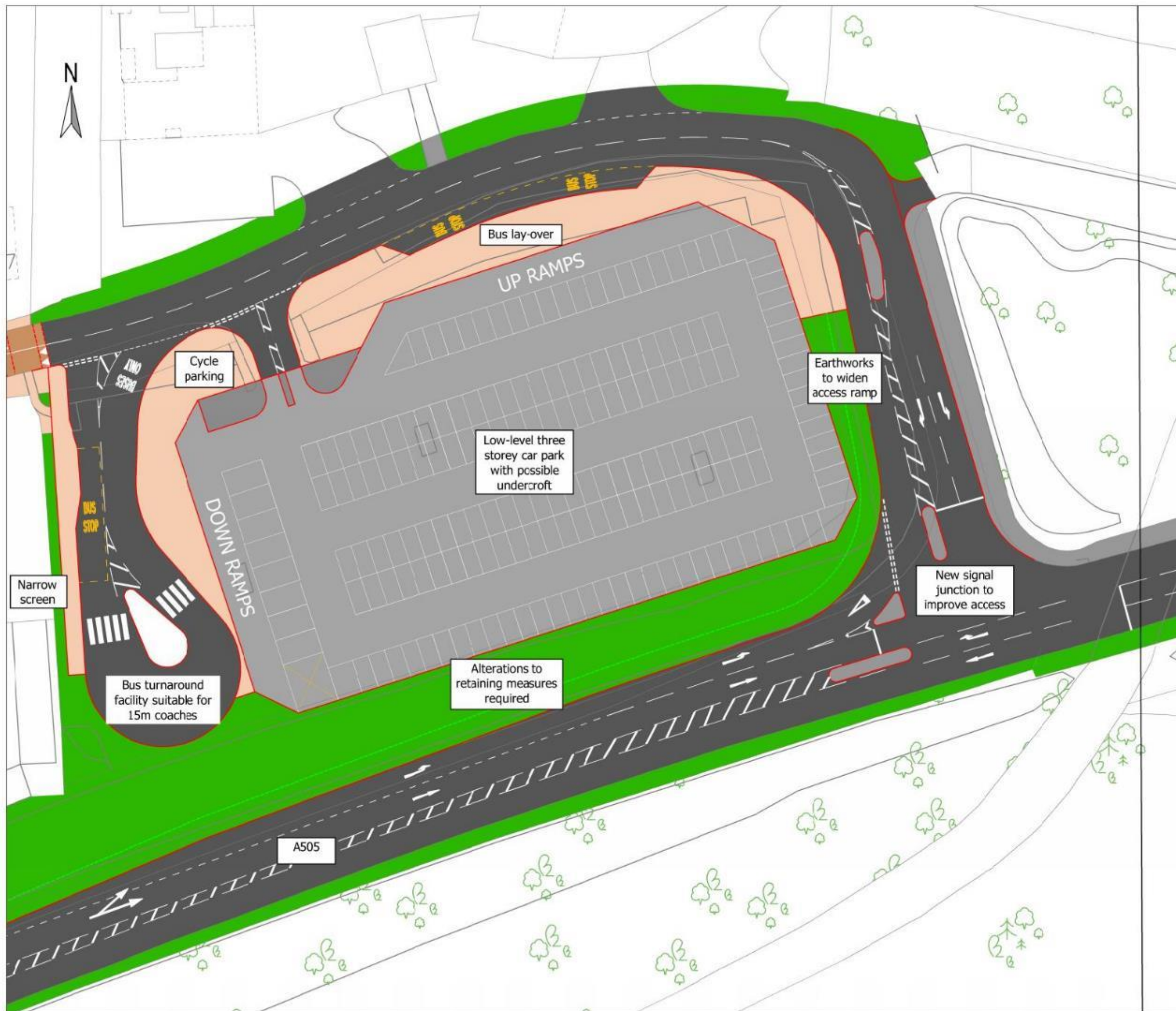
- 5.3.9 The development of a comprehensive network of continuous cycle links to the station will help to embed cycling the mode of choice for many. Improving the safety of the network will also help to attract new cyclists and contribute towards minimising the impact of increasing use of the station in the future.
- 5.3.10 Whilst this is not necessarily dependant on some of the high priority schemes coming forward, priority should be placed on addressing access issues in the immediate vicinity of the station before delivering these improvements to the wider network.

5.4 Longer Term Aspirations

- 5.4.1 The longer-term aspirations of the Masterplan are those which are either more closely associated with wider development proposals, or those which will have more of a marginal impact on the functioning of the interchange.

Wellcome Genome Campus Links

- 5.4.2 Wellcome Genome Campus are pursuing ambitious growth plans and associated with this are improved connections to Whittlesford Parkway. The introduction of an autonomous vehicle link would provide the interchange with a unique selling point but is subject to advances in technology and legislation before it is likely to materialise.
- 5.4.3 However, the proposed expansion of their campus and control of land immediately to the south of the station and the A505 presents many opportunities for improvements in connectivity, including:
- Tunnelling under the A505, to provide a connection to the station and onto Station Road East via the bus turning circle access.
 - The provision of another arm on the A505 / Station Road East junction to provide access into the north of the extended campus, together with a pedestrian / cycle crossing phase.
 - Extension of the A1301 shared use path, south to the campus.



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Client:					



EXECUTIVE PARK
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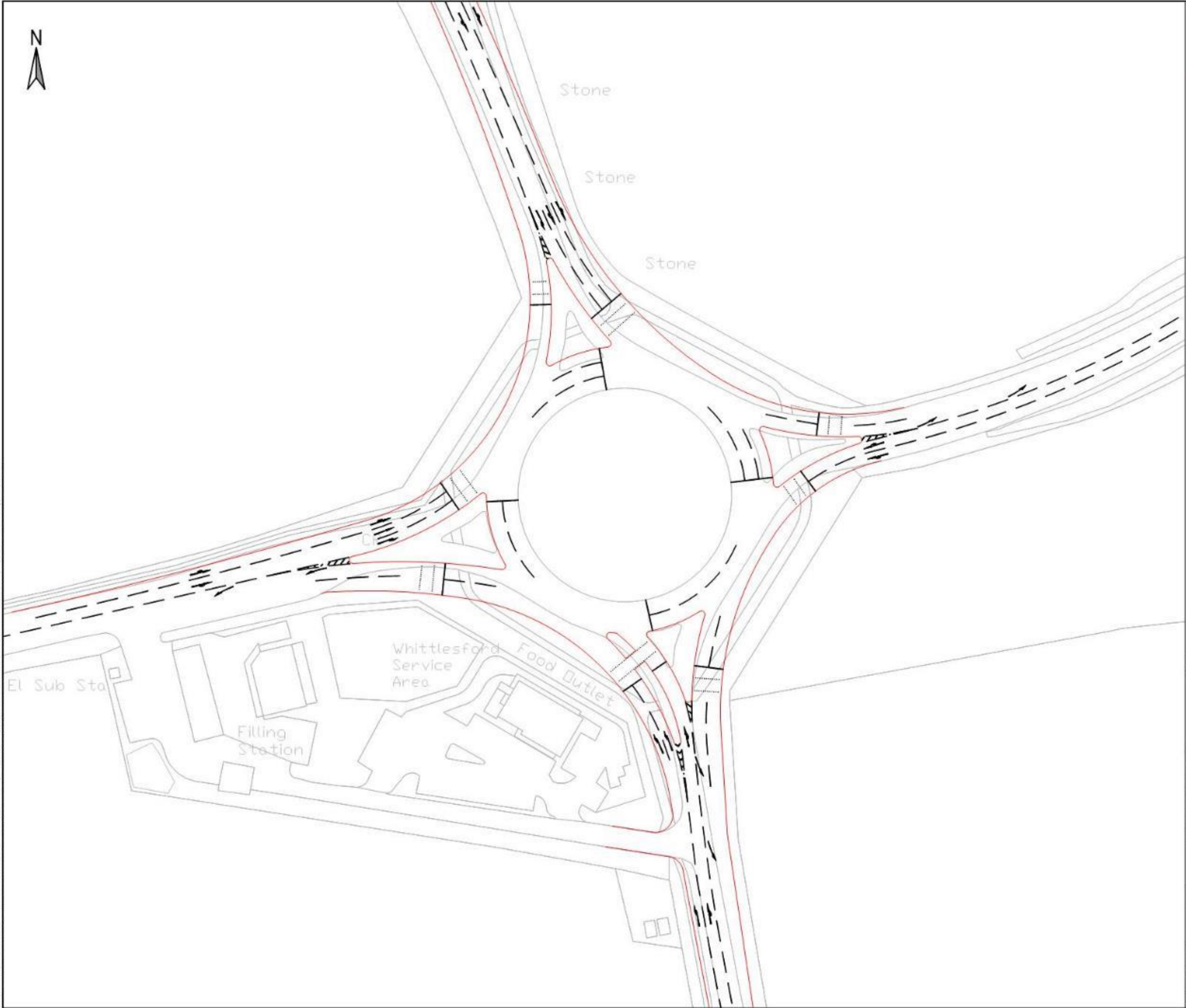
Figure 5.1: Station Road East Junction Improvements, Station Car Park Improvements and Bus Turning Circle Facility

Scale @ A3 1:500	Drawn RB	Date 04.09.18	Checked BK	Date 04.09.18	Approved CRS	Date 04.09.18
Project No. A107952	Office 35	Type 18	Drawing No. 034	Revision -		

