Topic 3: Infrastructure and Communication

Engagement version March 2025

Requirements addressed in this section:

Town and Country Planning (Scotland) Act 1997, as amended

Section	Requirement
Section 15(5)(a)	the principal physical, cultural, economic, social, built heritage and environmental characteristics of the district,
Section 15(5)(b)	the principal purposes for which the land is used,
Section 15(5)(d)	the infrastructure of the district (including communications, transport and drainage systems, systems for the supply of water and energy, and health care and education facilities);
Section 15(5)(e)	how that infrastructure is used;
Section 15(5)(cd)	The health needs of the population of the district and the likely effects of development and use of land on those health needs
Section 15(5)(ce)	The education needs of the population of the district and the likely effects of development and use of land on those education needs; and
Section 15(5)(cg)	The capacity of education services in the district.

Town and Country Planning (Development Planning) (Scotland) Regulations 2023:

Section	Requirement
Regulation 9(2)(e)	Have regard to: • The national waste management plan; • any regional transport strategy; and • any local transport strategy. • any open space strategy published under section 3G(3) of the Act.

Other Statutory Requirements

• Core Paths Plan (Access Rights)

• Food growing strategy

National Planning Framework 4

Infrastructure First

Local Development Plans (LDPs) and Delivery Programmes should be based on an integrated infrastructure first approach and should:

- be informed by evidence on infrastructure capacity, condition, needs and deliverability within the plan area, including cross boundary infrastructure;
- set out the infrastructure requirements to deliver the spatial strategy, informed by the evidence base, identifying the infrastructure priorities, and where, how, when and by whom they will be delivered; and
- indicate the type, level (or method of calculation) and location of the financial or in-kind contributions, and the types of development from which they will be required.

The LDP and Delivery Programme should align with relevant national, regional and local infrastructure plans and policies and take account of the Scottish Government infrastructure investment hierarchy and sustainable travel and investment hierarchies in developing the spatial strategy. Consistent early engagement and collaboration between relevant stakeholders will better inform decisions on land use and investment

Blue and Green Infrastructure

LDPs should be informed by relevant, up-to date audits and/or strategies, covering the multiple functions and benefits of blue and green infrastructure. The spatial strategy should identify and protect blue and green infrastructure assets and networks; enhance and expand existing provision including new blue and/or green infrastructure. This may include retrofitting. Priorities for connectivity to other blue and/or green infrastructure assets, including to address cross-boundary needs and opportunities, should also be identified.

LDPs should encourage the permanent or temporary use of unused or under-used land as green infrastructure. Where this is temporary, this should not prevent future development potential from being realised. LDPs should safeguard access rights and core paths, including active travel routes, and encourage new and enhanced opportunities for access linked to wider networks.

Digital Infrastructure

LDPs should support the delivery of digital infrastructure, including fixed line and mobile connectivity, particularly in areas with gaps in connectivity and barriers to digital access.

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Links to Evidence

Infrastructure First

- Scotland's Zero Waste Plan 2010
- SEPA Flood Maps
- SEPA Flood Risk Management Maps
- SEPA Water Scarcity
- SEPA Water Condition Maps
- Scottish Water Latest in Your Area Map
- Scottish Water - Water Treatment Works capacity information (submitted via email)
- Scottish Water Waste Water Treatment Works capacity information (submitted via email)
- SSEN Transmission Open Data Portal
- National Electricity System Operator
- NHS North Regional Asset Management Plan Update 2020 - 2030
- NHS Grampian Plan for the Future 2022 - 2028
- SEPA Flood Risk Management Plan North East Local Plan District
- SGN Aberdeen Vision Project 2020
- Aberdeen City Primary Care Improvement Plan
- Aberdeen City 2023 Based School Roll Forecasts
- Aberdeen City School Estates Plan 2022
- Aberdeen City School Estates Plan Revised Timeline
- Aberdeen City Schools' Accessibility Plan 2020 - 2023
- Aberdeen City ELC Delivery Plan 2022 - 2024
- Aberdeen City Cemeteries and Burial Grounds
- Aberdeen Heat and Power
- SportScotland Facility Planning Model 2023 Summary Reports
- Community Planning Local Outcome Improvement Plan and Locality Plan Engagement Report

Blue and Green Infrastructure

- Nature Networks Corridors Map Viewer
- The Scottish Vacant and Derelict Land Survey
- Scottish Government Green Infrastructure Design and Placemaking 2011
- Scotland's Environment: Habitat Map of Scotland
- SEPA Flood Maps
- SEPA The River Basin Management Plan for Scotland 2021 - 2027
- SEPA Water Environment Hub 2021

- SEPA Climate Change Allowances for Flood Risk Assessment in Land Use Planning Version 5
- SEPA Scotland's Bathing Waters
- SEPA Data Publication
- SEPA Water Scarcity
- Dynamic Coast
- Scotland's Soils Carbon and Peatland Map 2016
- CREW - A Review of the Role of Functioning Wetlands
- CREW Assessing Climate Change Impacts on the Water Quality of Scottish Standing Waters
- NatureScot Green Infrastructure Strategic Intervention Projects
- NatureScot Research Report 1046 – Maximising the benefits of green infrastructure in social housing
- NatureScot Nature Networks Framework
- SEPA Flood Risk Management Plans (North East Plan)
- North East Local Flood Risk Management Plan 2022 - 2028
- Aberdeen Open Space Audit 2024: Main Report
- Aberdeen City Open Space Strategy 2011-2016
- Aberdeen City Core Paths Plan 2009
- Aberdeen City Granite City Growing 2020
- Aberdeen City Local Nature Conservation Sites 2013
- Aberdeen City Draft The Granite City Forest Tree and Woodland Strategic Implementation Plan 2022-2025
- Aberdeen City Parks and Gardens
- Aberdeen City Green Space Network
- Aberdeen City Natural Environment Strategy Net Zero Aberdeen
- Aberdeen Adapts 2022

Digital Infrastructure

- Scottish Index of Multiple Deprivation - Broadband Access Indicator 2020
- Delivering on our Commitment in Scotland 2020
- Digital Scotland R100
- OFCOM Connected Nations and Infrastructure Reports
- Wireless Infrastructure Group

Summary of Evidence

Policy context

Purpose and Scope of Evidence Report Chapter

This Chapter sets out the baseline position relating to infrastructure capacity across Aberdeen. Setting out the evidence base the local planning authority, together with other infrastructure providers, can identify where there are constraints, where there is useable spare capacity and where there is potential for improvement projects to inform future growth plans to be set out in Aberdeen's next Local Development Plan.

This structure is as follows:

- Infrastructure First
- Blue and Green Infrastructure
- Digital Infrastructure

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Infrastructure First

An Infrastructure First approach puts infrastructure considerations at the heart of placemaking. Development has an impact upon the capacities of facilities and infrastructure such as schools, medical centres, transport infrastructure, utilities and play and recreation space. Understanding capacities of these elements will influence where future housing and other allocations are to be situated spatially in Aberdeen. Capacity and any additional needs for infrastructure should considered when allocating sites for development. Cross boundary infrastructure has to be considered. Some primary and secondary schools are located in Aberdeen City area but serve pupils in Aberdeenshire and vice versa. These are covered by the school roll forecast. Water abstraction is a further cross boundary issue. This is discussed within the paper.

Transport Infrastructure
Transport evidence is addressed in the Sustainable Transport topic paper. This includes discussion on National Developments, Aberdeen Rapid Transit and South Harbour.

Water Supply, Drainage and Sewerage Systems
Scottish Water are required to identify and provide new strategic capacity for water and wastewater to meet demand of all new housing development and the domestic requirements of commercial and industrial development. Future growth investment may be required dependant on the total number of proposed developments, their scale and their distance from treatment works.

Scottish Water model future growth scenarios based on local authority-provided housing development planning data and Scottish Government population projections. The model calculates expected future population at each water and wastewater treatment works across Scotland. When the demand for water or wastewater capacity exceeds the remaining available capacity at a treatment works then investment is required to investigate this and to understand the level of risk to service existing customers when connecting new developments to the network. Whilst the need for growth investment may be identified through this modelling work, Scottish Water will only invest once confident that development is committed.

The water treatment works is located at Mannofield, it iscapable of serving 250,000 customers in the area. Nigg waste water treatment works also serves some 250,000 customers with another waste water treatment works at Persley. Scottish Water will

be able to advise upon future capacity. Scottish Water have provided their Water Treatment Works and Wastewater Treatment Works capacity information via email. At time of drafting this paper we are awaiting updated information capacity information for Wastewater Treatment Works.

A 2024 James Hutton Institute Water Capacity map can be found below (fig 1). It gives an indication of water scarcity in the area. Additionally, theSEPA Water Scarcity Report 2024 outlines water scarcity for wider river catchments in the North East of Scotland.

