



**Report of Director of Resources and Housing**

**Report to Scrutiny Board (Infrastructure, Investment and Inclusive Growth)**

**Date: 7<sup>th</sup> April 2021**

**Subject: Smart Cities: Delivering a sustainable City in the Digital Age - Update**

Are specific electoral wards affected? If yes, name(s) of ward(s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Has consultation been carried out?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will the decision be open for call-in?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, access to information procedure rule number: Appendix number:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**1. PURPOSE OF THIS REPORT**

- 1.1 This report provides an update to Scrutiny Board on the progress made on the council's smart cities programme, Smart Leeds, since the last update in February 2020.
- 1.2 It provides details on progress on the smart city 'foundations' focusing on Connectivity, Data & Analytics and Digital Inclusion, and the main priority areas of Health & Wellbeing, Travel & Transport, Climate Emergency and Housing Standards.
- 1.3 It will provide an update on the work to deliver a 'city digital strategy' that will underpin the three pillars of Inclusive Growth, Health & Wellbeing and Climate Emergency, and outline the steps being taken to champion Leeds as a regional centre of innovation excellence.
- 1.4 The report highlights progress on the Recommendations outlined in the 2020 report, notably:
  - Support the work to improve data usage and collection through investigating how a next-generation city data platform will enable the Council to derive more value from data.
  - Endorse the approach of working increasingly with partners from all sectors (e.g. universities, other councils, tech companies) to continue to promote Leeds as one of the UK's leading smart cities.

- Support the work to review how IoT devices can assist with understanding the city environment to improve decision making.

## **2. BACKGROUND INFORMATION**

- 2.1 A 'smart city' is a place that maximises the potential of all of its assets: people (skills, endeavour), information and data (from all parts of the city), businesses and things (devices, technology) that when combined are more than the sum of its parts.
- 2.2 The World Economic Forum [G20 Smart Cities Alliance](#) states that "as the world urbanises, sustainable development and economic growth depend increasingly on the successful management of urban growth. With the right technology and the know-how to govern it, cities can lead the way in solving problems in energy, transportation, healthcare, education and natural disaster response, while making their communities more inclusive, resilient and sustainable."
- 2.3 Leeds has recently been recognised as one of the world's leading smart cities and in 2020, was invited by the G20 Alliance to help shape and roll out smart city policies alongside other Pioneer Cities including London, Melbourne and Dubai.
- 2.4 As the council increasingly looks at how technology can help deliver efficiencies and make data-led decisions, it is important to have a thorough understanding and trust of emerging technology. The [Cities Coalition for Digital Rights](#) looks to "bring together cities committed to harnessing technology to improve the lives of people and support communities in cities by providing trustworthy and secure digital services and infrastructure" and notes that, "with increasingly reliance on the internet, the need to protect and respect basic human rights in the digital realm is increasingly important".

### **They outline five principles to focus attention:**

1. Universal and equal access to the internet and digital literacy
  2. Privacy, data protection and security
  3. Transparency, accountability, and non-discrimination of data, content and algorithms
  4. Participatory democracy, diversity and inclusion
  5. Open and ethical digital service standards
- 2.5 Leeds is already a strong advocate and champion of open data, is one of the UK's leading cities on digital inclusion, and has a strong background in Information Governance. Being a signatory to the Cities Coalition therefore offers access to a collaborative forum to promote the work taking place in Leeds and to benefit from best practice in other participating cities such as New York, Barcelona and Belfast.

## **3. MAIN ISSUES – CITY DIGITAL STRATEGY**

- 3.1 A number of areas including the West Midlands, Greater Manchester and Glasgow have recently published their regional/city digital strategies focusing on areas such as realising the benefits of digital technologies, supporting local digital economies and improving digital skills.
- 3.2 Beginning in September 2020, the council began leading a series of workshops with attendees from across the city and from all sectors to consider the priorities and actions that should be included in a five-year Leeds digital plan. One that supports the council's Climate, Inclusive Growth and Health & Wellbeing pillars.

