

Appendix D/1

Cambridge Southern Fringe Area Action Plan Sustainability Appraisal Report

Cambridge Southern Fringe Final Sustainability Appraisal Report

Chapters 1-5, and 7 are not included here, but will be similar to the content detailed in the Core Strategy Final Sustainability Report, and are not included in this agenda.

The following Southern Fringe Sustainability Appraisal chapters are included:

Chapter 6 – Plan Policies

Appendix 3 - Cumulative, Synergistic & Secondary Effects

Appendix 4 - Significant Impacts Matrix

Appendix 5 - Mitigation Proposals

Appendix 1-2 of the Final Sustainability Report - the Baseline Assessment Dataset and Assessment of Policy Alternatives are included as Appendix A2 and A3 of the Council Agenda.

6. PLAN POLICIES

The predicted effects of each policy on the SA objectives are contained in detailed appraisal tables which are provided in a separate document due to their size. This section draws together information from the Scoping Report – particularly the baseline – with the results of the assessments of overall and cumulative, and other impacts to summarise the overall social, environmental and economic effects of the plan, discussing them in the context of each SA objective in turn.

Each section of the AAP begins with a set of objectives that for the plan which are not strictly part of the policy itself. These objectives have not been assessed separately, however we have satisfied ourselves that they are adequately covered by the corresponding policies and supporting text which have been assessed.

6.1 Summary of cumulative, synergistic and secondary impacts

Current guidance requires the explicit review of these three types of effect in order that each policy is not assessed in isolation. Guidance proposes a range of assessment techniques, each of which has merits and drawbacks. We have used the matrix-based assessment in this instance as it provides a clearer correlation between policies and objectives than some of the other techniques, although clearly it is a further, subjective element of the assessment.

Appendix 3 contains a table cross-referencing the SA objectives against the policies and the conclusions are summarised in a table outlining the principal impacts. In summary, the principal effects identified are:

- Positive benefits from landscape improvements, edge treatments, and protective measures to preserve the prospect towards the Magog Down, coupled with improvements in access to and around the two areas will have a synergistic benefit on the appearance of this area and its attraction and amenity to local people
- Potential synergistic benefits from providing new housing close to Cambridge and located with convenient access to a choice of sustainable transport modes. From the District's perspective this will be a modest impact over time as Trumpington West is built, however the benefit will accumulate with that from redevelopment within the City to the east of the A10.
- Potential synergistic benefits from expanding the range of services and amenities in and close to Trumpington centre. Primarily this will benefit new and existing residents and in certain instances may obviate the need for trips into the centre of Cambridge. Facilities in Trumpington centre, conveniently close to car parks for the park & ride and supermarket, may also attract those travelling into the city from adjacent villages, reducing congestion towards the centre.

As noted above, in several cases it has proved difficult to distinguish between cumulative impacts and collective impacts – ie. where several policies

contribute to an objective. Also, many of the policies and their supporting text provide mitigation measures for the recognised impacts of the development limiting the number of instances where additional cumulative adverse impacts might occur.

6.2 Significant social, environmental and economic effects of the preferred policies

Appendix 4 contains a matrix indicating where there are potentially significant positive and negative impacts from policies on the SA objectives. In reviewing this table and the summaries below reference should be made to the discussion about important and significant impacts in section 3.1 of this report to understand the terminology we have used. In many cases significance cannot be established quantitatively, as it can in EIA for example, due to the limited information about the design and layout of the settlement at this stage.

In summary the only consistently significant negative impacts we have identified are the absolute effects on water and energy consumption, and waste generation, which are the inevitable effects of new development. The requirement of CSF is not as directly predicated on government house building targets and over-arching policies in the Regional Spatial Strategy and Cambridgeshire Structure Plan as the other two AAPs, nevertheless the site presents an opportunity to contribute to this target in a location well-served by various transport modes, and which brings housing close to employment in the City. Consequently these impacts must be considered neutral in relative terms since development elsewhere would have more adverse impacts. Moreover their effects are mitigated by specific policies within the AAP.

Otherwise our assessments are overwhelmingly positive and no draft policy is considered unsustainable. Clearly a development on this scale will have significant impacts which will require extensive mitigation. However the draft AAP contains a wide range of mitigation measures expressed as policy, and the limited number of additional changes are largely concerned with clarifying specific issues, balancing these with the landscape enhancement of this approach to Cambridge, and the conservation of the prospect of the Magog Down from the City's southern suburbs.

Each section follows a common structure, presenting the issue that the objective seeks to address, supported by baseline data where appropriate. The impact of the plan is discussed and the key policies which are predicted to have positive or negative impacts are identified. The section concludes with a discussion of synergistic, cumulative or secondary effects which are also referred to in the sections below. All data defining conditions in the District are taken from the baseline dataset unless otherwise stated.

Figure 2 overlays the current proposals map with various parameters that summarise design issues and constraints for the development of relevance to this part of the assessment.

Figure 2: Cambridge Southern Fringe constraints map (Source: South Cambridgeshire District Council, DEFRA; base map © Crown copyright).

1.1 Minimise the irreversible loss of undeveloped land and productive agricultural holdings

The shortage of previously developed land in the District is reflected in the target that 37% of new dwellings should be built on brownfield sites, compared to the 60% stipulated by ODPM, but which is established in the adopted Structure Plan. In 2003 the rate was 27%, consistent with that over the preceding five years, and suggesting the need for improvement. Over the same period average housing density was 19.7 dwellings/ha., which is typical of the sub-region as a whole, but some way below the minimum threshold of 30/ha. specified in PPG3.

Developments within the District along the Southern Fringe have a negligible impact on greenfield land due to their limited scale. The current proposals map indicates that the footprint of the urban extension on the Monsanto site will extend beyond the area of the existing buildings and approach roads. This land is currently used for agro-research rather than commercial agriculture and therefore it is debatable whether this represents loss of greenfield land.

Some of this area will also be given over to an edge treatment which screens the west and south sides of the development. The country park will use a substantial area of arable agricultural land this is not an irreversible change, while development proposed for the area south of Addenbrooke's involves only landscape enhancement with no land use change. The most sizeable loss of agricultural land appears to occur to the east of the A10 with the extension of the south side of Trumpington. This lies within the City boundary and therefore outside the scope of this AAP and assessment. Policies with a potentially significant or important beneficial impact: CSF/4. This Green Belt policy contains the extension of the urban area although its impact can only be estimated qualitatively.

Policies with a potentially significant or important harmful impact: none identified.

Cumulative, synergistic and secondary impacts: none identified. It will be important to maintain the revised configuration of the Green Belt between Trumpington and the M11 to prevent further creep of Cambridge over the longer term, and any impact this may have on the open land towards the Cam.

1.2 Reduce the use of non-renewable resources, including energy sources

Prudent use of natural resources in general is one of the basic themes of the UK sustainable development agenda. Baseline data suggests local consumption of gas is lower than the UK average, at 15,395KwH per home, compared to 17000KwH for the UK as a whole. Nevertheless, climate change

concerns mean a need to control consumption or exploit more sustainable power sources. Current targets require a 10% increase in production of renewable energy, although the District's capacity has remained static at just under 9GwH for the last five years. There is a regional target to generate 14% of electricity needs from renewable sources over the same period. At present there is no other information to assess the District's performance and an additional indicator might measure the number of new developments where recycling of building materials occurred in line with Core Strategy policy DP/2.

Introduction of energy efficient technology and renewable energy generation are addressed by policies NE/1 and NE/3 in the Core Strategy DPD. These establish quotas or thresholds which developers must achieve for the installing photovoltaic cells, solar panels and heat-retention measures. The targets are not particularly stringent, however the Council considers this the most effective way of providing flexibility in that this is expected to encourage developers to meet these thresholds.

Unlike the Cambridge East and Northstowe AAPs, that for the Southern Fringe does not contain an explicit statement on installing energy conservation technology although policy CSF/21 does provide for exemplar projects in energy and water conservation. The two Core policies above would still apply in principle and state a clear purpose of using all new development to contribute to energy reduction even if this only has a minor, incremental effect, which is likely to be the case with this AAP due to the small scale of housing growth compared to the other AAPs.

Policies with a potentially significant beneficial impact: CSF/12 and CSF/24. The absolute impact of these policies will depend on two factors: whether (or how many) developers embrace the proposals in the Core Strategy; and whether developers implement the minimum requirement or are encouraged to equip more properties with the relevant technology.

Policies with a potentially significant adverse impact: CSF/2. As with other development facilitated by the LDF, growth in housing and employment will increase consumption in absolute terms. Unlike Northstowe and Cambridge East, development on the Southern Fringe is not based on specific Structure Plan policies, although it will contribute to achieving the District's house building targets. With the information available at the time of this assessment it is not possible to determine whether this is the most sustainable of the remaining sites with development potential, although its absolute impact is limited by its small scale. Nevertheless it is vital that conservation technology is deployed throughout the development to mitigate its impact.

