

For General Release

REPORT TO:	Cabinet 11 December 2017
SUBJECT:	Smart City Programme
LEAD OFFICER:	Shifa Mustafa Executive Director – Place Graham Cadle, Director of Customer and Corporate Services Lee Parker – Director of Growth
CABINET MEMBER:	Councillor Alison Butler, Cabinet Member for Homes, Regeneration and Planning Councillor Stuart King, Cabinet Member for Transport and Environment Councillor Mark Watson, Cabinet Member for Economy and Jobs
WARDS:	All

CORPORATE PRIORITY/POLICY CONTEXT:

AMBITIOUS FOR CROYDON & WHY ARE WE DOING THIS:

The initiatives presented in this report support the Council's ambition of

- Growth – creating growth in our economy - To create a place where people and businesses want to be
- Independence – helping residents to be as independent as possible - To help families be healthy and resilient and able to maximise their life chances and independence; To help people from all communities live longer, healthier lives through positive lifestyle choices
- Livability – creating a welcoming, pleasant place where local people want to live. To build a place that is easy and safe for all to get to and move around in
- Enabling: To be innovative and enterprising in using available resources to change lives for the better; To be digital by design in meeting the needs of local people; To be open and transparent and put communities at the heart of decision making.

The initiatives presented in this report will contribute to provide for the infrastructure that enables development and economic growth in Croydon leading to:

- 23,594 new jobs
- A further 5,097 jobs during construction phase
- At least 10,000 new homes
- The wholesale renewal of the retail core ensuring the metropolitan centre is an attractive place to live, work and invest.

They will also help deliver key outcomes from Croydon's Community Strategy 2016-21:

Community strategy 2016-2021

- Outcome 1 – A great place to learn, work and live
- Outcome 2 – A place of opportunity for everyone

- Outcome 3 – A place with a vibrant and connected community and voluntary sector

CROYDON LOCAL PLAN AND OPPORTUNITY AREA PLANNING FRAMEWORK (OAPF)

The proposals seek to deliver the overall objectives of the Croydon Local Plan and OAPF

FINANCIAL IMPACT

The Council received a £7m grant from the Department for Communities and Local Government (DCLG). The grant is intended to fund the costs of any borrowing in the first 3-5 years of the programme before the business rates uplift (which are used to service the loan). The funding mechanism was approved by Cabinet in July 2016 and the Mayor of London in September 2016, and will ring-fence 50% of growth in business rates from April 2018 for 16 years, plus an option to extend by 3 years, in the designated area from the local government finance system. This income will be used to pay for the required infrastructure as set out in the report. The loan will not be drawn down until the whitgift redevelopment has reached the stage where we have confidence in the timing of its delivery given its importance to the viability of the growth zone.

The full Growth Zone programme includes an estimated £520million of projects supported by a loan of £309.9million. The balance (£210million) is to be made up by contributions from TfL, the GLA or planning obligations.

The smart city programme has approved expenditure of £145k in 2017/18 as detailed in the report. The planned future work programme detailed in the report are expected to cost £700k in 2018/19 and £6.9m in total.

KEY DECISION REFERENCE NO.: 1917CAB

The decision may be implemented from 1300 hours on the expiry of 5 working days after it is made, unless the decision is referred to the Scrutiny & Strategic Overview Committee by the requisite number of Councillors.

1. RECOMMENDATIONS

- The Cabinet is recommended to
- note progress in the development of the smart city programme
 - approve priorities and initial programme of work and next steps
 - approve funding for 2018/19

2. EXECUTIVE SUMMARY

- 2.1 Cities around the world are facing the challenge of how they can do more and better with less and become healthier, more liveable, sustainable and resilient cities. For Croydon to succeed in this very competitive and fast changing environment, embarking on its smart city strategy and investing in smart city infrastructure, in particular digital connectivity infrastructure, open data and the internet of things, is a strategic priority.

