CITY VERVE AND SEE.SENSE UNDERSTANDING THE INVISIBLE CYCLIST

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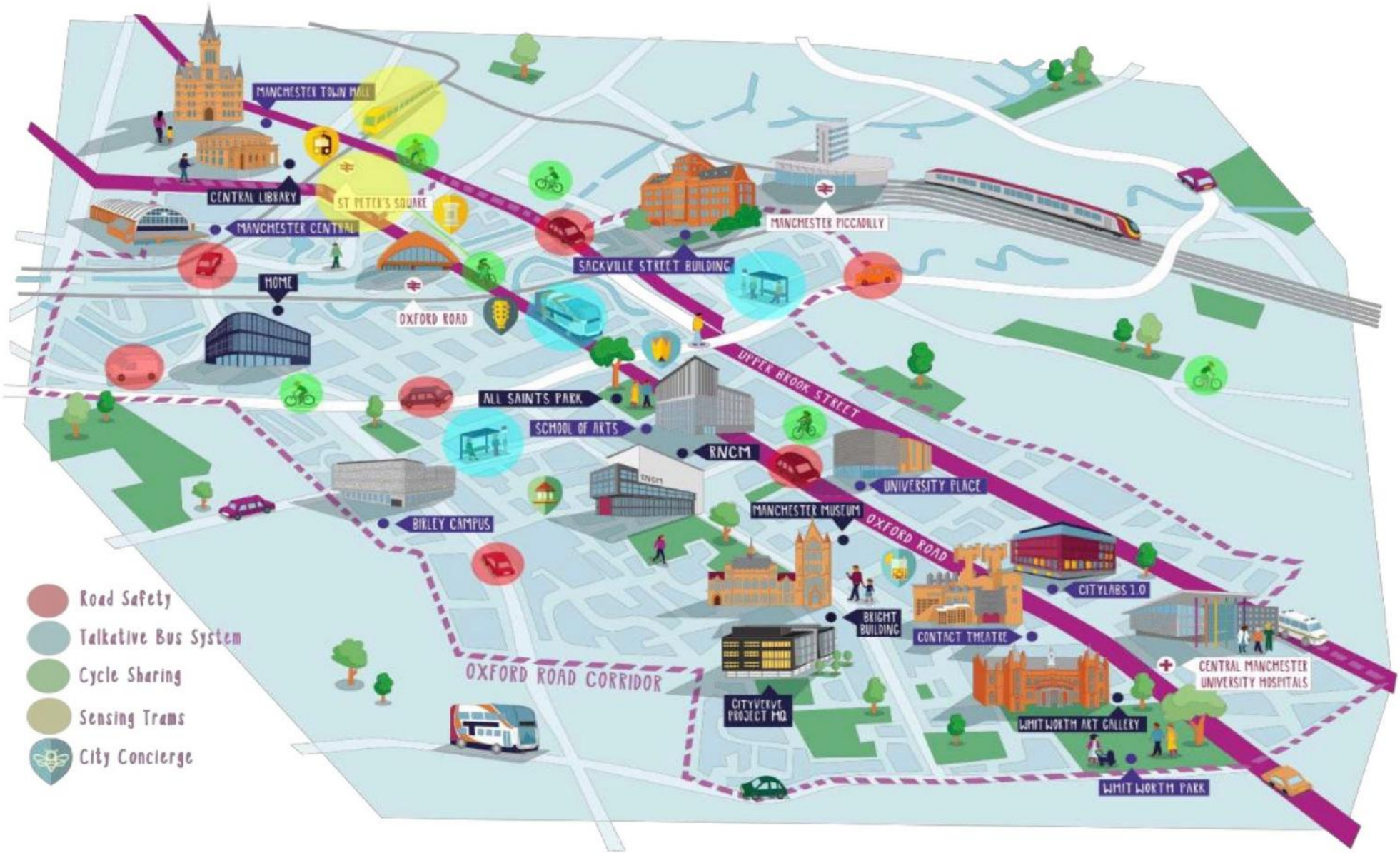
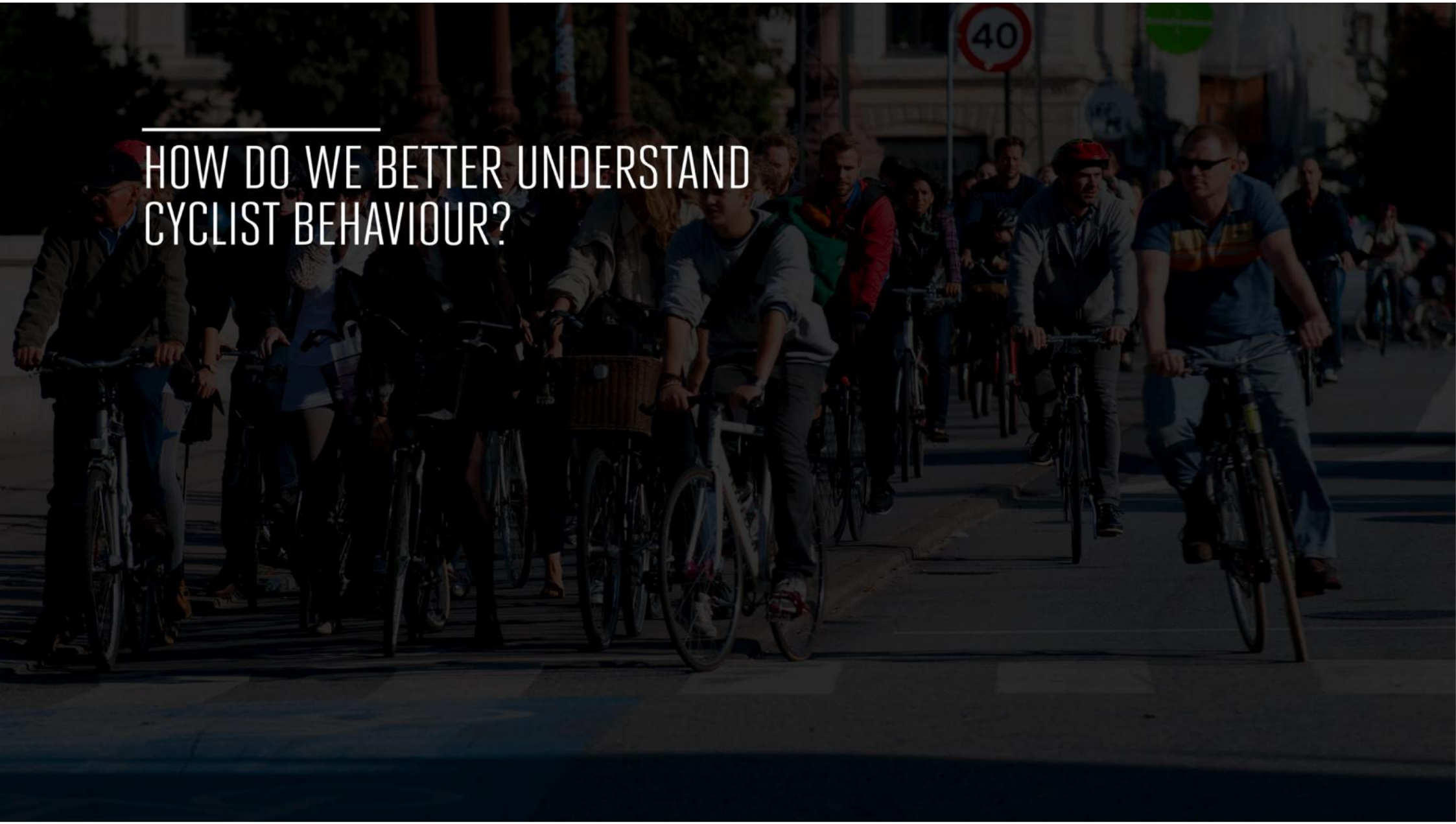
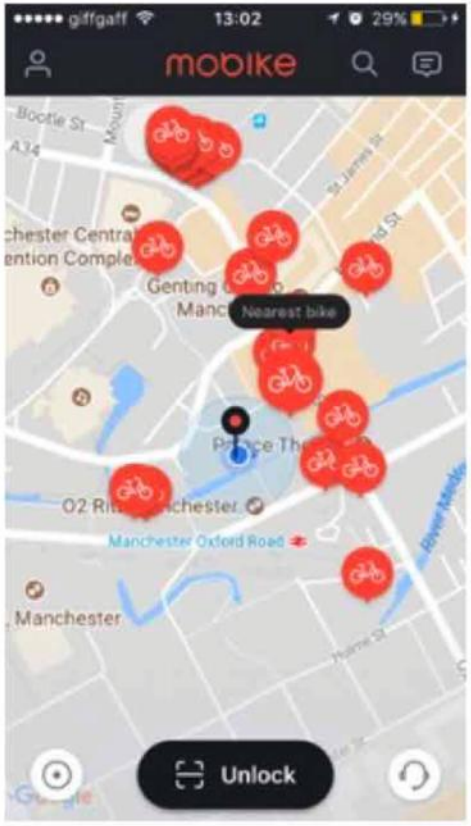
See.Sense

