

Sustainability Statement

South Shields Town Centre Regeneration New Transport Interchange



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for the **South Shields Town Centre Regeneration new Transport Interchange**

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Date of issue: July 2015

Document Status: FINAL

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Executive Summary

This Sustainability Statement has been prepared to summarise the sustainability strategy for the proposed new Transport Interchange and associated development as part of the South Shields Town Centre regeneration.

The proposed development comprises of new buildings on brownfield sites to create a new Transport Interchange which will bring new, modern bus and metro facilities within a single building, facilitating a greater use of sustainable, public transportation with significant associated environmental, social and economic benefits.

In addition to the Interchange, a new office and retail building supported by new public realm improvements linking the development to the centre of South Shields will also be provided.

South Tyneside Council supports high quality, energy efficient, sustainable development and is flexible in its approach to the application of policy, recognising that different buildings require different solutions.

With the strategy presented in this document, the proposed development clearly supports both national and local policy and delivers sustainable new buildings which will provide additional economic, social and environmental benefits to the local and wider area.

The key sustainability benefits of the development are considered under the following headings which reflect local sustainability priorities.

Energy and Carbon Emissions

The development aims to deliver new buildings which reduce energy demand and carbon emissions through a range of targeted passive

and active measures suited to the specific energy needs of the Interchange, retail /office building.

The Transport Interchange is largely an unheated space and therefore the predominant energy use is likely to be lighting, while the retail/office building is likely to have a higher demand for heating and potentially ventilation depending on the final occupant requirements. Measures incorporated into both buildings to reduce energy demand include:

- *Optimising passive solar gain;*
- *Prioritising natural daylighting;*
- *A Fabric First approach to design and construction;*
- *Energy efficient lighting and controls;*
- *The inclusion of onsite renewable energy generation in the form of Air Source Heat Pump systems.*

Overall the development aims to deliver new buildings which at minimum meet the 2013 Building Regulations with preliminary modelling indicating that the Interchange building will exceed these requirements.

Sustainable Construction

The development of the Transport Interchange, commercial building and public realm improvements will adopt a range of sustainable construction techniques including prioritising sustainable materials, minimising waste generation and maximising recycling.

Prior to construction a Resource Management Plan will be developed to manage resource use. For the construction phase, only contractors registered with the Considerate Constructors Scheme will be considered.

Water Efficiency and Conservation

The development will aim to reduce water use and increase water efficiency through construction and occupation of the new buildings.

During construction, site water use will be monitored and suitable monitoring and targeting measures put in place to encourage efficient water use.

To reduce occupational water use specific water strategies for each building will be developed that recognise the varying water demands and usage patterns. For example the greatest water demand in the Transport Interchange is anticipated to be water to WCs while the commercial building is expected to have a greater hot water demand.

Both buildings will incorporate the use of water efficient fittings and equipment to reduce water use in accordance with best practice guidance.

Sustainable Waste Management

The development comprises of the demolition of a number of existing buildings and redevelopment of the brownfield sites, an efficient use of land.

Through the Resource Management Plan the development will aim to reduce waste and maximise reuse and recycling during the demolition of existing buildings and construction of new buildings.

Recycling will be encouraged during the occupation of the Transport Interchange through the installation of segregated waste bins in the public spaces to facilitate recycling.

As part of the development both the Transport Interchange and commercial building designs have made provision for dedicated waste storage areas which allow utilisation of the council's commercial waste and recycling services.

Sustainable Transport

One of the key objectives of the development of the Transport Interchange is provision of new, modern facilities that provide Bus and Metro transportation within a single building to facilitate the greater use of public transportation.

The creation of the new Transport Interchange will provide access to Bus and Metro services within a single building and deliver improved transport infrastructure. This will make travel to and from South Shields easier and is anticipated to increase visitors to the town centre and increase public transport use.

Additional sustainable transportation measures integrated into the wider development include:

- *Improvements to the pedestrian network to the Interchange from the Town Centre.*
- *Improvements to the cycling network through the creation of new routes to link into the National Cycle Networks close to the site and circulating South Shields Town Centre.*
- *Development of a travel plan for the office and retail buildings to encourage users to adopt more sustainable forms of travel.*

The new Interchange and associated improvements to the local sustainable transportation infrastructure will facilitate a greater use of public transportation within the Town Centre and South Shields.

Health and Well Being

The proposed new Transport Interchange and commercial building will aim to provide comfortable, healthy and functional internal environments for the buildings users and passengers. There will be many direct Health benefits from the proposals not least of which will be increased exercise through supporting increased walking and cycling.

It is also anticipated that by improving access to the town centre there will be a boost to the local

economy, the benefits of which could be reinvested in local services.

Flood Risk and Sustainable Drainage

The development is located in an area of low flood risk and incorporates a surface water management strategy to reduce surface water discharge from the site. The strategy aims to reduce overall surface water runoff by incorporating Sustainable Drainage Systems taking into account a 1 in 100 year storm event including a 30% increase for Climate Change.

Biodiversity and Pollution

The development is a brownfield site which is the most sustainable location for development. Ecological assessments have confirmed that there the site has limited ecological value although the embankment has some local ecological value and will be retained and enhanced. The development also proposes a number of green infrastructure features within the public realm and along the Metro embankment comprising of new native trees and shrubs.

The development of the new Transport Interchange will encourage an increase in the use of public transport, reducing travel by private car and associated vehicle emissions. The development is linked to proposals to upgrade the Metro fleet vehicles which will see the introduction of new, more efficient vehicles further reducing local public transport emissions.

The proposed development will deliver a sustainable new transport hub which links to the existing town centre encouraging the use of sustainable transport and providing wider environmental and socio-economic benefits to South Shields.

The development partners are committed to the delivery of a **high quality new Transport Interchange** which will encourage a greater use of **sustainable travel** and improve **connectivity** to the centre of **South Shields**

1. Introduction

This Sustainability Statement has been prepared to communicate how Muse Developments, South Tyneside Council and Nexus propose to integrate sustainability as part of the proposed new Transport Interchange, office and retail building and public realm improvements.