- 3.3 Workshops have been held focusing on Digital Economy & Skills, Innovation & Collaboration, Digital Place/Smart Cities, Health & Wellbeing and Digital Safety, Security & Ethics.
- 3.4 It is proposed that digital leaders, institutions and companies of all sizes sign up to the shared digital strategy to speak with one voice on the city's approach. Each signatory would work towards delivering the actions of the strategy in their own way and would provide updates on their progress at the Leeds Digital Steering Group.
- 3.5 It is envisaged that the first draft of the strategy will be completed by autumn 2021. A wider public consultation will then take place.

#### 4. MAIN ISSUES – SMART LEEDS FOUNDATIONS

It's important to have the right foundations in place in order to assist with the delivery of the city's priorities. Significant work is taking place in a number of areas, namely:

##### 4.1 **World Class Connectivity**

To assist the Council in delivering the best services, provide full fibre connectivity to both urban and rural areas, and to attract inward investment/enable businesses to thrive, it's important that Leeds has world-class connectivity.

- 4.1.1 **Full Fibre:** The council is working with BT and Openreach to connect c.1,400 council buildings, schools and NHS buildings to a gigabit fibre network. Not only will this ensure we're able to continue to deliver the best services to our citizens, but also means that gigabit fibre infrastructure will be rolled out across the district including to areas where it hasn't previously been commercially viable. The £20.3m, ten year contract that was signed in February 2020 doesn't include providing solutions directly to homes or business but having more extensive full fibre networks throughout the district should improve the broadband options available to businesses and residents across Leeds including in some of the more rural/less urban areas.

- 4.1.2 As part of the contract, BT will also be rolling out an extensive standalone 5G network. Beginning with a trial in the city centre to test and trial the technology the network will ultimately extend 5G coverage to 70% of the district.

(A fuller update on the roll out of the council's Full Fibre programme is provided in the Digital Inclusion paper included in this agenda for the Board.)

- 4.1.3 **LoRaWAN:** A district-wide Long Range Wide Area Network is currently being rolled out. The council has now installed 13 gateways that have been predominately financed from Business Rates Pool funding to support connectivity. A further 15 gateways have been financed by Munroe K who the council is working with to use the White Rose Office Park as an Smart Cities IoT Innovation Hub (Main Issues 6.3). The remaining gateways will be installed by the spring.

- 4.1.4 The complete network of 28 gateways forming the 'Leeds Innovation Network', will be one of the largest in the UK for the area that it serves. It will be a free and open access network that will enable the council and businesses to deploy 'Internet of Things' (IoT) devices such as air quality monitors to collect real time data, and facilitate the testing of new technology prior to wider scale deployment. Data that is collected from council-installed IoT devices will feed into a new single city data platform equipped to manage and analyse 'big data' and will form part of the new City Office of Data Analytics.

4.1.5 The network is already supporting the council with its £1.25m government-funded GovTech Catalyst Social Housing project (Main Issues 5.3.2), and the European Regional Development Fund project, 'Reopening of the High Street', where footfall monitors are being deployed in town and city centres to help the council better support High Streets, post-Covid, and provide real time information to citizens on when it is quieter, and safer to go out shopping.

4.1.6 **Free Public Wi-Fi:** Twenty one community buildings have now been connected to the council's free-wi-fi. This has been delivered under budget and includes one more building than originally planned. The complete list of buildings to benefit from installation are:

Lincoln Green Community Centre	Rycroft Green Sheltered Housing
Phil May Court Sheltered Housing	Crimbles Court Sheltered Housing
Denis Healey Centre	Halliday Court Sheltered Housing
Ebor Gardens Community Centre	Northfields Sheltered Housing
Richmond Hill Community Centre	Sir Karl Cohen Sq. Sheltered Housing
Strawberry Lane Community Centre	Fairfield Community Centre
Burnsall Court Sheltered Housing	Willows/Community Centre
Crescent Grange Sheltered Housing	Mandela Centre
Queensview Sheltered Housing	Leeds GATE office
Marsden Court Sheltered Housing	Cottingley Springs Traveller Site
Queenswood Court Sheltered Housing	<i>Usage stats will be provided once the centres come back into use.</i>

#### 4.2 **Data and Joined-up Analytics**

New technology offers the opportunity to collect data more easily and allows it to be combined with data from other sources to provide a holistic understanding that can assist with the delivery of services. It is important however that data is collected proportionately and ethically:

4.2.1 **Next-generation Data Mill:** The council operates one of the largest open data (publication of non-personal data) platforms in the UK, Data Mill North. Published datasets are generally historic and static. Increasingly however, data will be collected in real time, and as the council promotes itself as an 'open by default' organisation, it is important that this data is not just made available in its raw format, but is also visualised and understandable to everyone.

