THE OPERATIONAL RESEARCH SOCIETY

MOVEMENT INSIGHTS – MEASURING PERFORMANCE

OR Society Analytics Summit 2019

13 June 2019

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INTRODUCTIONS

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PRESENTATION CONTENT

- Introductions
- What was Bath's requirement?
- Proposed solution?
- Overview of data sets
- Dashboard introduction
- Value, impact and next steps
- Conclusions

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MOVEMENT STRATEGIES INTRODUCTION

- Market leader opportunity
- Massive addressable market
- Scalable

- Market leader – unique data skillset
- Medium addressable market
- Strong partnerships with mkt leaders

- Global Market leader
- Opportunity to grow globally, particularly US

INDUSTRY LEADERS | LED BY INNOVATORS | DEFINING NEW MARKETS | HUGE GROWTH POTENTIAL

FLAGSHIP PROJECTS

TRUSTED BY LEADING BRANDS

BATH SMART CITY DATA PROJECT LAUNCH

KEY PARTNERS AND ROUTES TO MARKET

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THE NEXT BIG (DATA) THING

Customers movement focus – REAL WORLD

Single data solutions

Marketing led insights

DEPTH of customer insight from own product

BREADTH of customer insight (variety of data sources)

Customer movement focus - ONLINE

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BATH BUSINESS IMPROVEMENT DISTRICT

An independent, not for profit, business-led initiative working to create the environment for businesses in Bath to succeed. Services provided include:

- Rapid ranger response service
- Waste and recycling scheme
- Insurance partnership
- Nightwatch service
- BID newsletter
- City performance monitoring

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WHAT WAS THE REQUIREMENT?

- Deliver meaningful insight to key stakeholders, to make better business decisions
- Self-service, providing up-to-date information, that's easy to understand
- Use best available data
- Flexible and collaborative approach

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NEEDS AND CURRENT APPROACH

NEEDS	CURRENT APPROACH
To derive more appropriate measurements for high street performance – footfall may increase, but spend decrease	Data from 6 footfall cameras and a small sample of Point of Sale data collected by Springboard
Better targeting of marketing budgets, attracting higher spending visitors	Limited information collected
Understand the economic impact of the events (e.g. a rugby match, Christmas Market or a festival) on the City Centre	Limited information collected
Understand where the “regional/high spend power” shoppers have gone	Anecdotal information - perception that these have been lost to other centres e.g. Cheltenham/Bristol
Measure impact of marketing, placemaking and wayfinding initiatives	No information collected

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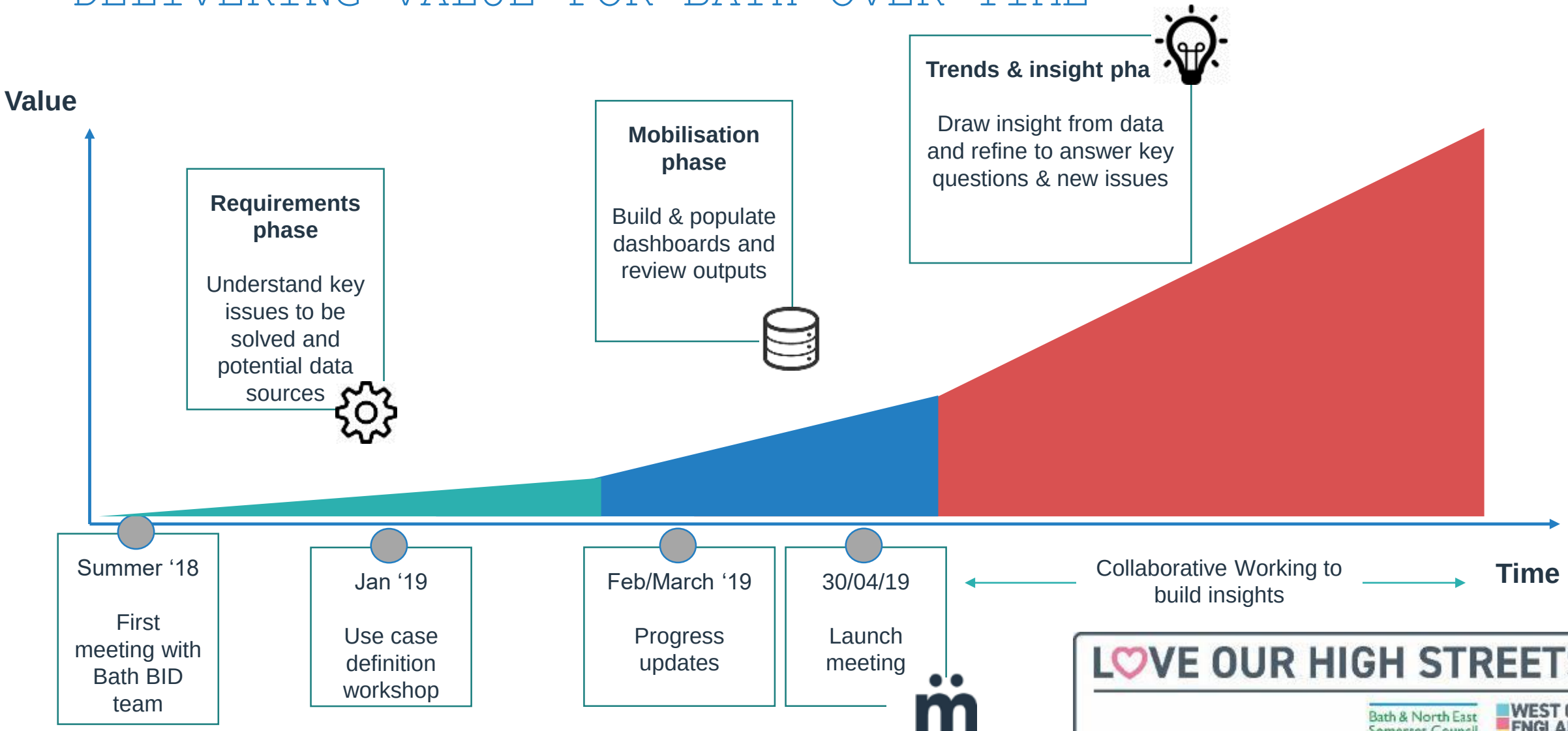
DELIVERING VALUE FOR BATH OVER TIME