This report has been structured to demonstrate how the proposed development meets national and local sustainability objectives, including the policies of the National Planning Policy Framework (NPPF) and local sustainability priorities of South Tyneside Council.

Site and Surroundings

The application site is located in the centre of South Shields and comprises of a number of existing buildings which are being demolished and replaced with the new Transport Interchange, a new three storey office and retail commercial building and improvements to the surrounding public realm.

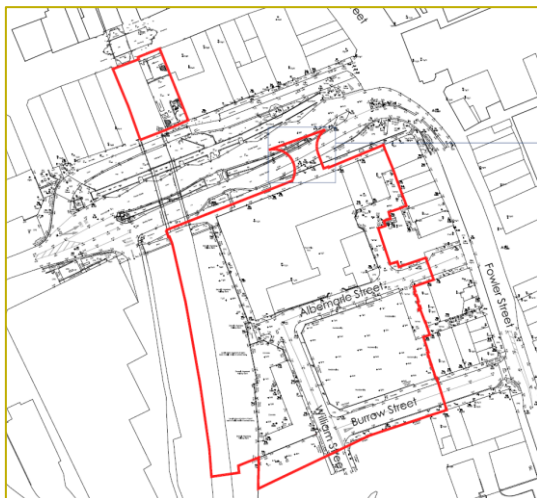


Figure 1: Site boundary

The Transport Interchange will provide a new central transport hub with 14 dedicated bus bays, a coach bay and the creation of a new Metro building to connect to the existing line.

The new office and retail building will deliver approx. 1,800m² of new commercial retail and office space.

The public realm improvements will see the development of new pedestrian open spaces including a new pedestrian link to King Street through the site of the existing Metro station.

Proposed Development

The applicant is seeking detailed planning permission for the development of the new South Shields Transport Interchange and associated commercial development and public realm improvements.

The planning application comprises:

'Demolition of the existing Metro station on King Street, Keppel Street Post Office, 3, 5 and 7 Keppel Street and properties on William Street, Burrow Street and Albermarle Street. Erection of a new Transport Interchange, comprising new interchange building, Metro station, bus station, retail unit and passenger drop-off area and separate retail unit with office accommodation at first and second floors'

Full details of the proposed development are provided within the Design and Access Statement and Planning Statement that accompany the full planning application.

2. Policy Context

This section of the report provides an overview of the relevant planning policy and guidance regarding sustainability standards for new development from a national and local perspective.

UK Sustainable Development Strategy

In 2005, the Government published an updated strategy for implementing sustainable development across the UK.

This strategy acts as an overarching document from which a range of specific policies and legislation has been derived. Although published in 2005, the strategy has taken a recently renewed focus in light of the Government's definition of Sustainable Development in the NPPF.

One of the key aims of this strategy is to recognise the threats of climate change and ensure that the UK develops a strategy to mitigate and adapt to this phenomenon.

The document established five key principles that underpin the national sustainable development strategy:

- 1. Living within Environmental Limits;**
- 2. Ensuring a Strong, Healthy and Just Society;**
- 3. Achieving a Sustainable Economy;**
- 4. Promoting Good Governance; and**
- 5. Using sound science responsibly.**

The strategy will be implemented at a national level through the development of more specific strategies at a Government department or sector level.

With regards to planning and the built environment, this document set the basis for the development of plans and policies that promote development that mitigates and adapts to climate change.

Climate Change Act

The Climate Change Act (2008) sets a legally binding target for reducing UK CO₂ emissions by least 80% on 1990 levels by 2050.

It established the Committee on Climate Change, which is responsible for setting binding interim carbon budgets for the Government over successive five year periods. The first three carbon budgets were announced in the Budget 2009, resulting in an interim target of a 34% reduction in CO₂ equivalent emissions on 1990 levels by 2020.

UK Carbon Plan

In 2011, the Government published an updated Carbon Plan setting out how the UK will achieve decarbonisation and make the transition to a low carbon economy. It sets this objective within a framework of mitigating and adapting to climate change and maintaining energy security in a way that minimises costs and maximises benefits to the economy.

With regards to development, the Carbon Plan presents the Government's approach to promoting the delivery of low carbon, resilient and adaptive buildings and enabling sustainable transportation as positively contributing to these national carbon reduction targets.

Building Regulations

The primary mechanism for reducing carbon emissions in new development is through progressive changes to Part L (conservation of fuel and power) of the Building Regulations.

Whilst not planning policy the Building Regulations, and specifically Approved Document Part L, Conservation of Fuel and Power is relevant as it determines the energy efficiency and carbon emissions of new buildings.

The primary vehicle for reducing carbon emissions in new buildings is through progressive changes to Part L and in 2006 the Government established a policy whereby these regulations would be gradually improved in phases from 2006 to 2019.

The latest revision of the Building Regulations released in April 2014 requires new non-residential buildings to achieve an aggregated carbon reduction of 9% over Part L 2010. The new regulations recognise the improvement made by non-residential buildings in the 2010 regulations.

These changing national regulations will drive energy efficiency and carbon reduction improvements in new buildings forward towards ultimately delivering zero carbon standards.

National Planning Policy Framework

Following its publication on 27 March 2012, national planning policy is now provided by the NPPF which sets out the government's planning policies for England and how these are expected to be applied. It also sets out the requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so.

The Government has made clear its expectation that the planning system should positively embrace well-conceived development to deliver the economic growth necessary and

the housing we need to create inclusive and mixed communities.

The presumption in favour of sustainable development is a key thread running through national policy for both plan making and decision taking.

The NPPF states that: 'The purpose of the planning system is to contribute to the achievement of sustainable development'.

