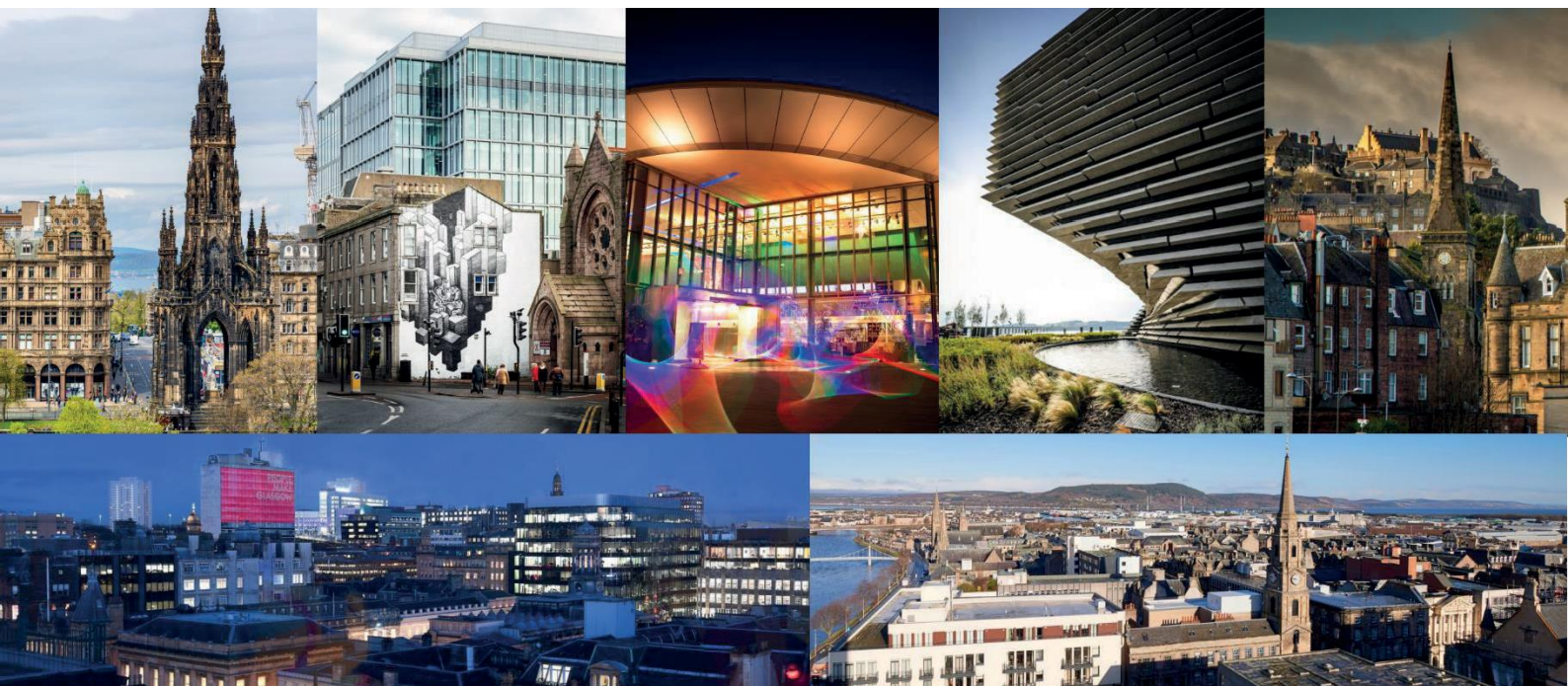


SCOTTISH CITIES ALLIANCE



Annual Report 2020-2021

Foreword

Welcome to the Scottish Cities Alliance's Annual Report. There is no denying the unprecedented impact the pandemic has had, and continues to have, on our cities and regions. As I write this, the nation is hopeful that after a year of lockdown restrictions, all areas of society can begin to open again for the benefit of the citizens and businesses which have made the Scottish cities their home. While the economic effect of the pandemic has been marked, city centres were experiencing a process of change prior to its onset. Earlier this year, I welcomed the announcement by the Scottish Government that it was launching a City Centre Recovery Taskforce and taking a strategic approach to working with City Leaders via the Alliance to recover and adapt in the face of the stark changes the cities face and this important work will continue to be the number one priority for all Alliance partners in the year ahead.



The aim of the Scottish Cities Alliance - the unique collaboration of Scotland's seven cities and the Scottish Government – is and has always been to work together to promote the country's great economic potential. Working collaboratively provides an opportunity to deliver the best outcomes, with support, sharing of knowledge and joining up the wider ecosystem of investment and job creation.

In preparation for COP26 in Glasgow this year, and recognising the role cities have as agents of change to help make Scotland a greener, more sustainable and carbon neutral place, we have focused our collective energies on co-designing a Transition to Net Zero Carbon Action Plan supported by a Funding and Investment Strategy. This work will form the basis of a strategic pan-city approach with government and national agencies to meet the 2045 net zero target over the short, medium and longer term, with a focus on anchoring demand and maximising economic opportunities as part of Scotland's Just Transition. We are at our best when we learn from each other which is why we have set up a peer-to-peer network in partnership with the Improvement Service to encourage knowledge sharing across the cities and provide an inclusive space for the cities to share best practice. The network will also equip elected members with the skills needed to engage with their communities and bring them on the journey towards a carbon neutral nation through an ambitious bespoke carbon literacy training programme. Strong leadership on climate change is key to success, and in the past year I have welcome the forum the Alliance has provided for Scottish Government Ministers, UK Government departments and City Mayors from London, Stockholm, Oslo and Esbjerg to inform our collective thinking on this important agenda.

To cement our commitment to making Scotland an innovative and sustainable place, our Smart Cities workstream, match-funded by ERDF, continues to deliver an ambitious programme through a £50 million investment in Scotland's cities. The Programme is on track to deliver over 40 projects across the seven cities resulting in a range of benefits for citizens through the sharing of knowledge, experience and data, making the Scottish cities forward-thinking, smart places. Examples of projects delivered this year include: a project in Aberdeen in which data and technology are used to manage the traffic network more efficiently, a project in Dundee designed to understand and inform how citizens engage with its cultural offering; and a project in Glasgow which uses data and analytics to develop an innovative service focusing on the welfare of those self-isolating due to COVID-19. Through our Data Cluster, we are also supporting the development of a common Carbon Scenario Tool in collaboration with the Edinburgh Centre for Climate Change. The tool is an important step towards enabling national, local and partner agencies in Scotland to use data to work in a collaborative and consistent way to make informed investment decisions in cities which reduce emissions and allow them to jointly monitor progress towards achieving Scotland's net zero targets.