As with comparable policies in other AAPs, the main issue for this objective is the limited cumulative benefit since even the provisions of the Core Strategy policies mentioned above are voluntary and developers do not necessarily have to implement conserving technology, or on the scale proposed. The benefit of this policy would be maximised if a reasonably ambitious rate of deployment can be encouraged. The built development on the edge of Trumpington appears small-scale alongside Northstowe but is larger than any of the housing allocations in Core Strategy SP/1, and therefore it has a role to play in facilitating the roll-out of energy and water conservation technology.

1.3 Limit water consumption to levels supportable by natural processes and storage systems

The District lies in one of the driest areas of the UK (Scoping Report, para. 8.3), although it benefits from the chalk geology in its southern half, as a result of which measures to maintain the openness of land (for percolation) and maintain the nature structure of drainage systems are essential. Unfortunately evaluation of current conditions is limited by the lack of sustainable indicator information at present, although the Scoping Report notes this is a priority for which a source of data is being investigated. (Note that water quality issues are addressed by objective 4.1).

Water consumption is addressed more aggressively than energy conservation, with policy CSF/19h requiring use of technology which reduces it by at least 25% per household compared to current rates. This clearly requires a substantial reduction in usage as a result of greywater recycling and other techniques and is more stringent than the generic approach taken in policy NE/15 in the Core Strategy.

Groundwater protection is covered primarily by the range of conditions in policy CSF/19 covering run-off, use of surface and sub-surface infrastructure, foul drainage removal, etc.

Policies with a potentially significant beneficial impact: CSF/19. The target in clause CSF/19h sets a minimum threshold for consumption which might be surpassed.

Policies with a potentially significant adverse impact: CSF/2. The assessment for this objective largely mirrors that of 1.2 above. In absolute terms the development will increase water consumption and this should be addressed through the conservation measures proposed in CSF/19. The small footprint of the re-developed land means that any changes to run-off rates and patterns should be negligible, and part of this land is already covered by buildings and other impermeable features such as approach roads.

The primary secondary and cumulative effects are likely to be the impact on run-off and groundwater absorption. It is not possible to assess the practicality of this requirement without further detail of the site layout.

2.1 Avoid damage to designated sites and protected species

The biodiversity value of the Cambridgeshire countryside is a key component of the District Vision (see Section 2.2). However the Scoping Report states that there is a relatively low level of formally protected wildlife area given the District's rural character.

There are no existing designations affecting the immediate vicinity of the site – see Figure 3 overleaf. The Hobson's Brook / Nine Wells site in the centre of the southern area of the AAP is a former SSSI, having lost its status due to water contamination from surrounding agricultural land. There is also a modest sized SSSI on rising ground on the edge of the Magog Down to the east, and which also contains a small Local Nature Reserve, but nothing within 2-3kms downstream of the Cam.

The impact of development cannot be assessed until an initial ecological survey of the site has been undertaken as required by policy CSF/15, however there appears only modest scope for any significant impact due to the lack of local designations.

Policies with a potentially significant beneficial impact: none identified. However policy CSF/19 aims for improvement of water quality along Hobson's Brook (see para. D10.1) with the apparent intention of re-instating it as an SSSI in due course.

Policies with a potentially significant adverse impact: none identified.

Potential secondary, cumulative or synergistic effects: none identified.

Figure 3: Location of principal landscape and conservation designations in South Cambridgeshire (Source: DEFRA - Magic, 2005; map © Crown copyright).

2.2 Maintain and enhance the range and viability of characteristic habitats and species

The Scoping Report refers to software under development that will record the extent to which Biodiversity Action Plan targets and objectives are being achieved. This facility is not available at present, a common problem for councils in our experience. Other indicators such as the trends in farmland and woodland bird populations are not available at local level, but might show significant trends that need to be addressed, given the intensity of the agriculture in the District, especially the north-east.

The Cambridgeshire Biodiversity Action Plan identifies five broad habitats (including *acid grasslands* and *rivers & streams*) and a further ten priority habitats (including *ancient and/or species-rich hedgerows*, *cereal field margins*, coastal and *floodplain grazing marsh*, fens, lowland calcareous grassland, *lowland meadows* and *reedbeds*)¹. Some of these will be present in each of the areas covered by DPDs in the initial South Cambridgeshire LDF, and action plans have been prepared for each habitat. A further twelve local habitats (including churchyards and cemeteries, roadside verges, *drainage ditches* and *arable land*) have been identified. Those habitats which may be present locally are indicated in italics above:

- South of Addenbrooke's – arable land; cereal field margins; drainage ditches; acid / calcareous grassland at the perimeter (Downs edge)
- Trumpington to the Cam – arable land; species-rich hedgerows; cereal field margins; floodplain grazing marsh and lowland meadows; reedbeds (along the Cam).

The impact of development cannot be assessed until an initial ecological survey of the site has been undertaken as required by policy CSF/15, however there appears only modest scope for any significant adverse impact because of the limited scale of re-development, which is confined mainly to existing brownfield land.

The principal impact is positive in terms of maintaining the existing landscape features and enhancing them where appropriate as required by policies CSF/5, CSF/12 and CSF/15. Consequently this AAP differs from the others in that much of it is concerned with retaining existing land use (with limited changes in the case of the country park). We would expect remediation and improvement work to favour provision of priority habitats listed above. We also assume that turning over land along the eastern bank of the Cam from agriculture to the country park will involve minimal changes to the existing habitat, supported by some enhancements. There is also scope to incorporate SUDS reedbed components into this area as this is a priority

¹ <http://www.ukbap.org.uk/lbap.aspx>

habitat found along the Cam. This is recognised by the policy (see para. D10.5) though its feasibility depends on whether there are reedbeds on the adjacent stretch of the river.

Policies with potentially significant beneficial impacts: none identified. As noted above, this AAP focuses less on built development and more on sympathetic and selective landscaping and biodiversity improvements, consequently adverse impacts should be less likely.

Ideally the principal synergistic impact is the improvement of biodiversity in the western part of the AAP area and maintaining the existing quality in the south (with localised improvement of Hobson's Brook).

2.3 Improve opportunities for people to access and appreciate wildlife and wild places

This objective is not directly related to specific government policies or targets, although there is a strong fit with the objectives of the Countryside and Rights of Way Act 2000 (CRoW), and with government initiatives to promote healthier lifestyles. The baseline dataset has no information on relevant parameters (notably the % of rights of way that are open and in reasonable condition) and we expect this will be addressed by the obligation to measure their availability arising from CRoW.

The AAP makes substantial provision for this objective. In the western area the country park will open up a substantial area which currently has limited public access, and which is also impeded by the M11 corridor. Existing public rights of way will be improved, with the creation of a footpath/cycle route along the east side of the park, providing an opportunity to create a circular walk around this area of the development comparable to that being planned for the perimeter of Northstowe. In the southern area improvements to routes across the open land will assist this objective, particularly the new route providing easy foot and cycle access to Magog Down and Wandlebury.

Policies that have potentially significant benefits: CSF/1, CSF/2, CSF/4, CSF/5, CSF/12, CSF/13, CSF/14. Overall significance cannot be quantified as this depends on public use of these features.

There are no policies that conflict with this objective, and any concerns about the broader implications of development on biodiversity in general (places and species) are covered by the comments for 2.2 above. However note that the AAP envisages these spaces being frequented by residents across Cambridge and from the adjacent villages. Ideally many of these people will reach the area on foot or cycle, however it is not clear what car parking will be provided for those travelling further. Clearly the Trumpington park & ride offers spaces on the north of the county park although it is not clear what facility is available in the south at the edge of Hauxton. There is also a small car park on the south side of Haverhill Road on the Magog Down.

These improvements offer a form of synergistic social benefit as they will benefit the broader community, not just residents of Trumpington old and new. However there is a potential secondary impact resulting from the opening of land to public access where this is currently restricted. This will have some unquantified impact on tranquillity which the landscaping and

other improvements of this area should aim to offset. Core Strategy policy NE/5 provides for areas of quiet countryside enjoyment based on informal designation of Countryside Enhancement Areas. The Council should consider applying this designation to parts or all of the country park, particularly that stretch along the Cam adjacent to Byron's Pool where this approach would also support the objective of protecting the setting of sites with historical or heritage associations.

3.1 Avoid areas and sites designated for their historic interest, and protect their settings

This objective can be difficult to measure because assets are widely fragmented, and their presence only suspected. The age of many settlements in the District means a potentially high level of listed buildings, but there is a much broader significance because of the rural settlement pattern and the shared heritage with Cambridge city. The Scoping Report notes that the principal indicator - % of listed buildings considered at risk - has remained roughly static at around 2%.

Figure 2 shows the location of scheduled monuments, listed buildings and artefact finds based on DEFRA information². There are four scheduled monuments within or adjacent to the AAP area.

Within

- Remains of a Romano-British settlement on land adjacent to the Cam and overlooking Byron's Pool. This site will lie within the area of the proposed country park
- An undefined feature identified from cropmarks and pottery finds lying between the railway line and Hobson's Brook immediately west of Nine Wells, and which may also be a Romano-British settlement.