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MOVEMENT INSIGHTS SOLUTION

Visitor characteristics

O2

Visitor spend

VISA

Visitor behaviour

purple

Visitor experience

tripadvisor Google Reviews airbnb Booking.com Expedia

Visitor volumes

springboardRETAIL

movement insights

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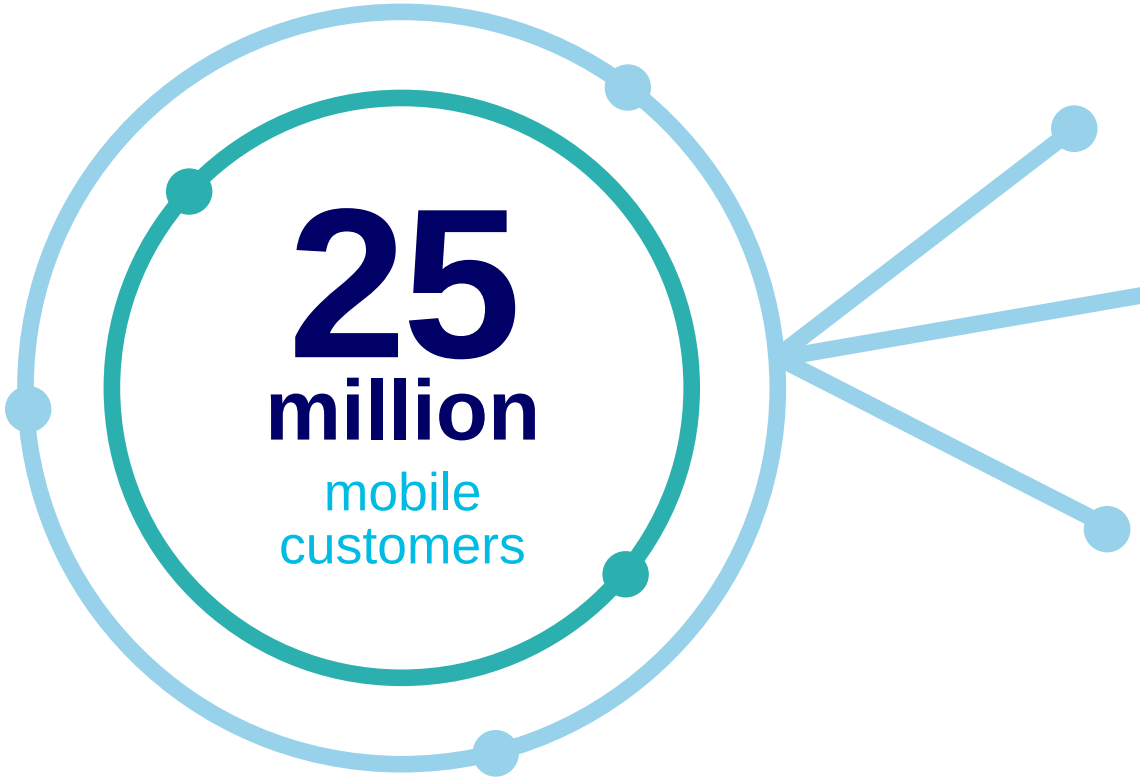
O_2 DATA INSIGHTS