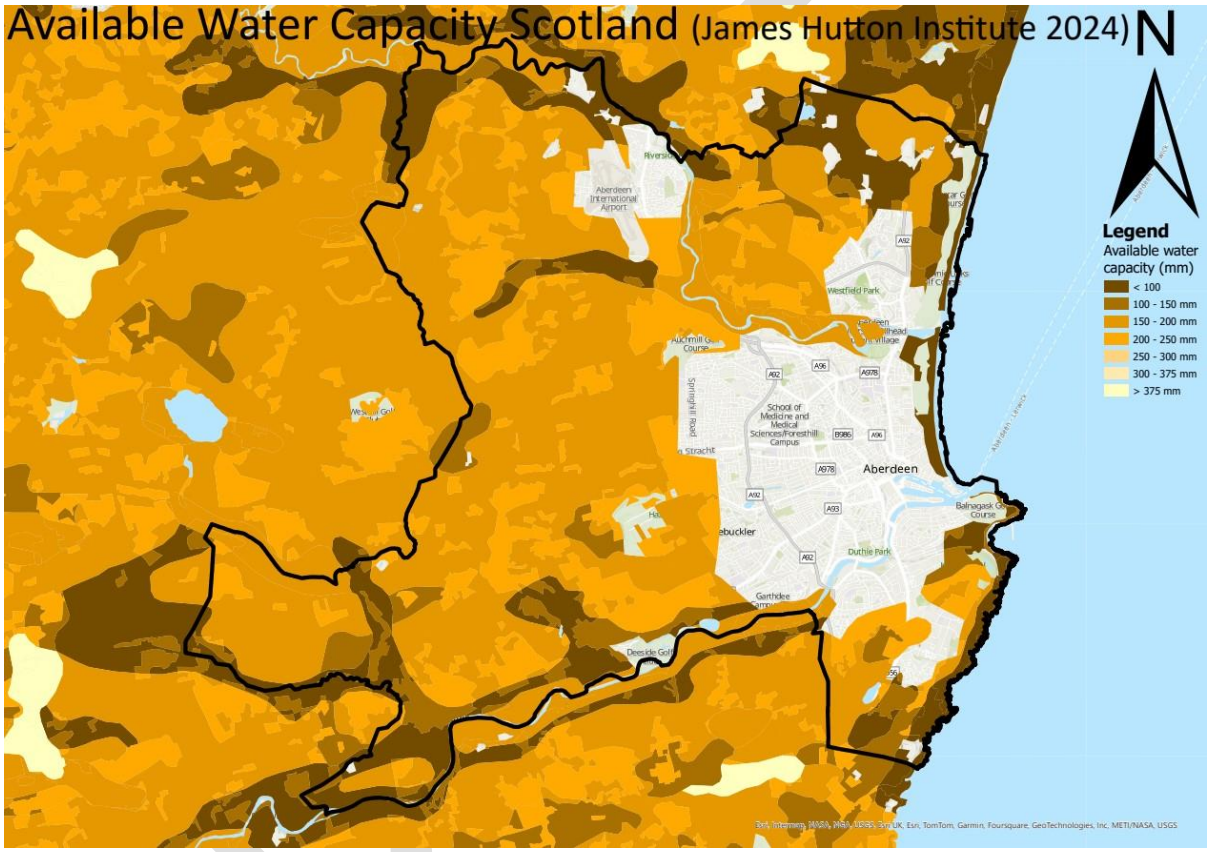


Figure 1: Available Water Capacity, James Hutton

The River Dee is the only river in Scotland for which there are concerns regarding the impacts of water abstractions. The river flows through Aberdeenshire before entering Aberdeen City. SEPA has 8 stations on the River Dee which measure water levels, real time water level data can be found on their website www.sepa.org.uk/waterlevels. Discussions between the Council, Aberdeenshire Council, SEPA and Scottish Water will have potential implications on the spatial strategy as new developments will require new abstractions within the River Dee catchment.

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Scottish Water are preparing to undertake improvements in the city centre at Merchant Quarter to reduce the risk of flooding from sewers in the area. Interventions to the pumping station at York Place, surface water management in the area and sewer enhancement are planned, details can be found at Aberdeen Merchant Quarter - Scottish Water

Gas

Infrastructure planning for the gas network is largely reactive as capacity cannot be pre-booked. Where the existing infrastructure would not meet the requested capacity of a new site, reinforcement will be required. Under Scottish Government New Heating Standards legislation, as of 1st April 2024, new domestic and commercial properties which require a building warrant can no longer install gas boilers.

Scottish Gas Network Aberdeen Vision Project 2020 sets out the plan for a new hydrogen pipeline between St Fergus and Aberdeen which could supply the Aberdeen region gas distribution system and enable a phased transition to hydrogen, first blending up to 20% by volume and then 100% conversion. Blending to 20% is believed to be possible with no change for domestic appliances. Blending to 20% then conversion to 100% hydrogen could be arranged on a regional basis, with hydrogen injection via key nodes to convert Aberdeen in a phased manner. Network analysis of the Aberdeen region has suggests that the conversion of Aberdeen to 100% hydrogen is possible if the reinforcement required is incorporated into current work plans for the existing pipelines.

District Heat Network

District heating is an efficient means of supplying heat, usually in the form of hot water, to homes and/or businesses from a locally generated source via a network of pre insulated underground pipes. There are several Council operated and private networks across Aberdeen, Aberdeen Heat Power are the organisation responsible for the Council's network. This subject is evidenced within the Heating and Cooling section of the Energy and Resources Topic Paper.

Electricity Supply - SSEN Transmission

Scottish & Southern Electricity Networks Transmission (SSEN-T) is the only electrical transmission operator in the North of Scotland. SSEN Transmission owns, operates and maintains the high-voltage electricity Transmission network in the North of Scotland. Their network includes 132kV, 275kV and 400kV substations, overhead lines, onshore underground cables and sub-sea cables. They operate separately from SSEN-T Distribution, who are responsible for the more localised

electricity distribution network. A map of SSEN-T's existing overhead and underground line/cable network in and around Aberdeen is found below (fig 2).



Figure 2: SSEN-T existing network of overhead lines and underground cables

SSEN-T a own and operates the following substation infrastructure in Aberdeen:

- Redmoss 132 kV substation
- Persley 275kV substation
- Woodhill 132kV substation
- Willowdale 132kV substation
- Craigiebuckler substation
- Clayhills 132KV substation

SSEN Transmission are working to expand and upgrade the national transmission grid (Pathway to 2030) in the north of Scotland to meet additional capacity needs and to facilitate new renewable energy generation in the national grid system.

A plan showing the works undertaken under the Accelerated Strategic Transmission Investment (ASTI) programme is included below (fig 3). Proposed works are outside or on the edge of the city, so it is unlikely there will be implications for the next plan.

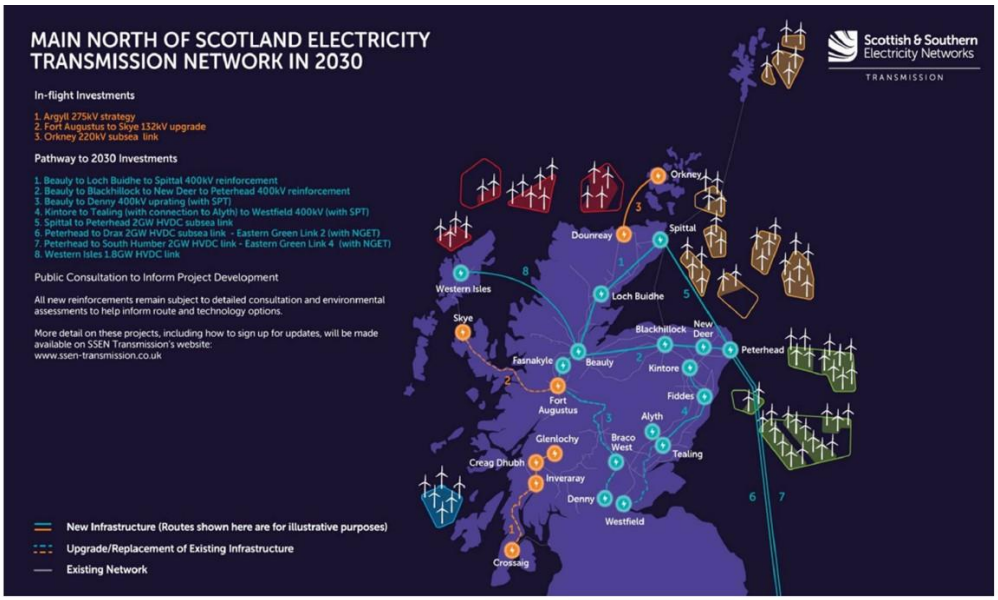


Figure 3: Diagram illustrating the Accelerated Strategic Transmission Investment (ASTI) Programme, SSEN.

SSEN Transmission are planning an upgrade of the existing Willowdale substation, which has recently been granted planning permission (221537/DPP). Additional works are likely to be required during the next LDP period,summarised below:

- Re-conductoring of the 275kV Persely to Kintore overhead line
- Upgrades and re-builds within existing substations
- Review of Cragiebuckler substation

The National Electricity System Operator are developing a UK spatial plan for new network infrastructure and opportunities for battery storage. The operation of existing and planned electricity transmission infrastructure can be adversely affected by new developments in the immediate vicinity. Issues can include:

- Developments encroaching into operational corridors
- Damage to underground cables and overhead lines
- Damage to pylon foundations
- Blockages to access tracks during construction
- Fire risk from battery storage units

Electricity Supply - SSE Distribution

Aberdeen is located within the Grampian region of the distribution network. Work to transform and futureproof the electricity network to meet legislated Net Zero targets

is underway. The National Grid Energy Systems Operator (ESO) Future Energy Scenarios (FES) estimate that (winter) peak demand will be 123-147 GW in 2050 to deliver Net Zero compliance, more than the (winter) peak demand which is 58.3 GW.