SEE.SENSE® cityverve BT GMCA GREATER MANCHESTER COMBINED AUTHORITY Transport for Greater Manchester Greater Manchester Local Enterprise Partnership


MANCHESTER TOWN HALL
CENTRAL LIBRARY
ST PETER'S SQUARE
MANCHESTER CENTRAL
HOME
OXFORD ROAD
SACKVILLE STREET BUILDING
MANCHESTER PICCADILLY
UFFER BROOK STREET
ALL SAINTS PARK
SCHOOL OF ARTS
RNCM
UNIVERSITY PLACE
BIRLEY CAMPUS
MANCHESTER MUSEUM
OXFORD ROAD
CITYLABS 1.0
BRIGHT BUILDING
CONTACT THEATRE
CENTRAL MANCHESTER UNIVERSITY HOSPITALS
OXFORD ROAD CORRIDOR
CITYVERVE PROJECT HQ
WHITWORTH ART GALLERY
WHITWORTH PARK
Road Safety
Talkative Bus System
Cycle Sharing
Sensing Trams
City Concierge



HOW DO WE BETTER UNDERSTAND CYCLIST BEHAVIOUR?



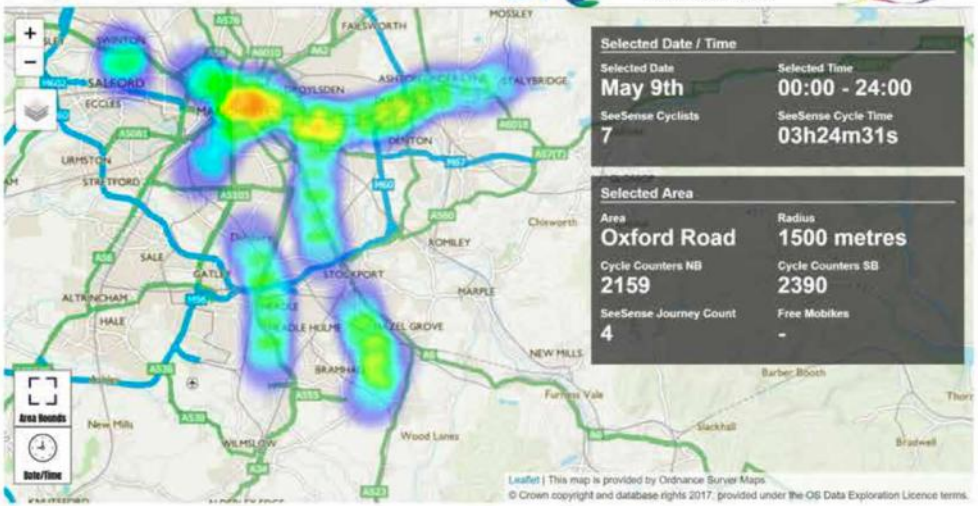
SEE.SENSE®

cityverve

BT

CityVerve Trial

BT SEE.SENSE® cityverve



PROJECT AIM

_ Generate a source of data and insights that will help the city of Manchester make data driven decisions on provision of cycle planning and infrastructure in Manchester

_ Provide a compelling use case for CityVerve, visualising data in the BT Hub/Platform of Platforms, utilising other data streams available to CityVerve.

_ Engage citizens in collection of data and in shaping their city

IT ALL STARTS WITH A GREAT BIKE LIGHT

See.Sense lights are used by **over 30,000** cyclists around the world.

Our dedicated sensor technology detects riskier moments on the road, helping keep cyclists visible by flashing brighter and faster.