4.2.2 Whilst the existing Data Mill site has enabled the council to lead the UK on open data over the past 7 years and play a leading role in the Leeds digital community, in order to stay ahead and remain relevant, a new solution needs to be developed.

4.2.3 The council is currently focusing on creating a new **City Office of Data Analytics** that will incorporate the Data Mill work. It will transform how we publish open data (including real time), assist with sharing private data with partners, and facilitate with analysis and presentation of data – reducing staff effort.

4.2.4 The work will be overseen by a new role, City Chief Data Architect, following approval from the Leeds CCG to commence recruitment. A number of cities around the world, most notably London and New York, already have city data analytics offices that concentrate on realising increased value from data by linking large, complex and regularly changing datasets together, giving a more holistic view and discovering patterns and trends that are not immediately obvious or widely known.

Whilst the Office will initially focus on health-related analytics, it will be designed in such a way that it can expand to focus on other areas.

- 4.2.5 **Digital Twins:** The concept of a digital twin is one where data is collected in a real world environment (e.g. in a building, a street, or across an entire city). Capturing enough data can lead to the creation of a digital version or twin, of its real life equivalent. The twin enables us to make changes and review impact in the digital world (e.g. changing traffic flows around schools to improve air quality), before it is introduced in the real world.
- 4.2.6 Leeds City Council is supporting University of Leeds spin-out, Slingshot Simulations, who have recently secured government funding to build digital twins across Yorkshire and Humber. They are an open data advocate and are looking to re-use data already published on Data Mill North as well as future real time data that will be collected using new sensors. We are currently discussing potential use cases for a Leeds Digital Twin that will be developed at no cost to the council and that will be used by Slingshot to showcase digital twin capabilities to cities around the world.
- 4.2.7 **Data Ethics:** The final in a series of City Digital Strategy workshops will take place on 19<sup>th</sup> April and will focus on ethical data. It will focus on how it's necessary that we build the right ethical data foundations to support future service delivery.
- 4.2.8 Those foundations begin with the council being viewed as a trusted organisation when it comes to managing citizen's data, and that it has a thorough understanding of how new technology will help with the delivery of services. By focusing strongly on ethics, the council will improve citizen trust around data and reduce barriers to increasingly utilise new technology in the years ahead.
- 4.2.9 The council has recently signed up to the Cities Coalition for Digital Rights (CC4DR) where one of their principles states that "Everyone should have access to understandable and accurate information about the technological, algorithmic and artificial intelligence systems that impact their lives, and the ability to question and change unfair, biased or discriminatory systems". Signing up to the coalition affirms the council's commitment to put ethics at the heart of its smart cities work. This needs to be backed up with direct and open discussions with citizens and data ethics and tech/data for good needs to be increasingly at the forefront of discussions that the council has with the business community.
- 4.2.10 As more data is collected, there will be an increasing dependency on utilising machines to make ever-more sophisticated decisions that were once carried out by people. The Alan Turing Institute notes that "AI and machine learning systems ... [will] become gatekeepers for the advancement of vital public interests and sustainable human development. In order to manage these impacts responsibly and to direct the development of AI systems toward optimal public benefit, you will have to make considerations of AI ethics and safety a first priority."
- 4.2.11 It is important therefore to align the increased use of artificial intelligence technologies with the council's ethical values and principles that safeguard and promote the wellbeing of the communities that these technologies affect. To remain abreast of technological developments and how these might impact on citizens, Leeds is a founding member of the UK Councils Smart Cities Steering Group and has begun discussions with the Information Commissioner's Office to ensure that we consider the future implications of increased data collection, data bias and machine to machine learning.

#### 4.3 **Digital Inclusion (100% Digital Leeds programme)**

The last 12 months have highlighted the importance of digital inclusion to ensure that nobody is excluded in what is becoming an increasingly digital world. A fuller report is provided as part of an ongoing inquiry on the agenda of this board and will include more information on:

4.3.1 **Equipment, infrastructure and connectivity:** The new equipment lending schemes across the city and the recycling and gifting schemes that focus on support for children and young people who are home educating.

