

AYRSHIRE SHARED SERVICE JOINT COMMITTEE

24 September 2024

Report by the Head of Roads – Ayrshire Roads Alliance

**AYRSHIRE ROADS ALLIANCE
ASSET MANAGEMENT PLAN UPDATE**

Purpose of report

1. The purpose of this Report is to seek approval from the Joint Committee on the updated Asset Management Plan for the road networks of East and South Ayrshire.

Recommendations

2. It is recommended that the Joint Committee:
 - i. **Approves the updated Asset Management Plan contained within Appendix 1**
 - ii. **Requests that amendments and updates are provided to future meetings of the Joint Committee.**
 - iii. **Otherwise notes the contents of this Report**

Background

3. Road infrastructure is the most valuable community's assets. In any economic situation, expenditure in efficient and responsible ways is of great importance. It is widely recognised that the application of modern, innovative, asset management practices can enable improved value for money. In these challenging times it is essential that Ayrshire Roads Alliance embraces these methods and strives to ensure that every penny spent is invested as wisely as possible.
4. Asset Management provides Ayrshire Roads Alliance with the necessary tools for efficient and sustainable management of our roads with a short and long term approach. The Roads Asset Management Plan forms an important part of the Ayrshire Roads Alliances' commitment to apply good asset management to roads.
5. Our roads ensure mobility in the local communities of East Ayrshire and South Ayrshire enhancing accessibility, improved health benefits through active travel, creates employment opportunities & supports economic productivity.

Main report/main issues

- 6 This Roads Asset Management Plan sets out the Ayrshire Roads Alliance's plans for the maintenance of road assets for the period 2023 to 2028 on behalf of East Ayrshire Council, and South Ayrshire Council.
- 7 The Roads Asset Management Plan was last submitted to Joint Committee on 9 June 2023.

Amendments from last year's RAMP include: -

- Data tables updated throughout.
- Section 02.2 – Asset Inventory Updates to Table 1
- Section 02.3 – Assets not covered. Inclusion of “Public space CCTV”
- Section 02.4 – Addition of Inventory Data Improvements section
- Section 02.5 – Addition of Asset Management Systems section
- Section 03.3 – Customer Surveys – Removed sentence about including data this year, added sentence about paucity of data, and a review of advertising surveys to be carried out
- Section 05.1 - Asset Growth tables updated
- Section 05.2 - Traffic Growth figures updated
- Section 05.4 – Utility Company Works – Update on data, including warranty duration.
- Section 05.5 - Legislative updates
- Section 06.1 – Road Condition Indicators updated
- Section 07.1 – Asset Valuation updated
- Section 07.2 – Historical Expenditure updated
- Section 07.3 – Planned Funding updated
- Section 08.1 - RCI Backlog – Data amended.
- Section 11 – References. Addition of last two documents (“Highways – Maintaining a Vital Asset. What Should Councillors Know About Asset Management?” and “Managing a valuable asset: improving local road condition. All Party Parliamentary Group on Highway Maintenance.”

Implications

Implications	Yes	No	Paragraph number in report
1. Policy/Strategic Planning	Yes		8 / 9
2. Governance	Yes		10
3. Human Resources	Yes		11
4. Equality and Fairer Scotland Duty	Yes		12
5. Financial	Yes		13
6. Risk	Yes		14
7. Community Wealth Building	Yes		15
8. Net Zero	Yes		16

Policy/strategic planning implications

8. A well maintained road network will contribute to achieving the Community Plan objectives in relation to Economy & Skills and Safer Communities to maintain good access to our communities within East Ayrshire.
9. The matters referred to in this report contribute to Priority 1 of the Council Plan: Spaces and Places / Moving around and the environment (Outcome 1).

Governance Implications

10. The work of the Ayrshire Roads Alliance is undertaken in accordance with relevant legislation.

Humans resources Implications

11. There are no implications.

Equality impact and Fairer Scotland duty implications

12. The Roads Asset Management Plan complements the Equality Impact Assessment by ensuring that any issues arising are adequately prioritised, managed and either eliminated or mitigated.

Financial implications

13. The budget for Asset Improvement is set by East Ayrshire Council and South Ayrshire Council. Appropriate scrutiny arrangements are in place to manage these budgets.

Risk implications

14. The Asset Management Plan assists in the prioritisation of risks that need to be mitigated by the Ayrshire Roads Alliance in order to reduce the overall risk to either Council and to comply with the Community Plan/Council Plan in both partner bodies.

Community Wealth Building implications

15. The works programme provides economic levers to develop resilient, inclusive local economies with more local spend and fair employment, as well as ensuring that wealth is more locally owned and benefits local people

Net zero implications

16. The Ayrshire Roads Alliance Service Plan supports and links to East Ayrshire Climate Strategy Themes

Theme 2: Transport

Theme 4: Natural Environment

Appendices (if applicable)

1. Roads Asset Management Plan

Background papers

None

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Ayrshire Roads Alliance Roads Asset Management Plan

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Document Information

Title	Ayrshire Roads Alliance Roads Asset Management Plan
Author	David Allen (Asset Management Officer)
Description	Roads Asset Management Plan setting out the plans for the management of the East Ayrshire Council and the South Ayrshire Council road assets. This document has been produced in accordance with national guidance & recommended good practices.
Document Owner	Jane Corrie (Head of Roads)

Document Control

Version	SCOTS Template Version	Date	Author	Changes from Previous Version
1	3.0	03/05/2023	David Allen ARA Roads Asset management Officer	Not Applicable
2	3.0	21/05/2024	David Allen ARA Roads Asset management Officer	Data tables updated; legislative updates; addition of inventory data improvements and asset management systems (02.4 & 02.5). Traffic Growth figures updated Addition of "Public Space CCTV" in 02.3. Addition of final paragraph Page 48, 08.1 RCI Backlog.

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Foreword

This Roads Asset Management Plan sets out Ayrshire Roads Alliances' proposals for the management of East Ayrshire Council and South Ayrshire Council road assets for the next three years and beyond. It has been produced in accordance with national guidance and recommended good practices.

Road infrastructure is the most valuable of a community's public assets. In any economic situation, expenditure in efficient and responsible ways is of great importance. It is widely recognised that the application of modern, innovative, asset management practices can enable improved value for money. In these challenging times it is essential that Ayrshire Roads Alliance embraces these methods and strives to ensure that every penny spent is invested as wisely as possible.

Asset Management provides decision makers with the necessary tools for efficient and sustainable management of roads with a short term and a long term view point. This Roads Asset Management Plan forms an important part of the Ayrshire Roads Alliances' commitment to apply good asset management to roads.

Roads ensure mobility in your local community, and also in the wider Ayrshire area & beyond. Roads enhance accessibility, health, mobility, facilitate trade & tourism, generates employment opportunities & boosts economic productivity.

Consideration is given to the levels of investment in the road network to maintain and ultimately improve on the East Ayrshire Council & South Ayrshire Councils strategic objectives that include: -

- Reducing inequalities
- Delivering inclusive economic growth
- Taking climate action
- Improving health & wellbeing of the community and visitors



Signature

Councillor Douglas Reid

Leader

East Ayrshire Council



Signature

Councillor Martin Dowey

Leader

South Ayrshire Council

01. Introduction

01.1 Strategic Context

The Ayrshire Roads Alliance (ARA) came in to being on the 1st of April, 2014, to deliver shared Council roads and transportation services to communities across East Ayrshire and South Ayrshire.

The Alliance is governed by a joint committee of elected members from the two Councils, with East Ayrshire Council as the lead authority. It delivers roads services including roads maintenance, street lighting, winter maintenance, design, traffic, transportation and road safety. The Ayrshire Roads Alliance organisation chart is shown in Figure 1, below.

The shared service ensures a consistent standard of service delivery while improving service efficiency and resilience, against a backdrop of reducing public sector budgets.

Ayrshire Roads Alliance Road Asset Management Policy confirms our commitment to asset management and aligns our approach with the SCOTS Road Asset Management (RAM) Framework of Recommended Practices, including the “Well Managed Highways” Code of Practice.

Ayrshire Roads Alliance Road Asset Management Plan (RAMP), takes the Corporate Outcomes, Objectives & Visions, for both East Ayrshire Council and South Ayrshire Council, translating them in to a clear & concise Roads Asset Management objectives. The level of service that the Council is aiming to achieve provides a means of identifying and prioritising the overall funding required for road assets.

This RAMP summarises the status of our road assets in terms of size, value and condition and presents a number of investment options for our major road assets. The scenarios presented and issues raised are designed to assist with the budget setting process.

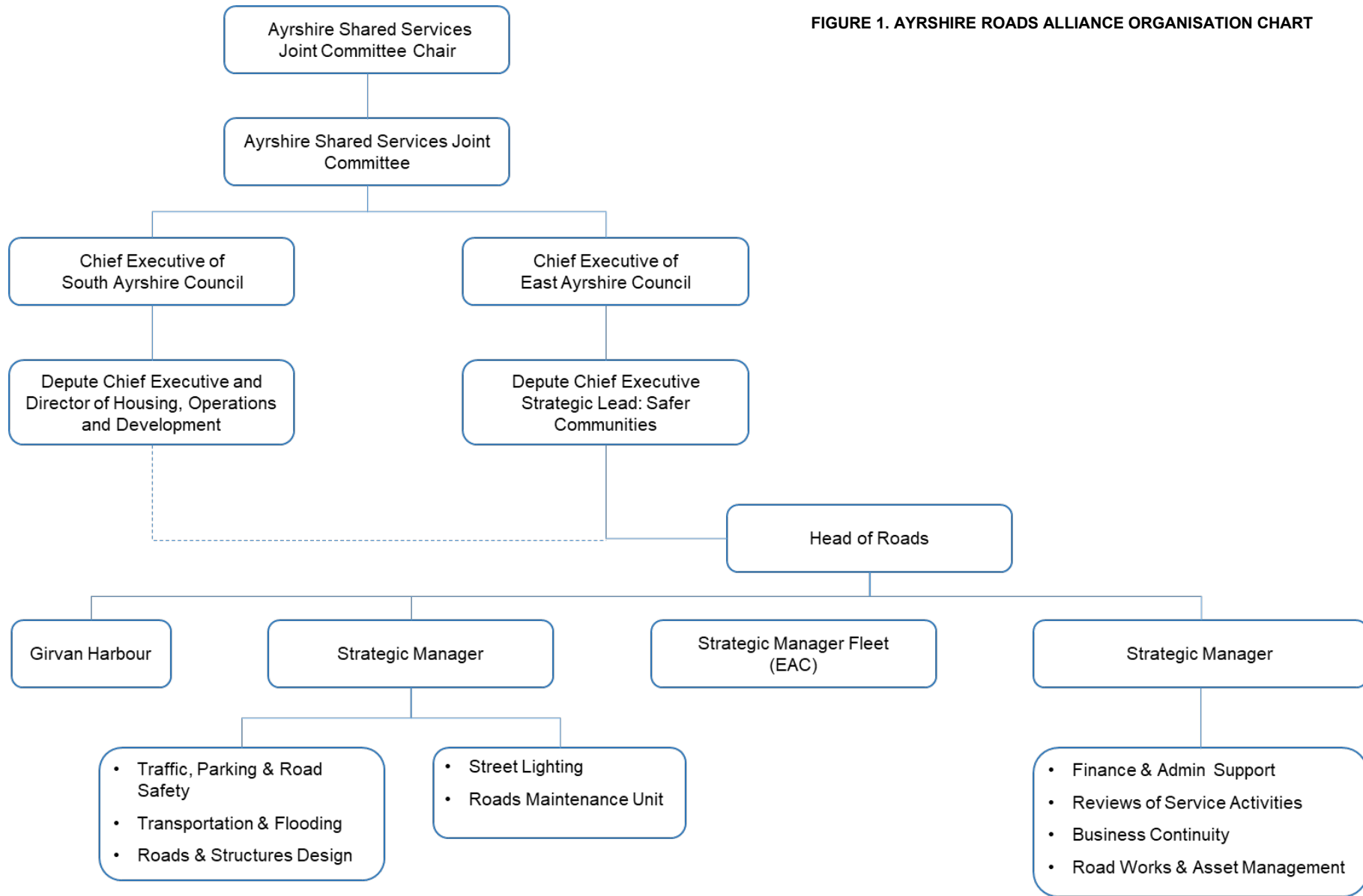
Asset groups are Carriageways, Footways, Structures, Street Lighting, and Traffic Signals. Condition assessments are carried out for carriageways and for structures. The information collected provides an accurate picture of the extent of the area’s roads infrastructure. An accurate record of condition allows us to anticipate overall funding needs and predict the impact investment scenarios will have on condition.

Road infrastructure deterioration is generally slow and often unseen, meaning that the impact of investment cannot be assessed in the short term. Over time, the rate of deterioration accelerates with insufficient maintenance. The investment scenarios presented consider the projected impact over a 5 year period. This allows decisions to be taken with an understanding of medium and long term implications.

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FIGURE 1. AYRSHIRE ROADS ALLIANCE ORGANISATION CHART



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01.2. Overview

This Roads Asset Management Plan sets out the Ayrshire Roads Alliance’s plans for the maintenance of road assets for the period 2024 to 2029, on behalf of East Ayrshire Council, and South Ayrshire Council.

Roads comprising carriageways, footways, structures, street lighting and traffic management systems are the largest value assets in our local communities. A communities road network has impacts that are not only the replacement costs, but also on business, employment, tourism, health, education, and helping to ensure that East Ayrshire and South Ayrshire are more attractive places to live.