Adjacent

- An enclosure and barrow on the Magog Down immediately south of Haverhill Road (shown in Appendix C – map 2).
- Wandlebury hill camp / fort to the east of the area south of Addenbrookes.

Neither of the adjacent features will be affected directly by the AAP, although policy CSF/5 provides for sympathetic landscape treatment of the open land which both overlook, and the improvement of pedestrian and cycle access to these features, which all supports objective 5.3.

Policy CSF/16 requires a comprehensive archaeological survey, recognising the number and diversity of local finds and features. Building construction will be confined to the east of the Monsanto site; the need for survey and opportunity for in situ inspection applies here although the disturbance of ground as a result of the original development of the site suggests there may be little to identify. However survey of other parts of the AAP footprint will be important.

² <http://www.magic.gov.uk>

The main aim should be to ensure that landscaping and other improvements do not disturb features. This will be particularly important in the area to the west and southwest of Trumpington due to the presence of the settlement identified above which appear to lie along the most direct route for the SUDS between the built development and the Cam. However the lack of built development considerably reduces the risk of disturbance of these sites, and the archaeological survey might also consider the scope to incorporate the settlement remains into the country park as a visible feature.

There is less risk of disturbance in the area south of Addenbrooke's where changes are restricted to landscape improvements, however these must avoid disturbance of the monument identified above alongside Hobson's Brook. A pair of non-scheduled monuments (comprising a moat and other earthworks) also lie within the landscaped area and appear to straddle the route of the western foot/cycle link shown on the concept map for this area.

The AAP recognises the importance of the setting and aspect of the views from the city edge towards the Magog Down. It is less evident that a similar approach should be taken along the Cam, particularly at the northwest edge of the AAP area due to the historical associations of Byron's Pool. This will remain some distance from the edge of Trumpington West, but any changes resulting from, for example, incorporation of SUDS features, will need sensitive integration to preserve the setting.

Policies with a potentially significant beneficial impact: CSF/16. The impact of development depends on the scarcity and historical importance of the listed and scheduled features listed above, and this will only be evident once the survey has been undertaken.

Policies with potentially significant adverse impacts: none identified.

Potential secondary, cumulative and synergistic effects: none identified.

3.2 Maintain and enhance the diversity and distinctiveness of landscape and townscape character

The Strategic Vision (section 2.1) sets great stock in the importance of the District's character to its attractiveness as a place to live and work (notwithstanding the costs involved), and as a complement to the principal tourist attraction of Cambridge itself. It is difficult to identify meaningful indicators that can be measured readily and at an appropriate scale for the built environment. However this is largely subsumed by the designation of Landscape Character Areas which reflect the integration of settlement pattern and density, building materials, flatness of the terrain, along with more subtle nuances such as the importance of the openness of the East Anglian Chalk to recharging the District's groundwater resources, and the need for new development to reflect the layout and structure of settlements in the vicinity.

The plan addresses urban design issues through various policies, both in terms of housing density and layout, and also through the integration of additional features such as green fingers as well as open space required by current planning policy. Specific aspects are not defined and will be addressed in a set of design guides to be produced subsequently.

As indicated under the preceding objectives, this Plan places greater emphasis on landscaping – whether this is to improve the presentation of the southwestern approach to Cambridge, or to preserve the aspect of the area south of Addenbrookes. The need for sympathetic landscaping is addressed in policies CSF/5 and CSF/12, and is itself mitigated by other policies (eg. CSF/16) which prevent these works having unforeseen secondary impacts on other local assets such as archaeological features.

Policies with potentially significant beneficial impacts: CSF/2, CSF/4, CSF/5, CSF/6, CSF/12. It is not possible to assess the impacts of these policies at this stage. We assume an EIA of the western part of the development will be needed and it would be appropriate to undertake a formal visual impact assessment at that time.

Policies with potentially significant negative impacts: none identified. In practice this conclusion assumes that the screening and other impact reduction measures proposed in policies on green separation, etc. will balance the desire to improve the southwestern entrance to the city against the need for suitable treatment of this edge of the development.

Potential secondary, cumulative and synergistic effects: none identified. It will be important to resist pressure for further redesignation of the Green Belt land between Trumpington West and the M11 to contain development pressure and to maintain the positive landscape improvements introduced by this plan.

3.3 Create spaces, places and buildings that work well, wear well and look good

This objective is one of the most difficult to assess since it is largely subjective. Good urban design principles address specific requirements within settlements, and this is assumed to be the focus of the objective. The need for good quality landscape is assumed to be addressed by objectives 2.2 and 3.2. A 2002/3 survey suggest South Cambridgeshire is performing well, with 90% of residents satisfied with the quality of their immediate (built) environment, which is above the national average. This outcome appears to reflect the predominantly rural aspect of the area, and the open, low density layouts of many of the District's principal settlements.

As noted in the Core Strategy, this objective is closely related to 3.2. The surveys above suggest residents should appreciate the efforts taken to maintain a high quality environment, and in the Southern Fringe most changes will enhance the existing spaces. Satisfaction is also likely to be strongly linked to the relationship between new built development and the surrounding community, and this issue is considered in the assessment of objectives 6.1 and 6.4.

We cannot assess the implications for the built environment as the concept diagram and policy text only provides an outline of the design.

Policies with potentially significant beneficial impacts: CSF/2, CSF/4, CSF/5, CSF/12, CSF/17, CSF/23.

As with objective 3.2, the overall effect of the plan policies is strongly positive provided that mitigation of the development on the surroundings are effective. We identified no policies with a significant negative impact.

Potential synergistic, cumulative and secondary impacts: none identified.

4.1 Reduce emissions of greenhouse gases and other pollutants (including air, water, soil, noise, vibration and light

Section 11 of the Scoping Report highlights several issues under this objective where local conditions are below national averages, or where performance has deteriorated recently. Commuting patterns (including the school run) are a particular issue, which contribute to local congestion to add to the 28% increase in vehicle traffic over the period 1992-2002. Local monitoring has shown that traffic flows into and out of Cambridge are static but above the level stipulated in the Local Transport Plan. A further indication of the nature of the problem is that trunk traffic flows are 70% above the national average, and that on other principle roads is 35% higher. This situation has implications for air quality with recent data suggesting a significant deterioration with a 30% increase in NO₂ levels at one local monitoring station alongside the Cambridge-Huntingdon link of the A14 close to Northstowe, while at another station on the Cambridge Northern Fringe levels were static but already 30% above UK and European thresholds. Furthermore, dust concentration may be an issue. Two measurement stations providing local data (again north of Cambridge) show concentrations of 40 and 72µg/m³ respectively, the first equaling the air quality threshold for this parameter, and the second being almost double. However from 2005 the dust concentration threshold is cut to 20 µg/m³ (to be achieved by 2010) suggesting a potential air quality problem if these levels are typical of other parts of the District.

Limiting adverse impacts and potential for pollutants covers both the temporary impacts resulting from construction of the settlement (policy CSF/22 in particular), and the more permanent impacts once Trumpington West is established.

Analysis of National Air Quality Survey forecasts for this area shows NO₂ levels predicted to exceed the UK threshold level of 40 µg/m³ in 2005 along the A10 and the centre of Trumpington. This is assumed to be largely the result of queuing traffic during peak periods. The park & ride site has been completed in the period since these forecasts were generated and should have contributed to a local reduction on the route into the city and in Trumpington if it has eased congestion. Maintaining air quality at the very least therefore requires that the proposals in policy CSF/11 encourage local residents to use public transport and other modes for commuting, and this will be supported by expanding the facilities in Trumpington Centre (to be covered by City Council policies) to provide more local amenity within easy reach.

Visual impacts are addressed extensively through edge treatments for the two and four-storey buildings planned for the west and southwest sides of the built development.

Water quality is addressed explicitly in terms of the need to prevent any water leaving the site, whether through natural processes or in sewage systems, from contaminating the surface and groundwater regime.

In addition a range of generic policies in the Core Strategy, including NE/10 to NE/14 (water resources and drainage), NE/16 and NE/20 (hazardous installations and land contamination), and NE/17 to NE/19 (light, noise and air pollution) would also apply across the site, although the current AAP text not state this explicitly. We would also expect matters such as requirements to limit light spill to be addressed in the detailed design brief for the settlement.

Policies with a potentially significant beneficial impact: CSF/6, CSF/11, CSF/19, CSF/22, CSF/26. At present the significance of the impact of these policies cannot be calibrated as this will depend on the design brief and timing of new development.

Policies with potentially significant adverse impacts: none identified. However the development of Trumpington West will generate transport impacts from plant movement. Policy CSF/22 requires that site access will minimise disruption on Hauxton Road, but this is an issue that will need to be addressed in the construction strategy.

The principal temporary impact will be the sustained effect on air quality of phased construction over a period of 10 years, arising from:

- Excavation, storage and replacement of topsoil and construction spoil
- Other excavations
- Exhaust fumes from construction traffic and other plant
- Emissions from other site equipment (eg. crushers, drilling / piling equipment, etc.)

