Whitburn Neighbourhood Plan and Climate Change

March 2021 V2



Contents

The Whitburn Neighbourhood Plan and Climate Change	3
a) Climate change and the policy context	3
b) National policy	4
c) Existing legal basis for planning documents	4
d) South Tyneside Council's response to Climate Change	5
e) Coastal erosion at Marsden Bay	5
f) Sewage Pollution as a contributor to climate change.	6
Healthy air	7
a) Air Quality and Impacts on Health Outcomes – The local picture	7
b) Planning requirements to tackle Air Quality	8
Sustainable buildings	9
Sustainable transport	10
a) Health impacts of transport	10
b) Open spaces and transport	10
c) Density and layout	11
d) Current traffic levels in Whitburn	11
e) Car ownership in Whitburn	12
f) Transport Assessments / Statements, and Travel Plans	13
g) South Tyneside Local Cycling Walking Investment Plan	13
Appendix A – Copy of Whitburn Cycle Route Maps	
Appendix B – Copy of Whitburn Public Right of Way Maps	
Appendix C - Illustration of coastal erosion and cave formation threatening the Coast Romansden	oad at

The Draft Neighbourhood Plan and supporting documents are subject to review, amendment and/or alteration should new evidence/ information come to light.

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The Whitburn Neighbourhood Plan and Climate Change

The Whitburn Neighbourhood Plan aims to build a positive future for the local community, through addressing and responding to climate change.

The challenge of entirely eliminating carbon emissions within the current generation requires rapid, far reaching and unprecedented changes in all aspects of society and must therefore inform the background to policy formation across all policy areas in the Whitburn Neighbourhood Plan.

The Whitburn Neighbourhood Plan is designed as a low carbon neighbourhood plan which embeds ambitious climate change mitigation and adaptation policies within it.

a. Climate change and the policy context

There is ever greater clarity of the urgent need to address climate change, and of the grave consequences if we don't

Globally, atmospheric CO2 exceeded 400 parts per million in 2016, the highest in human history, and continues to rise. The last time we had CO2 at this concentration was 3-5 million years ago, at which point global average temperatures were 4-5 degrees hotter than today¹.

- Human activities are estimated to have caused approximately 1.0°C of global warming above pre industrial levels and it is predicted that on the current trajectory, warming will likely increase to 1.5°C above pre-industrial levels between 2030 and 20522².
- Extreme weather events have been seen around the world, not least in Australia which battled out-of-control wildfires that have claimed dozens of lives and done immeasurable damages to wildlife. There is mounting evidence that human activity is raising the risk of some types of extreme weather, especially those linked to heat³. This animation from Carbon Brief shows global temperature anomalies since the year 1900: www.youtube.com/watch?v=-yIHxOui9nQ
- The UK's winter floods of 2013-14⁴ and the European summer heatwaves of 2018⁵ and 2003(where heat-related deaths ran into tens of thousands)⁶ were all made more likely by climate change.

¹ NASA. Carbon dioxide hits new high, https://climate.nasa.gov/ climate resources/7/

² Intergovernmental Panel on Climate Change. Global Warming of 1.5°C: Summary for Policy Makers, https://www.ipcc.ch/sr15/ chapter/spm

³ Carbon Brief (11 March 2019). Mapped: How climate change affects extreme weather around the world, www.carbonbrief.org/ mapped-how-climate-change-affects-extreme-weather-around-theworld

⁴ Schaller, N. et al. (2016) Human influence on climate in the 2014 southern England winter floods and their impacts. Nature Climate Change, 6(6), p.627.

⁵ Met Office (2018) Chance of summer heatwaves now thirty times more likely, www.metoffice.gov.uk/about-us/press-office/news/ weather-and-climate/2018/2018-uk-summer-heatwave ⁶ Mitchell D. et al. (2016) Attributing human mortality during extreme heat waves to anthropogenic climate change. Environmental Research Letters, 11(7), 074006.