Following its launch in July 2020, the Alliance continues to work closely with the Hydrogen Accelerator and Transport Scotland to scope out the next stage deployment of zero emission fuel cell technologies and refuelling infrastructure across the city regions including consideration of joint procurement opportunities and finance models. Working across cities to build the hydrogen economy in Scotland is beginning to bear fruit with the deployment of the first fleet of double decker fuel cell electric buses in Aberdeen, the establishment of engineering and manufacturing facilities in Dundee by Arcola Energy and the development of ambitious plans for Hydrogen as part of the energy mix in Glasgow and Inverness.

Our "one-stop-shop" approach to attracting investment in Scotland's cities continues and in the past year we have introduced cities to investors with over £600 billion in assets with an interest in the investment opportunities showcased in our online Investment Prospectus. Building on connections generated from our investment events programme we have introduced City Leaders to a versatile range of investors including Aviva, M&G and Kadans. The Alliance's continued focus on investment attraction in the last year has ensured the Scottish cities are well placed to bounce back from the pandemic by maintaining our profile in lead investment publications including Property Week and Real Asset Insight as well as high level representation for leaders on panels run by Estates, Gazette, Holyrood Events and SDI.

Cities are the driving force of our economy, and as the Alliance approaches its 10 year anniversary this year the partners value the vital role it plays in leading the economic recovery and forging a green and prosperous future for Scotland.

A handwritten signature in dark ink, appearing to read 'J Alexander'.

Councillor John Alexander
Chair, Scottish Cities Alliance

Scottish Cities Alliance – Key Achievements – 2020-2021

Investment Promotion

- Through the connections made at events such as MIPIM over the years, in the past year alone we have introduced the cities to investors with over **£600 billion** in assets and the potential and desire to deploy capital in Scotland's cities. Institutional investors such as **Aviva**, **M&G** and **Kadans** have attended Leadership Group meetings and these have been followed up by one-on-one introductions for the cities, with talks continuing on a number of opportunities.
 - In response to the pandemic we moved our investment events programme online, delivering **3 bespoke events** attended by over **450 guests**. All seven City Leaders featured as key speakers across the series, alongside private sector panellists with expertise in a range of sectors.
 - Brought investors with versatile portfolios to speak to both city officers and CEOs, providing the opportunity for one-to-one introductions with the cities including: **Vu.City** who aim to help cities reach net zero goals through visualisation criteria; **PSSIF** (Public Sector Social Impact Fund) who provide funding for projects with a social impact, property investors **M7 Investment Group**; and **Grant Thornton**, who showcased their financial model to assess the commercialisation of proposed capital projects across cities.
 - Facilitated opportunities for City CEOs to inform the development of the Scottish Government's Capital Investment Plan as well as speak to **Ivan McKee, Minister for Trade, Innovation and Public Finance** on how the cities might support the plan following its publication.
 - Worked with SDI to progress discussions with both investor and low carbon leads within cities with a view to supporting the development of a green project pipeline for promotion via the [Scottish Government's Green Investment Portfolio](#).
 - Built our media presence, promoting the cities to a targeted international audience including:-
 - Securing an average of **45,000 tweet impressions per month**, achieving as high as **89,000 impressions in January 2021**.
 - Gained an additional 448 followers on the Alliance's LinkedIn page, achieving a 53% increase over 12 months. LinkedIn posts reached over 98,600 impressions in one year.
 - Features in lead investment publications including [Property Week](#), [Real Asset Insight](#), [Public Sector Executive](#) and [The Herald Business HQ Magazine](#).
- 
- Thinking Cities
LIVE ONLINE EVENT
2pm UK
Tuesday
8 December
2020
- SCA Thinking Cities Event, December 2020
- Secured opportunities for cities on high level real estate panels including: an online conference held by leading real estate magazine **Estates Gazette** titled '[The Future of UK Cities](#)'; a two-day online event '[Reimagining Scotland's Cities](#)' as part of **Holyrood Events** series on Scotland's recovery; and a two-day [SDI virtual conference](#) focusing on Scotland's net zero ambitions in the run-up to COP26.
 - City Leaders participated in a **one-to-one thought leader interview** with Real Asset Media which was promoted as both an article and video via their monthly newsletter reaching a **global audience of 16,000 senior leaders** with an interest in the real estate and real asset market.
 - Built on established relationships with key **UK property and business media** to strengthen the Alliance partners' reputation in the real estate community including: an interview for the Chair of the Alliance with [Property Week](#) on the Scottish investment market and an opinion piece on the key role cities will play in the recovery from Covid in [CoStar](#).
- 
- realasset
INSIGHT
- 'To have a winning city strategy we all need to change our view.'
Murray Lyle, Perth & Kinross Council
- Dundee (below), Perth (right) and Aberdeen are three of seven cities undergoing sustainable change.
- ### Scotland shows the way forward on green agenda
- The Scottish Cities Alliance, formed to drive sustainable initiatives across the country, is gaining momentum. **Nicol Dynes** reports
- The transition to a zero carbon future In Scotland, the Scottish Cities Alliance has
- SCA Features in Real Asset Insight, January 2021

Scottish Cities Alliance – Key Achievements – 2020-2021

- Ran 2 targeted social media campaigns: an overview of the 8th City Programme showcasing the ongoing activity in the cities; and a seven-day campaign showcasing each city's offering to drive to the Alliance's online [Investment Prospectus](#).
- Relaunched the Alliance's website to provide a strong platform to promote the cities' investment offer to investors and stakeholders
www.scottishcities.org.uk



8th City Twitter Campaign Image

Smart Cities Scotland

Scotland's 8th City – the Smart City ERDF Programme

- An independent review of the 8th City Programme confirmed that it has provided a wide range of benefits and impacts for cities and their citizens, including increased collaboration and sharing of knowledge, expertise and data; efficiency savings; and overall better informed strategic planning, thinking and decision making.
- Phase 1** ultimately led to the delivery of 26 projects involving all seven Scottish cities and covering nine smart city domains. Phase 1 is currently on target to complete delivering **63 new innovative services and 250 new datasets** made open and discoverable for innovation. Highlights include:-
- **Smart Services** projects have now been delivered in all seven Scottish cities addressing issues relating to Energy, Mobility, Public Safety and Waste and generating more efficient and user-responsive services for residents and users.
 - **Smart Infrastructure** project on **Intelligent Street Lighting** completed in **Glasgow** – joining similar projects previously completed in **Aberdeen** and **Perth**.