4.3.2 **Reducing health inequalities through digital inclusion:** The response to the Healthwatch Leeds report on digital inclusion in Leeds and the work with the Local Care Partnership in Beeston and Middleton.

4.3.3 **Building the capacity of the third sector:** The ALaDDIN Network for organisations supporting adults with learning disabilities and the Neighbourhood Networks digital inclusion working group.

4.3.4 **Digital Inclusion Toolkit:** Leeds City Council has been working with Croydon Council and other partners after successfully being awarded MHCLG funding to create digital inclusion toolkit. It provides a platform for Leeds to share our digital inclusion successes an online forum for councils to collaborate on best practice: [www.digitalinclusionkit.org](http://www.digitalinclusionkit.org)

### 5. **MAIN ISSUES – SMART CITY PRIORITIES**

There are many projects taking place across the Council that could be referred to as 'smart city projects'. In addition to taking a leading role in some of these projects, the Smart Leeds programme offers a co-ordinating role of raising awareness and connecting projects that might otherwise work in isolation. Each of the following examples of Smart Leeds projects and programmes has been identified within one of the following categories:

- **ACTIVE:** Funded project currently in flight with specific outcomes to be delivered.
- **DEVELOPMENT:** Business case being developed; currently in discovery and innovation phase.
- **ASPIRATIONAL:** 'Art of the possible'; horizon scanning, knowledge-sharing and learning from organisations, other regions and countries.

#### 5.1 **Health and Wellbeing**

Smart Leeds has a role to play in the "left shift" towards increased self-care and prevention that can lead to earlier intervention that costs less and results in better outcomes for patients and citizens:

5.1.1 **ACTIVE:** Third sector organisations and community groups hold a lot of data about community activity and local charities. This data is often duplicated and sometimes out of date. It's therefore difficult to know which is the most up to date and accurate version of the data. **LOOP** is a demonstrator pilot site that brings together this local data into one place – one version of the truth.

It has been created to meet Open Referral UK Standards meaning the data stored here can be presented across multiple channels/websites – i.e. collect once and use many times. It has now gone live on a number of partner websites (e.g. Forum Central) and work has started to bring the Leeds Directory on board. It has been

successful in winning an i-Network award and it is hoped that the adoption of the Open Referral UK Standards will deliver a major breakthrough in efficiencies at both a local level and national level: <https://i-network.org.uk/adur-worthing-councils/>

- 5.1.2 **ACTIVE:** The social isolation app, **CareView** developed in through the council's Innovation Labs has since been trialled in Greater Manchester and has now been successful in accessing some European Space Agency funding. It will now be integrated to integrate into ESA technology to enable a more dynamic solution where outreach workers can report improvements as well as concerns in local areas as cases are dealt with.
- The funding means the app can be developed further at no cost to the council
  - CareView has now been integrated into the council's Better Together outreach service

- 5.1.3 **DEVELOPMENT:** In Leeds we are keen to support our citizens to take the 'left shift' and become more involved in managing their own health and wellbeing. Apps are playing an increasingly important role, with more and more citizens downloading apps that can support them to reach targets and manage their conditions. However there are a bewildering amount of them available on the market for this purpose - over 750,000 at last count - and so deciding which one is the right one is difficult.

Discussions between LCC and the CCG have been taking place since September 2020 to create a **Leeds Curated Apps**. It will be a space where citizens can go to find apps that support them to meet their health and wellbeing goals, and where health and care professionals can signpost citizens, assured that the apps showcased have been vetted to ensure they are safe, in line with local priorities, and use data in a responsible manner. It is hope that the solution will be available by the summer.

- 5.1.4 **ACTIVE:** As part of the Physical Activity Ambition for the city, the council has been looking at different ways to get people of all ages moving more every day. Over the last year evidence has shown that many people are doing significantly less daily movement and as lockdown starts to ease we want to support people to access their local areas and communities and gain confidence to get back outdoors and move more. The **Love Exploring** app will bring places to life using Augmented Reality, provide interesting information about places in Leeds and offers guided trails, games and inter-school competitions. It has been developed over 5 years and is already being used in other places across the UK.