East Ayrshire Council, and South Ayrshire Council, objectives align with Scottish Government purposes & values that include: -

- Create a more successful country,
- Give opportunities to all people living in Scotland,
- Increase the wellbeing of people living in Scotland,
- Create sustainable and inclusive growth,
- Reduce inequalities and give equal importance to economic, environmental and social progress.

01.3. Purpose of Road Asset Management Plan

The purpose of the Road Asset Management Plan (RAMP) is to:

- Formalise strategies for investment in road asset groups,
- Define service standards,
- Improve how the road asset is managed,
- Support optimised service delivery across both Council areas.

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02. Our Road Assets

02.1. Road Network

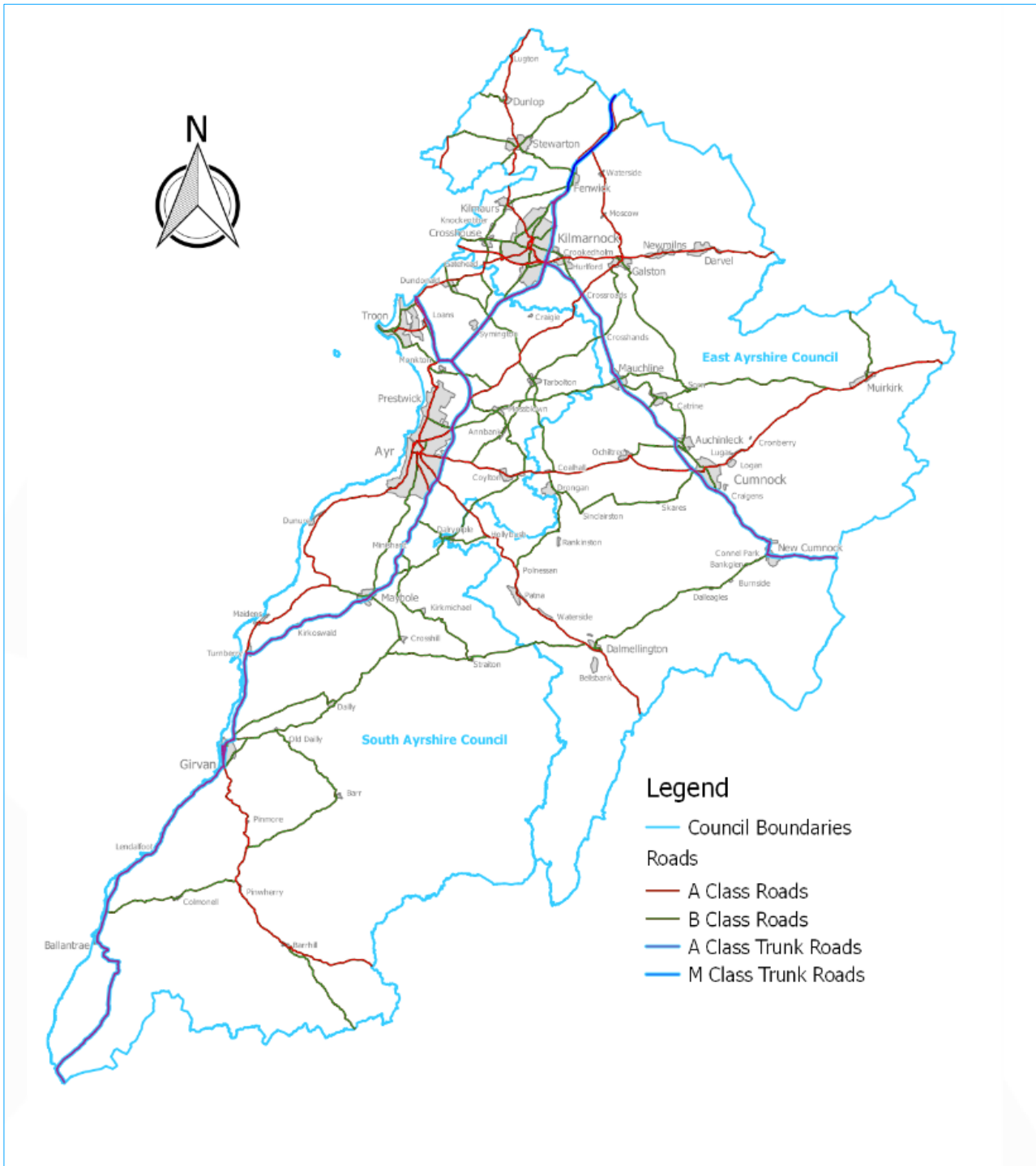


FIGURE 2: FIGURE 2. MAP SHOWING EAC AND SAC AREAS

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02.2. Assets Inventory

The roads networks are the single biggest assets that East Ayrshire Council and South Ayrshire Council own. The Gross Replacement Cost (GRC), for East Ayrshire Council is £1.75 billion, and £1.54 billion for South Ayrshire Council as of 31st of March 2023. The roads asset is made up of five major asset groups:-

- Carriageway,
- Footways and Footpaths,
- Structures,
- Street Lighting,
- Traffic Management Systems.

Data, shown in table 1 below, is based on historical records and new data that is reviewed and updated at the end of each financial year. Inventory data for non-roads assets is also included.

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Table 1 – Inventory Data as of 31st March 2023

Asset Type	Units	East Ayrshire Council	South Ayrshire Council	Totals
Carriageway	km	1,228	1,183	2,411
Footways & Footpaths	km	1,028	945	1,973
Street Lighting Columns	No.	21,457	20,488	41,945
Illuminated Signs & Bollards	No.	1,425	1,296	2,721
Structures	No.	618	371	989
Retaining Walls	km	7	3	10
Cattle Grids	No.	11	34	45
Traffic Signals	No. of Sets	97	92	189
Variable Message Signs	No.	115	45	160
Vehicle Activated Signs	No.	150	60	210
Real Time Passenger Information	No.	67	50	117
Gullies	No.	27,257	26,350	53,607
Grit Bins	No.	760	296	1,056
Weather Stations	No.	3	1	4
Harbours	No.	0	1	1
Protected Shoreline	km	0	23	23
Public Car Parks	No.	47	38	85
Public EV Charging Points	No.	57	36	93

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02.3. Assets Not Covered

The RAMP covers assets maintained by Ayrshire Roads Alliance on behalf of East Ayrshire Council and South Ayrshire Council, as local roads authorities.

Other Assets have been specifically excluded from this plan, i.e. being privately owned, or not being directly linked to the public road network.

These include:

- Private Roads and Footways – those roads that are maintained by persons or bodies other than the Councils as the local roads authority,
- Trunk Roads – managed and maintained by Transport Scotland, on behalf of the Scottish Ministers,
- Proposed Public Roads – those roads which shall become public roads sometime in the future,
- Private Bridges (i.e. Network rail structures),
- Council owned bridges, not on or crossing the public road network,
- Decorative, seasonal lighting,
- Public Space CCTV,
- Assets relating to the other five key areas of Council asset ownership (e.g. Buildings and Property, Council Housing, Open Space, Vehicle Fleet and Information and Communications Technology),
- Public Rights of Way – landscape and countryside.

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02.4. Inventory Data Improvement

A review of the asset data held within each asset group will be carried out, and an asset data improvement plan incorporated in the 2025 RAMP update.

A gully asset data collection programme commenced on the 4th of March 2024 for East Ayrshire Council and for South Ayrshire Council. This will allow for improved management of gully cleansing programmes and improved data as to the state of gullies over time.

Data, for road traffic signs is to be extracted from Vaisala Roads AI, and imported to the ARA Highways Infrastructure Asset Management System (HIAMS).

02.5. Asset Management Systems

Digital, data driven, solutions allow for the leveraging of asset management.

02.5.1. Ayrshire Roads Alliance HIAMS

The Ayrshire Roads Alliance has, for many years, utilised digital solutions, including WDMs' Roads Management System (RMS), WDMs' Lighting Management System (LMS) and WDMs' Structures Management System (SMS).

These systems, were approaching their "end of life", from a cyber-security and software support perspective. Migration projects to more modern, cloud based systems, to replace the above modules, were commenced in summer 2023. The new, cloud based module, on HIAMS, for the Structures Management System went live in October 2023. The new cloud based modules for the Roads Management System and for the Lighting Management System, in HIAMS, went live in December 2023.

The ARA Pavement Management System (PMS) will be migrated to the new cloud based model, on HIAMS around September 2024, and will be used to create the carriageway resurfacing works programme for 2025/26 financial year.

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02.5.2 Vaisala Road AI

Vaisala Road AI utilises a mobile phone camera to record information about visual road condition data, traffic signs and road markings. The use of Vaisala Road AI enhances safety, compliance, and overall asset management data. There is an intention to extract road condition data from the Vaisala Road AI system, and integrate it with the ARA HIAMS Pavement Management System module. Traffic sign data shall also be collected from Vaisala Roads AI, and exported to the ARA HIAMS Roads Management System module. This will provide accurate inventory data within ARA HIAMS.

02.5.3 KaarbonTech Gully Smart

East Ayrshire Council and South Ayrshire Council gully cleaning data has been historically maintained in Microsoft Excel spreadsheets. The information collected is minimal and does not contribute to best practice maintenance, nor data analysis. A decision had been made to carry out an asset data collection exercise and to migrate gully cleansing management and reporting to the KaarbonTech Gully Smart cloud based solution. Reasons for doing so included: -

- Reduce the amount of data required to be stored, backed up, and supported on EAC servers,
- No anticipated additional annual operating costs,
- Data stored on servers managed by supplier,
- Software managed and maintained by supplier, including software updates,
- Ability to develop use of mobile working where software is compatible with standard mobile devices,
- Access system via web browser,
- Allows for remote working,
- Utilise National Street Gazetteer, that is current and maintained,
- Improved asset management, facilitating return on asset,
- Improved reporting,
- Improved data assurance and data quality through data collection and verification exercise providing accurate asset numbers, types and condition,
- Increased resilience of data.

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A project has commenced for KaarbonTech to collect gully inventory data on behalf of ARA. This is expected to be completed summer 2024. KaarbonTech Gully Smart is a Cloud based solution for management and for reporting, that utilises tablets for the inspection and for the maintenance of gullies.

There is an intention, for future development of a link between the ARA HIAMS and the Gully Smart systems, to allow gully asset and condition information to be automatically transferred between both software systems.

02.5.4 Asset Management Systems Conclusion

The above systems contribute to efficient operations and cost savings. Inspections, and maintenance activities, generate records that serve as evidence of compliance, maintenance, and safety. These records are essential for audits, insurance claims, and legal purposes.

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03. Stakeholders

03.1. Road Service Key Stakeholders

Ayrshire Roads Alliance has a wide variety of stakeholders, which include:

Table 2 – Stakeholder Groups	
Stakeholder Group	Examples
Customers	Pedestrians, cyclists, motorists, commuters, logistics, tourists, businesses
Transport providers	Bus companies, Network Rail, ScotRail, Ferry Companies, SPT, Prestwick Airport
Statutory Undertakers	Water, gas, oil, electricity, telecommunications
Politicians	Local Councillors, MSPs, MPs, Scottish Ministers, UK Government Ministers
Senior Council Executive/Management	Finance, Legal, ICT, Department Heads, Procurement
Council Road Infrastructure Officers	Section Heads and Team Leaders within the Ayrshire Roads Alliance
Emergency Services	Police Scotland, Scottish Ambulance Service, Scottish Fire and Rescue Service, Coastguard
Industry bodies	SCOTS, RAC, AA, Cycling Scotland, Sustrans, Scottish Chambers of Commerce, Regional Timber Transport group, UKRLG
Other Council Services & Organisations	Refuse Collections, Social Services, Regeneration, Education, Community Councils
Delivery partners & Supply chain	Consultants, Contractors, Suppliers
Neighbouring Roads Authorities	North Ayrshire Council, Dumfries & Galloway Council, South Lanarkshire Council, East Renfrewshire Council, and Transport Scotland
Environmental	SEPA, Scottish Government

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03.2. Stakeholder Communication & Engagement

Involving stakeholders, including communities and their representatives, is core to allowing Ayrshire Roads Alliance deliver their commitments to the community. Consultation facilitates the creation of shared values and objectives, allowing for developing and delivering of meaningful services and setting stakeholder expectations.

East Ayrshire Council commenced an ongoing five year strategic plan consultation in May 2022. This consultation with stakeholders, such as members of the public. This strategic plan will enable East Ayrshire Council to form priorities and to allocate budgets, whilst delivering the vision and ambition for East Ayrshire Communities over the next five years.

South Ayrshire Council, via the “Have Your Say” section of the website have the ability to comment on current consultations as well as to review historic consultations

Ayrshire Roads Alliance, on behalf of South Ayrshire Council, and East Ayrshire Council carry out public consultations that may be accessed on line at the East Ayrshire Council and South Ayrshire Council websites.

Through improvement plans, which are created from the outcomes of consultation, both East Ayrshire Council, and South Ayrshire Council, show understanding of local needs and aspirations. These plans are reviewed and supplemented as necessary.

Ayrshire Roads Alliance has a procedure in place for the management of complaints, from logging a complaint (by email, telephone, or online), to a complaint being closed out.

03.3. Customer Surveys

From 2022/23 financial year Ayrshire Roads Alliance have been using the online APSE Scotland Road Survey questionnaire for the East Ayrshire Council area and for the South Ayrshire Council area. The online surveys are available to the public from the Council websites, the Ayrshire Roads Alliance website and on social media.

Link to the East Ayrshire Council survey is: - [HTTPS://WWW.SURVEYMONKEY.CO.UK/R/EAST-AYRSHIRE-2](https://www.surveymonkey.co.uk/r/east-ayrshire-2)

Link to the South Ayrshire Council Survey is: - [HTTPS://WWW.SURVEYMONKEY.CO.UK/R/EAST-AYRSHIRE-2](https://www.surveymonkey.co.uk/r/east-ayrshire-2)

Due to too few people completing the surveys in 2023, a review of how the surveys are advertised shall take place.