Waste and Recycling Facilities

Since mid-2023, the Council's non-recyclable waste has been processed at the NESS Energy from Waste (EfW) facility at East Tullos. There are no plans for new landfill sites or Energy from Waste plants. A map showing the locations of existing waste facilities (Council owned recycling and waste centre sites and local recycling sites) can be found below (fig 4). The Council gained approval for a new household waste and recycling centre in Bridge of Don (231516/DPP) to replace the facility on Scotstown Road. Further information on this subject can be found within the Energy and Resources Topic Paper.

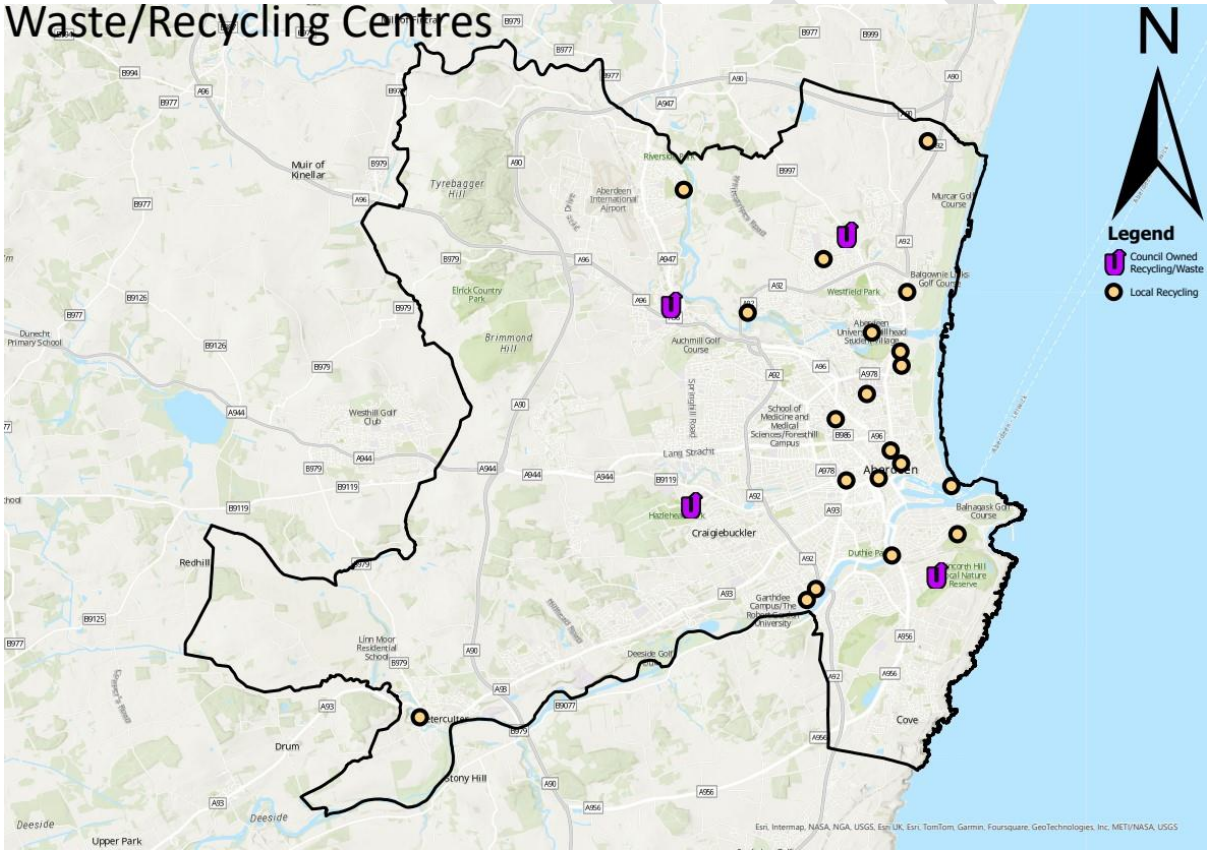


Figure 4: Location of existing waste facilities.

HEALTHCARE

NHS Grampian monitors the capacity of medical practices through patient registration and space requirements (set out in the Scottish Government Premises Directions and Scottish Health Planning Notes). This is to determine whether existing facilities require expansion or new facilities are needed with increased demand from new development. It is important to note that floorspace allowances within the Premises Directions do not take account of all the additional services the practices are expected to provide in accord with the 2018 General Medical Services (GMS) Contract. This informs, and is informed by, the NHS Grampian Asset Management Plan Update 2020-2030 and PCP Strategies and Plans.

NHS Grampian have confirmed they are happy to work with Aberdeen City's Local Development Plan team to provide current information of status of healthcare premises.NHS Grampian provided the following statement:

The deliverability of new, extended and altered healthcare facilities to accommodate additional patients generated from residential development will continue to be a challenge. Developer Contributions do not meet the full costs to increase capacity of premises and there is very limited upfront capital funding available. NHS Grampian (and all other NHS boards in Scotland) are reliant on capital funding from Scottish Government, particularly for large scale strategic projects, which has decreased in recent years.

In order to deliver new strategic infrastructure NHS Grampian has to participate in a new scheme of strategic infrastructure planning and investment across NHS Scotland. It requires each NHS Board to prepare and submit a Programme Initial Agreement (PIA) which sets out a deliverable, whole-system service and infrastructure change plan for the next 20- 30 years. This means that individual capital projects, such as new Health Centres and large extensions to existing facilities will not be considered for investment by the Scottish Government until a PIA has been approved by the NHS Grampian Board and the Scottish Government. The first planning phase to develop a 'maintenance-only business continuity investment plan' based on a risk-based assessment of the Board's existing infrastructure, is currently underway. In essence this means at the moment NHS Grampian has to work with existing assets and resources, creating additional capacity within existing premises. This means that creation of additional capacity requires short-medium term interim solutions due to limited capital budget and long timeframes of 20-30 years for large scale strategic projects.

EDUCATION

School Roll Forecasts

School Roll Forecasts provide an indication of the schools likely to have capacity to absorb additional development and those likely to require mitigation (in the form of reconfiguration, extension etc). In some cases, and where site area is limited, it may not be possible to provide additional classroom accommodation by reconfiguring or extending an existing school.

The latest school roll forecasts were published in November 2024 and are based on the actual pupil numbers in schools as of August 2023. The Council's School Estate Plan (see below) states the optimum operating capacity range for schools is between 80-95% capacity. The 2023-based forecasts indicate that 9 of the Council's 11 secondary schools are expected to be operating at over 95% capacity by 2030. These schools are detailed below (Table 2).

Secondary School	Capacity Forecast by 2030
Aberdeen Grammar School	117%
Bridge of Don Academy	126%
Bucksburn Academy	104%
Dyce Academy	109%
Harlaw Academy	141%
Hazlehead Academy	105%
Lochside Academy	104%
Oldmachar Academy	111%
St Machar Academy	116%

Table 2: Academies likely to exceed 95% capacity by 2030.

School roll forecasts also indicate that 12 of the Council's 51 primary schools are expected to be operating over 95% capacity by 2028. These schools are as follows (Table 3):

Primary School	Capacity Forecast by 2030
Brimmond	129%
Broomhill	101%
Charleston	140%
Ferryhill	99%
Forehill	110%
Gilcomstoun	116%

Hanover St	151%
Kirkhill	108%
Skene Square	119%
Stoneywood	113%
Balmedie	104%
Newmachar	102%

Table 3: Primary school likely to exceed 95% capacity by 2028.

School Estate Plan

Aberdeen City Council's 'School Estate Plan' and a detailed timeline for the implementation of the individual actions were approved in 2022. Declining pupil numbers in some areas of the city has led to schools having unused capacity, whilst, as indicated above, in other city locations school capacity is under pressure. Agreed actions within the School Estate Plan are intended to ensure there are sufficient school places available in the communities where they are required, and that schools are operating as efficiently as possible, particularly where pupil populations are declining.

The first annual update to the School Estate Plan, provided details of progress to date with each of the projects and priorities within the Plan, along with an indication of the timescales for carrying out the remaining projects. As a consequence of concerns raised nationally regarding the presence of Reinforced Autoclaved Aerated Concrete (RAAC), and the requirement for the School Estate Team to prioritise their response to these concerns from late August 2023 onwards, a number of projects within the School Estate Plan programmed to be under way in Autumn/Winter 2023 were delayed. This subsequently impacted on the planned timelines for projects which were scheduled to be undertaken in 2024. Consequently, it become necessary to reprioritise projects and revise the overall timeline for the School Estate Plan, to ensure that it can be delivered. A revised and reprioritised timeline was approved by the Education and Children's Services Committee on 20 February 2024.

Summary of revised school estates programme of works:

- Bucksburn / Newhills additional primary provision
- Northfield Associated Schools Group excess capacity
- Victorian School Building Improvements – Underway: Feasibility study recommendations to be presented to ECS Committee in April 2025
- Loirston Loch Additional Primary Provision
- St Peter's RC School Refurbishment – Underway: completion Spring 2027

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Schools' Accessibility Plan 2020 – 2023
Aberdeen has a statutory accessibility strategy in place which helps ensure pupils with a disability can participate in the curriculum. All newly constructed schools in Aberdeen are fully wheelchair accessible, although some older buildings cannot easily be made fully accessible for those with limited mobility. The plan recognises the need to assess and take action where necessary to improve accessibility for those with other disabilities, such as sensory impairments, and autism. The School Estate Plan highlights that 37.58% of children and young people in Aberdeen are identified as having an additional support need.