- 2.2 Croydon is already redefining life on the edge of London. The borough is one of the prime areas of London where people choose to live, work, visit and invest. It is home to London's fastest growing tech community. Croydon's smart city programme is key to ensuring that Croydon in the future is a place that is attractive to investors and where residents have choices of high productivity, high income jobs and a more liveable and sustainable urban environment.
- 2.3 The Council's Growth Zone programme is an estimated £520m infrastructure programme supported by a loan of £309.9million. The programme includes infrastructure projects (including transport and public realm schemes, healthcare and community infrastructure) and will act both as a catalyst to further growth and to accommodate the demands of a significantly increased population. Funding is reliant on the Whitgift redevelopment with regard to achieving business rate uplift and as such the loan cannot be drawn down until further progress is made with the development
- 2.4 The Growth Zone was developed as a collaborative approach with the GLA and TfL to secure Central Government investment in the form of fiscal devolution and/or grant funding in Croydon. It has developed into a business rate retention scheme based on a Tax Increment Financing (TIF) model over a designated area in Central Croydon. In essence, it proposes to borrow to fund infrastructure projects which are essential to growth, with the costs of borrowing repaid by future uplift in the business rates base.
- 2.5 The Growth Zone will run for 16 years, with an option to extend by 3 years, and will fund a number of phases of infrastructure delivery, although the focus is on the first five years in order to coincide with major development activity in the pipeline. This will minimise disruption, enable growth to occur earlier and bring forward the benefits of the town centre regeneration.
- 2.6 The Smart City (SC) subgroup is one of the eight sub-groups that have been established as part of the Growth Zone governance, each responsible for developing and delivering projects that fall within their responsibility and undertaking any preparation and planning work that is required.
- 2.7 The SC group provides the framework to ensure that the Council makes the best use of technology and data opportunities to better respond to the challenges, build capability and attract investment. However, whilst the group will ensure the development within the Growth Zone includes a smart city focus, many of the SC workstreams will be developed right across the borough to ensure that all residents, communities and businesses benefit from the opportunities, and that we collectively create the foundations for a smart, forward thinking and sustainable city. Whilst Growth Zone funding will enable the development of initiatives that can benefit right across the Borough, where required specific additional funding from other council funds will be requested to enable the wider development.

- 2.8 This SC workstream is key in ensure the town centre and surrounding areas are able to function fully and to attract and retain all types of business. A connected environment is now a vital component of any commercial infrastructure and without that Croydon will not be as attractive to developers or prospective businesses. The development, availability and use of local data will also be important for the area to function effectively, providing information, wayfinding and a foundation to develop tech solutions for commercial.
- 2.9 This report outlines the key priorities and elements of Croydon Smart City strategy including an overview of projects that are currently being developed. This report also sets out the proposed timescale for implementation and budget.