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Legend

— Proposed Kerblines

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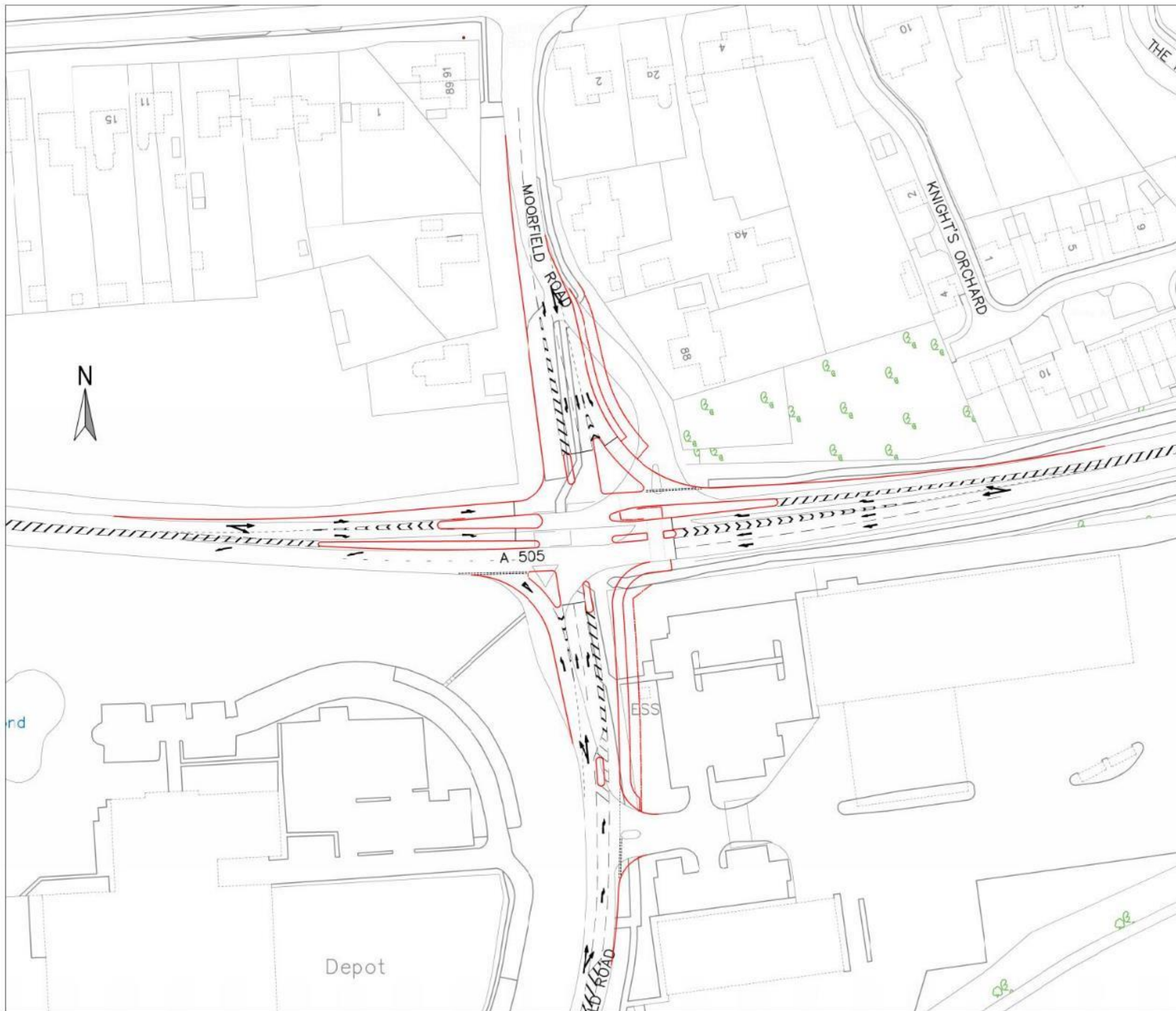
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**Figure 5.2: A505 / A1301
Junction Potential Improvement
Scheme**

Scale @ A3 1:1000	Drawn AC	Date 10/04/17	Checked BK	Date 26/07/18	Approved CS	Date 26/07/18
Project No. A107952	Office 35	Type 18	Drawing No.	032	Revision	-



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Figure 5.3: A505 / Moorfield Road Potential Junction Improvement Scheme

Preliminary Layout					
Scale @ A3	Drawn RB	Date 11.09.18	Checked	Date	Approved Date
Project No. A107952	Office 35	Type 18	Drawing No. 035	Revision	-

6. Benefits



6.0 Benefits

6.1 Overview

- 6.1.1 This chapter details the benefits that could be generated from the delivery of the Masterplan. It focuses on both the direct transport benefits in terms of increased capacity and improved connectivity, together with the wider planning and economic benefits including place making and the conviviality of the area, and the ability to facilitate development closer to the station.

6.2 Transport Benefits

- 6.2.1 The package of interventions which this Masterplan draws together will transform Whittlesford Parkway into a multi-modal transport interchange. The potential benefits will be seen in the capacity of the transport network to accommodate growth, the connectivity of the station to its large rural hinterland, and in the comfort of the local area.

Capacity

- 6.2.2 This Masterplan details a package of interventions through which the capacity of the station will be increased to accommodate both current demand and future increases in demand. The increase in realistic travel choice will also increase the ability of the local transport network to accommodate the increase in demand to travel to the station.
- 6.2.3 This will help in both accommodating local economic growth and the increase in demand to travel it generates as well as driving economic growth through the competitive advantages provided by a highly connected multi-modal interchange. Specific capacity enhancements include:
- An increase in cycle parking provision from 50 spaces to 250 spaces (a 400% increase).
 - An increase in off-street car parking provision from 383 spaces to 570 spaces (a 49% increase).

Connectivity

- 6.2.4 The Masterplan will transform the connectivity of the station for all modes of transport and for all station users, but particularly for those wanting to travel sustainably and those with limited mobility. Particular areas of benefit are detailed below.

- **Reduced Severance:** The A505 causes severance between the station and Duxford to the south, as well as those wishing to travel to and from the Wellcome Genome Campus. Severance and the perception of severance reduce the accessibility of the station and the potential to encourage sustainable travel.

Through the introduction of new signal-controlled junctions incorporating pedestrian and cycle phases at the intersections with the A1301 and Moorfield Road, connectivity will be improved between the station and areas to the south of the A505.

- **Accessibility:** At the heart of the Masterplan and creation of a new interchange is the concept of ensuring access for all, particularly those with limited mobility or in danger of social exclusion. The provision of step free access between platforms in the form of a new lift, coupled with dedicated, prioritised disabled parking bays will go a long way towards addressing this. In addition, investing in sustainable transport infrastructure, particularly the bus turning circle, will make getting to the station for those without access to a car a more realistic proposition.

- **Continuous Networks:** The creation of complete, continuous and coherent pedestrian and cycle networks maximises the connectivity between the station, surrounding communities and places of employment. This Masterplan seeks to fill the gaps in these networks and provide safe, direct and attractive links. The proposed provision of new and improved cycle links and crossing points will knit together the existing fragmented offer.
- **Seamless Interchange:** The creation of more seamless interchange between different modes of travel at the station is the true test of a modern multi-modal transport hub. This will be achieved through investment in both infrastructure, such as the bus turning circle enabling passengers to alight around 80m from the station platforms, and other measures such as integrated ticketing options and real travel information.

Comfort

6.2.5 Contribution towards the creation of a safe, welcoming and attractive environment is an important objective of investment at the station for station users and local residents alike. The benefits and how they will be achieved include:

- **Enhanced Public Realm:** Investing in the creation of a high-quality public realm will reflect the gateway function of the station. It will reduce the dominance of general traffic by prioritising pedestrians and enabling passengers to 'spill out' of the station into a welcoming and attractive space. This first impression of Whittlesford could have connotations for investment and desirability of the local area as a place to invest. It would also enhance the setting of the listed buildings and enable ancillary development to come forward to help create a more active and vibrant setting (see **Figure 6.1**, **Figure 6.2** and **Figure 6.3**).
- **Reduced Conflict between Road Users:** The pedestrianisation of Station Road East, creation of new dedicated cycle links and junction improvement works are all designed to reduce the conflicts between different road users. This will have safety connotations and help alleviate concerns preventing individuals travelling to the station on foot or by bike.
- **Mitigating the Impacts of Commuting on Local Residents:** Reducing the impact of the operation of the station on local residents is integral to the approach taken within this Masterplan. This will be achieved by reducing reliance on the private car through the series of interventions detailed previously and particularly through the management of car parking.

The consolidation of off-street car parking in one location and better management of on-street parking will ensure that local residents' quality of life is not compromised as a result of current and future demand to travel to the station.

6.3 Wider Land Use Planning Benefits

6.3.1 Whilst the focus of the Masterplan is on the capacity and connectivity of the transport network in and around the station, there are inevitably correlations with land use planning opportunities.

Facilitating Development

6.3.2 The creation of a multi-modal transport hub at Whittlesford provides greater scope for potential development in the local area, either in the form of additional housing or employment provision, on the site of the highways depot which is set to relocate close to a location close to the A14.

- 6.3.3 Whilst the redevelopment of the site is not included within the South Cambridgeshire Local Plan, and a five-year housing land supply is in place across the district, the improved accessibility and sustainable transport connectivity to be delivered by the Masterplan provides a basis upon which new development in the area could be considered.
- 6.3.4 In order to enable the pedestrianisation of Station Road East between the station and Duxford Chapel an alternative access route would be required to serve the business units adjacent to the railway tracks. This might be provided from Station Road East, north through the land currently occupied by the highways depot, before turning east across land controlled by Pampisford Estates to enable access to the units from the rear.
- 6.3.5 Both Cambridgeshire County Council and Highways England intend to relocate their depots and redevelop the sites for housing. Pampisford Estates also have ambitions to develop their land for residential purposes and an access road could help facilitate this development.
- 6.3.6 These developments could in turn provide funding for the road and ensure that the overall financial burden of the pedestrianisation scheme is limited.

Enhancing the Setting of Duxford Chapel

- 6.3.7 Duxford Chapel is a Grade 2* Listed Building and Scheduled Monument, but its setting is not reflective of the quality of this national asset. Whilst concerns relating to the impact on the Chapel have previously been raised associated with the provision of a decked car park on Station Road East, this Masterplan details an approach which could provide increased parking capacity whilst also improving the setting of the Chapel.
- 6.3.8 The pedestrianisation of Station Road East in the immediate vicinity of the Chapel would enable visitors to stand back and admire the building. The provision of a decked car park could also be mitigated through a line of trees and planting, a further buffer between the car park and the Chapel within which the bus turning circle would sit, and finally through the treatment of the west facing façade of the car parking, to reduce the impact and massing of the structure on the Chapel.
- 6.3.9 Notwithstanding these interventions, the view of Historic England would be sought and a Heritage Impact Assessment undertaken prior to the implementation of the Masterplan.