Early Learning and Childcare (ELC) Delivery Plan 2022 – 2024
Aberdeen has a statutory ELC Delivery Plan to guide expansion. The Delivery Plan resulted in the successful completion of projects on 27 sites across Aberdeen. This involved the construction of eight new standalone nursery facilities, including outdoor nursery facilities at both Duthie Park and Hazlehead Park. Additionally, there has been refurbishment and extension of existing buildings significantly improving the nursery estate. Evaluation of the programme confirmed that all children eligible for 1140 hours free childcare were able to access facilities.

Cemeteries and Burial Grounds
A map showing the locations of existing cemeteries and burial grounds as included within the Open Space Audit 2010 can be found below (fig 5). Locations of cemeteries and burial grounds are detailed on the Council's website. Aberdeen City Council is responsible for 17 cemeteries, with new burial lairs available at Hazlehead, Newhills and Dyce cemeteries. There is no strategy in place currently which sets out a need for additional cemetery or burial space in Aberdeen.

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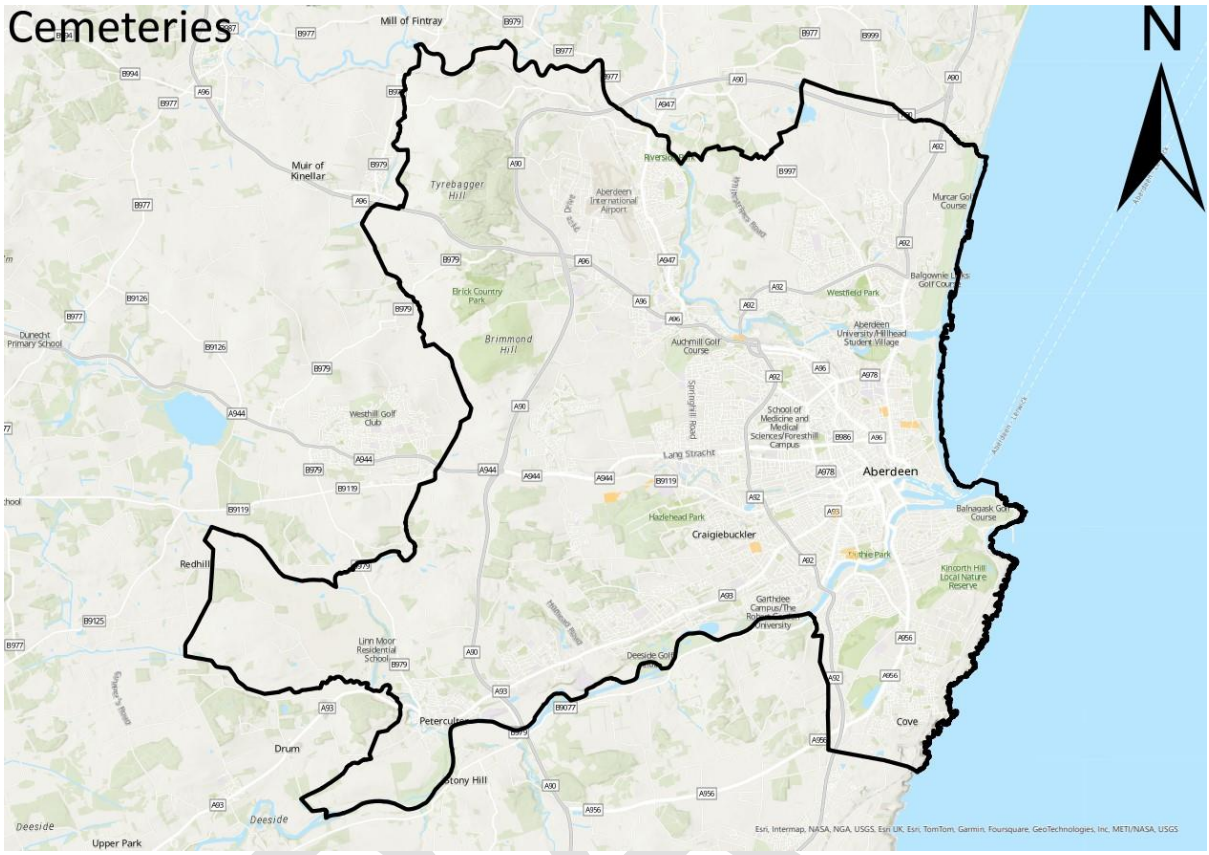


Figure 5. Location of cemeteries and burial grounds

SEPA LDP EVIDENCE SOURCES

With regards to Infrastructure First, there are a number of sources that relate to flood hazard and water management (various), water scarcity, the water environment hub, bathing water quality, SEPA data sets (various), carbon peatland map, Scottish Wetland Inventory. Information on these can be found within the Climate Change, Mitigation and Adaption Topic Paper, and the Nature and Biodiversity Topic Paper.

Place Standard Assessment

Between 5 October and 6 November 2023, 470 participants took part in online and six in person Place Standard assessments for Community Planning. The full results and more information on this are found in the Place Topic Paper. The Place Standard assess places and is split into 14 themes. Places are assessed, awarded a score out of 7, and people asks for comment on what is good now and what can be improved about their local area. The results for Aberdeen are split into north, south and central, with "all" noting where these comments were present on all three areas. The results from the Place Standard are paramount for assessing quality of place and understanding the positive and negative perception of local areas. The Place Standard assessments were completed with adults and children.

The Facilities and Services theme of the Place Standard is relevant here. The results are as follows: A score of 3.86 out of 7 was achieved, and the comments submitted are noted below.

Place Standard Theme	"Good" now	"Improve" for the future
Facilities and Services	•Good provision of shops, within easy access (All) • Support services were good with a range of services available (All), particularly those for the elderly and the vulnerable, and children (Central) • Publicly funded facilities (community centres, libraries, school, play parks) are good. (All) • Good activities for children. Good provision and access to all services and shops (South) • Park facilities were good locally. (South)	• Increases/improvements to health and community health services (All) • Improvements and increases to publicly funded services, such as maintaining and reopening particularly libraries (All) • Improve activities for children and young people (North) • Improve road safety and crossing. (North) • Improvements to, and increased funding for, support services, such as food banks and services to help the vulnerable and elderly. (Central) • Access to affordable food (Central) •Encouraging investment and incentives for businesses to open locally (South,

Place Standard Theme	"Good" now	"Improve" for the future
		•Improvements to community health services and support services, and the homeless, elders, and young people (south, north) • Improve public transport to the GP (South) •Do not develop existing green space (South) • Increasing access to and the provision of shops, including bigger food shops (Central) • More investment needed to improve local facilities and services that the community want (Central)

Table 4 : Comments relating to good aspects and what can make Aberdeen better. Summary of Community Planning Aberdeen's Local Outcome Improvement Plan and Locality Plans for North, South and Central Refresh Engagement Report 2023

The children and young people results on facilities and services noted: 53.7% felt they were okay, 35.2% felt they were not good, and 11.1% felt they were great. The top three responses were as follows

Place Standard Theme	What is good now?	Percentage	What would make it better?	Percentage
Facilities and Services	Good shops	22.6%	Clubs	22.6%
	School	22.6%	Doctors	20.8%
	Doctors	12.3%	School	16%

Table 5: Comments relating to good aspects and what can make Aberdeen better. Summary of Community Planning Aberdeen's Local Outcome Improvement Plan and Locality Plans for North, South and Central Refresh Engagement Report 2023

Topic 3: Infrastructure and Communication

Blue and Green Infrastructure

Blue and green infrastructure plays an important role in the management of rainwater runoff, flooding and sea level rise. Improving the resilience of Aberdeen to increased flooding due to climate change is a key objective. Places should be designed in a manner which utilises water as a resource rather than contributing to water runoff.

There is overlap of this subject with other topic papers, also refer to Nature and Biodiversity Topic Paper; Climate Change, Mitigation and Adaptation Topic Paper, and Wellbeing and Community Topic Paper.

Aberdeen Open Space Audit 2024

An open space audit is used to assist with protecting and improving green spaces through the planning process and by supporting blue green infrastructure. The audit gives an understanding of the principal physical (what spaces and where they are), social (accessibility of open space, ratings of open space), and environmental (Nature Conservation Sites (LNCS), Sites of Special Scientific Interest (SSSI) etc) characteristics of the district and the principal purposes for which the land is used in relation to open space/blue and green infrastructure. The Open Space Audit will be used to update the current Open Space Strategy, as part of a wider Natural Heritage Strategy. It is anticipated a draft document will be completed by late summer 2025.

The Audit outlines the multiple health, wellbeing, economic, and environmental benefits of Aberdeen's open spaces. A breakdown of what types of open space can be found in which areas of the city as well as their quality and accessibility is also included. Key findings from the audit are available in the Wellbeing and Community topic paper under the Open Space section.

