

DEVON COUNTY COUNCIL

## **Teignbridge - Newton Abbot Infrastructure Package**

### **Full Business Case**

May 2009



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|----------------------|---|---|
| <b>Report Title</b>  | : | <b>Teignbridge - Newton Abbot<br/>Infrastructure Package<br/>Full Business Case</b> |
| <b>Report Status</b> | : | <b>Final</b>  |
| <b>Job No</b>        | : | <b>HPE98494A</b>  |
| <b>Date</b>          | : | <b>May 2009</b>   |
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**1 ANNEX A**

**1.1 Project Summary Information**

1.1.1 The Teignbridge - Newton Abbot Infrastructure Package is a proposal by Devon County Council to:

- Enable faster housing development.
- Enable urgently required new employment land for growing businesses in the Newton Abbot area.
- Improve public transport links between residential areas in Kingsteignton and employment, retail and community facilities in Newton Abbot within the Strategic Growth Point area.
- Create a critically needed high quality walking and cycling link between Kingsteignton and Newton Abbot to reduce short distance vehicle trips between the two towns, also forming a key part of the National Cycle Network in the area and the first stage of a green corridor towards Dartmoor.
- Reduce congestion and improve journey times for public transport.
- Reduce air quality problems in Kingsteignton and Newton Abbot AQMA[s]
- Create a stronger and more attractive retail and community centre to the town which is currently dominated by traffic.
- Form the first phase of an emerging masterplan to create a sustainable urban extension at Kingsteignton.

1.1.2 The scheme generates wider economic benefits by reducing congestion in the centre of Kingsteignton and improving the reliability and frequency of public transport.

**1.2 Background**

1.2.3 The Regional Spatial Strategy up to 2026 has designated Newton Abbot (including Kingsteignton) as a Strategically Significant Town / City (SSCT) including an allocation of 8000 dwellings, a significant level of household growth of around 50%. Kingsteignton has been identified as one of the potential key areas to deliver this growth in the emerging LDF Core Strategy and considerable work has been carried out on infrastructure planning and planning proposals for individual sites. The two towns of Kingsteignton and Newton Abbot are separated by the physical barriers of mineral workings, a river, railway and canal. These are crossed by two congested narrow roads (in addition to the A380 dual carriageway to the east) with little or no opportunity for safe and attractive walking and cycling links.

1.2.4 The current lack of sustainable transport infrastructure promotes private car usage at these crossing points, increasing congestion and air pollution whilst also restricting the ability to develop new housing and employment to the north in the Kingsteignton area.

1.2.5 The scheme provides new and improved sustainable transport infrastructure so that it will no longer form a barrier to the development of 726 dwellings, (at Newcross and Rackerhayes), and the creation of around 600 jobs in the short term. The scheme will also enable employment development (3.2ha) to be delivered at Rackerhayes, adjacent to the existing commercial / retail park. In addition the scheme removes a key barrier to the future development of up to a further 1200 dwellings and significant additional employment in the future subject to the LDF Core Strategy.

1.2.6 The scheme consists of five complementary measures to deliver high quality, direct walking, cycling and bus links, refer to Figure 2. The scheme proposals also includes

enhancing the investment in capital infrastructure by funding complementary personalised travel planning for the whole of the Kingsteignton community as well as the proposed developments and potentially parts of Newton Abbot. In addition, the scheme proposals include new bus services which will benefit existing residents as well as those in the new developments. Bus and cycle travel and equipment incentive vouchers for occupiers of new dwellings as part of a targeted welcome pack will also be provided. The investment of both personalised travel plans and public transport subsidies are included in the overall scheme costs, however the benefits relating to the personalised travel plans are not included in the Benefit to Cost Ratio.

- 1.2.7 The first works package delivers a road link between Greenhill Way and Broadway Road including a shared footway / cycleway. The proposed employment and residential (140 dwellings) development at Rackerhayes will be directly accessed from the new road link. In addition the new road bypasses the narrow and congested residential roads of Kingsteignton which would otherwise constrain the major development of 586 dwellings at Newcross. It also enables the prioritisation towards pedestrians and cyclists along the existing residential roads, including those leading to and from the 1400 student major secondary school in the town centre. The County Council is developing proposals to implement these priorities, the first stage of which, a traffic signal controlled junction in the centre of the town, has already been implemented. This is part of a long term plan to reduce traffic growth the centre of the town, in accordance with LTP2 indicators C2 and AQ2.
- 1.2.8 The second works package is the Connect 2 cycle route between Kingsteignton and Newton Abbot. This is a 1.7km walking and cycling path alongside the racecourse incorporating a new bridge across the River Teign connecting to an existing (mainly off-road) cycle route into Kingsteignton. The new route, combined with Works Package 1 provides direct access between Kingsteignton, the dependant developments and a major employment site at Brunel Industrial Estate. Similarly, the dependant employment sites will be accessible by walking and cycling from large parts of Newton Abbot. There are currently plans for a major new regional cycling facility at Kingsteignton which would be linked to the National Cycle Network by this scheme. The route will form part of NCN2 along the Teign Estuary. The step change in quality walking and cycling provision, combined with the area wide personalised travel plans is expected to lead to a significant increase in cycling and walking and encourage sustainable travel habits around the dependant developments from day one.
- 1.2.9 The third and fourth works packages are improvements to the existing highway infrastructure along Old Exeter Road between Broadway Road and the Strap Lane including two improved junctions with new signals. The new residential development of 586 dwellings at Newcross will directly access from the improved Old Exeter Road. In addition these measures will ensure that traffic from the dependant developments use this route around the edge of the town rather than residential roads within it. At the same time the new traffic signal controlled junctions will provide much improved pedestrian and cycle crossing facilities for children of existing residents accessing the local primary and secondary schools as well as a new primary school which is likely to be required in association with the new development.
- 1.2.10 The fifth work package is a 300m length of bus lane running southbound on Newton Road which will allow buses to bypass queues associated with existing retail developments along its frontage and congestion leading to Balls Corner junction. This will help to improve bus service reliability and journey times (LTP2 indicator C4) and led to increased passenger numbers and satisfaction (LTP2 indicators C3 and C5). This works package is particularly important in helping to ensure that the new bus services associated with the dependant developments are viable and attractive from day one. It is expected that the combination of higher frequency services combined

with improved reliability, journey time and the personalised travel plans should lead to significant increases in bus patronage.

- 1.2.11 Overall the package of works provides an excellent opportunity to deliver significant growth in housing and employment whilst also bringing measurable benefits to the existing residents. The CIF investment would lever in substantial additional investment by the developer which could not otherwise have been achieved, thereby making the impact of development acceptable. It is also a potential demonstration project to measure the impact of significant improvements to infrastructure combined with new development and travel behaviour measures for a relatively small population of around 12,000 people.
- 1.2.12 The County Council have performed a Transport Economic Assessment of the scheme and have obtained a total Present Value of Benefits of £139,345,810 against a Present Value Cost of £19,286,000.
- 1.2.13 The resulting Benefit Cost Ratio of the scheme is 7.225, indicating a positive economic outcome for progressing to implementation.