It states clearly that in order to deliver sustainable development, the planning system must perform three distinct roles, aligned to the three pillars of sustainability, which must not be taken in isolation and should be pursued jointly:

An economic role contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

A social role supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

An environmental role contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

Demonstrating Sustainable Development

Paragraph 6 of the NPPF states that:

“The purpose of the planning system is to contribute to the achievement of sustainable development. The policies in paragraphs 18 to 219, taken as a whole, constitute the Government’s view of what sustainable development in England means in practice for the planning system”.

The policies referred to in Paragraph 6 of the NPPF have been divided into 13 themes;

- 1. Building a Strong Competitive Economy**
- 2. Ensuring the Vitality of Town Centres**
- 3. Supporting a prosperous rural economy**
- 4. Promoting sustainable transport**
- 5. Supporting high quality communications infrastructure**
- 6. Delivering a wide choice of high quality homes**
- 7. Requiring good design**
- 8. Promoting healthy communities**
- 9. Protecting Green Belt Land**
- 10. Meeting the challenge of climate change, flooding and coastal change**
- 11. Conserving and enhancing the natural environment**
- 12. Conserving and enhancing the historic environment**
- 13. Facilitating the sustainable use of minerals**

Should a proposed development demonstrate that it is supporting the relevant policies of the NPPF then it is deemed to be ‘Sustainable Development’.

National Planning Practice Guidance

In March 2014 the Government released the updated Planning Policy Guidance Document (The Guidance). The Guidance provides information to local authorities on how to implement the policies of the NPPF and approach specific policy aims.

The Guidance sets out how local authorities should include policies that protect the local environment and strategies to mitigate and adapt to climate change. It supports developments of good design that are functional and adaptable for the future.

The Development Plan

The Development Plan for the application comprises of policies from the existing adopted Core Strategy and guidance from documents within the Local Development Framework.

- **South Tyneside Local Development Framework – Core Strategy (2007)**
- **South Tyneside Local Development Framework – Development Management Policies (2011)**

As well as the policies in the adopted local plan there are additional requirements set out in a number of Supplementary Planning Documents (SPDs) including:

- **SPD1 – Sustainable Construction and Development (2007)**
- **SPD2 – South Shields Riverside Regeneration (2009)**

South Tyneside Local Development Framework – Core Strategy (2007)

The Core Strategy adopted in 2007 sets out the strategy for development in South Tyneside. The adopted Core Strategy includes the following policies relevant to this development.

Policy ST2 – Sustainable Urban Living – The Council requires development to be of a high quality, incorporating, where possible;

- High quality design
- Sustainable construction materials and techniques
- Generation of 10% of the energy requirements onsite
- Sustainable Drainage and grey water recycling
- Measures to reduce crime
- Measures to encourage sustainable travel
- Design which is adaptable for the future, and
- Improved site biodiversity.

South Tyneside Local Development Framework – Development Management Policies (2011)

This Development Plan Document (DPD) sets out policies to address locally distinctive issues not covered elsewhere in national or local policy.

The document includes the following policy relevant to this development.

Policy DM1 – Management of Development –

New development is expected to be designed to; achieve low carbon emissions, be energy efficient, maximise the use of renewable and low carbon energy and be resilient to the effects of Climate Change. Where relevant development should include green space, create opportunities for sustainable travel and incorporate sustainable drainage and waste management.

SPD 1 – Sustainable Construction and Development (2007)

This SPD provides guidance for developers on the importance of sustainable development and information on the requirements of Sustainability Statements which are required for larger developments.

The document includes a sustainability checklist which outlines the sustainability measures and design features which can be incorporated into development under a number of themes:

- Energy efficient layout and design
- Energy efficiency and construction
- Renewable energy
- Sustainable construction
- Water efficiency and conservation
- Sustainable waste management

SPD 8 – South Shields Riverside Regeneration (2009)

The document sets out the policy and design framework for the redevelopment of the South Shields Riverside Regeneration Area.

Principle SSR1 – Sustainable Design – New non-residential development is encouraged to incorporate the principles of Secured By Design and target a BREEAM Excellent rating.

Council Pre-application Discussion

The Council has confirmed in discussions with Muse Developments that due to the nature of the development it does not expect the development to meet the local policy requirements relating to BREEAM or onsite renewable energy generation.

Review of Policy and Implications

Both national and local policy supports development which is sustainable and provides economic, social and environmental benefits.

Central to the vision for 'Sustainable Development' in Tyneside is the approval of development that jointly promotes economic, social and environmental benefits.

The adopted Core Strategy, Area Action Plan and Supplementary Planning Documents support sustainable development requiring a sustainability statement to accompany planning applications and demonstrate the measures and design features incorporated into the development that facilitate sustainable development.

Due to the nature of the development the Council has indicated there is some flexibility in the development design and does not expect the development to meet specific standards of BREEAM or defined obligations for any on-site renewable energy generation.

In this context, the new Transport Interchange development aims to deliver sustainable new buildings that support local sustainability priorities and provide an important new integrated transportation facility improving accessibility to and from the town centre.

Full details of the Sustainability Strategy and measures proposed are provided in Section 3 of this report.

3. Sustainability at the new Transport Interchange

This chapter summarises the approach and specific measures proposed by Muse Developments, South Tyneside Council and Nexus to ensure that the new Transport Interchange functions within environmental limits, and achieves sustainable development.

This Sustainability Statement has been prepared to clearly demonstrate that the proposed development supports the policies of the NPPF and sustainability priorities of South Tyneside Council to deliver modern sustainable new development.

Achieving Sustainable Development

Sustainability has been considered for the development of new Transport Interchange and associated commercial development and public realm improvements under the following chapter headings which reflect the Sustainable Development Themes of the NPPF and local Sustainable Construction and Development SPD.

3.1 Energy and Carbon Emissions

3.2 Sustainable Construction

3.3 Water Efficiency and Conservation

3.4 Sustainable Waste Management

3.5 Sustainable Transport

3.6 Promoting Health and Wellbeing

3.7 Flood Risk and Sustainable Drainage

3.8 Biodiversity and Pollution

3.1 Energy and Carbon Emissions

The proposed development aims to provide sustainable, high quality buildings which are energy efficient and incorporate measures to minimise the impacts of Climate Change.

