



Northstowe
Phase 1 Planning Application

Low Emissions Strategy
February 2012

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	For application			
Date	10 February 2012			
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Project number	11012988			
File reference	N:\Northstowe, Phase 1, planning application\TEXT\ REPORTS\Trans port Reports\Low Emissions Strategy\120210 Low Emissions Strategy Final.doc			

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Executive Summary

WSP has produced this Low Emission Strategy (LES) in support of the planning application for the Northstowe Phase 1 development.

The LES is a mechanism for reducing the impacts of transport related emissions on local air quality, public health and habitats during the construction and operational phases of development.

The document builds on current best practice and incorporates the measures included in other supporting documents where they particularly support a low emission strategy. Other supporting documents that should be read in conjunction with this report include the Construction Management Plan, Transport Assessment, Travel Plan and Air Quality Strategy.

Both construction and operational measures are proposed. During the construction phase these include:

- Fixed wheel and/or vehicle water washing at site exit;
- Vehicles carrying dusty materials should be covered at all times;
- Enforcing speed limits for vehicles on unmade surfaces to minimise dust entrainment and dispersion;
- Regular water spraying and sweeping on surfaced and un-surfaced roads to minimise dust and remove mud and debris;
- All HGV's and LGV's (3.5 tonnes and over) shall have minimum emission standards equivalent of Euro 4;
- All Non-Road Mobile Machinery (NRMM) shall use Ultra Low Sulphur Diesel (ULSD) where available, and comply with either the current or immediately previous EU Directive Staged Emission Standards;
- Non-Road Mobile Machinery shall be fitted with Diesel Particulate Filters (DPF) conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting) from the 1st January 2006;
- Use of dust-suppressed tools for all operations.

During the operational phase there are a number of measures which will be implemented. Many of these will incorporate the proposed travel plan items and there will be some coordination between the two plans. In addition, infrastructure will be provided which can support the future implementation of low emission travel choices as the development is built out. The LES will be implemented by the formation of a management structure which will promote and monitor the strategy. It will also be responsible for communicating with the relevant local authorities. The monitoring will include regular travel choice surveys, which will be undertaken as part of the travel planning process, together with the necessary air quality monitoring.

1 Introduction

1.1 INTRODUCTION

1.1.1 WSP has been appointed by Gallagher and the Homes and Communities Agency (HCA) to prepare a Low Emissions Strategy (LES) to support a planning application for up to 1,500 dwellings, retail, a primary school, employment and sports and community facilities at the Northstowe site in Cambridgeshire.

1.1.2 A LES provides an important mechanism for reducing the impacts of transport related emissions on local air quality, public health and habitats during both the construction and operational phases of the development. This strategy will deliver a package of measures to support this objective and these are outlined in this report.

1.1.3 This document builds on the guidance provided by DEFRA (Department for the Environment, Farming and Rural Affairs) on the development of Low Emission Strategies, including;

- Low Emission Strategies: Good Practice Guidance, January 2010; and,
- Low Emissions Strategies: Supplementary Planning Document Guidance, January 2011).

1.1.4 It also takes account of more localised guidance provided by South Cambridgeshire District Council (SCDC).

1.1.5 This Low Emissions Strategy is intended to complement proposals set out in the accompanying Transport Assessment and Framework Travel Plans for the application. Therefore, this strategy should be read in conjunction with these documents.

1.2 STRUCTURE OF REPORT

1.2.1 The remainder of this report includes the following Chapters;

- **Chapter 2** – Policy and Guidance, specifically those that relate to emissions,
- **Chapter 3** – Development Proposals, including the phasing for construction and delivery of housing,
- **Chapter 4** – Strategy Measures, identifying measures to reduce emissions from construction through to operational stage,
- **Chapter 5** – Management and Implementation – setting proposals and responsibilities for managing and monitoring the LES measures,
- **Chapter 6** – Summary.

2 Policy and Guidance

2.1 INTRODUCTION

2.1.1 The 'Low Emission Strategy Guidance' was first issued by Defra in January 2010, and developed in collaboration with the Low Emission Strategies Partnership. The Guidance identifies ways in which the planning system may be used to reduce transport related emissions at a new development, to improve local air quality, protect health and support protected species.