Collectively these projects have delivered three Innovative Services and 12 Data Sets.

- **The Famous Grouse Ideas Centre** – is an integral element within the Perth Creative Exchange development which won the **Regeneration Project of the Year** award at the Scottish Property Awards 2021.

Phase 2 comprises a total of **17 projects** building upon Phase 1 work and focusing on intelligent/smart infrastructure. The total value of investment across Phase 1 and 2 in the Alliance's ERDF Programme is around **£48.8m**, **£20.5m** of which are ERDF funded.

- **Smart Mobility** remains a strong focus in Phase 2 with **Dundee, Glasgow** and **Inverness** all working within this theme towards addressing urban challenges around transport, improving sustainability, resilience and service efficiency and developing 'data driven' solutions to respond to the specific issues facing Scottish cities.

Data

- Secured an investment of **£100,000** from the Scottish Government enabling the Edinburgh Climate Change Institute to develop a common **Carbon Scenario Tool** across the cities, building on a model used by Edinburgh. Once in place the tool will allow the cities to use a range of data sources to take a consistent and informed approach across national, local and partner agencies in Scotland to transition to net zero, importantly allowing them to jointly monitor progress on the 2045 carbon reduction target.
- Worked with the Scottish Government to take forward pilot initiatives in standards implementation with the aim to improve the usability and standardisation of data across the public sector and respond to economic issues such as the ongoing pandemic and the climate emergency.
- Opened a total of **179 datasets** for innovation covering a wide range of themes with a focus on transparency and opportunities to improve services and develop economic and social value from data.
- Supported cities to engage with the public to ensure the data they are publishing meets the needs of citizens. A **programme of workshop and engagement events** ran for 6 months and the learning from this work will inform future data activity around standards adoption.

Scottish Cities Alliance – Key Achievements – 2020-2021

Building a Hydrogen Economy

- Following its launch in July 2020, the Alliance continues to work closely with the Hydrogen Accelerator and Transport Scotland to scope out the next stage deployment of zero emission fuel cell technologies and refuelling infrastructure across the city regions including consideration of joint procurement opportunities and finance models. Specific Hydrogen activity supported by the Alliance includes:-
- **Aberdeen** – Project [JIVE](#) has deployed 15 of circa. 25 buses in the city making the **Aberdeen fleet the first in the world to include double decker fuel cell electric buses**. Importantly, this project has facilitated wider investment of circa. **£15 million** from the Scottish Government's Energy Transition Fund and a commitment of £19.4 million from Aberdeen to establish a joint venture hydrogen hub for the region to drive diversification and associated benefits.
- **Dundee** – Arcola Energy will be opening an engineering and manufacturing facility at the Michelin Scotland Innovation Parc in June 2021 with a view to creating 135 high value jobs over the next 3 years. This investment is driven by a combination of hydrogen fuel cell projects including :
 - [JIVE 2](#) planned deployment of 12 fuel cell electric buses and refuelling infrastructure;
 - Phase 2 of Scottish Government/Transport Scotland's zero emission train project which will deploy a zero-emission train for demonstration at COP26; and
 - **Glasgow** refuse collection vehicle prototype development for demonstration at COP26.
- Following previous support provided to Glasgow to deliver their Fleet Strategy including the complete decarbonisation of their captive fleet vehicles, circa. **£20 million** of funding is now in place (including a potential **£6.4 million** of OZEV funding) to support the delivery of refuelling infrastructure and fuel cell electric vehicles. Once deployed this will position Glasgow as having the largest fleet of fuel cell refuse collection vehicles in the UK.
- Supported engagements with **Inverness**/Highland Council to progress their ambitions around building the hydrogen economy including looking at Phase 3 of the zero-emission train project, decarbonisation of the

council's heavy fleet vehicles and opportunities around large-scale hydrogen production.

- Secured an opportunity for all 7 cities to support a Hydrogen Education Programme in Scottish schools in the lead up to COP26. The programme will be delivered by Arcola Energy in partnership with ITM Power and Scottish
- Power with the aim of inspiring the next generation of renewable energy engineers, guiding them towards careers in engineering, environmental science and the development of cleaner greener transport.

Policy and Stakeholder Engagement

- Supported the City CEOs, Scottish Government and the heads of the national agencies to co-design a [Transition to Net Zero Carbon Action Plan](#) which details opportunities to work collaboratively in the short, medium and longer term to ensure that the Scottish cities cumulatively play their part in meeting the 2045 carbon reduction targets with a focus on maximising social and economic outcomes.
- To support the delivery at pace of priority actions in the Transition to Net Zero Carbon Action Plan, approved a comprehensive Funding and Investment Strategy to inform the strategic delivery of a pipeline of net zero activity.
- Worked with the Fraser of Allander Institute to produce an updated economic analysis for the cities following the pandemic and to inform thinking behind taking a collaborative approach to addressing the remaining challenges in the [Scottish Cities Outlook](#) report.
- Launched the [City Centre Recovery Taskforce](#), chaired by Fiona Hyslop, Cabinet Secretary for Economy, Fair Work and Culture and involving all seven City Leaders to develop a shared vision for the future of Scotland's city centres, with a focus on innovative actions to help them prosper over the next five years, in a way that encourages inclusive and sustainable growth.
- Ensured strong ministerial presence at all Leadership Group meetings; attendees in the past year include **Michael Matheson**, Cabinet Secretary for Transport, Infrastructure and Connectivity; **Fiona Hyslop**, Cabinet Secretary for Economy, Fair Work and Culture; **Kate Forbes**, Cabinet Secretary for Finance; and **Ivan McKee**, Minister for Trade, Innovation and Public Finance.