\\ ROAD JUNCTIONS

\\ ROUNDABOUTS

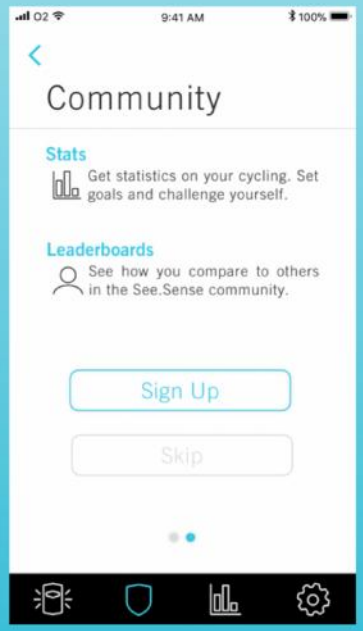
\\ FILTERING IN TRAFFIC

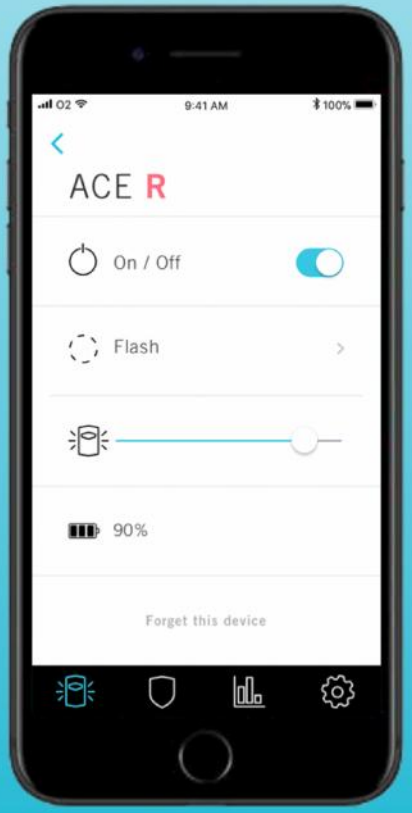
\\ CAR HEADLIGHTS

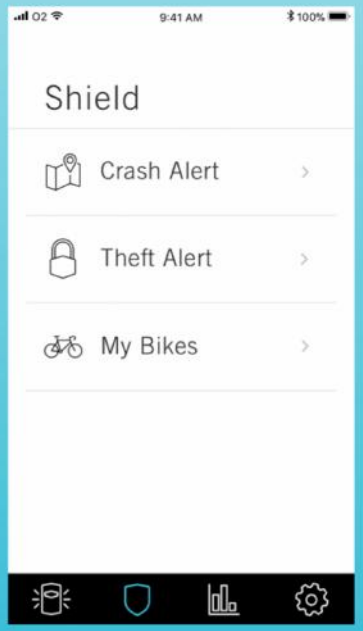
SEE.SENSE APP CAPABILITIES

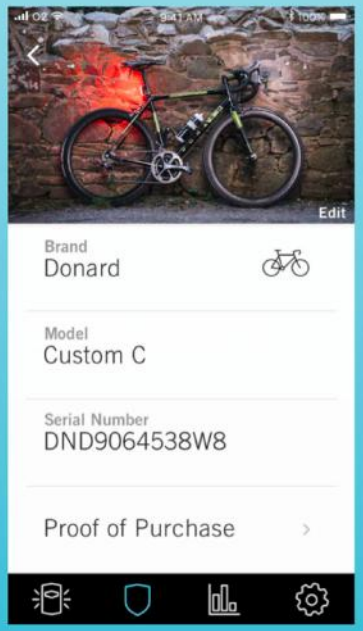
ACE connects to our free smartphone app via Bluetooth Low Energy (BLE).

Cyclists opt in to the See.Sense community, giving access to a range of exciting features as well as providing data for the city.









DATA WITH SAFETY AT ITS CORE

We seek to contribute a comprehensive, standardised and trusted dataset that provides real-world evidence to inform transport policy, as well as the development of infrastructure.

SAFETY
Collisions & near miss data

ROAD CONDITIONS
Road surface quality data

PERCEPTION
Understand experience of cyclists via qualitative surveys

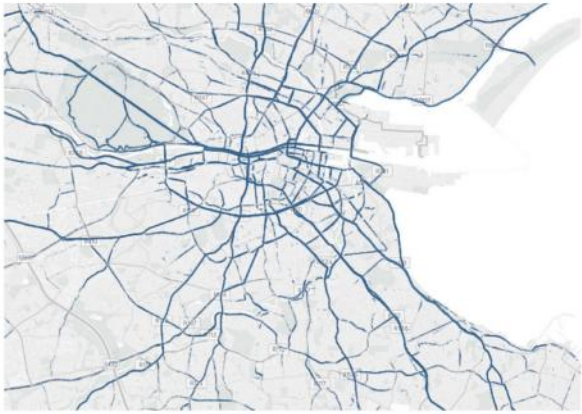
JOURNEYS
Origin-destination and journey mapping data