Anonymised

Personal data eliminated and hashed to keep an anonymised ID only

Aggregated

IDs grouped to crowd data, no individual is identifiable

Extrapolated

Algorithms applied so the insights represent the entire population

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VISA INSIGHTS

Visa's UK Consumer Spending Index (CSI) is used by a range of stakeholders to gain insights into consumer spending, including HM Treasury

Spending on all Visa debit, credit and prepaid cards account for £1 in £3 of all UK spending (over 2.3billion transactions every quarter)

National level insights:

Headline Findings:

Consumer spending falls by **-0.2%**, weakest reduction in five months

Slight fall in **Face-to-Face** spend **(-0.7%)**, but **eCommerce** expenditure rises by **+0.5%**

Food & Drink sees most marked reduction in expenditure **(-3.6%)** , while spend rises strongly in **Household Goods (+5.4%)**

Spending annual % change

	Jan'19	Feb'19	Mar'19
Overall spending	-1.2	-1.8	-0.2
Face-to-face	-1.4	-2.6	-0.7
eComm.	-0.1	-1.1	+0.5

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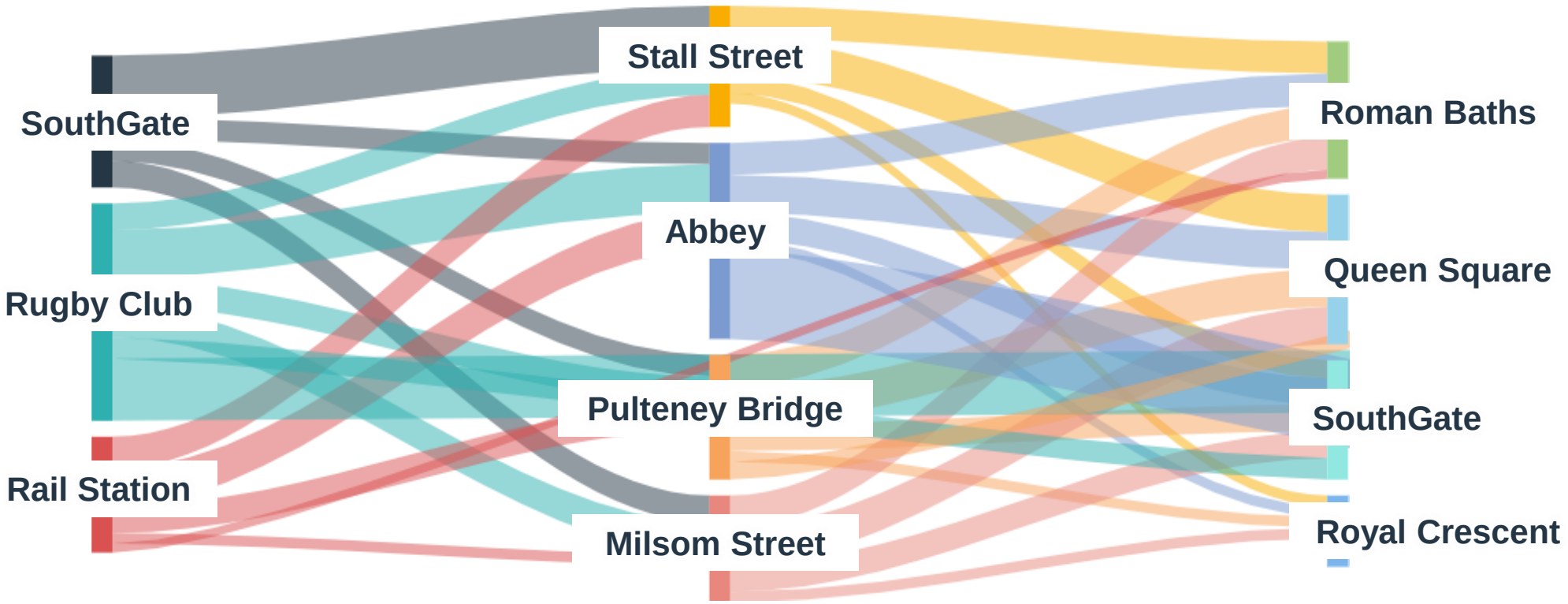
WI-FI ANALYTICS