3. BACKGROUND - SMART CITY

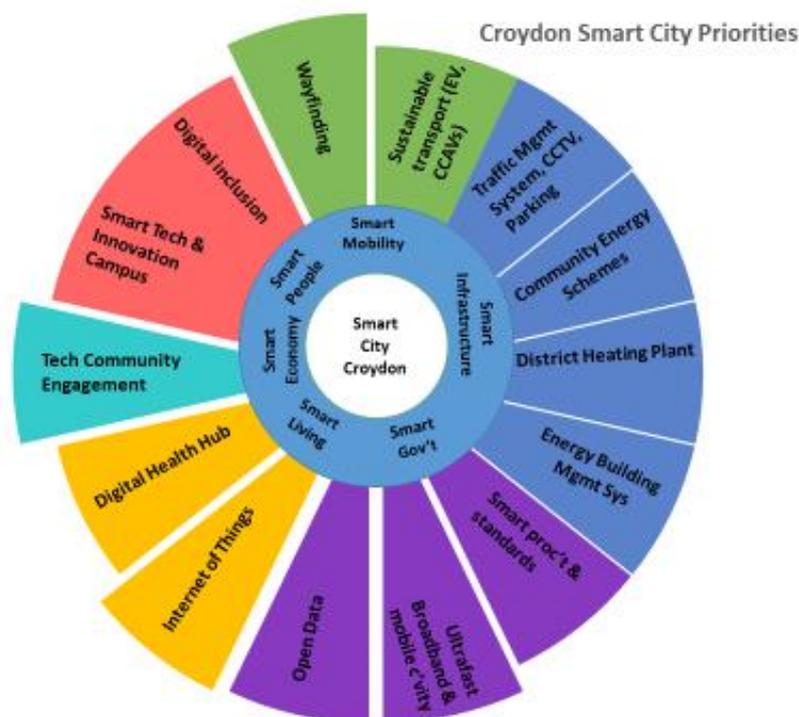
- 3.1 The concept of smart cities has garnered lots of attention over the last 15 years. Cities around the world have started to realise the benefits of adopting technology and innovation to address their challenges and re-define how they run and operate their cities more efficiently. Many have already embarked on their smart city journey, developing ambitious strategies and projects.
- 3.2 There is not a universal approach or defined blueprint to smart city and cities have adopted a variety of models with different ambitions (social, economic, service efficiency) and drivers (safety, quality of life, citizen and city empowerment). With so many options and opportunities, it is vital Croydon identifies the right areas of focus, aligned to local priorities and ambitions.
- 3.3 A cross-organisational Smart City group was set up in April 2017 to shape Croydon's smart city approach and create the necessary step-change in the capacity for joined-up delivery and innovation, within and beyond the remits of the Growth Zone programme. The group has been working on identifying technology-enabled solutions and initiatives to
- Enhance efficiency by reducing costs of infrastructure and service provision
 - Improve quality of life and wellbeing; Improve citizens' experience of living in Croydon, including smoother and cleaner mobility
 - Support growth through job creation and attracting investment; Create the environment for innovation and creativity; Support Croydon's fast growing tech community; digital inclusion and ensure that Croydon citizens are equipped with digital skills
 - Support and enable environmental sustainability: Improve air quality, reduce air pollution; Increase resource efficiency; Efficient and sustainable energy through DHP network and encouraging community based energy initiatives;
 - Enable a safe and secure city: reduce crime, increase security, reduce risks, improve emergency response

3.4 It will do so by

- Fostering collaboration between public and private/commercial partners for better collection and exploitation of city data
- Building internal capabilities around smart city issues, and using data and smart technologies
- Developing a medium/long term investment roadmap
- Exploring synergies and addressing overlaps with other GZ work stream projects as relevant.

Key priorities

3.5 Croydon's ambition is to become a world-class digital and smart city. To drive this ambition, a set of priorities has been defined in line with the Borough's key priorities and challenges, and the SC group has reviewed the needs and requirements for digital and smart city infrastructure and initiatives within the GZ and pan-Croydon to support growth and create the conditions for sustainability and innovation. The below chart lists the range of areas of focus and highlights those seen as initial priorities and that form part of the initial proposed programme of work:



Smart City Initial Programme

Digital connectivity

3.6 With ever increasing demand for more data and faster connectivity, it is of the utmost importance that our digital infrastructure be able to support rapid growth and increased demand, providing world class ultra-fast broadband and mobile connectivity for all areas of our community whilst getting ready for the future (e.g. 5G technologies).

Current Issue

3.7 The current level of digital infrastructure in Croydon is not adequate enough to answer the digital needs of a growing population and business community in particular the fast growing tech community, to sustain economic growth and remain competitive in the future.

3.8 A recent review of Croydon digital infrastructure commissioned by the Council shows that connectivity across the borough is still very patchy with important gaps in key growth areas including the town centre:

- Up to 13% of Croydon postcodes are currently unable to receive superfast broadband at 30Mbps. These not-spots include areas such as Fairfield and Selhurst with high concentration of industrial estates and businesses. Although the Council has engaged with Internet providers to encourage a faster broader roll-out of high-speed services, those areas with fewer residential units have not been prioritized and continue to have limited and often expensive connectivity options, to the detriment of business growth.
- There is also very little Ultrafast Broadband (100Mbps) availability in Croydon with only a minimal number of residents and businesses with deep pockets currently served (3% of postcodes, mainly residential).
- This lack of high-speed and reliable connectivity is a barrier to growth. For digitally intense companies and a growing number of other companies, ultrafast services will be critical to future success.