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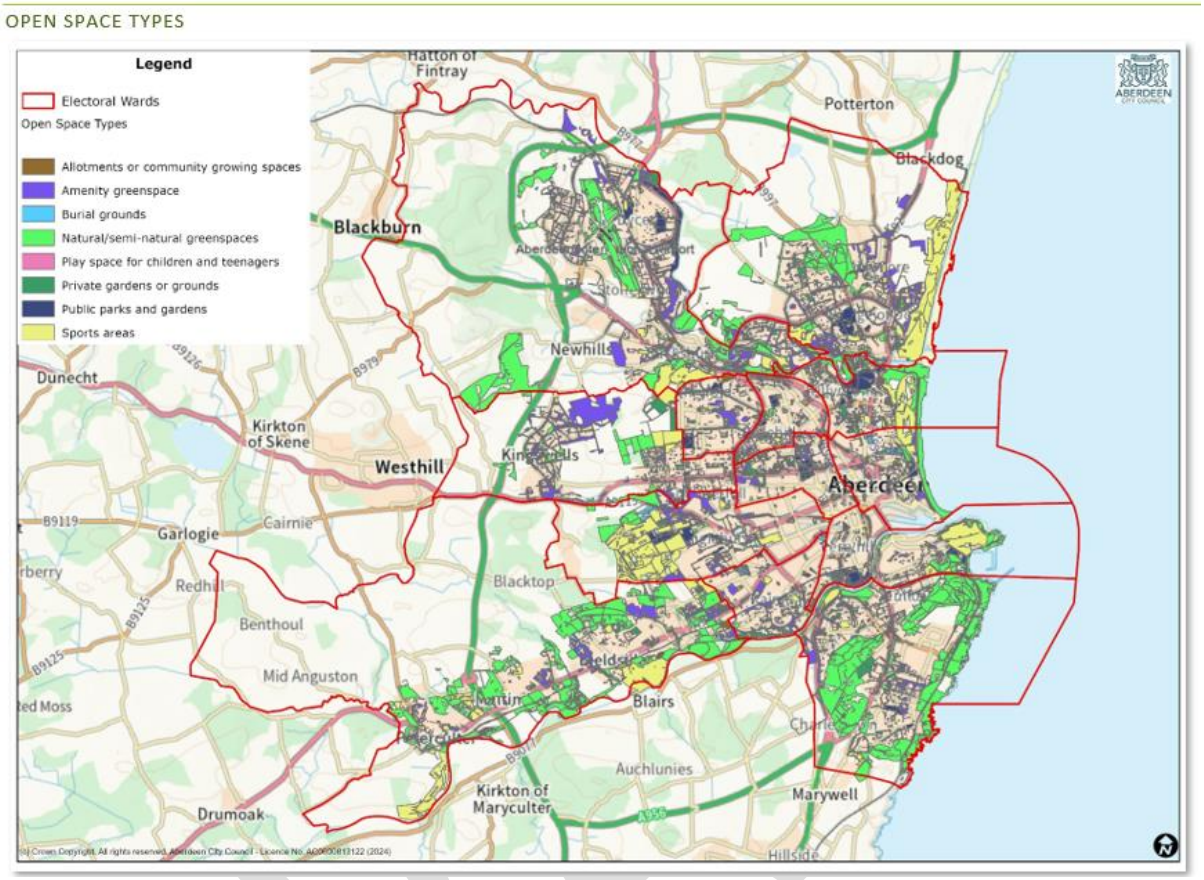


Figure 6: Open Space Types in Aberdeen.

The recent audit found that:

- Aberdeen covers an area of 185.7 km2 or 18,570 hectares.
- 3,902 hectares of open space was surveyed (21% of the total Aberdeen Area).
- The citywide average is 300 hectares of open space per ward.
- The average open space quality score in Aberdeen was 14.3 out of 25.
- The accessibility, quality and quantity of open spaces varied across different wards and open space types.
- Open space is not equally distributed across the city with some wards having limited access to green space and certain types of open space provision.

The breakdown of the different types of open space from the recent audit is as follows (figure 8):

Topic 3: Infrastructure and Communication

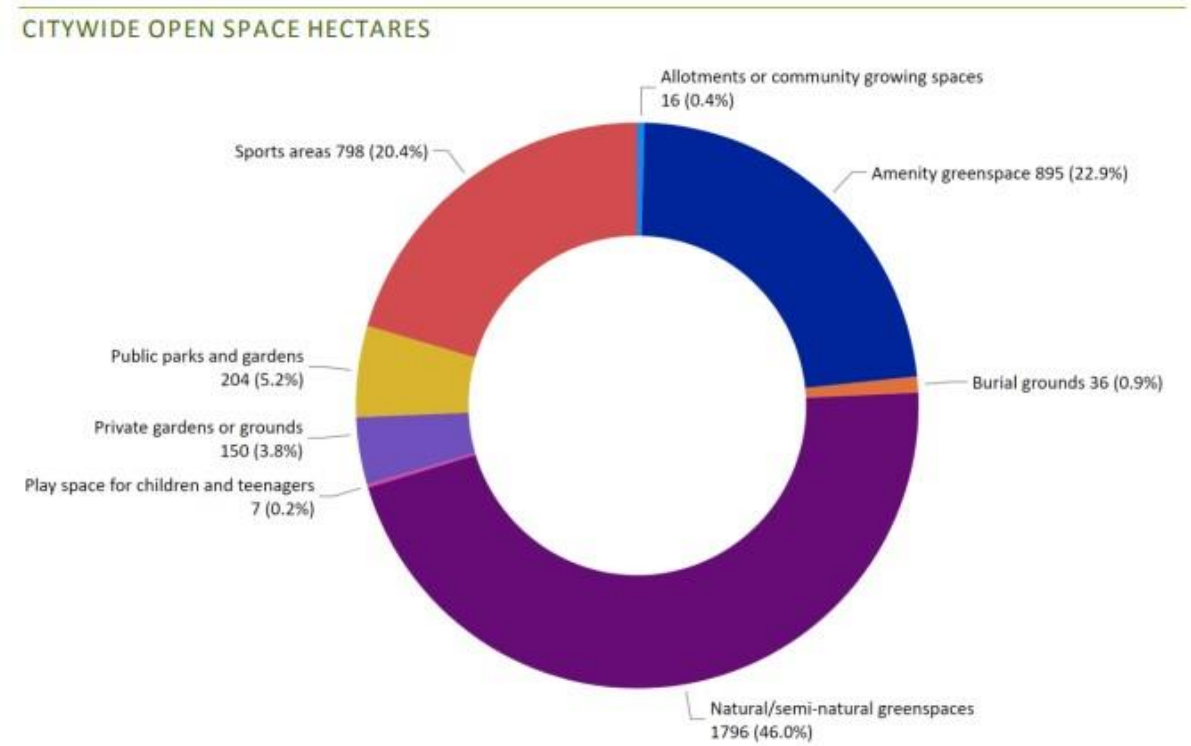


Figure 8: Breakdown of type of open space, Open Space Audit.

The breakdown by ward from the recent audit is as follows (figure 9):

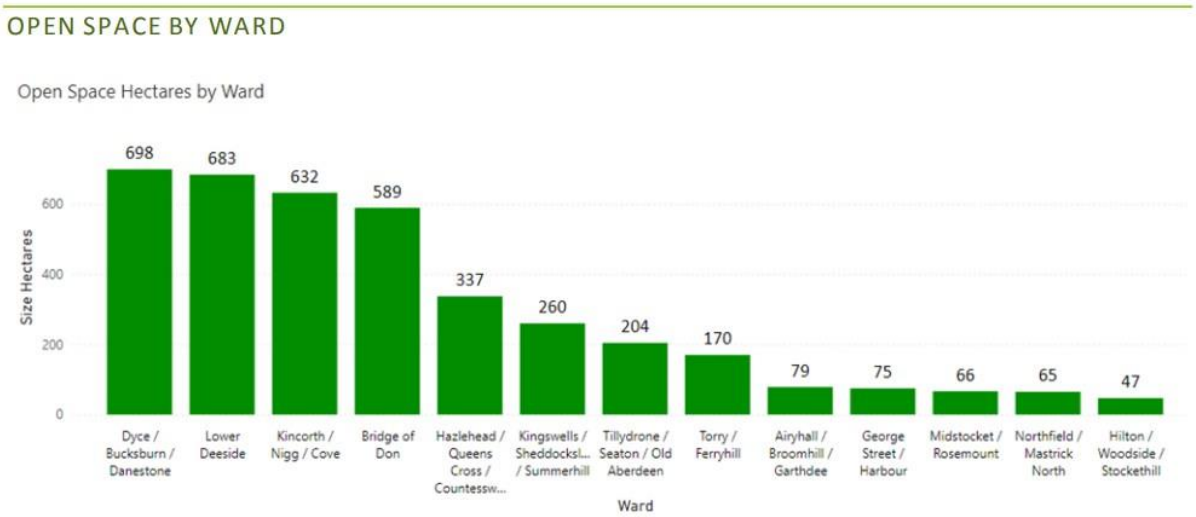


Figure 9: Open Space by Ward, Open Space Audit.