OUR SOLUTION BENEFITS FROM BEING

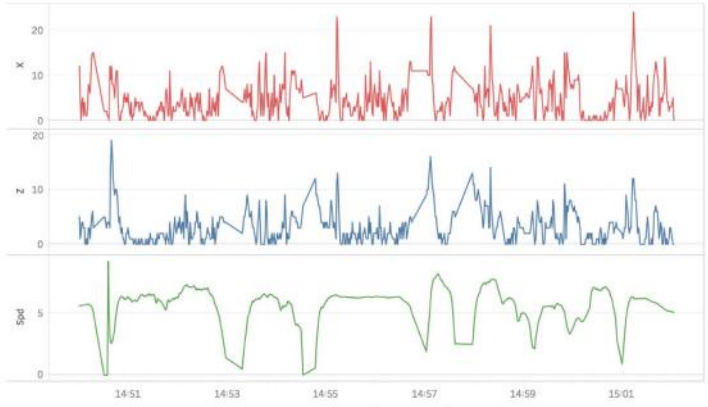
\\ LOW COST

VS

\\ HIGH REACH

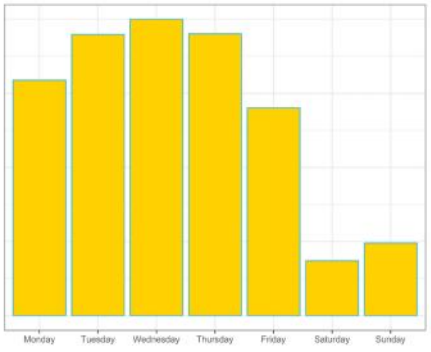


\\ HIGHER ACCURACY AND WIDER RANGE OF DATA THAN APPS

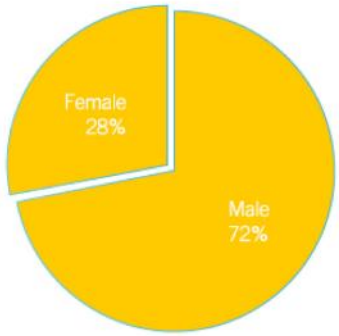


\\ MORE REPRESENTATIVE OF EVERYDAY/COMMUTER CYCLISTS

Popular Days of the Week



Male vs Female Participants



ENGAGEMENT OF PARTICIPANTS

400
cyclists apply

180
cyclists accepted

5
Months of data collection from Oct - Feb

137
cyclists collected data

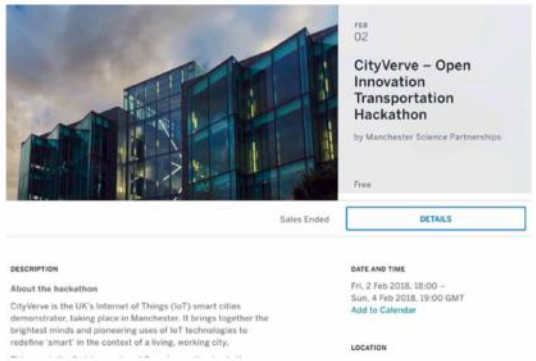
385
annoyances recorded

4105
Total number of journeys

25489
Total distance covered (km)

Monthly Newsletter

Public Showcase



Hackathon

Participant Workshop

MANCHESTER MAPPED LIKE NEVER BEFORE

See.Sense Road Roughness Index overlay with Perception Data.

This map shows sections of road that have been identified as 'rough' (ranging from green 'slightly rough' through to amber 'medium' and red 'very rough'). It is overlaid with perception data (blue dots). These dots represent where someone reports something that annoyed or scared them on their journey.

EVIDENCE TO SHOW PERFORMANCE OF CYCLING INFRASTRUCTURE

These two images show the direction of cyclists on two different sections of road. In both images the yellow lines represent cyclists heading north and blue lines represent cyclists heading south. This section of Oxford Street at St Peter's Square does not have any cycling infrastructure and the delineation of direction travelled is less apparent. Oxford Road has well demarcated cycling infrastructure which results in clearer delineation as well as a higher average speed.