- 5.1.5 **DEVELOPMENT:** Smart Leeds sponsored a national digital competition supporting SMEs. The winner, **Civic Dollars Rewards** app, rewards healthy and active lifestyles by incentivising people to visit their local park. For the trial, when someone who is signed up to the app visits Middleton Park, Roundhay Park, Temple Newsam or Kirkstall Abbey, they will receive a credit, or civic dollar. These credits can then be gifted to a charity who in turn can redeem them for goods and services that are being donated by a local participating company. If the trial (expected to go live in the spring) is successful, funding options to support it longer term will be identified, and the number of users, participating charities and companies will be scaled up.

## 5.2 **Travel and Transport**

As the city grows in size and population, we need to look at how technology can assist people to get around the city/region and promote sustainable methods of transport:

- 5.2.1 **DEVELOPMENT:** As part of the LPTIP scheme, over 100 **Vivacity Labs sensors** are being deployed around the city centre at key junctions and crossing. The sensors will use machine learning to classify objects such as the number of pedestrians and vehicles waiting at crossings, and feed data into a centralised LCC system that will be able to optimise traffic signal timings. This approach to optimisation is a significant step forward and will enable the signals to become much more responsive to walking and cycling demands. Additional benefits will include data on city centre footfall that will be available for use by other services such as City Centre Management.
- 5.2.2 **ASPIRATIONAL:** A '**smart cycling**' concept app has been developed in the past year that would enable increased priority to be provided to cyclists through traffic signals. It would also provide the facility for users to report issues around the network (e.g. overgrown trees, broken glass, traffic signals fault etc). This will be progressed if suitable funding is identified. A project using similar technology is also planned which would look to provide alerts to drivers regarding incidents on the network and/or planned events.
- 5.2.3 **ACTIVE:** An evolutionary step to improve the existing '**virtual**' bus priority system in use across the city is underway. The improvements have included working with our signal equipment suppliers to significantly reduce latency, thus improving the accuracy of the system and enabling increased bus priority through traffic signals.
- 5.2.4 **ACTIVE:** There is currently a significant amount of work being undertaken to improve the telecoms infrastructure that supports the Urban Traffic management Control (UTMC) systems. CCTV cameras are being upgraded to digital HD that will improve the ability to monitor the network effectively and facilitate future planned development of automatic incident detection.

## 5.3 **Housing Standards and Growth**

The council is the largest landlord in the city. Through the use of technology and better use of data, it will lead by example and encourage improved standards of homes across the city:

- 5.3.1 **DEVELOPMENT:** The **Housing of the Future** (HOTF) programme was recently successful in securing £140,000 of Better Care Fund money to investigate how connected devices can be used to improve both the internal environment of our properties and also the health of the people living in them. A Proof of Concept with social care service users will investigate how technology can support people to live independently, and how data from sensors can be analysed to determine where people's health may be deteriorating and what actions are needed to reverse this. Additionally, funding will be used to compliment the GovTech Catalyst project and purchase sensors that will be placed in specific property types to monitor environmental indicators and focus on areas that GovTech might not. Finally, it will also be used to create a 'connected space'; a safe, trusted and confidential location (e.g. community centre or GP surgery), where members of the public have access to equipment and can get online. A number of services have had to move online during the Covid 19 pandemic and this has created problems for

many citizens. The initial space will be located in either Beeston or Middleton to compliment the work currently underway in that part of the city to address digital exclusion.

5.3.2 **ACTIVE:** One of the key projects being delivered as part of HOTF is the government-funded **GovTech Catalyst** project that began Phase 2 in January 2021. Commencement was delayed due to Covid, however a thorough application and interview process carried out alongside Government Digital Service colleagues resulted in two successful companies being awarded £500,000 contracts to work with the council to identify how technology can assist the council with improving the quality of council homes, potentially leading to improved health outcomes for tenants.

5.3.3 **DEVELOPMENT:** Working in partnership with the University of Leeds, the council has been successful in securing £100,000 of EU Horizon 2020 funding to project manage research into fuel poverty. As part of the **WELLBASED** project, the university, who have also received funding, will carry out research with tenants and on properties prior to relevant works being carried out, and review again post-works, to monitor any change. The project will provide real insight into how interventions improve living standards and help people out of fuel poverty.