3.9 Pilot initiatives such as a free public Wi-Fi trial on Surrey Street, to assist both businesses and customers to utilise such technology for social and business purposes have achieved limited results and are evidence that Croydon needs a bigger more ambitious and integrated digital strategy to address the connectivity challenge.

Proposed action

3.10 Croydon needs to adopt a strategy which aims to develop a self-sustaining connected environment for all its community. It must accelerate the deployment of a

fibre network to ensure that ultrafast services are available as widely as possible, in particular in areas of business concentrations.

- 3.11 A first appraisal of adequate technical and commercial options to improve connectivity and stimulate further private and public investment has been carried out. Key elements are the deployment of as much fibre as possible in key locations with complementary wireless infrastructure, and a complementary Gigabit Voucher scheme to ensure good uptake from local businesses.
- 3.12 Further work to assess the feasibility and validate the economic model for all these options will need to be carried out prior to firming up a proposed approach and business case. It is envisaged Growth Zone funding will provide the improvements in the town centre area and facilitate improvements across the Borough. Further funding for the wider works are being identified as part of the councils overall capital program
- 3.13 Costs (estimated)
- 2017/18 Croydon Digital Infrastructure Review £40,000 (confirmed spend)
 - 2018/19 Feasibility study to validate best recommended options and roadmap £50,000
 - 2018/19 Procurement and early deployment of infrastructure £250,000
- 3.14 *Next steps – provisional roadmap*
- November/December 2017 Further engage with fibre providers to understand investment thresholds and appetite to invest in Croydon
 - December 2017 (tbc) Application to DCMS Local Full Fibre Network Fund
 - 2018/19 Feasibility study
 - 2018/19 Deployment plan and implementation phase 1

Open data

- 3.15 Data is a new and vital resource for any city, both economically and insights. It is anticipated that by 2020, the use of open data will have helped reduce public administration costs across the EU28+ by €1.7bn, and help reduce energy consumption by 16%¹. Open data is data that anyone can access, use or share (see Data spectrum visual in Annex A).
Cities such as London, Greater Manchester, Glasgow or Bristol have started making the most of open data opportunities to develop new tools and services, and new knowledge, driving growth and better social and environmental outcomes.

Current issue

¹ Creating Value through Open Data: Study on the Impact of Re-use of Public Data Resources, European Union, 2015.

3.16 Croydon does not have an open data policy and adequate structure and tool(s) in place to create value out of its data and engage with partners, stakeholders and developers to create opportunities and solutions to help answer local challenges. It needs to assess how best to unlock and exploit this new source of value. The ability to capture, analyse and apply digital data is also fundamental to the city's innovation.

Proposed action

3.17 The development of an open data platform and supporting engagement programme that will encourage the use of data both internally and externally to generate data valuation and support the development of new solutions to Croydon challenges.

3.18 The Council will also work with its local partners such as TMRW Tech Hub, Croydon Tech City, Sussex Innovation Centre, Croydon College and collaborate with Croydon's open data community to deliver hackathons and data challenge events to develop adequate solutions to its challenges such as air pollution, sustainable mobility, health and wellbeing.

3.19 Such events provide a great opportunity to further develop relationships and engagement across sectors, to bring real innovation and different thinking to local priority issues and to create pace in delivering solutions quickly.

3.20 Costs (estimated)

- 2018/19 Procurement of platform and implementation £160,000
- 2018/19 Series of hackathons and tech challenge events £40,000

3.21 Next steps

- 2017/18 Further engage with Open data providers and local open data community to explore and assess delivery model options
- 2017/17 Develop Croydon Open data policy
- 2018/19 Procurement of platform solution and implementation
- 2018/19 Delivery of programme of tech events and hackathons

Internet of Things (IoT)

3.22 The UK Internet of Things marketplace is currently worth 13.3bn, and is expected to rise to £20bn by 2018. By 2020, there will be 50bn+ connected devices worldwide. Croydon's ambition is to become a reference test bed for IoT solutions development.

