Project	Southend-on-Sea Reg 19 Local Plan
Subject	High Level Cost Estimates for Highway Mitigation Schemes and PT and AT Schemes
Project Number	10111055
Revision Reference	L
Date	15th October 2026

This technical note sets out the methodology to derive high level cost estimates for highway, public transport and active travel infrastructure improvement schemes. These schemes have been modelled in the current Reg 19 Local Plan model scenarios and are grouped into two packages of schemes referred to as Southend Light and Southend Plus. The remainder of this note is set out as follows:

- Section 1 – Scheme Packages
- Section 2 – Highway Schemes
- Section 3 – Public Transport and Active Travel schemes

1 Schemes Packages

1.1 Introduction

Southend-on-Sea City Council (SCC) has asked Pell Frischmann to provide high level costs for the various local plan schemes proposed, grouped into packages. In this first section we provide the totals grouped by package; this is followed by more details on the individual highway schemes (and how the costs were estimated) along with a further section on the Public Transport and Active Travel schemes. It should be noted that these schemes have been costed at a very high level only, more details on the limitations are given later.

Costs are provided in current year prices, and then after adding inflation for potential construction year. Inflation has been assumed at roughly 4% per year.

1.2 Package Definitions

We are primarily considering the following groupings of schemes:

1. Southend Light
2. Southend Plus
3. Rochford Light

The scheme packages are shown in Figures 1.1-1.3 respectively.



Figure 1.1 – Southend Light Schemes



Figure 1.2 – Southend Plus Schemes

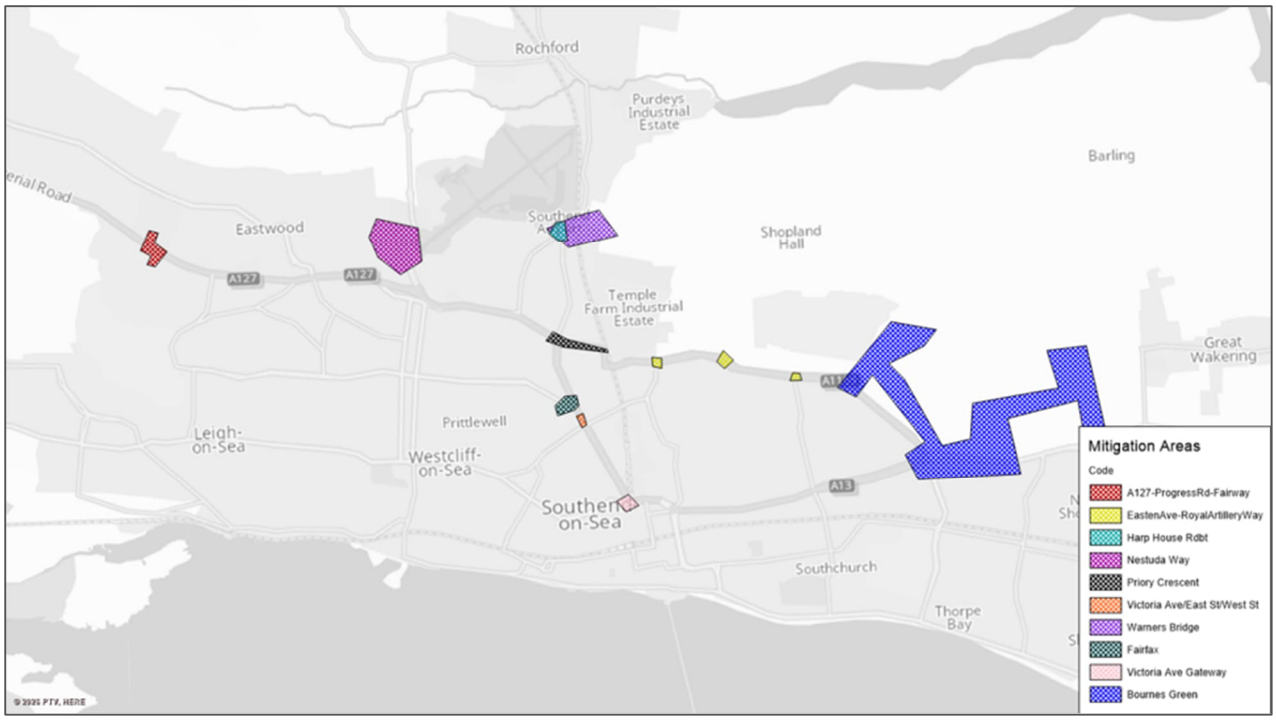


Figure 1.3 – Southend Plus and Rochford Light

1.3 Southend Light Schemes

For the purpose of modelling impact, it has been assumed that all the Public Transport and Active travel (PT and AT) schemes are included only in Southend Plus as that package includes the internal development roads. This does not prevent SCC from seeking PT and AT improvements in connection with future development proposals. Such schemes will be considered and determined on a case-by-case basis as they come forward through the planning process during which time suitable PT and AT schemes should be considered. In addition, site-specific Travel Plans may be required for future developments to encourage sustainable travel choices, reduce reliance on private car use, and support the delivery of the Local Transport Plan objectives.

Scheme	Description	Cost (2026 prices £m)	Construction year (assumed)	2034 Cost (£m)	Modelled
Site 1	Harp House Rbt upgrade with new the Link Road	£1.6	2034	£2.1	✓
Site 5	Eastern Avenue/Sutton Road Roundabout Upgrade	£5.1	2034	£7.0	✓
Site 6	Eastern Avenue/Fossetts Way Roundabout Upgrade	£0.7	2034	£1.0	✓
Site 7	Eastern Ave/Royal Artillery Way/Hamstel Rd Roundabout Upgrade	£7.0	2034	£9.5	✓
Site 9	Nestuda Way	£2.6	2034	£3.5	✓
Site 10	Fairfax Drive	£1.1	2034	£1.5	✓
Site 11	A127 Abbotts Close to Progress Rd Westbound	£11.4	2034	£15.6	✓
Site 12	Victoria Avenue – Fairfax junction and East St/West St junction	£7.6	2034	£9.4	✓
Site 13	Victoria Gateway	£10.5	2034	£14.4	✓
	Total	**£47.6**		**£64.0**	

The overall costs in 2026 are estimated at **£47.6m, t**he overall total costs in 2034 are estimated at **£64.0m**

In addition, the following active travel schemes have been identified at a cost of **£6.8m** in 2026 prices and **£8.0m** in 2034 prices.

Scheme	Description	Cost (2026 prices £m)	Construction year (assumed)	2034 Cost (£m)	Modelled
602-604(AT)	Various LCWIP identified Active Travel Routes	TBC		TBC	×
605(AT)	Bournemouth Park Road Improvements	£4.7	2030	£5.5	×
607(AT)	Bike Share Expansion	£2.1	2030	£2.5	×
	AT Sub Total	**£6.8**		**£8.0**	

The total package costs of highway and active travel schemes in 2026 are estimated at **£54.4m,** the overall total costs in 2034 are estimated at **£72.0m.**

In addition to the measures outlined above, it is likely that a range of public transport improvements identified through the Local Transport Plan (LTP), Bus Service Improvement Plan (BSIP), the Local Cycling and Walking Infrastructure Plan (LCWIP), and related studies will be delivered during the plan period. These measures are assumed to contribute to improved bus infrastructure and public transport accessibility within the Southend Light mitigation package. At the time of writing, not all interventions have funding sources identified. Some of the interventions will require contributions from developers.

Another intervention that could be included would be introduction of car clubs[1], this could reduce the number of single occupancy trips (hence reduce the amount of vehicle traffic) and potentially be integrated with reducing space requirements for car parking so more land use can be dedicated to sustainable travel options. At this

[1] https://www.local.gov.uk/publications/new-mobility-options-car-clubs

stage of work, we have not been able to assess the potential impact or cost for Southend-on-Sea, but this would be worth exploring at a future stage.

1.4 Southend Plus

1.4.1 Assumptions

The total costs for Southend Plus in 2034 prices are estimated at **£128m** within Southend-on-Sea authority. These costs would be in addition to the costs for Southend Light packages. For breakdown see the tables below and further details in the subsequent sections.

1.4.2 Southend Plus inside Southend-on-Sea

Scheme	Description	Cost (2026 prices £m)	Construction year (assumed)	Cost (£m)	Modelled
PT	Public Transport (PT)				
301(PT)	Bus Priority UTC Signals	£3.4	2028	£3.7	×
302(PT)	Real Time Passenger Information	£2.6	2028	£2.8	×
303(PT)	Mobility Hubs & Mini-Hubs	£16.0	2029	£18.0	×
305(PT)	Integrated Ticketing Infrastructure	£1.4	2027	£1.5	×
307(PT)	New Strategic Bus Infrastructure within Growth Areas	£2.6	2034	£3.5	×
402(PT)	Assumed improvements and new Bus routes to serve key destinations, following BSIP and LTP	TBC	TBC	TBC	✓
	PT Sub Total	**£26.0**		**£29.5**	
AT	Active Travel (AT)				
606(AT)	Active Travel Routes Along New Highway Corridors	£3.4	2034	£4.7	×
	AT Sub Total	**£3.4**		**£4.7**	
	Highway				
Site 3	Cuckoo Corner Roundabout Improvements	£0.5	2034	£0.7	×
Site 4	Priory Crescent 4 lane dual carriageway upgrade	£11.1	2034	£15.2	✓
Site 4	New A1159 Eastern Avenue Active Travel Bridge	£3.7	2034	£5.0	×
Site 8	Bournes Green – Thorpe Estates	£18.0	2034	£24.6	✓
Site 8	Bournes Green - Bellway Homes Junctions	£35.3	2034	£48.3	✓
	Highway Sub Total	**£68.6**		**£93.8**	

The overall total costs for the schemes in 2026 are estimated at **£98m**

The overall total costs for the schemes are estimated at **£128m**

1.5 Rochford Light with impact on Southend-on-Sea

We have included these schemes, as they are likely to affect traffic within Southend-on-Sea City Council authority, but they would be delivered within Rochford authority borders.

Scheme	Description	Cost (2026 prices £m)	Construction year (assumed)	Cost (£m)	Modelled
AT	Active Travel (AT)				
501	New pedestrian connection and land acquisition	£1.1	2030	£1.3	×
Site 2	New Warners Bridge Rail Overbridge (ROB)	£10.9	2034	£15.0	✓
Site 2	New Link Road and New Roundabout	£5.4	2034	£7.4	✓

The overall total costs for the schemes within the authority borders in 2026 are **£17.4m**

The overall total costs for the schemes within the authority borders are at **£23.7m**

Southend-on-Sea Local Plan High-Level Highways Cost Estimates

2 Highway Mitigation Packages

2.1 Introduction

This section provides a summary of the high-level cost estimates for the highway mitigation measures proposed within the Southend-on-Sea Local Plan.