It is not possible to calibrate the effect of these activities in terms of the likely increase in NO_x and PM₁₀ levels without more details of the location and timing of site activities and an indication of which activities will occur concurrently. Table 9 indicates best practice criteria for assessing how far 'nuisance dust' (equivalent to the PM₁₀ pollutant) can be expected to penetrate away from construction activities, and also how far soiling (ie. deposition of other particulate matter on surfaces) is likely to penetrate. Activities at Northstowe clearly fall into the 'large construction site' category.

The rates shown in Table 8 suggest that any impacts of construction activities should be relatively localised within the areas under development at a particular time. Nevertheless it should be noted that soiling and nuisance dust would be more extensive if there are inadequate controls on site.

Table 8: Construction dust assessment criteria (Source: Laxen, 2000³)

Source	Potential Distance for Significant Adverse Effects (Distance from source)	
Description	Soiling	PM ₁₀ *
Large construction sites, with high use of haul routes	100 m	25-50 m
Moderate sized construction sites, with moderate use of haul routes	50 m	15-30 m
Minor construction sites, with limited use of haul routes	25 m	10-20 m

* Based on 35 permitted exceedances of 50 µg/m³ in a year

As stated for previous objectives, it will be essential that there are consistent and effective site operational processes to minimise the generation of dust during the removal, storage and re-location of spoil, and its disturbance by site traffic.

Given the duration of the work there is also an inevitable risk of material being washed from the site into adjacent water courses. This is particularly important in terms of the 'cross-border' effects of construction within the City and its impact on the Hobson's Brook / Nine Wells area. This issue illustrates the need for a coordinated construction strategy for the City and District, although it is not apparent from the Plan at this stage how this will be delivered.

Note also that the policies dealing with construction activities do not currently refer to the possibility of contaminated land on the core of the Monsanto site given its former use. A survey of this risk will be necessary during the initial master planning of the development so that mitigation and remediation measures are incorporated into the construction strategy, and to meet the requirements of Core Strategy policy NE/20.

4.2 Minimise waste production and support the recycling of waste products

The Scoping Report suggests this is another pressing problem for the District with a 25% increase in waste generation to 352kgs/household over the period 2001-2003. In 2003 just over 20% of this material was recycled and a further 5.3% was composted. While both represent good progress, the sizeable increase in waste generation creates extra pressure to meet the target for value recovery from 40% of waste by 2005.

The AAP implies an absolute negative impact due to the additional waste that will be generated by housing, employment and community sites. As with other impacts it may be assumed that the relative impact is neutral, given the need to expand the District's housing stock, and if it is accepted that this represents one of the most sustainable sites for redevelopment after Camborne, Northstowe and Cambridge East.

The need for effective control and reduction in waste to support landfilling and recycling targets is acknowledged in section D13 of the Plan although the scope for action is limited because the Council has no waste collection or

³ Laxen, D., 2000. Dibden Terminal Technical Statement, Air quality Impact assessment TS/AQ1, Associated British Ports.

treatment responsibilities. Nevertheless this section of the plan does not specify that built development (particularly the housing areas) should include basic facilities to support recycling, although in principle Core Strategy policy DP/3 clause 7 will apply. The text appears to preclude major waste collection and/or treatment facilities in the vicinity of Trumpington West (proximity to civic amenity or other sites cannot be determined at this time though the adjacent park & ride and supermarket car park areas are typical sites), however it would be appropriate to incorporate a small recycling 'bring' site in the development, or to provide a facility shared with the new development on the opposite side of the A10.

On a broader scale the Plan does provide some more explicit support for recycling through re-use of materials from the Monsanto site once it is demolished (policy CSF/24). The suitability of these structures for other uses cannot be determined at this time, although the intention for a development largely of housing suggests they are likely to be demolished and will provide a limited supply of secondary materials. Provision is also made for re-use of construction spoil for landscaping and possibly its use as a sound-proof berm along the M11. Re-use of water through greywater systems and other technology is also addressed and supports objective 1.3.

Policies with a potentially significant beneficial impact: CSF/19. Policies CSF/22 and CSF/24 also contribute but the limited amount of materials that may be available for recycling limits their impact.

Policies with a potentially significant adverse impact: CSF/2. As with objectives 1.2 and 1.3, growth implies an increase in impacts, in this case of waste arisings. However the impact here is less significant than at Northstowe or Cambridge East, though it is likely to occur earlier.

Potential secondary, cumulative and synergistic impacts: a secondary impact and concern is uncertainty about the future of Milton STW and its possible replacement. This should not be an issue provided any change in location of the receiving works does not require reconfiguration of waste water removal infrastructure on the site. If this is likely then it may be pertinent to use a Grampian condition or other mechanism to prevent development until sewage treatment arrangements can be finalised.

4.3 Limit or reduce vulnerability to the effects of climate change (including flooding)

This objective addresses two areas: reducing the vulnerability to flooding, and improving the thermal efficiency of structures to retain heat thereby reducing energy demands. Both parameters are difficult to calibrate at present, although the Scoping Report proposes to use GIS of Environment Agency data to determine the number of properties currently lying within moderate to high (100 to 50 year incidence) areas within the District.

The Strategic Flood Risk Assessment undertaken for parts of the District and reported in February 2005 shows there is limited risk in the area covered by this AAP – see Figure 3 overleaf. The built section of the Monsanto lies on a slight rise around 10m above the floor of the Cam to the west. The only part of the area lying within the functional floodplain is a strip approximately 50m wide adjacent to the river of which 30m lies within the 10 year event risk area

and the rest within the 100 year event risk area. All this land lies within or beyond the boundary of the country park and therefore away from structures which would require protection. Part of this area may contain reedbeds and other features which are part of the SUDS. Policy CSF/19c requires that there is no net adjustment to discharge into the Cam, and this will be particularly important at this point to prevent damage to water habitats along the river, and because there is a scheduled ancient monument just to the east of the effective floodplain which might be damaged by an increase in water levels.

There is also a small strip of land subject to 100-year event risk along Hobson's Brook from the City boundary to the northern edge of Great Shelford. This area will not be affected by development proposed in the AAP however policy CSF/19 (para. D10.1) identifies the need avoid balancing ponds and other features in the open area to the south of Addenbrookes. This indicates that the drainage requirements for new housing within the City boundary south of Trumpington must be coordinated with District policy, and that the provisions of policy CSF/19 should have precedence.

Reducing energy use, particularly by improved heat retention in buildings, is addressed by policy CSF/21, however the discussion of objective 1.2 notes that there is no clear policy requiring energy efficient construction at Trumpington West to parallel statements in the other AAPs.

Policies with potentially significant beneficial impacts: CSF/19. The overall impact of these policies depends on the detailed design of the drainage and flood control infrastructure on both parts of the site, and the coordination of drainage plans with the City council.

Policies with potentially significant adverse impacts: none identified.

Both sets of policies support this objective but will apply only to new development. Other initiatives will be necessary to encourage increased use of energy-efficient solutions in existing housing stock.

Figure 3: Composite flood risk assessment map of the Cambridge Southern Fringe area and its surroundings (Source: Mott McDonald for South Cambridgeshire District Council; base map © Crown copyright).

5.1 Maintain and enhance human health

Data presented in the Scoping Report suggests this is not a particular problem for the District, with life expectancy above the national average (79 years for men, 83 for women, compared to national averages of 76 and 81 respectively) and incidence of long-term illness below it (12.7% locally compared to 18.2% nationally). Nevertheless concerns about increased obesity levels suggest that any policy initiatives that contribute to healthier communities are desirable.

It is difficult for the components of the LDF to improve human health directly, therefore their main contribution is to provide facilities that support initiatives by other bodies such as the Department of Health and local Primary Care Trusts. In this respect the AAP is supportive. It addresses this issue primarily through infrastructure and design provision that encourages people to take more exercise in several ways:

- Making public transport readily accessible (CSF/2 and CSF/11), so people are encouraged to walk to the bus stop (this facility is already available at the Trumpington park & ride, reducing the need for phasing)
- Designing recreational space and features such as green corridors into the development and providing easy access to adjacent recreation areas and the countryside (CSF/2, CSF/5, CSF/17)
- Adding to the stock of local recreational and strategic open space served by convenient access, including both the country park and the access improvements to the land south of Addenbrookes (CSF/17 and CSF/18).

The first two improvements will principally benefit residents of Trumpington, both old and new parts, whereas the third will be of wider benefit.

Policies with potentially significant beneficial impact: CSF/2, CSF/4, CSF/5, CSF/14, CSF/17, CSF/22. The impact of these policies cannot be calibrated as this will depend on how many people make use of the opportunity to get more exercise, commute by other modes of transport, etc.

Policies with potentially significant adverse impact: none identified.