Topic 3: Infrastructure and Communication

The average quality scores by open space type from the recent audit is as follows (figure 10):

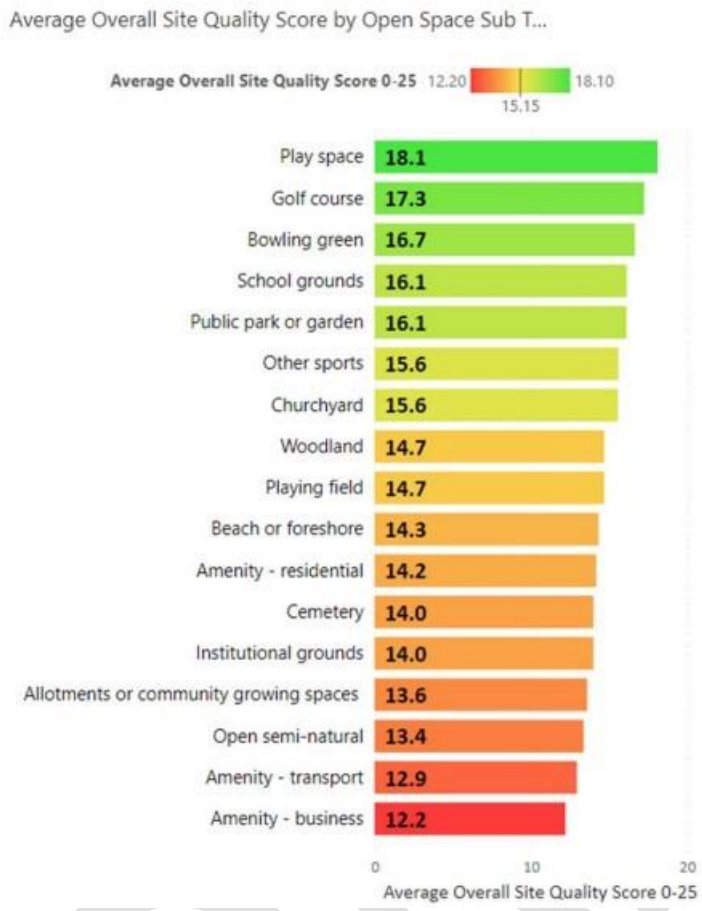


Figure 10: Open Space Quality Score by Open Space Type, Open Space Audit.

The audit defines accessibility standards for open space in accordance with those set out in the Open Space and Green Infrastructure Aberdeen Planning Guidance 2023. The thresholds are as follows: major open space (>5ha) is 1,500m, natural/semi natural greenspaces (>5ha) is 2000m, natural/semi natural greenspaces (>2ha) is 400m, outdoor sports areas is 1,200m, allotments are 800m.

For equipped play spaces, accessibility thresholds are listed as follows: local area for play is 100m, local equipment area for play is 400m, neighbourhood equipped area for play is 1,000m.

The accessibility of space per ward from the recent audit is as follows (figure 11):

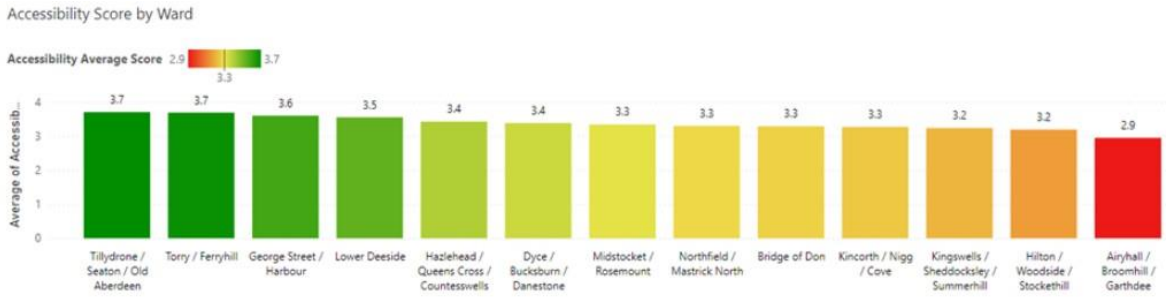


Figure 11: Accessibility of Open Space by Ward, Open Space Audit.

The main headlines from the recent audit are as follows:

- 63% of households in Aberdeen are within the 1500 metres of a major open space, a decrease from the 70% recorded in the previous audit. This could be attributed to new developments on the edge of the city and no new major parks having been created.
- 45% of households are within 400 metres of a natural / semi-natural greenspace greater than 2 hectares in size.
- 82% of households have access to an equipped play space, an increase from the 70% recorded in the previous audit.
- 99% of households are within 1,200 metres of an outdoor sports area.
- 49% of households are within 800 metres of an allotment site.

NatureScot Green Infrastructure Strategic Intervention
Outlines the benefits of blue-green infrastructure, through projects located within the 20% most deprived urban areas of Scotland. 2 projects are located in Aberdeen; Middlefield Greenspace and Regeneration Project, and Foresterhill.

NatureScot Maximising the Benefits of Green Infrastructure in Social Housing
Explores opportunities to deliver multiple benefits through the good design and maintenance of Green Infrastructure associated with new and existing social housing in Scotland. The focus is on Green Infrastructure within the footprint of social housing but also the role of adjacent Green Infrastructure used by tenants.

Nature Network Corridors
Nature Network Corridors (NNC) are strategic routes that link up key sites of biodiversity including Nature Conservation Sites (LNCSs). NatureScot's Nature Networks Framework sets out Scotland's Nature Network – Vision for 2030 as follows:

'By 2030 Scotland will have evolving, flexible and resilient Nature Networks connecting nature-rich areas allowing wildlife and natural processes to move and adapt to land use and climate change pressures. The networks will help build people's connection to nature, providing biodiversity-rich spaces that deliver local benefits, and meet the priorities of local communities for nature.'

In order to achieve this vision it will be imperative that networks are considered across Council boundaries which means communication with Aberdeenshire Council on this subject is important.

The initial NNC map for Scotland developed by AECOM uses a methodology that identifies potential ways of connecting all of Scotland's 30x30 sites, the term given to the ambition by the Scottish Government to protect 30% of Scotland by natural heritage protections by 2030. This provides an initial indication of what Scotland's Nature Networks might look like, these are ranked according to 'cost', using a 'least cost' method, '0' being the corridors of lowest cost, and '5-7' being the corridors with highest cost. This information is not definitive however it gives a good guide to local authorities. A Natural Heritage Strategy is being developed for Aberdeen, this will include information on nature networks. It is anticipated a draft document will be completed by late Summer 2025

Vacant and Derelict Land Surveys

Unused or under-used land can be used as permanent or temporary used as green infrastructure . The Vacant and Derelict Land Surveys can be used to identity unused or under-used land. The 2023 Vacant and Derelict Land Survey has been submitted to the Scottish Government. More detail including the locations of sites can be found in the Spatial Strategy Topic Paper.

Aberdeenshire Blue-Green Infrastructure Mapping

The Aberdeenshire Evidence Report states that there is an ongoing process of compiling blue-green infrastructure mapping based upon a number of relevant datasets (SEPA, NatureScot, Open Space Polygons). This spatial information will be used in conjunction with our own Open Space Strategy in order to understand potential opportunities for improved blue and green infrastructure connectivity between Local Authority borders. Aberdeenshire Council have informed us this information will be available later in 2025.

Food Growing Strategy

'Granite City Growing: Aberdeen Growing Food Together 2020' is Aberdeen's first food growing strategy and has been co-produced with a range of community groups and key stakeholders. It sets out a vision that seeks to ensure access to food-

growing opportunities so that everyone can reap the associated benefits to health, environment and community. Food Growing is a sub-set of the Open Space Audit, data of which is available in the Open Space Audit section above. This subject ties in with Green and Blue Infrastructure but is covered in the Wellbeing of Community Topic Paper. The next Food Growing Strategy will form part of the new Natural Environment Strategy.

Green Space Network
The Green Space Network is a spatial layer in the Local Development Plan. It is a strategic network connecting various habitats and species, urban and rural green spaces to each other and the communities around them. It offers a wide range of social, health economic and environmental benefits. This subject ties in with Green and Blue Infrastructure but is covered in the Nature and Biodiversity Topic Paper.

Play, Recreation and Sport
Play areas, recreational spaces and sports pitches are important spaces to facilitate physical exercise and social interaction for all age groups. A Play Sufficiency Assessment is currently being prepared. This subject ties in with Green and Blue Infrastructure but is covered in the Wellbeing and Community Topic Paper.

Greenbelt
The aim of the Green Belt is to maintain the distinct identity of Aberdeen, and the communities within and around the city, by defining their physical boundaries clearly. The greenbelt also serves as a wide area of countryside, much of which is publicly accessible. This subject ties in with Green and Blue Infrastructure but is covered in the Spatial Strategy Topic Paper.

Aberdeen Local Nature Conservation Sites
Local Nature Conservation Sites (LNCS) are identified by Local Authorities in Scotland to safeguard biodiversity and geodiversity of at least local importance. This subject ties in with Green and Blue Infrastructure but is covered in the Nature and Biodiversity Topic Paper.

Trees and Woodland
Trees and woodland are an essential element of our urban environment. It is widely recognised that trees provide many benefits and are a key component of urban infrastructure making our city more attractive and pleasant. Benefits include positive contribution to health, improved air quality, noise reduction, carbon storage and natural habitat. A draft Strategic Implementation Plan for Forestry and Woodland has been adopted by the Council. Although this document addresses a number of the

components of a forest and woodland strategy, it does not satisfy planning legislation on this matter. A forestry and woodland strategy is being developed as part of a wider Natural Heritage Strategy. It is anticipated a draft document will be completed by late Summer 2025. This subject ties in with Green and Blue Infrastructure but is covered in the Nature and Biodiversity Topic Paper, and Wellbeing and Community Topic Paper.

Aberdeen Core Paths Plan

The Aberdeen Core Paths Plan forms a key part of outdoor access provision and helps to support wider national, regional and local policy objectives on health, recreation, education, economic development, social inclusion, community development, sustainable transport and tourism. Local Development Plans should safeguard core paths and active travel routes and encourage new and enhanced opportunities for access to wider networks as a key policy outcome.This subject ties in with Green and Blue Infrastructure but is covered in the Sustainable Transport Topic Paper.