- The 2018 summer in the UK was the joint hottest on record together with 2006, 2003 and 1976⁷.
- Sixteen of the 17 warmest years on record have occurred since 20018.
- Arctic sea ice extent has declined by around 13% per decade since 1979⁹.

The UK Met Office predicts¹⁰ that in a business-as-usual (high emission) scenario, Britain could experience summers as much as 5°C hotter by 2070, with a 50% chance that by 2050 they will be as consistently hot as the 2018 one. Winters could be up to 4.2C warmer, and sea levels would rise by up to 1.15 metres by 2100, leaving the UK coastline unrecognisable. Average summer rainfall could decrease by up to 47% by 2070, while there could be up to 35% more precipitation in winter.

The, Intergovernmental Panel on Climate Change (IPCC) has warned that a global temperature rise of 2°C will "significantly increase" the risk of "drought, floods, extreme heat and poverty for hundreds of millions of people" and cause a 99% collapse in the world's coral reefs. "The challenge of avoiding catastrophic climate breakdown requires rapid, far-reaching and unprecedented changes in all aspects of society" it says¹¹.

b. National Policy

The landmark 2008 Climate Change Act¹² committed the UK to reducing carbon emissions by 80% by 2050. However, in recognition of the severity of situation, recent environmental activism and recommendations by the Committee on Climate Change¹³, parliament declared a climate emergency in May 2019 and called on the government to set a more demanding target. This it did in June 2019, by amending the Act and committing the UK to achieving net zero carbon emissions by 2050¹⁴. Achieving this will require the vast majority of households, communities, businesses and local authorities to be fully engaged and aligned with this government policy. Neighbourhood plans are one way in which a new direction can be taken, helping to mitigate climate change and adapt to its effects, and, by local communities

⁷ Met Office (August 2018). Was summer 2018 the hottest on record? www.metoffice.gov.uk/news/releases/2018/end-of-summerstats

⁸ National Oceanic and Atmospheric Administration. 2019 was 2nd hottest year on record for Earth say NOAA, NASA www.noaa.gov/ news/2018-was-4th-hottest-year-on-record-for-globe

⁹ 9 National Snow and Ice Data Center, reported in Committee on Climate Change (May 2019). Net Zero: The UK's contribution to stopping global warming, www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stoppingglobal-warming.pdf

¹⁰ Met Office. UK Climate Projections 2018, www.metoffice.gov.uk/ news/releases/2018/ukcp18-launch-pr

¹¹ Intergovernmental Panel on Climate Change (2019). Global warming of 1.5°C: Summary for Policy Makers, www.ipcc.ch/site/ assets/uploads/sites/2/2018/07/SR15_SPM_version_stand_alone_ LR.pdf

¹² Climate Change Act 2008 www.legislation.gov.uk/ukpga/2008/27/ contents

¹³ Committee on Climate Change (2018). Progress Report to Parliament, www.theccc.org.uk/wp-content/uploads/2018/06/CCC2018-Progress-Report-to-Parliament.pdf

¹⁴ The Act actually commits the UK to reducing emissions to Net Zero by 2050, a 100% reduction of greenhouse gas emissions in the UK by 2050 compared to 1990 levels. Net Zero means that emissions will still be allowed in some sectors, such as aviation and manufacturing, where reducing emissions is either too expensive, technologically too complex or impossible. These residual emissions are allowed as long as they are offset by removing emissions from the atmosphere elsewhere, for example by planting trees.

taking the lead and effectively giving consent for this rapid transition to take place, expanding the space within which politicians feel they can safely operate.

c. Existing legal basis for planning documents

The 2004 Planning and Compulsory Purchase Act (as amended) states: "Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change." The National Planning Policy Framework (NPPF), which sets out government's planning policies for England and how these are expected to be applied by local government, says (para 149 and footnote 48): "Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures, in line with the objectives and provisions of the Climate Change Act 2008."16 This means that local plans must demonstrate how their policies are in line with the legally binding carbon emission reduction targets set out in the Climate Change Act (i.e. net zero carbon by 2050). Local plans should be based on an understanding of both the baseline carbon dioxide emissions within the council area, the emissions inherent in future development and growth within the plan period, and the actions and policies that will reduce emissions in line with the trajectory set out in the Climate Change Act.