2.1.2 Supplementary Planning Document Guidance was released in January 2011, providing an update on that previously published with regards to methodology and mitigation measure. This Low Emission Strategy for the Northstowe Phase 1 development considers both these guidance documents, in addition to other policy guidance noted below.

2.2 NATIONAL PLANNING POLICY

RSS – Planning Policy Statement 23: Planning and Pollution Control

2.2.1 Policy guidance for local planning authorities (in England only) regarding local air quality and new development is provided in PPS23. PPS23 advises on the policies and practices that should be taken into account by those involved in the planning of any development that has the potential to cause pollution.

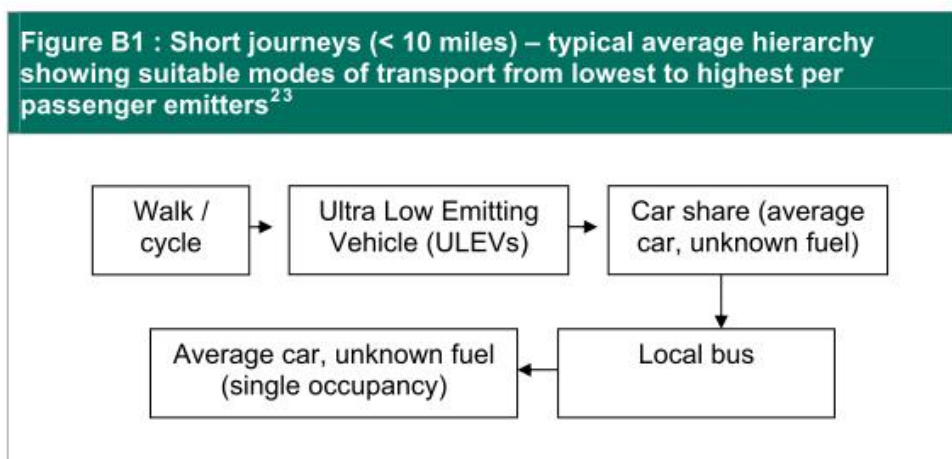
2.2.2 With regard to emissions to air, and specifically local air quality management, Appendix 1G of Annex 1 in PPS23 states that “any air quality consideration that relates to land use and its development is capable of being a material planning consideration”. This is most likely to be the case in situations where the proposed development could produce an exceedence of the Air Quality Strategy (AQS) objectives and result in an AQMA designation, or where development is proposed in an AQMA, or where a proposed development renders a local authority’s Air Quality Action Plan (AQAP) unworkable. PPS23 also re-iterates that the presence of an AQMA should not result in the sterilisation of a site from development.

2.2.3 Paragraph 174 of the draft National Planning Policy Framework (July 2011) sets out emerging policy on air quality.

2.3 ALTERNATIVES TO TRAVEL: NEXT STEPS (NOVEMBER 2011)

2.3.1 Although not policy, this recently issued guidance by the Department for Transport looks at how alternatives to travel can help reduce carbon. Whilst it primarily focuses on business related travel, the document does provide some useful information on greenhouse emissions, by mode of travel. Whilst there are assumptions contained within this, it provides an indicator of a hierarchy of mode preference in relation to relative emissions. Table 2.1 below is extracted from Appendix B1 of this document.

Table 2.1: Extract from Department for Transport, 'Alternatives to Travel: Next Steps', November 2011



2.4 REGIONAL PLANNING POLICY

2.4.1 The Localism Bill was enacted in November 2011, thereafter becoming the Localism Act. Different parts of the Act will however come into effect at different times over the coming months. The Act enables Regional Spatial Strategies, including the East of England Plan, to be abolished but this will be undertaken by statutory order by the Government in due course (it is currently understood that this will be around March/April 2012), subject to consultation. Whilst the East of England Plan remains part of the development plan until it is formally abolished, the Government has advised that the proposed abolition of the Regional Strategies should be regarded as a material consideration by local planning authorities when deciding planning applications. It should therefore be afforded limited weight in the determination of this planning application. Reference is included to relevant policies within the core strategy, which takes account of regional policy.

2.5 LOCAL PLANNING POLICY

SCDC DISTRICT DESIGN GUIDE

2.5.1 Embedded within SCDC's District Design Guide (High Quality and Sustainable Development in South Cambridgeshire) is the requirement for an LES to be submitted for major developments. The LES should comprise a series of transport related emissions reductions mechanisms and encourage discussions around agreeable Planning Obligations contributions that can be used to enhance and improve the local air quality climate. The applicant is advised to consider constructing an LES document but individual mitigation measures can be considered and implemented without it.