2.2 Methodology and Assumptions

The cost estimates presented for the highway mitigation schemes identified within the Southend-on-Sea Local Plan Transport Evidence Base have been developed as high level strategic infrastructure costs suitable for Infrastructure Delivery Plan (IDP) purposes. The estimates are intended to provide an indication of the likely scale of investment required to deliver the proposed mitigation measures and should be regarded as order of magnitude estimates rather than scheme specific budget costs. The assessment has been informed by the scheme descriptions contained within the Transport Evidence Base, together with design layout information available for the mitigation schemes from sources separate to this exercise.

A fully bottom up estimating approach was not possible because most schemes remain at an early stage of development and detailed design information, route alignments, land requirements, utility information and construction drawings are not currently available. Consequently, costs were derived using a mixed approach incorporating high level quantity estimates together with benchmarked unit rates from comparable UK local authority transport projects, including active travel schemes, bus priority corridors and public realm works. Benchmark rates were then adjusted to reflect the scope and complexity of each scheme, taking account of known route lengths where these were available.

The estimates have been prepared on a full scheme cost basis and therefore include allowances for all major project development and delivery activities. The following items are assumed to be included within each estimate where relevant. However, land acquisition costs have not been included where these may be required.

- Main construction works;
- Contractor preliminaries;
- Traffic management during construction;
- Detailed design and design development;
- Surveys, approvals and statutory processes;
- Utility diversions and protection works;
- Project management and supervision;
- Risk and contingency allowances; and,
- Construction inflation to the assumed delivery year.

Allowance percentages have generally been applied consistently between scheme types. Typical assumptions comprise preliminaries of 12%, supervision costs of 5%, traffic management costs of 8%, optimism bias of 44%, design and project development costs of 12%, utility diversion allowances in the range of 20% to 30%, and an additional risk and contingency allowance of 12%.

Inflation has been applied to reflect the anticipated delivery programme. A price base year of 2026 has been assumed, with all schemes assumed to be delivered no later than the end of 2034 in accordance with the latest programme assumptions. For the purposes of estimating future outturn costs, annual construction inflation rates of approximately 4% per annum have been adopted, resulting in a factor of 1.37 by 2034 (eight years of inflation). These assumptions are intended to provide a reasonable long term planning allowance and are consistent with the strategic nature of the exercise.

Overall, the resulting costs should be considered appropriate for strategic planning, infrastructure funding discussions and Local Plan viability assessments. As schemes progress through feasibility, preliminary design

and business case development stages, more detailed estimates should be prepared using scheme specific design information, utility searches, topographical surveys and land referencing data.

2.3 High-level Cost Estimates

2.3.1 Scheme 1 – Harp House Roundabout update with the link road

The proposed mitigation includes modifications associated with the addition of a new relief road arm on the eastern side of the roundabout, based on the Council's proposals as provided. The estimate includes up to 100 m of the link road to the east associated with the junction works and does not include the proposed Warners Rail Overbridge (ROB), which is included within Scheme 2, New Link Road Roundabout.

The overall cost of the scheme is estimated at £2.1 million.

The scheme is based on drawing SBC-HHR-C-001, of which a screenshot is shown in Figure 2.1 below.



Figure 2.1 - Harp House Roundabout changes

2.3.2 Site 2: Warner Bridge Link Road Roundabout

The same scheme also includes the proposal for a new roundabout, together with a railway overbridge and a section of the link road to the west of the roundabout.

The cost estimate includes two elements:

1. The cost of the four lane dual carriageway ROB on the new link road.

2. The cost of the new link road roundabout and the section of link road between Harp House Roundabout and the new roundabout.

2.3.2.1 New Warners Bridge rail over bridge (ROB)

The structure is assumed to carry a four lane highway over an operational railway corridor and is based on a preliminary deck width of approximately 26 m and an overall bridge length of 35 m between abutments. The proposed cross section comprises two traffic lanes in each direction (3.65 m lane widths), a central concrete median, verges and vehicle restraint systems, 2.5 m footways on both sides, and concrete parapets.

The resulting deck area is approximately 910 m². Based on current market conditions, a construction cost of approximately £11 million is estimated. This estimate includes the bridge deck, abutments, foundations, parapets, drainage, approach tie ins, design development, contractor preliminaries and project risk allowances. It excludes significant abnormal costs such as major utility diversions, land acquisition, extensive retaining structures, railway signalling alterations, overhead line equipment modifications and third party compensation.

To provide an indicative future outturn cost, the estimate has been escalated to 2034 using inflation assumptions of approximately 4% per annum. On this basis, the estimated project cost increases to approximately £15.7 million by 2034.

For business case development and long term planning purposes, a budget allowance of £15 million (2034 prices), with an accuracy range of ±30%, is therefore recommended until further design development, ground investigation and stakeholder engagement have been undertaken.

2.3.2.2 New Link Road and a New Roundabout

Based on the previously prepared scheme GA drawing provided, an estimate of the new section of link road between the ROB and the roundabout, together with the roundabout itself, has been prepared. The cost of the link road extending 100 m east of the new roundabout is assumed within this estimate, as the remaining section of the link road is expected to form part of third party developer works.

The scheme cost has been estimated to £7.4 million.

The scheme is based on drawing 392329-MMD-XX-00-DR-C-0001, which is shown in Figure 2.2 below.

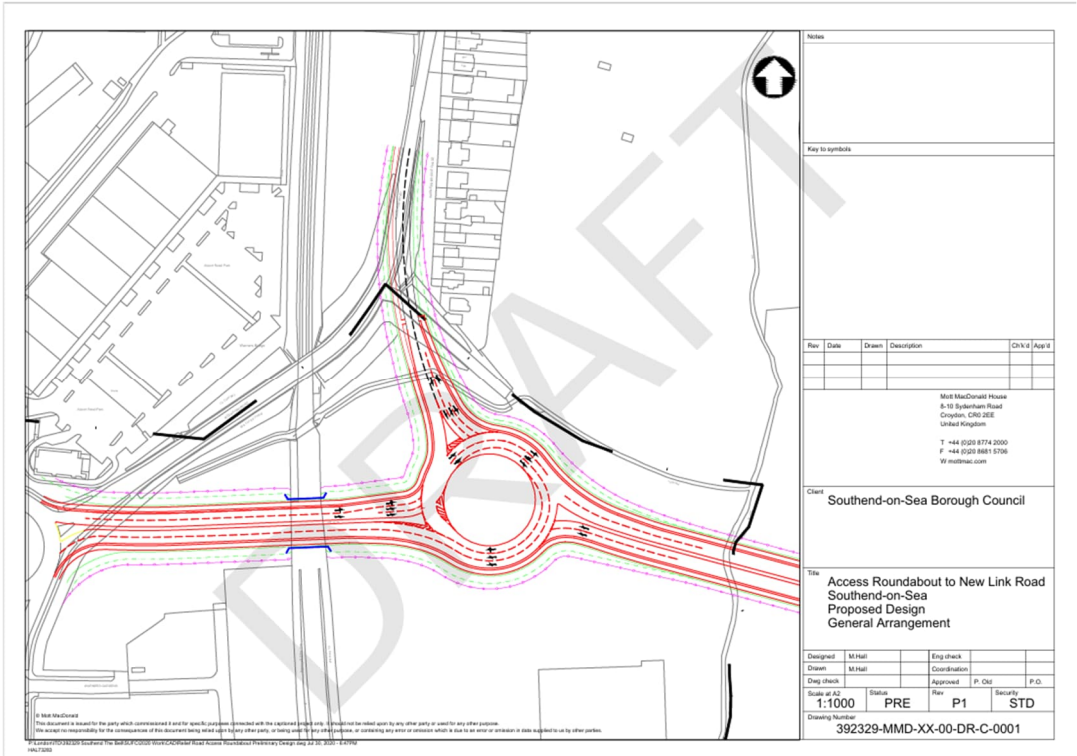


Figure 2.2 - Warners Bridge over railway and roundabout

2.3.3 Site 3: Cuckoo Corner Roundabout Improvements

There is limited scope for capacity improvements on most arms, with the exception of the eastern arm. An extension to the flared lane on the eastern approach, together with dualling of Priory Crescent, has been considered and this cost has been included within the Site 4 estimate.

In addition, the potential signalisation of the northern arm and its circulatory carriageway has been considered, together with improvements to the junction corners on all four sides and upgrades to pedestrian crossing facilities on the eastern and western arms.

The scheme cost of the roundabout upgrade has been estimated to £0.7 million.

The scheme is based on a drawing provided with no drawing number, of which a screenshot is shown in Figure 2.3 below.



Figure 2.3 - Cuckoo Corner roundabout

2.3.4 Site 4: Priory Crescent 4 Lane dual carriageway upgrade

The full alignment comprises two key elements, which have been considered separately for cost estimation purposes.

2.3.4.1 Priory Crescent 4 lane dual carriageway upgrade

This element comprises an approximately 800 m section between Cuckoo Corner Roundabout and the IMO Car Wash junction east of the railway bridge. The proposed mitigation involves widening the existing two lane section to a four lane carriageway, including a 1 m central reserve, tree removal and relocation, and footways on both sides ranging between 2.5 m and 3.0 m in width.

The cost of the highway improvements, excluding the bridge, is estimated at £15.2 million.

2.3.4.2 A1159 Eastern Ave New Active Travel Bridge

The existing railway bridge is assumed to remain unchanged and is considered suitable to accommodate the carriageway widening and the northern footway. To accommodate the proposed shared use route on the southern side, a new active travel bridge is proposed over the railway line adjacent to the existing ROB. These proposals are indicatively shown on the layout plans.

The cost of the active travel bridge itself is estimated to be approximately £5.0 million.

2.3.5 Site 5: Eastern Avenue/Sutton Road Roundabout Upgrade

The proposed mitigation is based on the scheme developed by Steer for the Southend United Football Club development and includes signalisation of three arms of the roundabout, excluding the northern arm. The proposed works cover the extents shown on the layout provided and include only 50 m of works on the northern arm.

The cost of the scheme is estimated at £7.0 million.

The scheme is based on drawing 22780203-STR-HGN-100-DR-D-00101, which is shown in Figure 2.4 below.



Figure 2.4 - Eastern Avenue/Sutton Road Roundabout

2.3.6 Site 6: Eastern Avenue/Fossetts Way Roundabout Upgrade

The proposed mitigation involves 45m additional lane 1 increasing lanes to three at the roundabout approaching from the west to east (western arm), 55m additional lane 1 increasing lanes to three at the roundabout approaching from the east to west (eastern arm), relocation of kerb lines but no changes to capacity on northern arm and upgrade circulatory to three lanes.

The cost of the scheme is estimated at £1.0 million.

The scheme is based on the Fossetts Farm junction improvement as shown in drawing number 2668-HTS-HGN-00-DR-10064 and shown in Figure 2.5 below.