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03.4. Customer Contacts

Roads and street lighting faults reported by customers are recorded on the WDM Routine Management System and the WDM Lighting Management System, respectively.

Faults may be logged online, by email, by letter or by telephone.

The URL is [online](https://www.ayrshireroadsalliance.org/Report/Report-a-Fault.aspx) at: - <https://www.ayrshireroadsalliance.org/Report/Report-a-Fault.aspx>

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04. Our Road Asset Management Objectives

The Ayrshire Roads Alliance Asset Management Objectives support the alignment with the East Ayrshire Council and the South Ayrshire Council corporate management strategies and provide direction for the implementation of Asset Management Practices across the Roads Service.

Within East Ayrshire, a well maintained road network will contribute to achieving the Community Plan objectives in relation to Economy & Skills and Safer Communities to maintain good access to our communities.

The South Ayrshire Council has the strategic objective of 'Enhanced Environment through Social, Cultural and Economic Activities' and, within that, the outcome 'Work with partners to improve roads and other infrastructure, to encourage house building and business investment that sustains local communities'.

With reference to winter, East Ayrshire and South Ayrshire Council have a statutory obligation under Section 34 of the Roads (Scotland) Act 1984 to prevent snow and ice endangering the safe passage of pedestrian and vehicles over public roads in terms of the above legislation a 'road' includes carriageways, footways, and footpaths areas.

Both South Ayrshire Council and East Ayrshire Council aim to provide an effective and efficient Winter Service in accordance with "Well Maintained Highways", and within the resources available to: -

- Allow the safe passage of vehicles and pedestrians,
- Minimise delays due to winter weather,
- Ensure operations are undertaken safely.

The Asset Management Objectives support Ayrshire Roads Alliance to:

- Take a strategic approach to asset management,
- Focus on customer needs,
- Measure Performance,
- Communicate decision risks and opportunities,
- Provide a consistent approach to managing the asset.

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Environmental

Long-term option and planning analysis to minimise the environmental of impacts of maintenance.



Safety

Provide a safe network for all road users through the continuous refinement of the authority's intelligence-led approach.



Healthier

Promote the healthier travel options through the provision of maintenance that priorities pedestrians and cyclists.



Customer Engagement

Engage with customers to understand their needs, priorities, and expectations to support the development of service standards and improve customer satisfaction.

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05. Demands

05.1. Asset Growth

The asset grows each year due to the adoption of new Roads and construction of new Road links. New assets create the need for maintenance, management, and associated funding in future years as these additional assets age. Generally, increases in assets are due to new developments. Over the last 5 years the following assets lengths have been adopted, or disposed of, by the Councils:

Table 3. Sum lengths of Carriageway & Footway that have been adopted or disposed of for East Ayrshire Council

(Data from Asset Valuation Annual Reports – Carriageway input, Additions and Disposals)					
	2018/19	2019/20	2020/21	2021/22	2022/23
Carriageway	+ 1.4 km	+ 2.5 km	+ 5.4 km	+ 4.4 km	+0.6 km
Footways and Footpaths	+ 2.0 km	+ 2.1 km	+ 5.1 km	+ 7.8 km	+0.6 km

Table 4. Sum lengths of Carriageway & Footway that have been adopted or disposed of for South Ayrshire Council

(Data from Asset Valuation Annual Reports – Carriageway input, Additions and Disposals)					
	2018/19	2019/20	2020/21	2021/22	2022/23
Carriageway	+ 2.7 km	0.0 km	+1.6 km	-2.7 km	5.0 km
Footways and Footpaths	+ 2.0 km	0.0 km	+ 0.6 km	0.0 km	3.2 km

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The decrease in carriageway length in South Ayrshire for 2021/22 was due to part of the U36, Glendrisaig Road, south of High Ballcohdowdown Farm, being removed from the Council's List of Public Roads on the 21st July 2021.

05.2. Traffic Growth & Composition

Cars, and taxis, remain the dominant mode of transport in Scotland. In 2021, 43 billion vehicle kilometres of traffic were travelled across the 59.2 thousand kilometres of roads in Scotland. Long term trends for traffic growth have shown year on year increases. The exception to this have been the years of 2020 and 2021, where there was a marked drop in traffic levels due to COVID-19. The increase in traffic places increasing pressure on the Ayrshire Roads Alliance network due to the significant increase in the general volume of traffic and in particular, large commercial vehicles.

Increased car ownership and individual mobility since the Second World War was instrumental in the closure of some of Ayrshire's railways in 1960s', and created the demand for a road building and road improvement programme of the principle routes that connect Ayrshire internally (including ferry ports and Prestwick Airport), and with major conurbations out with of Ayrshire. The main demands, for development, include for houses, agricultural buildings, tourist accommodation and the expansion of urban areas.

In 2017 65% of all journeys were made either as drivers or passengers in a car or a van, up 4% since 2012. Of these journeys the proportion of single occupancy car trips also showed an underlying increasing trend, up 4% since 2012.

The number of people permitted to drive on our roads is ever increasing and if current trends continue car trips nationwide are predicted to increase over the next 20 years by 20%.

During the first six months of the COVID-19 pandemic (March 2020 to September 2020) car traffic throughout Scotland, dropped to 25% of 2019 levels, but was up to 91% of 2019 traffic levels by the end of September 2020. Walking levels were consistently lower than equivalent days in 2019. Cycling activity was higher than in 2019 for most of the six month period. Use of busses was 15% of 2019 levels for March 2020 and then climbed. Use of rail dropped to 8% of 2019 levels in March 2020 but rose after that. Ferry use was less than 4% of pre SARSCoV2 pandemic levels. Flight numbers fell at the start of lockdown, in March 2020, to 10% of 2019 levels, but rose to 40% of 2019 levels by the end of September 2020.

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Other factors which should be taken into consideration include tourism from within the UK and beyond which is a major contributor to our economy, with tourists from within the UK mainly arriving by road. Also, changes in traditional work patterns are creating transport demands at different times from the traditional peak periods.

Post the removal of SARSCoV2 pandemic restrictions, traffic levels have risen. During SARSCoV2 pandemic there was an increase in light commercial vehicle miles travelled due to a rise in on line shopping. This increase in light commercial vehicle miles continues, post SARSCoV2 pandemic restrictions.

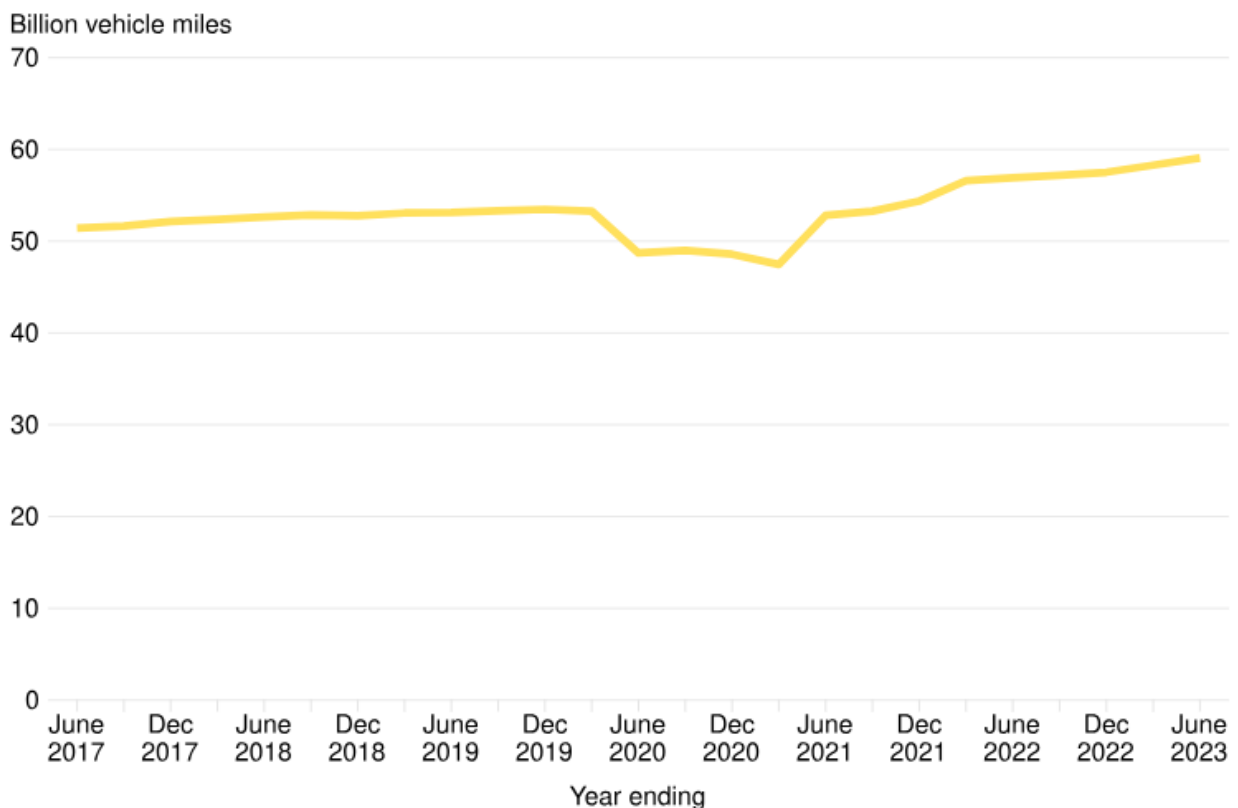


FIGURE 3: ROLLING ANNUAL VEHICLE MILES TRAVELLED BY VANS IN GREAT BRITAIN, FROM YEAR ENDING JUNE 2017 TO YEAR ENDING JUNE 2023 (FROM TRA2501A)

The tables below, are provided by the Department for Transport. The data show annual traffic by vehicle type for East Ayrshire and for South Ayrshire from 1993 to 2022. The 2022 traffic levels remained lower than pre SARSCoV2 pandemic.

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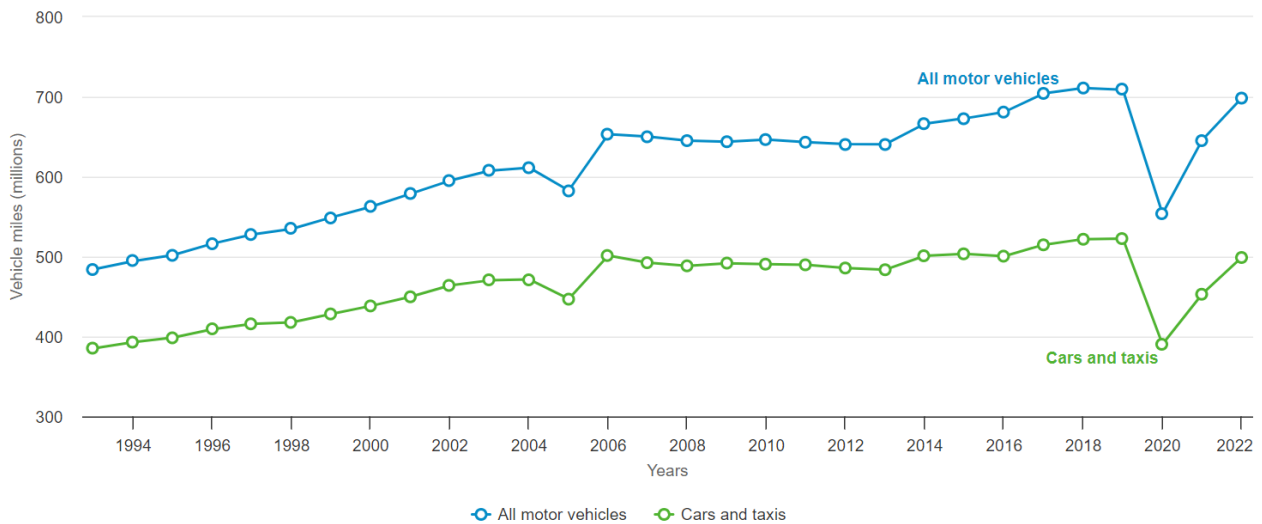


Figure 4: ANNUAL TRAFFIC BY VEHICLE TYPE IN EAST AYRSHIRE. 1993 TO 2022 INCLUSIVE.

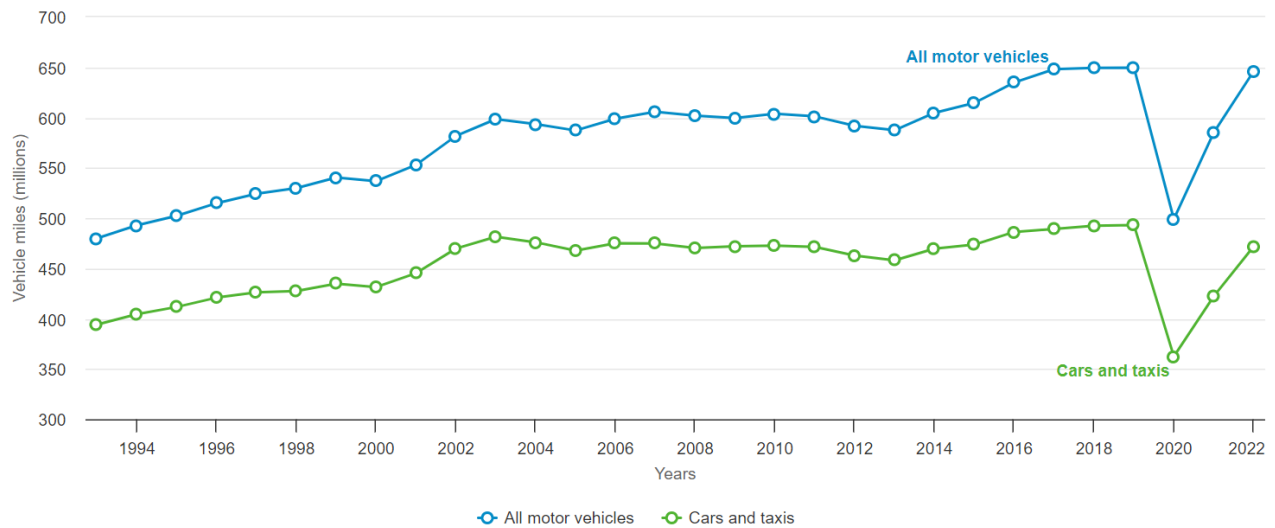


Figure 5: ANNUAL TRAFFIC BY VEHICLE TYPE IN SOUTH AYRSHIRE. 1993 TO 2022 INCLUSIVE.