2.5.2 Specific policies with the DPD relating to emissions include;

Policy Natural Environment NE/16 Emissions states:

- Development proposals will need to have regard to any emissions arising from the proposed use and seek to minimise those emissions to control any risks arising and prevent any detriment to the local amenity by locating such development appropriately.
- Where significant increases in emissions covered by nationally prescribed air quality objectives are proposed, the applicant will need to assess the impact on local air quality by undertaking an appropriate modelling exercise to show that the national objectives will still be achieved. Development will not be permitted where it would adversely affect air quality in an Air Quality Management Area.

DISTRICT DESIGN GUIDE SUPPLEMENTARY PLANNING DOCUMENT
(MARCH 2010)

2.5.3 In March 2010, SCDC adopted its *District Design Guide Supplementary Planning Document (SPD)* as part of the emerging Local Development Framework. This guide has been produced to supplement the above *Development Control Policies* DPD and provide guidance to ensure that all developments are sustainable and appropriately and sensitively designed.

2.5.4 The guidance draws upon a number of technical areas that are integral to the quality of a development and provides specific advice on design principles that should be considered. One of these technical areas is air quality. Chapter 10 of the SPD highlights the importance that should be afforded to air quality and the link between road transport and poor air quality. It also provides advice on when an air quality assessment will be required. However, Appendix 4 of the guidance provides specific advice on the options that should be considered to mitigate impacts (particularly of road traffic) on local air quality and design measures that will help to minimise the exposure of residential receptors to poor air quality within a development site.

NORTHSTOWE AREA ACTION PLAN (ADOPTED JULY 2007)

2.5.5 Policy D6/g sets out the requirement to link Northstowe to the main road network, whilst minimising the impact of traffic generation on surrounding communities.

2.5.6 Policy NS/24 requires the preparation of a comprehensive construction strategy, including measures to minimise dust from haul roads, storage compounds and construction activity to prevent adverse impacts on residents, businesses and public rights of way.

SCDC'S REVIEW AND ASSESSMENT OF LOCAL AIR QUALITY

2.5.7 The review and assessment work undertaken by SCDC confirms that the primary concern with regards to air quality within the district is road traffic, and more specifically, the high volume of traffic travelling along the A14. As part of its work, the council has identified that there is the potential for exceeding the annual mean objective for NO₂ and the daily mean objective for PM₁₀ to occur in some areas adjacent to the A14. Consequently, SCDC has declared an AQMA along the A14 between Bar Hill and Milton. In 2010, SCDC's local monitoring data further indicated that whilst the objective for annual mean NO₂ was met, exceedence of both the daily mean and annual mean objectives for PM₁₀ was recorded.

2.5.8 The proposed development is located approximately 3 km north of the AQMA. SCDC will continue to monitor air quality within this area; however, there are currently no plans to revise the AQMA declaration at the current time. SCDC's review and assessment work also concludes that the objectives for all other pollutants are likely to be met.

2.5.9 Following the declaration of the AQMA, SCDC, in partnership with Cambridge City Council and Huntingdon District Council, prepared a joint *Air Quality Action Plan (AQAP) for the Cambridgeshire Growth Areas* that summarised the key causes of air quality problems across the county and outlines the key solutions and actions for improving local air quality. As the common thread for air quality problems within each administrative area is road transport, many of the actions are transport related.

2.5.10 In June 2008, SCDC also developed an additional document entitled the *Local Air Quality Strategy 2008-2013*, which looked at air quality specifically within South Cambridgeshire and aims to raise awareness of air quality problems within the district, to emphasise the role that SCDC has in tackling air quality, and provide a platform upon which to make air quality improvements.

3 Development Proposals

3.1 DEVELOPMENT CONTENT

3.1.1 The proposed development will include:

- Up to 1,500 dwellings
- A mixed-use local centre – including local retail and community uses
- A primary school
- Employment, consisting of a mix of B1, B2 and B8 development
- A household recycling centre
- A sports hub
- Public open space
- Allotments
- Other works including - internal transport networks, attenuation ponds and earthworks

3.2 CONSTRUCTION PHASE

3.2.1 Construction traffic trip rates were agreed with the Highways Agency for the 2007 Northstowe application. The trip rates identify the number of HGV movements generated by different construction activities and these rates have been applied to the proposed development using the following estimated build out rates.