Complementary Facilities to the Station

- 6.3.10 The redevelopment of the highway depot sites and the pedestrianisation of Station Road East would provide the opportunity for a comprehensive review of land uses and redevelopment options to the east of the station.
- 6.3.11 The relocation of existing business units could enable the provision of facilities which may be more in keeping with the neighbouring listed buildings, and accommodate uses more commensurate to the adjacent station and pedestrianised street. The introduction of a unit with active frontages and outdoor seating for example could add to the conviviality of the area and bring activity to the pedestrianised area.



Figure 6.1: Visualisation of Station Road East Looking Towards the Station



Highlights the pedestrianisation of Station Road East and the removal of on-street parking, new planting and surfacing and public realm features to improve the gateway to the station, the setting of the residential properties, and the context of the Red Lion Hotel and Duxford Chapel listed buildings. The image also depicts the potential redevelopment of the business unit adjacent to the station into a look and use more in keeping with its surroundings.

For illustrative purposes only



Figure 6.2: Visualisation of Station Road East Looking Towards the Car Park



Highlights the creation of a new decked car park on the site of the existing surface level provision and treatment to soften the façade bordering the chapel. Potential new housing on the site of the highways depots can also be seen. The entry into the bus turning circle is shown in the foreground together with an informal crossing point for pedestrians.

For illustrative purposes only

Before Image Source: Google Street View



Figure 6.3: Visualisation of the Station from Station Road West



Highlights the removal of the existing car parking provision and the creation of a new public space complete with attractive surfacing, seating, cycle stands and planting. An extension of the existing station buildings is shown which could accommodate a café, shop and toilet. A new lift to cater for those with limited mobility and bicycles wishing to change platforms is also depicted.

For illustrative purposes only

7. Implementation

A grayscale photograph of a railway station platform. The tracks run parallel to the platform, receding into the distance. On the right side of the platform, there are several bicycles parked near a fence. In the background, there are some buildings and a cloudy sky. The text "7. Implementation" is overlaid in a large, dark blue font.

7.0 Implementation

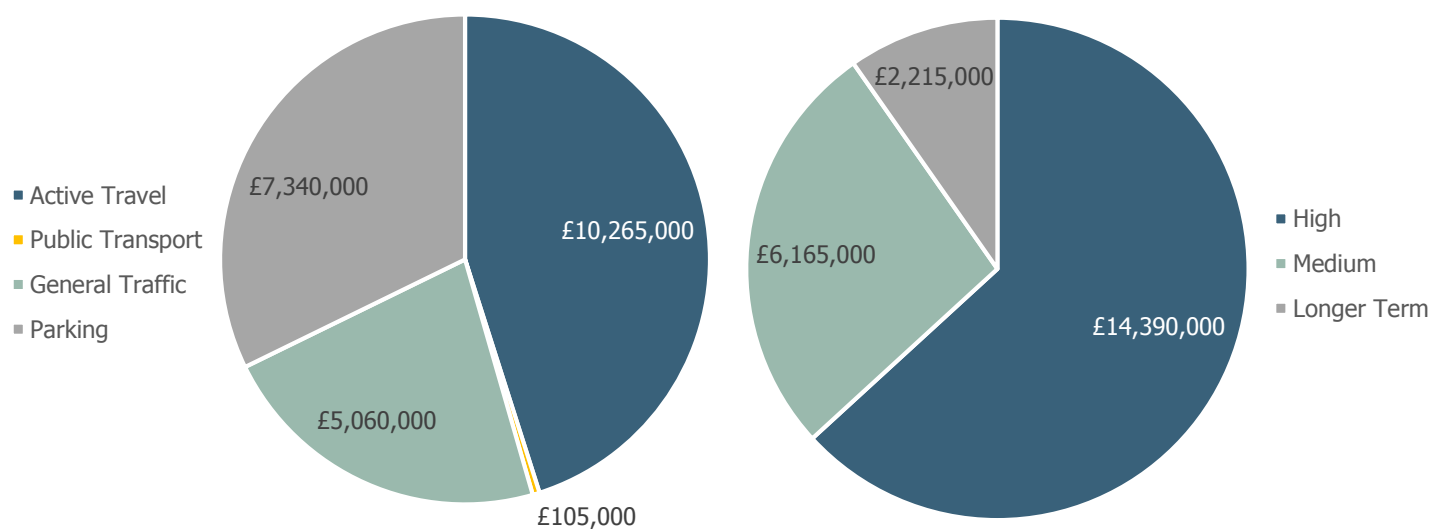
7.1 Overview

- 7.1.1 This chapter reviews the key factors influencing the deliverability of the Masterplan and the actions to be undertaken to facilitate the implementation of the individual schemes and overarching vision and objectives for the multi-modal interchange.
- 7.1.2 It considers the indicative costs and funding of the individual schemes, timescales and triggers for delivery, organisations and partners who will help take the Masterplan forward, and the potential risks which may arise and management of these risks.

7.2 Costs

- 7.2.1 Indicative high-level capital construction costs estimates have been identified for the individual elements which comprise the Masterplan and these are detailed within **Table 7.1**. The total cost of implementing the Masterplan in its entirety is estimated to be in the region of £23m. **Figure 7.1** indicates the split of this funding in terms of investment type and scheme priority.

Figure 7.1: Indicative Split of Costs



- 7.2.2 It should be noted in the split of costs above, that some scheme costs (such as those for the bus turning circle), are incorporated into the estimates for the larger schemes of which they are part (the reconfigured car park in the case of the bus turning circle).
- 7.2.3 These costs make no allowance for ongoing revenue commitments for future maintenance and operation.

Table 7.1: High Level Construction Budget Estimates

Ref:	Scheme	Cost	Priority
Active Travel			
AT.02	Lift and New Footbridge.	£4,500,000	High
AT.04	Cycle Parking.	£50,000	High
AT.25	Signalised Crossing on the A505 at Moorfield Road.	Included within GT.12	High
AT.03	Station Facilities.	£2,500,000	Medium
AT.06	Cycle Hire Facility.	£500,000	Medium
AT.09	Pedestrianisation of Station Road East.	£250,000	Medium
AT.18	Public Realm Enhancements on Station Road West.	£200,000	Medium
AT.12	Widen the Shared Path alongside the A505 between Station Road and the A1301	£300,000	Medium
AT.17	Continuous footway from Duxford Chapel to the junction with the A505	Included within GT.11	Medium
AT.07	Electric Bike Charging Points	Included within AT.04	Longer Term
AT.11	Shared Use Path on London Road, Sawston.	£450,000	Longer Term
AT.13	Cycle Path between Highway Depot and Mill Farm Lane	£200,000	Longer Term
AT.19	Improved Footways on Royston Road and Station Road West	£360,000	Longer Term
AT.20	Cycle Lanes on both sides of Station Road West.	£240,000	Longer Term
AT.21	Contra-flow cycle lane along Royston Road.	£115,000	Longer Term
AT.29	Multi-Modal Corridor to the Wellcome Genome Campus.	n/a	Longer Term
AT.31	Shared Use Path alongside Duxford Road	£600,000	Longer Term
	Active Travel	£10,265,000	
Public Transport			
PT.02	Bus Turning Circle	Included within PRK.02	High
PT.08	Public Transport Information (Real Time Displays)	£40,000	Medium
PT.09	Integrated Ticketing (promotion of)	£5,000	Medium
PT.10	Bus Waiting Facilities.	£60,000	Longer Term
	Public Transport	£105,000	
General Traffic			
GT.11	Station Road East Junction Signalisation and Widening.	£2,640,000	High
GT.09	A505 / A1301 McDonalds Roundabout Signalisation	To be confirmed	Medium
GT.12	Signalisation of the A505 / Moorfield Road Junction.	£2,300,000	Medium
GT.06	Autonomous Vehicle Link to the Wellcome Genome Campus	n/a	Longer Term
GT.10	Reduced Speed Limit on the A505	£20,000	Longer Term
GT.15	Royston Road One-Way Traffic.	£20,000	Longer Term
GT.16	Station Road West 20mph Zone.	£80,000	Longer Term
	General Traffic	£5,060,000	
Parking			
PRK.02	Redevelopment of the Main Station Car Park	£7,200,000	High
PRK.06	Reconfiguration of 'Side Car Park'	£20,000	Medium
PRK.10	On-Street Parking Restrictions	£50,000	Medium
PRK.13	Bollards to Restrict Verge Parking on Duxford Road.	£20,000	Longer Term
PRK.14	Formalise On-Street Parking on Royston Road.	£50,000	Longer Term
	Parking	£7,340,000	
	Total	£22,770,000	

Note: Optimism bias has been excluded from these estimates.

7.3 Funding

- 7.3.1 Sufficient funding is inevitably at the heart of the deliverability of the Masterplan. There are a number of potential funding sources through which the measures within Masterplan could be resourced and these are detailed below.
- 7.3.2 However, due to the number of uncertainties associated with the application of a Land Value Capture scheme, despite the potential to generate between £6m and £12m in contributions, it has been dismissed as a potential funding vehicle for this Masterplan.

Developer Contributions

- 7.3.3 Developer contributions could be sought from all development within the catchment area of the station, as identified in the Baseline Report to this Masterplan. This would include the proposed Garden Village at Great Chesterford where up to 5,000 dwellings are earmarked.
- 7.3.4 Within closer proximity to the station, and potential redevelopment of the highways depots for housing or employment use would be expected to mitigate the increase in demand to travel generated. With no Community Infrastructure Levy (CIL) in place in South Cambridgeshire, developer contributions are negotiated on an ad hoc basis. Experience from elsewhere however suggests that a typical contribution towards the mitigation of transport impacts could range from between £5,000 and £10,000 per unit.
- 7.3.5 In addition, the access road to service the businesses adjacent to the rail line and enable the pedestrianisation of Station Road East would be expected to be provided by the developers of the land. The road could form the main spine through the residential or commercial development, extending through to the rear of the business units.
- 7.3.6 The development of land between the Highways Depots and the business units, owned by Pampisford Estates, is required in part to enable the access road to be provided. On the assumption that a further 114 to 130 dwellings could be accommodated, the potential extent of contributions from these local development opportunities is detailed in **Table 7.2**. It indicates that between £1.06m and £4.22m could be generated by developer contributions from sites in the immediate vicinity of the station. This figure could increase when taking into account contributions from developments further afield.