Awaiting Public Wi-Fi network – we will derive itineraries and dwell times



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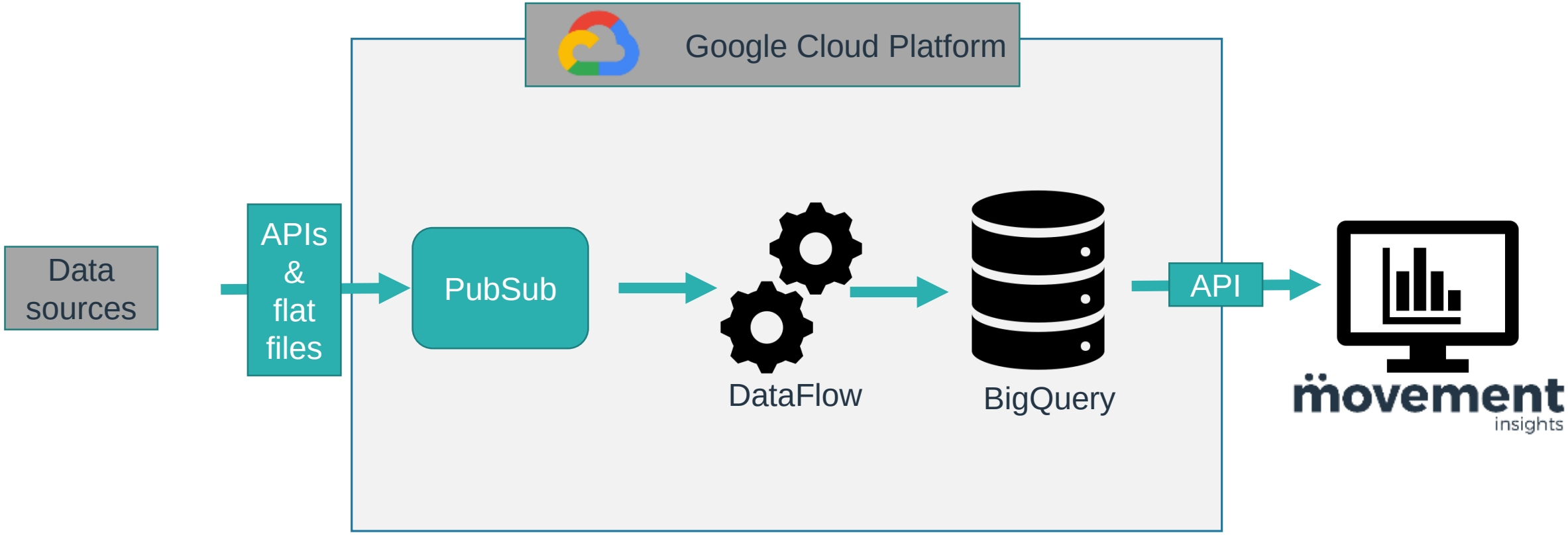
SOLUTION ARCHITECTURE



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PRIVACY & DATA SECURITY

Individual IDs are grouped and as such no individuals are identifiable

Personal data is eliminated through the use of hashed IDs

Fully compliant with GDPR and European data protection regulations

Cyber Essentials Plus certification

Data is used responsibly and for clearly defined purposes

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Visitor | Catchment & Spend | Visitor Patterns | Social Media

User: Aidan Mcinerney

movement insights

Time Filter: Quarterly

2019-Q1 — 2019-Q2

Total Footfall

3,491,063

% Wi-Fi Users

No data to display

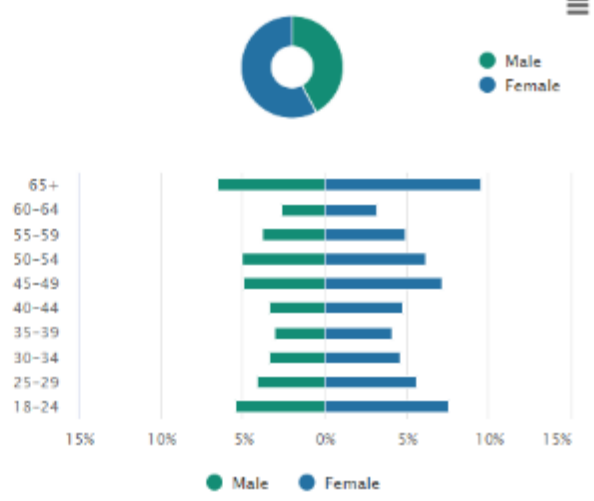
Average Visit Duration

Visitor Catchment Distance (UK Resident)

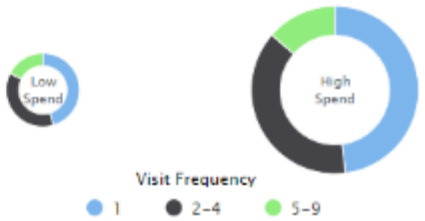
Top 10 International Visitors (Indexed)

Gibraltar	+1.00	New Zealand	+1.00
Hungary	+1.00	Qatar	+1.00
Iceland	+1.00	Slovakia	+1.00
Finland	+1.00	Thailand	+1.00
Luxembourg	+1.00	South Korea	+0.50