Table 3.1: Northstowe Phase 1 Development Build Out Programme

Phase 1	2014	2015	2016	2017	2018	2019	2020	2021
(dwellings)	100	175	275	360	350	160	60	20

3.2.2 A supporting construction management strategy has been submitted for the development which identifies an average of 19 construction vehicles per day (38 HGV movements) and a maximum of 39 vehicles per day (78 HGV movements) during the peak construction activity in 2017/2018.

3.3 OPERATIONAL PHASE

3.3.1 As noted in the supporting Transport Assessment, and using the Cambridge Sub Regional Model (CSRМ), the development is forecast to generate the following trips;

- AM Peak – 652 (two-way trips)
- PM Peak – 690 (two-way trips)
- Around 1% of these trips are expected to be HGV's

3.3.2 For the whole Phase 1 development, daily traffic flows are expected to be marginally above 6,000 vehicles per day. The supporting Transport Assessment identifies the traffic flow change on the local network as a result of the development together with some displacement of traffic and mode shift expected onto other modes including the Cambridgeshire Guided Busway (CGB) Park and Ride sites.

3.3.3 The combined effects of the traffic assignment means that vehicle speeds are expected to drop slightly by 1-2mph on two of the A14 links considered. Any impact this is likely to have on vehicle emissions is expected to be mitigated in the medium term due to the increase in the number of Euro Standard Vehicle emission vehicles in operation.

4 Strategy Measures

4.1 INTRODUCTION

4.1.1 The measures identified in this chapter complement those provided in other supporting strategies for the development, for example, those set out in the supporting framework travel plans and the construction management plan. The measures listed below, therefore pull together the proposals set out within these supporting documents, focussing on the LES.

4.1.2 The aim of the measures is to reduce emissions in both the construction and operational phases of development.

4.2 CONSTRUCTION PHASE

4.2.1 This section sets out the measures proposed for the construction phase. The main emissions from the construction phase will be from vehicles entering and exiting the site and the Non Road Mobile Machinery (NRMM) in operation on the site itself.

4.2.2 The development proposal set out in Chapter 3 identified that between 19 and 39 HGVs per day can be expected to access and egress the site during the construction phase (between 2014 and 2022).

4.2.3 A Construction Management Strategy (CMS) has been produced for the site which will ensure that contractors adhere to Best Practice construction measures. A series of detailed Construction Environmental Management Plans (CEMPs) will be developed and agreed in consultation with SCDC for different parts of the site to be brought forward by different contractors or house builders as part of the planning process. The CEMPs will work within the framework set out in the CMS.

4.2.4 The CMS considers the impact of the construction phase on air quality and emissions. It notes that the main sources of emissions during construction activities include:

- haulage routes, vehicles and construction traffic;
- materials handling, storage, stockpiling, spillage and disposal;
- site preparation and restoration after completion;
- demolition;
- construction and fabrication processes; and
- internal and external finishing and refurbishment.

4.2.5 The requirements in Table 4.1 shall be considered to mitigate any transport related emissions subject to being practicable and reasonable.

Table 4.1: LES Construction Phase Measures

Road Traffic
Fixed wheel and/or vehicle water washing at site exit;
Vehicles carrying dusty materials should be covered at all times;
Enforcing speed limits for vehicles on unmade surfaces to minimise dust entrainment and dispersion;
Regular water spraying and sweeping on surfaced and un-surfaced roads to minimise dust and remove mud and debris.
All HGV's and LGV's (3.5 tonnes and over) shall have minimum emission standards equivalent of Euro 4
Non Road Machinery
All Non-Road Mobile Machinery (NRMM) shall use Ultra Low Sulphur Diesel (ULSD) where available, and comply with either the current or immediately previous EU Directive Staged Emission Standards.
Non-Road Mobile Machinery shall be fitted with Diesel Particulate Filters (DPF) conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting) from the 1st January 2006.
Use of dust-suppressed tools for all operations

4.2.1 To ensure efficient management of, and to minimise the number of delivery vehicles movements to and from site, a designated management representative will be appointed to act as the Site Transport Co-ordinator.