Scottish Cities Alliance – Key Achievements – 2020-2021

- Facilitated discussions for City Leaders and CEOs with the UK Government, including **Department for International Trade, HM Treasury, Bank of England, MHCLG and Scotland Office** to help inform city thinking in Scotland specifically in relation to attracting investment and funding with a focus on the climate change agenda.
- Together with city partners and the Improvement Service, established a **Scottish Cities Peer-to-Peer Network for Transition to Net Zero** which will encourage knowledge sharing across the cities and enable officers to learn from each other and share best practice. In its first year, the Network aims to provide bespoke training through the Carbon Literacy Project to all **358 elected members** across the cities with a focus on equipping them with the skills required to influence behaviour change across their communities.
- Led by Edinburgh and involving Aberdeen, Dundee and Glasgow, submitted a **joint application with Climate KIC** for EU Life Funding which if successful will provide **€17 million** of much needed additional resource to support the delivery of net zero activity in cities in the years ahead. The Alliance played a key role in facilitating discussions between Scottish Government, national agencies and the cities to identify match funding and resource for the application including **€5 million** from the Scottish Government.
- Contributed to Skills Development Scotland's [Climate Emergency Skills Action Plan \(CESAP\)](#) published in December 2020 to ensure cities have the right skills base to capitalise on the green economic opportunities of the future. The Alliance will continue to support SDS with the implementation of the recommendations as they relate to cities in the year ahead.
- Developed a programme of engagement for the partners in the lead up to COP26, assisting them to establish new relationships with city networks in the UK and internationally and facilitating knowledge exchange opportunities for Scottish City Leaders with political leaders from **London, Stockholm, Oslo and Esbjerg**.



Scotland House Roundtable, MIPIM UK 2019



Perth Creative Exchange

Budget – 2020-2021

The Scottish Cities Alliance has two funding sources, the first is the Cities Investment Fund for specific collaborative project activity to accelerate their development and delivery. The second is the Alliance Core Team budget which includes employment and overhead costs for the Alliance's Core Team based in SCDI.

Cities Investment Fund

£7 million was provided by the Scottish Government when the Alliance formed in December 2011. The purpose of the fund remains unchanged and it continues to be used to leverage additional private finance and/or European funding to generate income from private sponsorship and support largescale collaborative projects to develop programmes which will allow for wider city region investment.

On 5th December 2017 the budget was set for the period 1/4/2018 – 31/3/2022. This budget had a projected shortfall of £612,068, and it was agreed that close monitoring would take place in an effort to reduce this shortfall.

Considerable savings have been realised, and throughout 2019-2021 adjustments were made to relevant budgets which has removed the overall projected shortfall entirely. The CIF budget report to 31st March 2021 shows a balance of funding available of £60,400, and it is anticipated that additional savings will be achieved throughout 2021-2022.

Alliance Core Team Budget

Each city and Scottish Government contributed to the Scottish Cities Alliance operating costs of £238,000 to cover staff costs and events for the financial year 2020-2021. Procedures are in place for the SCDI financial management team to monitor expenditure.

CASESTUDIES



scottishcitiesalliance

Aberdeen • Dundee • Edinburgh • Glasgow • Inverness • Perth • Stirling

INVESTMENT PROMOTION



The Alliance's Investment Promotion workstream helps cities promote their multi-million-pound investment opportunities to a targeted investor audience via a single [Investment Prospectus](#). The workstream has played a vital role in helping develop relationships between partners and promote collaborative working ensuring that there is a wider understanding of each city's unique investment offer, strengthening investment promotion collateral and enabling the cities as part of Team Scotland to make a significant impact in a very competitive environment.

Over the last year, the Alliance has introduced cities to a range of institutional and boutique investors. Taking our lead from the cities, the Alliance is uniquely placed to have the agility to act quickly to promote investment opportunities and talk to investors about new opportunities. Across the investor landscape, there is a great a widespread desire to deploy capital in Scotland's cities.

Adapting to the challenges of the COVID-19 pandemic, the Alliance moved its event programme online and delivered a series of bespoke online events involving all City Leaders, showcasing the cities' offering as investable, sustainable, and attractive locations. Additionally, the Alliance continued to secure opportunities for the partners to participate in panel events, promoting the investment potential of their cities.

We act as a conduit for bringing relevant opportunities from key public sector organisations such as Scottish Development International, Scottish Enterprise and the Department for International Trade to the attention of the cities, ensuring they are part of informing the overall strategic approach to attracting investment to Scotland. For example, the Alliance has helped facilitate discussions with the Scottish Government on the identification of future strategic sites and developed connections for cities with the Department of International Trade who have shared their experience packaging investments across cities to achieve the scale sought by private investors.

The Alliance's unique role as a collaboration between the seven cities has resulted in developing a wider narrative of the opportunities available across Scotland and raising the cities' profiles collectively in their marketing in key media outlets such as [Estates Gazette](#), [CoStar](#), [The Herald HQ Business Magazine](#) and [Property Week](#), through the Alliance's [Twitter](#) and [LinkedIn](#) accounts and on the Scottish Cities Alliance's recently refreshed [website](#).

The seven city regions have a strong story to tell, and collaboratively they are making a significant impact in a very competitive environment. The Alliance will continue to support and promote the opportunities on offer across the cities to our growing database of investors who welcome our unique one-stop-shop approach to attracting investment.

If you are interested in learning more about the investment opportunities in our Investment Prospectus please contact Amy Groden, Investment Promotion Marketing & Events Officer on amy.groden@scottishcities.org.uk.

8THCITYPROJECTS

Aberdeen: Digital Data Deployment



Project Overview

Aberdeen's Digital Data Deployment (DDD) initiative is a Smart Infrastructure project using sensors and video analytics to collate high quality data along strategic travel corridors. Data is used across city services to enhance operation of the transport network using an 'Internet of Things' approach, enabling autonomous intervention to live traffic events. Interaction between datasets, such as air quality and street lighting levels, contributes to public information to influence behavioural change.

Aberdeen City Council (ACC) installed almost 40 IPCCTV cameras with feeds to a central server and control room – enabling full monitoring and review of traffic related issues; this enables enhanced understanding of live and historic traffic information to strategically operate and further develop the transport network and appraise network issues retrospectively.

The DDD project has enabled ACC to deliver 3 data sets available for innovation relating to air quality, journey times and traffic incidents.

Why is it needed?

In developing projects for the 8th City programme, ACC identified the need for smart infrastructure at key sites across Aberdeen in order to generate data to improve the transport network and reduce traffic congestion. Other needs and requirements linked to the DDD project were as follows:

- Deliver and inter-connect data sets for influencing behavioural change.
- Improve quality of data.
- Improve transport safety and mobility.
- Reduce carbon emissions.
- Support a more reliable public transport system.
- Increase city productivity.
- Increase cross service and regional provision.