d. South Tyneside Council's response to Climate Change

South Tyneside Council declared a Climate Change Emergency on 18th July 2019 The Council motion declares:

- A pledge to take all necessary steps to make South Tyneside Council carbon neutral by 2030
- Lead by example establishing South Tyneside Council as a champion for a carbon neutral future for the borough
- Produce a comprehensive Climate Change Strategy with clear and unambiguous targets for carbon reductions supported by a 5 year action plan by 31st March 2020
- Report to full Council on at least an annual basis setting out performance against agreed targets
- Convene a "Climate Emergency" summit in 2020 to raise awareness on the impacts of climate change

¹⁵ Section 19 of the 2004 Planning and Compulsory Purchase Act www.legislation.gov.uk/ukpga/2004/5/section/19, as amended by section 182 of the 2008 Planning Act www.legislation.gov.uk/ ukpga/2008/29/section/182

¹⁶ National planning policy framework (2018), https://assets. publishing.service.gov.uk/government/uploads/system/uploads/ attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

• Ensure all Council strategic decisions, policies and strategies are in line with the Council target of being carbon neutral by 2030

e. Coastal erosion at Marsden Bay

The UK's winter floods of 2013-14¹⁷ are likely to have been a contributory factor to the significant coastal erosion that is taking place at Marsden Bay in the Whitburn Neighbourhood Area.

The Marsden Bay area is defined as the 1540m coastal stretch from the Velvet Beds in the north to the Closed cliff top car park in the south. The 15m - 30m high cliffs along the bay are cut into magnesian limestone. Sections of the cliff show significant evidence of undercutting.

Undercutting by wave action results in either a sink hole developing where there is a weakness or fracture or the whole section breaking off from the rear of the cave to form a receded vertical cliff face.

Concerns about cliff erosion and cave formation, and their potential effect on the clifftop footpath and the Coast Road, have led South Tyneside Council to monitor coastal change in these areas. This has highlighted some undercutting in the location where the cliff edge is already near the road.

South Tyneside Council (STC) commissioned consultants Royal Haskoning to identify how to manage risk in this location.

A detailed study by Royal Haskoning has indicated that the Coast Road is locally under moderate risk due to the ongoing coastal erosion and therefore requires action in order to maintain the route.

The report identified that some of the coastal footpath was in a risk area and therefore a decision was taken to move the footpath with immediate effect. (See Appendix C)

f) Sewage Pollution as a contributor to climate change.

Seagrasses can absorb more carbon up to 40 faster than terrestrial forests and these ecosystems become sources of CO2 emissions when they are degraded or destroyed. A major driver of seagrass decline is nutrient pollution from sewage. The seagrass meadows in the nearby River Tyne estuary have been devastated by sewage flowing from nearby Combined Sewer Overflows.¹⁸

There were 760,000 tonnes of sewage discharged at Whitburn in 2019. These discharges have been happening for decades. Combating climate change is another reason why Sewage Pollution must stop at Whitburn.

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¹⁷ Schaller, N. et al. (2016) Human influence on climate in the 2014 southern England winter floods and their impacts. Nature Climate Change, 6(6), p.627.

¹⁸ https://bit.ly/3bHG7db

Healthy air

a. Air Quality and Impacts on Health Outcomes - The local picture

Residents of South Tyneside Council generally have a lower life expectancy than the national average

Public Health data reports¹⁹:

Male Female
South Tyneside 77.6 years 81.5 years
National Average 79.5 years 83 years

There is evidence to suggest that long term exposure to poor air quality increases the risk of premature mortality from cardiovascular and respiratory diseases. The premature mortality rates for cardiovascular, respiratory diseases and cancer are given below. (It is important to note that other lifestyle factors such as smoking, etc. do influence these figures)

Premature (under 75 years) mortality rates from all cardiovascular disease of 74.6 per 100,000 as compared to 73.5 per 100,000 for England; of this 47.3 per 100,000 were preventable.