4.2.2 The construction phases will comply with any Code of Construction Practice agreed with the Council before proceeding with the purchase, installation, operation and maintenance of monitoring air quality equipment. The Low Emissions Transport Strategy should aim to prohibit the most polluting vehicles within the development scheme while promoting the use of the cleanest vehicles.

4.3 OPERATIONAL PHASE

4.3.1 The following table sets out the measures proposed for the operational/occupation phase, effective from the scheme opening year. The measures proposed should encourage, educate and advise occupiers of the development with regards to low emission standards from private motor vehicles, and encourage low emission choices in travel behaviour. Table 4.2 below sets out possible measures across all land use types identified for the Phase 1 development, based on;

- some of the measures identified by SCDC for the site;
- those measures proposed in the supporting Travel Plan; and,
- best practice noted elsewhere in other LES strategies.

Table 4.2: LES Operational Phase Measures

<p>Principal Measures</p>	<ul style="list-style-type: none"> ■ Contribution to the local area air quality data collection through the installation of new air quality monitoring locations in and around the development ■ Supporting local authority air quality initiatives that will have a benefit on future residents, visitors and employees within the development. ■ Provision of supporting infrastructure for future electric charging bays and low emission fuelling points . ■ Car club provision if part of Travel Plan measures ■ Personal Travel Planning (promoting low carbon travel to all site users) <p>Pending the success of the above, the following should be considered;</p> <ul style="list-style-type: none"> ■ Consideration of introducing a Low Emission Zone to prohibit the most polluting vehicles within the development scheme whilst promoting the use of the cleanest vehicles (pending confirmation of its requirement)
<p>Car Parking</p>	<ul style="list-style-type: none"> ■ Residential parking spaces set aside for car club use and / or low emission vehicles
<p>Travel Behaviour</p>	<ul style="list-style-type: none"> ■ Promotion of low emission travel behaviour ■ Low emissions incentives and mechanisms in liaison and possible partnership with proposed retail outlets ■ Management charge incentives for employment based development, based on Euro standards and VED emissions bands)
<p>Public Transport</p>	<ul style="list-style-type: none"> ■ Public transport improvements – low emission PSV only for routes not on the CGB - Euro 6 ■ Incentives for public transport use
<p>Infrastructure</p>	<ul style="list-style-type: none"> ■ Cycleway and footway network on site, with priority routing ■ High quality secure domestic and non-domestic cycle parking

4.3.2 Whilst some of the measures are principal measures to be applied across all land use, others can be tailored and made more specific to particular land uses.

4.4 RESIDENTIAL

4.4.1 A Residential Framework Travel Plan (RFTP) has been written to support this element of the development. An objective of the RFTP is to improve air quality through reduced congestion as a result of the use of alternative modes to the private car.

4.4.2 Outcome targets to support the RFTP objectives has been set as

“Achieve a milestone of 10% reduction in the mode share of car trips by the end of year 8 from 1st occupation.”

4.4.3 A number of possible measures are identified within the RFTP in order to achieve this target. This includes the following measures;

- All new properties to be offered Personal Travel Planning (PTP) services. This will include the provision of travel information packs which will raise awareness of travel options including promoting those with low emissions.
- The offer of bus taster tickets to encourage a reduction in car use and associated emissions.
- The provision of a subsidised car club membership, if a car club is provided in the Phase 1 development, to promote lower overall household car ownership and usage
- The provision of subsidised bicycle maintenance, vouchers and training to encourage the use of bicycles as a healthier and non-emission method of travel.
- Creation of a journey sharing database for car sharing, cycle and walking journeys with sub-groups for specific journey purposes.

4.4.4 All of the above measures are targeted at reducing the dependency on single occupancy car trips, and to encourage the use of those modes noted to be low emission generating.

4.4.5 In addition to the travel planning measures noted above (including the promotion of car share schemes and raising awareness of emissions), measures which provide an incentive for employees on the site to own and use low emission vehicles will be considered. These could be based on vehicular emissions in the form of reduced management charges. Typically some of these have been implemented in other developments and exemplar Low Emission Strategies.

4.4.6 It is possible that if revenue is gained from any management charging mechanism then it could be used to support the car club or other agreed low emission initiative(s) on the Development.