Impact and Benefits

- Operators and managers have seen a vast increase in the ability to manage the transport network more efficiently.
- Data is being utilised to manage the transport network more efficiently through live interventions on congestion and delays.
- Carbon emissions, safety and productivity were all positively impacted.
- ACC has several strategic priorities which this project corresponds to, notably the Strategic Infrastructure Plan, City Centre Master Plan, Sustainable Urban Mobility Plan, and the Single Outcome Agreement.
- The project also supports work being undertaken by the Digital Infrastructure & Smart City team who are working towards making Aberdeen a super connected city.
- Long term it is proposed to publish data via user interfaces, such as an App to encourage behavioural change via shifts towards public transport or information on air quality.

For more information contact Amye Ferguson, Senior Project Officer, Aberdeen City Council - AmFerguson@aberdeencity.gov.uk

Dundee: Open Data - Creative Dundee Engagement



Project Overview

With 8th City Phase 1 ERDF support to develop an open data platform, Dundee City Council (DCC) sought opportunities to engage widely with stakeholders to identify opportunities for sourcing, sharing, and sustaining data sets for innovation.

DCC worked with Creative Dundee – an agency working to amplify, connect and cultivate creativity in Dundee – to generate open data sets in line with the work packages approach adopted by the 8th City Data Cluster, a collaborative forum involving all Scottish cities. This project was informed by Work Package 3: Data Analytics, and Work Package 4: Community and Capacity Building.

DCC aided the process by providing Ordnance Survey OpenMaps, enhancing collated results and adding them to OpenStreetMap. Training in ArcGIS Online was provided as well as support for publishing sourced data to the Dundee open data platform. A survey was created in ArcMap Survey123 and training was made available for Creative Dundee officers on using Survey123.

Why is it needed?

Creative Dundee, in collaboration with Dundee Place Partnership, wanted to find out more about cultural opportunities across Dundee and how people engage with these opportunities, if at all. To gain the best insight, Creative Dundee wanted to survey the public but required tools and knowledge to ensure that survey results could be published under an open license to the open data platform.

Impact and Benefits

- The collaboration worked well. Survey results were published on the Dundee open data portal and are available in CSV format – <https://data.dundeecity.gov.uk/dataset/places-database>.
- The results of this research has allowed Creative Dundee to identify future activities and target audiences and participants.
- Importantly, data is available in an open format under a Creative Commons license, enabling other interested parties to freely use the data.
- The map visualization of data is embedded in the open data portal from ArcGIS Online using an iframe. This allows the public to interact with the data without needing to own the proprietary software ArcGIS Online which is licensed and costs to use.
- Respondent locations were also heat mapped in ArcGIS by Creative Dundee. The analysis was assisted by DCC and demonstrates current trends in Dundee.
- Survey results can also be seen on OpenStreetMap, providing another avenue for people to access and reuse the data.

For more information contact Doug Young, Development officer (Digital), Dundee City Council - doug.young@dundeecity.gov.uk

Edinburgh: City Operations Centre – Driving Operational Efficiency

Project Overview



The City of Edinburgh Council (CEC) is delivering several 8th City projects - focusing on intelligent infrastructure, public safety, and a city operations platform. The development of a Smart City Operations Centre is partly supported by 8th City ERDF grant enabling investment in a foundational platform and sensors to drive insight and proactive delivery of services.

Sensors placed in communal litter bins provide bin usage info - predicting when they will overflow and enabling proactive action to be taken. Property sensors installed in social housing will support service teams to predict, manage and prevent property damage caused by a variety of environment issues, such as damp conditions and related mould growth.

Why is it needed?

Edinburgh's vision for a smart city is the application of data and technology to increase efficiency, minimise costs and enhance convenience. Increasingly, technology plays a major role in the delivery of all CEC services, in the way the city operates and in the economy of the whole Council area.

An integrated smart infrastructure Platform and connected assets/Internet of Things (IoT) approach supports enhanced capacity and capability to respond to events and incidents, based on real-time data. Deployment of an open, flexible platform allows use of data and sensor infrastructure to better integrate key city management functions.

This enables Edinburgh to reshape the city by taking advantage of the opportunities afforded by new and transformative technologies to become a digital Council and a world leading Smart City

Impact and Benefits

The City Operations Centre will, alongside the Public Safety and Intelligent Infrastructure projects, delivering real benefits to Edinburgh's high streets and public realm.

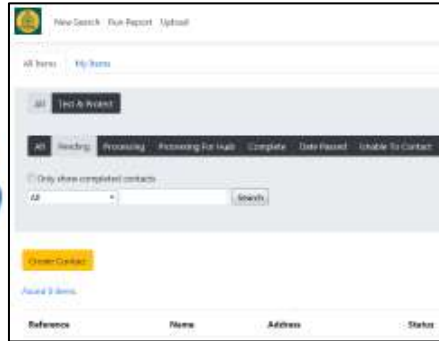
Key Smart City indicators which these 8th City projects will address include:

- productivity
- environmental protection
- sustainable resource management
- health conditions
- public and social services
- housing quality

Edinburgh's 8th City programme is just one aspect of the city's Digital and Smart City ambitions. Much of this is informed by City of Edinburgh Council setting an ambitious target to become carbon neutral by 2030 and by the approval of a Digital and Smart City Strategy 2020-2023. This Strategy defines how Digital Technology and Smart City Innovations can support the ambition of Edinburgh's 2050 Council Vision.

For more information relating to the Edinburgh's Smart Cities programme, please contact Karin Hill - Karin.hill@edinburgh.gov.uk.

Glasgow: Data Analytics - COVID-19 Test and Protect Welfare Applications



Project Overview

Glasgow's ERDF 8th City Data Analytics team has combined data with analytics to develop an innovative service focusing on the welfare of those self-isolating due to COVID-19.

The project delivered immediate support to call handlers with real-time daily data used to contact residents. A longer-term sustainable solution was also developed via an App to manage the process and enable support staff to access necessary data about isolating residents in real-time and with minimum input.

Why is it needed?

COVID-19 presented Glasgow City Council (GCC) with unprecedented challenges regarding provision of services in the city - with some having to be withdrawn, others re-designed, and yet more to be created almost from scratch.