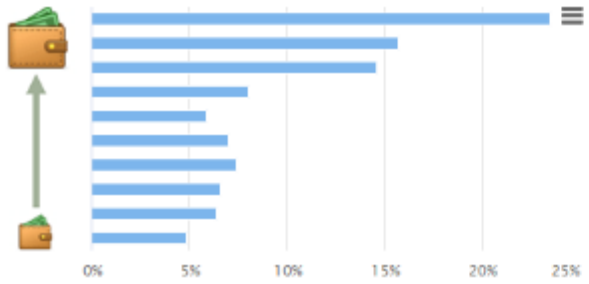
Visitor Demographics



Monthly Visit Frequency



Visitor Spend Power



Social Media Sentiment

Resident spend - local vs online

Top 10 Spend by Category

Category	Total	Average
1. Restaurants	£23.3m	£13
2. Clothing	£16.0m	£30
3. Retail & High St	£8.3m	£28
4. Health	£3.5m	£34
5. Hotel/Accom...	£3.1m	£63
6. Business & Pr...	£2.3m	£100
7. Building Mate...	£2.1m	£61
8. Leisure & Ente...	£1.2m	£34
9. Training & Ed...	£0.8m	£7
10. Food & Drink	£0.7m	£11

Top 10 Spend by Home Postcode

Location	Total	Average
1. BA2 2	£3.5m	£463
2. BA2 1	£3.2m	£442
3. BA2 3	£2.9m	£472
4. BA1 6	£2.3m	£472
5. BA1 3	£2.1m	£493
6. BA2 4	£2.0m	£484
7. BA2 5	£2.0m	£485
8. BA1 2	£2.0m	£452
9. BA2 7	£1.8m	£739
10. BA1 5	£1.7m	£538

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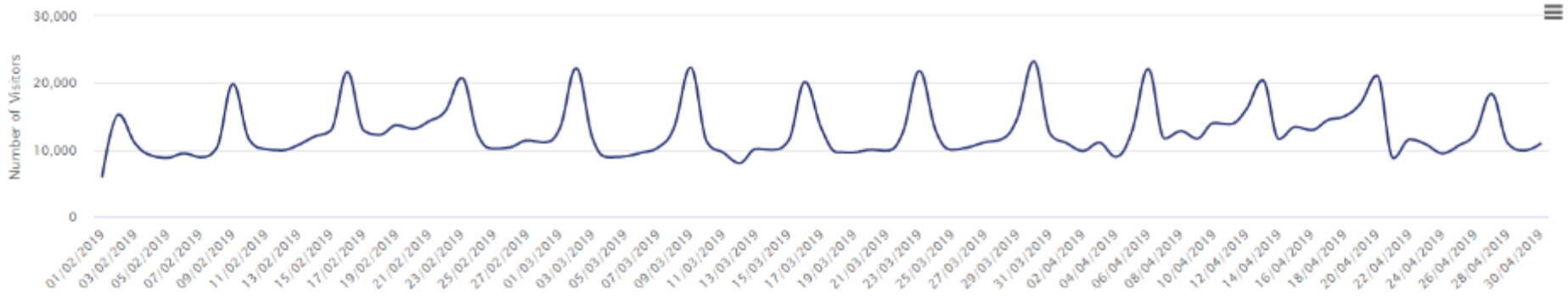
movement insights