There are potential secondary impacts from poor air quality which has been identified under objective 4.1. However the country park in particular intended to benefit the wider sub-region and may therefore draw visitors from further afield, not all of whom will have convenient public transport, pedestrian or cycle access. Car parking is available at the Trumpington park & ride site, but it is not clear whether access to the park will be available from the south, at Hauxton, and which car parking might be provided there.

5.2 Reduce crime and the fear of crime

Crime does not appear to be a problem with local rates a little above half those across the county (57 per 1000 people, compared to 94), and with a small drop in rates over the last two years. It is not clear how crime rates compare to those in Cambridge, and whether the higher county-wide rate reflects higher incidence in larger urban areas. The most recent Quality of Life survey reveals 70% of residents feel safe or fairly safe after dark, which is better than the level across the county as a whole but still capable of improvement. Moreover provision of good recreation and leisure facilities for teenagers was seen as an important contributory task.

Primary responsibility for reducing crime lies with other authorities, and the AAP only deals with the objective through a general statement about car and cycle parking. Core Strategy policy DP/3 clause 8 requires crime opportunities to be 'designed out' of new development and would apply also to Trumpington West.

Consideration will need to be given to the safe design of pedestrian and cycle routes across the open land south of Addenbrookes as any lighting along these routes would introduce an additional impact into an unlit area.

Policies with a potentially significant positive impact: none identified.

Policies with potentially significant adverse impact: none identified.

Potential secondary, cumulative and synergistic impacts: the Scoping Report identifies concerns about fear of crime and the potential contribution of the lack of recreational facilities for teenagers on the street scene. Although the Report suggests this is a particular concern in some villages it is reasonable to assume it will occur in some suburban areas around Cambridge. Provision of recreational space (CSF/17) and appropriate community facilities (CSF/9) will help and may provide amenities that benefit other neighbouring parts of Trumpington if they are poorly served at present.

5.3 Improve the quantity and quality of publicly accessible open space

Local performance on this objective is below standard with local provision 25% below the equivalent level across the county, and the most recent District audit shows that some smaller villages have no informal recreation space.

As stated previously, landscaping and open space provision are the primary focus of this AAP, which opens up large areas south and southwest of Trumpington for public access, encouraging use with sustainable access infrastructure, and links to the adjacent settlements and to other interesting local sites (eg. Wandlebury).

Policies with a potentially significant beneficial impact: CSF/1, CSF/2, CSF/5, CSF/11, CSF/12, CSF/13, CSF/14, CSF/17, CSF/23. The Plan makes provision for more open space in line with national, county or City standards.

Policies with potentially significant adverse impact: none identified.

Potential synergistic, cumulative and secondary impacts: the most likely effect is a secondary impact of serving residents of a wider area of Trumpington and possibly Great Shelford, and of attracting visitors to the country park from a much larger part of the sub-region. Both developments will contribute to objectives such as 5.1, though the latter may contribute to incremental traffic growth.

6.1 Improve the quality, range and accessibility of services (eg. health, transport, education, training, leisure opportunities)

County monitoring shows that 83% of the District's population lives in communities with low levels of provision or ready access to basic services, such as a primary school, doctors' practice, shop, and regular and convenient public transport.

Trumpington currently provides a limited range of shopping facilities just north of the A10 / A1301 junction, with a large supermarket adjacent next to the park & ride site. There are further amenities scattered along Great Shelford

Road down to Great Shelford and Stapleford, which is designated by Core Strategy policy ST/3 as a Rural Centre.

Policy CSF/2 refers to enhancing Trumpington Centre with additional services and facilities, with a focus on education, sport and recreation. Unfortunately Trumpington centre lies within the City boundary and therefore it was not included in the 2000 survey of village amenity which has informed the assessment of the other DPDs. Lack of mention of retailing implies that the City and District councils consider shopping facilities are adequate. Trumpington inevitably lies in the shadow of central Cambridge, and further expansion might affect growth of Great Shelford / Stapleford.

However the key issue is the siting of new housing and some employment at Trumpington West next to the park & ride facility which will provide ready access to services, employment, etc. in the city centre. This is complemented by shuttle buses across to Addenbrookes (which will also have an interchange for the guided busway) and links for local pedestrian and cycle routes to similar facilities providing safe, segregated access into the city.

Policies with potentially significant beneficial impacts: CSF/5, CSF/7, CSF/9, CSF/17. This is another objective where it is difficult to quantify the benefits or their potential significance, though these – and those with lesser beneficial impacts – will contribute to the sustainability of Trumpington West.

Policies with potentially significant adverse impacts: none identified.

The principal synergistic impact is likely to be the effect of ready transport access on commuting patterns. The park & ride facility is operating now and Cambridge city already has an extensive network of cycle routes.

An additional secondary impact concerns community cohesion. The Scoping Report identifies the shortages of recreational facilities and strategic open space that occur across the District. It is not clear if these problems affect Cambridge suburbs, or whether the level of recreational provision is superior. Their suburban setting suggests a greater potential catchment and that they may be better provided. Nevertheless the facilities designed into Trumpington West can benefit not only new development across the A10 but also the rest of the immediate community, and this will also help to integrated the new site into the existing settlement.

6.2 Redress inequalities related to age, gender, disability, race, faith, location and income

The Scoping Report provides two statistics that illustrate the difficulty of measuring this objective. The most recent Quality of Life survey shows 70% of residents regard their local environment as 'harmonious' (compared to a county-wide figure of 64%) and an Index of Multiple Deprivation score of 6.9, a little over half the county average. The latter figure is not particularly surprising given the largely rural nature of the county and the nature of local employment growth, which has largely been in sectors offering attractive salaries. However this situation should not overlook the need to provide balance work opportunities for a wide range of skills and skill levels.

The AAP does not deal with the listed equalities explicitly. Requirements for access to services, amenities, recreational areas and open space such as the country park for the elderly and less mobile are not addressed specifically, although this is also true of the other AAPs. In principle Core Strategy policy DP/3 clause 6 provides for this requirement, and improvements in amenities could benefit residents in Trumpington, and possibly Great Shelford. One slight concern, which was raised in the initial SA report and is not addressed explicitly, is the potential barrier of the heavily-used A10 to movement between Trumpington West and the rest of the local community.

Provision of affordable housing addresses income disparities, with Trumpington West contributing a further 300 dwellings to the affordable housing target. This will be important since the introduction to the AAP notes that the site offers potential for early development, helping to address the disparity between housing supply and demand, and escalating price/income ratios, that have occurred over the last decade.

Policies with potentially significant beneficial impacts: CSF/7, CSF/9, CSF/23. As with many other policies the benefits are intrinsic and cannot be measured effectively. They may not be significant in the same way as environmental impacts such as air or water pollution, but will be important to the social cohesion of Trumpington West, and to integrating it with the existing settlement.

Policies with potentially significant adverse impacts: none identified.

Potential synergistic, cumulative and secondary impacts: none identified.

6.3 Ensure all groups have access to decent, appropriate and affordable housing

A Land Registry survey shows that the house price-to-earnings ratio of 6.6 in 2003, which was in line with the East of England average, but which is rising and which will be disadvantageous to those on low or modest incomes. Moreover, in common with elsewhere in the county, too much of the recently-added stock has comprised large 4-5 bedroom houses on spacious plots. The situation is worsened by recent completions in which only 19% were classed as affordable. This is almost double the average rate over the period 1998-2003 but below the 30% target specified in ODPM guidance. The Council acknowledges that current provisioning does not meet Housing Needs Survey requirements of 800 units immediately, and a further 1047 per year thereafter, and that the requirement for this form of housing is growing.

Policy CSF/7 provides for open market and affordable housing in the proportions required by Core Strategy HG/1 and in the same ratio of social rented and intermediate tenancies as that required by Core Strategy HG/3. As noted for objective 6.2, the development will contribute 300 affordable dwellings. Although this is relatively small in scale compared to the contribution of the other AAPs and the allocations in Core Strategy policy SP/1, it appears to offer the prospect of delivering more dwellings relatively early to address the recent market disparities mentioned above.

As noted for objective 6.2, one area where the policy is somewhat deficient is in failing to make clear the how the requirements for elderly, retired residents

and other special needs housing will be determined, or if provision is to be made at all. The Core Strategy makes no specific statement about whether special needs housing should be provided more centrally than other types, to help efficient provision of care facilities and ease any access problems of the residents. In this respect it may be appropriate to consider specific special needs housing at Trumpington because of its proximity to the enhanced suburban centre, park & ride and other access infrastructure.

Policies with potentially significant positive impact: CSF/7. This is possibly an overstatement of the significance of Trumpington West since it contributes around a tenth of what will be delivered at Northstowe.

Policies with a potentially significant adverse impact: none identified.

Secondary, synergistic and cumulative impacts: none identified.

6.4 Encourage and enable the active involvement of local people in community activities

Increased community involvement has been a hallmark of the current government, down from the establishment of National and Regional Assemblies to encouraging more consultation on decisions that affect the local community. Material in the Scoping Report focuses on the aspect of community involvement in decision-making, however this is difficult to measure accurately and objectively. Nevertheless the Scoping Report notes the most recent Quality of Life survey shows only one in five residents considers that they can influence decisions affecting the local area, and this leaves clear room for improvement.