The National Transport Strategy outlines the Government’s vision for a Scottish transport system which creates great places through the provision of a sustainable, inclusive and accessible transport system which promotes prosperity, health and fairness for all our citizens. It aims to promote equality by providing fair access to services which are easy to use and affordable for all.

Many of the roads in East Ayrshire Council and South Ayrshire Council were not designed to accommodate this level of traffic which creates a growing need for investment in maintenance. The lack of maintenance can cause delays through disruption, and increase in carbon emissions. Not intervening on time, can increase treatment costs, and also cause an increase in journey times as the treatments will be more frequent and will require more time.

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05.3. Environmental Conditions

The Ayrshire Roads Alliance is responsible for maintenance works across the East Ayrshire Council and South Ayrshire Council network of roads, bridges, structures and other assets. The protection and enhancement of the natural environment is an important aspect of transport network maintenance.

The Scottish Government is committed to a net-zero greenhouse emissions by 2045. This requires fundamental transformations in how the transport network is utilised, maintained and developed. The Just Transition Commission was established in 2018, with a remit of providing Scottish Government Ministers with practical advice. The advice is developed from the gathering of knowledge, expertise and lived experience from a wide range of people and groups across Scotland. As set out in the Scottish Government Climate Change update, by 2030 Scottish Governments intends to reduce car miles travelled by 20%.



The transport system currently prioritises cars. This will need to change in the future, with the focus being on other modes of transport. Electric vehicles will play a necessary role in reducing transport related CO2 emissions. Continued dependence upon private vehicle usage does not constitute behaviour change towards more active and inclusive forms of travel, and will continue to be a significant source of harmful particulate matter. Electrification will bring immediate benefits to some roadside emissions. This does not negate the requirements for a transport system that is accessible to all and which maximises the physical and mental health benefits of active and decarbonised transport which will require a range of policy changes.

East Ayrshire Councils' Climate Change Strategy, "Clean Green east Ayrshire" proposes cutting emissions both within the Council and in the wider area which will help build a stronger post-carbon, post-COVID economy, with community wealth building, equality of opportunity and improved quality of life for all at its heart. The East Ayrshire Council strategy is available online at: - <https://www.east-ayrshire.gov.uk/Resources/PDF/C/Climate-Change-Strategy.pdf>

As of April 2023, South Ayrshire Council carried out a "Sustainable Development and Climate Change" survey that was available online. This survey closed 02 May 2023. The outcomes of this survey shall impact the current document which was for the years 2019 to 2024, and which was released in to the public domain 25 April 2019.

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As per the current survey, South Ayrshire Council's Climate Change Strategy aims to ensure a just transition for people and nature, supporting ecological recovery and wellbeing, reducing inequalities and creating sustainable, liveable places where people are connected to nature, climate literate and understand the natural systems we rely on, are supported to develop green skills and can work in a fast-evolving local green jobs market, travel less overall and make active and sustainable travel choices first.

South Ayrshire Councils current "Sustainable Development and Climate Change Strategy" document may be found online at: - [Sustainable development and climate change strategy 2019-2024 \(south-ayrshire.gov.uk\)](https://www.south-ayrshire.gov.uk).

Pressures on the transport network assets come from a number of environmental sources that include: -

- Winters (include 2018, Beast from the East),
- Flooding,
- Climate change,
- Changes in pollution levels. Pollution levels dropping in some instances – more knowledge required around plastics pollution.

05.3.1 Winters

The Ayrshire region has a temperate maritime climate where summers tend not to be hot, and winters not too cold. Generally the hottest month is July, and the coldest January. The weather is fairly unpredictable, as with the rest of Scotland.

The climate of the Ayrshire region has a maritime influence, as the prevailing winds blow from the sea. The warm Gulf Stream also has a strong influence on Western Scotland with winds mainly blowing from the sea. The annual mean temperatures are in the range 9.5 to 9.9 °C in coastal areas. The sea reaches its lowest temperature in February or early March so that on average February is the coldest month in some coastal parts of Ayrshire with minimum daily temperatures being about 2C. For snow to lie for any length of time then the temperature normally has to be lower than this. Over most of the area, snowfall is normally confined to the months from November to April. On average, the number of days with snow falling is about 20 near the Ayrshire coastline. The number of days where snow lies is less than 5 days.

Occasionally transport disruption can occur. One example being during the winter of 2018/19. There were 10 days starting on Thursday the 22nd February where traffic was majorly impacted. A stratospheric warming (warm air traveling across the Atlantic from Mexico to the UK) disturbed the jet stream. This allowed for cold winds from Russia to reach the UK. Temperatures dropped, with a frost each night. Then, the Met Office issued a rare red snow warning across central Scotland. By

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the time the air reached Scotland, it was just below 0C. In addition the air mass had collected water from the North Sea which resulted in heavy snowfall upon reaching Scotland. Glasgow Airport was closed and there was widespread travel disruption. Power cuts hits thousands of homes and military assistance was deployed. This storm was known as The Beast from the East. In Scotland, the demand for gas required to heat homes rose by 50%.

05.3.2 Flooding

The Scottish Environmental Protection Agency (SEPA) is Scotland's national flood forecasting, flood warning authority and strategic flood risk management organisation. SEPA liaise closely with other organisations that are responsible for managing flood risk, to ensure that a nationally consistent approach to flood risk management is adopted. Councils are responsible for producing Local Flood Risk Management Plans (LFRMP) and for engaging with SEPA, Scottish Water and other responsible authorities to develop these.

A LFRMP is a document, or series of documents, that describe how organisations will collaborate and coordinate in order to mitigate adverse impacts of flooding on communities. Flooding is something that has the ability to effect people, the environment, property, infrastructure and economic activity. Due to flooding impacting cross boundaries, it is common for Councils to create a collaborative Flood Risk Management Plan. For flood risk management purposes, Scotland has been divided into 14 Local Plan Districts. The two districts that are pertinent to East Ayrshire Council and South Ayrshire Council are Ayrshire and Solway.

The first Ayrshire LFRMP, was created in 2009 and is reviewed, and revised, as necessary. The Ayrshire Flood Risk Management Plan is published by North Ayrshire Council on behalf of North Ayrshire Council, East Ayrshire Council and South Ayrshire Council, Scottish Water, SEPA and NatureScot (previously known as Scottish Natural Heritage). North Ayrshire is the lead local authority for the Ayrshire Local Plan District.

The Flood Risk Management Strategy is a tool utilised for implementing the Flood Risk Strategy, and addresses the risk of flooding from rivers, the coast and surface water. The risk of flooding from rivers is usually due to rainfall causing a river to rise above bank level spreading out and inundating adjacent areas. Coastal flooding is where the risk is from the sea. Sea levels can change in response to tidal cycles or atmospheric conditions. Over the longer term sea levels and coastal flood risk may change due to climate change. Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

In summary, there are 18 areas and one candidate area that have been identified as being potentially vulnerable to flood risk across the Ayrshire Local Plan district. These include 7,800 residential and 2,700 non-residential properties. The estimated annual average damage from the identified flood risks is £16.4 million. The Flood Risk Management plan presents actions to avoid and reduce the risk of flooding, and prepare and protect ourselves and communities within these potentially

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vulnerable areas and across the local plan district. These actions include 3 prioritised flood protection schemes or works; 15 flood protection studies; flood warning schemes, surface water management plans, and natural flood management studies and works. The delivery of many of these actions may be dependent on the availability of funding.

For full details the following documents, that are available on the Ayrshire Roads Alliance website, should be referenced: -

- Ayrshire Local Flood Risk Management Plan, Cycle 2 – LPD 12,
- Solway Local Flood Risk Management Plan, Cycle 2 - LPD14.

The Ayrshire Local Flood Risk Management Plan, Cycle 2 – LPD 12 may be found on the Ayrshire Roads Alliance website at: -

<https://www.ayrshireroadsalliance.org/Resources/pdf/Flooding/2022/ayrshire-local-flood-risk-management-plan.pdf>

The Solway Local Flood Risk Management Plan, Cycle 2 - LPD14 may be found at: -

<https://www.ayrshireroadsalliance.org/Resources/pdf/Flooding/2022/solway-local-flood-risk-management-plan.pdf>

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05.3.3 Ayrshire Shoreline Management Plan

A shoreline management plan (SMP) includes a large-scale assessment of the risks associated with coastal processes, including flooding and erosion over short (0 to 20 years), medium (20 to 50 years) and long term (50 to 100 years) timescales. A Shoreline Management Plan informs as to the management of risks, to an identified stretch of coastline, to people and the developed, historic and natural environment. One of the main aims of an SMP is to promote sustainable policies into the next century and provide a timescale for managing risks along the coastline in the future.

The Ayrshire Shoreline Management Plan extends from Skelmorlie to the Galloway Burn, at the Dumfries and Galloway Council boundary. The islands of Arran and Great Cumbrae are also included in the plan. Implications of relevant suggested management measures have been considered for the adjacent council areas of Inverclyde and Dumfries & Galloway, however policy for these areas is not set by the Ayrshire Shoreline Management Plan.

The Ayrshire SMP should be reviewed at regular intervals in order to assess if the policies and actions proposed are still appropriate, particularly as the understanding of the rate of sea level rise resulting from global climate change becomes better understood. Rising sea levels, increased coastal erosion and erosion-enhanced flooding will progressively impact soft coastlines.

The Shoreline Management Plan, along with associated documents, is published on the Ayrshire Roads Alliance website and the South Ayrshire Council website.

The link to the Shoreline Management Plan, on the Ayrshire Roads Alliance website is at: - <https://www.ayrshireroadsalliance.org/Information-On/Ayrshire-Shoreline-Management-Plan-Information.aspx>

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05.3.4 Climate Change

The landscape of the Ayrshire region predominantly comprises of a landscape that is at low level. The localised highest points are Kirrieoch Hill, South of Straiton, at 786 metres ASL and Blackcraig Hill, near New Cumnock, at 700 metres ASL.

The environment, health of people and the economy within Ayrshire are intrinsically linked. In Scotland we are already seeing changes in climate that are impacting society. Climate change, the long term shift in climate patterns, is mainly driven by greenhouse gasses (that include carbon dioxide, nitrous oxide, methane, water vapour and ozone), aerosol emissions and land use change. These can impact climate systems in many ways, including: -

- Changes to the hydrological cycle (the movement of water on, above and below the surface of the Earth. E.g. Ground water, rivers, clouds, rain, transpiration from plants, evaporation),
- Warming Oceans, land and air,
- Melting ice (poles and glaciers),
- Rising sea levels,
- Ocean acidification,
- Changes in ocean currents (i.e. The North Atlantic Drift),
- More extreme weather.

The impacts to Scotland include: -

- Damage to infrastructure, including roads, structures and drainage systems,
- Flooding of coastal regions,
- Localised flooding due to increased amounts of rainfall in shorter periods of time,
- Risks to water supplies,
- Food instability,
- Death of forests,
- Change in seasons,
- Damage to marine eco systems,

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➤ Conflict and climate migrants.

For the benefit of our communities, our children, the environment and prosperity, Scotland is transitioning to a net zero emissions society. By 2045 there shall be no greenhouse gas emissions. To help meet Scotland's targets, a transformation of all sectors of life is required.

Net Zero Scotland informs us that transport accounts for about 36% of Scotland's greenhouse gas emissions. 40% of Scotland's transport emissions comes from cars. Over half of all journeys made in Scotland are under 5km. Some steps have been taken to reduce this, including the Active Travel initiative, but the overwhelming majority of vehicles on the road are still greenhouse gas-emitting petrol or diesel engines.

The Scottish government has said it wants to have "phased out" the need for new petrol and diesel cars by 2030 - and hopes to reduce the use of cars generally, with the number of kilometres driven to be reduced by 20%.

The number of new electric and hybrid cars registered in the UK is soaring and the availability of publicly available charge points in Scotland is now at 2,200 and increasing.

Both East Ayrshire Council, and South Ayrshire Council have completed a review of publicly accessible Electric Vehicle charging points. East Ayrshire Council and South Ayrshire Council, through the Ayrshire Roads Alliance, are working in conjunction with North Ayrshire Council to further develop ways to improve access to charging points for electric vehicles. East Ayrshire currently have 63 publicly accessible Electric Vehicle charging points and South Ayrshire Council have 35.

A business case was created in 2022 between North, East and South Ayrshire Councils which set out how all three local authorities could work together to expand the EV charging infrastructure network to meet projected EV demand over the next three to four years.

A list of desired outcomes for the EV network were produced in consultation with key stakeholders, which stated that the public EV network should give people access to a technologically advanced, well maintained, reliable network; that it should be available in rural, remote and more deprived areas; that it must be commercially viable and attract private sector investment, and that it should promote the use of public transport and active travel as people's first choice in line with the National Transport Strategy.