Figure 2.5 – Eastern Avenue / Fossetts Way

2.3.7 Site 7: Eastern Avenue/Royal Artillery Way/Hamstel Road Roundabout Upgrade

Similar to Site 5, the proposed mitigation is based on the scheme developed by Steer for the Southend United Football Club development and includes signalisation of three arms of the roundabout, excluding the northern arm. The proposed works cover the extents on the layout provided.

The cost of the scheme is estimated at £9.5 million.

The scheme is based on drawing 22780203-STR-HGN-100-DR-D-00102, which is shown in Figure 2.6 below.

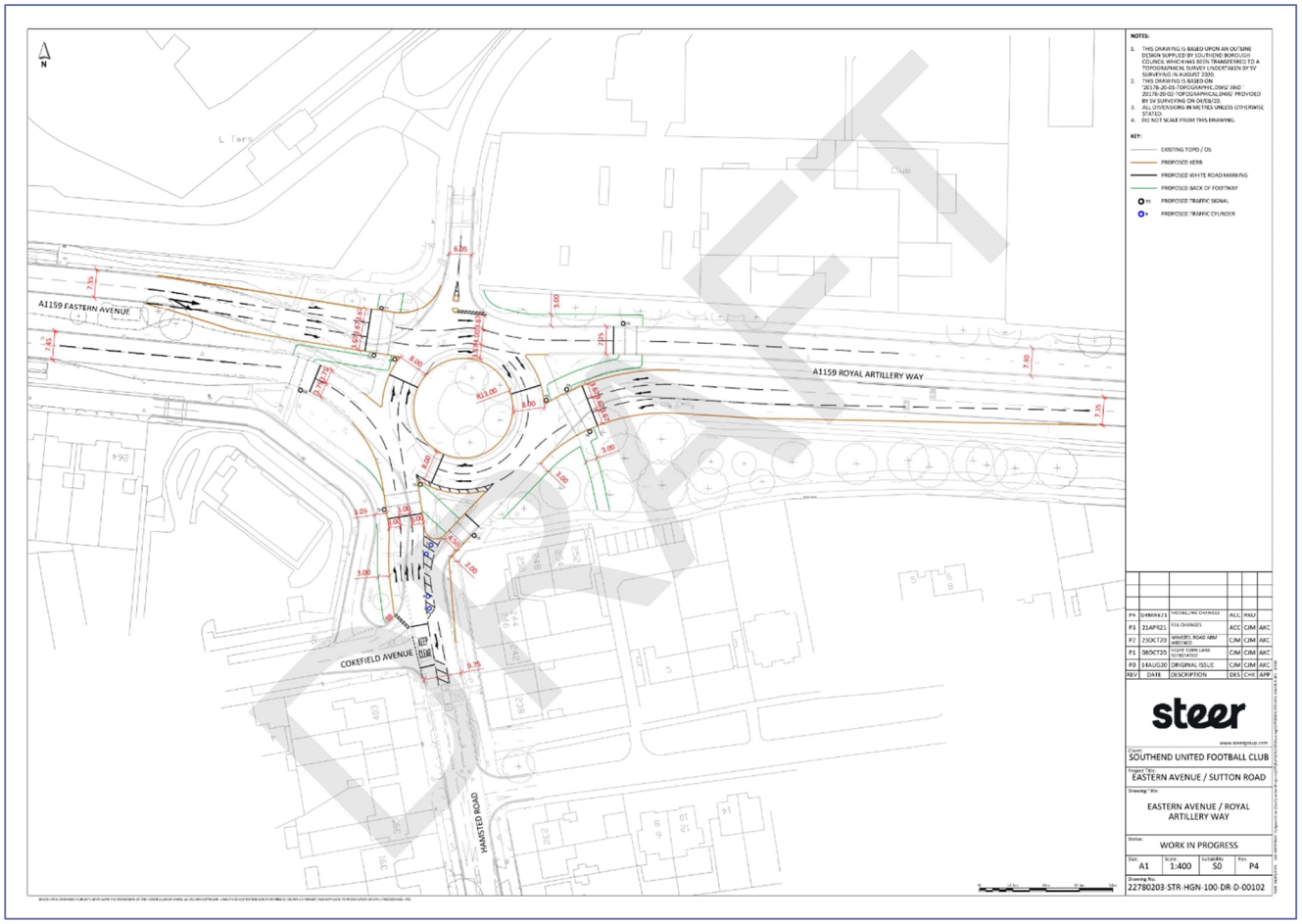


Figure 2.6 - Eastern Avenue/Royal Artillery Way (Garons) Roundabout

2.3.8 Site 8: Bournes Green

All cost estimates for the Thorpe Estates infrastructure have been based upon the estimate provided by the developer of £18m in 2026 prices for the combined schemes total. Below are descriptions of those schemes.

2.3.8.1 Maplin Way North Roundabout

Roundabout improvements, to enlarge ICD and create additional arm to North, capacity improvements with revised entry angles on approaches from East and West. Cycle way and controlled crossing points to improve active travel.

The scheme is based on drawing 08721-SK-01-0001, which is shown in Figure 2.7 below.

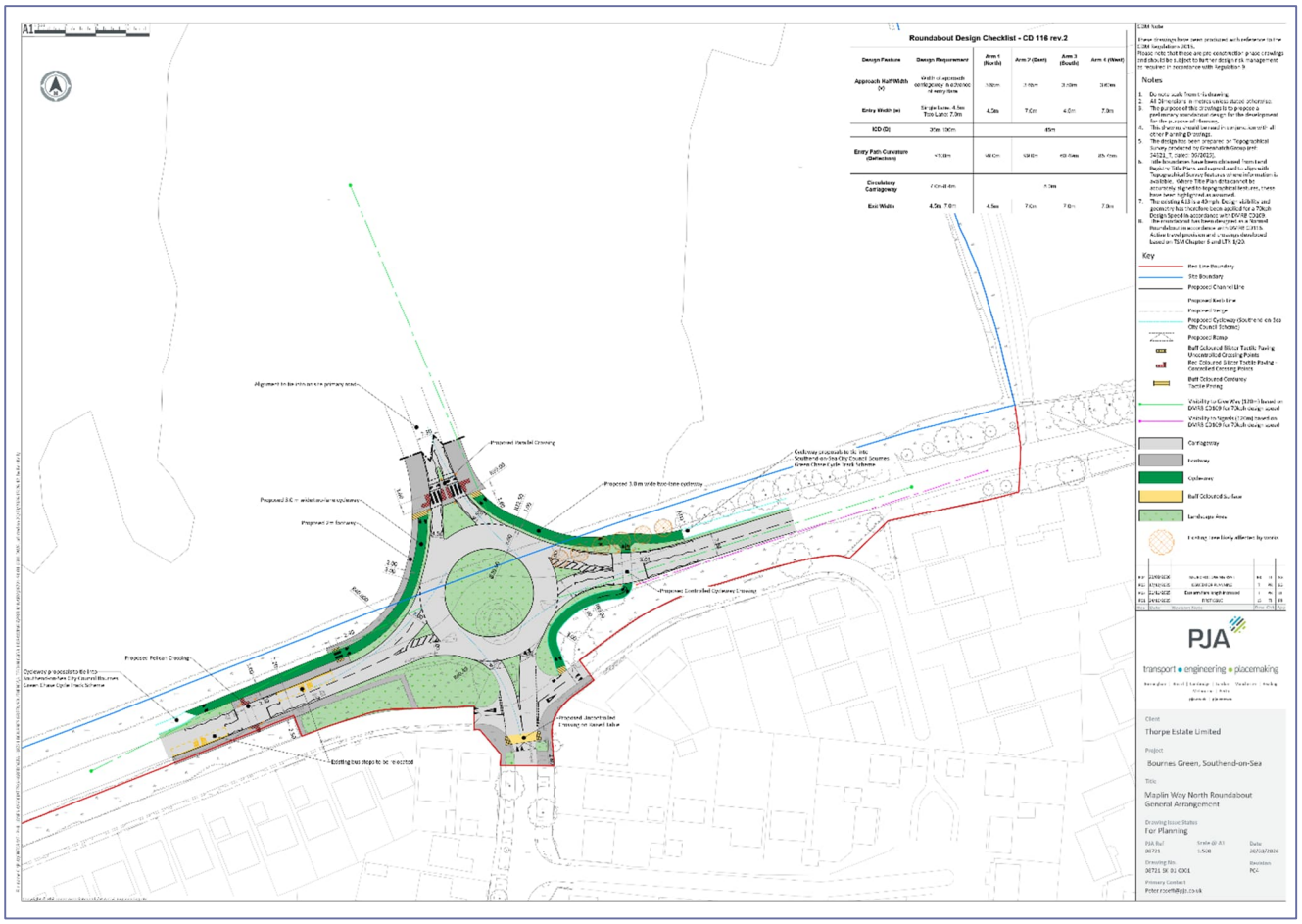


Figure 2.7 - Maplin Way North Roundabout

2.3.8.2 A13 Roundabout

New 3 arm Roundabout to allow new link to North, realignment of A13 on approaches to Roundabout from East and West. Cycle way and controlled crossing point added to improve active travel.

The scheme is based on drawing 08721-SK-02-0001, which is shown in Figure 2.8 below.