**2 OVERVIEW/PROJECT PLAN**

**2.1 Project/Scheme Title**

2.1.1 This scheme is Community Infrastructure Scheme Newton Abbot Infrastructure Package.

**2.2 Location Map**

2.2.1 The scheme consists of five work packages, which are located to the north of Newton Abbot, refer to Figure 1.

**2.3 Scheme Description**

2.3.2 CIF Scheme consists of five Work Packages, which are detailed on Figure 2.

|                    |   |
|--------------------|---|
| Works Package no.1 | Broadway Road to Greenhill Way Link Road and Cycle route.   |
| Works Package no.2 | Connect 2 Cycle Route 9.  |
| Works Package no.3 | Proposed Signalised Junction at Old Exeter Road / Chudleigh Road and Improvements to Old Exeter Road. |
| Works Package no.4 | Improvements to Strap Lane Junction.  |
| Works Package no.5 | Newton Road Bus Lane.   |

**Work Package No. 1: Broadway Road to Greenhill Way Link Road and Cycle Route**

2.3.3 This work package is a proposed single carriageway link road between Greenhill Way and Broadway Road with a shared footway / cycleway, refer to Figures 2 to 6. The proposed employment (3.2ha) and residential (140 dwellings) development at Rackerhayes will be directly accessed from the new road link. In addition the new road bypasses the narrow and congested residential roads of Kingsteignton which would otherwise constrain the major development of 586 dwellings at Newcross. It also enables the prioritisation towards pedestrians and cyclists along the existing residential roads, including those leading to and from the 1400 student major secondary school in the town centre.

2.3.4 The proposed link road would extend from a point midway along Broadway Road, and proceed in a south-easterly direction across part of the Rackerhayes area, to a new signalised junction just to the west of Rydon Industrial Estate. The western arm of the new signalised junction would then extend to Newton Road at a new junction by Greenhill Way. The proposed access onto Broadway Road would also create a new junction and realignment of part of Broadway Road. Numbers 17 to 20 Homers Crescent (inclusive) would be demolished as part of the proposed development in order to allow the junction improvements at Newton Road / Greenhill Way.

2.3.5 The design of the proposed road and new traffic signal controlled junction has been strongly influenced by the requirement to protect the existing areas of Kingsteignton from potential future floods events and has taken into account the worst case predictions of climate change. The roads will therefore be constructed on embankments with slopes generally at 1:3, which will range from 6.9m to 7.9m AOD in height. As a result they will be 1.5 to 4.5m above the existing level of the land with the average range between 3.5m and 4.3m.

- 2.3.6 Embankments, up to 20m wide, (likely to use clay waste from nearby quarries) are proposed to the western sides of the road. These will be planted with a carefully designed mix of tree and shrub planting, including a high percentage of tree and shrub species suitable for any identified protected species, assisting in providing all year round screening and also creating new ecological movement and feeding corridors.
- 2.3.7 The new link road will enable bus services to and from Newton Abbot town centre to be routed to new developments. A shared footway / cycleway will be provided along the new link road, which will link the cycle routes proposed in Work Package 2 to the new residential and employment areas, refer to Figures 2 and 11.
- 2.3.8 The main risks with this work package are identified in Appendix B.
- 2.3.9 Photographs of the Broadway Road are provided below.



Broadway Road (North) looking West



Broadway Road (North) looking East

### Works Package No. 2: Connect 2 Cycle Route 9

- 2.3.10 There are significant functional linkages between Kingsteignton and Newton Abbot that creates significant short distance travel between the two settlements. Currently the cycle links between the two communities are poor quality and inconsistent. There are no viable alternatives to the main Newton Road corridor that suffers from large volumes of traffic. This acts as a constraint to encouraging walking and cycling and increases the number of short distance car trips.
- 2.3.11 This work package will address the above issues and provide a new pedestrian and cycle link between Kingsteignton and Newton Abbot, refer to Figure 7. This is a 1.7km walking and cycling path alongside the racecourse incorporating a new bridge across the River Teign connecting to an existing (mainly off-road) cycle route into Kingsteignton. The new route, combined with Works Package 1 provides direct access between Kingsteignton, the dependant developments and a major employment site at Brunel Industrial Estate. Similarly, the dependant employment sites will be accessible by walking and cycling from large parts of Newton Abbot. There are currently plans for a major new regional cycling facility at Kingsteignton which would be linked to the National Cycle Network by this scheme. The step change in quality walking and cycling provision, combined with the area wide personalised travel plans is expected to lead to a significant increase in cycling and walking and encourage sustainable travel habits around the dependant developments from day one.

- 2.3.12 In addition, the route forms a key stage in the development of National Cycle Network Route 2 along the Teign Estuary between Teignmouth and Newton Abbot. This in turns forms part of the overall route from Exeter to Plymouth and beyond via Totnes.
- 2.3.13 In detail, this pedestrian and cycling scheme will link Church Street, Kingsteignton, Passage House and Town Quay Newton Abbot and involves:
- Improvement and widening of existing footpaths between Church St and Passage House to accommodate cyclists.
  - A new toucan crossing to cross the B3193 to the north at Greenhill Way, Kingsteignton
  - A widening of existing footpaths on Greenhill Way from toucan crossing to Newton Road to accommodate cyclists.
  - A new link on the south-east side of Hackney Marshes to Woodmere Way
  - Construction of a new section of the route from Hackney Marshes to the River Teign, which will run along the foot of the railway embankment on Newton Abbot Racecourse land and Network Rail land, and passing under the railway bridge adjacent at the river.
  - A new pedestrian / cycleway bridge to cross the River Teign adjacent to the existing railway bridge with a down ramp to link Quay Road and Town Quay, Newton Abbot.
- 2.3.14 The new route, combined with the link alongside the new road, also provides direct access from Kingsteignton and the new development sites to the major employment site at Brunel Industrial Estate, refer to Figure 11. Plans are currently being developed for a direct link into the railway station from Brunel Industrial Estate, thereby also linking it to the Connect 2 route and providing a direct connection to / from Kingsteignton and the rest of the National Cycle Network. There are currently plans for a major new regional cycling facility at Kingsteignton which would be linked to the National Cycle Network by this scheme.
- 2.3.15 The cycle route will also support the objectives of the current Local Transport Plan, in providing a means of tackling congestion, facilitating air quality improvements, improve the potential for recreation and leisure in the area and promote health and well being.
- 2.3.16 The main risks with this work package are identified in Appendix B.
- 2.3.17 Photograph of the Greenhill Way is provided below.