4.5 EMPLOYMENT

4.5.1 A Workplace Framework Travel Plan (WFTP) has been prepared to support this element of the development. Similar to the RFTP, an objective of the WFTP is to improve air quality through reduced congestion as a result of the use of alternative modes to the private car.

4.5.2 The WFTP has been produced in line with Cambridgeshire's Travel for Work (TfW) Partnership Guidance (April 2011). As future occupiers are unknown, the WFTP sets guidance for future organisations occupying the site, to make sure that they are consistent in implementing policies that support the overall transport targets. Many of the measures proposed also support a desire to minimise emissions and LES supporting measures previously identified in Table 4.2.

4.5.3 A number of measures are identified within the WFTP in order to achieve the target. This includes the following measures;

- The provision of information packs to employees including bicycle maps, public transport information, car sharing and car club options, options for personalised travel planning, and relevant information on how employees could reduce their travel emissions.
- The provision of facilities to support walking and cycling including; showers, changing facilities, lockers, secure and covered bicycle parking.
- Encouragement for employees to sign up to supporting car clubs and to become members of the Travel to Work Partnership (TfW) and the Cambridge cycle campaign (Camcycle).

4.5.4 The WFTP proposes to provide further re-assurance measures in encouraging more sustainable travel including;

- Guaranteed ride home for car sharers to support increased level of car sharing;
- Priority parking for car sharers, those with disabilities and for whom otherwise sustainable travel is not a viable option

4.5.5 In addition to the travel planning measures, and specifically for any HGV/LGV's servicing employment and other commercial uses, the following Low Emission Guidelines will be proposed for occupants of the commercial sites;

- Reasonable endeavours would be used to ensure that commercial vehicles associated with the Development (to include the estate management of the Development and the commercial uses within it and, for the avoidance of doubt, not any commercial vehicles serving individual residential occupiers) shall have minimum emission standards equivalent to Euro 4, with target quotas of at least 50% of Euro 5 or better by 1st January 2013.
- Reasonable endeavours would be used to introduce a minimum standard of Euro 5 for 100% of commercial vehicles by 1st January 2014 at the latest, with further target quotas for Euro 6 emission standard or cleaner vehicles.

4.6 SCHOOL TRAVEL

4.6.1 A School Framework Travel Plan (SFTP) will be provided as advice for the onsite primary school and this supports the DfT's 'Travelling to School: good practice guide' (2003). Potential measures contained within this document are focused on creating a culture of sustainability amongst children and encouraging walking and cycling journeys to schools being the default choice. They include;

- Walking buses to school, subsidised cycle training offered to children, and walking cycling 'buddy' groups set up to support children's journeys to school;
- Provision of cloakroom facilities, showers, and lockers for staff and children;

-
- Provision of waiting shelters for parents collecting children from school on foot or bike;

4.6.2 For teachers, a car management strategy will also be implemented that focuses on priority on-site staff parking for teachers with disabilities, car sharing, and using lower emission vehicles. Schools will also be asked to sign up to the SFTP.

4.7 INFRASTRUCTURE

4.7.1 There will be infrastructure provision to support the LES aimed at encouraging and incentivising lower emission travel choices. These will include the introduction of dedicated paths and cycle routes for cyclists, the provision of bike rental schemes served at key origin and destination locations across the site.

4.7.2 Secure bike facilities, showers and locker facilities at those destinations away from the home will also be provided where they may be needed.

4.7.3 Infrastructure for the future provision of electric car vehicle charging points and/or low emission fuelling points will be provided at key locations on the site to support their use as an alternative to fuelled cars. Dedicated parking for low emission vehicles for both residents and employees could also support this initiative. Car pool clubs promoted to both residential and commercial occupants will promote and encourage the use of lower emission vehicles.

4.8 SUMMARY

4.8.1 This section has focussed on the series of measures that will be applied to reduce the overall emissions generated by the Phase 1 development at Northstowe. It has focused on emission reduction measures that can be implemented at construction phase through to site occupation and beyond.

4.8.2 Further discussion with South Cambridgeshire District Council will be required to determine the appropriateness of these measures and to determine targets by which these measures can be assessed.

5 Management and Implementation

5.1 INTRODUCTION

5.1.1 This section looks at the management and implementation of the LES measures identified in Chapter 4. It is recognised that a culture of low emission travel choices should be established from the outset, and that from the start of construction, a commitment to making low emission choices should be made that will follow through to the travel choices made by those who will eventually occupy the site. This section looks at the parameters and approach that should be adopted in implementing the strategy, and considers how the success or otherwise could be managed and monitored.