Potential locations for the proposed EV network were then investigated and it was agreed that the aim would be for 99% of Ayrshire properties without off-street parking to be within a 10-minute drive of a charge point. Further investigative work and detailed site surveys will be undertaken and a public consultation carried out to inform the public of the plans to introduce more EV charge points across Ayrshire, after which the locations will be finalised.

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05.3.5 Twenty Minute Neighbourhood

In 2016 transport became the largest greenhouse gas emitting sector. This follows a decrease in emissions from coal power, as the UK transitioned towards gas for energy. Emissions, from transport, in Scotland have decreased but transport is still the largest contributor to emissions.

Transport accounted for 35.6% of Scotland's total greenhouse gas emissions in 2018; 40% of these emissions came from car journeys - the highest emitting mode of transport. In 2020, transport accounted for 23.8% of Scotland's total greenhouse gas emissions; cars being 40% of that total.

Between 2019 and 2020, there was a 19% reduction transport within Scotland. This has given the largest fall in greenhouse gas emissions on record. This reduction coincides with COVID-19 related restrictions. It is likely that there will have been reduced emissions for 2021 as well.

Scottish Government, in conjunction with Councils, has made a commitment to deliver a net zero society by 2045, which means zero greenhouse gas emissions. Councils, throughout Scotland, have their part to play in meeting the targets.

Lockdown in 2020, due to COVID-19, showed that people's lives could be improved through walking, cycling, taking exercise, access to local or online services, working from or closer to home, and access to shared green spaces. Lockdown dramatically limited individual movement. These restrictions have spurred on adoption of twenty minute neighbourhoods, an urban planning strategy that has existed for decades. The strategy focuses on the decentralisation of towns & cities by bringing amenities into neighbourhoods.

20 minute neighbourhoods' are places that are designed so that residents may have access to services they need, including schools, shops, doctors surgeries, dentists, leisure facilities and places of work, within a 20 minute walk of their home. This is through access to safe walking and cycling routes, or by public transport. The goal is to make active travel the easiest option for everyone.

Benefits of a twenty minute neighbourhood are not just in reductions of traffic and greenhouse gas emissions. Adults should aim for around 20 - 30 minutes moderate physical activity, such as brisk walking, as a daily minimum. 20 minute neighbourhoods help to ensure that much of this activity can be accommodated within our normal daily patterns of behaviour. When then a place is attractive and easy to move around, individuals are encouraged to choose walking, wheeling or cycling, with benefits for physical and mental health. Fewer vehicles on our roads, travelling at lower speeds can help to increase walking, wheeling and cycling and improve air quality.

There is no 'one-size-fits-all' approach to developing 20 minute neighbourhoods. Every community is different, as are the needs of its residents. It is also possible that some of those communities where the ability to engage is lowest, may be where the opportunities to make significant and measurable changes are the greatest.

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The concept needs resourcing and delivery at a scale and intensity proportionate to the degree of need. All communities will need some support, but the most in need should have the most support to close the gap.

The South Ayrshire Council Active Travel Strategy has been published on the website below.

Link to South Ayrshire Council Active Travel Strategy: -

<https://www.ayrshireroadsalliance.org/Information-On/Traffic-and-Road-Safety/Active-Travel-Strategy.aspx>

05.3.6. Sustainable Materials in Maintenance of Highways Infrastructure

Sustainable maintenance practices, of highways infrastructure, is a multi-discipline concept that integrates ecological, social and economic aspects along with the close involvement of organisations from manufacturers, government, highways maintenance organisations and industry bodies.

Ayrshire Roads Alliance has embraced, and is implementing principles of sustainability through managing works by limiting their impact, on the environment. The intention is to maximize benefits throughout the life time of an asset whilst minimizing emissions, and minimising waste, through recycling of materials used.

As an example, on the Loans to Troon Active Travel Corridor, Ayrshire Roads Alliance explored various alternative materials to reduce carbon emissions. This focussed on kerbing and paved areas as two of the identified carbon hotspots. After a trial, a porous rubber crumb surface was taken forward as a replacement for asphalt. This alternative material had several benefits from reducing the requirement for concrete edge kerbing to being porous and thus providing a sustainable drainage solution. Lessons learnt from this scheme have been invaluable for ensuring best practice and considering future low carbon materials.

Other examples include the use of in situ recycling of asphalt, and the use of hydraulically bound materials (HBM) utilising recycled materials.

The use of sustainable materials can lead to reductions in carbon emissions, but as important is ensuring that carbon is considered early in the design process, to make efficiency in design and minimise the volume of materials required. During 2023, Ayrshire Roads Alliance will develop a Carbon Management Strategy that will provide guidance for how carbon management will be integrated within projects, setting out requirements in design, procurement and construction to create efficient designs that ensure the use of sustainable materials.

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05.3.7 Fleet Vehicle Environmental

The Ayrshire Road Alliance, on behalf of East Ayrshire Council, has taken huge strides towards achieving the goals of its Climate Change Strategy for Transport by changing from diesel to hydrogenated vegetable oil (HVO) for almost all fleet vehicles.

HVO is a viable alternative to diesel. It is sustainable as it is made from vegetable oils that are sourced from food waste products but the most significant benefit of HVO is that it can reduce CO2 emissions, compared to diesel, by up to 90%.

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05.4. Utility Company Works

Utility activity can have a major effect on the maintenance and management of the road assets. There are currently no recorded figures to quantify the effect that utility openings have on the road structure but it is widely believed that these lead to an increase in defects and earlier deterioration of the road surface than would otherwise be expected. All Utility companies are responsible for carrying out their own reinstatements. For any works where the permanent reinstatement was completed prior to the 1st October 2023, works have a 2-year, or 3-year, guarantee depending upon the depth of these works.

The duration of guarantee periods, for permanent reinstatements, was reviewed. For any permanent reinstatements completed from the 1st October 2023 the guarantee period increased to six years.

The graphs, below, show the number of works carried out by Utility Companies since the start of the financial year 2017/18. There are two graphs, below, one displaying information for East Ayrshire Council and one graph for South Ayrshire Council.

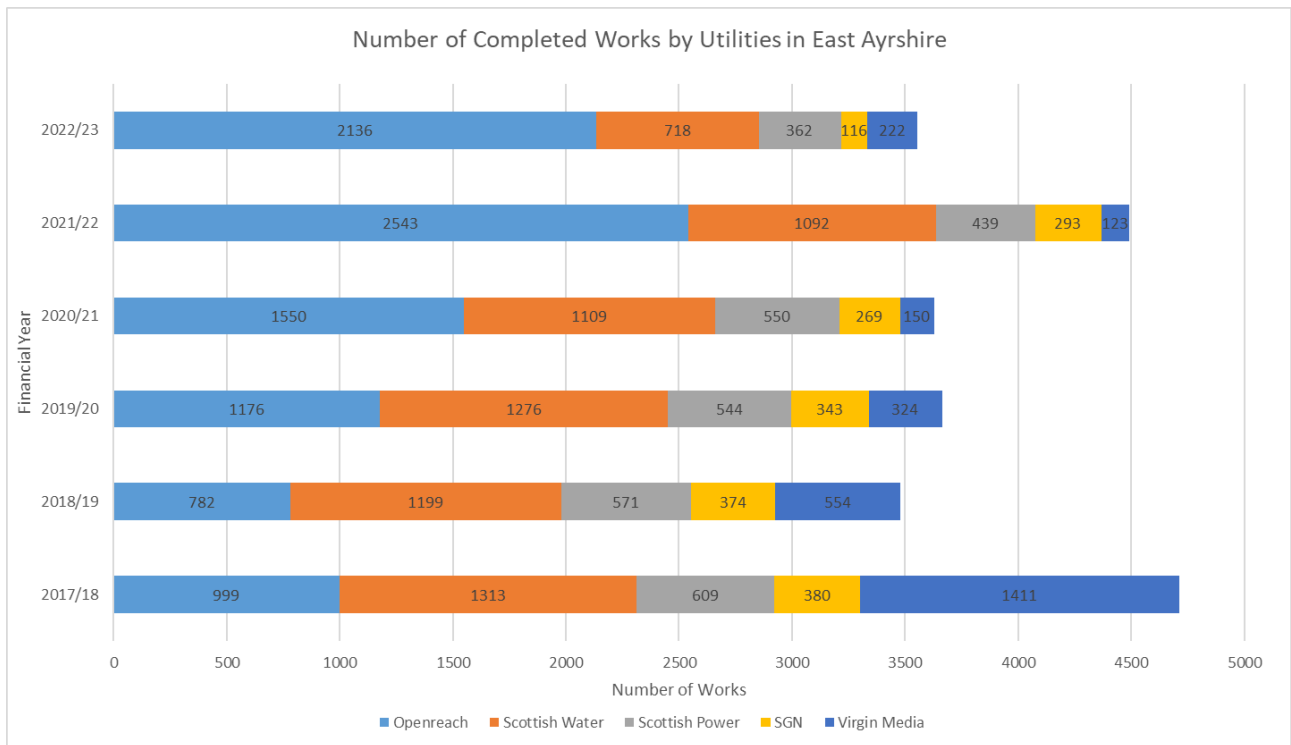


Figure 6: GRAPH SHOWING NUMBER UTILITY COMPANY WORKS FOR FINANCIAL YEARS 2017/18 TO 2022/23 IN EAST AYRSHIRE.

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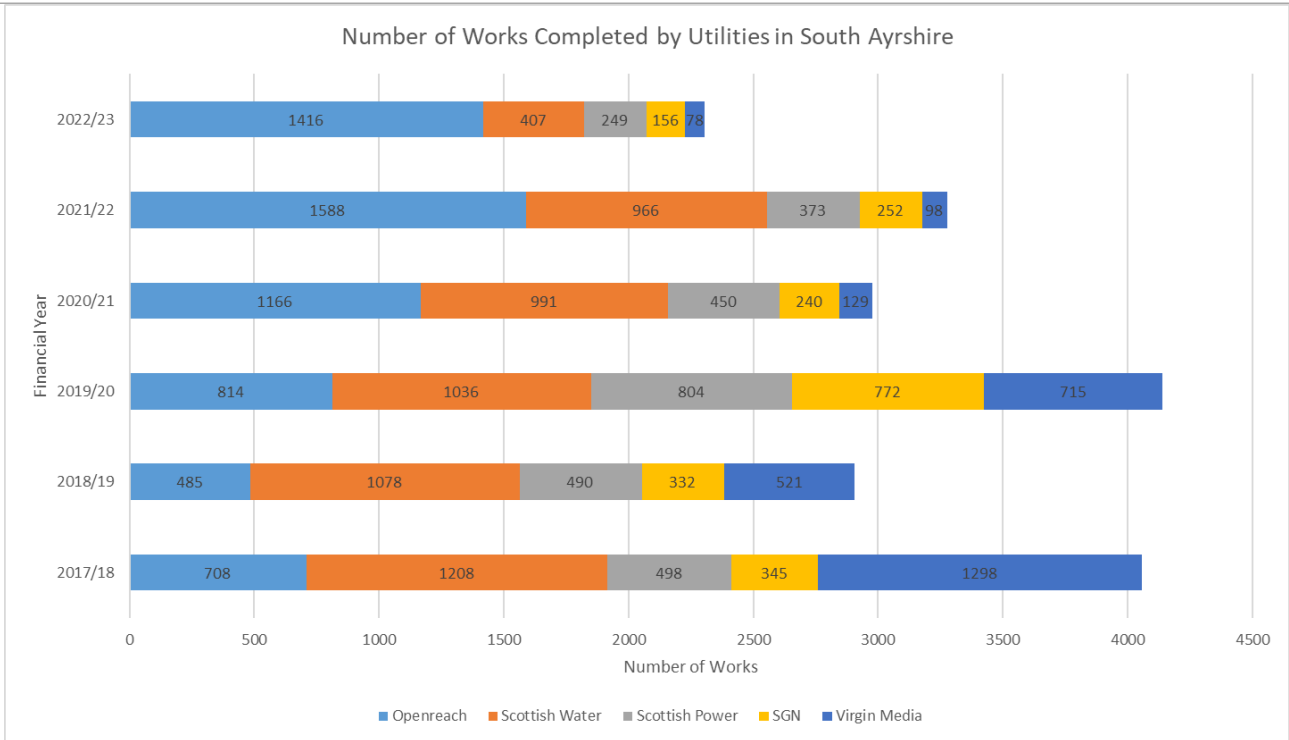


Figure 7: GRAPH SHOWING NUMBER OF UTILITY COMPANY WORKS FOR FINANCIAL YEARS 2017/18 TO 2022/23 IN SOUTH AYRSHIRE.

SARS-CoV-2 (COVID-19) had significant and wide ranging impact on the number of works that were carried out during 2019/ 20 and 2020/21.

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05.5. Legislative Changes

Legislative changes can lead to an increased demand on Local Authorities' resources along with changes in working practices with the managing of road assets. The following provides summary details as to impending legislative changes.

Changes to the Scottish Road Works Register (SRWR) to comply with the Transport (Scotland) Act 2019 are as follows: -

- From the 1st April 2023 all notices, on the SRWR, when works are started on site, the "actual start notice" is required within two hours rather than by noon the following work day.
- From the 1st April 2023, when actual works are completed, to either an interim, or permanent standard, the notice on the SRWR is required to be closed within two hours, rather than by the end of the next working day.
- From the 1st April 2023 the Scottish Road Works Commissioner may request Roads Authorities to submit, for approval, Reinstatement Quality Plans.