Table 7.2: Potential Developer Contributions from Local Redevelopment

		CCC Highway Depot	Highways England Depot	Pampisford Estate Land	Total
	Area (ha)	0.74	2.03	3.26	6.03
Average Density (35 dw/ha)	Number of Dwellings	26	71	114	211
	Contribution per dwelling	£5,000			
	Contribution per development	£129,500	£355,250	£570,500	£1,055,250
	Contribution per dwelling	£10,000			
	Contribution per development	£259,000	£710,500	£1,141,000	£2,110,500
High Density (70 dw/ha)	Number of Dwellings	52	142	228	422
	Contribution per dwelling	£5,000			
	Contribution per development	£259,000	£710,500	£1,141,000	£2,110,500
	Contribution per dwelling	£10,000			
	Contribution per development	£518,000	£1,421,000	£2,282,000	£4,221,000

- 7.3.7 It would also be reasonable to consider contributions for improvements to the station from applications for additional employment floorspace in and around Whittlesford, reflecting its increasing role as a destination station as well as its historic role as a commuter hub.

Network Rail

- 7.3.8 There are a number of sources of funding which are overseen by Network Rail and which could be utilised in the delivery of the Masterplan²:
- The 'Access for All' initiative seeks to reduce the barriers faced by individuals in using the rail network. To this end, the Greater Cambridge Partnership, alongside Greater Anglia, have submitted a bid to fund the provision of new lifts and overbridge at Whittlesford Parkway. A £400,000 contribution has been put forward by the GCP in seeking to secure a further £4m for the delivery of the scheme, from the £300m pot allocated nationally, as part of the Government's wider Inclusive Transport Strategy.
 - The National Stations Improvement Programme (NSIP) is a dedicated pot of funding set aside by Network Rail to improve facilities at medium sized stations. The value of this fund for Control Period 6 (2019-2024) has not been announced at the time of publication of this report.
 - The Station Commercial Project Facility is a dedicated fund to improve station environments and passenger experience, whilst reducing the cost of the railway to taxpayers. It focuses on schemes which could generate additional revenues, such as car parking and revenue projection. As with the NSIP programme, The value of this fund for Control Period 6 (2019-2024) has not been announced at the time of publication of this report.

Greater Anglia

- 7.3.9 Greater Anglia have a duty to manage and improve the asset of the station and its associated facilities as part of the remit of Train Operating Companies. Subsequently there are a number of areas in which Greater Anglia could make a contribution towards the funding of the Masterplan:
- **Car Parking:** Greater Anglia manage off-street car parking provision at the station and benefit from the revenue generation it provides. As such the cost of the redevelopment of the car parks on Station Road East and Station Road West would be expected to be substantially funded by Greater Anglia. Such costs would be off-set by the increase in capacity and income from the facility.

Based upon the 570 spaces provided, a daily rate of £8 per car and a 90% occupancy rate commensurate with many stations on the Greater Anglia network, and 260 working days on the year, annual income would be more than £1m³.
 - **Cycle Parking:** As part of its franchise agreement, Greater Anglia has already committed to providing some 200 cycle parking spaces at the station. It is estimated that these would costs around £50,000.
 - **Station Buildings:** The extension of the station and the services on offer fall within the remit of Greater Anglia. In turn they could benefit from the revenues generated from ground rents or the income from increased commercial activity at the station.

² <https://www.networkrail.co.uk/communities/passengers/station-improvements/>

³ Estimated to be around £1,066,000 not including weekend parking.

Department for Transport (Major Roads Network)

- 7.3.10 The Transport Investment Strategy published by the DfT in July 2017 announced the creation of a new Major Roads Network (MRN) classification which will comprise the busiest and most important local authority managed 'A' roads across the country. A dedicated funding stream will be made available for necessary improvements providing opportunities for the authority to secure investment into any local roads included within the network.
- 7.3.11 The potential to secure funding through this channel for works proposed to the junctions with the M11 J10, the A1307 and new junctions with Station Road East and Moorfield Road could be explored.

Major Projects

- 7.3.12 Large Local Major Scheme funding is available from DfT to help develop and implement large schemes that are considered to be too large for local authorities to progress alone. Funding is provided to local authorities so that they can develop their business case and then apply for funding. Such a business case could be developed for Whittlesford to be considered by the DfT for Major Scheme funding.

Local Transport Plan

- 7.3.13 A new Local Transport Plan is being produced to cover the Cambridgeshire and Peterborough Combined Authority area. The LTP provides annual funding for smaller scale transport interventions through a dedicated pot of annual funding, known as the Integrated Transport Block (ITB). The area receives £3.19m per annum until 2020/21. At the time of writing it is unclear as to the extent of funding post 2021. Given the large number of schemes likely to require funding from the LTP, only limited capital is likely to be forthcoming through this source.

Bus Operators

- 7.3.14 Bus operators will be encouraged to invest in the area, whether in the form of physical improvement measures at stations and interchanges, or in terms of increases in the frequency of service provision, ticketing or information provision.
- 7.3.15 The provision of new, modern bus shelters provides an opportunity to sell advertising space. This in turn can pay for their installation and upkeep and provide a cost neutral improvement to the bus infrastructure across the area. A joint funding approach involving bus operators and local authorities to identify measures through which patronage levels can be increased could be explored.

Sustrans

- 7.3.16 The provision of a new all movements junction incorporating a dedicated pedestrian and cycle phase where Moorfield Road meets the A505 would provide a significant enhancement to the National Cycle Network which Sustrans manages and maintains. Sustrans have indicated that they would not be in a position to contribute to the cost of this scheme at this time but opportunities may arise in the future.

Cycle Ambition Cities

- 7.3.17 Cambridge is designated as one of six Cycle Ambition Cities⁴. This designation may open up opportunities for the financing of cycle improvement measures identified within the Masterplan.

⁴ <https://www.gov.uk/government/news/government-funding-boost-for-cycle-ambition-cities>

Local Businesses

- 7.3.18 In terms of employment related growth, Whittlesford provides a gateway to many of the business parks in the surrounding area including Granta Park and The Wellcome Genome Campus, who operate commuter buses from the station. Securing contributions towards the bus turning circle in particular through the planning process as and when these sites expand, could be seen as a justifiable condition of any approval.
- 7.3.19 There is scope to lever in external investment for transport improvements from local businesses through various channels including:
- **Business Park Connectivity:** Whittlesford is a vital gateway to local business parks including Granta Park, the Wellcome Genome Campus and Babraham Institute, each of which have ambitious expansion plans in place. Securing contributions from these towards the development of the interchange would enhance their connectivity and ability to realise their growth aspirations. In particular, the introduction of the bus turning circle would directly impact upon the operation of the commuter buses currently provided.
 - **Innovation:** As a world leading centre for genome research, the Wellcome Genome Campus has a culture of pushing boundaries. As such, the Campus is keen to explore the future role of an automated link between the campus and Whittlesford Parkway. Whilst the technology, legislation and ultimately costs of such provision are still to be identified, it is envisaged that such a facility would be entirely subject to private sector funding.

7.4 Timeframes & Triggers for Delivery

- 7.4.1 The sequence in which the individual elements of the Masterplan should come forward is governed by their relative priority and the number of inter-dependencies associated with scheme delivery. The actual timeframes will be determined through the availability of the required funding.
- 7.4.2 The most complex area of inter-dependencies relates to works on Station Road East and the redevelopment of the car park. Before an increase in car parking can be provided or a bus turning circle introduced, improvements to the junction of Station Road East and the A505 are required together with the widening of Station Road East to provide both the capacity and physical road space to accommodate two-way traffic and an increase in vehicular movements.
- 7.4.3 To enable the redevelopment of the car park, it is also necessary to consider how the current capacity could be maintained during construction. The provision of a temporary car park on the land currently occupied by the highways depot is one potential solution. The timeframe for the redevelopment of the car park would, therefore, be limited to the period between the depots relocating and the site being redeveloped.
- 7.4.4 When the new car park is in place, the consolidation of parking to this one location could be undertaken. the Station Road West Car Park can be reconfigured to cater for priority parking for those with limited mobility and a drop-off facility, whilst on-street restrictions can be rolled out across the local access roads.
- 7.4.5 In turn the removal of the on-street parking provides the opportunity to reallocate the road space to more sustainable forms of travel including pedestrianisation and public realm improvements, widened footways and on-street cycle lanes.
- 7.4.6 Independent of these works, improvements to the station could come forward with fewer complexities. The provision of a new lift and footbridge through the Access for All programme could fund this major element of the Masterplan within Control Period 6 (CP6) – the five-year delivery period between 2019 to 2024 which Network Rail have identified for the implementation of the programme.

7.5 Partners

- 7.5.1 The successful delivery of the Masterplan will be subject to buy-in from a number of key partners. These organisations and their role in helping to achieve the vision and objectives of the Masterplan is set out in **Table 7.4**.