As with the assessment of the Core Strategy DPD, we have adopted a broader definition of this objective which focuses less on empowerment and more on involvement of residents in their community both through social activity and semi-formal administrative forums. In this respect the AAP supports the objective in a number of ways

The AAP is supportive in several respects: through providing infrastructure for social interaction, whether in general community activities or recreation; and also in requiring residents to be consulted in the design of recreational facilities and a broader range of amenities. The supporting text for policy CSF/9 suggests that Cambridgeshire Horizons is already undertaking some community research to determine the needs of Trumpington West through public participation.

Policies with a potentially significant benefit: CSF/9, CSF/17.

Policies with a potentially significant negative impact: none identified.

Cumulative and other impacts: as noted for other objectives, adding to the range of locally accessible facilities for the wider settlement of Trumpington will help to integrate the new settlement into the existing community. We assume that amenities will tend to be located so they are conveniently located near the improvements for Trumpington Centre, and that this will mean that similar facilities provided in development within the City boundary to the east of the A10 will be available to Trumpington West residents.

7.1 Help people gain access to satisfying work appropriate to their skills, potential and place of residence

Unemployment has remained consistently low around the last 5 years at around 1%. This is well below the county average and suggests this will not be a problem provided the appropriate employment can be provided for the new residents of the new communities and new arrivals in existing ones. However one adverse trend in the current employment situation is that over a third of the District's population travel more than 5kms to work, although this is lower than the regional average and to be expected given its dispersed settlement pattern.

The decision-making criteria in the SA Framework cover rural diversification, business development, type and availability of employment, and access to work by sustainable transport. The first is clearly inappropriate to this AAP, and the impact on the second and third is limited by the small scale of new employment planned for Trumpington West. However the Plan clearly addresses access to work by siting the built development on an existing and readily accessible access node/interchange, and by connecting its footpath and cycleway infrastructure to links into the city centre. These links, and bus services will also connect to Addenbrookes which will provide expanded employment with growth of the site and the possible relocation of Papworth cardiac facilities as considered in Core Strategy policy SP/11. The Plan also mentions access to the guided busway from the interchange at Addenbrookes, and this may benefit Trumpington residents working in the science park areas on the Northern Fringe.

Policies with potentially significant beneficial impacts: CSF/6, CSF/8. The significance of these policies depends on whether local residents can be encouraged to use sustainable transport for commuting, although the existence of facilities (park & ride, cycleway network) today means there is no issue of phasing delivery.

Policies with potentially significant negative impacts: none identified.

One additional issue, which might be considered a secondary impact, is the beneficial impact of the organisation of the Cambridge park & ride services. Any new residents of Trumpington who work in the science park areas to the north of the city would have direct access by the guided bus service, or could use the park & ride service and change in the city centre

7.2 Support appropriate investment in people places, communications and other infrastructure

There is currently no data available and this objective will be difficult to measure. We assume appropriate investment will encompass private and public sector projects, with a sizeable proportion of the former being securing through Section 46 agreements.

As with other AAPs a key statement that “*development will fund in full the services, facilities and infrastructure that are required by the development alone or by service, facility and infrastructure providers ...*” (para. E1.15) is

presented at the end of the document. We consider this is a fundamental aspect of the concept which should be more apparent, perhaps from relocating it to the text in policies CSF/1 or CSF/2, even if it reflects standard policy for developments of this size and complexity.

Notwithstanding this the AAP makes extensive provision for securing funding for further infrastructure through this process, supported by Section 46 agreements in certain cases. Additional infrastructure items to be funded by the development include:

- affordable housing (CSF/7)
- services, facilities and public art, the first including contribution towards a new secondary school (CSF/9, although the plan text suggests the onus will lie with public sector agencies and private sector providers)
- landscaping features, biodiversity improvements, and maintenance of stock for a 10 year period (CSF/5, CSF/12 and others)
- biodiversity mitigation measures (implicit in NS/15)
- public open space, sports facilities, and countryside recreation facilities (CSF/17 and CSF/18)
- the water/drainage infrastructure and management facilities (CSF/19).

Policies with a potentially significant positive impact: CSF/2, CSF/9, CSF/11, CSF/19, CSF/26. The significance of these impacts cannot be assessed without more detail of the scale, scope and location of developments to which these policies would apply.

Policies with a potentially significant negative impact: none identified.

Cumulative and other impacts: none identified however, as with other AAPs, there is a concern about the scale of the financial responsibilities of the developer(s) which will be responsible for basic infrastructure as well as any additional requirements covered by Section 46 agreements.

7.3 Improve the efficiency, competitiveness, vitality and adaptability of the local economy

This is another sustainability area that is surprisingly difficult to assess in a robust and effective manner, and the primary indicators are indirect. Recent trends show an increase in viable VAT-registered firms of just below 0.9% per annum, somewhat below the District figure for 2001. Nevertheless the sub-region is also regarded not just as a centre of excellence in R&D and IT but also as an entrepreneurial hotbed.

The AAP can make a small incremental contribution to the sub-regional economy by helping to reduce any imbalance between housing demand and supply which may have a knock-on effect on the range of skills in the local workforce. However the Plan is largely concerned with housing and landscaping and therefore is not likely to have a significant impact.

Policies with potentially significant positive impact: none identified.

Policies with a potentially significant negative impact: none identified.

Cumulative, synergistic and secondary impacts: none identified.

6.3 How social, environmental and economic problems were considered in developing the policies

Social, environmental and economic problems were identified from the initial scoping work and are listed in section 4.4 of this report. The range of policies and options proposed in the Preferred Options Report include measures to address these issues through individual targeted policies (eg. that on landscape character protection corresponds to the need to preserve open views to Cambridge and its skyline).

As comments in the detailed assessments indicate, many aspects of policy are dictated by central and regional government planning guidance and strategy, government policy on housing, and adopted policies in both the Cambridgeshire Structure Plan and the South Cambridgeshire Local Plan. Any plans and strategies which diverge from current guidance are unlikely to be regarded as acceptable, and therefore these documents constrain the number and range of alternatives that might be proposed and which are reasonable.

Table 9 cross-references the issues identified in the Scoping Report (see section 4.5) against the policies in the draft AAP to show the extent to which each issue is addressed by at least one policy⁴. It shows that the only policies with no significant impacts are:

- CSF/8 (employment): which has limited impact due to the negligible amount of employment that will be provided at Trumpington West
- CSF/25 (management of services): which is primarily a procedural policy
- CSF/26 (timing of services): this does not strictly address the issues however coordinating delivery of services with occupation of the site will be essential for its coherence.

Apart from those issues which are inappropriate for an urban edge development, two are not addressed by any of the policies:

- CSF housing policies does not specifically state the intention to meet special needs housing for the aged and other groups, although this issue is addressed by other AAPs and the Council may have a specific purpose of concentrating housing for the economically active at this site.
- As with other AAPs, the needs of travellers are not addressed, although we would expect this issue to be addressed in the Core Strategy unless the Council has already identified suitable sites within the area covered by the AAP.

⁴ The original cross-check was based on the Preferred Options Report, which contained 117 policies. Table 10 is based on identifying the corresponding policy area in the draft DPD; in some cases this may be policy itself or the supporting text.

Table 9: Cross-check that Cambridge Southern Fringe policies are addressing the environmental and sustainability issues identified in the Scoping Report.

Environmental, social or economic issue	CSF/1	CSF/2	CSF/3	CSF/4	CSF/5	CSF/6	CSF/7	CSF/8	CSF/9	CSF/10	CSF/11	CSF/12	CSF/13	CSF/14	CSF/15	CSF/16	CSF/17	CSF/18	CSF/19	CSF/20	CSF/21	CSF/22	CSF/23	CSF/24	CSF/25	CSF/26
Land and water resources																										
Limited brownfield land																										
Sterilisation of sand & gravel	Not addressed specifically but policies CSF/12, CSF/22 and CSF/24 provide for recycling of materials where appropriate.																									
Altering natural drainage																										
Increased water consumption																										
Biodiversity																										
Loss of local key habitats																										
Impact on designations																										
Landscape & townscape																										
Impact on Cambridge's setting																										
Loss of local character / style																										
Uncontrolled development																										
Sterilisation of archaeol. sites																										
Loss of openness / tranquillity																										
Climate change																										
Increased flood risk																										
Conserve energy + renewables																										
High level of private car use																										
Impact on strategic roads																										
High levels of commuting																										
Waste production is growing																										
Growth = light + noise impacts																										

	CSF/1	CSF/2	CSF/3	CSF/4	CSF/5	CSF/6	CSF/7	CSF/8	CSF/9	CSF/10	CSF/11	CSF/12	CSF/13	CSF/14	CSF/15	CSF/16	CSF/17	CSF/18	CSF/19	CSF/20	CSF/21	CSF/22	CSF/23	CSF/24	CSF/25	CSF/26
Environmental, social or economic issue																										
Healthy communities																										
High rate of fear of crime																										
Attitude to sustainable transp't																										
Accessibility of services for all																										
Loss of open space																										
Inclusive communities																										
House price / income disparity																										
Lack of youth facilities																										
Loss of village services	Issue concerns a rural problem that is not relevant to an AAP dealing with an urban extension and its edge treatments.																									
Special access needs of aged																										
Villages becoming dormitories																										
Needs of travelling community	Generic policy issue which would be addressed in the Core Strategy unless there is a specific local problem.																									
Limited public transport service	Issue concerns a rural problem that is not relevant to an AAP dealing with an urban extension and its edge treatments.																									
Economic activity																										
Balanced employment growth																										
Farm diversification & traffic	AAP does not cover rural areas where this is an issue.																									
Infrastructure investm't needs																										
Unplanned growth in tourism																										
Cambridge's retail dominance																										
Economics of rural broadband																										

Note : the only 2 policies which have no direct effect on the issues are CSF/25 and CSF/26, both of which address management and procedural issues.