Greenhill Way (looking East)

**Works Package No.3: Proposed Signalised Junction at Old Exeter Road / Chudleigh Road and Improvements to Old Exeter Road**

- 2.3.18 The existing roundabout at Old Exeter Road and Chudleigh Road does not provide adequate crossing facilities for non motorised users (NMU) resulting in a number of accidents, three involving cyclists. In its present form the junction does not conform to current design standards.
- 2.3.19 This work package includes replacing the existing roundabout with a traffic signal controlled junction and the provision of at grade crossing facilities for pedestrians and cyclists. The new residential development of 586 dwellings at Newcross will directly access from the improved Old Exeter Road. Figure 8 details the proposed scheme.
- 2.3.20 This scheme in conjunction with Work Package 4 will ensure that traffic from the dependant developments use this route around the edge of the town rather than residential roads within it. At the same time the new traffic signal controlled junctions will provide much improved pedestrian and cycle crossing facilities for children of existing residents accessing the local primary and secondary schools as well as a new primary school which is likely to be required in association with the new development.
- 2.3.21 The main risks with this work package are identified in Appendix B.
- 2.3.22 Photograph of the existing roundabout of Old Exeter Road and Chudleigh Road are provided below.



Chudleigh Road looking North



Chudleigh Road looking West

**Works Package No.4: Improvements to Strap Lane Junction**

- 2.3.23 This work package includes replacing the existing priority junction with a traffic signal controlled junction and the provision of at grade crossing facilities for pedestrians and cyclists. The proposed junction improvements are shown in Figure 9.
- 2.3.24 This scheme in conjunction with Work Package 3 will ensure that the traffic from the dependant developments use this route around the edge of the town rather than residential roads within it. At the same time the new traffic signal controlled junctions will provide much improved pedestrian and cycle crossing facilities for children of existing residents accessing the local primary and secondary schools as well as a new primary school which is likely to be required in association with the new development.
- 2.3.25 In addition this work package will meet the aims of the Kingsteignton Community Travel Plan which has highlighted the need for improvements at this junction.

2.3.26 The main risks with this work package are identified in Appendix B.

2.3.27 Photograph of the existing junction are provided below.



Exeter Road looking South



Exeter Road looking North

#### **Works Package No.5: Newton Road Bus Lane**

2.3.28 This work package is a 300m length of bus lane running southbound on Newton Road which will allow buses to bypass queues associated with retail development along its frontage and congestion leading to Balls Corner, refer to Figure 10. This will help to improve bus reliability and journey times which have suffered from the congestion and led to reduced viability as operating costs increased and passenger numbers fell. This priority measure is particularly important in helping to ensure that the new bus services associated with the developments are viable and attractive from day one. As with the Connect 2 route, it is expected that the combination of higher frequency services combined with improved reliability, journey time and the personalised travel planning should lead to significant increases in bus patronage.

2.3.29 The main risks with this work package are identified in Appendix B.

## 2.4 Community Infrastructure Funding Required and the Preferred Profile of Quarterly Payments

2.4.30 A breakdown of the overall scheme costs are provided below:

|                           | Land    | Professional Fees | Construction | Associated Costs | Works Sub-Total | Risk per WP | Works + Risk Sub-Total | Construction inflation between 31.03.2009 and 31.03.2010 (@ 1.5%) | Construction inflation between 31.03.2010 and 31.03.2011 (@1.5%) | Total              |
|---------------------------|---------|-------------------|--------------|------------------|-----------------|-------------|------------------------|---|--|--------------------|
| <b>Works Package no.1</b> | £0      | £608,800          | £6,075,000   | £2,300,000       | £8,983,800      | £610,175    | £9,593,975             | £143,910  | £146,068   | <b>£9,883,953</b>  |
| <b>Works Package no.2</b> | £20,000 | £367,000          | £2,513,000   |                  | £2,900,000      | £291,875    | £3,191,875             | £47,878   | £48,596  | <b>£3,288,349</b>  |
| <b>Works Package no.3</b> | £0      | £98,000           | £1,191,920   |                  | £1,289,920      | £78,950     | £1,368,870             | £20,533   | £20,841  | <b>£1,410,244</b>  |
| <b>Works Package no.4</b> | £0      | £46,000           | £309,000     |                  | £355,000        | £14,275     | £369,275               | £5,539  | £5,622   | <b>£380,436</b>    |
| <b>Works Package no.5</b> | £0      | £30,000           | £165,420     |                  | £195,420        | £9,350      | £204,770               | £3,072  | £3,118   | <b>£210,959</b>    |
|                           |         |                   |              |                  | £13,724,140     |             | £14,728,765            |   |  | <b>£15,173,942</b> |

2.4.31 The total CIF sought by the Council is £4,000,000 which is the same figure as per the invitation for the full business case for the second round growth points on the Communities and Local Government website. The CIF funding in financial year 2009/10 is £190,000 and in financial year 2010/11 is £3,810,000.

2.4.32 The preferred profile of quarterly payments would be grant claims in arrears in accordance with Section 2.9

2.4.4 A detailed cost estimate is provided in Appendix C and the quantitative risk assessment is provided in Appendix B.

2.4.5 The associated costs for work package 1, refer to costs relating to:

- Personalised travel plans
- Subsidy for Public Transport
- Re-housing of residents of 17 to 20 Homers Crescent (inclusive) which will be demolished as part of the proposed development in order to allow the junction improvements at Newton Road / Greenhill Way.

2.4.6 In addition to the CIF funding, details of the remaining funding / contributions is provided:

- DCC Local Transport Plan funding £700,000
- DCC Medium Term Capital Strategy funding £2,000,000
- Sustrans funding £500,000
- Developer contributions £7,974,000

2.4.7 Developer contributions to the Newton Abbot CIF bid are assumed to be in the following range based on the current market conditions and anticipated delivery phasing, subject to further detailed assessment and specification of the schemes proposed.

2.4.8 As the financial market improves, as all the economic indications are will be the case in 2010/11, additional developer contributions will be sought in light of a changed viability picture in order to deliver longer term quality outcomes. This will reduce the level of public sector support for the scheme and enable a higher quality and standard of infrastructure scheme to be delivered. It is anticipated that this 'overage' arrangement or similar cascade funding mechanism will be tied to sales values or site GDV.