Parks and Gardens

Aberdeen has a wide range of parks and green spaces. In total Aberdeen has 14 public parks and gardens as well as countryside parks, nature reserves, trails and 3,000 acres of publicly owned accessible woodlands. This subject ties in with Green and Blue Infrastructure but is covered in the Nature and Biodiversity Topic Paper.

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BLUE INFRASTRUCTURE

Within Aberdeen, the coast and the two main rivers, the River Don in the north and the River Dee in the south, are the primary blue infrastructure. Other water bodies and tributaries to note include Corby Loch, Rubislaw Quarry, North Burn of Rubislaw, Inchgarth Reservoir and Loirston Loch. In addition to the coastal area these also form important parts of the blue infrastructure framework. Coastal Development ties in with Green and Blue Infrastructure but is covered in the Spatial Strategy Topic Paper.

Flood Risk and Water Management implications are required at site selection stage and consent stage, with a focus on ensuring that development avoids areas of flood risk as a primary principle, and where this is not viable, to mitigate and reduce the risk and vulnerability to flooding. Aberdeen Adapts 2022 outlines the challenges on infrastructure posed by climate change; increase flood risk, coastal erosion and watercourse flooding, and the key plans and strategies that will inform areas of risk. Flood Risk and Water Management ties in closely with Green and Blue Infrastructure but is covered in the Climate Change, Mitigation and Adaptation Topic Paper.

SEPA Evidence Sources by NPF4 Policy Topics sets out the SEPA evidence and external evidence sources it seeks to cover blue and green infrastructure. The link to the aquaculture map for Scotland does not have implications for Aberdeen. Much of the evidence listed focuses specifically on blue infrastructure and will be used to inform the spatial strategy of the next Local Development Plan. Please see the Climate Change, Mitigation and Adaptation Topic Paper, and Nature and Biodiversity Topic Paper for more information. This evidence is as follows:

- The Flood Risk Management Plan North East Local Plan District - This includes Flood Risk Management Plan datasheets for potentially vulnerable areas (Aberdeen City North, Aberdeen City South, Peterculter, Cove and Nigg Bay).
- Dynamic Coast – A range of sources which relate to coastal changes which are a result of projected climate change.
- CREW Assessing climate change impacts on the water quality of Scottish Standing Waters – This document sets out the expected patterns of change to the UK water environment which may influence decision for the next plan.
- CREW Moderating Extremes in Water Availability in Scotland: A Review of the Role of Functioning Wetlands – This includes a quantity of technical information which cab inform land use planning. Aberdeen has some wetland habitats around its rivers and in locations such as Seaton Park. The provided documents

will inform the next plan in terms of protections of these sites and opportunities for expansion where possible.

- Habitat Map of Scotland and the Carbon and Peatland map 2016 – Includes an array of data relating to ground conditions which can have implications for water runoff.
- SEPA The River Basin Management Plan for Scotland 2021-2027 – This document sets out a framework for protecting and improving the benefits provided by the water environment across Scotland. This includes water quality, fish migration, physical condition amongst other things.
- SEPA Water Classification hub 2021, which will be updated in 2025 – This is the information that underpins The River Basin Management Plan for Scotland 2021-2027.
- SEPA Climate Change Allowances for Flood Risk Assessment in Land Use Planning Version 5 - This guidance sets out required allowances for climate change that must be used for flood risk assessment following the adoption of National Planning Framework 4. It's primarily a technical paper. The information is designed to inform flood risk assessments which in turn inform land use planning.
- Scotland's Bathing Waters – This concerns up to date monitoring on water quality for bathing. It includes bathing profiles for Aberdeen and Aberdeen Harbour (Black Sands) which outline potential pollution sources, mitigation measures being undertaken, information on reporting and responding to pollution incidents. This information may have some limited value in informing land use planning.
- SEPA Flood Risk Management Plans (North East Plan) – This document compliments the more detailed information set out in the local North East flood risk management plan published in 2022. It sets out the long term ambition for flood risk management, setting objectives for tackling flooding in high risk areas in Aberdeen with identification of actions needed to work towards those objectives.
- SEPA Water Scarcity – This webpage includes a very brief water scarcity report (and previous reports) which references the north east (Aberdeen and Aberdeenshire). The page contains general guidance in relation to water abstraction during significant water scarcity event. This information may have some tangential relevance to the preparation on the new plan.
- SEPA Data Publication – A wide array of data sources related to the environment which can be used to inform the next plan. SEPA requested the following sources be referenced in relation to blue infrastructure:

1. Recommended riparian corridor layer –this provides evidence and advice on the recommended width a blue corridor should be if it is to both protect the water feature and provide multiple benefits.
2. Riparian vegetation enhancement opportunities, with for example, the Den Burn identified as a high priority.
3. Obstacles to fish migration – which identifies issues on both the Don and the Den waterways.
4. Water Environment Fund projects –for example the East Tullos Burn project.
5. Geomorphic Risk layer.
6. Scottish Wetland Inventory layer.

SEPA, Scottish Water and Aberdeen City Council are also working collectively on the 'Aberdeen City Blueprint' which seeks to develop a joint decision-making approach to manage rainwater more effectively and in ways that bring about wider benefits beyond reduced flooding. The outputs of the project should provide specific evidence in planning for Blue Green Infrastructure for surface water management. The final report is yet to be published at the time of writing.

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Digital Infrastructure

Broadband connectivity and mobile signal are the key elements that underpin digital infrastructure. It is important that businesses and people in Aberdeen have access to up-to-date digital services. Digital infrastructure is a crucial element in supporting economic, cultural and social activity, in assisting service delivery and allowing flexible, hub and home-based working practices which can reduce travel. There is a responsibility for planning to support the roll out of digital infrastructure while balancing this against the need to ensure that the infrastructure does not result in unnecessary visual impacts.

Aberdeen City authority is well covered by 4G, 5G and broadband. The map below (figure 12) shows of all approved and existing ground based telecommunications masts which support 4G and 5G Coverage within the city of Aberdeen (masts erected in the last 20 years).

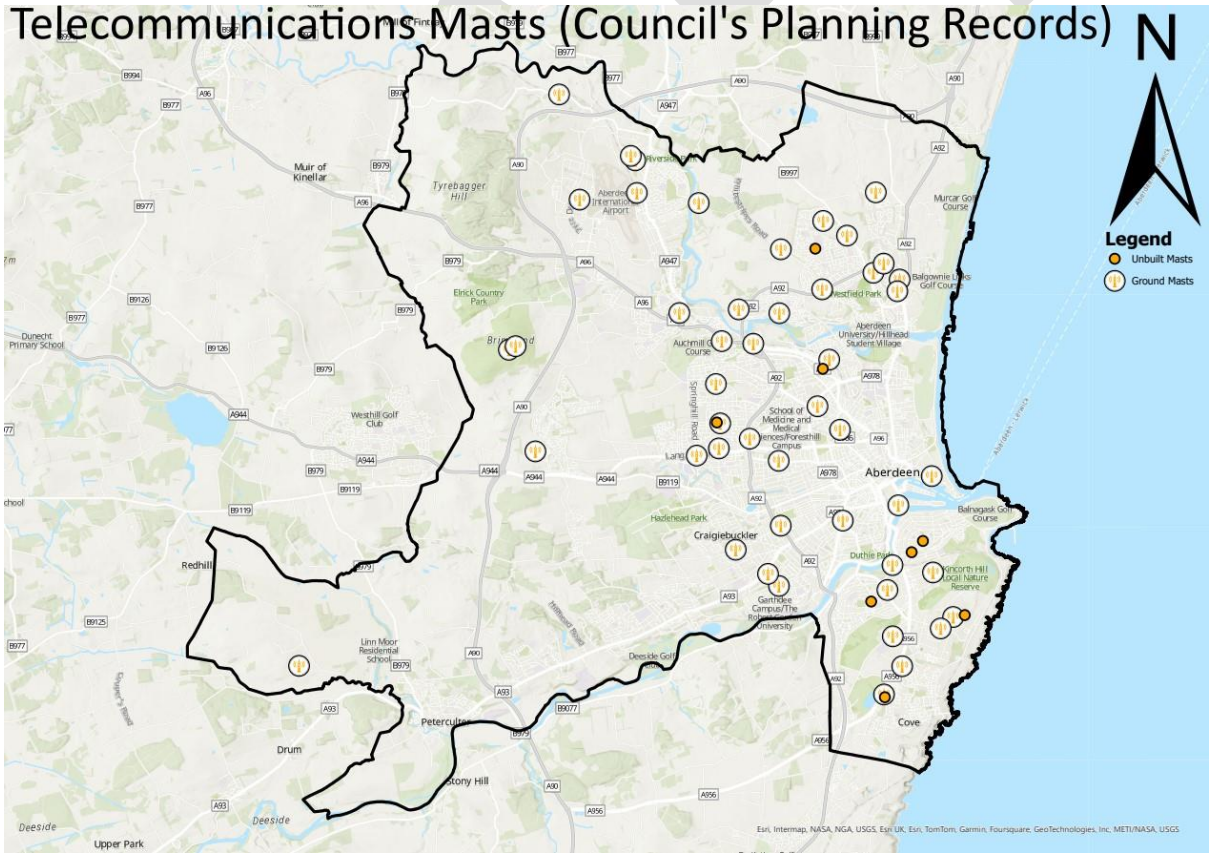


Figure 12: Location of Telecommunication Masts.