Under Section 138 of the New Roads and Street Works Act 1991, there is a requirement for details of apparatus (e.g. street lighting columns, street lighting cables and road gullies) to be provided when requested. It is not currently mandatory to provide information via Vault on the SRWR. At a date to be confirmed, the sharing of apparatus information via the Vault, on the Scottish Road Works Register, will become mandatory. In addition, details of any "unknown" apparatus found during an excavation will need to be recorded within Vault.

From the 1st of April 2024 where the Scottish Road Works Commissioner considers that a person (including organisations such as Councils) has breached a specified duty to which the person is subject, the Commissioner may issue a compliance notice to the person. A "compliance notice" is a notice, under Section 153A of the Transport (Scotland) Act 2019, that can be issued requiring the person to whom it is issued to take the steps set out in the notice in order to address the person's breach of a specified duty. A compliance notice may be issued to Roads Authorities and to Undertakers. The compliance notice shall include the following details: -

- The Duty Breached,
- Compliance Steps Required,
- Compliance Period End Date,
- Commissioner Representative Contact Details,
- Right of Appeal,
- Consequences of Failure to Comply.

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Any organisation found not to be complying with road works legislation may be fined up to £50,000 for a summary conviction, or on conviction on indictment, a fine.

The Specification for the Reinstatement of Openings in Roads 2019, which is covered by the New Roads and Street Works Act 1991, came in to force on the 1st of October 2023. This Specification is a Code of Practice outlining a national standard applicable to all Undertakers when carrying out reinstatement as a part of executing road works.

Section 7 Agreements with Scottish Water, under the Sewerage (Scotland) Act 1968, allows roads authorities (including local authorities) and Scottish Water to enter into agreements as to the provision, management, maintenance or use of their sewers or drains for the conveyance of water from the surface of a road or surface water from premises. Section 7 agreements may create further maintenance responsibilities in relation to sustainable drainage systems. Section 7 agreements state that the Roads Authority and Scottish Water may agree to the provision, management and maintenance or use of their sewers or road drains for the conveyance of water bringing shared responsibilities for systems.

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06. Service Standards

This plan is based upon delivering the service standards indicated below. They are the standards that Service users can expect from the Council's Road assets during the Plan period. Details of how the specific measures, shown below, are calculated are included in the Road maintenance manual. Data below, for carriageways, is taken from the Ayrshire Roads Alliance annual SRMCS survey results for East Ayrshire Council and for South Ayrshire Council for 2022/23.

Table 5. Service Standards for Carriageways 2022/23 <small>(APSE Data - Carriageways)</small>			
Service	Measured By	EAC Achieved	SAC Achieved
Safety	Percentage of Cat 1 defects made safe within response times.	96%	100%
	Percentage of safety inspections completed on time.	100%	100%
Condition	Overall Percentage of carriageway length to be considered for maintenance treatment (RCI).	33.5%	37.4%
	Percentage of "A" Class roads to be considered for maintenance treatment.	15.6%	23.0%
	Percentage of "B" Class roads to be considered for maintenance treatment.	27.0%	32.5%
	Percentage of "C" Class roads to be considered for maintenance treatment.	29.6%	38.9%
	Percentage of unclassified, non-principal roads network where maintenance should be considered.	40.6%	41.0%

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Table 6. Service Standards for Footways 2022/23 (APSE Data - Footways)

Service	Measured By	EAC Achieved	SAC Achieved
Safety	Percentage of Priority 1 defects made safe within response times (2 hours).	100%	100%
Condition	Percentage of footway to be considered for maintenance treatment.	17.5%	15.0%
	Percentage of footway treated.	0.3%	0.2%

Table 7. Service Standards for Street Lighting 2022/23 (APSE Data)

Service	Measured By	EAC Achieved	SAC Achieved
Safety	Percentage of repairs within 7 days.	92.2%	93.7%
	Average time to repair a fault (days).	3.09	2.43
Environment	Average annual electricity consumption (kilowatt hours per annum) streetlights only.	5,210,640 kWh/Annum	3635093 kWh/Annum

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Table 8. Service Standards for Structures 2022/23 *(APSE Data)*

Service	Measured By	EAC Achieved	SAC Achieved
Condition	Number of principal inspections carried out on time.	N/A*	59
	Number of General inspections carried out on time.	435	169

* No Principal Inspections (PIs) were due in 2022/23 within East Ayrshire.

Table 9. Service Standards for Traffic Signals 2022/23 *(APSE Data)*

Service	Measured By	EAC Achieved	SAC Achieved
Safety	Time to repair a 2 hours Urgent fault and 48 Hours Non Urgent fault.	94.2%	94.7%

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06.1 Road Condition Indicators

The road network represents the Councils' single largest asset and therefore regular and adequate maintenance is vital to ensure it does not deteriorate or become dangerous, and that considerable past investment is not lost. Ayrshire Roads Alliance monitor the deterioration in our road network via the Scottish Road Condition Maintenance Survey (SRMCS).

The Scottish Road Maintenance Condition Survey, which is organised by the Society of Chief Officers of Transportation in Scotland (SCOTS) on behalf of Local Authorities, is carried out by a specialist contractor, WDM Ltd, using vehicles accredited annually by the TRL. The vehicles are equipped with lasers and high resolution cameras, to collect data for processing by computer and currently record:-

- Location,
- The road geometry (gradient and shape),
- Variations in the longitudinal profile (evenness of ride along the road),
- Transverse profile variance (deformation across the road),
- Wheel track rutting / deformation in the wheel path,
- The presence of cracking within the carriageway,
- Texture (roughness of the surface of the road),
- The extent of edge deterioration (due to over-riding or lack of lateral support).

The survey covers 100% of A Class roads in one direction each year, 50% of B Class & C Class roads in one direction each year, and 10% of U Class roads in one direction each year. In order to minimise the effect of sampling errors on the result, the Road Condition Indicator (RCI) for unclassified roads is calculated from four years data.

The tables below summarise the data for East Ayrshire Council, and for South Ayrshire Council when compared to the thirty two Scottish Councils

As of 10th May 2024, it is not possible to provide all the data for the period 2022/24. This data shall be entered in to the RAMP when available. This is due to there being three Councils whose surveys have not been completed.

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Table 10. East Ayrshire Council Road Condition Indicators

	2018/20	2019/21	2020/22	2021/23	2022/24
Network RCI	37.8%	36.8%	33.8%	33.5%	33.0%
Scotland Average RCI	35.8%	35.5%	34.2%	33.6%	34.1%
Above / Below Scotland Average	+2.0	+1.3	-0.4	-0.1	-1.1
Quartile	4	3	3	3	3
Ranking (out of 32 Councils)	25 th	22 nd	18 th =	20 th	18 th

Table 11. South Ayrshire Council Road Condition Indicators

	2018/20	2019/21	2020/22	2021/23	2022/24
Network RCI	40.6%	40.9%	39.0%	37.4%	35.5%
Scotland Average RCI	35.8%	35.5%	34.2%	33.6%	34.1%
Above / Below Scotland Average	+4.8	+5.4	+4.8	+3.8	+1.4
Quartile	4	4	4	4	3
Ranking (out of 32 Councils)	27 th	27 th	27 th	26 th	24 th

07. Financial Summary

07.1. Asset Valuation

As of 31st March 2023, the Roads assets are valued as follows: -

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Table 12. East Ayrshire Council Asset Valuation as of 31st March 2023

(Data from Asset Valuation Summary Output, Table 1.2)

Asset Type	Gross Replacement Cost £'000	Depreciated Replacement Cost £'000	Annualised Depreciation Charge £'000
Carriageway	£1,243,890	£1,074,241	£15,467
Footway	£101,261	£62,111	£1,890
Structures	£205,519	£165,934	£2,012
Street Lighting	£42,681	£20,989	£1,008
Street Furniture	£11,587	£5,769	£546
Traffic Management Systems	£11,067	£6,057	£487
Land	£137,641		
Total	£1,753,646	£1,335,101	£21,409

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Table 13 South Ayrshire Council Asset Valuation as of 31st March 2023

(Data from Asset Valuation Summary Output, Table 1.2)

Asset Type	Gross Replacement Cost £'000	Depreciated Replacement Cost £'000	Annualised Depreciation Charge £'000
Carriageway	£1,067,408	£938,716	£11,251
Footway	£99,549	£63,852	£1,910
Structures	£97,684	£94,557	£651
Street Lighting	£35,738	£20,014	£826
Street Furniture	£3,237	£1,627	£160
Traffic Management Systems	£8,792	£5,898	£355
Land	£231,510		
Total	£1,543,919	£1,124,664	£15,152

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07.2. Historical Expenditure

Historical expenditure on the Road Asset over the last five financial years is shown for East Ayrshire Council, and for South Ayrshire Council in tables below.

Table 14. East Ayrshire Council Historical Expenditure

Asset	Works	Historical Expenditure (£'000)				
		2018/19	2019/20	2020/21	2021/22	2022/23
Carriageways	Capital	£5,100	£5,380	£4,659	£4,907	£2,994
	Revenue	£1,952	£1,261	£1,031	£1,157	£1,557
Footways	Capital	£228	£243	£81	£155	£188
	Revenue	£65	£86	£75	£135	£187
Structures	Routine & Reactive	£85	£104	£111	£172	£1,241
	Planned	£1,229	£711	£882	£976	£434
Street Lighting	Energy Costs	£845	£1,020	£978	£1,004	£926
	Routine & Reactive	£368	£246	£239	£293	£283
	Planned	£934	£273	£340	£715	£828
Traffic Signals	Routine, Planned & Reactive	£63	£49	£220	£448	£102
Total		£10,869	£9,373	£8,616	£9,962	£8,740

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Table 15. South Ayrshire Council Historical expenditure

Asset	Works	Historical Expenditure (£'000)				
		2018/19	2019/20	2020/21	2021/22	2022/23
Carriageways	Capital	£4,364	£2,091	£2,971	£2,548	£2,864
	Revenue	£2,090	£1,980	£1,590	£2,242	£1,247
Footways	Capital	£375	£36	£0	£262	£130
	Revenue	£67	£230	£153	£234	£255
Structures	Routine & Reactive	£99	£35	£48	£26	£120
	Planned	£401	£112	£167	£177	£404
Street Lighting	Energy Costs	£852	£773	£634	£545	£546
	Routine & Reactive	£270	£201	£152	£266	£357
	Planned	£1,029	£1,797	£294	£410	£317
Traffic Signals	Routine, Planned & Reactive	£94	£194	£227	£261	£320
Total		£9,641	£7,449	£6,236	£6,971	£6,560

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07.3. Planned Funding

Table 16. East Ayrshire Council Planned Capital Funding – 2023/24 to 2030/31

	2023/24 (£M)	2024/25 (£M)	2025/26 (£M)	2026/27 (£M)	2027/28 (£M)	2028/29 (£M)	2029/30 (£M)	2030/31 (£M)	TOTAL (£m)
Roads & Transportation Programme	5.351	3.116	3.000	3.000	3.000	3.000	3.000	3.533	27.000
Bridge Improvement Programme	3.200	2.400	1.500	1.500	1.500	1.500	1.500	1.500	14.600
Total	8.551	5.516	4.500	4.500	4.500	4.500	4.500	4.500	41.600

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Table 17. South Ayrshire Council Capital Investment Budgets 2024/25 to 2033/34

	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
	(£m)	(£m)	(£m)	(£m)	(£m)	(£m)	(£m)	(£m)	(£m)	(£m)
Roads Reconstruction	3.324	2.500	2.500	2.500	2.500	2.500	2.500	1.500	1.500	1.500
Street lighting	0.205	0.250	0.250	-	-	-	-	-	-	-
LED Replacement	-	-	-	0.100	0.100	0.100	0.100	-	-	-
Bridges Capital	0.362	0.200	-	-	-	-	-	-	-	-
Victoria Bridge	0.300	-	-	-	-	-	-	-	-	-
Vehicle Restraint Barriers	0.050	0.050	-	-	-	-	-	-	-	-
Total	4.241	3.00	2.750	2.600	2.600	2.600	2.600	1.500	1.500	1.500

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The budget allocation for East and South Ayrshire Councils Roads Investment Programme for 2023/24 Financial Year are shown in the tables below.

Table 18. EAC Roads Investment Programme 2023/24	
Programme Area	Budget
Carriageway Resurfacing	£2.240 m
Footway Resurfacing	£0.150 m
Street Lighting	£0.250 m
Traffic & Road Safety	£0.315 m
Structures (Bridges & Culverts)	£3.500 m
Total	£6.455 m

Table 19. SAC Roads Investment Programme 2023/24	
Programme Area	Budget
Carriageway Resurfacing	£2.812 m
Footway Resurfacing	£0.000 m
Street Lighting	£0.250 m
Street Lighting (LED Replacement)	£0.000 m
Traffic Signals (renewals and new)	£0.290 m
20 MPH Rural Village Schemes	£0.000 m
Structures (Bridges & Culverts)	£0.410 m
Slope Stabilisation	£0.000 m
Total	£3.762 m

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08. Asset Investment Strategies

Managing Assets in a controlled manner optimises cost and risk, allowing timely and fact based decisions and delivers value in meeting our objectives.

08.1. Road Condition Indicator Backlog

W.D.M. Limited for Society of Chief Officers of Transportation in Scotland, on behalf of all 32 Councils in Scotland, carry out condition surveys of all roads. This is known as the Scottish Roads Maintenance Condition Survey (SRMCS) contract. The contract, awarded in 2018, for four years (with possible three year extension) involves surveying all classes of road at differing frequencies with a specialist vehicle.

A Road Condition Index (RCI) is calculated for every 10 metre subsection of the road that has been surveyed. There are five parameters that data is gathered for. These are: -

- Rut depth,
- Texture Depth,
- 3m Longitudinal Profile Variance,
- 10m Longitudinal Profile Variance,
- Whole Carriageway Cracking Intensity.