## 2.5 Project Start and Completion Dates

2.5.1 Indicative Programmes for the Work Packages are included in Appendix A.

2.5.2 A summary of the keys dates from the indicative programmes are provided below:

|                |                               |                       |  |
|----------------|-------------------------------|-----------------------|--|
| General        |                               |                       |  |
|                | CIF Bid Submission            | 22 May 2009           |  |
|                | Appraisal Stage               | May – July 2009       |  |
|                | CIF Awarded                   | July 2009             |  |
|                | CIF Funding Deadline          | End March 2011        |  |
| Work Package 1 |                               |                       |  |
|                | Planning Approval             | July 2009             |  |
|                | Grant / Development Agreement | May 2009 – June 2009  |  |
|                | Detailed Design               | Aug 2009 – May 2010   |  |
|                | Procurement                   | July 2010 – Sept 2010 |  |
|                | Construction                  | Oct 2010 – Mar 2011   |  |
| Work Package 2 |                               |                       |  |
|                | Land transfers                | May 2009 – July 2009  |  |
|                | Submit Planning Application   | July 2009             |  |
|                | Determination Period          | July 2009 – Sept 2009 |  |
|                | Planning Approval             | Sept 2009             |  |
|                | Detailed Design               | May 2009 – Nov 2009   |  |
|                | Procurement                   | Dec 2009 – Feb 2010   |  |
|                | Construction                  | Mar 2010 – Feb 2011   |  |
| Work Package 3 |                               |                       |  |
|                | Land transfers                | Sept 2009             |  |
|                | Detailed Design               | Sept 2009 – Mar. 2010 |  |
|                | Procurement                   | Jan 2010 – Mar 2010   |  |
|                | Construction                  | June 2010 – Oct 2010  |  |
| Work Package 4 |                               |                       |  |
|                | Detailed Design               | July 2009 – Oct 2009  |  |
|                | Procurement                   | Sept 2009 – Dec 2009  |  |
|                | Construction                  | Feb 2010 – April 2010 |  |
| Work Package 5 |                               |                       |  |
|                | Detailed Design               | Jan 2010 – May 2010   |  |
|                | Procurement                   | Mar 2010 – July 2010  |  |
|                | Construction                  | Aug 2010 – Oct 2010   |  |

## 2.6 Project Governance / Resourcing Plans

- 2.6.1 Project governance will be undertaken by Edward Chorlton, Deputy Chief Executive and Director of Environment, Economy and Culture, Devon County Council. Financial control will be undertaken by John Mills, Director of Finance, IT and Trading, Devon County Council.
- 2.6.2 Scheme design, contract preparation and supervision of site works will be undertaken by Parsons Brinckerhoff Ltd, Engineering Consultant partners with Devon County Council.
- 2.6.3 However, it may prove to be beneficial for DCC if the Developer, Arnold White Estates (AWE), were to design and construct the Broadway Link Road (Work Package 1). Should this option be pursued it would be subject to a Development / Grant Agreement between DCC and AWE being signed. The Agreement would stipulate the programme and cost constraints / controls required by DCC to retain effective control and monitoring powers to ensure delivery.

## 2.7 Key Dates for Planning Decisions

- 2.7.1 It is considered that no planning applications are required for Work Packages 3, 4 and 5, as all works are either within the highway boundary or can be undertaken as permitted development.
- 2.7.2 For Work Package 1, a detailed application has been submitted to Teignbridge District Council for the construction of the Broadway Link Road and is awaiting determination.
- 2.7.3 The Connect 2 Cycle Route 9, Work Package 2, has received DCC Executive Committee approval and a detailed application will be submitted to DCC once land transfers have been completed.
- 2.7.4 The key dates for the planning submissions and decisions are provided below:

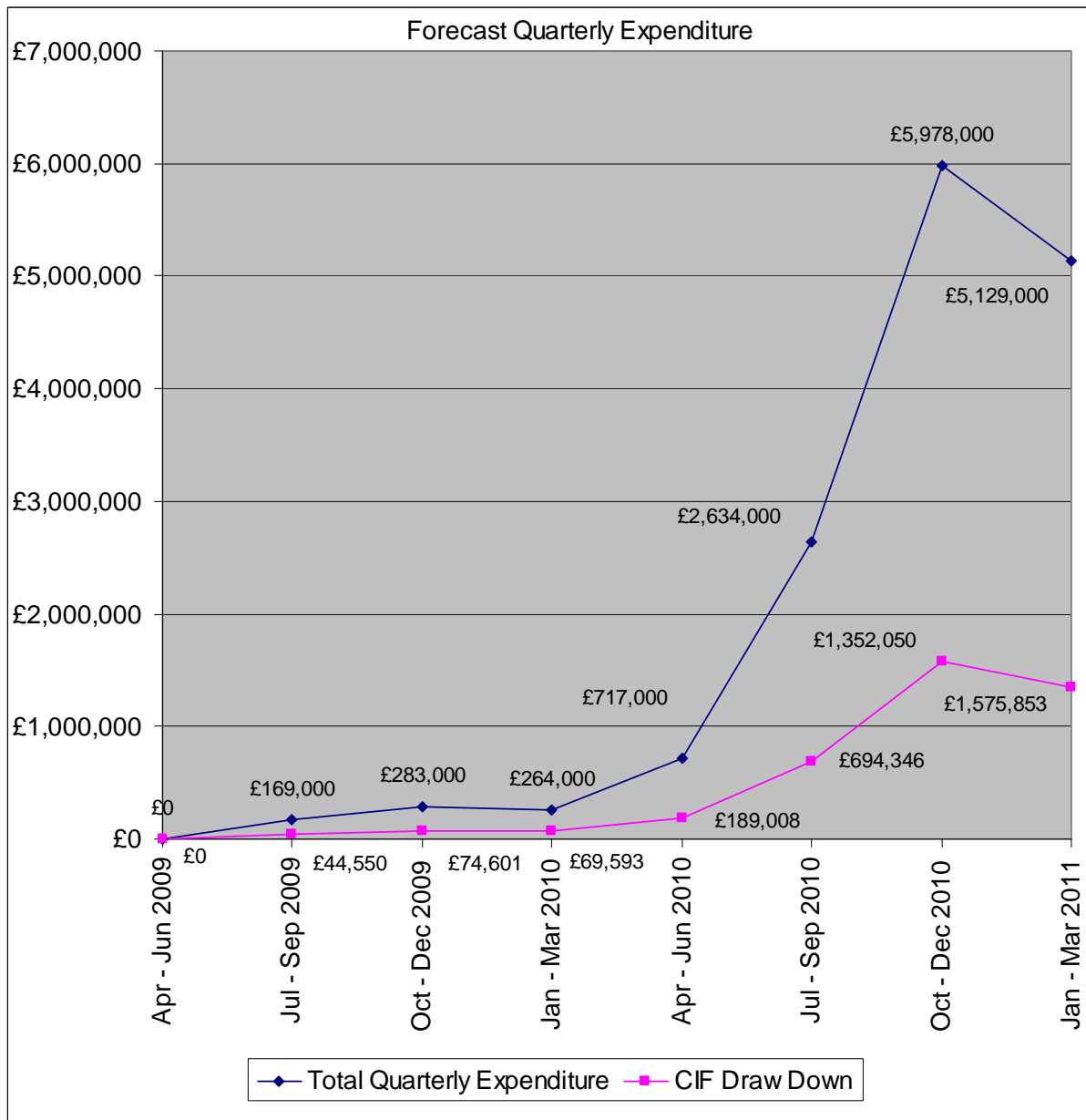
| Description   | Date      |
|---|-----------|
| Planning Approval for Broadway Link (Work Package 1)                                  | July 2009 |
| Detailed Planning Application submission for Connect 2 Cycle Route 9 (Work Package 2) | July 2009 |
| Planning Approval for Connect 2 Cycle Route 9 (Work Package 2)                        | Sept 2009 |

## 2.8 Key Milestones to Trigger CIF Payments

- 2.8.1 The preferred trigger for payments would be quarterly grant claims in arrears in accordance with Section 2.9 below.