The energy demands and associated carbon emissions for the Transport Interchange and office and retail unit will vary significantly due to their different usage and occupancy.

The Transport Interchange is characterised by its high level of movement of people in and out, requiring large open spaces and open access points which impacts on the service strategy of the building, restricting the use of some energy efficiency design measures.

The office and retail unit by contrast has a more typical energy demand with higher heating/cooling demand as well as the potential for ventilation requirements. As such the building will be able to benefit from a greater range of passive and active sustainable design measures.

Energy Efficient Layout and Design

While both buildings have different usage patterns they will both adopt a fabric first approach to design and construction to minimise energy use by employing a range of passive and active measures specific to each building and its energy demands. This approach is consistent with the Council's Sustainable Construction and Development SPD which encourages development to maximise the use of natural systems.

To create buildings which maximise the use of natural systems (and therefore minimises energy use and carbon emissions) requires the consideration of measures such as; passive

solar gains, natural day lighting, and natural ventilation.

Passive Solar Gains

Both buildings are located on existing brownfield sites with associated constraints and as such both buildings have been designed to, where possible, maximise the benefits of passive solar gain, and provide natural daylighting through appropriate glazing whilst ensuring other design requirements are met in relation to issues such as, occupational comfort, security and viability are not compromised.

Natural Daylighting

Both the Interchange building and the retail and office building are designed to maximise natural daylight where possible.

Interchange Building

Glazing across the Interchange building is maximised wherever possible to ensure the circulation within utilises natural daylight. The building is orientated on a north south axis. South facing glazing is minimised to reduce unwanted solar gain.

The main glazed elevation to the bus concourse at ground floor faces east. The glazing runs the full height of the internal space and allows suitable lux levels within the waiting areas of the concourse. To utilise natural light deeper within the building, translucent glazed rooflights are included. The diffused light through the translucent material reduces glare but provides suitable lux levels of natural light deep within the building.

The main vertical circulation up to the rail level is illuminated naturally by a 10 metre high glazed entrance atrium facing north on Keppel Street. Circulation zones at platform level are illuminated by the opening west onto platform level and another translucent rooflight above the escalators.

Lux level diagrams have been created to formulate the natural lighting strategy to ensure the proposal is as efficient as possible.

Retail and Office Building

The retail element at ground floor maximises glazing on the north elevation (Keppel Street) and west elevation (facing the Interchange). This provides an active frontage around the building and promotes a safe, attractive environment around the building. Given the retail use, the deeper areas of the plan and staff areas will utilise energy efficient artificial lighting.

The office areas at first and second floor are designed as an L-shape with glazing on the north and west elevations. The glazing into the office is provided as multiple full height punched windows which provide suitable lux levels and reduce unwanted solar gain from large open areas of glazing.

Natural Ventilation

The Interchange building is designed as an open environment, and the strategy therefore is for the building to be naturally ventilated. Staff areas enclosed within the building will be ventilated by an air infiltration system. The building as a whole therefore introduces passive means and reduces the reliance on mechanical systems.

The bus concourse, entrance atrium and Metro platform level circulation areas are unconditioned spaces with ventilation provided via the permanently open passenger entrance at the platform level, the passenger entrances at the ground floor and the concourse access doors.

The retail and office building will require heating during the heating season and will prioritise a natural ventilation strategy. Where any artificial cooling is required systems will be designed to limit active cooling requirements in accordance with the cooling hierarchy; minimising internal heat gains and overheating from solar gains,

managing heat through thermal mass and incorporating passive ventilation measures before considering mechanical and active cooling systems.

Energy Efficiency and Conservation

Local policy supports development that utilises energy efficient design and sustainable construction techniques.

Reducing the demand for heat and power through a well-constructed and insulated building fabric is recognised as the most effective way of minimising carbon emissions. This is in accordance with the government’s national Zero Carbon Buildings Policy and ensures that buildings are as cost and resource efficient as possible.

As a mixed-use development the energy and carbon strategy for the Transport Interchange and commercial building will vary and the different building types will tackle demand reduction with different approaches, focussing on different priority areas related to energy consumption.

For example the Transport Interchange is largely unheated except for a small portion of the building, including office areas and retail unit. As a result the predominant regulated energy consumption is likely to be electricity for lighting. Conversely the office and retail building will likely have different heating and cooling demands, with energy required for lighting being lower than in the Transport Interchange.

A Fabric First Approach

The ‘fabric first’ approach has a number of distinct benefits including passively reducing primary energy demand with virtually no maintenance and/or replacement costs to maintain the carbon reductions achieved.

To create an efficient fabric and minimise energy demand in the proposed buildings the following measures have been considered for both buildings:

- Improved air tightness;
- Low building element u-values.

Investing in improved fabric and construction techniques to create more airtight buildings dramatically reduces the loss of energy to the external environment, thereby reducing energy needed for latent heating and cooling requirements.

The Interchange and office and retail unit will aim to reduce energy requirements by targeting low air leakage and fabric U-Values to achieve compliance with Part L (2013) requirements.

Table 1 sets target U-values for the developments which reflect the different use profiles and thermal requirements of the different buildings.

Table 1: Target U-values and air permeability

Building Element	Transport Interchange Target U-values (W/m ² k)	Office and Retail unit Target U-values (W/m ² k)
Walls	0.19	0.19
Roof	0.16	0.16
Floor	0.2	0.25
Windows	1.6	1.8
Air permeability target	≤5m ³ /m ² /hr @50pa	≤5m ³ /m ² /hr @50pa

The exact specification and thermal performance of construction materials will vary and will be confirmed prior to the construction of each building and as such the values presented in Table 1 are indicative only.

Building Services and Equipment

Additional 'active' measures can further enhance the energy efficiency of the buildings and reduce carbon emissions.