This map indicates the concentrations of existing or approved ground based telecom equipment and whether further masts should be supported in certain areas for the next Local Development Plan or if existing masts can be utilised.

4G and 5G Coverage

Wireless Infrastructure Group has a partnership with Aberdeen City Council to deploy wireless infrastructure using a network of small cells attached to lampposts and traffic lights to improve mobile coverage and capacity across Aberdeen's city centre. O_2 is the first mobile operator to launch its services using the infrastructure. O_2 will initially run advanced 4G services but the fibre-connected small cells pave the way for 5G by enabling even faster speeds, lower latency and better coordination between cells than traditional network methods.

The Ofcom 2023 update report shows that 4G coverage by all providers is available at some 99.57% of premises in the City (outdoors) and 96.14% of premises (indoors). 4G indoor coverage from at least one provider is available at 99.99% of premises within the City and 96.28% of premises in the City have 5G high confidence coverage from at least one provider.

The mobile phone networks are provided and operated in the UK by four main commercial providers, known as Mobile Network Operators (MNOs). They are; EE, O_2, Three and Vodafone. Information on these networks is commercially sensitive and not known to Aberdeen City Council. Some indication of coverage is provided online at www.nperf.com however this information is based on computer modelling only. The Wireless Infrastructure Providers (WIPs) that provide fixed line connectivity are City Fibre, Openreach and Virgin Media O_2.

Superfast Broadband Coverage

The Scottish Government funded 'Delivering on our Commitment in Scotland (2020)' document outlines the progress made through the Digital Scotland Superfast Broadband Rest of Scotland (RoS) programme to connect homes and businesses to fibre broadband infrastructure through commercial deployment. A summary of the changes in fibre broadband coverage and speed from 2012 to 2018 are noted below (Table 6).

Location	Assumed % of premises connected to fibre broadband through commercial deployment (starting point) (OMR 2012)	End of contract 1 coverage ≥ 24Mbps	End of contract 1 coverage
Aberdeen	72.4%	97.1%	97.9%
Glasgow	75.5%	98.7%	98.8%
Edinburgh	89.1%	98.6%	98.8%
Dundee	95%	99.2%	99.4%
Rest of Scotland	71.1%	94.8%	98.2%

Table 6: Summary fibre broadband coverage and speed from 2012 to 2018

The Scottish Index of Multiple Deprivation (SIMD) 2020 v2 outlines the percentage of premises without access to superfast broadband (at least 30Mb per second (Mbps)) download speed in Scotland. The data zones with poorest access to superfast broadband in areas of Aberdeen are shown below (table 7).

Area	Data Zone	Percentage Without access to 30Mbps
George Street - 04	S01006648	58.6%
Culter - 07	S01006512	53.8%
George Street - 02	S01006646	42.0%
City Centre West - 05	S01006586	41.1%
Oldmachar West - 06	S01006767	41.0%
Oldmachar East - 07	S01006774	39.9%
Oldmachar East - 02	S01006769	39.4%
Bucksburn South - 01	S01006738	32.5%
Kingswells - 01	S01006732	32.1%
Tillydrone - 04	S01006678	31.8%
Cove North - 01	S01006619	31.1%
City Centre East - 01	S01006587	30.2%
Cults, Bieldside and Milltimber East - 02	S01006519	30.0%
Dyce - 06	S01006754	29.37%
Hazlehead - 04	S01006550	28.1%
Oldmachar West – 01	S01006762	26.1%
Hazlehead – 03	S01006549	26.0%

Old Aberdeen - 01	S01006671	26.0%
Denmore - 03	S01006787	25.8%
Cults, Bieldside and Milltimber West- 05	S01006517	25.7%

Table 7: Data zones with poorest access to superfast broadband

The Reaching 100% (R100) is a Scottish Government programme to enable access to superfast broadband (speeds of at least 30Mbps) to every home and business in Scotland by 2021. The R100 contract for the North was signed in December 2020 and overall contract build is currently expected to be complete 2027-28. As of the 31st of October 2023, 623 properties are identified to be connected through R100 contracts.

The programme relies on fibre optic cables from properties to the exchange and availability and/or capacity at the exchange. The availability or capacity at an exchange is a commercial matter. However, the next LDP can ensure that the infrastructure is installed so that new homes and businesses can be served by superfast broadband should this become available in their area. Consultation with BT will inform whether sites and/or routes require to be safeguarded through the next LDP for future exchanges and associated equipment.

Full Fibre and Gigabit Coverage

Aberdeen City has already benefited from the Reaching 100% project and the data as of May 2023 indicates that 82.9% of all premises have full fibre availability. The same number of people also have Gigabit availability. If the targets for May 2026 are achieved, then this will increase to 96.4% of the premises with Full Fibre availability. For context, the average access across Scotland in 2026 is expected to be 83%.

Dataset	**Total Number**
All Premises	129,315
All Matched Premises	129,197
Number of Prem. With Full Fibre Availability	107,315
Number of premises with Full Fibre availability (Urban)	102,570
Number of premises with Full Fibre availability (Rural)	4,745
Number of premises with Gigabit availability	107,315
Number of premises with Gigabit availability (Urban)	102,570
Number of premises with Gigabit availability (Rural)	4,745

Number of properties expected to have gigabit-capable coverage by May 2024 (HC plans only)	111,340
Number of properties expected to have gigabit-capable coverage by May 2025 (HC plans only)	118,038
Number of properties expected to have gigabit-capable coverage by May 2026 (HC plans only)	122,110
Number of urban properties expected to have gigabit-capable coverage by May 2026 (HC plans only)	116,523
Number of properties expected to have gigabit-capable coverage by May 2024 (all plans)	111,340
Number of properties expected to have gigabit-capable coverage by May 2025 (all plans)	118,038
Number of properties expected to have gigabit-capable coverage by May 2026 (all plans)	124,735
Number of urban properties expected to have gigabit-capable coverage by May 2026 (all plans)	118,565
Number of properties expected to have Full Fibre coverage by May 2026 (all plans)	124,735
Number of planned properties for which funding is through public funds	168
Number of gigabit-capable operators anticipated to be operating in the area by May 2026 (all plans) (min,max)	(6,10)
Number of properties for which 2 or more gigabit-capable operators are anticipated to be present by May 2026 (all plans)	107,043
Number of properties for which 3 or more gigabit-capable operators are anticipated to be present by May 2026 (all plans)	784
Number of postcodes without any gigabit-capable coverage by May 2026 (all plans)	284

Table 8: Full fibre and Gigabite Coverage.

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Summary of Implications for Proposed Plan

Infrastructure First

The current supplementary guidance on developer obligations will need to be reviewed. With the removal of statutory supplementary guidance, consideration will need to be given to the use of a local policy and / or planning guidance to support National Planning Policy.

The evidence on existing infrastructure, both spatially and in terms of capacity and condition, will have implications on any chosen allocations within the spatial strategy of the Proposed Plan. Timelines for changes to infrastructure, where known, will also inform decision making.

Evidence and stakeholder input will also inform the Proposed Plan in terms of safeguarding sites for new schools, health facilities, transport, water and drainage infrastructure etc. Capacity could present barriers to supporting further development in some areas of the city.

Where possible, the planning authority will identify how, when and by whom infrastructure will be delivered. Early engagement with stakeholders will help identify opportunities for shared resources such as community hubs. It will be necessary for the Proposed Plan to understand and identify which sites may be required to contribute to which facilities via developer obligations.

Blue and Green Infrastructure

The spatial strategy will seek to protect, enhance and expand blue and green infrastructure.

With a detailed policy now included in National Planning Framework 4, consideration will need to be given on the continued need or amendment of local policies on blue and green infrastructure.

The Proposed Plan will be informed by the Natural Heritage Strategy. Nature Networks, including the requirement for 30 x 30 for biodiversity improvement will impact on land use designations.

The Open Space Audit 2024, and Open Space Strategy will help form an understanding of the current quantity, quality and spreads of assets, and identify areas of improvement. The Proposed Plan may seek to redress any deficiencies. The Open Space Strategy may identify opportunities for connections, which can inform and influence the spatial strategy.

Consideration will be given to how the Proposed Plan can help to further support food growing, and take into account the aims of the food growing strategy.

The play sufficiency assessment may have an impact on policy/site requirements of the Proposed Plan.

The core path plan can inform and influence the spatial strategy.

SUDS and water management are critical elements of blue and green infrastructure.

The risk of flooding is an important part of site assessment for the Proposed Plan.

Digital Infrastructure

With a detailed policy now included in National Planning Framework 4, consideration will need to be given on the continued need or amendment of local policies on digital infrastructure.

The Proposed Plan will seek to consider how it can enable equity in broadband access and speeds.

Marmot Principles

Aberdeen, along with North Ayrshire and South Lanarkshire, has been confirmed as one of three Marmot Places in Scotland. Aberdeen will seek to embed the eight Marmot Principles within the Proposed Plan. The table below identifies where the topic paper align with the Marmot Principles.

Principle	**Potential implication for the Plan**
Give every child the best start in life.	X
Enable all children, young people and adults to maximise their capabilities and control over their lives.	X
Create fair employment and good work for all.	
Ensure a healthy standard of living for all.	X
Create and develop healthy and sustainable places and communities.	X
Strengthen the role and impact of ill health prevention.	X
Tackle racism, discrimination and their outcomes.	
Pursue environmental sustainability and health equity together.	X

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