5.2 MANAGEMENT

5.2.1 There are number of parameters that could set the framework for a low emission site at the proposed development, from construction through to occupation, these are outlined below.

CONSTRUCTION

5.2.1 To ensure efficient management of, and to minimise the number of delivery vehicles movements to and from site, a designated management representative will be appointed to act as the Site Transport Co-ordinator (STC).

5.2.2 The commitment to using low emission standard vehicles and technology in the construction phase would be an integral part of the procurement, supplier and site management process. It will be the responsibility of the scheme promoter and of those procured to lead on these elements of site development to ensure that measures in the LES are adhered too.

5.2.3 Periodic site monitoring will take place (undertaken by the STC) to inform whether the site construction is conforming to the agreed measures.

OPERATIONAL

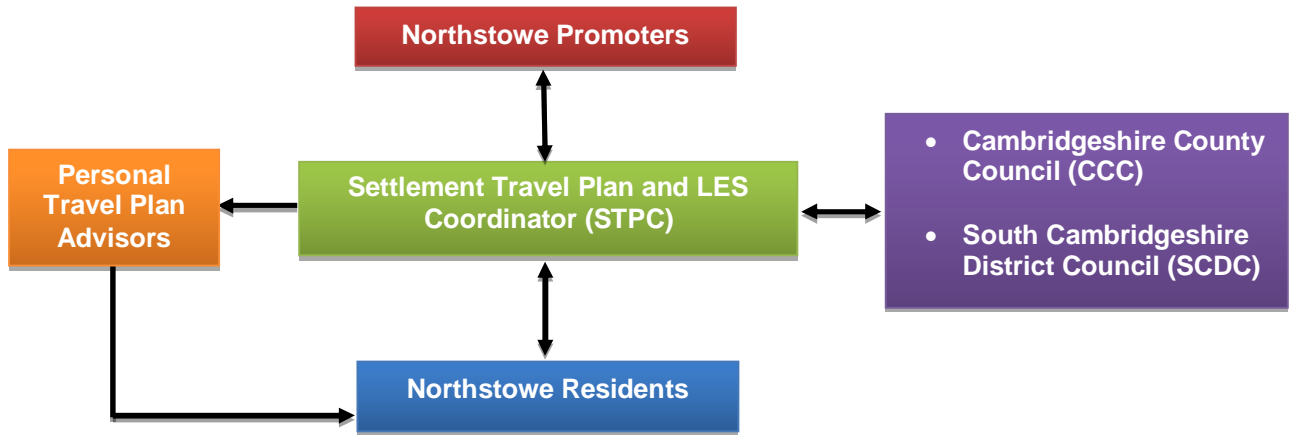
5.2.4 The success of delivering a low emission site will be the result of effective promotion, marketing and sharing of supporting information whilst achieving the buy in and support of those occupying the site.

5.2.5 It will primarily be the role of the Travel Plan Co-ordinators (TPC's) along with the support of the local authority, and other third party providers such as the local public transport operators, that will enable this to be achieved.

5.2.6 The supporting framework travel plans envisage a Settlement Travel Plan Co-ordinator (STPC) being appointed 6 months before sales commence. This post will be commensurate with the duties required at that time. Due to the overlap in measures between the travel plans and the LES, it is intended that the STPC will also take on the role of delivering the operational phases of the LES.

5.2.7 The management structure of the Travel Plans and LES is set out in Figure 5.1.

Figure 5.1: Travel Plan and LES - Management Structure



5.2.8 The STPC will report to Northstowe's promoters on the progress of introducing the measures identified through this LES, through the monitoring process.

5.2.9 The STPC will liaise directly with CCC and SCDC to provide reports on progress in delivering the LES and the measures contained within.

LES MONITORING

5.2.10 Throughout the construction and operational phases, a process of Air Quality monitoring will take place. A local onsite monitoring station will be located on site at a location to be agreed with the Local Authority. This site will measure localised emissions which will be reported on a 6 monthly basis.

5.2.11 The information provided by these localised monitoring sites would enable the authority to implement any necessary monitoring or actions in pursuit of an Air Quality Action Plan, including the introduction of Low Emission Zones, should emissions exceed those levels agreed to be acceptable.