A range of measures are proposed for both the Transport Interchange and retail/office building, including:

- *Energy efficient lighting and controls;*
- *The installation of high efficiency zoned heating where required;*
- *Appropriate temperature controls;*

Energy Efficient Lighting and Controls

The buildings are designed to maximise natural daylight throughout, and energy efficient artificial lighting will be specified throughout. Low energy LED lighting will be incorporated and wherever possible, user controls included, for example staff and back of house areas where occupancy is reduced.

Low energy LED lighting will be specified to all external lighting within the bus areas and the enhanced public realm around the site.

High Efficiency Heating and Controls

Staff accommodation within the Interchange and Office areas above the retail accommodation on Keppel Street will be conditioned via a renewable energy technology in the form of Air Source Heat Pumps (ASHP's) which will act as the primary heat source for both heating and DHWS generation with mechanical supply and extract ventilation to occupied spaces to satisfy building regulation fresh air rates and extract ventilation to WC's.

Building Management Systems

All mechanical systems provided will be controlled by a Building Management System (BMS) which can be monitored and adjusted either on-site or remotely.

Energy Strategy Summary

The development aims to deliver low carbon new buildings which minimise energy use and carbon emissions through a combination of passive design measures, a fabric first approach to design, and active energy efficiency measures.

The Council's SPD 1 Sustainable Design and Construction requires proposals to set out the energy use and carbon emissions of new development showing a reduction in carbon emissions over the 2006 Part L Building Regulations Baseline. The latest revision of the Building Regulations released in April 2014 requires new non-residential buildings to achieve an aggregated carbon reduction of 9% over Part L 2010. The new regulations recognise the improvement made by non-residential buildings in the 2010 regulations which resulted in an aggregated 25% reduction in carbon emissions over Part L 2006.

Table 2 shows the energy use and carbon emissions of proposed Transport Interchange and commercial building. The energy use and carbon emissions of the Transport Interchange are based on thermal modelling and aims to exceed the requirements of the 2013 Building Regulations where possible. The energy use and carbon emissions for the office/ retail building have been estimated at this time based on benchmark date but will be confirmed once occupier requirements are known.

Table 2: Building energy consumption

Energy and carbon emissions		
Building	Energy (kWh/yr)	Carbon (kg CO ₂ /yr)
Transport Interchange	20,430	10,341
Office and Retail unit	135,455	29,865
Total energy	155,885	40,206

Table 3 summarises the building's estimated baseline carbon emissions achieved through the fabric and energy efficiency measures incorporated into the building design.