Table 7.4: Roles of Partners in Delivery of the Masterplan

Organisation	Role
Statutory Bodies	
Cambridgeshire County Council	The County Council also have a role associated with the disposal of their assets, in the form of the land currently occupied by the Highways Depot, and it is important that the redevelopment and timing of this is such that it enables the temporary relocation of the car park and subsequent reconfiguration in a way that enables an access to be provided to the businesses alongside the railway as an alternative to Station Road East.
South Cambridgeshire District Council	South Cambridgeshire is the local planning authority and will therefore need to buy into the vision of the Masterplan and support the delivery of the individual components. Planning permission will be required for a number of elements of the plan, and their understanding of the context within which applications come forward will ease the delivery.
Local Parish Councils	The Masterplan has sought to meet the needs of local residents both from a commuter perspective and in terms of mitigating the impacts of the station. Local parishes will continue to have an important role to play supporting the Masterplan through the planning process and in raising awareness of investment amongst the local community.
English Heritage	Efforts should be made to ensure that English Heritage are supportive of the measures contained within the Masterplan and the proposed investment to enhance the setting of Duxford Chapel and the Red Lion Hotel listed buildings.
Transport Providers	
Greater Anglia	As the Train Operating Company, Greater Anglia have a duty to improve and enhance the assets they operate, including stations and their ancillary facilities. To this end, Greater Anglia will have an important role in leading, supporting and funding the delivery of specific elements of the Masterplan including the provision of a new lift and footbridge, additional cycle parking facilities, and the extension of the station buildings.
Network Rail	The provision of a lift between platforms will need the support and consent of Network Rail. In addition, works to provide a bus turning circle and decked car park on Station Road East requires the use of land under the ownership of Network Rail and their co-operation in the delivery of the scheme.
Stagecoach	The willingness of Stagecoach to amend the existing routing and timetabling of the 'Citi 7' to serve the Parkway Station and utilise the bus turning circle will maximise the benefit of the facility and open up the catchment of the station to a much wider population.
Highways England	Highways England role centres on the relocation of their Highways Depot, located alongside that of the County Council.

Organisation	Role
Local Businesses	
Wellcome Genome Campus	As large employers and land owners immediately to the south of the station, the organisation is keen to improve access to their facility and have expressed a willingness to provide land to accommodate potential requirements where it can be demonstrated that sustainable access can be improved as a result.
Hotel operators (Holiday Inn, The Red Lion)	To facilitate the pedestrianisation of Station Road East, it is necessary to get the hotel operators on board and secure their support for alternative access arrangements into their car park.
Frog IT	A suitable relocation package for Frog IT would enable the redevelopment of the business unit adjacent to the Station platform on Station Road East.
Interest Groups	
Shelford and Whittlesford Station User Group (SAWRUG)	This Masterplan has been developed with the support from local rail users, and their ongoing championing of the station amongst the local community will help to raise awareness of investment and encourage station use.
Sustrans	Sustrans manage the National Cycle Network and Route 11 of the NCN incorporates Moorfield Road and Duxford Road. Improvements to cycle facilities along this corridor would benefit from support and financial contributions from Sustrans.

- 7.5.2 The significant input from stakeholders into the development of the Masterplan should be built upon in the actual delivery of the ideas it contains. The formation of a Delivery Group involving funding bodies as a forum through which to coordinate and shape a delivery plan could be considered.

7.6 Risks & Risk Management

- 7.6.1 **Appendix B** contains a risk register which details all the potential risks which may arise in the delivery of the Masterplan and the framework through which they will be managed and mitigated. These include areas relating to scheme delivery, finance and funding, changes in the level of growth coming forward, legal implications, the policy and political context and support from stakeholders.



Appendices

Appendix A: Assessment of Schemes in the Long List

Ref.	Scheme	Description	Pro's	Con's	Short List
General Traffic					
Strategic Network					
GT.01	M11 J9 Improvement Scheme.	Junction improvement / redesign to enable all movements.	<ul style="list-style-type: none"> Reduces volume of traffic on A505. 	<ul style="list-style-type: none"> Complex and expensive. 	No
GT.02	M11 J10 Signalisation and Widening.	Bridge widening and signalisation of junction including ped/cycle phases.	<ul style="list-style-type: none"> Provides more highway capacity. Enables regulation of traffic flow along A505. Provides safe crossing opportunities for vulnerable road users. Improves connectivity to IWM. 	<ul style="list-style-type: none"> Complex and expensive. Requires support of Highways England. Doesn't provide direct ped/cycle access. Relatively long way from the station. 	No
GT.03	A1301 Capacity Improvements.	Junction and link capacity improvements.	<ul style="list-style-type: none"> Outside of the scope of this commission. 	<ul style="list-style-type: none"> Outside of the scope of this commission. 	No
GT.04	A1307 Capacity Improvements.	Junction and link capacity improvements.	<ul style="list-style-type: none"> Outside of the scope of this commission. 	<ul style="list-style-type: none"> Outside of the scope of this commission. 	No
GT.05	A11 Capacity Improvements.	Junction and link capacity improvements.	<ul style="list-style-type: none"> Outside of the scope of this commission. 	<ul style="list-style-type: none"> Outside of the scope of this commission. 	No
GT.06	Autonomous vehicle link to Wellcome Genome.	Provision of an autonomous vehicle corridor and associated services between the south of the station and the Wellcome Genome Campus, using emerging technology and land owned by the group.	<ul style="list-style-type: none"> Improves connectivity between the station and the campus. Reduces reliance on the car. Pioneering development of new technology. 	<ul style="list-style-type: none"> Unproven to date. Potential legal and technological barriers to delivery. 	Yes
GT.07	Do nothing.	Don't provide any additional highway capacity for general traffic on the strategic network.	<ul style="list-style-type: none"> May force individuals to consider alternative forms of travel. Could enable greater investment in sustainable transport. 	<ul style="list-style-type: none"> Lack of alternative strategic routes to the A505. Increasing volumes of through traffic on the A505. 	No
A505 Corridor					
GT.08	Dualing of the A505.	Widen the A505 between M11 J10 and the A1301 to a two lane dual carriageway, with associated junction improvements.	<ul style="list-style-type: none"> Outside of the scope of this commission. 	<ul style="list-style-type: none"> Outside of the scope of this commission. 	No
GT.09	A505 / A1301 McDonalds Roundabout Signalisation.	Signalisation of all arms of the junction including ped/cycle phases.	<ul style="list-style-type: none"> Provides more highway capacity. Enables regulation of traffic flow along A505. Provides safe crossing opportunities for vulnerable road users. Improves connectivity to Sawston and business parks. 	<ul style="list-style-type: none"> Perceived impact on journey times from road users. 	Yes
GT.10	Reduced speed limit on the A505.	Reduce speed limit to 40mph from 50mph between M11 J10 and McDonalds Roundabout.	<ul style="list-style-type: none"> Would enable provision of two new signalised junctions. Enable bus lay-bys to potentially be provided. Make conditions better for cyclists along the A505. Limited impact on journey times in peak periods. 	<ul style="list-style-type: none"> Perceived impact on journey times from road users. Ability to enforce speed limit outside peak periods. 	Yes
GT.11	Signalisation of the A505 / Station Road East junction.	Signalisation of the junction permitting all movements and incorporating Selective Vehicle Detection technology.	<ul style="list-style-type: none"> Improves access in/out of the station for general traffic and buses. Reduces the traffic having to "double-back" at A505/1301 junction. Improves safety. Helps to regulate flow on A505. 	<ul style="list-style-type: none"> Perceived impact on journey times from road users. 	Yes
GT.12	Signalisation of the A505 / Moorfield Road junction.	Signalisation of the junction permitting all movements and incorporating Selective Vehicle Detection technology.	<ul style="list-style-type: none"> Improves access in/out of the station for general traffic and buses. Reduces the traffic having to "double-back" at A505/1301 junction. Improves safety. Helps to regulate flow on A505. 	<ul style="list-style-type: none"> Perceived impact on journey times from road users. 	Yes
GT.13	Roundabout at the junction of A505 / Moorfield Road.	Four arm roundabout at the junction of the A505 and Moorfield Road.	<ul style="list-style-type: none"> Would allow all vehicle movements. Maintains the flow of traffic. 	<ul style="list-style-type: none"> Potentially significant land take requirements. Roundabouts are not conducive to walking and cycling. Balance of flows may make its operation inefficient. 	No
GT.14	Do nothing	Don't provide any additional highway capacity for general traffic on the A505.	<ul style="list-style-type: none"> May force individuals to consider alternative forms of travel. Could enable greater investment in sustainable transport. 	<ul style="list-style-type: none"> Increased delays and journey times. Lack of capacity may hinder growth. Increasing safety concerns. Bus services reliability would also suffer. 	No
Local Road Network					
GT.15	Royston Road One-Way Traffic.	One-way traffic scheme to permit only east bound traffic from the junction with the A505 to the edge of the built up area.	<ul style="list-style-type: none"> Frees up highway capacity to reallocate to other road users Provides scope to formalise car parking Potential safety benefits 	<ul style="list-style-type: none"> Potential increase in speeds 	Yes
GT.16	Station Road West 20mph Zone.	Reduced speed limit and supplementary physical speed reduction measures on Station Road West, Moorfield Road and Royston Road.	<ul style="list-style-type: none"> Improves safety and perceptions of safety for vulnerable road users Reduces the attractiveness of Station Road West for traffic. Helps increase residential function of the street. 	<ul style="list-style-type: none"> Increase in journey times. 	Yes