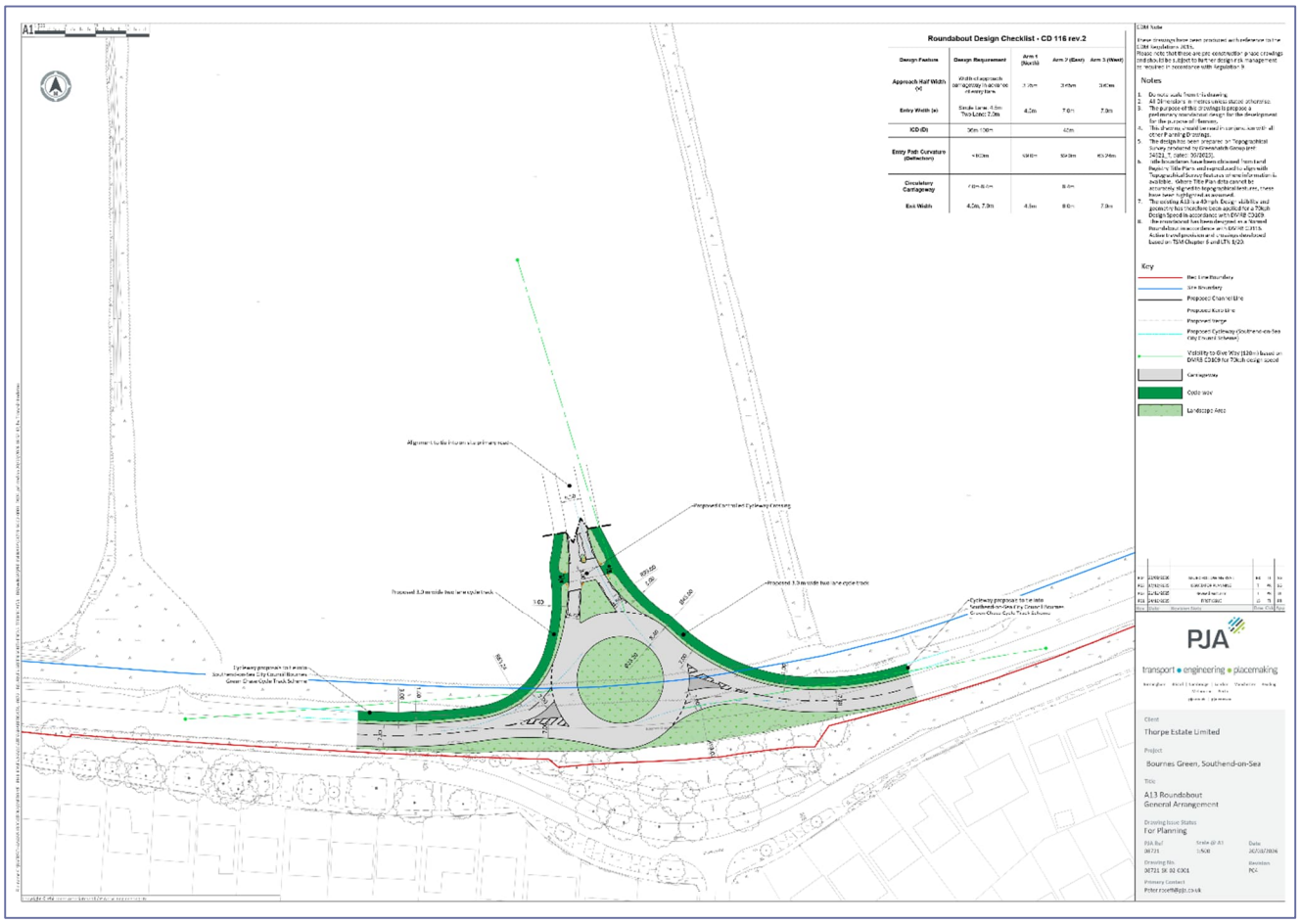


Figure 2.8 - A13 Roundabout

2.3.8.3 Bournes Green Access Roundabout (East)

New dual lane carriageway, active travel provision and 4 arm 70m ICD Roundabout on land adjacent to A13, new segregated footway/cycleway facilities throughout and stopping up of existing carriageway. Controlled crossings introduced across the scheme.

The scheme is based on drawing 08721-SK-03-0001, which is shown in Figure 2.9 below.



Figure 2.9 – Bournes Green Access Roundabout (East)

2.3.8.4 Bournes Green Roundabout (West)

Reduction of existing roundabout ICD and revision to all approach arms, controlled crossing points and updating of surrounding footways

The scheme is based on drawing 08721-SK-05-0001, which is shown in Figure 2.10 below.

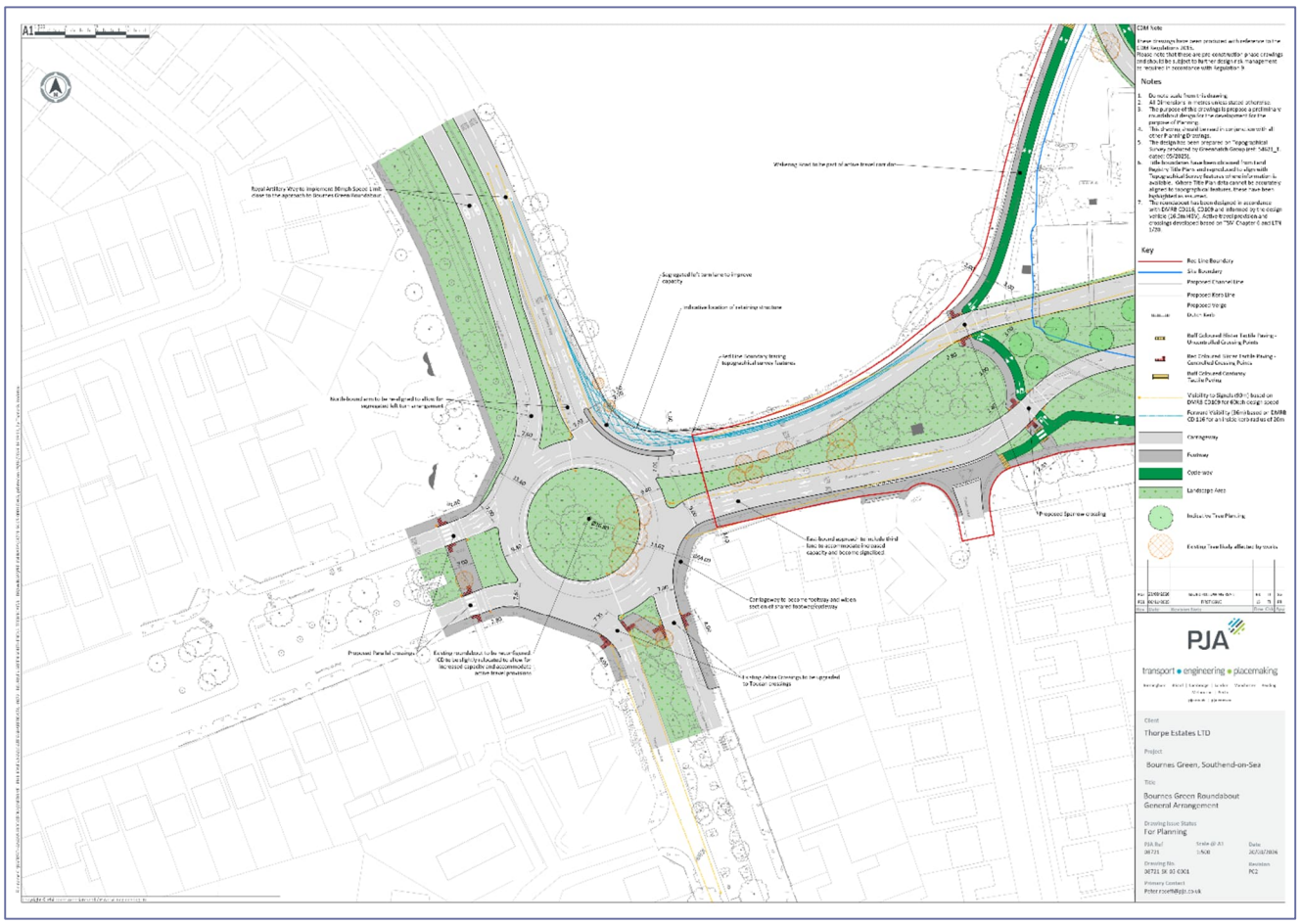


Figure 2.10 – Bournes Green Access Roundabout (West)

2.3.8.5 Southend Road Junction

Priority junction at Southend Rd, tightening of existing kerb lines, reworking of existing carriageway and road markings to create Ghost Right Hand Turning Lane.

The scheme is based on drawing 08721-SK-04-0001, which is shown in Figure 2.11 below.

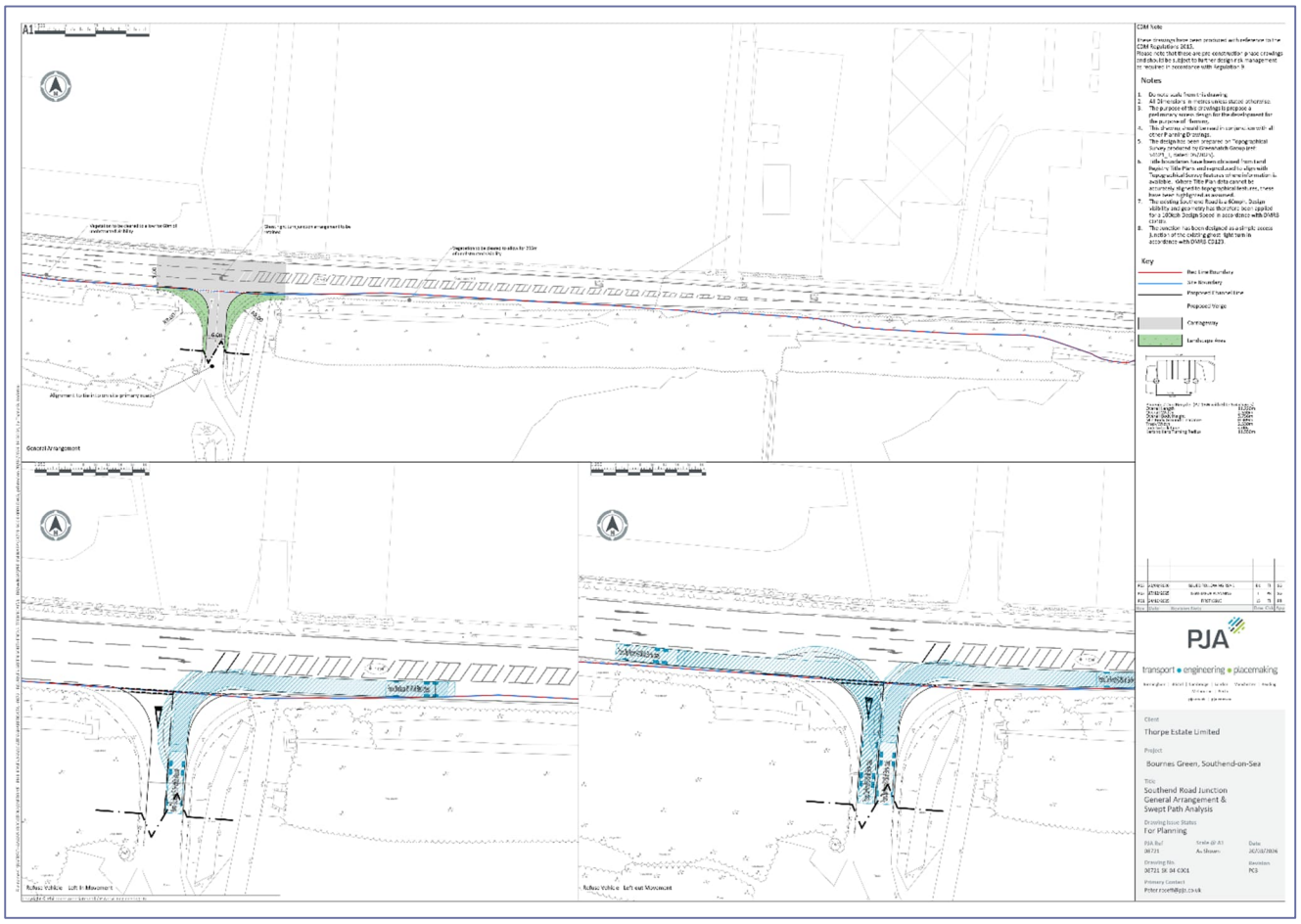


Figure 2.11 – Southend Road Access

2.3.8.6 Eastern Avenue / Royal Artillery Way (Garons Roundabout)

Improvements of existing 4 arm Roundabout to alter alignments of each approach arm and positioning of central island, controlled crossing points introduced and adjusted to suit new alignments. Note that is a reduced version of the Eastern Avenue / Royal Artillery Way junction improvement and should be treated as an alternative reduced cost scheme.