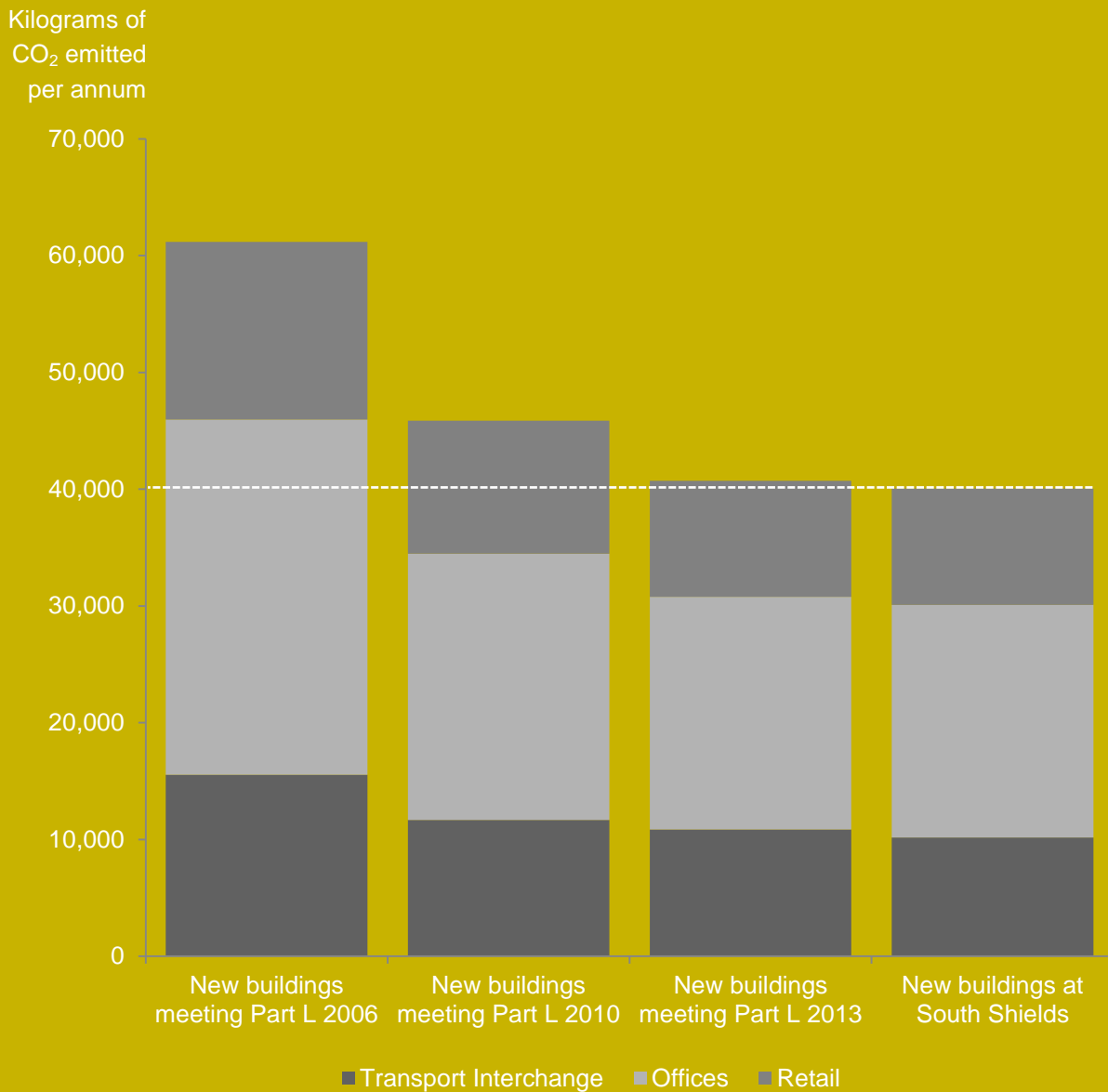
Table 3: Building carbon emissions

Scenario		Estimated Carbon emissions (kgCO ₂ /year)
Part L 2010 emissions	Transport Interchange	11,664
	Office and retail unit	34,209
	Total	45,873
Part L 2013 emissions	Transport Interchange	10,863
	Office and retail unit	29,865
	Total	40,728
New buildings at South Shields	Transport Interchange	10,341
	Office and retail unit	29,865
	Total	40,206
Estimated Carbon reductions over Part L 2013 of the Interchange Building.		4%

The final specification of building fabric, associated thermal and carbon performance will be dependent on the detailed design and services specification of both the Transport Interchange and commercial building.

What is the estimated carbon footprint of the transport interchange?

The graph below illustrates the estimated carbon savings of the proposed development compared to delivery of the developed to previous Building Regulations demonstrating how progressive changes in Building Regulations has led to a significant reduction in carbon emissions, and how the development aims to go beyond the requirements of the 2013 Building Regulations, delivering carbon savings through a range of passive and active measures.



3.2 Sustainable Construction

The development of the new Transport Interchange and commercial building is proposed on existing, developed, brownfield land. The development of brownfield sites represents an efficient use of space and provides opportunities for the recycling of materials.

As a commitment to sustainable construction the development will incorporate a range of best practice measures including:

- *The use of sustainable materials, where possible sourcing materials from the BRE Green Guide for major building elements.*
- *External materials will be specified with preference for either an A or A+ rating from the Green Guide to specification*
- *Only using timber from FCS certified sources, or equivalent.*
- *Where possible the reuse and recycling of materials from existing buildings.*
- *Monitoring water and electricity use during construction and introducing measures to monitor and reduce usage where possible.*
- *Not using insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming.*

Prior to construction a Construction Resource Management Plan will be developed to ensure the use of measures to minimise waste during the construction phases of the development.

The reduction, reuse and recycling of construction waste will be considered through the avoidance of over ordering, on site supervision, storage and re-use of materials where possible. A construction management plan will be prepared prior to construction which will identify targets to minimise hazardous and

non-hazardous waste and highlight recycling and re-use strategies.

Main contractors will be selected from the tender process who are registered with the Considerate Contractors Scheme.



3.3 Water Efficiency and Conservation

Potable water is an increasingly important natural resource and whilst the site is not in an area of water stress, increasing population and associated development is putting increasing pressure on water resources.



During construction the main contractors will be required to monitor and report on water usage and implement measures to reduce consumption.

The use of water at both buildings will vary due to their use with the predominant water demand at the Transport Interchange likely to be WCs

and for the offices a more regular hot water demand.

To reduce water consumption during occupation, the Interchange and Retail/Office building will aim to achieve high standards of water efficiency through measures such as dual flush WCs, shut valves operated by PIR sensors, low flow fittings, water efficient appliances and sub meters to understand use in multiple occupation areas.

These measures are anticipated to reduce water consumption of new buildings in line with best practice for new development.

3.4 Sustainable Waste Management

The proposed development will involve the demolition of a number of existing buildings and redevelopment to provide the new Transport Interchange, commercial office and retail building.

During demolition, construction and occupation the development will aim to achieve high levels of sustainable waste management.

During the demolition and construction phase of development the main site contractors will:

- *Where possible aim to reuse and recycle materials from the demolition of the existing site buildings.*
- *Implement of a Resource Management Plan (RMP) to minimise and manage the production of waste during development.*
- *Where possible divert non-hazardous waste from landfill for recycling or reuse.*
- *Where possible use aggregates that are supplied from recycled sources.*

An operational waste management strategy will be developed for the occupation of both buildings to encourage recycling which will focus on the expected waste types for the buildings.

For example it is expected the main waste at the Transport Interchange will be litter while the office and retail units are likely to produce more packaging and paper waste.

The Transport Interchange will include segregated waste bins in public areas to encourage building users to recycle waste. The refuse area for the storage of waste located to the south of the building and has been sized to accommodate a number of waste storage bins, including recycling bin(s).

The operational waste management of the office and retail unit will be the responsibility of the building users; however the provision of a dedicated refuse area to the rear of the building provides the opportunity for segregation and storage of recycling waste.

The Council offers a commercial waste and recycling service which provides the opportunity for the building operators/user to recycle waste.

3.5 Sustainable Transportation

The construction of a new Transport Interchange incorporating a new, modern bus station and the local Metro which is anticipated to significantly boost local sustainable travel use and therefore reduce private car miles and associated vehicle fumes and carbon emissions.

The development of the Transport Interchange will provide significant local benefits to the transport infrastructure which include a more legible town centre for both pedestrians and vehicles and improved connectivity.

One of these benefits will be the creation of a one-way traffic system running through the town centre dedicated to bus, taxi and cycle use.



The development will provide and encourage a range of sustainable transport options including walking, cycling and public transport, more details of which is provided below and the Transportation Assessment and Travel Plan that accompany the application..

Existing Facilities

Walking and Cycling

The Chartered Institute of Highways and Transportation guidance states that for journeys less than 800m and 2,000m, walking is considered the most sustainable and viable option. Given the location of the proposals on the eastern edge of South Shields Town Centre, there is an extensive range of services, facilities and public transport nodes within these distances.

To further facilitate walking, there is a network of pedestrian routes to and from the site (including the pedestrian only King Street) connecting the proposals to the town centre and nearby residential areas.

These pedestrian footways are considered suitable for pushchairs, wheelchair users and individuals with varying levels of visual impairment.