Ref.	Scheme	Description	Pro's	Con's	Short List
GT.17	Station Road East 20mph Limit.	Reduced speed limit on Station Road East.	<ul style="list-style-type: none"> Improves perceptions of safety for vulnerable road users. 	<ul style="list-style-type: none"> Increase in journey times. Little added benefit. 	No
GT.18	Station Road East Widening.	Widen Station Road East to accommodate two-way traffic (including buses), between the current highway depot site and the junction with the A505.	<ul style="list-style-type: none"> Provides the capacity to facilitate an increase in traffic. Improves safety by reducing potential for conflicts. 	<ul style="list-style-type: none"> Some land take requirements. 	Yes
GT.19	Station Road East New Access Road.	Provide an access road between the McDonalds roundabout and Station Road East running parallel to the A505.	<ul style="list-style-type: none"> Provides the capacity to facilitate an increase in traffic. Improves safety by reducing pressure on A505 / Station Road East. Opens up land for development. 	<ul style="list-style-type: none"> Expensive. Requires third party land. Unclear if roundabout has ability to accommodate access point. 	No
GT.20	Reduce speed limit on Duxford Road.	Reduced speed limit on Duxford Road to 40mph.	<ul style="list-style-type: none"> Potential safety benefits. May encourage more walking and cycling. 	<ul style="list-style-type: none"> Unlikely to be enforceable. Wide verges keep traffic away from peds/cyclists. 	No
GT.21	Do nothing.	Don't provide any additional highway capacity or changes to the local road network.	<ul style="list-style-type: none"> May force individuals to consider alternative forms of travel. Could enable greater investment in sustainable transport. 	<ul style="list-style-type: none"> Lack of capacity would hinder the growth of the station. Increasing safety concerns. Would be no scope to introduce improved bus services. 	No
Parking					
Off-Street Parking					
PRK.01	Reconfigure Main Station Car Park.	Reduce the number of spaces in the existing car park through better demarcation of bays, with spaces reallocated to disabled users, car sharers, electric vehicles or premium spaces.	<ul style="list-style-type: none"> Gives priority to more sustainable modes. Provides more accessible spaces. 	<ul style="list-style-type: none"> Would displace traffic onto residential streets. Could undermine the viability of the station. 	No
PRK.02	Deck (or part deck) Main Station Car Park.	Provided an additional 1 or 2 decks of car parking on top of the current provision, increasing the number of spaces by XX.	<ul style="list-style-type: none"> Increases capacity of parking provision. Allows consolidation of parking in one location. Source of revenue generation (to Greater Anglia). Reduces impact of parking on local residents. Network Rail and Greater Anglia are supportive. 	<ul style="list-style-type: none"> Impact on provision during construction. Potential impact on the setting of the chapel. 	Yes
PRK.03	New car park on highways depot land.	Provision of a new surface level or decked car park on land off Station Road East currently occupied by Cambs CC and Highways England Highways Depots.	<ul style="list-style-type: none"> Increases capacity of parking provision. Allows consolidation of parking in one location. Source of revenue generation (to the County Council). Reduces impact of parking on local residents. Minimises the impact on Duxford Chapel. 	<ul style="list-style-type: none"> Requires support of Cambridgeshire County Council. Network Rail and Greater Anglia would want ownership. Reduces amount of developable land (reduced value of the asset). 	No
PRK.04	New car park on privately owned land.	Provision of a new surface level or decked car park on land off Station Road East, either side of the River Cam on land which is currently undeveloped and in private ownership.	<ul style="list-style-type: none"> Increases capacity of parking provision. Allows consolidation of parking in one location. Source of revenue generation (to the County Council). Reduces impact of parking on local residents. 	<ul style="list-style-type: none"> Requires land acquisition. Located further from the station than alternatives. 	No
PRK.05	Redevelopment of Station Road West Car Park adjacent to the Station.	Removal of spaces and provision of new facilities complimentary to the use of the station such as a toilet, shop and café.	<ul style="list-style-type: none"> Provides space for much needed station facilities and ancillary uses. Reduces vehicular movements and conflicts with pedestrians in close proximity to the station. Enables the creation of a new gateway and improved public realm. 	<ul style="list-style-type: none"> Loss of off-street parking could impact on residential streets. 	Yes
PRK.06	Reconfiguration of Side Car Park adjacent to the tracks, accessed from Station Road West.	Provide drop-off facilities and dedicated spaces for disabled users.	<ul style="list-style-type: none"> Provides a more formalised and regulated drop-off facility. Provides convenient provision for disabled users. 	<ul style="list-style-type: none"> Loss of off-street parking could impact on residential streets. 	Yes
PRK.07	Provision of new car park on land south of Royston Road.	200 space car park on land immediately to the west of the current built up area on undeveloped land.	<ul style="list-style-type: none"> Provides additional off-street parking capacity. Keeps traffic out of the main built up area. Relatively low costs. Potential source of revenue. 	<ul style="list-style-type: none"> Could increase reliance on the car. Requires land acquisition. Located further from the station than alternatives. Potential impact on neighbouring properties. 	No
PRK.08	Do nothing.	Do not change current supply of off-street parking.	<ul style="list-style-type: none"> Encourages individuals to consider alternatives to car-based access. 	<ul style="list-style-type: none"> Would hinder the growth of the station. Increasing impact of on-street parking on local residents. Continued inefficient use of existing off-street car parks. Lack of dedicated provision for disabled users. Lack of dedicated provision for more sustainable car-based travel. 	No
On-Street Parking					
PRK.09	Relocation of drop-off facilities.	Removal of drop-off spaces on Station Road East and Station Road West and provide of alternative facilities in more appropriate locations.	<ul style="list-style-type: none"> Provides a more formalised and regulated drop-off function. Reduces conflict between vehicles and pedestrians in close proximity to the station. 	<ul style="list-style-type: none"> Potential inconvenience to some. Potential for increase in informal on-street drop-offs. 	Yes
PRK.10	Double yellow lines on Station Road West, Duxford Road, Royston Road and Moorfield Road.	Provide no parking restrictions throughout the residential area to the west of the station.	<ul style="list-style-type: none"> Consistency in restrictions will deter traffic from residential streets. Provides clearer arrangements for motorists. Frees up road space to be reallocated to cycle lanes for example. Potential safety benefits with improved visibility. 	<ul style="list-style-type: none"> Reduces totality of parking provision in close proximity to the station. Potentially could increase the speed of traffic on clear roads. Impacts on residents visitor parking. Increased enforcement requirements. 	Yes

Ref.	Scheme	Description	Pro's	Con's	Short List
PRK.11	Single yellow lines on Station Road West, Duxford Road, Royston Road and Moorfield Road.	Provide time-limited parking restrictions (9am-6pm) throughout the residential area to the west of the station.	<ul style="list-style-type: none"> Consistency in restrictions will deter traffic from residential streets. Provides clearer arrangements for motorists. Frees up road space to be reallocated to cycle lanes for example. Potential safety benefits with improved visibility. Enables residents to park on street overnight. 	<ul style="list-style-type: none"> Reduces totality of parking provision in close proximity to the station. Potentially could increase the speed of traffic on clear roads. Increased enforcement requirements. 	No
PRK.12	Formalise verge parking on Duxford Road.	Provision of grass-crete to formalise current verge parking along an agreed section of carriageway.	<ul style="list-style-type: none"> Reduces the damage to verges and enables grass to grow. Provides additional parking capacity within walking distance. Provides pro-active approach to managing current concerns. 	<ul style="list-style-type: none"> Cars would clutter the rural, green corridor. Unpopular with residents. Could undermine the viability of new off-street parking provision. Reduces ability to encourage shift to sustainable modes. 	No
PRK.13	Bollards to restrict verge parking on Duxford Road.	Install bollards along the length of Duxford Road to physically restrict verge parking.	<ul style="list-style-type: none"> Protects the verges from vehicles. Avoids the need for enforcement action. Forms a safety feature for pedestrians and cyclists. Encourages parking in designated car parks. 	<ul style="list-style-type: none"> Impact on rural setting. 	Yes
PRK.14	Formalise on-street parking on Royston Road.	Demarcation of bays to maximise spaces and improve safety.	<ul style="list-style-type: none"> Secures parking capacity within walking distance of the station. Potential safety benefits. 	<ul style="list-style-type: none"> Could undermine the viability of new car park. No disincentive to car-based travel. Unpopular with some local residents. 	Yes
PRK.15	Do nothing.	Maintain status quo of on-street restrictions and provision.	<ul style="list-style-type: none"> Consistency in provision and station users have adapted their travel habits over time. Doesn't increase enforcement requirements. Lack of provision may encourage the consideration of alternatives to the car. 	<ul style="list-style-type: none"> Impact on local residents likely to increase. Undermines the viability of additional off-street provision. Safety concerns not addressed. 	No

Public Transport

Facilities for Buses

PT.01	Bus lane on the A505.	Provide a dedicated (peak period) bus lane between the M11 and A1301.	<ul style="list-style-type: none"> Reduced journey time for buses. Improved reliability and punctuality. Increases the attractiveness of buses as an alternative to the car. 	<ul style="list-style-type: none"> Would benefit a limited number of bus services. Would require major reconfiguration of the carriageway. Land take requirements. Could reduce capacity for general traffic and increase delays. Benefits Would only be tangible with whole route treatment. 	No
PT.02	Bus turnaround facility on land accessed via Station Road East.	Provide a dedicated bus turning circle on land adjacent to Duxford Chapel, currently forming part of the Main Station Car Park, complete with bus shelters and stands, real time information provision and waiting facilities.	<ul style="list-style-type: none"> Enables buses to safely serve the station. Drops passengers in close proximity to the platforms. Minimises impact on bus service scheduling. Scope for branded stopping points for private/public service buses. Forms a 'good neighbour' to Duxford Chapel. Provides safe and comfortable waiting environment. Segregates bus movements from residential areas. 	<ul style="list-style-type: none"> Buses have to divert off the A505 increasing journey times. Impact on scheduling may have revenue implications. Loss of parking or land for development. 	Yes
PT.03	Bus turnaround facility on land accessed via Station Road West.	Provide a turning circle to enable buses to turn around without reversing at the end of Station Road West, utilising some of the land currently used as a drop-off point and as parking adjacent to the station.	<ul style="list-style-type: none"> Enables buses to safely serve the station. Drops passengers in close proximity to the platforms. 	<ul style="list-style-type: none"> Draws large vehicles down a residential street. Would add to a mix of movements in close proximity to the station. Would duplicate potential provision provided on Station Road East. 	No
PT.04	Bus Lay-Bys on A505	Bus lay-bys on the eastbound and westbound sides of the carriageway in close proximity to the station with direct access onto the station platforms via new ramps alongside the A505.	<ul style="list-style-type: none"> Provides access into the station direct from the A505. Minimises the impact on bus journey times. 	<ul style="list-style-type: none"> Unpleasant waiting environment. Safety concerns with speed of traffic on A505. Enforcement of lay-bys required to restrict drop-offs and HGV parking High cost of connecting pedestrian links to the station. Steep gradient to navigate between A505 and the station. 	No
PT.05	Dedicated bus stop on Station Road East.	Provide a dedicated bus stop and shelter on Station Road East (location to be determined).	<ul style="list-style-type: none"> Would provide a clear waiting area for passengers and protected space for buses. Low cost. 	<ul style="list-style-type: none"> Unlikely to be served by any public service bus if no turning facility is in place. 	No
PT.06	Bus only access beyond Duxford Chapel on Station Road East.	Provide bus only access on Station Road East between the station and Duxford Chapel, as part of a shared space scheme.	<ul style="list-style-type: none"> Would increase priority given to buses. Restrictions on general traffic would make turning movements easier. 	<ul style="list-style-type: none"> Buses would still be required to make a three-point turn with safety implications. Bus operators would retain reservations about serving the station as a result. Potential conflict between buses and pedestrians. 	No
PT.07	Do nothing	Don't provide a dedicated facility for buses to stop in close proximity to the station.	<ul style="list-style-type: none"> None. 	<ul style="list-style-type: none"> No possibility of integration with the wider public bus network. Continued reliance on the car with the subsequent connotations that presents. 	No