Time Filter | Daily

01/02/2019 — 30/04/2019

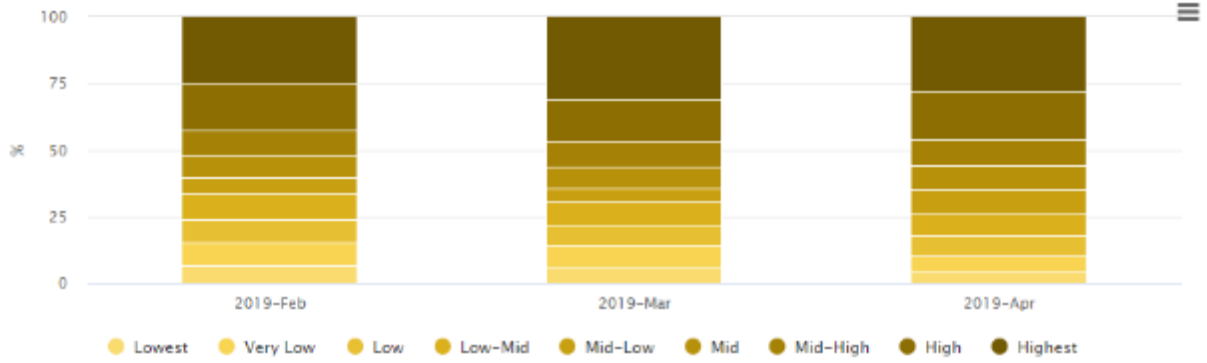
Count of Visitors at Single Location



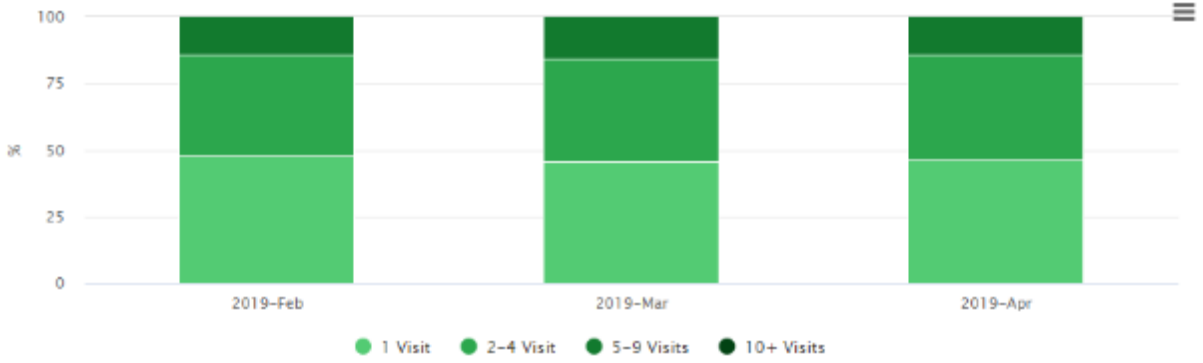
Demographics

18-24	✓	25-29	✓
30-34	✓	35-39	✓
40-44	✓	45-49	✓
50-54	✓	55-59	✓
60-64	✓	65+	✓
Male	✓	Female	✓

Visitor Spend Power



Visit Frequency by High & Very High Spend Power Visitors



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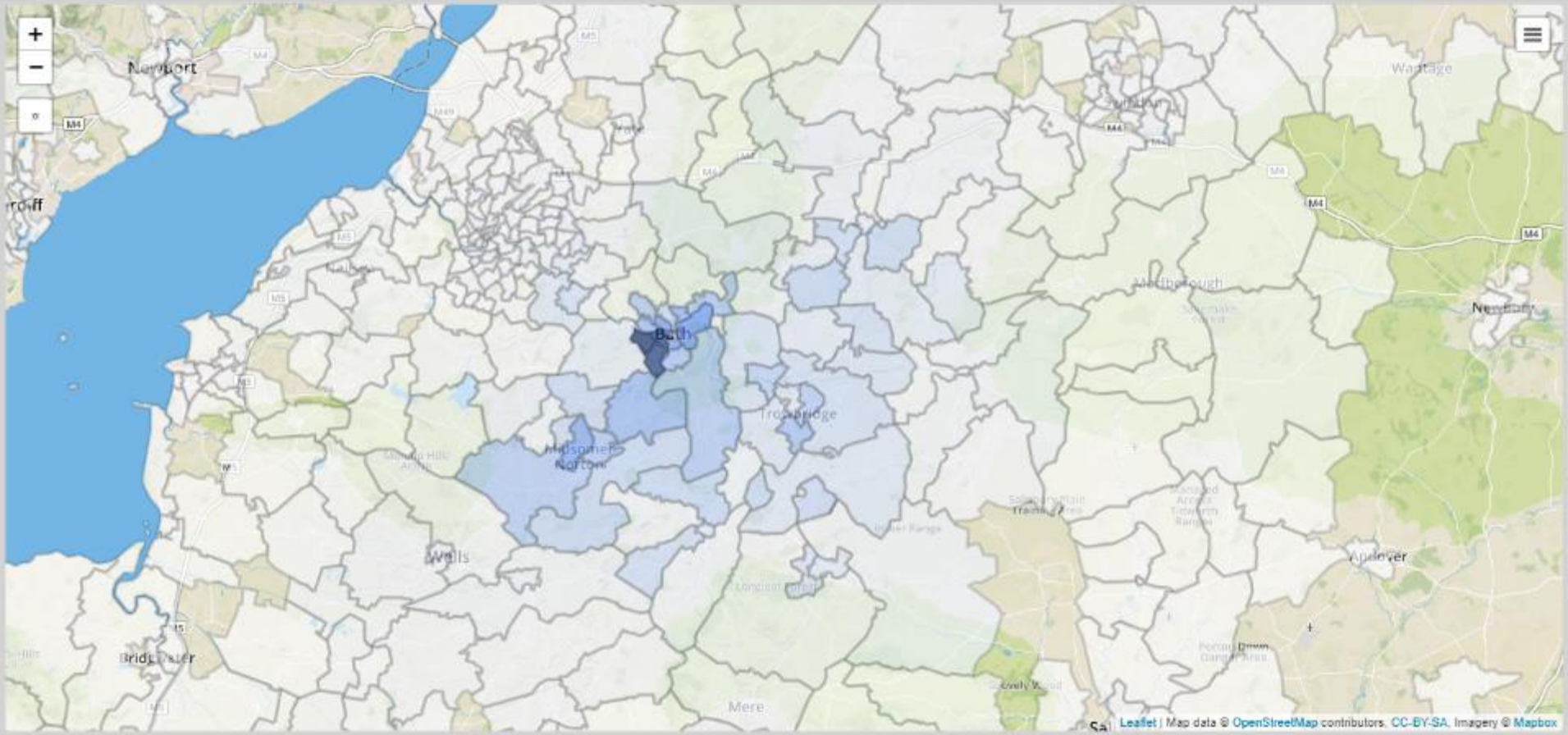

Data Sets

Visitor Catchment

- Home Location
- Work Location

Spend in BA1 & BA2

- Home Location
- Destination of Spend

Spend by BA1 & BA2 Residents.