#### 5.4 **Climate Emergency**

Improved infrastructure, data collection and deployment of new technology can assist with influencing behaviour change, a better understanding of the environment and improved decision making:

5.4.1 **ASPIRATIONAL:** Real-time collection of **air quality data** that is relayed to citizens to nudge them into changing their behaviour, for example, using public transport rather than driving to work in their car. The LoRaWAN network that is currently being deployed could support the roll out of new air quality sensors across the district and the Smart Cities IoT Innovation Hub could support the testing of different sensors to provide greater confidence in the technology that is available.

5.4.2 **ACTIVE:** The council's **Electric Vehicle Trial Centre** continues to support the uptake of Zero Emission Vehicles (ZEV) across businesses, the public sector and third sector organisations with all vehicles out on trials and with a fully booked forward plan for trials. Additionally, the Centre has also been providing e-bikes for trial and started supporting trials of E-Cargo bikes from January 2021.

5.4.3 **ACTIVE: EV Charging Network:** The council is continuing to work to support the expansion of the charge network across the city and region. Working on a regional project with WYCA and Engie there have now been 17 dual bay (one for public, one for taxi/private hire use) rapid chargers installed in Leeds. A minimum of 30 units will be installed by spring 2021 with the network remaining free to use until 29<sup>th</sup> October 2021. There have been over 26,000 charging sessions recorded so far – an average of 7 events per day at each site – which equates to approximately 2.5million miles of zero-emission driving supported by the network.

Additionally, the development of the Stourton Park and Ride facility includes significant provision of EV charging infrastructure, and the council has been successful in being awarded £97,500 to support the delivery of charge points in residential areas based on a community hub approach at off-street locations.

5.4.4 **ACTIVE:** The council has now completed phase 1 of the **District Heating Network** which has been successfully providing heat to Leeds Playhouse and council houses

for over a year. Following some delays due to Covid-19, good progress has been made recently with a total of c.1,150 flats now connected in Lincoln Green. Final completion of all 1,983 flats (with the exception of properties where access cannot be safely secured) is now expected in early 2021.

Phase 2 of the network continued throughout 2020, providing connection to five key council buildings: Civic Hall, Town Hall, Leeds Museum, Art Gallery/Library and St. George House. Following a recently successful application for £2.4m grant funding from the Heat Networks Investment Project, phase 3 will primarily focus on connecting into the major Aire Park scheme on the former Tetley Brewery site. The Leeds scheme has become a national flagship for new heat networks with the team having a growing presence in industry and government working groups.

## 6. MAIN ISSUES – INNOVATION

- 6.1 Providing services in new and innovative ways that deliver efficiencies is increasingly important. New technology however must be fully trialled and tested to better understand the benefits on offer. Furthermore, data that is collected must be done so proportionately, ethically and managed appropriately.
- 6.2 Promoting Leeds as a centre of innovation excellence can assist the council in co-designing and producing solutions that deliver improved efficiencies and improved outcomes for the citizens of Leeds. Additionally, it can improve the attractiveness of the city for tech start-ups and SMEs.
- 6.3 The aspiration of creating a ‘mini smart city’ or ‘living lab’ was referenced in the 2020 Scrutiny Board report. Discussions have since progressed with White Rose Office Park owners, Munroe K, to create a neutral **Smart Cities IoT Innovation Hub**. It will act as a test bed where the combined use of technology and data can be tested and trialled to better understand how it can assist with addressing global challenges such as health and wellbeing, climate emergency, mobility, social inclusion, housing, and security.
- 6.4 The Hub will bring together tech companies and other stakeholders to work on ‘Civic Innovation Challenges’ that tests and trials solutions that will help the council gain a greater understanding of how technology can help it deliver services and improve outcomes. Learning here will help inform sound business cases, identify funding opportunities and potentially lead to procurement and deployment at scale across the district.
- 6.5 Additionally, it will provide co-working space for tech start-ups and SMEs, some of whom may be working on the Challenges. Furthermore, it will also be promoted as a ‘digital learning hub’ where larger tech companies can deliver their classroom-based digital courses from and that improve skills and potentially offer pathways to employment in the digital sector. Schools and colleges will also be encouraged to get involved in projects to get learners excited about digital, improve their skills and contribute to their coursework.
- 6.6 It is proposed that the Hub will be developed in three phases:
  - 6.6.1 **Phase 1 (2021):** Identification of two Civic Innovation Challenges that will be worked on to pilot the approach and be used to refine the innovation pathway. This phase will also focus on identifying future Challenges and potential partners. Projects may be run remotely however some existing office space will be made available at White Rose to co-ordinate activity.