Facilities for Passengers

Ref.	Scheme	Description	Pro's	Con's	Short List
PT.08	Public transport information provision.	Real time public transport information displays at (1) bus stops (2) on the station platforms (3) in the hotels (4) in private business premises.	<ul style="list-style-type: none"> Makes bus use more attractive. Provides assurances to passengers. Allows passengers to wait warm and dry surroundings. 	<ul style="list-style-type: none"> Maintenance costs. Requires compatible buses to be in operation. 	Yes
PT.09	Integrated ticketing.	Extend the PlusBus scheme which provides integrated tickets for use on the trains and local bus services. At present it is limited to use from Cambridge and Cambridge North Stations.	<ul style="list-style-type: none"> Improves interchange between services. Reduces costs of public transport use. Encourages more sustainable travel. 	<ul style="list-style-type: none"> Requires operate agreements. Lack of connecting bus services from the station. 	Yes
PT.10	Bus waiting facilities.	Provide new modern bus shelters with travel information, seating, lighting and raised kerbs on Duxford Road.	<ul style="list-style-type: none"> Makes bus use more attractive. Caters for those with limited mobility. 	<ul style="list-style-type: none"> Lack of bus service provision means use of the facilities may be very low. Maintenance costs. 	Yes
PT.11	Do nothing	Don't provide supporting information, ticketing or infrastructure for passengers.	<ul style="list-style-type: none"> None. 	<ul style="list-style-type: none"> Undermines investment in infrastructure for buses. Lack of ability to make informed travel choices. Reduced ability to interchange. 	No
Service Provision					
PT.12	New dedicated bus routes serving the station.	Provide a new dedicated bus service between residential areas, employment sites and the station.	<ul style="list-style-type: none"> Outside of the scope of this commission. 	<ul style="list-style-type: none"> Outside of the scope of this commission. 	No
PT.13	Revisions to existing bus routes serving the station.	Increase service frequency and routing of existing provision to better serve the station.	<ul style="list-style-type: none"> Outside of the scope of this commission. 	<ul style="list-style-type: none"> Outside of the scope of this commission. 	No
Active Travel					
At the Station					
AT.01	Ramped bridge between platforms at the Station.	Provide a ramped bridge between platforms.	<ul style="list-style-type: none"> Step free access between platforms. High capacity in that a number of uses can access the bridge at one time. Low maintenance costs. 	<ul style="list-style-type: none"> Visual impact on residential properties and listed buildings. Large land take requirements. Not ideal for wheelchair access. High costs. 	No
AT.02	Lift between platforms at the Station.	Provide a lift between platforms.	<ul style="list-style-type: none"> Step free access between platforms. Suitable for wheelchair access. Limited land take requirements. Limited visual impact on surrounding properties. 	<ul style="list-style-type: none"> Limited capacity. High and ongoing maintenance costs. 	Yes
AT.03	Station Facilities.	Provide a toilet, café and shop on the current car park adjacent to the existing station buildings.	<ul style="list-style-type: none"> Creates a more user friendly station environment. Provides ongoing revenue stream. Increases natural surveillance and personal security. Helps to facilitate interchange between modes/services. 	<ul style="list-style-type: none"> Would require land with loss of parking. Viability of provision would be subject to level of station use. 	Yes
AT.04	Cycle parking at the station.	Provide 200 cycle parking spaces in close proximity to the station platforms, with dedicated, covered and secure spaces available on both sides of the tracks.	<ul style="list-style-type: none"> Increases the capacity of the station to accommodate cyclists. Increases attractiveness of cycling. Commitment from Greater Anglia in place. 	<ul style="list-style-type: none"> Land take. Maintenance and monitoring costs. 	Yes
AT.05	Cycle repair workshop.	Provide a cycle repair workshop for works to be undertaken during the day with bikes collected on return journey.	<ul style="list-style-type: none"> Encourages cycle use. Provides assurances for more novice cyclists. 	<ul style="list-style-type: none"> Ongoing revenue costs. Level of use could be limited. 	No
AT.06	Cycle hire facility.	Provide a docking station as part of a cycle hire scheme in conjunction with complementary facilities at surrounding business parks and the Imperial War Museum.	<ul style="list-style-type: none"> Increase access to cycling. Reduces the need own a bike or take it on the train. Caters for onward travel from the station. 	<ul style="list-style-type: none"> Security of provision could be an issue. Maintenance of the bikes would provide ongoing cost. 	Yes
AT.07	Electric bike charging points.	Provide docking stations for electric bikes at the station.	<ul style="list-style-type: none"> Encourages cycle use for less frequent or able cyclists. Encourages take-up of electric bikes. Cycling becomes a more realistic alternative to the car. 	<ul style="list-style-type: none"> Maintenance costs. Costs associated with power supply. 	Yes
Access to/from the East					
AT.09	Pedestrianisation of Station Road East.	Pedestrianise the road between the station to a point just beyond Duxford Chapel, with alternative access points to the hotels and other land uses provided.	<ul style="list-style-type: none"> Provides gateway to/from the station. Gives priority to pedestrians. Reduces conflict between different road users. Improves safety. Enhances the setting of the listed buildings. Provides the opportunity to reconsider land uses adjacent to the station. 	<ul style="list-style-type: none"> Alternative accesses required for traffic wishing to access the hotels, businesses and residential properties. Potentially an expensive scheme. Drop-off facilities would be further from the platforms. 	Yes
AT.10	Shared space on Station Road East.	Limit access to general traffic to prioritise pedestrians as the main road user.	<ul style="list-style-type: none"> Maintains access for vehicles whilst prioritising pedestrians. Residents would be able to park outside their properties. 	<ul style="list-style-type: none"> Government appear to be moving away from shared space. Conflict between road users remains. Visually impaired likely to be unsupportive. Wouldn't permit street activities. 	No
AT.11	Shared use footway / cycleway on London Road, Sawston.	Extension of existing facility on the A1301 to provide a continuous facility into the village.	<ul style="list-style-type: none"> Extends existing provision on A1301 to form a continuous link. Improves safety and attractiveness of cycling on the corridor. 	<ul style="list-style-type: none"> Route brings cyclists in close proximity to the A505 and the busy McDonalds junction. 	Yes