The scheme is based on drawing 08721-SK-04-0001, which is shown in Figure 2.12 below.



Figure 2.12 – Garons Roundabout

2.3.8.7 Bellway Homes – Site Access Royal Artillery Way

The scheme provides access from Royal Artillery Way to the Bellway Homes site. The cost has been based from a sketch diagram as shown in Figure 2.13.

The cost of the scheme is estimated at £22.0 million (note that this is based on a reduced 5% optimism bias).

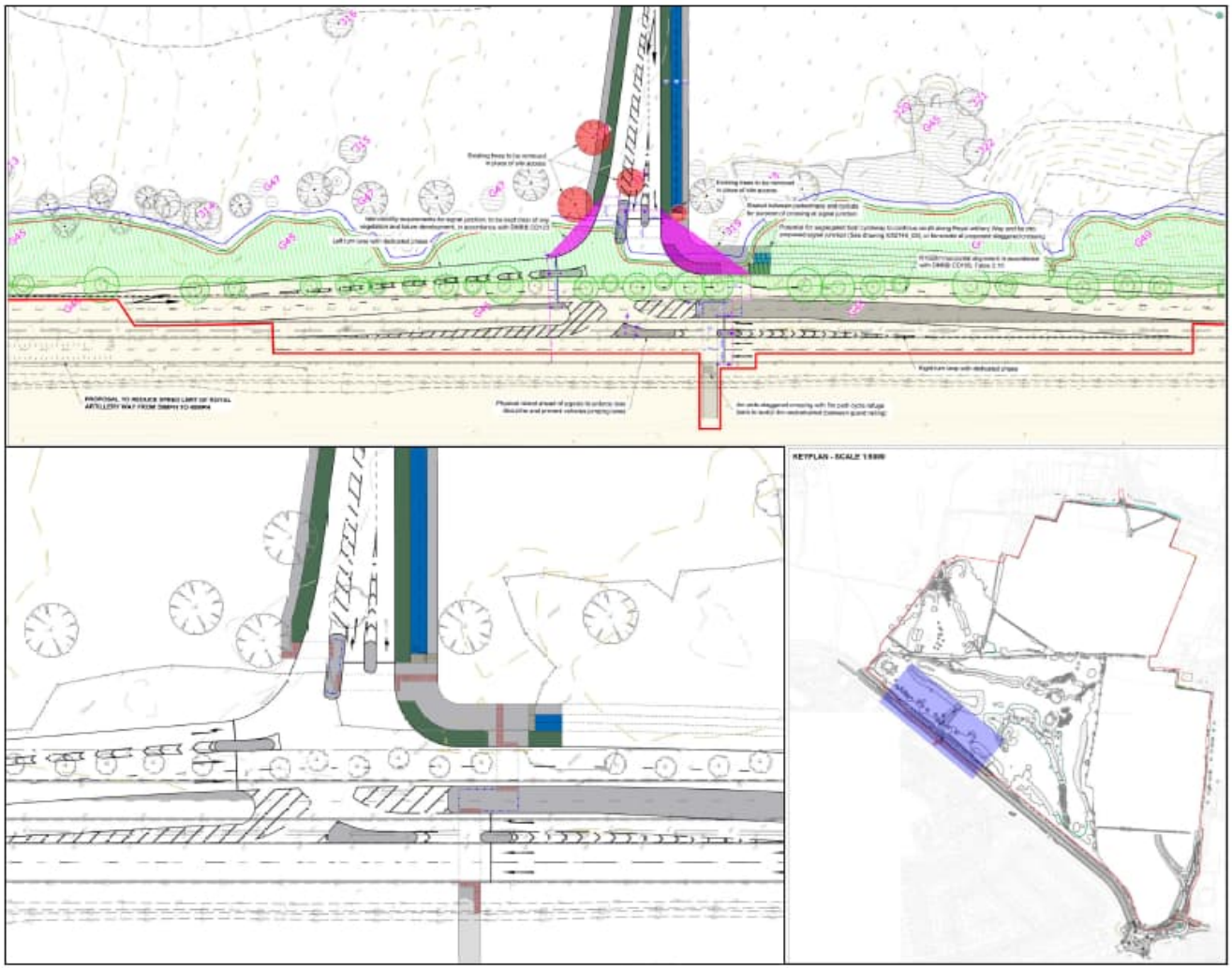


Figure 2.13 – Bellway Homes – Royal Artillery Way Access

2.3.8.8 Bellway Homes – Site Access Parsons Corner Roundabout

The scheme provides access from Parsons Corner Roundabout to the Bellway Homes site. The cost has been based from a sketch diagram as shown in Figure 2.14.

The cost of the scheme is estimated at £26.4 million (note that this is based on a reduced 5% optimism bias).

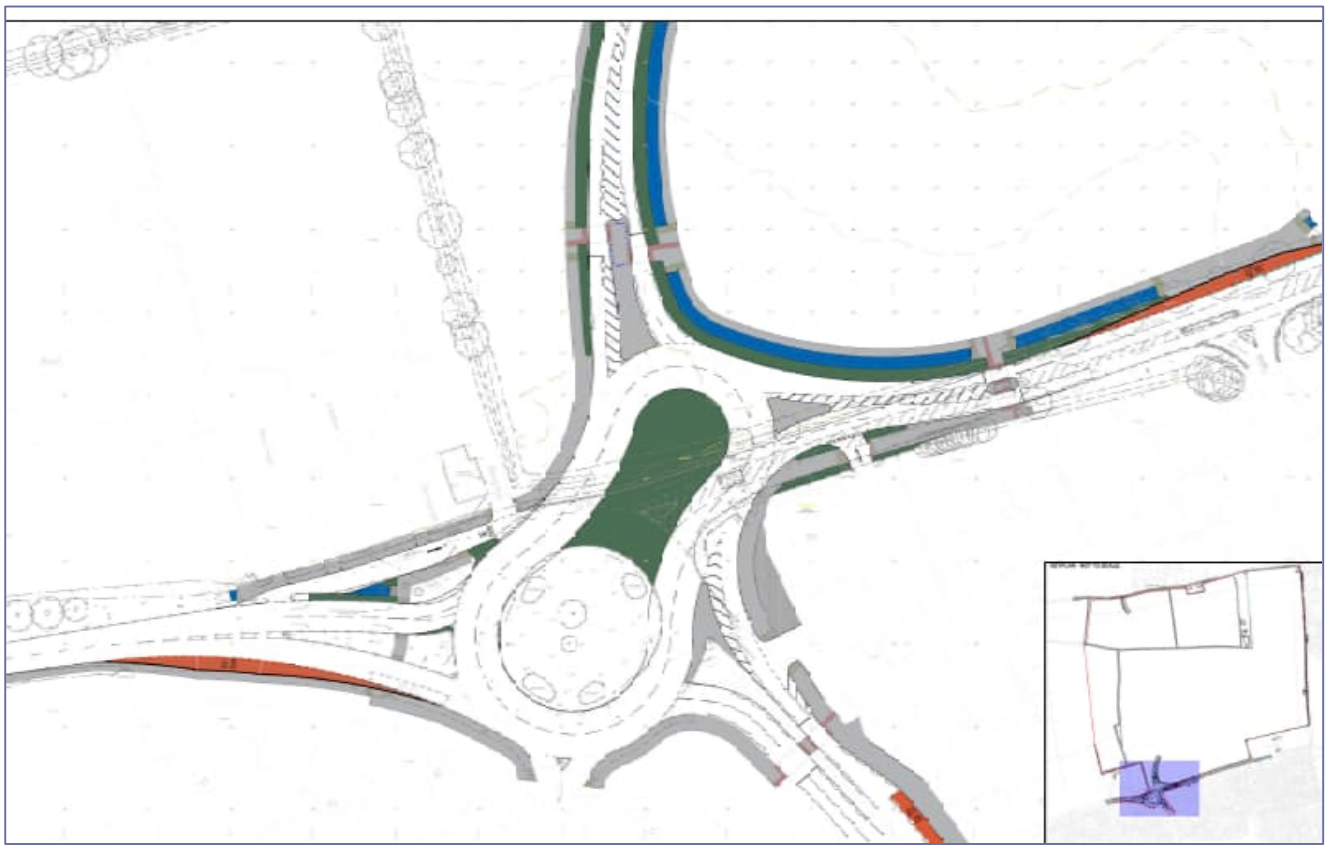


Figure 2.14 – Bellway Homes – Parsons Corner Roundabout

The total cost of all the proposals included in this Bournes Green scheme is £72.9 million.

2.3.9 Site 9 - Nestuda Way and Eastwoodbury Lane Improvements

The preferred option combines targeted junction upgrades with improved active travel provision along Nestuda Way and Eastwoodbury Lane. It includes signalised junctions, additional traffic lanes, increased flare lengths, 3m shared use paths, toucan crossings, revised markings, guardrails, bus shelter improvements, and speed limit changes to deliver a practical corridor wide improvement package.

The scheme is based on drawing number 111024-PEF-XX-ZZ-D-H-000401, of which a screenshot is shown in Figure 2.15 below.

The cost of scheme which includes the improvements at four existing roundabout is estimated at £3.5 million.