\\ 12.8 km/h Average Speed - Oxford Street, St. Peter's Square

\\ 19.4 km/h Average Speed - Oxford Road

ROAD CONDITIONS MAPPED ACROSS THE CITY

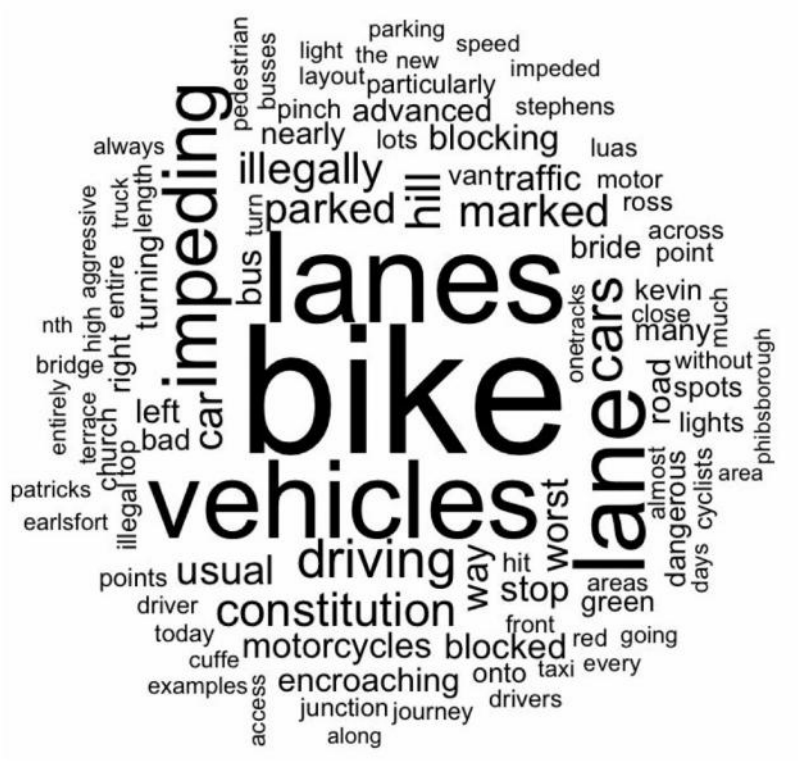
Our road conditions data strongly correlates with visual, on site, inspection - highlighting areas of road roughness which may be detrimental to the experience of cycling in the city.