- Destination of Spend

Map Key : Visitor Catchment (Home Location).

0% — 1.3%

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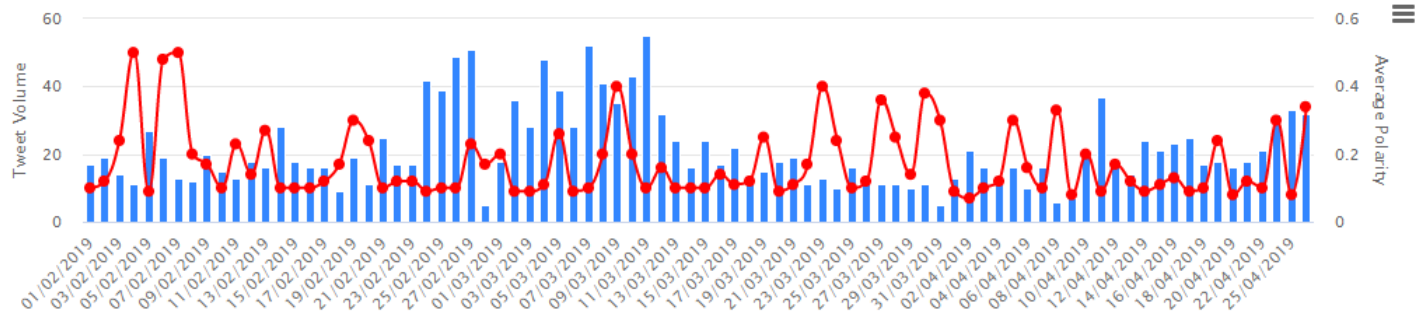
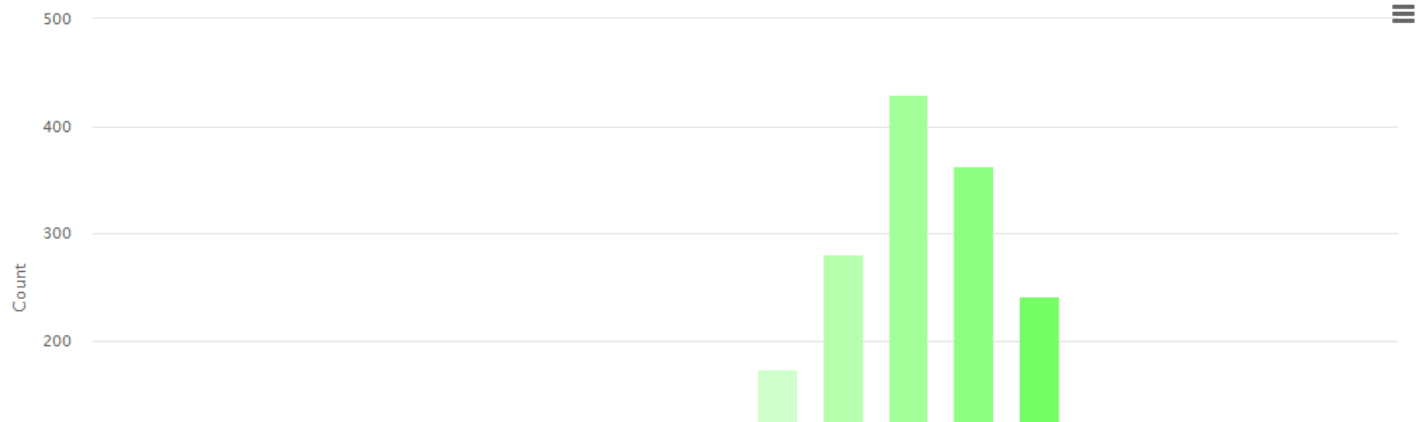
Tweet Volume