## 2.9 Expected Quarterly Profile of Eligible Expenditure

- 2.9.1 Based upon the processes of design, planning and construction contained within the Indicative Programme, (included in Appendix A), the expected quarterly profile of eligible expenditure and grant claims is:



2.9.2

The above profile is subject to change as the Devon County Council is awaiting a response from the Department of Transport to the enquiry regarding authorisation for pre-claiming capital retention costs before the expiry of the standard 12 months defects period on works (which would be after 31.03.2011).

### 3 PROMOTER INFORMATION

#### 3.1 Legal Structure for Delivery

3.1.1 As per section 2.6 Devon County Council is the sole scheme promoter. The Council through its framework contract for civil engineering works with Parsons Brinckerhoff Ltd, they will procure any external design and construction services associated with the scheme.

3.1.2 The procurement of work packages will be in accordance with the Council's Contract Standing Orders.

3.1.3 The roles and responsibilities attributable to the scheme partners will be as follows:

| Stakeholder   | Nature of interest       | Roles & Responsibilities             |                           |                                 |
|---|--------------------------|--------------------------------------|---------------------------|---------------------------------|
|   |                          | Before construction                  | During construction       | After construction              |
| Department for Transport / Homes & Communities Agency | Scheme Facilitator       | Monitoring                           | Monitoring                | Monitoring                      |
| Devon County Council                                  | Scheme Promoter & Client | Project Brief Planning               | Monitoring                | Adoption                        |
| Teignbridge District Council                          | Planning Authority       | Planning Approval                    | Monitoring                | Reporting                       |
| Arnold White Estate Ltd                               |                          | Development Partner                  | Development Partner       | N/A                             |
| Parsons Brinckerhoff Ltd                              | Principal Designer       | Feasibility Planning Detailed Design | Redesign Site Supervision | Project Handover Traffic Counts |
| tbc   | Principal Contractor     | Early Contractor Involvement         | Contract Works            | Works Handover                  |
| tbc   | Sub-Contractor           | n/a                                  | Specialist Works          | n/a                             |

3.1.4 However, it may prove to be beneficial for DCC if the Developer, Arnold White Estates (AWE), were to design and construct the Broadway Link Road (Work Package 1). Should this option be pursued it would be subject to a Development / Grant Agreement between DCC and AWE being signed. The Agreement would stipulate the programme and cost constraints / controls required by DCC to retain effective control and monitoring powers to ensure delivery.

3.1.5 For further details on stakeholder analysis refer to Section 4.5 and Appendix D.

**3.2 Contributed Funding**

3.2.6 The total funding contributions are:

| Stakeholder   | Nature of interest       | Funding Contribution  |                     |                       |
|---|--------------------------|---|---------------------|-----------------------|
|   |                          | Before construction   | During construction | After construction    |
| Department for Transport / Homes & Communities Agency |                          | Eligible Capital costs up to £4M  |                     |                       |
| Devon County Council                                  | Scheme Promoter & Client | LTP Funding £700,000<br>Medium Term Capital Strategy Funding £2,000,000 |                     | Ongoing revenue costs |
| Sustrans  | Scheme Partner           | Funding £500,000  |                     |                       |
| Developer Contributions                               | Development Partner      | Contribution £ 7,974,000  |                     |                       |

**3.3 Major Assets to be Acquired or Enhanced under the Project**

3.3.7 The interests are:

| Stakeholder          | Nature of interest                       | Assets   |   |
|----------------------|--|--|---|
|                      |  | Acquired by completing scheme  | Enhanced by completing scheme   |
| Devon County Council | Highway Authority for all Works packages | New adopted highway created by WP1, Foot / Cycle ways and structures in WP2. | Existing HMPE enhanced by Works Packages no.3 and no.4.<br>Local PT services enhanced by Works Packages no.5. |

3.3.8 For further details on stakeholder analysis refer to Section 4.5 and Appendix D.

## 4 RISKS

### 4.1 Any assumptions used and any constraints identified

#### 4.1.1 Assumptions used in the development of the risk analysis

- Work Package 1: None
- Work Package 2: None
- Work Package 3: No planning application required
- Work Package 4: No planning application required.
- Work Package 5: No planning application required.

#### 4.1.2 Identified constraints:

- Funding programme.
- Work Package 1: Environmental Impact Assessment for scheme undertaken with East Golds to New Cross Masterplan and submitted to Planning Approvals.  
Environmental issues regarding loss of existing trees, hedgerows, wildlife habitats, and air quality.  
Planning Application submitted for Broadway Road to Greenhill Way Link.  
Land required from Developer (Arnold White Estates Ltd) of proposed Newcross and Rackerhayes residential and employment areas. Arnold White Estates Ltd has agreed in principle to transfer the land at no cost to Devon County Council. Developer / grant agreement to be finalised at an early stage.
- Work Package 2: Environmental appraisal undertaken and Executive Committee Approval to procedure with scheme.  
Planning Application to be submitted.  
Environmental Agency and Network Rail approvals required.  
Land required from six parties. Landowners have agreed in principle to sell the land required.
- Work Package 3: Environmental Impact Assessment for scheme undertaken with Newcross Residential Development.  
Environmental issues regarding loss of existing trees and hedgerows.  
Land required from Developer (Arnold White Estates Ltd) of proposed Newcross and Rackerhayes residential and employment areas. Arnold White Estates Ltd has agreed in principle to transfer the land at no cost to Devon County Council. Developer / grant agreement to be finalised at an early stage
- Work Package 4: All works to be undertaken within the highway boundary.
- Work Package 5: All works to be undertaken within the highway boundary.