One of the priority areas was to support those identified through the Test & Protect programme as being in self-isolation, ensuring that they were still receiving important services and, in particular, prioritizing support to those identified as being more vulnerable, such as those shielding and in receipt of income related benefits. This was also a priority given the roll-out of a support Grant to those who might lose income due to being asked to self-isolate.

Impact and Benefits

The Centre for Civic Innovation and Corporate Data Team worked at pace using data science and digital development skills to deliver a solution that improved a manual and cumbersome process.

The project proved that data analytics and digital product development could be combined to deliver a service at pace that supported service improvements for residents during a crisis.

Investment in cutting edge data science resources including Microsoft Azure tools and the use of 'R' yet again illustrated the value to the Council of supporting data analytics solutions.

The best evidence of the impact of the project is through the testimony of those using the technology to support customers. One of the call handlers noted that ...*"before the implementation of the solution, my role felt quite complex ... the app has taken away the worry and the administrative burden that was previously quite time consuming. It really has allowed my role to focus on the customer, and ensuring they receive the best service from the Council..."*

For more information contact Stephen Sprott, Principal Officer, Strategic Innovation & Technology, Glasgow City Council - stephen.sprott@glasgow.gov.uk

Inverness: Smart Mobility - MESH Project



Project Overview:

The fundamental deliverable of the project is a scalable and flexible wireless mesh infrastructure that will form the backbone for future digital city services - in particular for Intelligent Transport Systems (ITS) solutions coordinated by the City's Urban Traffic Management and Control (UTMC) database.

Potential new services including Smart Traffic Management, Live Traffic and Public Transport Information, Smart Ticketing, smart street lighting, smart bins, smart parking and tourist information will be able to utilise this wireless mesh infrastructure allowing improved service delivery, and incorporating potential for future innovation and expansion. For this operation, the wireless mesh will be used to deliver an Intelligent Transport System.

Why is it needed?

The ITS wireless platform enables the implementation of smart technologies across the city's traffic signal network. With the exception of a few junctions in the city centre there is currently no real-time co-ordination of traffic management.

The wireless platform not only enables this to be rolled out across the city but also improves the efficiency of each junction and enables each site to host intelligent bus priority that will improve public transport journey times and help encourage modal shift. This component of the project involves adding necessary technologies to collect/manage the data to improve public transport reliability, the management of on and off street car parking as well as the impact of roadworks, major events and road traffic incidents in real-time.

Impact and Benefits:

The existing Urban Traffic Management and Control (UTMC) database provides the hub to co-ordinate multiple integrated transport solutions, across Inverness and City Region. Without the UTMC Database these systems will continue to operate in isolation and prevent the development of citizen focused transport solutions and future development.

Complementing the investment in ITS traffic management infrastructure will be improvements to software and infrastructure which will enable facilitate communication of live information across a number of different transport modes. The collection, integration and supply of this information to the public in a variety of platforms is vital to improving the journey experience of both the regular commuter and the first time visitor to the City region.

This project enables better management of the transport network to help reduce traffic congestion and also enable anyone travelling within the city to make informed transport choices in real-time. This will be achieved by making real-time updates available to transport managers but also directly to the public through a number of channels including a bespoke website, live information displays on street, at public transport interchanges and seek to implement Infrastructure to vehicle communications using Bluetooth Technology.



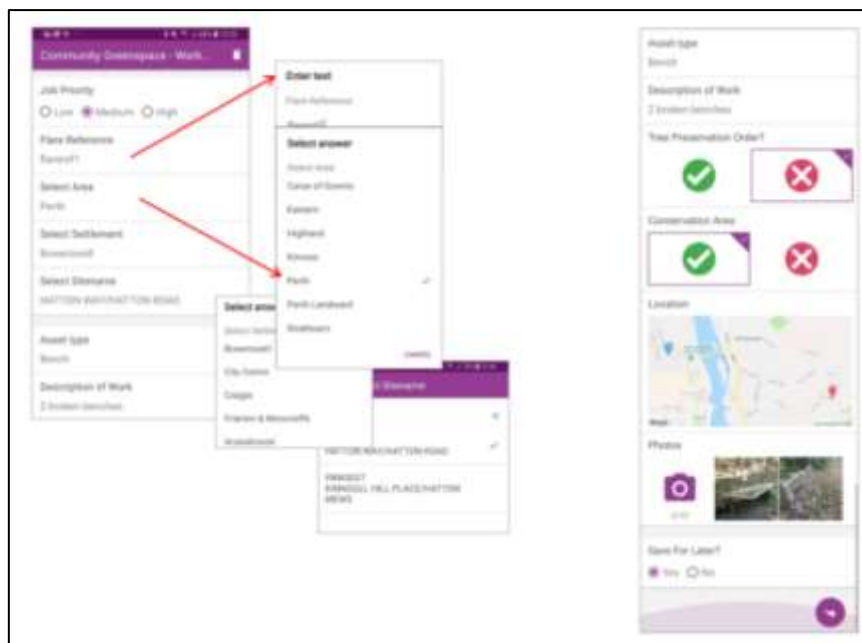
EUROPE & SCOTLAND
European Regional Development Fund
Inverness is a Smart, Sustainable and Inclusive Place

This Project is delivering the following:

- A flexible wireless mesh infrastructure across the city's traffic signal network which enables real-time communication and co-ordination with the UTMC database.
- The project will seek to implement a number of innovative Services underpinned by this technology. Services will include: Smart Traffic Management; Live Traffic assessment; Live and static Transport Information; Smart Ticketing; Smart Street Lighting; Smart Bins; Smart Parking; Roadworks and Incident management; intelligent public transport prioritisation; and Tourist Information.
- The aim is to enhance existing infrastructure to allow data generated by disparate systems to be linked, published and focused to deliver added benefit to users.
- The enhancements to existing assets will deliver data sets via the backbone MESH network.
- The network will also ensure that any future infrastructure installations will be given a universal pathway for any data generated and also a pathway for information dissemination to the public in the streetscape environment.
- By linking the assets to a central database with a Mesh pathway a sustainable model is established for any future additions both in data sources, control options and message outlets.

Contact details and further info: Shane Manning, Principal Traffic Officer, The Highland Council - shane.manning@highland.gov.uk

Perth: Smart Communities - Mobile Working



Project Overview

This 8th City Phase 1 project developed mobile solutions to deliver service transformation across a number of key delivery areas including housing repairs, care at home and regulatory services.