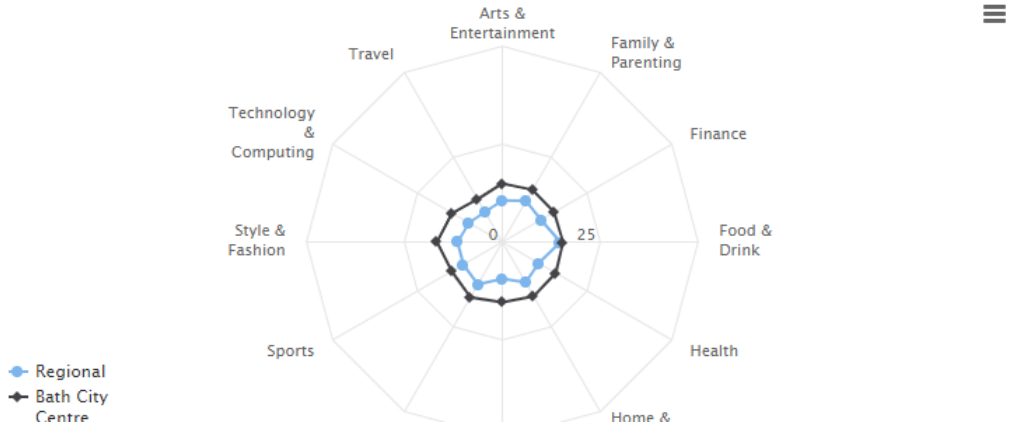


Most Popular Tweet Terms

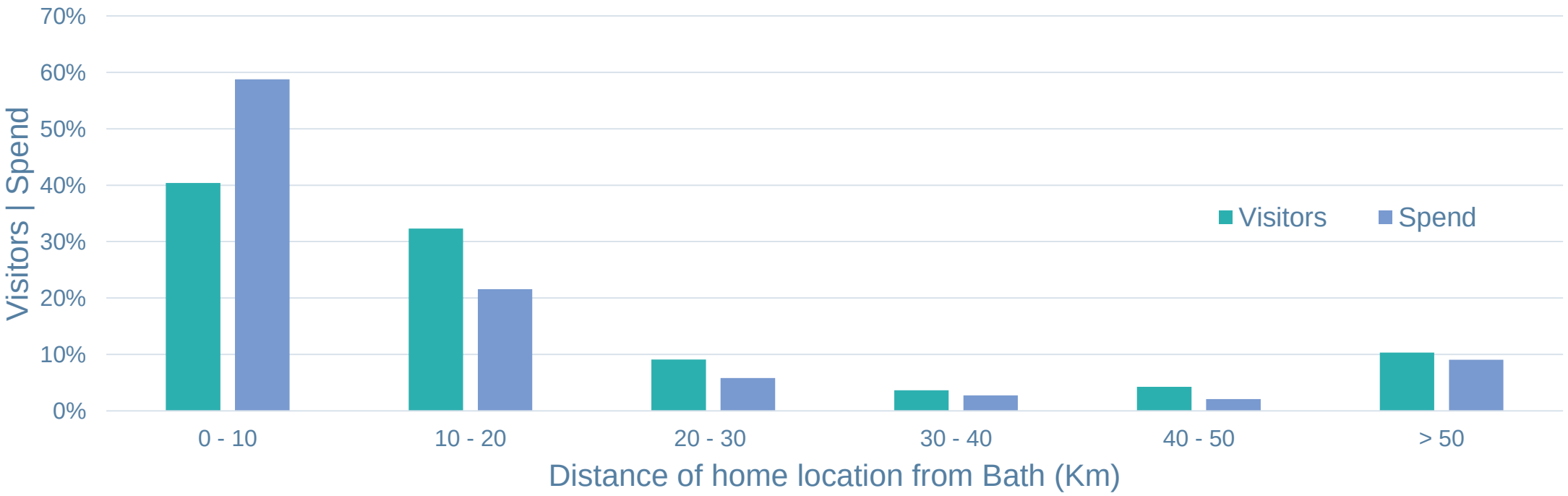
Tweet Polarity



Web Interests



AN EXAMPLE OF INITIAL INSIGHTS DELIVERED



Residents living within 10km of the City Centre account for 40% of footfall but for 59% of spend.

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WHERE'S THE VALUE?

- Robust and up to date data – enable better decisions to be made
- Ability to undertake temporal analysis
- Benchmarking with other cities and towns, as Movement Insights scales
- PR opportunity for Bath as a city – implementing a pioneering digital project

WHAT'S THE IMPACT TO DATE?

- Proven the raison d'être of a BID – the collective purchasing power
- Better quality insights provided to levy payers – more than just footfall
- Secured Public Sector funding (because we have a better measurement tool)

WHAT ARE THE NEXT STEPS?

- Improve ROI of PR and marketing spend, targeting specific audiences
- Potential to inform transport planning decisions and policy
- Disseminate insights to levy payers on a regular basis

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SUMMARY

- A pioneering Smart Cities project - Bath BID as a first adopter
- Movement Insights ingests a unique set of high quality data sets
- Joint focus on the value delivered by the insights
- Significant opportunity for cities to “collaborate, measure and learn”

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Q & A

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