Premature (under 75 years) mortality rates from respiratory disease of 53.6 per 100,000 as compared to 33.8 per 100,000 for England; of this 36.4 per 100,000 were preventable.

Premature (under 75 years) mortality rates from cancer of 162.7 per 100,000 as compared to 136.8 per 100,000 for England; of this 95.7 per 100,000 were preventable.

Nitrogen Dioxide (NO2) levels are measured near the Jolly Sailor PH by a diffusion tube that is left out for set periods of time, monthly or time specified if longer than a month. Diffusion tubes do not give real time data but they do provide an indication of whether further investigation into air quality is required in an area. The concentration may be higher during peak traffic flows. The figures provided are the raw data concentrations for the period of time that the diffusion tubes are left at the location. (All measurements are in $\mu g/m3$). The national annual average objective level for NO2 is 40 $\mu g/m3$ per cubic metre.

2019 NO2 Data for monitor near Jolly Sailor PH

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 19.8 35.9 33.8 26.8 32.8 21.6 23.5 25 19.8 23.5 31.3 N/A

The reason that NO2 data is often higher during Winter months is due to weather conditions and pressure. In winter, when the ground is cold and there is little wind, emissions are trapped near to the ground.

¹⁹ https://www.southtyneside.gov.uk/media/39130/Air-Quality-Annual-status-report-2018/pdf/290618 South Tyneside Council ASR final.pdf

b. Planning requirements to tackle Air Quality

 As per the National Planning Policy Framework (paragraph 181, National Planning Practice Guidance Air quality chapter) and as per the Validation of Planning Applications in Tyneside – 2019.

An Air Quality Assessment is required before major developments take place in Whitburn under the following provisions:

- Where there would be an increase of 50 parking spaces within an AQMA or 100 spaces elsewhere;
- Development in excess of 100 dwellings or 10,000 square metres floor space (or an equivalent combination)
- b. Development should not damage the health of the air by increasing emissions of harmful pollutants to it. Such pollutants include: greenhouse gases; those considered by the United Nations²⁰ to cause adverse impacts to the natural environment; and particles and gases considered by the World Health Organisation (WHO)²¹ to be harmful to human health. Any proposal that results in a significant increase in air pollution will only be justified in exceptional circumstances.
- c. Development should comply at least with all minimum EU or UK environmental requirements in relation to air pollutants whichever is the more stringent.²²
- d. All development must aim to be at least 'air quality neutral' and not cause or contribute to worsening air quality. Whitburn Neighbourhood Plan encourages new development to be electrically heated and to give rise to zero emissions to air (that is development which emits no emissions to air other than filtered air after ventilation or cooking), and their policy requires new development to be air quality neutral. On major development this should be demonstrated through an air quality assessment and, if necessary, proposed mitigation measures.
- e. Major development must demonstrate that it is designed to ensure that indoor air quality complies with the latest WHO guidelines²³ for short- and long-term air quality including particulate matter (PM2.5 and PM10), nitrogen dioxide (NO2), carbon monoxide (CO), formaldehyde and volatile organic compounds (VOCs). Carbon dioxide (CO2) concentrations in indoor air should also be considered.

²⁰ https://www.un.org/en/sections/issues-depth/climate-change/

²¹ https://www.who.int/airpollution/guidelines/en/

²² https://uk-air.defra.gov.uk/air-pollution/uk-eu-limits

²³ http://www.euro.who.int/ data/assets/pdf file/0009/128169/e94535.pdf

Sustainable buildings

In their report, 'UK housing: Fit for the future?'²⁴ the Committee on Climate Change (CCC) warns: "We will not meet our targets for emissions reduction without near complete decarbonisation of the housing stock. Energy use in homes accounts for about 14% of UK greenhouse gas emissions. These emissions need to fall by at least 24% by 2030 from 1990 levels, but are currently off track ... The technology exists to deliver homes that are low-carbon, energy efficient and climate-resilient, with safe air quality and moisture levels. The costs are not prohibitive and getting design right from the outset is vastly cheaper and more feasible than having to retrofit later."