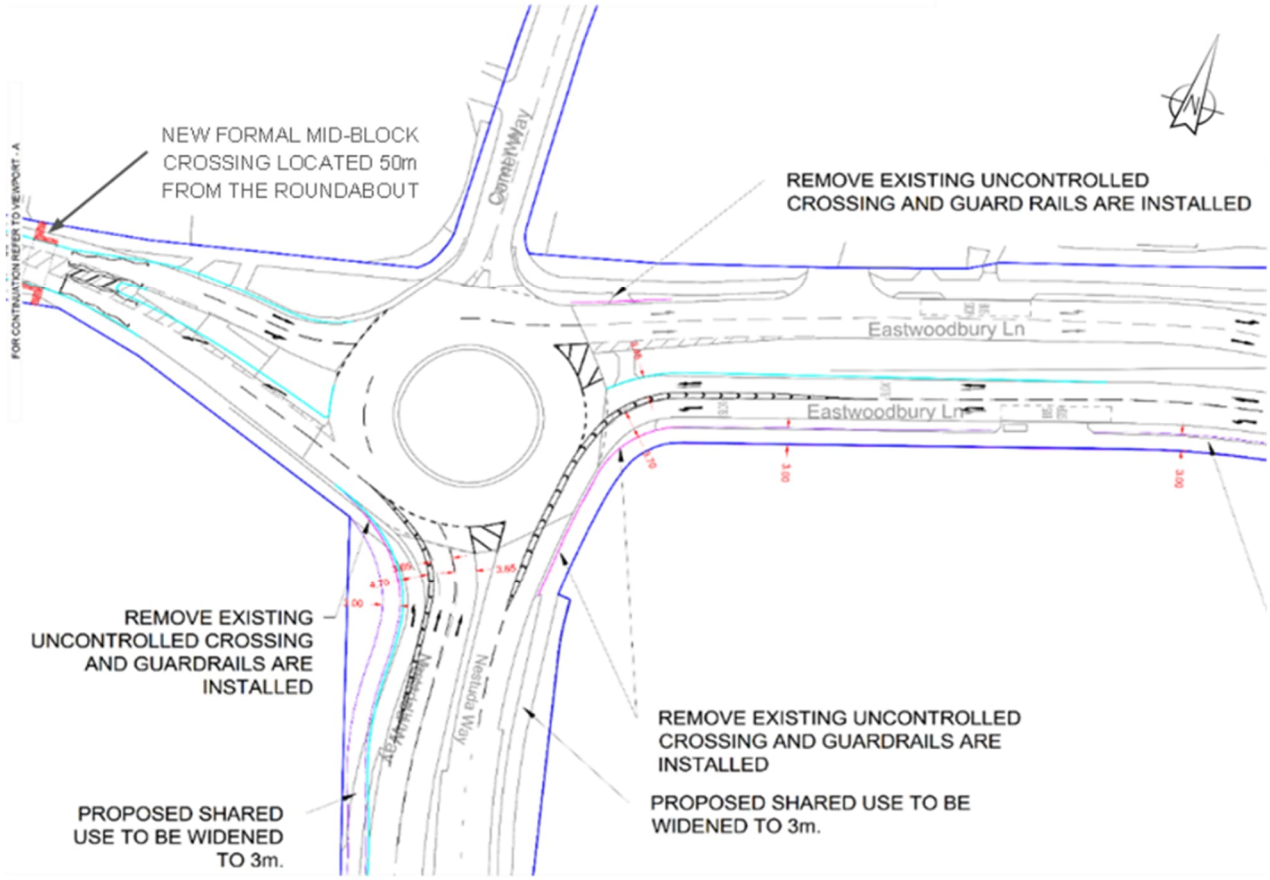


Figure 2.15 - Nestuda Way roundabout changes

2.3.10 Site 10 – Fairfax Drive Improvements

The PinchPoint scheme provides minor widening along Fairfax Drive between Prittlewell Chase and Victoria Avenue to provide two full lanes for the length of the link in the eastbound direction. The scheme also provides a double left turn lane from Prittlewell Chase and introduces a central island on Fairfax Drive to prevent right turn movements from Prittlewell Chase.

The scheme is based on drawing 08721-SK-04-0001, which is shown in Figure 2.16 below.

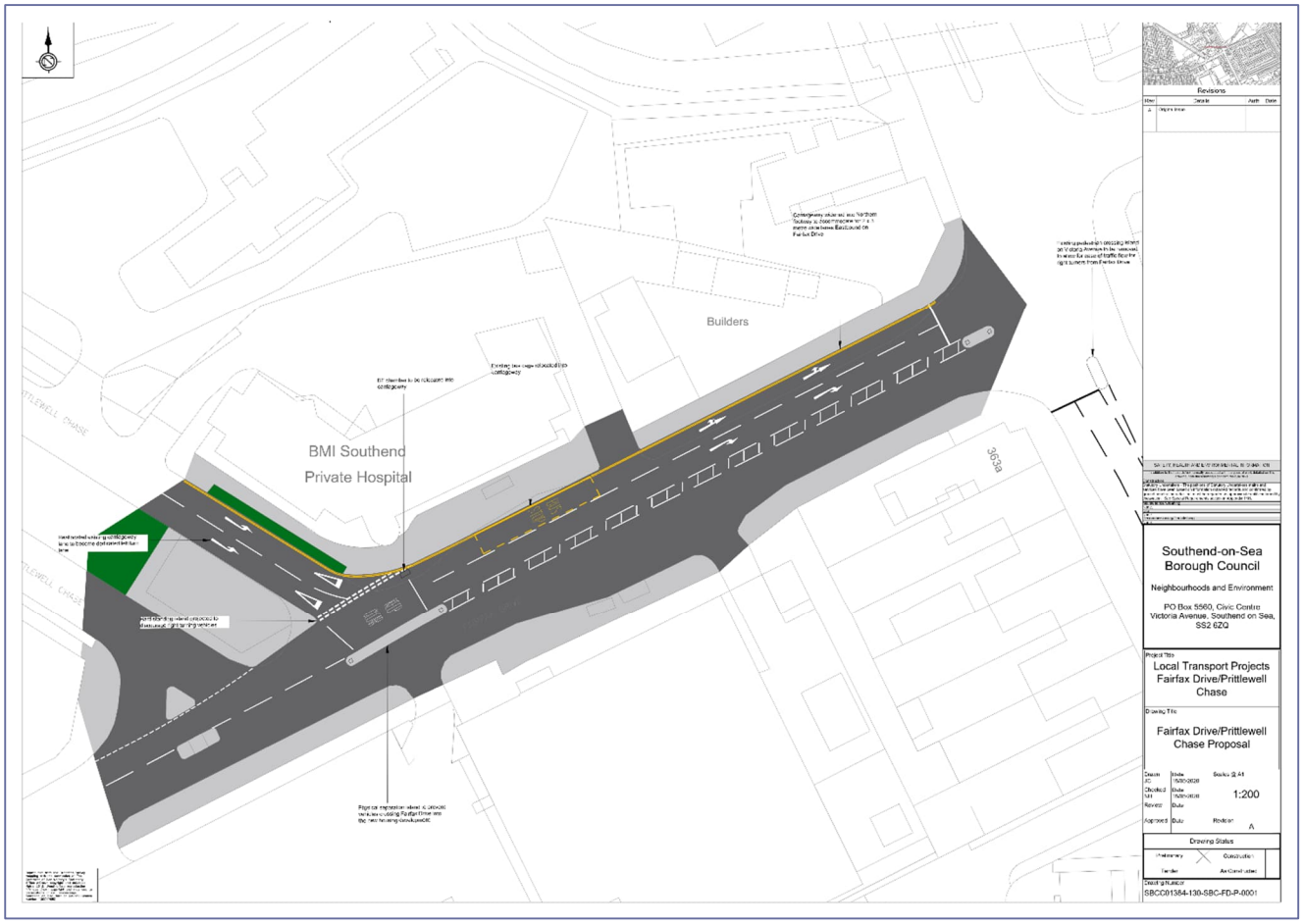


Figure 2.16 – Fairfax Drive Scheme

The cost of scheme is estimated at £1.5 million.

2.3.11 Site 11 – A127 Abbotts Close to Progress Road Westbound Improvements

The PinchPoint scheme provides widening along the A127 in the westbound direction to provide a flared three lane approach to the Bellhouse Lane junction from Abbotts Close which then continues through in the westbound direction to tie into the existing three lane approach to Progress Road.

The scheme is based on drawing SBC-127-C-0001, which is shown in Figure 2.17 below.

The cost of scheme is estimated at £15.6 million.

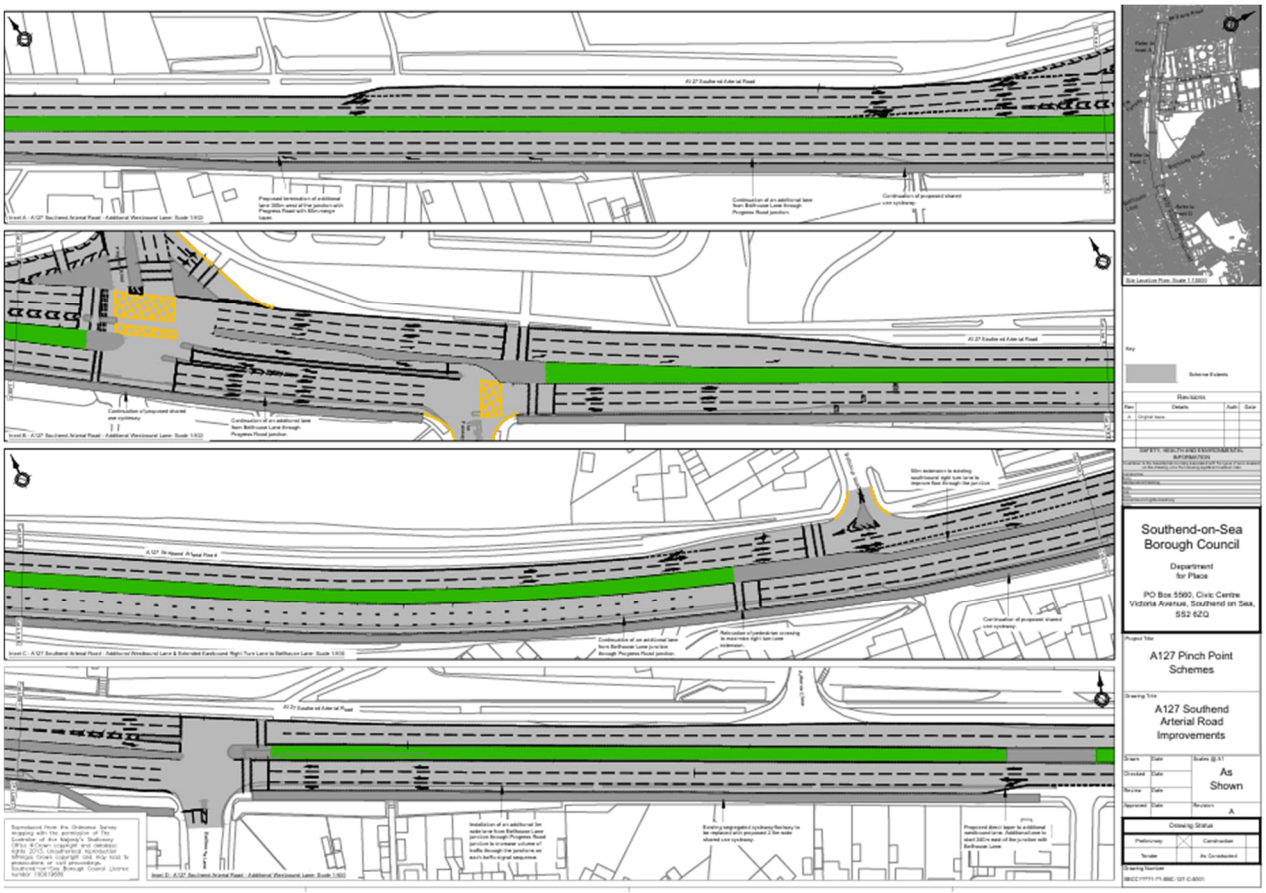


Figure 2.17 - A127 Abbotts Close to Progress Road Scheme

2.3.12 Site 12 – Victoria Avenue Improvements

The scheme consists of the following elements; firstly in southbound direction towards the Priory Crescent/Fairfax Drive junction, the installation of a right turn flared lane approach and provision of a new bus layby on the approach to the junction. Further downstream in the southbound direction still towards the East St/West St junction, it is proposed to extend the flare length for the right turn by 50m. In the northbound direction the bus stop that is currently in carriageway is to be relocated downstream to the existing layby.

