## Appendix A Case studies

Description and assessment of case studies used in the landscape scan.

#	Name	<b>Overall Assessment and Reviewer Comment</b>	Reference (URL, DOI, etc.)
<u>1</u>	thethings.iO	A closed data cloud for closely coupled IoT sensors in supply chain logistics	https://thethings.io/iot-smart-city-platform/
2	Smart Concept	A systems integration company	http://www.sice.com/en/about-sice http://www.sice.com/sites/Sice/files/2018- 11/SICE_SMART_CONCEPT_ENG_(V8)_1.pdf
<u>3</u>	London Data Store	An open data repository and analytic enabling ecosystem	https://data.london.gov.uk/
<u>4</u>	The City Data Exchange (CDE)	Copenhagen project implemented by Hitachi to set up city data market for every aspect of tech, energy, civil society; ambitious; but not clear what happened to it; e.g. platform link is broken!	the initiative - https://cphsolutionslab.dk/en/news/city- data-exchange the platform https://www.citydataexchange.com/#/home
<u>5</u>	City Data. Com	A closed data aggregation app	http://www.city-data.com/
<u>6</u>	Strava Metro	Strava operated transport intelligence data services platform	https://metro.strava.com/
<u>7</u>	European Innovation Partnership on Smart Cities and Communities	Develop and spread a common open urban data platform for EU citizens by 2025	https://e3p.jrc.ec.europa.eu/articles/european- innovation-partnership-smart-cities-and-communities
<u>8</u>	Urban Sharing Platform	Urban data sharing platform. Very open API but hard to see how open the platform is. Does it pivot on idea of 'data trust'? i.e. independent third-party stewardship of data	http://www.sharingcities.eu/
<u>9</u>	Open Active	Aggregates data from public and private entities about exercise/sport/fitness activities within different geographies; interesting for mixture of data sources municipal services + private operators	https://www.openactive.io/

<u>10</u>	RiderLog	A smartphone app that collects data on bike rider movement and behaviour. It appears to be a true data collective, in which individuals actively choose to contribute data to a collective, for no direct personal benefit (though there are indirect benefits through better recognition of cyclists as road users)	https://www.bicyclenetwork.com.au/our- services/riderlog/
<u>11</u>	Twitter	Micro-blogging platform. A digital stream of consciousness (for better or worse). Individuals share knowledge, opinions, photos etc. And also like, share or respond to others	http://www.twitter.com
<u>12</u>	Mass Observation	A big data social research project in the predigital era. Found many people willing to share their experiences (i.e. data); also encouraged eavesdropping on others. I think it has real parallels with what we are trying to do now	http://www.massobs.org.uk/
<u>13</u>	MUV app (CIVITAS EU project)	A mobility app capturing user's daily commute data with a gaming interface. *This EU project has built more than 100 tools over the last 15 years around smart cities*	https://www.muvapp.eu/muv/# Other tools: https://civitas.eu/tool-inventory
<u>14</u>	UberEats	Meal delivery/gig economy application	https://www.ubereats.com/en-AU
<u>15</u>	Safetipin	Geolocated safety information and decision-making app to make cities safer for women	http://safetipin.com/
<u>16</u>	Nearify	Social events near you	https://www.nearify.com/
<u>17</u>	Sidewalk Labs	Alphabet / Google's smart city project in Toronto; not a platform yet probably but a noteworthy development.	https://sidewalktoronto.ca
<u>18</u>	Organicity	Experimentation as a service? Deliberate effort to encourage 'collaborative citymaking'	https://organicity.eu/what-is-organicity/

<u>19</u>	CitySDK	Toolkit for attempts to link city data repositories	https://www.citysdk.eu/
<u>20</u>	The Six City Strategy	This an instance of the CitySDK in use	https://www.citysdk.eu/6aika-open-data-and-interfaces/
<u>21</u>	ANAGOG	A service provider (platform?) for data collection on customer mobility that could be useful for smart city purposes	https://www.anagog.com/
<u>22</u>	Data.gov	US government open data platform, has both data and apps	https://www.data.gov/
<u>23</u>	Urban Data Platform	EU Commission Data Platform	https://ec.europa.eu/knowledge4policy/online- resource/urban-data-platform_en
<u>24</u>	Nest	Smart Home system	https://nest.com/au/
<u>25</u>	Apple HomeKit	Smart Home system	https://www.apple.com/au/ios/home/
<u>26</u>	Wink	Smart Home system	https://www.wink.com/about/
<u>27</u>	Chicago Data Collaborative	A semi-open data platform that details criminal justice system practices in Chicago and presents a window for analytics	https://chicagodatacollaborative.org
<u>28</u>	oneTransport	A data marketplace for transport and smart city related data	https://onetransport.io
<u>29</u>	FuelMap	Open data platform (within Andriod/iOs environment) for crowdsourcing fuel prices	http://fuelmap.com.au/
<u>30</u>	Sydney Coordinated Adaptive Traffic System	Traffic coordination and signalling system	https://www.scats.com.au/
<u>31</u>	AirVisual	A closed data aggregation app that collects, compares and visualises air pollution data from across the world	https://www.airvisual.com
32	Array of Things	Collaboration to allow the city to behave like a FitBit for its citizens	https://arrayofthings.github.io/
33	Barcelona Digital City initiative	Framework for citizen data sovereignty in smart cities	https://ajuntament.barcelona.cat/digital/en/about-us
34	Smart cities challenge – Canada	Competition for smart city projects Canada. Has a lot of variations that give shape to different visions of smart city	https://impact.canada.ca/en/challenges/smart- cities/challenge
35	I love Beijing app	Repair reporting and more	https://www.geospatialworld.net/news/beijing-launches- city-management-app/