In respect of Cycling, there are also three National Cycle Routes (NCN's) in close proximity to the site which provide connections to other sustainable transport nodes such as the Metro and Ferry which provides further connections beyond South Shields to major employment and retail destinations.

Bus Services

The local bus network is comprehensive, providing safe and regular access to South Shields and the wider area.

There are several bus stops within walking distance of the proposals which access several different bus routes.

Metro and Ferry

The South Shields Metro station is located approximately 500m from the site and provides a sustainable and rapid transportation option to North and South Tyneside and major city's such as Newcastle and Sunderland, both of which are significant sources of employment, leisure and retail.

There are frequent Metro services to these major destinations and wider network across the north-east seven days a week and until midnight.

The South Shields ferry landing is located within 500m and therefore walking distance of the proposals. This provides transport across the River Tyne between North and South Shields and onward access to other public transportation facilities.

Proposed Improvements to the sustainable transportation infrastructure.

Although the development proposals will by nature have a substantial local benefit in terms of sustainable transportation, several design measures have been incorporated to further improve access to and from the proposals and contribute toward an integrated sustainable transportation strategy for South Shields.

Walking and Cycling

The development includes significant improvements to the surrounding public realm creating larger, safer pedestrian spaces. Examples of some of the proposed

improvements to the pedestrian facilities include;

- Areas of Church Row, Chapter Row, East Street and Barrington Street are to be reclaimed for pedestrian space.
- The realignment of Barrington Street to create a continuous central street that runs east/ west through the town centre parallel to King Street
- The provision of two raised plateau pedestrian crossings providing connections across Keppel Street towards King Street.

Provision of a footway located to the west of the proposals providing access to the rear of the building, the service yard, the proposed foodstore and Town Hall. These measures, in combination with the existing pedestrian network, provide a very strong infrastructure to encourage the use of walking to and from the proposals, across South Shields Town Centre and to nearby public transport nodes. With respect to cycling, the additional measures proposed are designed to better link the development with the National Cycle Network (NCN) Routes that are close to and circle the site and South Shields town centre. The proposals include;

- Provision of a new cycle route from NCN 1 (Dover to Shetland) and from the coastal cycle route to the town centre from the east.
- Improved 'sign posting' along east Beach Road, Seaview Terrace, and Seafield Terrace.
- Provision of a new cycle route from the A194 along Crossgate to Garden Lane via St Hilda's Street.
- Two additional cycling access routes onto the NCN72 via Chapter Row and the residential area to the north of the NCN.

- Converting the town centre into a 20mph traffic zone to allow cyclists to integrate with the traffic more safely.
- Provision of cycle stands within the transport interchange building and nearby Keppel Street.

With the improvements to the existing cycling network and the traffic calming measures, this will encourage more cyclists to use the Interchange as their final or interim journey destination.

Bus Services

The development proposals will significantly improve the bus services in the Town Centre by providing 15 new bays for buses in the same building as a new metro station.

The layout of the new proposals has been developed in conjunction with bus operators to ensure a safe and efficient movement of passengers to and from the buses.

Several new bus stops are also proposed around the development of which five upgraded bus stops are to be installed on Coronation Street, Station Road and Crossgate.

With the new Interchange and local improvements, the use of buses as a more sustainable form of transportation will be significantly improved across the Town Centre and South Shields.

Metro Services

The proposals will result in the demolition of the existing Metro station and the provision of a new Metro link and bus services within the same interchange building. These facilities in close proximity should encourage the use of the Metro with new ticket purchasing machines and customer assistance services enabling swift and easy use.

Travel Planning

A Travel Plan (TP) has been developed for the users of the retail and office buildings of the Interchange in order to encourage staff to utilise more sustainable forms of transportation as opposed to a private car.

The first step in the development and execution of the TP will be the appointment of a Principal Travel Plan Co-ordinator (PTPC) to oversee the implementation of the TP. Key actions of the PTPC and TP are;

- *Provision of a welcome pack for all employees to provide a range of information on the existing transportation options and proposals;*
- *Creation of a website to provide an online portal for sustainable travel information;*
- *Work with the Council to encourage the deployment of more electric vehicle charging points and Car Clubs and car sharing;*
- *Encourage and identify subsidies for public transport use.*

The success of the TP will be monitored and reviewed to ensure that there is a continued growth in the use of sustainable forms of transportation by the occupiers of the retail/office building and the wider public.

Summary of Sustainable Transportation

The development of the Interchange and all of the associated improvements to public transport should facilitate a greater use of public transportation in the Town Centre and South Shields.

From a sustainability perspective this is a strong benefit of the proposals with additional significant environmental and socio-economic benefits arising from a corresponding reduction in vehicle and carbon emissions.

3.6 Health and Wellbeing

The inclusion of the new South Shields Interchange will provide an important gateway building in the town centre. The consolidated public transport within a modern central location provides improved social aspects, promoting greater movement through the town and connectivity to a wider context.

The Interchange proposal also has a significant role to play in the wider 365 masterplan for the town centre. The Interchange removes all the bus traffic from the centre of town along Church Way to Keppel Street. This space is reconfigured to create a new retail and leisure heart to the town with enhanced public realm areas and connection to the existing buildings.

The design of the Transport Interchange has been developed with a number of aims and design features to enhance the health and wellbeing of the building users including:

- *Large glazed areas providing a naturally lit environment;*
- *Provision of cycle storage encouraging cycling to and from the building;*
- *Provision of a canopy over the platform providing shelter for Metro users.*

The office and retail building also aims to enhance the environment for building users through the creation of a comfortable working/retail environment which prioritises thermal comfort and natural daylighting.

The security of building users has also been taken into account through; designing the buildings to comply with the Secured by Design standards and creating safe external access for pedestrians and cyclists.

The development of the new Transport Interchange will improve local residents ability to travel to the centre of South Shields thereby increasing travel to the town centre.