The cost has been based from drawing number SBC-127-C-0001 as shown in Figure 2.18.

The cost of the scheme is estimated to be £22.8 million but note this is based on the assumption that the carriageway and footways surrounding will be updated (surfacing, kerbs etc). If it is just the physical works of the widening at junctions/bus laybys that would be provided then the cost estimate would reduce significantly to £9.4m (note this is the cost included in the summary table).

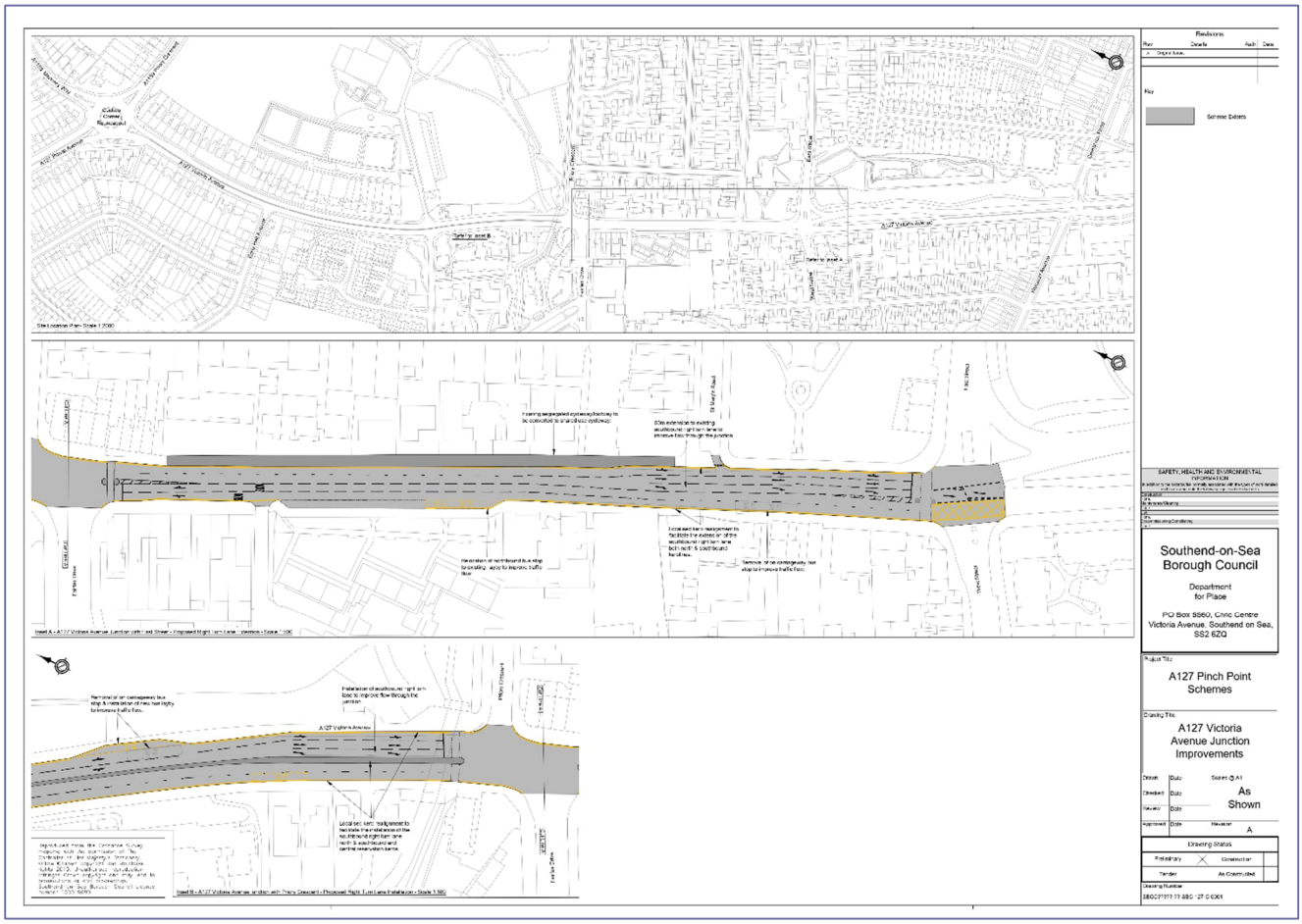


Figure 2.18 – Victoria Avenue Scheme

2.3.13 Site 13 – Victoria Gateway Junction Improvements

Two schemes are proposed, firstly to provide a new bus lane in the westbound direction through the junction along with changes to the tactile paving at the crossings. The 2nd scheme involves a new additional southbound left turn lane so that the two lane approach flares to three lanes with a double left turn and a right turn lane provided at the stopline.

The cost has been based from sketch diagrams as shown in Figure 2.19.

The cost of schemes are estimated to be £7.0 million and £7.4 million respectively.

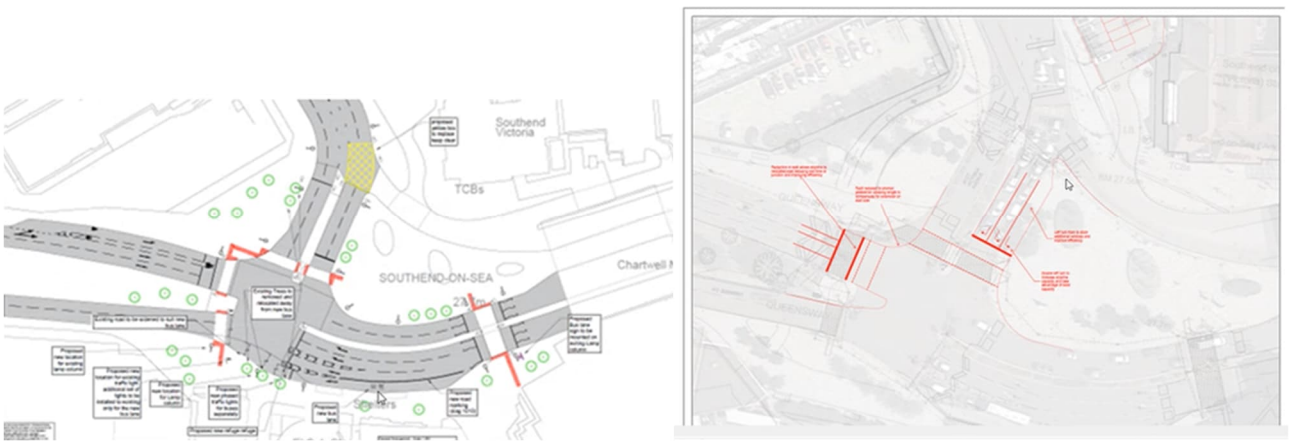


Figure 2.19 Victoria Gateway Junction Improvements

2.4 Overall Highways Mitigation Cost

Scheme name	Total Scheme Cost (in million)
Site 1 - Harp House Rbt upgrade with new the Link Road	£2.1
Site 2 - New Warners Bridge Rail Overbridge (ROB)	£15.0
Site 2 New Link Road and New Roundabout	£7.4
Site 3 - Cuckoo Corner Roundabout Improvements	£0.7
Site 4 - Priory Crescent 4 lane dual carriageway upgrade	£15.2
Site 4 - New A1159 Eastern Avenue Active Travel Bridge	£5.0
Site 5 - Eastern Avenue/Sutton Road Roundabout Upgrade	£7.0
Site 6 - Eastern Avenue/Fossetts Way Roundabout Upgrade	£1.0
Site 7 - Eastern Ave/Royal Artillery Way/Hamstel Rd Roundabout Upgrade	£9.5
Site 8 - Bournes Green – All Schemes	£72.9
Site 9 – Nestuda Way and Eastwoodbury Lane Improvements	£3.5
Site 10 - Fairfax Drive Improvements	£1.5
Site 11 - A127 Abbotts Close to Progress Road Westbound Improvements	£15.6
Site 12 – Victoria Avenue Improvements	£9.4
Site 13 – Victoria Gateway Improvements	£14.4
Grand Total	**£180.2**

The overall total costs are estimated at **£180.2m** excluding the alternative Garons roundabout scheme.

2.5 Key Caveats

1. Costs are strategic, high-level estimates prepared for Local Plan and Infrastructure Delivery Plan purposes and are not suitable for detailed design, procurement, or funding applications.
2. Estimates are based on conceptual layouts and assumptions. No detailed design, topographical survey, ground investigation, or utility searches have been undertaken.
3. Land acquisition, extensive statutory compensation, and other third-party costs have not been included in detail and may increase scheme costs.
4. Rail overbridge and active travel bridge costs are indicative and subject to further engagement with Network Rail and confirmation of railway operational, asset protection, possession, signalling, and approval requirements.
5. Ground conditions, utility diversions, environmental mitigation, drainage requirements, and statutory undertaker works may significantly influence overall scheme costs.
6. Construction inflation has been applied using strategic planning assumptions. Actual future costs may vary depending on market conditions and delivery timing.
7. A formal Quantified Risk Assessment (QRA) has not been completed. Consequently, estimates should be regarded as strategic planning costs only and are expected to have an accuracy of approximately ±30%, subject to further design development and scheme-specific risk assessment.
8. Future planning applications may identify the need for, and provide opportunities to secure, further mitigation measures where appropriate.

Southend-on-Sea Local Plan High-Level PT & AT Cost Estimates

3 Public Transport and Active Travel Mitigation Packages

3.1 Introduction

This section provides a summary of the high-level cost estimates for the bus, rail, and walking and cycling measures proposed in the Southend-on-Set Local Plan.

3.2 Methodology and Assumptions

The cost estimates presented for the sustainable transport measures identified within the Southend-on-Sea Local Plan Transport Evidence Base have been developed as high-level strategic infrastructure costs suitable for Infrastructure Delivery Plan (IDP) purposes. The estimates are intended to provide an indication of the likely scale of investment required to deliver the proposed mitigation measures and should be regarded as order-of-magnitude estimates rather than scheme-specific budget costs. The assessment has been informed by the scheme descriptions contained within the Transport Evidence Base, together with information contained within the Southend Bus Service Improvement Plan (BSIP) 2024-2029 and the emerging Southend Local Cycling and Walking Infrastructure Plan (LCWIP).