All of the mobile working solutions were built using the Perth and Kinross Council (PKC) corporate mobile working platform. This has supported new ways of working across PKC with seven mobile applications and innovative services being developed to provide staff with the technology and data they require whilst delivering services in the community.

Why is it needed?

This project was approved as part of PKC Digital Transformation Programme and focussed on providing operational field staff with the information and functionality to deliver services in our communities, resulting in efficiencies and an enhanced customer experience.

The key objectives were:

- Improvement to services delivered to citizens, including targeted scheduling of work and the ability to update users more proactively on progress of jobs
- Workforce efficiencies – leaning processes, removal of duplicate activities and the need for re-keying of information
- Improvement in availability and quality of data; gathering data in real time; improved management information
- Reduce costs of service delivery

Impact and Benefits

Staff / stakeholder engagement and benefits realisation were key areas of activity in the development of these solutions.

A multidisciplinary team was set-up to define and support the delivery of each Mobile Working solution. Regular reviews were (and continue to be) scheduled with the teams to discuss enhancements & additional opportunities.

As staff become more familiar with the solutions and experience the benefits of new ways of working, they are generating ideas for additional functionality / improvements. Process mapping (as was v as built) was used to illustrate process improvements; cashable and non-cashable benefits were captured.

Benefits include:

- Front line staff up-skilled in new technologies and IT literacy skills
- Reduced risk to lone workers through the introduction of mobile technology
- Front line staff enabled to spend more time with vulnerable clients
- Reduced paperwork across service areas, contributing towards PKC's reduced carbon footprint
- Reduction in carbon emissions due to better routing and scheduling of work based on geographic location
- Increased productivity across the workforce, resulting in lower operating costs for the service
- Enhanced real time information about service operation - providing opportunity to respond positively to real time challenges of service delivery and reduce service failure and re-work.
- Enhanced management information providing opportunities to review performance and manage the workforce more effectively
- Mobile devices give front line staff a direct link into the council and easier access to a variety of supporting services.

Delivery of these innovative mobile working solutions has changed ways of working across the Council; these new ways of working are now the new standard.

For more information please contact Jacquie Rogers, IT Team Leader, Perth & Kinross Council – jrogers@pkc.gov.uk

Stirling: Smart Waste Project



Project Overview

The Stirling Smart Waste project was one of four projects delivered by the city as part of Phase 1 of the 8th City ERDF programme. Grant support was used by Stirling Council to procure solar compacting bins which have the following key features:

- Waste is compacted on site, within the bins.
- Bin fill-levels are monitored via sensors.
- Integrated telemetry provides data for operations management.
- Bin operation and communication capability is driven by solar energy and/or battery power.

Thirty solar-comp-actor bins were sited at strategic points across Stirling city centre – with further opportunities for re-siting if need is identified for bin infrastructure to be deployed at alternative sites.

Why is it needed?

For many councils, the delivery of waste services is an area of high (and increasing) cost, requiring significant deployment of staff and resources, and with high levels of interest and scrutiny on behalf of communities, politicians and, where services are seen to be failing, of press and media.

Stirling is one of Scotland's most historic places with a remarkable built environment and important designed landscape of great significance – both to the almost 95,000 residents across Stirling Council and to the many visitors and tourists; a clean, litter-free public realm is a must.

Impact and Benefits

In partnership with other cities across the 8th City programme, Stirling has sought to deliver an optimised waste infrastructure - in Stirling's case for city centre litter bins. Benefits realised via this project include:

- As the waste is compacted in situ there is less spillage from the bins, so street litter waste volumes are reduced.
- Bin-fill-level monitoring facilitates identification and collection of litter bins only when they require servicing.
- Operatives are able to react quickly to unplanned capacity demands; this eliminates overflowing bins and associated costly emergency clean-ups.
- Stirling Council collects data on the fill level of bins to work out the peak times for waste generation, how best to place bins in an area, and to arrange collections.

This project has exceeded expectations as the data provided by the bins procured is available using a web interface which allows detailed analyses. This has resulted in richer data, such as the detail of the fill level highlighting areas of potential trade waste. The number of bins required in each area is now known based on the fill level data, additionally, the seasonality of waste generated has also become apparent from the data collected.

For more info contact Ewan Prentice, Environmental Technician, Stirling Council - prenticee@stirling.gov.uk

HYDROGEN



Aberdeen , Scotland, Tuesday 26 January 2021. The launch of the world's first hydrogen double decker busses starting their service routes in Aberdeen. Picture by Abermedia / Michal Wachucik.

In 2013, the Scottish Cities Alliance commissioned leading energy consultants to carry out research into 'Building a Hydrogen Economy Across Scottish Cities'. A Strategy was formed and out of the 12 recommendations, 4 were taken forward by the cities:

- Large scale deployment of hydrogen fuel cell electric buses
- Deployment of hydrogen refuelling infrastructure
- Hydrogen to be derived from a renewable source such as wind or solar
- Decarbonising of the cities' captive fleets utilising hydrogen fuel cell technologies – particularly focused on heavy fleet vehicles

Hydrogen Refuelling and Fuel Cell Electric Buses

The Hydrogen Project Lead led the most ambitious pan-European project across European Cities – Joint Initiative for Hydrogen Vehicles Across Europe, to commercialise hydrogen fuel cell electric buses and refuelling infrastructure in partnership with the EU Fuel Cells & Hydrogen Joint Undertaking. 2 Scottish cities are participating – Aberdeen (JIVE) and Dundee (JIVE2).

Aberdeen has deployed 15 of circa. 25 buses in the city making the Aberdeen fleet the first in the world to include double decker fuel cell electric buses.

Dundee will be deploying 12 Optare/Arcola Energy fuel cell electric buses in late 2021 with refuelling infrastructure to be deployed at the Michelin Scotland Innovation Parc. This hydrogen refuelling infrastructure will also support Project LOCATE – powertrain test facilities – which will be based on the MSIP site.

Heavy Fleet Vehicles

Glasgow has set their ambitions to be the first Net Zero City in the UK with the complete decarbonisation of Glasgow's captive fleet of circa 2,000 vehicles with heavy fleet vehicles being replaced by hydrogen fuel cell electric.