Each 10 metre subsection of road network surveyed is given an overall Road Condition Indicator (RCI) score dependent on the survey readings of these five parameters. Only the highest of the 3 metre or 10 metre Profile Variance scores contribute to the overall RCI score. The SRMCS Performance Indicator is made up from the total proportion of a network that is above or equal to an RCI of 40.

Traffic light colours, Green, Amber and Red have been assigned to different RCI bands as shown below:

- **Green** - an Road Condition Indicator score < 40 - Carriageway is generally in a good state of repair;
- **Amber** – an Road Condition Indicator score ≥ 40 and <100 - Some deterioration is apparent which should be investigated to determine the optimum time for planned maintenance treatment;
- **Red** - an Road Condition Indicator score ≥ 100 - Carriageway is in poor overall condition which is likely to require planned maintenance soon (i.e. within a year or so).

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The SRMCS Performance Indicator score is made up of all the 10 metre subsections that are in an amber or red condition. The table below shows the backlog (defined as the carriageway maintenance funding required to treat all 10 metre subsections in the amber or red annual performance indicator category).

Table 20. Network RCI Data for EAC & SAC							
Authority	RCI 2017 - 19	RCI 2018 - 20	RCI 2019 - 21	RCI 2020 - 22	RCI 2021 - 23	RCI 2022 - 24	RCI Change 2017-19 to 2022-24
EAC	38.4%	37.8%	36.8%	33.3%	33.5%	33.0%	-5.4%
SAC	41.3%	40.6%	40.9%	39.0%	37.4%	35.5%	-5.8%

The headline backlog budget, from the 2023 SCOTS Backlog & Steady State Model Report (SCOTS Report), is defined as the carriageway maintenance funding required to treat all 10 metre subsections in an amber or red condition within one year. This can be thought of as achieving a network free from carriageway defects exceeding the lower threshold levels. It is not a network free from any defects because it will allow, for example, rut depths up to 10mm, and texture depths down to 0.7mm.

To treat all the amber and red in one year would not be a practical maintenance option due to the disruption it would cause, but the figure does allow a comparative budgetary valuation to be calculated which can be monitored on an on-going basis.

From the SCOTS Report, the headline backlog for 2023 was £53,051,000 for East Ayrshire Council and is £50,601,000 for South Ayrshire Council.

The average annual budget calculated in the models for each authority, to maintain the SCOTS Report Steady State RCI scores, excludes any allowance for inflation or discount levels over the next ten-year period.

To maintain the 2023 RCI's, from the SCOTS Report, of 33.5, for East Ayrshire Council, and 37.4, for South Ayrshire Council, the following steady state carriageway surfacing budgets would require to be allocated: -

- East Ayrshire Council - £8,477,000,
- South Ayrshire Council - £6,786,000.

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If the Councils do not maintain the above steady state expenditure over the next ten years, for carriageway surfacing, then the carriageway asset will deteriorate, resulting in an increase in the overall network Road Condition Indicator (RCI).

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09. Risk Management

09.1. Risk Management Introduction

The Roads (Scotland) Act 1984 Section 1, states that "...a local roads authority shall manage and maintain all such roads in their area as are for the time being entered in a list (in this Act referred to as their "list of public roads") prepared and kept by them under this section."

Road Authorities have a Duty of Care under Common Law. The criteria commonly used by the Courts to determine if a defendant is liable are:

1. The harm which occurred must be a reasonable foreseeable result of the defendant's conduct;
 - Was the authority aware of the defect?
 - Was the route inspected within assigned timescales?
 - Experience of similar defects and the deterioration/degradation rates? Will the defect deterioration/degradation cause the likelihood and/or impact of the defect to increase before the next inspection?
 - Has there been similar incidents on the authorities' network or is the authority aware of similar incidents occurring?
2. It is fair, just and reasonable to impose liability.
 - Did the authority assess, prioritise and maintain the defect in accordance with their Maintenance Strategy/Manual or equivalent documents?
 - What was the defect risk and priority?
 - If necessary, what action(s) had been taken to repair the defect? Timescale for the repair?
 - Was the defect repaired within specified timescales?

Road Authorities must ensure that their Inspectors are competent. Ayrshire Roads Alliance safety inspectors are therefore required to undertake the SCOTS Risk-based Approach to Safety Defect Inspections methodology training and achieve a pass grade on the course assessment.

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The Safety Inspection regime forms a key aspect of the road authority's strategy for managing liability and risk. The objectives of safety inspection activity are to:

- Minimise the risk of injury and disruption to road users as far as is reasonably practicable,
- Provide a regular, structured inspection of the public road network, within available resources,
- Deliver a consistent, reliable response to identified defects, within available resources,
- Maintain accurate and comprehensive records of inspections and response and
- Provide a clear, accurate and comprehensive response to claims.

The Ayrshire Roads Alliance, since the 1st April 2019, has adopted the SCOTS Risk Based Approach that promotes a consistency in the management of the road network by focusing on delivering a programme of permanent repairs to improve its condition and safety.

The methodology, for this risk based approach, is covered by the "Road Asset Inspections: A Risk Based Approach – Safety Inspection Strategy Manual", which has been approved by the Ayrshire Shared Services Joint Committee.

A Risk Based Approach is also recommended by the Institute of Highway Engineers in their guidance on managing risk and liability, 'Well Managed Highway Liability Risk'.

09.2. Safety Inspection Strategy

The Road Safety Inspection Strategy was developed, and is maintained, utilising best practices as specified within the Well Managed Highways Code of Practice along with the SCOTS Roads Asset Management Planning Project.

Councils continue to face year on year budget reductions with inevitable impact on roads maintenance budget allocations. Budgets, for roads maintenance must be targeted in the most efficient manner possible in order to manage our road network efficiently, effectively and to minimise deteriorating condition.

Taking a risk based approach, as per the above code of practice, means that there are NO prescriptive investigation or intervention levels to apply. The rationale for removing these is that the same defect will represent a different level of risk in a different context. Previously, this has led to inappropriate and often unnecessary, costly, temporary repairs. Instead, by using a risk based approach, councils can reduce such reactive interventions and target more of their scarce resources towards programmed work that in the longer term will lead to an overall improvement of road condition.

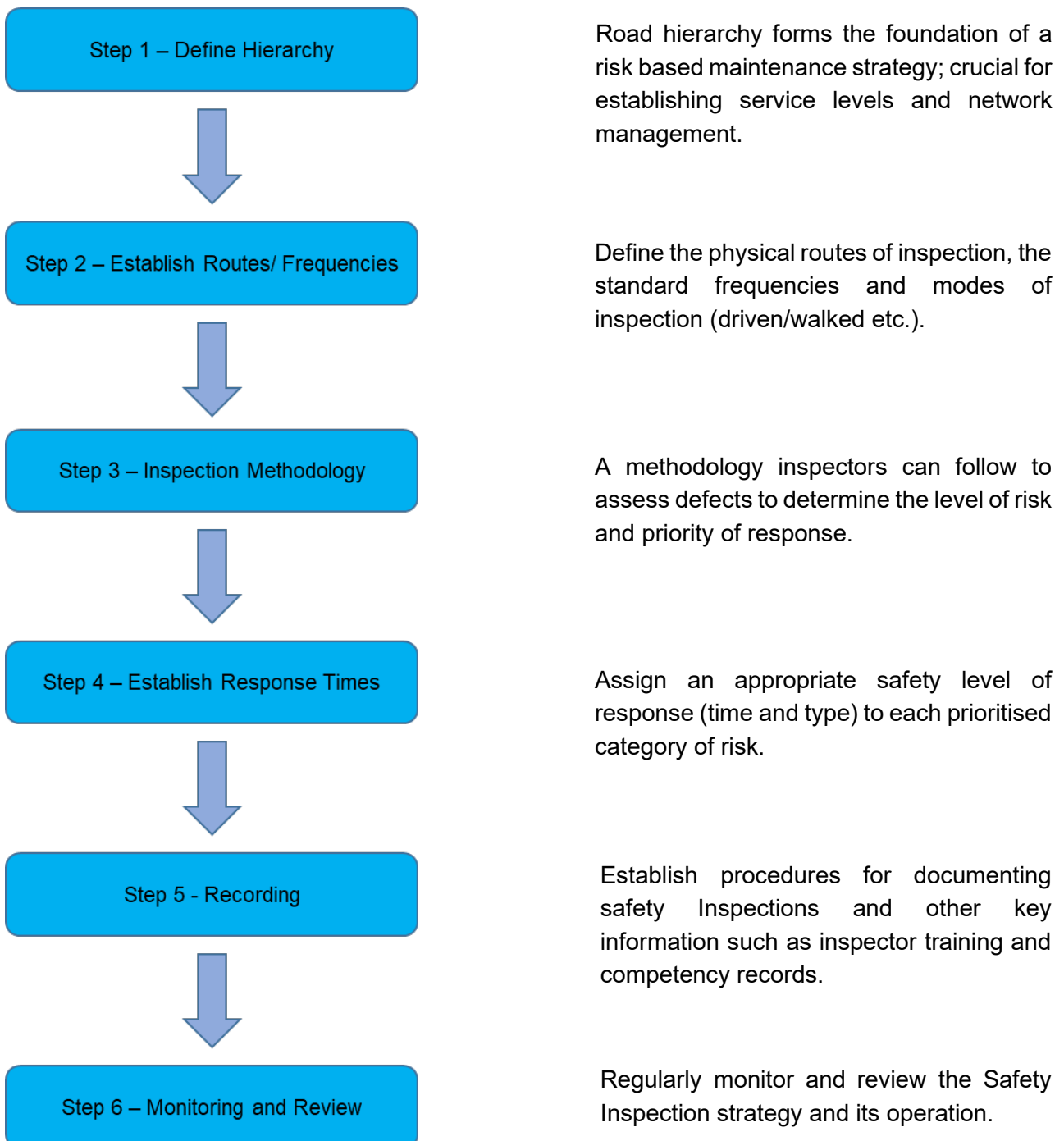
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The primary aim of the Roads Asset Inspection Strategy is providing operational guidance to those officers involved in managing and undertaking road asset safety inspections. This is in order to ensure a consistent approach by utilising a formalised system that prescribes the frequency of inspections as well as the method of assessing, recording and responding to defects in the road asset.

The safety inspection strategy requires several key steps, explained in detail within this document. They are:

FIGURE 8: STRATEGY KEY STEPS



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The Safety Inspection Strategy Manual has a number of sections that include: -

- Safety Inspection Procedures
 - Planned Cyclic Safety Inspections,
 - Reactive Safety Inspections (Ad hoc),
 - Road Condition inspections,
 - Inspections of Utility Works and Third Party Works,
 - Service Inspections.
- Items for Inspection
 - Carriageways,
 - Footways, Footpaths & Cycleways,
 - Street Furniture,
 - Street Lighting,
 - Others.
- Methodology
 - Hierarchy,
 - Inspection Frequencies,
 - Inspection Tolerances,
 - Defect Risk Assessment,
 - Utility Company Defects,
 - Priority Response Times.
- Meeting Response Times

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09.3. Risk Strategy

09.3.1. Defect Risk Assessment

The Ayrshire Roads Alliance Road Asset Management Safety Inspection Strategy document assists in specifying what is inspected, the prioritisation of risks, and inspection frequencies, in order to reduce overall risks to acceptable levels. The procedure for risk assessment is as follows:

➤ **Risk Identification**

An inspection item for which the inspector identifies a hazard is to be identified as a risk. The types of asset to be inspected and the potential associated hazards from defects are detailed in the Inspectors Operations Manual.

➤ **Risk Evaluation**

All risks identified through this process must be evaluated in terms of their significance which means assessing the likelihood of the risk happening and the likely impact should the risk occur.

➤ **Risk Likelihood**

The probability of a risk occurring will be quantified on a scale of Remote to Almost Certain assessed as follows:

Table 21. Risk Likelihood

Likelihood / Probability	Likelihood Description	
Almost Certain	Will undoubtedly happen	Daily
Likely	Will probably happen, but not a persistent issue	Monthly
Possible	May happen occasionally	Annually
Unlikely	Not expected to happen, but it is possible	10 years
Remote	Improbable	20 years

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The probability of a risk occurring will also be quantified by assessing how many users are likely to pass by or over the defect and consequently the network hierarchy and defect location are important considerations in the assessment.

The Risk Matrix for deciding each of the risk factors (Likelihood x Severity) in a 5 by 5 matrix are illustrated in the table below:-

Table 22. Impact/ Severity Score				
	Description			
Consequence (Impact / Severity)	Impact on Service Objectives	Financial Impact	Impact on people	Impact on Reputation
Catastrophic	Unable to function, inability to fulfil obligations	Severe financial loss	Death	Highly damaging, severe loss of public confidence
Major	Significant impact on services provision	Major financial loss	Extensive injury, major permanent harm	Major adverse publicity, major loss of confidence
Moderate	Service objectives partially achievable	Significant financial loss	Medical treatment required, semi-permanent harm up to 1 year	Some adverse publicity, legal implications
Minor	Minor impact on service objectives	Moderate financial loss	First aid treatment, non-permanent harm up to 1 month	Some public embarrassment, no damage to reputation
Negligible	Minimal impact, no service disruption	Minimal financial loss	No obvious harm/injury	No interest to the press, internal only

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The risk factor for a particular risk is the product of the risk impact and risk. It is this factor that identifies the overall seriousness of the risk and consequently therefore the appropriateness of the speed of response to remedy the defect. Accordingly, the priority response time for dealing with a defect can be determined by correlation with the risk factor as shown in the risk matrix, below.