Ref.	Scheme	Description	Pro's	Con's	Short List
AT.12	Widening of the shared use footway / cycleway alongside the A505 between Station Road and the A1301.	Extended width of existing facility to enable two bikes and pedestrians to safety pass.	<ul style="list-style-type: none"> Established cycle route. Would give cyclists more 'breathing space'. Increase safety and perceptions of safety. 	<ul style="list-style-type: none"> Requires enforcement from encroaching HGV parking. High volume of traffic on A505. 	Yes
AT.13	Off-road cycle path between Sawston and the Station via Mill Farm Lane (private road).	Alternative cycle link into the station from the north east, crossing the River Cam and utilising an existing private road.	<ul style="list-style-type: none"> Segregated route away from general traffic and busy A505. Suitable for commuting and leisure use. Potential to align with the redevelopment of the highway depot site. 	<ul style="list-style-type: none"> Requires private Land to be acquired. Bridging of the river Could prove expensive. Lack of natural surveillance. 	Yes
AT.14	On-street cycle lanes on the A505.	Provide on-street cycle lanes along the A505 between the M11 J10 and A1301.	<ul style="list-style-type: none"> Caters for confident cyclists. Provides a fast and direct link. 	<ul style="list-style-type: none"> Not an attractive cycle corridor even with a dedicated lane in place. Only likely to be used by the most confident cyclists. 	No
Access to/from the West					
AT.16	Widen footpaths on Station Road East between the Station and Duxford Chapel.	Widening and repaving of the existing footpath.	<ul style="list-style-type: none"> Low cost. Provides a continuous link between the station and the car park. Improvements to safety. 	<ul style="list-style-type: none"> Potential loss of on-street parking spaces. Tight carriageway may hamper vehicular movements. More comprehensive solutions available. 	No
AT.17	Provide continuous footway from Duxford Chapel to the junction with the A505.	Provide a continuous, widened footway alongside the north side of Station Road East from the station to the junction with the A505.	<ul style="list-style-type: none"> Provides a continuous link which is lacking at present. Stops pedestrians having to walk in the road. 	<ul style="list-style-type: none"> Limited demand to walk between the station and the A505. Tight carriageway needs widening to enable the scheme to be delivered. 	Yes
AT.18	Public realm enhancements on Station Road West.	Reconfiguration of the carriageway to prioritise pedestrians whilst also catering for vehicle movements associated with the side car park.	<ul style="list-style-type: none"> Priority given to pedestrians. Reduced conflict between road users. Enhanced public realm and gateway to the station. Would complement new station facilities provided on existing car park. 	<ul style="list-style-type: none"> Inconvenience to general traffic (drop-offs). 	Yes
AT.19	Improved footways on Royston Road, Moorfield Road, Duxford Road and Station Road West.	Footway widening, surfacing, dropped kerbs, crossing points and improved lighting on all approaches to the station from the west.	<ul style="list-style-type: none"> Safer and more attractive pedestrian links. Will avoid pedestrians walking in the carriageway. Benefits to local residents and commuters. 	<ul style="list-style-type: none"> Low level of footfall outside of peak periods. 	Yes
AT.20	Cycle lanes on both sides of Station Road West and Royston Road.	On-street cycle lanes on both sides of the road.	<ul style="list-style-type: none"> Dedicated facility for cyclists Wide carriageway enables provision. Connects into the National Cycle Network on Moorfield Road to provide a continuous link. 	<ul style="list-style-type: none"> Quiet Road and so Dedicated facility Could be seen as not required. Would require removal of on-street parking. 	Yes
AT.21	Contra-flow cycle lane along Royston Road.	Subject to one-way flow on the rural section being introduced, a contra-flow cycle lane would be implemented on the existing carriageway.	<ul style="list-style-type: none"> Helps to provide a continuous link to the IWM. Reduces speed of traffic through reduction in width of the carriageway. 	<ul style="list-style-type: none"> Lack of natural surveillance and lighting. Potential safety concerns due to oncoming traffic. 	Yes
AT.22	Shared use footway / cycleway to IWM via existing bridge to the north of M11 J10.	Provide a continuous path utilising an existing bridge over the motorway via Hill Farm Road.	<ul style="list-style-type: none"> Utilises infrastructure already in place to cross the M11. Removes conflict with general traffic and uses quiet routes. Caters for rural, leisure rides as well as access to the IWM. 	<ul style="list-style-type: none"> Convolutd route, not ideal for commuting. Requires use of private land. Large sections would require resurfacing. 	No
AT.23	Shared use footway / cycleway to IWM via M11 J10.	Provide a continuous path with staged crossing of the M11 J10 junction, as an extension of the signalisation scheme.	<ul style="list-style-type: none"> Formalised crossing provision at the busy junction. Helps reduce the severance between the IWM and the station. - Completes the cycle corridor between the two locations. 	<ul style="list-style-type: none"> Crossing the junction would take several stages of signalised crossings and would be slow. Brings cyclists in close proximity to heavy and fast moving traffic flows. Requires the signalisation of the whole junction together with bridge widening which is a very expensive scheme. 	Yes
Access to/from the South					
AT.25	Signalised pedestrian / cycle crossing of the A505 at Moorfield Road.	Provide an at-grade, signalised crossing as part of the larger junction reconfiguration scheme.	<ul style="list-style-type: none"> At grade facility maximises convenience for peds/cyclists. Improved safety. Strategic benefits to the NCN11. 	<ul style="list-style-type: none"> Impact upon the flow of general traffic. Increase in vehicle journey times. 	Yes
AT.26	Shared use ramped bridge over the A505.	Provide a footbridge over the A505 at the junction with Moorfield Road.	<ul style="list-style-type: none"> Included within S106 Agreement for Welch's Transport. Safe segregated crossing. Would not impede traffic flow. 	<ul style="list-style-type: none"> Visual impact. High costs. Pedestrians would be inconvenienced (off desire line) Not ideal for those with limited mobility. 	No
AT.27	Subway under the A505 at the junction with Moorfield Road.	Provide a pedestrian subway underneath the A505 / Moorfield Road junction.	<ul style="list-style-type: none"> Removes conflict with general traffic. Provides continuous pedestrian and cycle link. 	<ul style="list-style-type: none"> Potential personal security concerns / lack of natural surveillance. Expensive to construct. 	No
AT.28	Shared use footway / cycleway alongside the A505.	Provide a shared use path running parallel to the south of the A505, with a ramped access to the station platform south of the A505.	<ul style="list-style-type: none"> Land owner appears willing to provide the land. Direct access onto platforms. - No conflict with general traffic. 	<ul style="list-style-type: none"> Few strategic benefits. Potentially a high cost scheme. Level of use is questionable. Lack of natural surveillance. Lack of support from Network Rail and Greater Anglia. Reliance on third party land availability. 	No

Ref.	Scheme	Description	Pro's	Con's	Short List
AT.29	Multi-modal corridor to the Wellcome Genome Campus.	Provision of a multi-modal corridor from the south of the A505 adjacent to the station, to the campus, incorporating provision for automous vehicles, pedestrians and cyclists.	<ul style="list-style-type: none"> • Direct route to the campus and the employment opportunities it provides. • Segregated route access away from general traffic. • Would be delivered by the Wellcome Genome campus as willing partners. 	<ul style="list-style-type: none"> • Lack of natural surveillance. • A505 forms a barrier to station connectivity. • Access onto the southbound platform requires careful consideration. 	Yes
Access to/from the North					
AT.31	Shared use footway / cycleway alongside Duxford Road.	Shared use facility on both sides of Duxford Road, between the junction with Station Road West to Whittlesford village.	<ul style="list-style-type: none"> • Safe, continuous and attractive route. • Caters for commuters and leisure trips. • Strategic benefits to the NCN Route 11. • Wide verges to accommodate provision. 	<ul style="list-style-type: none"> • Poorly lit and limited natural surveillance. 	Yes
AT.32	Do nothing	Don't invest in additional provision for pedestrians, cyclists or those with limited mobility.	<ul style="list-style-type: none"> • None. 	<ul style="list-style-type: none"> • Continued lack of connectivity between the station and surrounding settlements and business parks. • Lack of accessibility for those with limited mobility. • Increasing pressures on the road network. • Lack of scope for sustainable growth at the station. • Insufficient capacity to facilitate local jobs growth. • Long term viability of the station could be compromised. • Continued impact on local residents due to the dominance of car based travel. 	No

Appendix B: Risk Register

Type	Risk	Risk Owner	Pre-Mitigation			Mitigation	Post-Mitigation		
			Probability	Impact	Rating		Probability	Impact	Rating
Delivery	Changes in timeframes within which development comes forward.	GCP	3	3	9	Identification of alternative funding sources through which to deliver schemes.	2	2	4
Delivery	Difficulties in implementation of schemes, particularly on the A505 which suffers from congestion and delays.	CCC	4	4	16	Traffic management plan to reduce the impact of roadworks during construction.	3	3	9
Delivery	Insufficient internal resources to oversee implementation of the masterplan and schemes.	GCP	2	3	6	Procure technical support from external agencies.	1	1	1
Delivery	Unwillingness of highways depot to relocate from Station Road East.	CCC	1	3	3	Ongoing discussions with the Asset Management team at the County Council and support in finding alternative site.	1	1	1
Delivery	Unwillingness of business unit to relocate from Station Road East.	GCP	4	2	8	Offer an attractive alternative site in close proximity to the station (potentially on land currently occupied by the highways depots).	2	1	2
Financial	Insufficient capital funding to implement programme of measures.	GCP	4	4	16	High priority schemes come forward first to provide the critical new infrastructure. Delays in the delivery of lower priority schemes will have less of an impact on operations. Further local development will come on stream and additional funding opportunities open up.	2	2	4
Financial	Increases in project costs undermine the viability of the masterplan.	GCP	4	4	16	Further design and feasibility work to be undertaken to refine scheme cost estimates.	2	4	8
Growth	Higher than expected growth and demand to use the station.	GCP	3	2	6	Significant additional capacity is being provided at the station, together with the provision of realistic alternatives to the car to allow sustainable growth.	2	2	4
Growth	Lower than expected growth and demand to use the station.	GCP	2	3	6	Existing issues at the station justify investment, without further growth in patronage.	1	1	1
Legal	Planning and statutory processes cause unforeseen delays.	GCP	3	2	6	Project management controls adopted to pre-empt requirements.	1	1	1
Legal	Reluctance of Network Rail to allow use of their land to provide the bus turning circle and decked car park.	GCP	3	5	15	Ongoing dialogue to keep Network Rail on board with the proposals. Potential for temporary car parking provision on highways depot site during construction to protect revenues. Masterplan in general will generate more income to both Network Rail and Greater Anglia.	1	1	1
Legal	Failure to secure planning permission for the car park.	GCP	3	5	15	Car park design and additional measures are such that the totality of investment will enhance the setting of the nearby Chapel. Ongoing dialogue to ensure understanding of proposals.	2	2	4
Legal	Failure to secure planning permission for the housing on sites off Station Road East.	GCP	4	5	20	The scale of the masterplan proposals are reduced, with only critical infrastructure delivered, with alternative funding sources secured.	1	1	1
Legal	Third party agreement required to provide alternative accesses to business units and hotels, to in turn enable the pedestrianisation of Station Road East.	GCP	5	3	15	Vehicular access along Station Road East would be maintained for the business units and hotels only.	3	2	6



Type	Risk	Risk Owner	Pre-Mitigation			Mitigation	Post-Mitigation		
			Probability	Impact	Rating		Probability	Impact	Rating
Operations	Bus operators will not serve the station.	CCC	3	5	15	Work with operators in the detailed design of the bus turning circle and share information on station patronage and extent of potential revenue generation.	2	1	2
Operations	Insufficient revenue to sustain ongoing programme of measures and undertake necessary enforcement.	GCP	4	3	12	Car parking provision will generate an increased revenue stream and agreements could be reached to ensure that this supports ancillary schemes and enforcement.	2	2	4
Policy	Lack of inclusion of transport mitigations in the Local Transport Plan undermines delivery of the Masterplan.	GCP	2	2	4	The Strategy is consistent with the principles of the LTP. The package of measures within the Strategy can be funded through developer contributions and are not reliant on LTP funding.	1	1	1
Policy	Longer term aspirations to enhance the strategic role of the A505 take precedent over local access improvements to the station.	CCC	5	5	25	Importance of maintaining local access to the parkway should be included in any future assessment of the corridors strategic role and capacity requirements.	3	2	6
Political	Lack of support from members and the general public with regard to the strategic approach or specific schemes.	GCP, CCC	3	5	15	Provide clear, consistent and continuing dialogue and engagement with politicians and the public and an evidenced based justification for interventions.	1	1	1
Stakeholders	Lack of support from operators with regard to the strategic approach or specific schemes.	GCP, CCC	2	4	8	Provide clear, consistent and continuing dialogue and engagement with partners and an evidenced based justification for interventions.	1	2	2
Stakeholders	Lack of support from businesses and land owners with regard to the strategic approach or specific schemes.	GCP, CCC	3	3	9	Provide clear, consistent and continuing dialogue and engagement with partners with the evidenced based justification for interventions.	1	1	1
Technology	Advancements in new technology impacting upon travel behaviour.	GCP	3	2	6	Changes in technology likely to make movement more efficient and environmentally friendly. GCP will seek to utilise technology to provide innovative approaches to ongoing issues.	3	2	6

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