It should be stressed that Table 9 indicates where a policy in the AAP can contribute to dealing with a particular issue but it is not possible to determine whether it will play a leading role or contribute indirectly. In some cases these issues will be addressed on a wider scale by Core Strategy policies; others may require mechanisms outside the LDF. The table does not suggest that the AAP is a panacea for all these issues, but demonstrates that they have been addressed to some degree by its range of plan policies.

A small number of issues are not addressed directly but would be addressed by corresponding policies in the Core Strategy DPD and which are subsumed by the other documents in the LDF.

6.4 Proposed mitigation measures

As noted previously, a large number of the policies in the AAP are mitigation measures in their own right. Across the rest of the policies, apart from a small number of cases, the mitigation proposals fall into two categories:

- Measures to be defined in the development and design briefs for the site.
- Adjustments of policy text or the supporting text.

The full set of mitigation proposals are shown in Appendix 4.

6.5 Uncertainties and risks

The principal uncertainty is the limited information about the detailed layout of the Trumpington West and its surroundings, and the sequence for developing the site. Figure 2 presents the concept diagram, which provides the only available information about the layout of the site and the spatial relationships between the key features. Detail of layout, for example, around local centres will not be available until master planning work is under way.

For this reason much of the assessment of impacts is qualitative, and has proved difficult to be conclusive about the magnitude of some impacts, and the significance of many of them. We have already noted this issue with comments in section 3.1 of this report, which acknowledge that many of the impacts we have identified as “significant” may only be regarded as “important” since they cannot be quantified. Many policies are mitigation measures for recognised impacts and the lack of detail about layout and development process have caused us to take a pragmatic view of the effectiveness of the policies. Issues that are not clearly addressed in mitigation are identified in order that they can be incorporated into the site design brief and similar documents in due course. For example, without information about the sequence of development of different parts of the site, the layout of construction facilities and access, it is not possible to assess the duration and magnitude of noise and air quality impacts and it is only possible to refer to best practice design guidelines.

Lack of information is not a problem specific to this plan. Because SA / SEA is based on the front-loaded approach to appraisal, there is a possibility that assessment occurs early in the land development process at a time when there is limited information about the detailed spatial expression of policies or

land use changes. In these circumstances it is only possible to provide a comprehensive but qualitative assessment of impacts and their significance. This situation has been recognised in interim guidance issued by ODPM in the period when this Report was being prepared.⁵

In principle we assume the enhancement activities south of Addenbrookes could commence relatively soon, subject to any compulsory purchase of land in this area.

In the interim period it will be necessary to complete master planning, to issue design briefs for the development as a whole and for specific aspects, and for developers to prepare various strategies required by the AAP. In this same period it will be necessary to undertake an EIA of the Trumpington West development which can make use of the emerging design information. It will be essential to undertake some activities within the EIA as early as possible so that any previously unidentified problems – notably the presence of protected species on the site – can be dealt with appropriately and the mitigation measures incorporated into the core planning documents.

⁵ ODPM, Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks: interim advice note on frequently asked questions, April 2005, section 5.

APPENDIX 3: CUMULATIVE, SYNERGISTIC & SECONDARY EFFECTS

Policy	Policy area	1.1 Land	1.2 Energy	1.3 Water	2.1 Designated sites	2.2 Habitats / species	2.3 Access to sites	3.1 Heritage assets	3.2 Character	3.3 Good spaces	4.1 Emissions	4.2 Waste & recycling	4.3 Climate change	5.1 Human health	5.2 Crime	5.3 Open space	6.1 Services / facilities	6.2 Inequalities	6.3 Affordable housing	6.4 Involvement	7.1 Access to work	7.2 Infrastructure	7.3 Economy
Key: +/++ positive (synergistic) impact -/- negative (cumulative) impact +/- mixed impacts ? - impact uncertain blank – no impact																							
CSF/1	Vision	-	-	-												+							
CSF/2	Development principles	-	-	-		+	++		++	++	+/-	?		+		++	+/-		+		?	++	
CSF/3	The site	?																					
CSF/4	Revised Green Belt	++					++	+	++	++			?	++		++							
CSF/5	Landscape, biod'sity, etc.					++	++	+	+	++	+/-			?		++	+						
CSF/6	Trump. West structure		-	-					++	+	++	-					?			?	++	+	
CSF/7	Trump. West housing	?							?	+							++	++	++	?	?		
CSF/8	Employment		-	-							+/-	-									?		
CSF/9	Community services, etc.		-	-								-		?			++	+		++		++	
CSF/10	Road infrastructure		?								?			?			+					+	
CSF/11	Alternative modes		++								++			+		+	++	?			+/-	++	?
CSF/12	Landscape principles					++	+	?	++	++						++							
CSF/13	Landscaping in Tr. West					+	++		+/-	+				+		++	+						
CSF/14	Links to surroundings					+	++		?					++			+						
CSF/15	Enhancing biodiversity				+	++					+												
CSF/16	Archaeology							++															
CSF/17	Public open space									+				++	+	++	+			+		+	
CSF/18	Countryside recreation																						

Policy	Policy area	1.1 Land	1.2 Energy	1.3 Water	2.1 Designated sites	2.2 Habitats / species	2.3 Access to sites	3.1 Heritage assets	3.2 Character	3.3 Good spaces	4.1 Emissions	4.2 Waste & recycling	4.3 Climate change	5.1 Human health	5.2 Crime	5.3 Open space	6.1 Services / facilities	6.2 Inequalities	6.3 Affordable housing	6.4 Involvement	7.1 Access to work	7.2 Infrastructure	7.3 Economy
Key: +/++ positive (synergistic) impact -/-- negative (cumulative) impact +/- mixed impacts ? - impact uncertain blank – no impact																							
CSF/19	Land drainage, etc.			++	+				+		++	++	++			?						++	
CSF/20	Telecoms infrastructure							?										?		+	?		?
CSF/21	Sustainability exemplars		++	++							+		?										
CSF/22	Construction strategy		?	-							+/-	+/-		+/-									+
CSF/23	Countryside enhancem't					++			+	+						+		+					
CSF/24	Using existing resources		++					?															
CSF/25	Mgmt of services, etc.																			+			
CSF/26	Timing & service provision										+											++	

Summary comments on synergistic and cumulative impacts

The relatively small size of the two areas covered by the AAP limit the scope for potentially significant impacts of each type. As with other assessments, several policies may benefit a particular objective without necessarily producing, for example, synergistic (positive cumulative) effects. Where possible the assessment takes account of the potential cumulative impact of the District's policies alongside the development occurring within the City boundary, though in some cases the lack of detail in the AAP means this is speculative. Any uncertainty as a result is indicated as appropriate.

Objective	Overall rating	Commentary
1.1 Land	(none)	No cumulative or other type of impact identified.
1.2 Energy and natural resources	–	Development will contribute incrementally to the demands on energy, water, waste and sewage treatment. Full development (Trumpington West and that within the City boundary) is about 10% of the size of the full extent of Cambridge East, and 15% of the size of Northstowe. As the policy suggests the phasing of development, new housing and other land uses demanding extra resources would be added in small increments and this may enable easier adjustment of supply than if the whole development is completed rapidly. However the impact of this change will be offset by policies to reduce fuel consumption through sustainable transport, water conservation, etc.
1.3 Water resources	–	Same qualified comments as for 1.2.
2.1 Wildlife designations	(none)	No cumulative or other type of impact identified.
2.2 Habitats & species	(none)	No cumulative or other type of impact identified. Many policies benefit this objective but many of them overlap, defining the same landscape treatments. Moreover the impact of the AAP is limited by the small scale of the development.
2.3 Access to wildlife sites	?	It is not clear that there is a synergistic impact. Policies such as CSF/23 aim to create limited synergies by providing countryside recreation facilities that combine individual design elements (cycle paths; country park; improved access from urban edge to the countryside) but this is not strictly a synergistic impact of the type sought by this stage of the assessment process.
3.1 Heritage assets	+?	The AAP includes edge treatments along the Cam and for the area south of Addenbrookes which protect the setting of key local heritage assets such as Byron's Pool and the Magog Down, however these are primarily mitigation measures for the impact of the proposed developments.