3.23 IoT has the potential to enable Croydon to deliver more efficient services and unlock useful data, gain new insights from data and unlock transformational and cost saving new scenarios. It also offers a great opportunity to create the conditions to radically enhance our access to digital businesses that want to use IoT and support the growth of that cluster locally.

Current issue

- 3.24 Croydon does not have the infrastructure to enable the development of an IoT ecosystem. It also lacks sensors and quality data to inform relevant solution design and decision making.

Proposed action

- 3.25 The Council has partnered with Government-funded Digital Catapult and joined their national IoT programme 'Things Connected' intended for the prototyping of new products and services.
- 3.26 As part of the Things Connected programme, we are in the process of deploying a pan-Croydon Low Power Wide Area Network (LPWAN) connectivity infrastructure together with an IoT innovation programme for start-ups and SMEs that will enable the development of an IoT test bed in the borough.
- 3.27 By joining a growing network of cities that have recently launched the programme, we will enable more quality data to be produced and make Croydon an attractive place where businesses will be able to trial new technologies, services and products for the benefits of Croydon citizens. There is a wide range of IoT application opportunities from building maintenance and management to independent living solutions and air pollution mitigation products.
- 3.28 As part of this initiative, Croydon Adult Services and Public Health have already started collaborating with Digital Catapult on the definition of a challenge around social housing and independent living, developing the right use cases to be put to the IoT innovators and developers, some of which we expect will be Croydon-based companies.
- 3.29 Moving forward, more challenges will be defined with a focus on air pollution monitoring and mitigation solutions as well as wayfinding solutions, in particular with the objective to mitigate the impact of anticipated changes and disruption that will be generated by the GZ regeneration programme.
- 3.30 **Costs**
- 2017/18 Deployment of LoRaWAN infrastructure and one IoT challenge run £35,000 (confirmed spend)
 - 2018/19 Programme of IoT innovation challenges – engagement, events and trials £50,000
- 3.31 **Next steps**
- End of November 2017/18 LPWAN infrastructure in place and live
 - 2017/18 First innovation challenge launched with Digital Catapult

- 2018/19 Delivery of programme of IoT challenges with strong focus on Croydon Tech Community engagement

CCTV

Current issue

- 3.32 The Council recently commissioned a review of its CCTV infrastructure. The findings show that LBC's current public space CCTV infrastructure is outdated, poorly located and lacks the capability and capacity to support and manage the imminent growth in urban places and traffic from the town centre developments and the subsequent impacts on community safety, housing/urban/commercial/retail security and parking management/enforcement.

Proposed action

- 3.33 To upgrade to Digital CCTV system and infrastructure within the Growth Zone (including on-street cameras, transmission infrastructure & control room technology) to ensure it has capability & capacity to support and manage the growth in urban places & traffic (foot & vehicular), from intensive development, and its impacts on community safety, housing/urban/commercial/retail security, and parking management/enforcement. It will also provide a level of future-proofing to a digital platform that can support future Smart City functionality to be achieved.
- 3.34 Costs (estimated)
- 2017/18 Review of existing CCTV infrastructure & exploration of suitable Smart City functions that could be supported by digital CCTV infrastructure £25,000 (confirmed spend)
 - 2018/19 System feasibility and design study £50,000
 - 2019/20 and beyond Installation and operation system £925,000
- 3.35 Next steps
- 2018/19 System feasibility and design
 - 2018/19 Procurement of a supplier to supply and install the equipment
 - 2019/20 Installation of the cameras, transmission network and control room equipment.

Mobility

- 3.36 Smart technologies are already impacting how we move and get between places. Having the right integrated transport and mobility infrastructure in place is fundamental, as is raising user awareness and access to adequate, integrated and timely data to enable people to make the best choices for themselves.