Table 23. Risk Matrix

CONSEQUENCE	1 (NEGLIGIBLE)	2 (MINOR)	3 (MODERATE)	4 (MAJOR)	5 (CATASTROPHIC)
LIKLIHOOD					
1 (REMOTE)	No Response	No Response	No Response	No Response	P3
2 (UNLIKELY)	No Response	No Response	P4	P4	P3
3 (POSSIBLE)	No Response	P4	P4	P3	P2
4 (LIKELY)	No Response	P4	P3	P2	P1
5 (ALMOST CERTAIN)	No Response	P3	P2	P1	P1

Having identified a particular risk, assessed its likely impact and probability, and calculated the risk factor, the risk management procedure can be shown in the form of a risk management (response) matrix.

Table 24. Risk Management Matrix

RISK CATEGORY	PRIORITY RESPONSE
Critical Risk	Priority 1 Response (P1)
High Risk	Priority 2 Response (P2)
Medium Risk	Priority 3 Response (P3)
Low Risk	Priority 4 Response (P4)
Negligible Risk	No Response (NR)

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For defects located where carriageway and/or footway hierarchies intersect, for example at pelican or zebra crossings, or other defined crossing points at junctions, the hierarchy of the route with the most frequent inspection category will always take precedence in determining defect definition and responses. This principle will also apply to intersections between carriageways and cycle routes and between cycleways and footways and footpaths.

09.3.2. Priority Response Times

The Priority Response times, for each Defect Category, are shown in the table below.

Table 25. Defect Priority and Response Times					
Defect Priority	P1	P2	P3	P4	NR
Response Time	2 Hours	5 Working Days	45 Working Days	Programmed Work	No Action Required

Priority 1: Make safe within 2 hours

Represent a critical risk to road users and should be corrected or made safe at the time of inspection, if reasonably practicable. In this context, making safe may constitute displaying warning signs and / or coning off to protect the public from the defect. Where reasonably practicable, safety defects of this Priority should not be left unattended until made safe or, a temporary or permanent repair has been carried out.

When a Priority 1 defect is identified within a larger group / area of defects, only that particular element shall be treated as a Priority 1 defect. The remaining defects shall be categorised accordingly.

Priority 2: Repair within 5 Working Days.

This allows a more proactive approach to be adopted for those defects that represent a high risk to road users or because there is a risk of short-term structural deterioration. Such defects may have safety implications, although of a lesser significance than Priority 1 defects, but are more likely to have serviceability or sustainability implications.

Priority 3: Action within 45 Working Days.

Defects that require attention although they represent a medium risk to road users. This allows defects of this nature to be included in medium term programmes of work.

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Priority 4: Consider for Planned Works Programme

The defect is considered to be of low risk; no immediate response is required. Defects in Priority 4 are not classed as safety defects and are collected to assist the development and prioritisation of Planned Maintenance Works Programmes.

NR: No Action Required

The defect is considered to be of negligible risk, no intervention is required and monitoring will continue as per the inspection regime.

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10. Glossary

10.1. Abbreviations

Table 26. Abbreviations

Abbreviation	Definition
ACoP	Approved Code of Practice.
ADC	Annualised Depreciation Cost.
AMP	Asset Management Plan.
APSE	The Association for Public Service Excellence (APSE): (APSE Provides performance data collation and reporting services for SCOTS).
ARA	Ayrshire Roads Alliance.
BCI	Bridge Condition Indicator.
BSClav	Average Bridge Stock Condition Indicator.
BSClcrit	Critical Bridge Stock Condition Indicator.
CBM	Cement Bound Macadam (now more commonly known as Cement Bound Granular Material – CBGM).
CBGM	Cement Bound Granular Material. Previously known as CBM.
CIPFA	Chartered Institute of Public Finance Accountants.
CSS	County Surveyors Society.
CVI	Coarse Visual Inspection.
DRC	Depreciated Replacement Cost. Depreciated replacement cost of an asset is the current cost to replace the asset less accumulated depreciation.

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Table 26. Abbreviations

Abbreviation	Definition
DVI	Detailed Visual Inspection.
EAC	East Ayrshire Council. Link to website: - https://www.east-ayrshire.gov.uk/Home.aspx
FRMP	Flood Risk Management Plan. FRMPs are plans to manage the risk of flooding for people, the economy and the environment, including cultural heritage.
GIS	Geographic Information System.
GRC	Gross Replacement Cost. The financial cost to build the assets from new.
HBM	Hydraulically Bound Material. Mixtures that set and harden by hydraulic reaction. They include Cement Bound Materials and slow setting and hardening mixtures from industrial by products such as fly ash and ground granulated blast furnace slag.
HIAMS	Highways Infrastructure Asset Management System.
HGV	Heavy Goods Vehicle.
HVO	Hydrogenated Vegetable Oil.
IA	Improvement Action.
KPI	Key Performance Indicator.
LCP	Lifecycle Plan.
LFRMP	Local Flood Risk Management Plan. A LFRMP presents actions to avoid and reduce the risk of flooding, and prepare and protect us, and our communities, within these potentially vulnerable areas and across the Local Plan District.
LTP	Local Transport Plan.

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Table 26. Abbreviations

Abbreviation	Definition
LTS	Local Transport Strategy.
NRMCS	National Roads Maintenance Condition Survey.
NRSWA	New Roads and Street Works Act 1991.
PMS	Pavement Management System.
RAMP	Road Asset Management Plan.
RAUC(S)	Roads Authorities and Utilities Committee (Scotland).
RCI	Road Condition Indicator.
RMS	Roads Management System.
RQP	<p>Reinstatement Quality Plan. Reinstatement Quality Plans provide a way for organisations to demonstrate their competence to execute road works and an ongoing commitment to improving quality through having effective quality control processes in place to ensure standards are met.</p> <p>Reinstatement Quality Plans (RQPs) must cover all works that involve excavation and reinstatement of the road. The plan should cover all aspects of the works, not just the reinstatement. Undertakers cannot legally start works without a plan in place.</p> <p>RQPs must detail the processes, performance management, evidence gathering and retention policies specific to your works. Evidence must demonstrate that plans are being adhered to.</p>
SAC	South Ayrshire Council. Link to website: - https://www.south-ayrshire.gov.uk/
SCANNER	Surface Condition Assessment of the National Network of Roads. Objective method to assess the surface and structural condition of carriageways.

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Table 26. Abbreviations

Abbreviation	Definition
SCOTS	Society of Chief Officers of Transportation in Scotland. A strategic body that represents Scotland's 32 Roads Authorities and 7 Regional Transport Partnerships.
SCRIM	Sideways Coefficient Routine Investigation Machine. The wet skidding resistance of a road surface is measured that allows an organisation to know if a road surface has reached levels requiring intervention. Measuring SCRIM allows for reduced accident rates.
SEPA	Scottish Environmental Protection Agency. A non-departmental public body of the Scottish Government whose role is to ensure that the environment and human health are protected, to ensure that Scotland's natural resources and services are used as sustainably as possible and to contribute to sustainable economic growth. Link to the SEPA website: - https://www.sepa.org.uk/ .
SMP	Shoreline Management Plan. A large-scale assessment of the risks associated with coastal processes and helps to reduce these risks to people and the developed, historic and natural environment. The plans intent is to facilitate the management of risks through use of a range of methods that reflect both national and local priorities.
SRMCS	Scottish Road Maintenance Condition Survey. The Scottish Road Maintenance Condition Survey is an annual survey which assesses the condition of the Scottish public road network. This includes both Council and Trunk Roads. It is used to calculate a Road Condition Indicator (RCI) that is used by Audit Scotland as a Statutory Performance Indicator (SPI) for reporting road condition.
SRWR	Scottish Road Works Register. A web based system used for the management, and coordination of road works, events and road occupations throughout Scotland.
SPI	Statutory Performance Indicator. Each council reports a range of measurable performance indicators, to demonstrate that it is securing best value, by comparing indicators with similar Councils.

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Table 26. Abbreviations

Abbreviation	Definition
TRL	TRL is a wholly owned subsidiary of the Transport Research Foundation (TRF), a non-profit distributing company limited by guarantee, and established for the impartial furtherance of transport and related research, consultancy, and expert advice.
TRO	<p>Traffic Regulation Order. A legal tool that allows a Roads Authority to restrict, regulate or prevent the use of a road. A road may include a carriageway, footway, footpath & verge.</p> <p>A TRO may be permanent, temporary, experimental, or may be imposed to allow for the holding of a special event.</p>
UKPMS	United Kingdom Pavement Management System. The UKPMS is the standard system for the assessment of the condition of the UK road network and for planning investment and maintenance on paved carriageways, (also footways and cycle-tracks) within the UK.
WDM	W.D.M. Ltd. - Highways asset management software systems provider.
WGA	Whole of Government Accounts (WGA) combines the audited accounts of over 10,000 organisations across the UK public sector in order to produce a comprehensive, accounts-based picture of the financial position of the UK public sector.
WLC	Whole Life Costing. A tool which assesses the total cost of an asset over its whole life. It takes account of the initial capital cost, as well as operational, maintenance, repair, upgrade and eventual disposal costs.

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10.2. Main Definitions

Table 27. Definitions	
Term	Definition
Adopted Road	Under the Roads (Scotland) Act 1984 Section 151, Public roads, (sometimes called adopted roads), are those that sit on a roads authority (local authority) list of roads that are maintainable at public expense.
Annualised Depreciation	The cost of annual deterioration of the road network if no maintenance works are carried out.
Asset Management	<p>Asset management involves the balancing of costs, opportunities and risks against the desired performance of assets to achieve an organisation's objectives.</p> <p>Asset management also enables an organisation to examine the need for and performance of assets and asset systems at different levels. Additionally, it enables the application of analytical approaches towards managing an asset over the different stages of its life cycle (which can start with the conception of the need for the asset, through to its disposal, and includes the managing of any potential post disposal liabilities).</p> <p>Asset management is the art and science of making the right decisions and optimising the delivery of value. A common objective is to minimise the whole life cost of assets but there may be other critical factors such as risk or business continuity to be considered objectively in this decision making.</p>
Asset Valuation	The calculation of the current monetary value of an authority's assets.
Depreciation	The systematic allocation of the depreciable amount of an asset over its useful life arising from use, ageing, deterioration or obsolescence.
Depreciated Replacement Cost	Method of valuation which provides the current cost of replacing as asset with its modern equivalent asset less deductions for all physical deterioration and all relevant forms of obsolescence and optimisation.

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Table 27. Definitions

Term	Definition
Gross Replacement Cost	The monetary cost of replacing the existing asset with a modern equivalent asset.
Levels of Service	<p>Parameters, or combination of parameters, which reflect social, political, environmental and economic outcomes that the organisation delivers.</p> <p>The level of service statements define how the stakeholders wish that service to be delivered. The level of service statements become the justification for funding necessary to deliver the service.</p> <p>In other words, it's a way for an organisation to define, capture, and gain value from its assets.</p> <p>Levels of Service can be grouped into three categories:</p> <p>Operational: For example, is the asset clean and well looked after? Is the paintwork in good condition? Is the asset accessible to the people who need it?</p> <p>Service Provision: Is the asset portfolio large enough to serve the stakeholder requirements? Are there enough of these assets available for stakeholder needs? Is it fit for purpose?</p> <p>Implementation: When building a new asset will its capacity be suitable for the foreseeable future? Or will it have excess capacity that's not needed – or will it be far too small?</p>
Lifecycle Plan	Document defining the standards applied to an asset and detailing the management processes used to deliver those standards.
Public Realm	Publicly owned streets, pathways, right of ways, parks, publicly available open spaces; all areas to which the public has open access.
Public Road	A “Public Road” means a road which a roads authority have a duty to maintain.

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Table 27. Definitions

Term	Definition
Private Road	A “Private Road” means any road other than a public road. There is still a public right of passage although the maintenance responsibility lies with the owner, frontager or others.
Roads Authority	Under the Roads (Scotland) Act 1984 Section 151 a Roads Authority may be a Council, or a Trunk Roads Operating company (who maintain roads on behalf of Transport Scotland).
Road Infrastructure Assets	An authority’s portfolio of road assets including adopted roads (excluding private roads), segregated footpaths and cycle routes, structures, lighting, traffic management systems, etc. Together they function as a system or network which as a whole is intended to be maintained at a specified Level of Service (assessed through performance measures) by the continuing replacement and refurbishment of its assets and elements.
Section 7 Agreement	The Sewerage (Scotland) Act 1968, Section 7 allows roads authorities (including Transport Scotland) and Scottish Water to enter into agreements as to the provision, management, maintenance or use of their sewers or drains for the conveyance of water from the surface of a road or surface water from premises.
Statutory Undertakers	Various companies and agencies with legal rights to carry out works on the road.

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11. References

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- SAC Policy documents
- Maintenance Documents
- WDM Roads Routine Maintenance System
- Roads Asset Management Policy
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- Ayrshire Roads Alliance - Road Safety Inspector Operations Manual April 2019
- Ayrshire Roads Alliance Service Plan 2022/ 2023
- Design Manual for Roads & Bridges. GM701 Asset Delivery Asset Maintenance Requirements
- Performance Report – APSE/SCOTS Results
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- Annual Status & Options Report (ASOR) - provides a summary of the status of each asset group in meeting service standards and a prediction of condition based on varying investment levels
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- Cycle 1 Solway Local Flood Risk Management Plan LPD14 - <https://www.ayrshireroadsalliance.org/Information-On/Information-on-Flooding.aspx>

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- Scotland's Wellbeing: The Impact of COVID-19 - Scotland's Wellbeing: The Impact of COVID-19 | National Performance Framework
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