A bottom-up estimating approach was not possible because most schemes remain at an early stage of development and detailed design information, route alignments, land requirements, utility information and construction drawings are not currently available. Consequently, costs were derived using benchmark rates from comparable UK local authority transport projects, including active travel schemes, bus priority corridors, mobility hubs, passenger transport infrastructure, interchange improvements and public realm works. Benchmark rates were then adjusted to reflect the scope and complexity of each scheme, taking account of known route lengths where these were available.

The estimates have been prepared on an out-turn cost basis and therefore include allowances for all major project development and delivery activities. The following items are assumed to be included within each estimate where relevant:

- Main construction works;
- Contractor preliminaries;
- Traffic management during construction;
- Detailed design and design development;
- Surveys, approvals and statutory processes;
- Utility diversions and protection works;
- Land acquisition allowances where required;
- Project management and supervision;
- Risk and contingency allowances; and,
- Construction inflation to the assumed delivery year.

Allowance percentages vary between scheme types, although typical assumptions comprise preliminaries of 10-15%, traffic management of 5-10%, design and project development of 10-15%, utilities of 5-15%, and risk/contingency of between 25% and 35%. Higher contingency allowances have generally been applied to strategic growth area schemes associated with the LNOS Growth Zone due to the greater uncertainty surrounding their scope, route alignment and delivery requirements.

Inflation has been applied to reflect the anticipated delivery programme. A price base of 2026 has been assumed, with all schemes assumed to be delivered no later than the end of 2034 in accordance with the latest programme assumptions. For the purposes of estimating future out-turn costs, annual construction inflation rates of approximately 4% per annum to 2030 and 3.5% per annum thereafter have been adopted. These assumptions are intended to provide a reasonable long-term planning allowance and are consistent with the strategic nature of the exercise.

For the bus infrastructure and bus service improvement measures (Local Plan Tables 6-14 and 6-16), cost estimates were informed by the Southend BSIP, which identifies improvements including bus priority measures, urban traffic control signal upgrades, real-time passenger information, mobility hubs, interchange facilities, enhanced passenger waiting environments, integrated ticketing initiatives and new bus corridor improvements. The BSIP identifies priority corridors serving Southend City Centre, Hadleigh, Eastwood, Southend Airport and Shoeburyness together with a network of mobility hubs and mini-hubs across the city.

For the walking and cycling measures (Local Plan Table 6-19), estimates were informed by the scheme descriptions contained within the Local Plan Transport Evidence Base and the published LCWIP consultation material. The active travel schemes were assumed to comprise a mixture of segregated cycle facilities, shared-use paths, footway improvements, junction upgrades, crossings, wayfinding infrastructure and associated public realm measures delivered in accordance with current active travel design standards. The LNOS Spine Route (Scheme 601) was treated as a strategic active travel corridor connecting Southend Airport Railway Station, the proposed growth areas and wider destinations across Southend. The remaining LCWIP routes were estimated using benchmark protected cycle route rates adjusted for corridor length, urban constraints and anticipated junction interventions.

Scheme 501 was assessed separately based on the assumption provided that the proposal comprises approximately 100 metres of new path construction across privately owned land. The estimate therefore includes allowances for path construction, drainage, lighting, boundary treatments, legal costs and land acquisition compensation. Where specific land acquisition requirements are not currently known, potential land costs have been captured within the contingency allowance rather than being estimated separately.

Overall, the resulting costs should be considered appropriate for strategic planning, infrastructure funding discussions and Local Plan viability assessments. As schemes progress through feasibility, preliminary design and business case development stages, more detailed estimates should be prepared using scheme-specific design information, utility searches, topographical surveys and land referencing data.

3.3 High-level Cost Estimates

3.3.1 Bus Infrastructure Improvements (Local Plan Table 6-14)

The BSIP identifies improvements to bus priority, mobility hubs, stop facilities, passenger information and interchange infrastructure.

Scheme	Description	Delivery Date	Cost (£m)
301	Bus Priority UTC Signals	2028	3.7
302	Real Time Passenger Information	2028	2.8
303	Mobility Hubs & Mini-Hubs	2029	18.0
305	Integrated Ticketing Infrastructure	2027	1.5
307	New Strategic Bus Infrastructure within Growth Areas*	2034	3.5

Bus Infrastructure Improvements Total: £29.5m

*Scheme 307 is not described within the information extracted from the Transport Evidence Base. It is assumed to consist of a package of enhanced stops, passenger facilities and supporting infrastructure associated with Growth Zone services.

3.3.2 Bus Service Improvements (Local Plan Table 6-16) (402)

The Southend-on-Sea BSIP 2024-2029 identifies a range of bus service and accessibility improvements across the city. Individual interventions have not been separately costed; however, it is assumed that the measures identified within the BSIP will be delivered during the plan period.

Bus Service Improvements Total: £TBCm

3.3.3 Rail Improvement (Local Plan Table 6-18)

This improvement represents the new eastern access for the Airport rail station from Southend Road.

Assumptions

- 100m surfaced shared-use path;
- Boundary treatments;
- Lighting;
- Drainage;
- Legal acquisition costs; and,
- Compensation payment.

Scheme	Assumed Delivery	Delivery Date	Cost (£m)
501	New pedestrian connection and land acquisition	2030	£1.3

Rail Improvement Total: £1.3m

3.3.4 Walking & Cycling Measures (Local Plan Table 6-19)

The Local Plan identifies:

- Spine route through LNOS Growth Zone;
- LCWIP Eastern, Western and Northern protected routes;
- Bournemouth Park Road improvements;
- Growth Zone active travel corridors; and,
- Bike-share expansion.

The LCWIP establishes the strategic cycling network connecting the City Centre, Airport, Hospital, stations and eastern/western growth corridors.

3.3.4.1 602-604 Eastern Western and Northern Routes from LCWIP

These are assumed to include various routes as shown in Figure 3.1, the costings for them are too uncertain at this stage

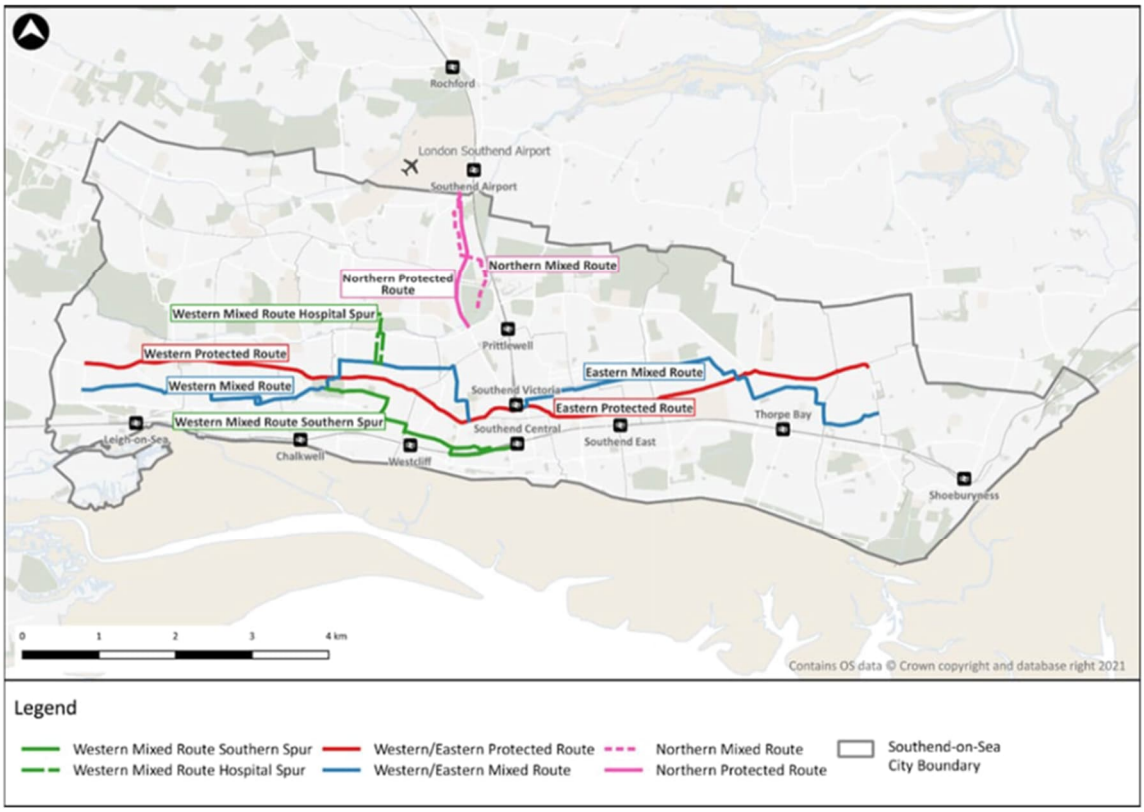


Figure 3.1 – LCWIP emerging routes for Southend-on-Sea; source Steer and SCC

3.3.4.2 605 Bournemouth Park Road Improvements

Assumptions:

- 2 km corridor;
- Junction treatments; and,
- Protected facilities.

Delivery: 2030

Cost = £5.5m

3.3.4.3 606 Active Travel Routes Along New Highway Corridors

Assumptions:

- 8 km integrated shared-use route; and,
- Delivered alongside strategic highways.

Delivery: 2034

Cost = £4.7m (only accounting for the 1/3 within Southend-on-Sea City Council's area)

3.3.4.4 607 Bike Share Expansion

Assumptions:

- Expansion of docking infrastructure;
- Bikes and e-bikes;
- Technology; and,

- Civil works.

Delivery: 2030

Cost = £2.5m

3.3.4.5 Walking & Cycling Measures Summary

Scheme	Description	Delivery Date	Cost (£m)
602 - 604	Eastern Protected Route		TBC
605	Bournemouth Park Road Improvements	2030	5.5
606	Active Travel Routes Along New Highway Corridors	2034	4.7
607	Bike Share Expansion	2030	2.5

Walking & Cycling Measures Total: £12.7m

3.4 Key Caveats

1. Scheme 307 definitions were not present in the extracted Transport Evidence Base information available, so assumptions have been made regarding their scope.
2. The Southend LCWIP was still under consultation and could not verify route lengths directly from the published material available online.
3. These are suitable as high-level costs like those estimated for an Infrastructure Delivery Plan rather than funding bid estimates.
4. Future planning applications may identify the need for, and provide opportunities to secure, further mitigation measures where appropriate. The cost estimates presented do not include the preparation, implementation, monitoring or review of development-specific Travel Plans or other planning-led mitigation measures, which may be secured separately through the planning process