This led to the development of a prototype fuel cell refuse collection vehicle by Arcola Energy (Systems Integration company) in partnership with Farid Hillend. In addition, hydrogen refuelling infrastructure based

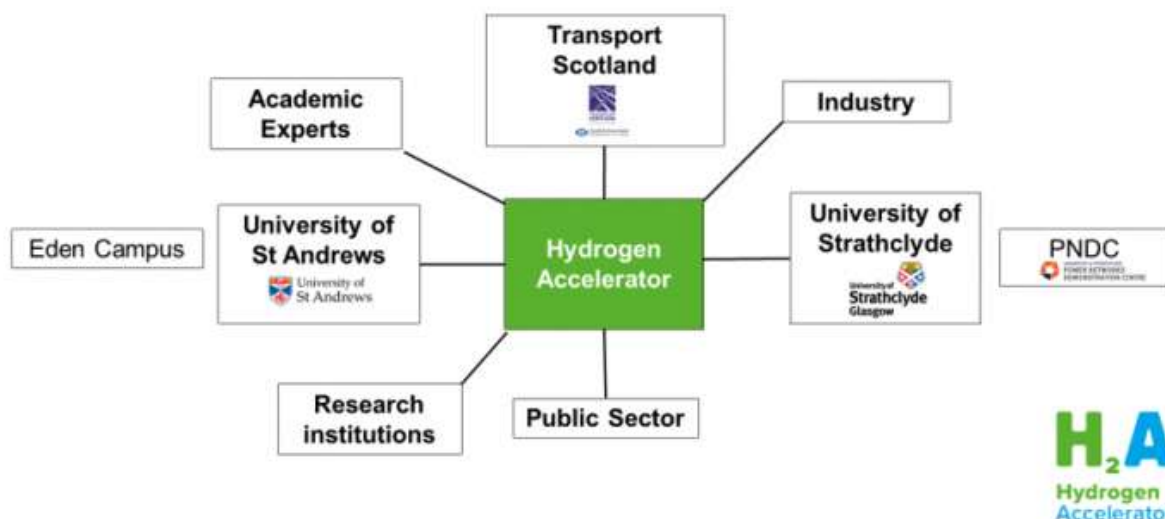
at Glasgow City Council's energy from waste plant in Polmadie. This is seen as a strategic site as it is near First Bus Glasgow, Transport Scotland Roads and Alstom (trains).

In addition, a memorandum of understanding was signed between Scottish Power Renewables, BOC/Linde and ITM Power for the development of a 10MW electrolyser to be based at Scottish Power's Whitelee Wind Farm (that largest wind farm in Europe). This can provide the refuelling infrastructure that is required across the region and support the development of other sectors such as freight, trains and ferries as the west side of the country, in particular, will not be electrified providing the opportunity for fuel cell electric technology deployments. Equally there is an opportunity on the East coast from Aberdeen up to Inverness and beyond.

Hydrogen Accelerator

In the Scottish Government's 2019 Programme for Government there was a commitment to establish a Hydrogen Accelerator to expediate the uptake of hydrogen technologies in Scotland. The Hydrogen Accelerator was launched in July 2020, led by the University of St Andrews in partnership with the University of Strathclyde to support the public/private sectors to decarbonise their various modes of transport to fuel cell electric vehicles, support product development, research, development of Scottish supply chain, inward and export opportunities.

Hydrogen Accelerator Stakeholders



Projects currently underway include:

- LOCATE – powertrain test facilities at MSIP in partnership with Transport Scotland LCED/Scottish Enterprise
- Fuel Cell Electric Train Phase 2 in partnership with Transport Scotland Rail/Scottish Enterprise
- Technical Analysis – Dundee Hydrogen Bus Deployment Project
- Heavy Duty Fleet Deployments in partnership with Transport Scotland LCED/Scottish Enterprise
- Hydrogen Refuelling Infrastructure Deployment Across Scotland/Procurement

For further information on the work of the Hydrogen Accelerator please contact Fiona Landy, Delivery Manager fl67@st-andrews.ac.uk

POLICY

Over the last two years, the work of the Alliance's Policy workstream has been informed by the Scottish Cities Outlook report. In 2019-2020, the Alliance worked with the Fraser of Allander Institute to produce an independent analysis which outlined the key economic challenges and opportunities facing Scotland's cities.

The growth challenge	The changing nature of our population	The importance of tackling inequalities	Transition to a net zero carbon economy	Technological change
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Since then the cities, national agencies and the Scottish Government have worked collaboratively to develop a co-designed action plan for transition to net zero, with a particular focus on four of the key thematic areas of the Committee for Climate Change's report – waste, transport, energy efficiency and low carbon heat. Collectively called the Transition to Net Zero Carbon Action Plan, the project plans detail the opportunities to work together as cities, agencies and government in the short, medium and longer term so that the Scottish cities can cumulatively play their part as key agents of change in meeting the Scottish Government's 2045 carbon reduction target while at the same time maximising economic and wellbeing outcomes across the cities.

Key achievements on our work on transition to net zero include:

- Appointed senior strategic leads to progress priority actions detailed in the Action Plan with cities, government and agencies;
- Developed a Funding and Investment Strategy to allow the partners to take a strategic approach to funding activity in the Action Plan, utilising both public and private sector investment;
- Worked closely with Skills Development Scotland on the [Climate Emergency Skills Action Plan \(CESAP\)](#) to ensure the cities are equipped with the skills necessary to capitalise on future green job opportunities;
- Secured funding and resource support from the Scottish Government and cities towards the development of a common carbon scenario tool, allowing the cities, government and national agencies to develop a consistent approach to transitioning to net zero and jointly monitoring progress on the 2045 carbon reduction targets;
- Led by Edinburgh and involving Aberdeen, Dundee and Glasgow, submitted a joint application with Climate KIC for EU Life Funding which if successful will provide €17 million of much needed additional resource to support the delivery of net zero activity in cities in the years ahead;
- Launched a Peer-to-Peer Network for Transition to Net Zero Activity to encourage knowledge sharing amongst officers and deliver bespoke carbon literacy training to all elected members across the cities; and
- Facilitated knowledge exchange opportunities for City Leaders with political leaders from London, Stockholm, Oslo and Esbjerg.



The Alliance's work to date on the Scottish Cities Outlook report and the collective response of the cities, agencies and government to the transition to net zero challenge showcases the unique approach the Alliance has to delivering the shared ambitions of all partners around sustainable economic growth.

For more information contact please contact the Alliance's Policy Officer Veni Kojouharova veni.kojouharova@scottishcities.org.uk