Objective	Overall rating	Commentary
3.2 Maintain character	(none)	No cumulative or other type of impact identified. Certain policies introduce design components (open water in green fingers; four storey structures on one side of the development) which are not necessarily consistent with local conditions but these are very limited in their extent and cannot really be assessed as a cumulative impact.
3.3 Spaces that work well	+	Again it is difficult to qualify this issue, but the policies collectively improve the setting of this part of Cambridge, enhancing the existing landscape assets (eg. south towards Magog Down) and supplementing it with new public rights of way and means of accessing the adjacent countryside. This objective is calibrated in terms of residents' satisfaction with their surroundings and, in principle, we would expect these improvements to benefit not only residents of the new development but also a wider community within Trumpington and from elsewhere in Cambridge and its surroundings.
4.1 Emissions	—	<p>There is a potential cumulative impact of commuting traffic from the new development either side of the A10 however this should be caught at an early stage and directed onto more sustainable modes as soon as the developments are occupied (recognising that the park & ride facility exists now and the little on-site employment will be provided). There are short-term temporary impacts of construction traffic and the policy text anticipates that the construction strategy will detail how the developer will limit its impact on both the A10 Hauxton Road and A1301 Shelford Road. At present the AAP does not clarify the timescales for development of Trumpington West and the development on the opposite side of the A10. Moreover there is the prospect of further disruption over a wider area in this part of Cambridge resulting from construction of the new access road to the Addenbrooke's complex, and the enlargement of the complex itself. This suggests that the Council should expect the construction strategies for the developments to be integrated. Since they may be the responsibility of different developers, the District and City councils may need to take the initiative in coordinating the strategies.</p> <p>Other potential temporary impacts arise from construction effects, particularly on air and water quality, and the need to protect the Hobson's Brook/Nine Wells area south of Addenbrooke's, and the Cam itself.</p>
4.2 Waste & recycling	—	Same qualified comments as for 1.2.
4.3 Climate change	?	Contributes incrementally to the introduction of conservation/energy efficient technology in new development across the District, although the small scale limits its contribution, moreover the key issue is improving performance of the existing housing stock.
5.1 Human health	?	Again there is the prospect of incremental contribution by improving the extent and accessibility of facilities and by integrating open space in the urban edge and beyond it. Any impact depends on usage levels over which the Council has limited control. One potential small cumulative benefit is if open space provision locally improves on what is currently available to Trumpington residents.
5.2 Crime	(none)	No cumulative or other type of impact identified.

Objective	Overall rating	Commentary
5.3 Public open space	++?	Substantial improvement in area of accessible space and in its quality, but again it is difficult to see this as a cumulative impact.
6.1 Access to services, etc.	—	There is a potential secondary impact of the improvement of facilities at Trumpington on adjacent centres. Trumpington village centre lies within the City boundary and is therefore a suburban centre competing (if possible) with central Cambridge and otherwise with Cherry Hinton. However its location suggests an enhanced Trumpington Centre as stated in policy CSF/2 might affect the viability of Great Shelford and Stapleford as Rural Centres (see Core Strategy policy ST/3). This situation suggests a retail impact assessment of the impact of enhancing Trumpington would be needed. We assume that coordination of policy on this issue is predicated on the settlement / retail hierarchy defined in the Cambridgeshire Structure Plan.
6.2 Reduce inequalities	(none)	No cumulative or other type of impact identified.
6.3 Access to housing	+	Incremental contribution to the needs of the District and wider sub-region for rebalancing of housing supply and demand.
6.4 Active involvement	(none)	No cumulative or other type of impact identified.
7.1 Work, skills, potential	(none)	No cumulative or other type of impact identified as there is limited new employment provision on the development.
7.2 Investing in people, etc.	(none)	No cumulative or other type of impact identified.
7.3 Economic vitality	(none)	No cumulative or other type of impact identified.

APPENDIX 4: SIGNIFICANT IMPACTS MATRIX

The symbols below are used to indicate the nature of relative significance of impacts:

√	Policy has a significant medium / long-term benefit on the objective
√	Policy may have a potentially significant benefit in the longer term
	Policy has minor impacts which are not significant, or has a neutral effect
x	Policy may have a potentially significant adverse impact in the longer term
X	Policy has a significant medium / long-term adverse impact on the objective

Your attention is drawn to the discussion in section 3.1 of this report which defines the nature of 'significant impacts' in the context of this assessment.

Policy	Policy area	1.1 Land	1.2 Energy	1.3 Water	2.1 Wildlife sites	2.2 Habitats / species	2.3 Access to sites	3.1 Heritage assets	3.2 Character	3.3 Good spaces	4.1 Emissions	4.2 Waste & recycle	4.3 Climate change	5.1 Human health	5.2 Crime	5.3 Open space	6.1 Services / facilities	6.2 Inequalities	6.3 Affordable housing	6.4 Involvement	7.1 Access to work	7.2 Infrastructure	7.3 Economy
CSF/1	Vision						√									√							
CSF/2	Development principles		x	x			√		√	√		x		√		√						√	
CSF/3	The site																						
CSF/4	Revised Green Belt	√					√		√	√				√									
CSF/5	Landscape, biod'sity, etc.					√	√		√	√				√		√	√						
CSF/6	Trump. West structure								√		√										√		
CSF/7	Trump. West housing																√	√	√				
CSF/8	Employment																				√		
CSF/9	Community services, etc.																√	√		√		√	
CSF/10	Road infrastructure																						
CSF/11	Alternative modes		√								√					√	√					√	
CSF/12	Landscape principles					√	√		√	√						√							
CSF/13	Landscaping in Tr. West						√									√							
CSF/14	Links to surroundings						√							√		√							
CSF/15	Enhancing biodiversity					√																	
CSF/16	Archaeology							√															
CSF/17	Public open space									√				√		√	√			√			
CSF/18	Countryside recreation																						
CSF/19	Land drainage, etc.			√							√	√	√									√	
CSF/20	Telecoms infrastructure																						
CSF/21	Sustainability exemplars																						
CSF/22	Construction strategy										√			√									

Policy	Policy area	1.1 Land	1.2 Energy	1.3 Water	2.1 Wildlife sites	2.2 Habitats / species	2.3 Access to sites	3.1 Heritage assets	3.2 Character	3.3 Good spaces	4.1 Emissions	4.2 Waste & recycle	4.3 Climate change	5.1 Human health	5.2 Crime	5.3 Open space	6.1 Services / facilities	6.2 Inequalities	6.3 Affordable housing	6.4 Involvement	7.1 Access to work	7.2 Infrastructure	7.3 Economy
CSF/23	Countryside enhancem't					√			√	√						√		√					
CSF/24	Using existing resources		√									√											
CSF/25	Mgmt of services, etc.																						
CSF/26	Timing & service provision										√											√	

APPENDIX 5: MITIGATION PROPOSALS

Policy / policies	Proposed mitigation	Delivery mechanism (proposed or known)
CSF/1	Clarify the amount of greenfield land (this is agricultural land adjacent to the built area of the Monsanto site) which will be required for the development	Minor policy text clarification
CSF/2	Consider whether to merge CSF/1 and CSF/2	Text adjustment entirely at the Council's discretion
CSF/3	As for CSF/1	As for CSF/1
CSF/4	None	
CSF/5	None	
CSF/6	Clarify the need for District and City councils to collaborate in determining what additional facilities are required as a result of growth either side of the A10	Policy text clarification
CSF/7	None	
CSF/8	None	
CSF/9	Clarify what arrangements will be available to allow Trumpington West residents to reach services in Trumpington centre and on the opposite (east) side of the A10 – and possibly vice versa for residents of new housing within the city boundary who may want to access facilities in Trumpington West	Policy text clarification
CSF/10	None	
CSF/11	Also require employers occupying units in Trumpington West to submit a green travel plan (possibly depending in size of unit)	Minor policy text clarification
CSF/12	None	
CSF/13	None	
CSF/14	Possibly propose that the cycle/footpath forms part of a circular walking route through the country park and landscaped area, as suggested for the linked green areas at Northstowe	Minor policy text clarification
CSF/15	None	
CSF/16	None	

Policy / policies	Proposed mitigation	Delivery mechanism (proposed or known)
CSF/17	Consider making more specific the need for facilities for youths to address the fear of crime issue indirectly. The City open space standards do state requirements for this	Minor policy text revision
CSF/18	None	
CSF/19	None	
CSF/20	None	
CSF/21	None	
CSF/22	None	
CSF/23	None	
CSF/24	None	
CSF/25	None	
CSF/26	Consider repositioning the statement that the development will fund all associated infrastructure in policy CSF/2 as appears a fundamental issue of sustainability.	Policy text adjustment