Current issue

- 3.37 Croydon town centre is home to major regeneration schemes that will affect how people navigate in the city and their awareness of their surroundings. Improving mobility and wayfinding to mitigate the disruption and ensure that citizens and users can travel seamlessly is important for their wellbeing as well as to ensure that Croydon centre remains open for business. Smart mobility and wayfinding options can help tackle air and noise pollution issues.

Proposed action

- 3.38 In conjunction with the open data and IoT initiatives, Croydon will look at solutions to provide access to real-time transport information and route maps, travel options and air and noise pollution data that will contribute to bringing change in the way people move in the city.
- 3.39 Walking and cycling routes improvement, cycle parking, bike hire scheme, improved public transport, car clubs, electric vehicles and EV charging points for taxis (in public and at home) and residents without off-street parking, and collection lockers for small parcels for commuters to pick up on the way home are amongst the solutions currently being discussed to provide a choice of cleaner and more sustainable travel options.
- 3.40 Pilot projects of technology-enabled services and digital solutions include
- The 312 bus route in Croydon, which was London's first fully electric service;
 - Croydon Sutton Electric Freight (2017-2020), as part of the London-wide Go Ultra Low City scheme, offers local firms a half price electric van on a 6 or 12 month lease and includes in-vehicle telematics with a view to improving the Freight Operator Recognition Scheme (FORS);
 - Preparing to trial a small autonomous (driverless) demand responsive public transport vehicle (in the borough as part of the 'Streetwise' project with Five AI, TfL and Direct Line insurance. Vehicle will deviate from its route if called by passengers. Being tested as a means of providing public transport in less dense areas that cannot support a traditional bus service. Live trials expected in 2019.
- 3.41 A new network of charging points for electric vehicles is also being installed in the borough, starting with 30-50 in 2018/19 through Source London, with more in commercial car parks from other providers. The council and TfL will install half a dozen or more rapid charging points in the same period.

3.42 Selected solutions will support and enable the actions proposed in the Air Quality Action Plan, in particular the requirement that 25% of the Council fleet / hired fleet be ultra-low emission capable by 2019 and 75% by 2015. New council developments such as at Stubbs Mead depot (where most of the council vehicle fleet will be kept) and Brick by Brick residential sites will include charging facilities for electric vehicles. Car clubs in the borough will be required to be at least 50% ULEC by 2025.

3.43 Next steps

- 2017/18 Define mobility roadmap in conjunction with GZ Transport group and Public Realms group
- 2018/19 Installation of 30-50 EV charging points across the borough
- 2018/19 Identify and prepare Streetwise Autonomous Vehicle trial
- 2019/20 Launch of Streetwise Autonomous Vehicle trial

3.44 Croydon iStreet - The Halo project

The 'Halo' project was recently selected by an expert judging panel as the winning design in the Croydon iStreet competition in association with the Architects Journal. The competition aimed to identify a tech-enabled wayfinding solution to help people navigate around the town centre as the pace of regeneration gathers. The project will now be taken forward by developing the concept further including considering the type of technology, fabrication method, suitable locations, installation and maintenance issues etc.

3.45 Costs (estimated):

- 2018/19 Feasibility and proof of concept of Halo project £50,000
- 2018/19 Installation (pilots) £100,000

3.46 Next steps

- 2017/18 Further clarify proposed solution and feasibility; specification development
- 2018/19 Procurement, prototyping, proof of concept and installation (pilot).

4. CONSULTATION

4.1 Not applicable to this report.

5. FINANCIAL AND RISK ASSESSMENT CONSIDERATIONS

REVENUE AND CAPITAL CONSEQUENCES

5.1 Cost summary

The table below shows the projects to be funded and the spend profile.