36	Singapore Smart Nation initiative	Government policy initiative for smart city work	https://www.smartnation.sg/
37	PeerBy	City-centred swapping of stuff	https://www.peerby.com/one
38	Fixmystreet	City maintenance	fixmystreet.com
39	Plenario	City data sharing platform with emphasis on spatio-temporal data; it is a university of Chicago experiment, and managed to elicit datasets from quite a few city governments	http://plenar.io/
40	Boston street bump	City maintenance	http://www.streetbump.org/
41	Metropolitan Integrated Mobility– Montreal (MIMC)	Intermodal transport linkage platform	https://www.makingmtl.ca/4956/documents/16170
42	Montreal social data hub	Will collect data on the social reality of Montréalers,	https://www.makingmtl.ca/4956/documents/16170
43	Integrated Local Food System	Create a local circular food economy in Montreal using platform	https://www.makingmtl.ca/4956/documents/16170
44	Switching on Darwin	Environmental data + china-style social media-urban surveillance monitoring system	https://www.lifehacker.com.au/2019/04/chinas-people- monitoring-software-being-deployed-in-darwin/
45	Backyard Worlds: Planet 9	Astronomical data made available for citizens to identify objects at the edges of the solar system	https://www.zooniverse.org/projects/marckuchner/backy ard-worlds-planet-9
46	Sounds of New York City (SONYC)	A city soundscape/noise pollution annotation/analysis platform for citizens to train algorithms (UrbanEar) by annotating audio clips, that cross decibel thresholds, for pattern recognition	https://wp.nyu.edu/sonyc/
47	Citizen Data Lab	An initiative looking to experiment with participatory data practices for mapping and addressing local issues. This group generates and trials methods, approaches and tools for co-creation to learn about and through data via various projects	http://www.citizendatalab.org
48	eBird	A citizen science/crowdsource initiative to aggregate bird sightings to generate ecological data	https://ebird.org/home
49	Lime	Location-based dockless e-scooter/e-bike rental company	https://www.li.me/about-us
50	Uber	Fee for service transport company for the transport of passengers and goods (Uber Freight, UberEats)	https://www.uber.com
51	Bird	Location-based dockless e-scooter rental company. Retailing scooter and associated service services to customers	https://www.bird.co/

52	Ola	Online Cab aggregator - Transport company connecting car for hire services to customers	https://ola.com.au/
53	GoGet	A Car Sharing service which operates much like a rental service. However, the cars are booked via web/app and unlocked via a keycard supplied to registered users. Users must register and provide a number of details in return they are vetted and supplied with a small keycard that operates the locking mechanism of the vehicle. Vehicles are charged at an hourly/daily rate with some included kilometres per hour or day. Petrol is included and the cars come with a fuel card. Cars are located at designated pickup/setdown areas through the urban area and at high traffic location (airports)	http://www.goget.com.au/
54	Gyroscope	Described as a 'dashboard for your life', this app enables the user to conduct various forms of self-tracking. Data is presented as a transformative medium for all manner of self- improvement projects e.g. thinking clearer, getting stronger, losing bodyfat etc. As the site says, "Gyroscope makes it effortless to track and improve everything about your health. Understand what your body is saying, get warnings before things get serious, and stay motivated by competing with friends!"	https://gyrosco.pe
55	Car Next Door	Peer-to-peer car sharing service	carnextdoor.com.au
56	Spacer	Peer-to-peer space sharing service	spacer.com.au
57	Kerb	Peer-to-peer parking space sharing service	www.kerb.works
58	Here (We Go)	Mapping, transport and navigation application	wego.here.com
59	Onstar	In-Car subscription-based concierge service	www.onstar.com
60	LINZ	New Zealand Government Department for Geospatial Information management, land survey and land transfers, managing crown land	https://www.linz.govt.nz/
61	openstreetmap.org	Collaborative project to produce a free editable world map	https://www.openstreetmap.org/
62	WeGovnow	Platform developed to encourage "WeGovernment"	https://wegovnow.eu//
63	Pokémon Go	A multi-player augmented reality mobile gaming platform that overlays a virtual or simulated surface on the physical environment and encourages players to capture pokémon and complete a Pokedex index. Players can expend money in the game and the platform can extract their geolocative data. Operates a 'freemium business model'	https://www.pokemongo.com/en-au/