- 6.6.2 **Phase 2 (2022):** Part of the main building at the Park will be converted to a flexible Smart Cities Innovation Hub, co-working area and meeting spaces. It will be promoted and publicised as location where the council will co-ordinate its innovation activity from. The digital learning hub and classrooms will be located on the floor above.
- 6.6.3 **Phase 3 (c.2023):** A new purpose-built innovation space will be located on currently unused land on the site and will bring together the smart cities innovation hub, co-working and digital learning spaces into a dedicated space.
- 6.6.4 The White Rose Innovation Hub proposal has been included in the successful £24m Morley Town Investment Plan where funding will be used to assist with the delivery of new enterprise and learning spaces, as well as a high-quality smart cities development centre for Morley.

## **7. CORPORATE CONSIDERATIONS**

### **7.1 Consultation and engagement**

- 7.1.1 Smart Leeds has been considered, reviewed and approved by the appropriate council officer boards and Lead Member.

### **7.2 Equality and diversity / cohesion and integration**

- 7.2.1 Equality, diversity, cohesion and integration requirements are embedded in all planning processes for Smart Leeds.

### **7.3 Council policies and the Best Council Plan**

- 7.3.1 The outward-facing Smart Leeds programme is led by DIS which is able to take a cross-organisation view. It contributes directly to Health & Wellbeing, Inclusive Growth, Age Friendly, Sustainable Infrastructure and Housing strategies.
- 7.3.2 The 'Leeds as a Digital City' strand of the Inclusive Growth strategy is underpinned by the Smart Leeds programme. In particular, delivering the 100% Digital Inclusion and Full Fibre Programmes as well as developing the environment for digital innovation to solve some of the city's challenges.
- 7.3.3 The Digital Strategy work currently in development will provide a clear digital roadmap for the city and support the three pillars of Inclusive Growth, Health & Wellbeing and Climate Emergency.

#### **7.3.4 Climate Emergency**

Climate Emergency is one the key priority areas of the Smart Leeds programme and colleagues from Sustainable Energy and Climate Change are member of the Smart Cities Steering Group. Improved infrastructure, data collection and deployment of new technology can assist with influencing behaviour change, a better understanding of the environment and improved decision making.

### **7.4 Resources, procurement and value for money**

- 7.4.1 The report supports the Council's values of spending money wisely, being open & transparent, and working as a team for Leeds.

- 7.4.2 Management of the Smart Leeds programme is overseen by DIS and funded through a mix of existing budgets and external grants (e.g. GovTech, EU Horizon 2020). To improve the effectiveness of the programme and the wider activity of work, DIS is currently undertaking a service review to ensure resources are targeted in the right areas.
- 7.4.3 There are many projects taking place across the Council that could be referred to as 'smart city projects' (e.g. Council House of The Future, Love Exploring, eBikes). In addition to taking a leading role in some of these projects, the Smart Leeds programme offers a co-ordinating role of raising awareness, identifying where linkages can be made to reduce silos and in promoting a whole-system approach to working.

## 7.5 **Legal implications, access to information, and call-in**

- 7.5.1 Decisions would not be subject to call-in and there are no specific legal implications or issues relating to access to information.