\\ CLUSTER MAPS OF ROUGH ROADS

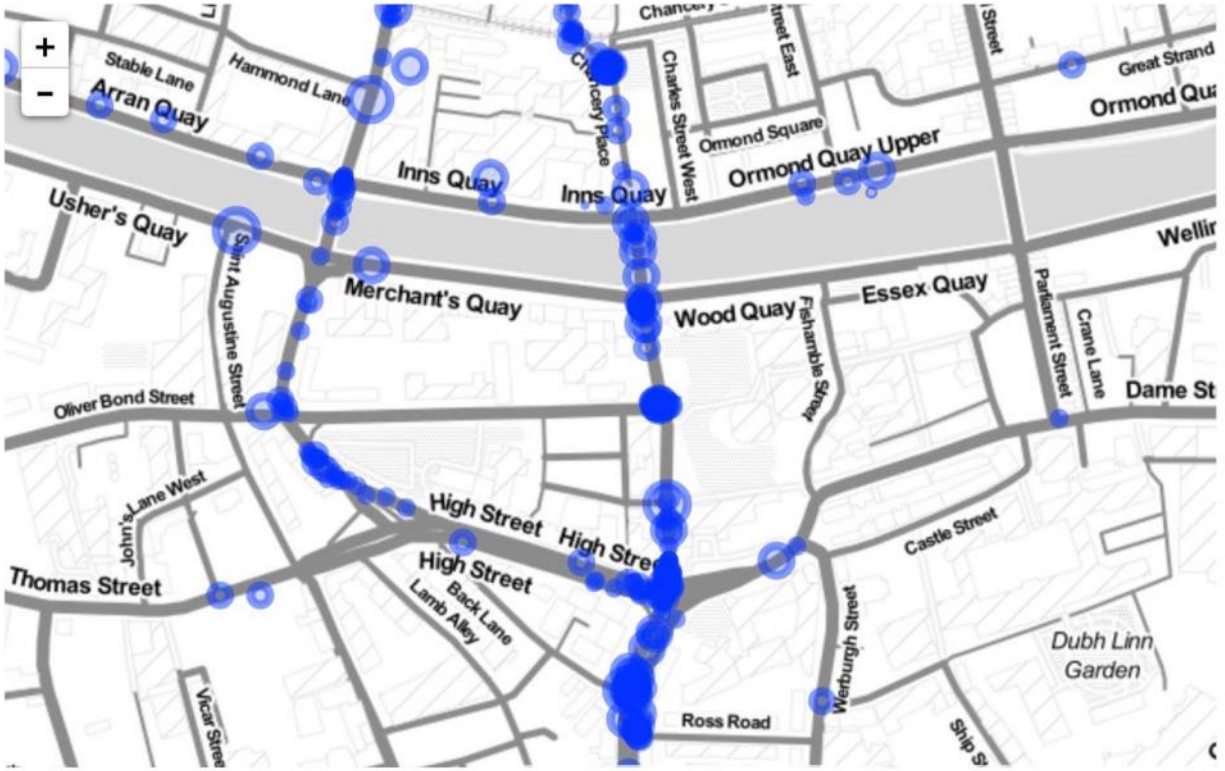
\\ CORRELATION WITH POTHOLES

ENGAGEMENT WITH CYCLING COMMUNITY

\\ POPULAR WORDS

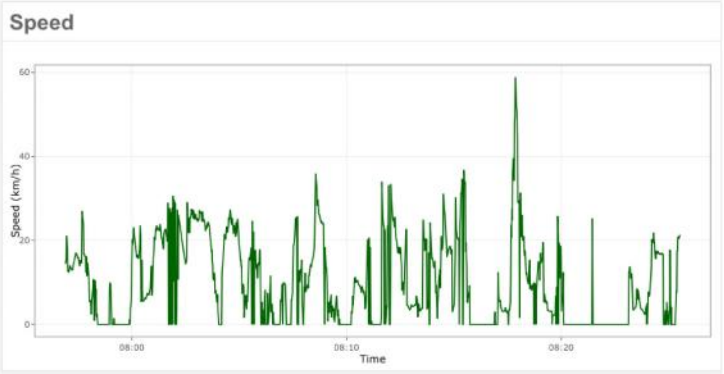


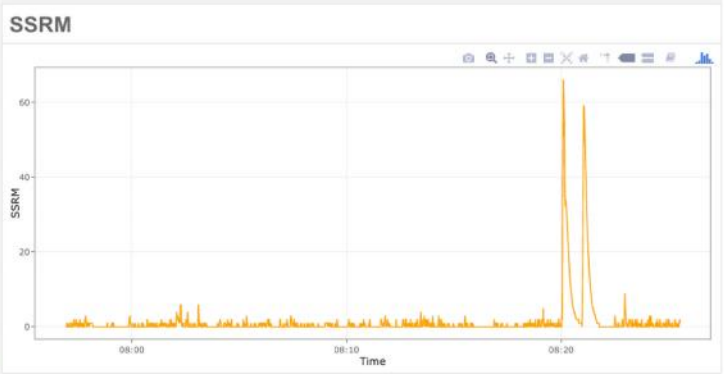
\\ MAP OF ANNOYANCES

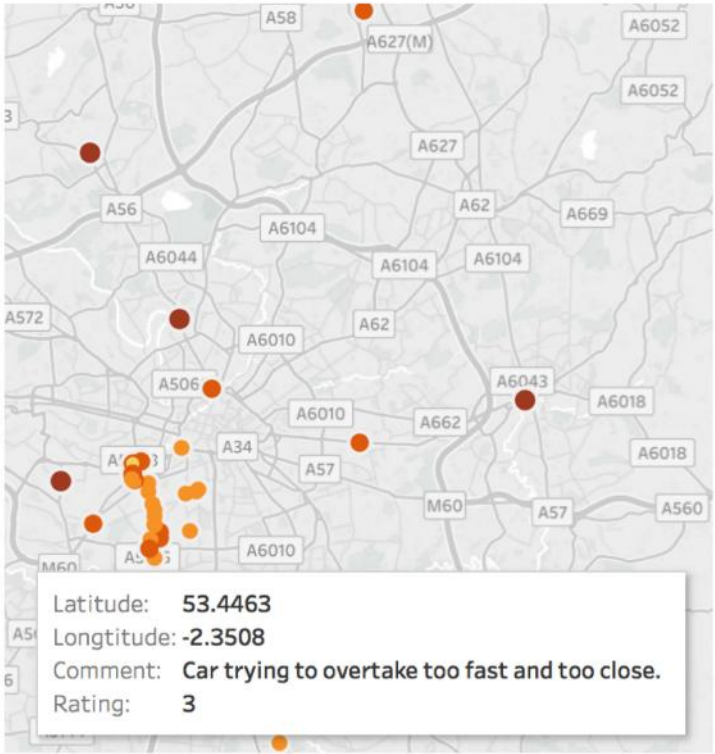


MAP COLLISION AND CLOSE PASS HOTSPOTS

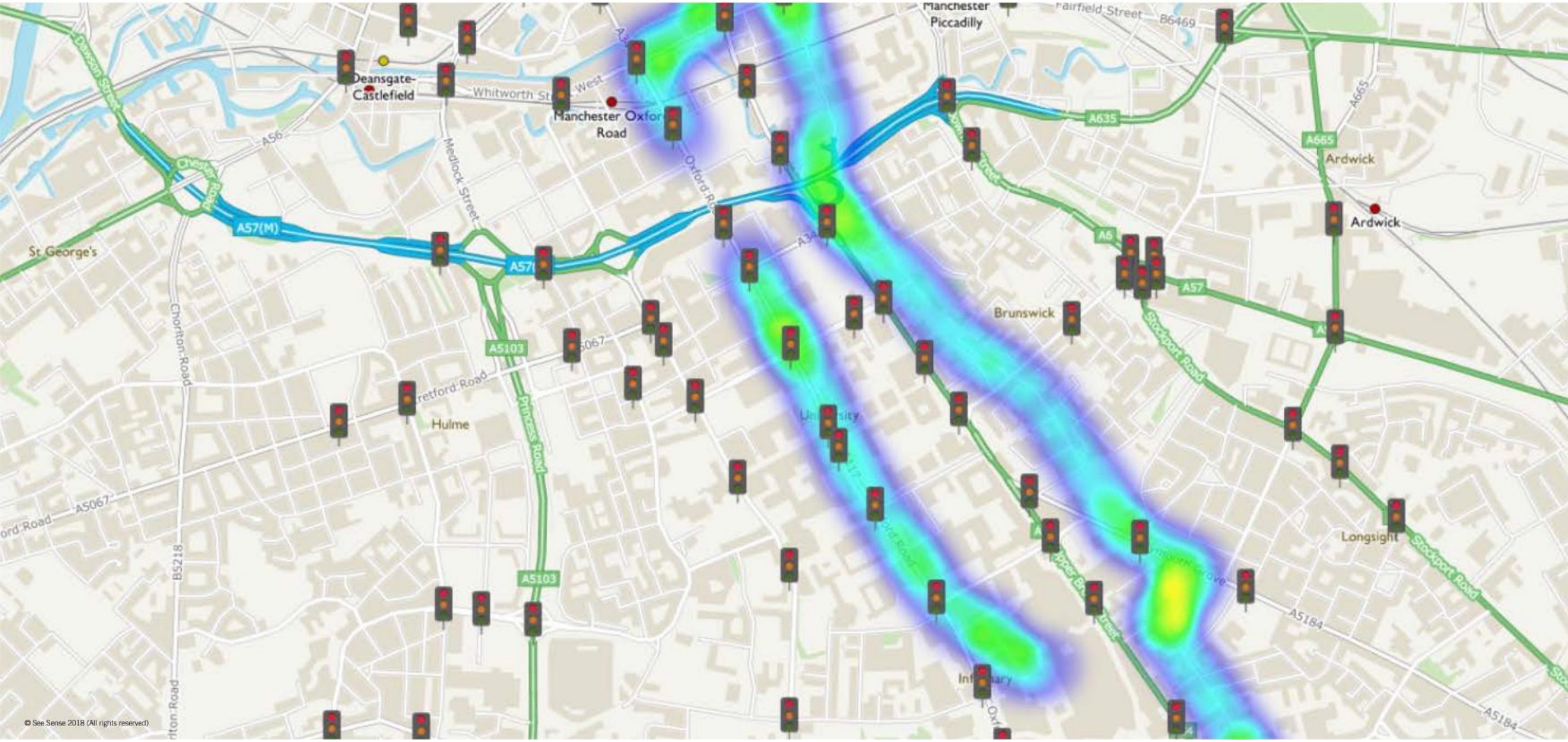
Enabling proactive data based responses to improve problem areas







ABILITY TO GENERATE A MANCHESTER GREEN WAVE



CAPTURING INVISIBLE JOURNEYS (OUTSIDE THE DEPLOYED COUNTERS)

Ability to access the data from multiple heterogeneous sources in near real time can give better visibility of how city infrastructure is being used.

Figure 6 displays a view of two types of cycle counters – traditional physical ones (existing hardware on the road, in red) and virtual ones (in blue) created by the data collected from on-cycle tracking devices – shown together, enabling the city to gain better understanding as many journeys (purple) are not captured by physical counters.

“

What a smashing tech initiative.
Bit of security for you, lots of info for us to inform future infrastructure.

”

Chris Boardman

INTERESTED IN WORKING WITH US
TO IMPROVE CYCLING CONDITIONS WHERE YOU LIVE?

\\ CONTACT

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