The reality is that the homes we build today will still be in use in 2050. Therefore, to achieve our carbon reduction targets cost effectively, new housing built today must be built to zero carbon standards as soon as possible.

It is possible to rely on the minimum energy efficiency standards for new housing set out in the Building Regulations, which are becoming increasingly stringent, however the Building Regulations do not go far enough. In order to achieve our carbon reduction commitments, new housing needs to be carbon neutral, that is designed to be energy efficient enough to emit no carbon dioxide in use, as well as sourcing the energy it does use from renewable sources.

However, even if all new housing were to be carbon neutral from tomorrow, this would still not be enough to achieve our carbon emission reductions, as around 70% of buildings that will be in use in the 2050s already exist²⁵.

The IPCC report²⁶, together with the latest update report from the Committee on Climate Change, however provide abundant evidence of the need to go further and faster than current national policy to reduce carbon emissions, in particular in respect of emissions from new housing. The housing we build today must be built to run without emitting greenhouse gas emissions. If this does not happen, costly energy retrofits will be required to this housing within the next 20 to 30 years, with the costs falling to the homeowner or taxpayer.

²⁴ Committee on Climate Change (Feb 2019). UK housing: Fit for the future? www.theccc.org.uk/wp-content/uploads/2019/02/UKhousing-Fit-for-the-future-CCC-2019.pdf

²⁵DECC (2012).UK Climate Change Risk Assessment 2012, www.bit.ly/NF7VkW

²⁶ Intergovernmental Panel on Climate Change. Global warming of 1.5°C: Summary for Policy Makers, www.ipcc.ch/sr15/chapter/spm

Sustainable transport

Re-shaping transport systems has enormous potential to enhance quality of life. Better facilities for walking, cycling and public transport, alongside reductions in car traffic, can create a cascade of benefits, including improved public health, improved air quality, more hospitable public spaces, greater footfall to support town centre uses and reduced economic losses from congestion. At the same time these measures will help meet environmental commitments: the transport sector is responsible for approximately 36% of all UK energy use²⁷, and 23% of CO2 emissions²⁸, so reducing car usage can bring significant savings.

a. Health impacts of transport

What has come to light in the last few years is the adverse health impact of air pollution caused by our transport system and adverse health. Air pollution is linked to cardiovascular and respiratory disease, increased risks of dementia²⁹ and stunted lung and brain growth in children³⁰, and causes 40,000 premature deaths a year, according to the Royal College of Physicians. A joint investigation by the Guardian and Greenpeace found over 2,000 schools and nurseries within 150 metres of a road emitting illegal levels of nitrogen dioxide³¹. As well as lowering the health risks of air pollution, increasing walking and cycling would also improve our health through increasing activity levels. Travel habits developed in childhood are hugely influential for our travel habits (and activity levels) across our lifetimes. A Sustrans (www.sustrans.org) survey in 2010 found that nearly half of all children want to cycle to school but currently only 4% do.

b. Open spaces and transport

High quality public spaces are a vital component of the social life of a neighbourhood, providing spaces for people to interact, as well as opportunities for commerce and events. Streets make up 80% of accessible public space, but are normally designed just for cars, not people. People are more likely to spend time talking with each other on streets with low traffic flows: evidence indicates that residents on quieter streets enjoy more friendships and connections with their neighbours³².

www.gov.uk/government/uploads/system/uploads/attachment_data/file/633503/ECUK_2017.pdf

www.gov.uk/government/uploads/system/uploads/attachment_data/file/295968/20140327_2013_UK_ Greenhouse_Gas_Emissions_Provisional_Figures.pdf

www. the guardian. com/environment/2018/sep/18/air pollution-causes-jump-in-dementia-risk-study-suggests

www.theguardian.com/environment/2018/ sep/18/school-run-air-pollution-children-black-carbon