5.2.12 In addition, the supporting Residential and Employment Framework Travel Plans contain a Travel Plan monitoring strategy that supports the monitoring of this LES. The specific monitoring activities of the Travel Plans that will support the LES are shown in Table 5.1.

5.2.13 Whilst these monitoring activities are complementary to the Travel Plans, additional activities that particularly support the aim of reducing transport related emissions are also identified in conjunction with these activities.

Table 5.1: Monitoring Activities and Timescales for the TP and LES

Timescale	Monitoring Process	Coordinated by
Construction Phase – Prior to First Occupation	<ul style="list-style-type: none"> ■ Minimise the number of delivery vehicles movements to and from site. Provide monthly reports on vehicle types and no of vehicles. ■ Air Quality monitoring site report (to be provided every 6 months from the start of construction up until occupation of 150th dwelling) 	Site Transport Co-ordinator (STC).
	<ul style="list-style-type: none"> ■ Preparation of Resident Framework Travel Survey and methodology to include requirements monitoring emissions for LES 	Northstowe Promoters / Settlement Travel Plan Coordinator
Occupation of 150 th Dwelling	<ul style="list-style-type: none"> ■ Traffic counts ■ Air Quality monitoring site report ■ Resident Surveys ■ Preparation of Travel Plan/LES Monitoring Report ■ Submission of Travel Plan/LES Monitoring Report to CCC, SCDC ■ Agreement of additional measures / interventions for way forward 	Settlement Travel Plan Coordinator
Annually (for the first 7 years) from the anniversary of occupation of the 150 th Dwelling	<ul style="list-style-type: none"> ■ Traffic counts ■ Air Quality monitoring site report ■ Resident Surveys ■ Collation of Patronage and Vehicle Data from Bus Operator ■ Report of findings to the Steering Group ■ Preparation of Travel Plan/LES Monitoring Report ■ Submission of Travel Plan/LES Monitoring Report to CCC, SCDC & HA ■ Agreement of additional measures / interventions with S CCC, and SCDC Steering Group 	

5.3 IMPLEMENTATION

5.3.1 Chapter 4 identified the supporting LES measures and Section 5.2 identified the measures to be monitored and co-ordination responsibilities. This section re-affirms the high level measures, reporting and any remedial actions to be considered on non-conformity, see Table 5.2.

Table 5.2: High Level LES Measures, Monitoring and Actions

	High Level Measure	Monitoring	Action
Construction	Procurement process to ensure that contractors adhere to low emission standards set out in the LES	Site Transport Co-ordinator to undertake periodic site monitoring to ensure that vehicle and Non Road Mobile Machinery adhere to standards set in the LES	Penalties and mitigation measures to be enforced where non-compliance evident. Persistent non-compliance result in loss of contract.
Operational	Parking strategies to be promoted on residential and commercial sites to prioritise allocation to those supporting the LES	Travel Plan co-ordinators to monitor the use of parking and compliance with the LES standards	Management charge incentives for employment uses in support of mitigation measures dependent on LES low emission standards.
	Infrastructure to support the use of low emission modes to be integral part of site development	Travel Plan Co-ordinator to feedback in review process on the take up on low emission measures agreed	Revision of LES measures as required pending success or otherwise following occupation of site.
	Influencing Travel behaviour in favour of low emission travel choices to be encouraged through the promotion of LES benefits		

5.3.2 It is proposed that for the purpose of monitoring and review, annual LES reports will be provided in line with the construction and initial occupation years, currently envisaged to be 2014 to 2021. Thereafter monitoring and reviews will be at intervals agreed with the Council subject to any significant changes in emissions attributable to the development as identified by the locally installed monitoring stations.

6 Summary

6.1.1 This Low Emission Strategy has considered the transportation impact of the Phase 1 development at Northstowe on local emissions and identifies measures that could be implemented through both the construction and occupation stages that would ultimately reduce the environmental impact of emissions.

6.1.2 It builds on guidance provided by South Cambridgeshire District Council and DEFRA, those measures already proposed in the supporting framework travel plans, and also considers best practice noted where Low Emission Strategies have been implemented elsewhere.

6.1.3 Finally, this document suggests a management and implementation plan, allocating responsibilities and timescales for reporting. Some remedial actions are proposed to support any targets determined.