Ref.	Project name	Budget £'000			Total
		2017/18	2018/19	2019/20 and beyond	
GROWTH ZONE FUND					
SC1	Digital Connectivity / Superfast Broadband		300	1,600	1,900
SC2	Croydon iStreet		150	1,850	2,000
SC3	CCTV upgrade	20	50	930	1,000
SC4	Smart City Programme			1,675	1,675
	- Connectivity review	40			40
	- IoT programme	35	50		85
	- Open Data	--	150		150
	- Smart City programme development	50			50
TOTAL		145	700	6,055	6,900

RISKS

- 5.2 As further work is undertaken, a specific aspect will be the consideration of procurement routes for some of the initiatives and inclusion of smart city and technology future proofing requirements / conditions in other scheme procurement specifications to optimize cost efficiencies.
- 5.3 The Smart City approach and integration of technology over the life time of the Growth Zone is likely to bring forward further cost savings and efficiencies.
- 5.4 The financial model used to support the Growth Zone provides information on cash flow which dictates how much of the loan can be spent each year to fund this work. The model reinforces the importance of the Whitgift redevelopment with regard to achieving business rate uplift and as such the loan cannot be drawn down until further progress is made with the development. In 2018/19 a limit of £4million has been set which will be recharged to the loan once drawn down or from the £7m grant should the development not proceed.

Approved by Lisa Taylor, Director of Finance, Investment and Risk

6. COMMENTS OF THE BOROUGH SOLICITOR AND MONITORING OFFICER

- 6.1 The information in the report is a Key Decision as it is significant in terms of its effects on communities living and working in areas comprising more than two Wards in the Borough. It is therefore noted on the Council's forward plan of Key Decisions. In implementing the Smart City Programme, contractors will be engaged for various works and services and it is important that Relevant Procurement law and the Council's Contracts and Tenders Regulations are complied with.

Approved by Sandra Herbert, Head of Corporate and Litigation law, on behalf of Jacqueline Harris-Baker, Director of Law and Monitoring Officer

7. HUMAN RESOURCES IMPACT

- 7.1 There are no immediate impacts for LBC workforce arising from the recommendations within this report.

Approved by Sue Moorman, Director of Human Resources

8. EQUALITIES IMPACT

- 8.1 A key priority for the Council is to work with our partners to make Croydon a stronger fairer place for all our communities. Croydon's Opportunity and Fairness Plan 2016-20 outlines action to tackle inequalities such as educational attainment, health, homelessness, unemployment, crime and social isolation, particularly in the borough's six most deprived wards. Successful delivery of the smart city projects outlined in this report will create more opportunities for Croydon residents and businesses and contribute towards greater equality, fairness and better outcomes for all.

9. ENVIRONMENTAL IMPACT

- 9.1 Projects included in the Smart City work stream will be delivered in line with current environmental requirements and the Local Plan policy which promotes, as part of sustainable development, the consideration of environmental impacts. The Growth Zone focusses on improving air quality and enhancing facilities for healthy and sustainable transport.

10. CRIME AND DISORDER REDUCTION IMPACT

- 10.1 Not applicable for this report.

11. REASONS FOR RECOMMENDATIONS/PROPOSED DECISION

- 11.1 To advise members on the approach and expected benefits of the work

12. OPTIONS CONSIDERED AND REJECTED

- 12.1 Smart city provides a great opportunity to anticipate and plan the provision of improved and futureproof infrastructure and services.
- 12.2 Whilst the option to let the market drive the development of Croydon's smart city vision and priorities is deemed inadequate, due consideration will be given to engaging with the market within each workstream with the aim to encourage private investment in Croydon. Options are being explored and developed as part of the initial development work (e.g. broadband / digital connectivity infrastructure).
- 12.3 Additionally, although the smart city workstreams remit are pan-Croydon, it is embedded in the Growth Zone programme, for which the option of not forward funding infrastructure but to depend upon the market and the provision of infrastructure only through public sector capital funding, was deemed unable to deliver the necessary infrastructure and detrimental to growth and regeneration.

CONTACT OFFICER: Graham Cadle, Director of customer and corporate services

BACKGROUND PAPERS: none

Annex A

The Data Spectrum helps you understand the language of data