### 4.2 Assessment of risks associated with project

#### 4.2.3 A detailed risk register and mitigation plan is included at Appendix B. The risk register is split into the following sections:

- General Scheme Risks
- Specific Risks for Work Package 1
- Specific Risks for Work Package 2
- Specific Risks for Work Package 3
- Specific Risks for Work Package 4
- Specific Risks for Work Package 5

4.2.4 Five significant risks remain after mitigation:

- Delay in funding and developer contributions arrangements. Early progression of developer / grant agreement
- Delay / refusal of planning consent for Work Package 1: Broadway Road to Greenhill Way Link Road.
- Delay in obtaining Environment Agency approval for Work Package 1: Broadway Road to Greenhill Way Link Road.
- Delay in obtaining Environment Agency and Network Rail approval for Work Package 2: Connect 2 Cycle Route 9
- Possibility of the contractor going into receivership which would delay completion and increase outturn cost.

#### 4.3 Agreed distribution of cost/programme risk responsibilities

4.3.5 A distribution of risk and mitigation measures is included at Appendix B

4.3.6 A total of 56 risks have been identified and these are broken down as follows:

- General Scheme Risks: 27 Risks
  - Specific Risks for Work Package 1: 9 Risks
  - Specific Risks for Work Package 2: 9 Risks
  - Specific Risks for Work Package 3: 5 Risks
  - Specific Risks for Work Package 4: 3 Risks
  - Specific Risks for Work Package 5: 3 Risks
- 44 risks are owned by DCC, 12 by Parsons Brinckerhoff Ltd.

Mitigation measures are considered possible for 53 identified risks  
41 mitigation measures are assigned to DCC, 12 to PB Ltd.

4.3.7 Risks which it is not considered possible to mitigate are changes in National Legislation, tax or Health and Safety regulations and disease.

#### 4.4 Arrangements for Evaluating the Scheme

4.4.8 Improved pedestrian and cycle facilities will be evaluated by pedestrian and cycle counts for Work Packages 1 and 2.

4.4.9 Improved public transport facilities will be evaluated by patronage counts and a feedback meeting with Public Transport Operator will be held one year after scheme completion.

4.4.10 Progression of proposed developments through the planning process will indicate if the development benefits are fully realised.

#### 4.5 Detailed stakeholder analysis

4.5.11 The principal stakeholders in this project are:

- Devon County Council
- Teignbridge District Council
- Arnold White Estates Ltd (Developer for proposed Newcross and Rackerhayes residential and employment areas)
- Teignbridge - Newton Abbot Growth Point Team
- SWRDA
- SWRA

- Stagecoach
- Sustrans

4.5.12 None of the stakeholders are currently considered likely to object to the scheme.

4.5.13 A full detailed stakeholder analysis is provided in Appendix D.

5 ANNEX B

5.1 Integration – Scheme-Dependent Housing

5.1.1 Housing Summary Table

|  |                    |                 |                  |                |
|--|--------------------|-----------------|------------------|----------------|
| Additional housing that is fully dependent on transport scheme | 726                |                 |                  |                |
| Previously developed land (PDL)                                | Total              | Derelict        | Currently in use | Vacant         |
| Hectares developed:  | 14.6               |                 |                  | 14.6           |
| Non-PDL  | Total              | Urban extension | Infill           | New settlement |
| Hectares developed:  | 4.7                | 4.7             |                  |                |
| Dwelling size  | 3+ bedrooms        | 2 bedroom       | 1 bedroom        |                |
| Number of dwellings:   | 325                | 326             | 75               |                |
| Number of 'affordable' dwellings:                              | 20% of above (145) |                 |                  |                |
| Value of other subsidies supporting developments               | £0m                |                 |                  |                |

5.2 Evidence Base for Dependency

5.2.2 The economic benefits of the scheme have been calculated and are summarised in this section of the document.

5.2.3 Highway Benefits

5.2.4 In order to determine the benefits to the local highway network, a SATURN traffic model was used to assess the distribution of traffic around the network. The development of which is described in the technical memo *Newton Abbot Modelling To Date (reference: HPE91978A)* produced by PB in June 2008. This SATURN model includes the current road layout within Newton Abbot and Kingsteignton. For the purpose of this assessment, the existing road layout is identified as the Do-Minimum scenario.

5.2.5 The SATURN model was then amended for the Do-Something scenario to include the following highway infrastructure elements of the Community Infrastructure Scheme:

- Proposed Broadway Road to Newton Road link road;
- B3193 Chudleigh Road/Exeter Road junction signalisation;
- B3195/Strap Lane/Lindridge Lane junction improvements.

5.2.6 Trip matrices for the years of 2012 and 2016 were used, which included all of the scheme dependant developments. The trip patterns in the AM peak period were assessed as this is considered to be the key peak period.

5.2.7 The economic appraisal program TUBA v1.7b was used to determine the economic benefits of the highway infrastructure aspects of the scheme. The volume of trips, average journey times and average trip distance were extracted from the SATURN models to determine the benefits over a 60 year assessment period. It should be noted that this is not a full assessment of benefits accrued over the whole assessment period, as the annual benefits have only been calculated for the peak hour of 08:00 to 09:00. However the assessment does provide an indication of the likely economic benefits.

5.2.8 As can be seen from the following table that the scheme realises positive economic benefits and is likely to be justifiable in terms of economic efficiency.

|                                 | With CIF Scheme |
|---------------------------------|-----------------|
| <b>Consumer Benefits:</b>       |                 |
| Travel Time                     | 61,140,000      |
| Vehicle Operating Costs         | 3,992,000       |
| <b>Business Benefits:</b>       |                 |
| Travel Time                     | 74,243,000      |
| Vehicle Operating Costs         | 2,610,000       |
|                                 |                 |
| Carbon Benefits                 | 517,000         |
|                                 |                 |
| Present Value of Benefits (PVB) | 139,345,810     |
| Present Value of Costs (PVC)    | 19,286,000      |

*All values in 2002 prices (£)*

5.2.9 Public Transport Benefits

5.2.10 Public transport benefits have not been modelled and are not included in the economic assessment of benefits. However, a qualitative assessment has been undertaken. It is considered that the scheme will be beneficial to public transport users in terms of travel time. This is generated by the following:

- A more direct route between Newton Abbot and the dependent developments, using the new link road between Broadway Road and Newton Road, rather than a longer route where buses will travel along Newton Road and Chudleigh Road then down Exeter Road in order to reach the Newcross development.
- The reduction in waiting times for all traffic at the Newton Road/Greenhill Way and Chudleigh Road/Exeter Road junctions, which are predicted to have capacity problems in 2012.
- The proposed bus lane on Newton Road (which experiences severe congestion in the AM/PM peaks).
- An increased frequency of bus services for Newcross (possibly 20 or 30 minutes as opposed to the existing hourly service that travels along Chudleigh Road).

5.2.11 Non-Motorised User Benefits

5.2.12 The travel time benefits to Non-Motorised Users (such as cyclists and pedestrians) have not been modelled and are not included in the economic assessment of benefits. However, a qualitative assessment has been undertaken.