64	Flu Near You	A participatory surveillance platform where citizen scientist users both self-report and see national distributions of flu symptoms on a virtual map. Created by epidemiologists at Harvard, Boston Children's Hospital and The Skoll Global Threats, the platform describes itself thus: 'We analyse thousands of reports and map them to generate local and national views of influenza-like illness, providing public health officials and researchers with real- time, anonymous information that could help prevent the next pandemic. With your help, we can all see what's coming and better still you have the knowledge to protect yourself and your family against disease." A virology platform	https://flunearyou.org/#!/
65	Sickweather	Sickweather is a 'social Listening' app that ambiently but proactively scans social networks such as Twitter and Facebook to see where people are reporting that they're sick, but also used crowdsourcing, and then gives an area a "sick" rating based on that data [scorecarding and colour-coding]. It is in the business of 'sickness forecasting' and administering 'Population Health 2.0'	http://www.sickweather.com
66	Bet365	Online betting and gambling platform	www.bet365.com.au
67	FitBit	Fitbit city fitness ratings have fine-grained reports on heart rates, sleep, steps, etc. over time; 100 million users	www.fitbit.com.au
68	Feedback2Go	An app to provide feedback on transport experience in NSW	https://transportnsw.info/apps/feedback2go
69	Noise tube	Citizen Science project to track noise pollution in urban environments	http://www.noisetube.net/index.html#&panel1-1
70	Safecast	Citizen science project to track radiation fallout in and about Fukushima post- reactor failure	https://blog.safecast.org/
71	Police Data Initiative	Project initiated in the US to address the lack of open policing data	https://www.policedatainitiative.org/
72	Flight Aware	Live flight tracking service	https://flightaware.com/about/datasources/
73	Kansas Smart City	Using CISCO Kinetic IoT platform	https://www.cisco.com/c/en/us/solutions/industries/smar t-connected-communities/kinetic-for- cities.html?dtid=osscdc000283
74	Deloitte CitySynergy	"an integrated city operating system"	https://www2.deloitte.com/au/en/pages/future-of- cities/articles/integrated-digital-city.html

75	Smart Columbus Operating System	Essentially a data repository (like opoen.daya.gov ckan instances) but purports to be an open data platform for smart cities. Does support Jupiter notebooks	https://www.smartcolumbusos.com/data-stories
76	Huawei Smart City Platform	Huawei smart city platform offering	https://e.huawei.com/au/digital-platform/smart-city
77	tinder	Location aware social/dating app	www.tinder.com
78	happn	Location aware like app - 'find the people you've crossed paths with'	https://www.happn.com/en/
79	grindr	Geosocial networking and dating app - primarily targeting LGBTIQA+ users	www.grindr.com
80	Foursquare	Foursquare comprises a city guide data market and app, "the most trusted, independent location data platform for understanding how people move through the real world"	foursquare.com
81	AT&T	Multi-level approach including operations centre, infrastructure/sensors and control. Probably the key element is the 'operations centre'	https://www.business.att.com/categories/smart- cities.html
82	IBM Watson IoT	A fully managed, cloud-hosted service with capabilities for device registration, connectivity, control, rapid visualisation, data storage and predictive analytics. 'We are a fully managed, cloud-hosted service that is designed to simplify and derive the value from your IoT devices'	https://www.ibm.com/cloud/watson-iot-platform
83	Microsoft Azure IoT	Vertically integrated cloud-hosted platform	https://azure.microsoft.com/en-gb/services/iot-hub/
84	KAA Enterprise IoT platform	Glue for integration of many layers and elements	https://www.kaaproject.org/smart-city
85	Bosch (Robert Bosch GmbH)	Bosch provides smart city 'solutions' along lines of mobility, energy, safety and security, e- governance, and buildings - in rough alignment with Bosch's existing business interests. Large diversity of products and services provided, reflecting enormous diversity in services Bosch provides. Many solutions are integrated with existing interest. E.g Bosch has powertrain manufacturing business, fits very well with automated parking solutions, which in turn utilise sensor products they manufacture	https://www.bosch.com/products-and- services/connected-products-and-services/smart-cities/
86	Telstra	Telstra is moving into smart cities space, leverage its telecommunications network, data centres, smart home networks with its own and others' components to build smart cities. Telecommunications providers such as Vodaphone and AT&T are moving in similar directions	https://www.telstra.com.au/smart-home https://www.telstra.com.au/business- enterprise/solutions/internet-of-things