The increase in travel to the town and development of new buildings, spaces, and retail opportunities will provide local economic benefits which can be used to improve services and facilities in wider community. These benefits are quantified in the Socio-economic chapter of the Environmental Statement accompanying the planning application.

Overall the development will provide buildings with healthy, comfortable environments, promoting the use of more sustainable travel and delivering increased economic benefit to South Shields.

3.7 Flood Risk and Sustainable Drainage

A Flood Risk Assessment (FRA) has been carried out by Arup to determine the risk of flooding on site and set out measures to manage surface water run-off accounting for future climate change risks.

The proposed development site comprises of some public highways, car parking, offices, rail embankments and unsurfaced areas where buildings have been demolished.

The Environment Agency Flood risk maps shows that the development area is at a low risk of flooding from rivers and the sea. The development of the new Transport Interchange and office and retail unit will lead to an increase in impermeable area and as such the development will aim to manage surface water, limiting run-off to an acceptable level.

Due to development site constraints it is considered that the most suitable form of Sustainable Drainage System to use in this development is underground storage. The proposed system has been designed to limit surface water runoff to a level acceptable with Northumbrian Water and takes into account a 1 in 100 year storm event with a 30% increase to mitigate against Climate Change.

Further details can be found within the FRA which accompanies the planning application.

3.8 Biodiversity and Pollution

Both national and local planning policy recognises the importance of conserving and enhancing the natural environment, preventing pollution and providing net gains in biodiversity where possible.

The proposed development areas for both the Transport Interchange and commercial building are brown field sites either with existing vacant or recently demolished structures on site.

An ecological assessment has been carried out to determine if the development proposals pose a significant risk to any onsite wildlife or habitats.

Biodiversity

The site comprises predominantly of brownfield, developed land with areas of hard standing or vacant buildings. There is an area of scrub land associated with the Metro embankment which is covered by scrub and scattered trees.

Development of the Interchange following demolition of the existing post office is by far the most sustainable use of land and is a key benefit of the proposals.

The proposals will result in a significant improvement in the public realm which includes new native tree planting and new landscaping and planting to the areas of embankment not covered by the new Transport Interchange and Metro Platform.



Overall while the development reduces the impermeable surface of the area the new landscaping and planting will increase the quality of the green and urban environment.

The ecological assessment undertaken by RDF Ecology in support of the application proposals confirm that there are no nationally significant ecological habitats or species that will be affected by the development proposals. There is a locally important scrub habit along the railway embankment which will be retained and protected by the development proposals.

Pollution

Pollution of the site is linked to the development and occupation of new buildings and the travel associated with the Transport Interchange.

The detailed design and construction of the buildings will seek to avoid the use of materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming.

The development of the Transport Interchange forms part of Nexus' long term development plans which include potential metro extensions and transport fleet renewal. The upgrading of station facilities and transport fleet includes the development of more efficient, low carbon buildings and fleet vehicles.

For example new Metro vehicles operating on the network will include energy recovery from braking which could result in energy (and therefore fossil fuel emission) savings of 15 – 20%.

The development is part of a wider strategy being pursued by the development partners which aims to reduce carbon emissions and pollution, providing a greener, cleaner environment for South Shields.

The proposed new **Transport Interchange** and **office and retail unit** will incorporate a range of **sustainability** measures to **reduce energy consumption** and **carbon emissions**

4. Conclusion

This Sustainability Statement demonstrates that the proposed new development will deliver low carbon, sustainable new buildings and infrastructure which will provide significant local economic and social benefits.

The development of a new Transport Interchange at an existing brownfield site will encourage a greater use of public transportation in South Shields, improving access to the town centre and encouraging people to visit South Shields for travel, employment and retail opportunities.

The proposed development incorporates a number of sustainability measures which contribute to the overall strong sustainability performance of the proposals.

The key sustainability measures and features of the development include:

- Development of a **brownfield site**, the most sustainable form of regeneration
- New buildings designed to maximise the potential for **passive solar gain** through orientation, layout and window design.
- Enhancement of **natural daylighting** through glazing design ensuring the risk of summer overheating is minimised.
- Prioritisation of **natural ventilation** to minimise mechanical ventilation and reduce cooling requirements.
- A **Fabric First** approach to design and construction to reduce energy demand and carbon emissions.
- Provision of **active design measures** such as lighting controls and LED lighting to reduce energy use and carbon emissions.
- The use of renewable energy technologies in the form of **Air Source Heat Pumps in the Interchange Building**.
- An overall **reduction in carbon emissions** with the Interchange Building expected to exceed the requirements of Part L 2013 of the Building Regulations by approximately 4%.
- Development which prioritises the use of sustainable building materials from the BRE **Green Guide**, where possible.
- A commitment to using sustainable construction techniques and development of a **Construction Resource Management Plan** prior to development to manage resource use.
- Management of waste from demolition of existing buildings through construction and occupation to minimise waste and **maximise reuse and recycling**.
- Improving **water efficiency** through monitoring during the construction stage and use of water efficient fittings in development.
- An increase in **sustainable travel** through the development of the Transport Interchange making travel to and from the town centre easier.
- **Creation of a Travel Plan** for the occupiers of the retail/ office building to facilitate the use of sustainable transportation.

- Creation of a new, safer **public realm** around the Transport Interchange and new link to the main high street.
- Provision of **cycle storage** facilities within the Transport Interchange for use by people travelling to and from the Interchange.
- Development of buildings with comfortable, **healthy working** and travel environments for staff and public users.
- Measures that promote safety and security for visitors in compliance with the **Secured by Design** principles.
- Development located in an area with a low risk of flooding which incorporates **Sustainable Drainage System** measures to reduce the risk of surface water flooding.
- Provision of **new green infrastructure and tree planting** within the proposals.

The development of the Transport Interchange, office and retail unit and associated public realm will deliver a sustainable new transport hub which links to the existing town centre and by increasing sustainable travel to and from the area provides wider economic benefits, creating a more sustainable future for South Shields.

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