- 5.2.13 Although it is predicted that there will be limited benefits to Non-Motorised Users (NMUs) from the scheme in terms of distance savings between Newton Abbot and the dependent developments, the improvements to cycle/pedestrian routes between Kingsteignton and Newton Abbot bypass existing locations such as Newton Road that currently experience heavy traffic congestion in the AM/PM peaks, which when combined with a variable carriageway width on Newton Road would imply delay, safety and journey ambience disbenefits for NMUs on that route. As a result the proposed scheme can only be advantageous to NMUs.
- 5.2.14 The safety benefits to non-motorised users are expected to be significant and have been assessed in detail in the following section of this report.
- 5.2.15 Safety Benefits
- 5.2.16 TUBA does not calculate accident benefits so a separate assessment has been carried out to determine the benefits associated with the proposed highway infrastructure improvements.
- 5.2.17 It has been assumed that the scheme will primarily have an impact on the accident record at the following locations:
- B3193 Chudleigh Road/Exeter Road Junction;
  - B3195/Strap Lane/Lindridge Lane Junction;
  - B3195/Broadway Road Junction;
  - B3195/Fore Street/Newton Road Roundabout;
  - Greenhill Way/Newton Road Junction;
  - Broadway Road between the junctions with the B3195 and the new link road;
  - Newton Road between the junctions with Fore Street and Greenhill Way;
- 5.2.18 Additionally, the proposed link road between Broadway Road and Newton Road will generate accidents along its length, particularly at the junctions with the existing highway network.
- 5.2.19 The impact that the scheme will have on the accident record at these locations has been assessed using the accident prediction process described in Volume 13 of the Design Manual for Road and Bridges. The predicted traffic flows at these locations for the Do-Minimum and Do-Something scenarios were used to determine whether the number of accidents in the first year (2012) would increase or decrease with the scheme in place.
- 5.2.20 The results show that the overall total annual number of accidents is predicted to increase at these locations in the first year of 2012. This is primarily due to the conversion of the 2 roundabouts (B3193/Exeter Road and Newton Road/Greenhill Way) to signal controlled junctions and the accident prediction process used. The accident prediction process in Volume 13 of the Design Manual for Road and Bridges predicts that signal controlled junctions generate more accidents than roundabouts. However it should be noted that the signalised junctions will alleviate the congestion problems and provide significantly improved pedestrian and cycle facilities, (i.e. signal controlled crossings), in comparison to existing roundabout with uncontrolled crossings. In addition safety audits will be undertaken as part of the design process.

- 5.2.21 The improvements to cycle/pedestrian routes between Kingsteignton and Newton Abbot are expected to reduce the number of accidents involving NMUs along Newton Road and The Avenue, as the majority of these users should transfer to the improved off-line cycle/footway facilities.
- 5.2.22 In the five-year period of 2004-2008, three accidents occurred along Newton Road and The Avenue involving pedestrians, as well as nine accidents involving pedal cycles (two of which were serious in severity). This equates to 2.4 accidents per year involving NMUs at these locations. It has been conservatively assumed that the number of NMU accidents along Newton Road and The Avenue could reduce by 50% following the completion of the scheme.
- 5.2.23 By applying the average accident prevention values (quoted in the document *Highways Economics Note No.1: 2002 Valuation of the Benefits of Prevention of Road Accidents and Casualties*) to the predictions for the impact that the scheme will have on the accident record within the local area, it has been determined that there will be overall accident disbenefits of £3,156,190 (in 2002 prices) for the 60-year period of 2012 to 2071. These disbenefits can be primarily attributed to the conversion of the two roundabouts (Chudleigh Road/Exeter Road and Newton Road/Greenhill Way) to signal controlled crossroads, and that the accident prediction process in the Design Manual for Road and Bridges predicts that signal controlled junctions generate more accidents than roundabouts. The disbenefits predicted for these two junctions should be considered in context of the benefits of the signalised junctions which will alleviate the congestion problems and provide significantly improved pedestrian and cycle facilities in comparison to the existing roundabout.
- 5.2.24 Excluding these two junctions, the results show that the scheme will have positive safety benefits.
- 5.2.25 Personal Travel Planning
- 5.2.26 Personalised Travel Plans (PTP) are targeted at households and encourage occupants to make a few changes to their daily travel choices by offering tailored information and support, enabling people to walk, cycle and use public transport more often. An initial survey establishes which households would benefit most from the initiative and then personal contact is made to offer advice and incentives to adopt sustainable modes of transport and minimise car trips.
- 5.2.27 Evidence from recent PTP schemes, compiled on behalf of Sustrans, suggests that car driver trips are reduced by between 10-13% and sustainable travel modes are increased by 12-36%. Although these benefits are based on large scale schemes in more urbanised areas they have not been introduced alongside improved sustainable transport infrastructure, as in this case. Although not modelled in the economic assessment the PTPs will clearly have benefits enhancing the infrastructure package.
- 5.2.28 Summary
- 5.2.29 For the 60-year period of 2012 to 2071, the following results have been generated from the economic assessment of the scheme. It can be seen that the scheme will generate very positive economic benefits and has a good Net Present Value (NPV) and Benefit to Cost Ratio (BCR).
- 5.2.30 It should be noted that when considering the cost of the scheme, the Cost Benefit Analysis has taken into account risk and optimism bias (44% uplift). The scheme costs have been discounted to 2002 prices.

|                                    | With CIF Scheme |
|------------------------------------|-----------------|
| <b>Consumer Benefits:</b>          |                 |
| Travel Time                        | 61,140,000      |
| Vehicle Operating Costs            | 3,992,000       |
| <b>Business Benefits:</b>          |                 |
| Travel Time                        | 74,243,000      |
| Vehicle Operating Costs            | 2,610,000       |
|                                    |                 |
| Carbon Benefits                    | 517,000         |
| Accident Benefits                  | -3,156,190      |
|                                    |                 |
| Present Value of Benefits (PVB)    | 139,345,810     |
| Present Value of Costs (PVC)       | 19,286,000      |
|                                    |                 |
| Net Present Value (NPV)            | 120,059,810     |
| <b>Benefit to Cost Ratio (BCR)</b> | <b>7.225</b>    |