87	Analog Devices (sensor makers)	Microprocessors, sensors, electronic manufacturer	https://www.analog.com/en/index.html
88	Texas Instruments (sensor makers)	Microprocessors, sensors, electronic manufacturer - Making lots of sensors but can't see integration of them	www.ti.com/
89	Nokia Impact	Mainly to help telcos start managing IOT	https://onestore.nokia.com/asset/205513
90	CISCO Kinetic for Cities	Data network and integration platform from CISCO; other big companies (especially those in the network business in the broader sense) have similar platforms e.g. Nokia, InterDigital, IBM, Bosh, Verizon) Offers sensor data aggregation, Viz and an open ecosystem to plug in platform	https://www.cisco.com/c/en_au/solutions/industries/sma rt-connected-communities.html https://www.cisco.com/c/en/us/solutions/industries/smar t-connected-communities/kinetic-for- cities.html?dtid=osscdc000283#~stickynav=5
91	Siemens Mindsphere	MindSphere is a scaleable cloud-based platform as a service (PaaS) or 'operating system for the IoT'. It connects products, plants, systems, and machines, enabling IoT/sensor data to be collected and brought into relation with each other and subject to with advanced analytics	https://new.siemens.com/global/en/products/software/m indsphere.html
92	Philips HealthSuite	HealthSuite, supported by salesforce.com, is an open, cloud-based platform, which collects, compiles and analyses clinical and other data from multiple devices and sources. An open IT infrastructure that supports the secure management of data related to a person's health and lifestyle, as well as large scale clinical data	https://www.philips.com.au/healthcare/innovation/about -health-suite
93	Interact IoT Platform	Secure, scalable, LED and embedded sensor platform	https://www.interact-lighting.com/global/what-is-interact
94	ATIS smart cities Data Exchange	cities and industry to work together to develop a consistent approach to exchanging IoT data	https://www.atis.org/scde/
95	Huawei's Smart City/ Digital Platform	Integrated smart cities platform for industry that covers cloud, network, and platform technologies. Has 'security' features covering physical, network, host, virtualisation, application, and data. Has an ecosystem of partners with plug-ins and contributing software. Underpinned by 'intelligent operation centre' cloud-based ICT	https://e.huawei.com/au/solutions/industries/smart-city
96	Microsoft City Next	Integrated suite of smart cities services that cover a scale of clients from local and national defence clients. Range of apps and platform that provide a variety of services including health, security, infrastructure, finance and transport	https://www.microsoft.com/en- au/enterprise/government/smart-cities
97	AURIN	The Australian Urban Research Infrastructure Network – a collaborative urban data research platform, one stop online Workbench to many spatial and statistical modelling/planning/visualisation	https://aurin.org.au/
98	Airbnb	Home sharing platform	airbnb.com

99	Traffic and Environmental Zone/Ring of Steel	CCTV systems for London - is this a platform? No, but opens a space for platforms	https://citysecuritymagazine.com/police- partnerships/city-of-london-police-ring-of-steel/
100	Smart Cities Mission	Indian government national programme	http://smartcities.gov.in/content/
101	Songdo smart city	Korean govern build-from-scratch project	http://songdoibd.com/
102	Google Maps	Google supported mapping article with route planning and information features	maps.google.com
103	TripView	Journey planning, transport information display for Australian public transport	https://www.grofsoft.com/tripview.php
104	DiDi Rider	p-based transportation services, including taxi hailing, private car hailing, social ride sharing and bike sharing	https://www.didiglobal.com/au/
105	My Location: GPS Maps, Share & Save Locations	Social navigation and mapping application	https://play.google.com/store/apps/details?id=com.locati on.test
106	Waze	GPS Navigation - turn-by-turn navigation information and user-submitted travel times and route details, while downloading location dependent information over a mobile telephone network - Owned by Google	https://waze.com/
107	Transit: Real-Time Transit App	Travel companion and assistance; aggregator, planner, reminder, for multiple sources	https://transitapp.com/
108	Boating HD Marine & Lakes	Maritime plotting and maps	https://www.navionics.com/aus/apps/navionics-boating
109	Citymapper - Transit Navigation	Transit convenience, assistance and support app	https://citymapper.com