## 7.6 **Risk management**

- 7.6.1 If Leeds does not have a co-ordinated smart cities approach, there is a risk that other cities may take the lead in this area and also the investment and talent. It's important that Leeds continues to champion its smart city credentials and promotes itself as an innovative city that welcomes cross-sector partnership and collaboration.
- 7.6.2 Smart cities work needs to be increasingly co-ordinated across the council. It is important that all innovative work (e.g. procurement of devices that manage city operations, buildings, traffic, apps and analytics tools) is fed through the Smart Cities Steering Group. This approach was approved by the Executive Board in 2014 to avoid duplication and/or risk collaborative opportunities being missed.
- 7.6.3 Use of new technology and collection and reuse of data needs to be managed carefully. The risk of not taking advantage of this new technology may result in increased costs and the targeting of services/resources in the wrong areas.
- 7.6.4 Collecting increasing amounts of data and shifting towards Machine Learning and Artificial Intelligence brings about data ethics, bias and security risks. It is important that the council takes a centralised approach with DIS taking a convening role to ensure technology is understood and data is managed appropriately.

## 8. CONCLUSIONS

- 8.1 **Improved data usage and collection:** Data is an increasingly important feature of how the council delivers services. New technology allows us to better understand what is happening in our homes, communities and the wider city. Understanding where we need to deliver services and having the ability to be proactive can lead to reduced costs and improved outcomes. It's important however that as an organisation we have the right tools, skills and capabilities and that we have the right governance in place to ensure we manage and process data in the right way.
- 8.2 Whether a person's 'digital journey' starts with some simple coding in school or accessing the internet for the first time in retirement, it's important that we regard digital skills as something that we need to keep refreshed throughout our lives. For the council, it's important that our staff have the basic skills and capabilities to understand the data they are collecting or working with and the technology that it interfaces with.
- 8.3 **Utilising Internet of Things (IoT) devices:** The installation of the Leeds Innovation Network is already enabling the deployment of IoT devices such as home monitoring and footfall counting. Services will increasingly look to IoT technology to help them collect real time data to assist them in service delivery. These use cases will need to be considered on a project-by-project basis to ensure that the right devices are procured that improve and deliver the right outcomes. DIS will work closely with services and Information Governance as this technology becomes more mainstream to ensure standards and governance procedures are adhered to.
- 8.4 **Leeds as a centre of innovation excellence:** As government and local authorities look towards technology to improve efficiencies and deliver improved outcomes, it's important that the council has a thorough understanding of the capabilities of new tech and that it is thoroughly tested to ensure it delivers expected results prior to any procurement process.
- 8.5 The White Rose Innovation Hub, not only offers the council a unique space to test and trial technology to build confidence and help write sound, robust business cases, but it also offers an innovation space where start-ups and SMEs can co-design solutions alongside the council and where we provide the support to help businesses grow, invest and employ local people.
- 8.6 **Increasing collaboration and convening a city wide approach to digital:** There is already a great deal of collaboration that takes place in the digital and creative sectors in Leeds. With the arrival of Channel 4 and a growing tech sector, the council needs to leverage the skills and capabilities of these organisations alongside other existing anchor institutions to collectively deliver a digital strategy that we're all signed up to, that everyone benefits from and which champions Leeds as a leading UK digital city.

## 9. RECOMMENDATIONS

- 9.1 Support the next-generation data platform Proof of Concept work, that will investigate how the council can improve data management, sharing and analysis, and that will help inform the business case and viability of scaling across the organisation and partnering with others.
- 9.2 Support the approach in ensuring that digital and data ethics and bias considerations are regarded as a **key priority** and that council staff are furnished with the right data and technological skills to understand how data that is being managed and how technology is/will be used to manage it, interpret it, and increasingly, make decisions on it.
- 9.3 Endorse the continued approach for the council to play a leading smart cities role at a national level and through collaborating with partners from all sectors (e.g. universities, other councils, tech companies), continues to promote Leeds as one of the UK's leading smart cities by testing and trialling new technologies that can lead to improved outcomes for citizens.
- 9.4 Endorse the approach being taken to promote Leeds as a city of innovation excellence with the Smart Cities IoT Development Centre, Digital Skills Academy and Tech Start-up support that will be co-ordinated from the new White Rose Innovation Hub.
- 9.5 Support the approach to deliver a city digital strategy that is signed up to by other leading actors in the city from all sectors, and which supports and underpins the councils 3 pillars of Inclusive Growth, Health & Wellbeing and Climate Emergency.

## 10. BACKGROUND DOCUMENTS<sup>1</sup>

- 10.1 None

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<sup>1</sup> The background documents listed in this section are available to download from the council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.