²⁷ HM Government (2017)

²⁸ HM Government (2013)

²⁹ Guardian (18 Sept 2019). Air pollution linked to much greater risk of dementia,

³⁰ Guardian (18 Sept 2019). UK children inhaling toxic air on school run and in classroom,

³¹ Guardian (4 April 2017). Thousands of British children exposed to illegal levels of air pollution, www.theguardian.com/

environment/2017/apr/04/thousands-of-british-children-exposed-toillegal-levels-of-air-pollution

³² Appleyard and Lintell. The environmental quality of streets: the resident's point of view, Journal of the American Planning Association, 1972: 84-101

c. Density and layout

Development will be encouraged to provide links with safe walking and cycling routes to the village centre, facilitating access to schools, the surrounding countryside and nearby metro stations - minimising the need for car use. The loss of existing footpaths and cycleways will be resisted. New development should be built round the idea of a walkable village with integrated adequate pathways directly connecting to the centre of the village. Major developments should be designed to provide new green amenity spaces, reflecting and extending the existing network of accessible green space running through the village.

d. Current traffic levels in Whitburn

Since 1949 motor vehicle traffic in the UK has increased more than ten-fold from 28.9 to 328.1 billion vehicle miles, largely driven by steady growth in car traffic. ³³

Cleadon Lane, Moor Lane, Lizard Lane and the A183 are the principal routes in and out of Whitburn and these remain largely unchanged since the end of World War 2. These routes have had to endure the ten-fold increase in motor vehicle traffic including the HGVs that thunder through the village from the quarry and the constant stream of traffic that travels through the centre of Whitburn daily from Sunderland to South Shields and back.

The Annual Average Daily Traffic (AADT) is approximately 7,950 vehicles per day on the A183 within the vicinity of White Rocks Grove. This is shown in table 1.

Table 1: Traffic data for A183 (source: TRADS) (2020)

Direction	AADT (Average Annual Daily Traffic)
Northbound	3971
Southbound	3979
Total	7949

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³³ https://bit.ly/2kl7B0t

The general traffic composition/classification is shown in table 2. This is based on a 12 hour 2018 traffic survey of the A183/Rackley Way Junction.

Table 2: General traffic composition

	Pedestria n cyclist	Motor cyclist	Car/tax i	L Good	OGV 1	OGV 2	Bus/coac h	Total
%	3%	2%	83%	8%	1%	1%	2%	100%

Table 3 shows the historical data for Sunderland Road south of Moor Lane over the period 2014 to 2018, which has experienced a 2% growth rate in traffic volumes. There was no data for Moor Lane, Cleadon Lane or Lizard Lane.

Table 3: Traffic volume for Sunderland Road south of Moor Lane (source: TADU)

Year	Average Daily Traffic	Average Weekly Traffic Volume	Average Weekend Traffic Volume	Days Counted
2014	12,181	13,014	10,146	310
2015	12,975	13,900	10,667	318
2016	13,117	14,069	10,777	318
2017	13,161	14,054	10,031	239
2018	12,480	13,475	10,071	291
Total	12,775	13,692	10,521	1476

e. Car ownership in Whitburn

Presently in the North East there are 1.1 cars per household. 34

We currently have 2545 households in Whitburn equating to 2799 cars. An extra 397 homes would give us an extra 436 cars equating to 3235 cars travelling in and out of Whitburn. This represents a further self-generated 17% increase in domestic traffic on roads that were built in the mid twentieth century. This will increase noise, congestion and air pollution with an increased risk of road traffic collisions.

³⁴ https://assets.publishing.service.gov.uk > attachment data > file > nts9902

f. Transport Assessments / Statements, and Travel Plans

South Tyneside Council has undertaken a detailed appraisal of the transport implications resulting from the impending developments associated with the local plan. This appraisal is being finalised and will inform the next iteration of the Infrastructure Delivery Plan in terms of strategic transport requirements. The next iteration of the Infrastructure Delivery Plan will be published when the Publication Draft Local Plan is published for consultation.