*All values in 2002 prices (£)*

6 APPRAISAL SUMMARY TABLE

| OBJECTIVE   | SUB-OBJECTIVE                  | QUALITATIVE IMPACTS  | QUANTITATIVE ASSESSMENT                                     | ASSESSMENT<br>(based on preliminary investigations only) |
|-------------|--------------------------------|--|---|--|
| ENVIRONMENT | Noise                          | The scheme is likely to generate a significant new local noise source in respect of existing and future residential receptors. There may be a significant potential for claims under Part 1 of the Land Compensation Act from affected properties. The assessment score is based on appropriate mitigation and further assessment is required.   | No quantitative assessment has been undertaken at this time | <b>Neutral</b>   |
|             | Local Air Quality              | The scheme has the potential for slight adverse air quality impacts, however it could also benefit AQMAs. Further assessment is required. The assessment score may be reduced following the review of complete quantitative assessment data for the Scheme.  | No quantitative assessment has been undertaken at this time | <b>Slightly Adverse</b>                                  |
|             | Greenhouse Gases               |  |   |  |
|             | Landscape                      | Aspects of the Scheme has the potential for adverse impacts giving rise to loss of landscape and potential loss of visual amenity to nearby sensitive receptors. The assessment score may be reduced with appropriate mitigation.  | --  | <b>Slight Adverse</b>                                    |
|             | Townscape                      |  |   |  |
|             | Heritage of Historic Resources | There are no Scheduled Monuments, Registered Parks and Gardens, Historic Battlefields within 300m of the Scheme. In terms of locally based designations, the Kingsteignton Conservation Area is situated nearby the Scheme which gives rise to potential impacts on its character. This has been identified as the only sensitive receptor at this stage and in relation to the Scheme has been scored as Neutral. | --  | <b>Neutral</b>   |
|             | Biodiversity                   | There is potential for the Scheme to impact on biodiversity. The assessment score may be reduced following habitat surveys to complete the baseline information, and with the implementation of appropriate mitigation.  | --  | <b>Slight Adverse</b>                                    |
|             | Water Environment              | Due to the increased area of hard standing, the Scheme has the potential for adverse impacts during operation. It is considered that impacts on the water environment could be mitigated provided good practice measures are implemented.  | --  | <b>Neutral</b>   |
|             | Physical Fitness               | The scheme should promote physical fitness through the provision of cycling and walking facilities.  | --  | <b>Moderate Beneficial</b>                               |
|             | Journey Ambience               | The scheme will reduce congestion and driver frustration. In addition the scheme promotes sustainable transport, and improves travel choices. Provision of off road cycle routes and improvement in design of roads and associated landscaping.  | --  | <b>Moderate Beneficial</b>                               |

|               |   |  |   |                                |
|---------------|---|--|---|--------------------------------|
| SAFETY        | Accidents   | The accident savings are based on the cost per accident in terms of insurance administration, and police cost and the cost per casualty  | Increase of 2.3 accidents in the first year of opening (2012), then benefits calculated for 60 year period. | <b>PVB<br/>-£3.2m</b>          |
|               | Security  | Scheme includes high quality landscaping, informal surveillance, lighting and visibility.  | --  | <b>Moderate<br/>Beneficial</b> |
| ECONOMY       | Public Accounts   | The cost of the scheme is £14.7m including risk. The cost of the scheme with construction inflation is £15.2m.<br>The funding breakdown is <ul style="list-style-type: none"> <li>• CIF Funding £4,000,000</li> <li>• DCC Local Transport Plan funding £700,000</li> <li>• DCC Medium Term Capital Strategy funding £2,000,000</li> <li>• Sustrans funding £500,000</li> <li>• Developer contributions £7,974,000</li> </ul> The cost of the scheme with Optimism Bias uplift (44%) and discounted is £19.3m | Total PVC discounted to 2002 prices   | <b>PVC £19.3m</b>              |
|               | Transport Economic Efficiency: Business Users & Transport Providers | The scheme will reduce the journey times and vehicle operating costs for business users and providers.   | Total PVB in 2002 prices  | <b>PVB £76.9m</b>              |
|               | Transport Economic Efficiency: Consumers                            | The scheme will reduce the journey times and vehicle operating costs for consumer users.   | Total PVB in 2002 prices  | <b>PVB £65.1m</b>              |
|               | Reliability   | Likely to result in a reduction in lateness of public transport journeys and improved reliability due to segregated route.   | --  | <b>Moderate<br/>Beneficial</b> |
|               | Wider Economic Impacts  | Improved access to new and existing employment site for local workforce by walking, cycling and public transport and improved access for employers to workforce.   |   | <b>Slight Beneficial</b>       |
| ACCESSIBILITY | Option values   | Improved options for walking, cycling and public transport.  | --  | <b>Large Beneficial</b>        |
|               | Severance   | The scheme will improve links between Newton Abbot and Kingsteignton including new pedestrian and cycle routes and a new bridge over the River Teign.  | --  | <b>Large Beneficial</b>        |
|               | Access to the Transport System                                      | Improvements to travel speed, quality of public transport and ease of access. Provision of personalised travel plans for the whole of the Kingsteignton community as well as the proposed developments and potentially parts of Newton Abbot.  | --  | <b>Slight Beneficial</b>       |
| INTEGRATION   | Transport Interchange   | Improvements to linkage for the next stage of the journey, improved reliability, (ie proposed cycle links to Newton Abbot Railway Station.   | --  | <b>Slight Beneficial</b>       |

**TEIGNBRIDGE - NEWTON ABBOT  
INFRASTRUCTURE PACKAGE**



**FULL BUSINESS CASE**

|  |                           |   |    |                   |
|--|---------------------------|---|----|-------------------|
|  | Land use Policy           | Complies with Local and Regional growth agendas. Likely to be catalyst for new housing and employment.                              | -- | <b>Beneficial</b> |
|  | Other Government Policies | The scheme is in keeping with National, Regional and Local Planning Policies, and integrates well with other proposed developments. | -- | <b>Beneficial</b> |

**FIGURES**

- Figure 1 Location Plan
- Figure 2 Location Plan of Work Packages
- Figure 3 Work Package 1: Broadway Road to Greenhill Way Link Road: Overall Plan
- Figure 4: Work Package 1: Broadway Road to Greenhill Way Link Road: Sheet 1 of 3
- Figure 5: Work Package 1: Broadway Road to Greenhill Way Link Road: Sheet 2 of 3
- Figure 6: Work Package 1: Broadway Road to Greenhill Way Link Road: Sheet 3 of 3
- Figure 7: Work Package 2: Connect 2 Cycle Route
- Figure 8: Work Package 3: Proposed Signalised Junction at Old Exeter Road / Chudleigh Road
- Figure 9: Work Package 4: Improvements to Strap Lane Junction
- Figure 10: Work Package 5: Newton Road Bus Lane
- Figure 11: Existing and Proposed Cycle Improvements
- Figure 12: Existing Bus Routes
- Figure 13: Existing and Proposed Bus Routes
- Figure 14: Phasing of Proposed Bus Routes



**APPENDIX A INDICATIVE PROGRAMME**

**APPENDIX B DETAILED RISK REGISTER, RISK MANAGEMENT STRATEGY AND  
QUANTITATIVE RISK ASSESSMENT**



**APPENDIX C DETAILED COST ESTIMATE**



**APPENDIX D DETAILED STAKEHOLDER ANALYSIS**



**APPENDIX E LETTERS OF SUPPORT**



**APPENDIX F PRELIMINARY ENVIRONMENTAL APPRAISAL**