For new development, changes of use and alterations to existing buildings, the transportation and accessibility outcomes of development needs to be set out as part of a planning application. ³⁵ This information is used to assess the suitability of the development and to ensure it is in accordance with policy and other related guidance.

STC have graded all potential development sites identified in Whitburn as Amber – Site is likely to cause congestion, with specific junction improvements required. Solutions are predicated on external investment involving Sec 106 agreements with developers or by using a Community Infrastructure Levy approach.

Under the Planning Act s106 (A) a person bound by the obligation can seek to have the obligation modified or discharged after five years.

A Community Infrastructure Levy (CIL) sets out a standard charge that may be levied on specified types of development to contribute towards required infrastructure. The process to bring forward CIL is comparable to plan making (i.e. it is informed by evidence, the charges are consulted upon and are examined before an Independent Inspector).

South Tyneside Council do not presently use CIL but are exploring whether CIL would be appropriate. ³⁶

g. South Tyneside Local Cycling Walking Investment Plan

The Whitburn Neighbourhood Forum have contributed to the South Tyneside Local Cycling Walking Investment Plan consultation process³⁷ which looks to improve Whitburn's walking and cycling networks.

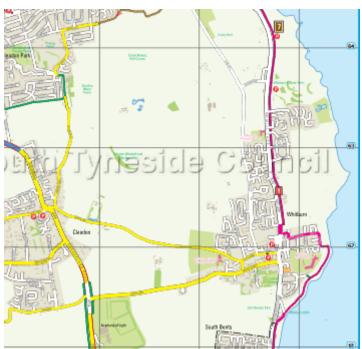
 $https://www.southtyneside.gov.uk/media/40794/Local-Development-Scheme/pdf/Local_Plan_-_Local_Development_Scheme_May_2019.pdf$

³⁵ Validation of Planning Applications in Tyneside – 2019

³⁷ https://stynesidecwip.commonplace.is/news

Appendix A

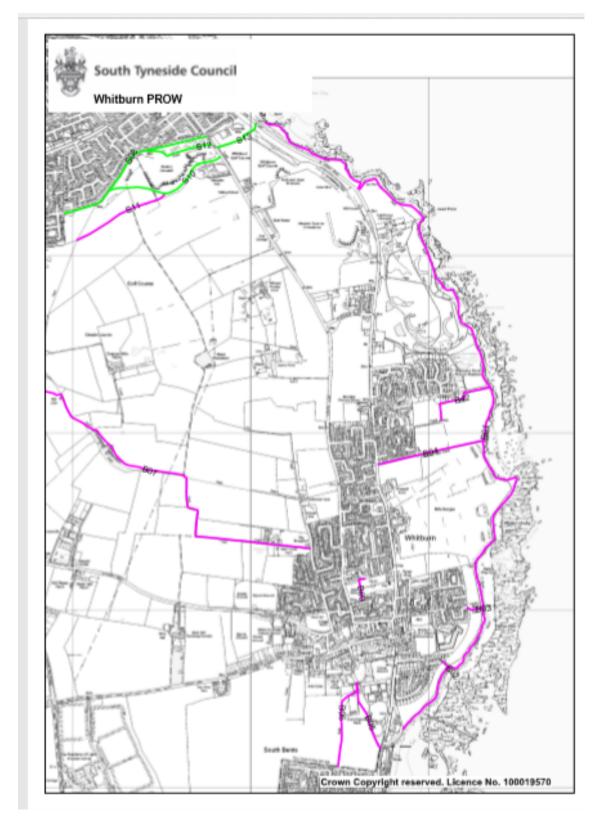
Copy of Whitburn Cycle Route Maps - http://www.gosmarter.co.uk/sites/default/files/South%20Tyneside_South.pdf





Appendix B

Copy of Whitburn Public Right of Way Maps – As supplied by South Tyneside Council



Appendix C

Illustration of coastal erosion and cave formation threatening the Coast Road at Marsden and planned new route of Coast Road- As supplied by South Tyneside Council.

