G-Cloud 15

Service Definition

Mastercard Geo Insights 2.0

Lot 2b Software as a Service (SaaS)

1. Introduction

Company Overview

Mastercard is a global technology company that operates in +200 countries and processes +100 billion transactions per annum across +50 million merchants/retailers via its core payments network.

Mastercard supports 1000s of clients across the Financial Services, Retail and Government sectors around the globe through its Services division and is on track for 40% of its global revenue to be driven by Services by 2030.

Mastercard Services is the strategy, data and technology partners for clients and partners within a wide-range of sectors and is supporting data-driven decision making through its expertise in strategy consulting, retail spending analytics, business experimentation, real-time personalisation, consumer loyalty, cyber-security, fraud prevention and threat intelligence amongst many others.

Over the past 10-15 years, Mastercard has rapidly expanded its work supporting National and Local Government and Public Sector organisations around the world and is regularly supporting a strong network of clients and partners across the United Kingdom and Europe with clients including the Greater London Authority, the New West End Company and Dublin City Council.

Value Proposition

The challenge for UK National and Local Government:

The UK Government itself has shared publicly the need to more rapidly innovate in the delivery of services through the implementation of a 'Start-up like mindset' and a 'Test and Learn' culture to more rapidly innovate and iteratively improve the delivery of publicly services.

At the same time there is an increased focused on addressing the cost of the living across the UK, with a downstream effect being that local residents would have greater income available to spend on household essentials as well as having the ability to spend more on discretionary goods and services.

The UK high-street has been under intense pressure since the COVID-19 Pandemic which has only been exacerbated by current cost-of-living crisis, and although net-losses in 2024 were the lowest since the pandemic, there was still a net ~4000 reduction in retail stores in UK showing an ecosystem under stress.

Given the scale of local employment driven by these business, with SMEs representing 60%

of total private sector employment across the UK, this has a tangible impact on local residents as well as the overall health of the town-centres and neighbourhoods which make the UK and diverse and vibrant place for consumers to live.

Crucial to rapidly iterating and improving the delivery of services and investments that will support the health of high-streets is access to highly granular, timely and representative data on retail spending. This data must be readily accessible at scale to support the evaluation of national-level policies yet also have the local granularity to measure the impact of highly targeted local measures such as pedestrianisation of high-streets, prolonged opening hours or low-traffic neighbourhoods.

At the same time, this data should enable decisions makers to better understand the types of consumers that are spending at the businesses making up local areas so that initiatives and investments can be more precisely targeted at those that would most benefit and would have the greatest net impact to local businesses and local residents.

The Solution for National and Local Government

Mastercard comprehensively addresses the needs of National and Local decision makers highlighted above through its Geo Insights 2.0 platform.

Geo Insights 2.0 is a data visualisation platform that provides near-real time visibility in the spending patterns across all payment types within a National, Regional and Local level across the UK.

Through an easy-to-use web-based cloud hosted platform, Geo Insights 2.0 provides users with the ability highly granular geographic and temporal data from across the entire UK across all payment types. The platform provides users with the ability to measure the trends in spending down to an individual high-street level and 3-hour time increment allowing for a highly precise view into the real-world health of local economies.

The platform leverages Mastercard's proprietary advanced data-modelling techniques to build a predictive model which uses fully aggregated and anonymised Mastercard card transactions as a core input and allows for the accurate monitoring of the total £ values of spent across a wide-range of individual spend categories providing key decision makers with an incredibly value input into their monitoring and evaluation business cases for key policies and investments.

The platform not only includes views into the spend data across categories but also provides deep-insights into the consumers transacting in the relevant areas, with insights into the post-code origins as well as the top internation tourists spending, average lengths of stay as well as the evolution of the areas in terms of business openings and closing allowing for a robust and rounded approach to monitoring the national and local health of the retail economy.

Benefits of Mastercard Data:

Retail spend data based on Mastercard card transaction activity has several important benefits when compared to data that may be derived from traditional survey / official data sets:

- **Reduced “age” of data:** Official macro data is often published with a lag of up to several months; we can see data within days.
- **Frequency:** Official data is generally published at a monthly frequency, while we can see any time frequency possible, allowing us to zoom in on specific events (concerts and sporting fixtures, weather events and more).
- **Geography:** Official data is usually only available at a national level, while we can see – in certain circumstances – spend data at a sub-postcode level, enabling highly-localised analysis and insight.
- **Merchant granularity:** Official data only covers broad industries, with little insights into consumer-facing businesses. We have hundreds of Merchant Category Codes and transaction level data allowing insights on industries based on merchant type, transaction size, frequency, etc.
- **Consumer segments:** Official data via annual surveys shows limited insights into spending by income groups; we have the ability to see spending by card type (pre-paid, standard, premium, corporate, credit, debit, etc.)
- **E-commerce:** Official data covers e-commerce retail sales for a handful of industries while we can see e-commerce penetration across all of our hundreds of merchant categories.
- **Experiences:** Official data is often skewed towards older economic sectors: agriculture, manufacturing, retail. We can better capture the contemporary experience economy, tracking spending in travel, streaming, live events, etc. This difference was key to us appreciating how resilient consumers were during the cost-of-living challenges in the UK, for example. Official data was much more pessimistic, showing weak retail sales whilst we could see strength in experiences like hospitality and travel.
- **Travel:** We can see cross border spending by country and by industry, giving insights into which tourists are spending on what categories, in what locations, for how long, which goes far beyond official tourism data.

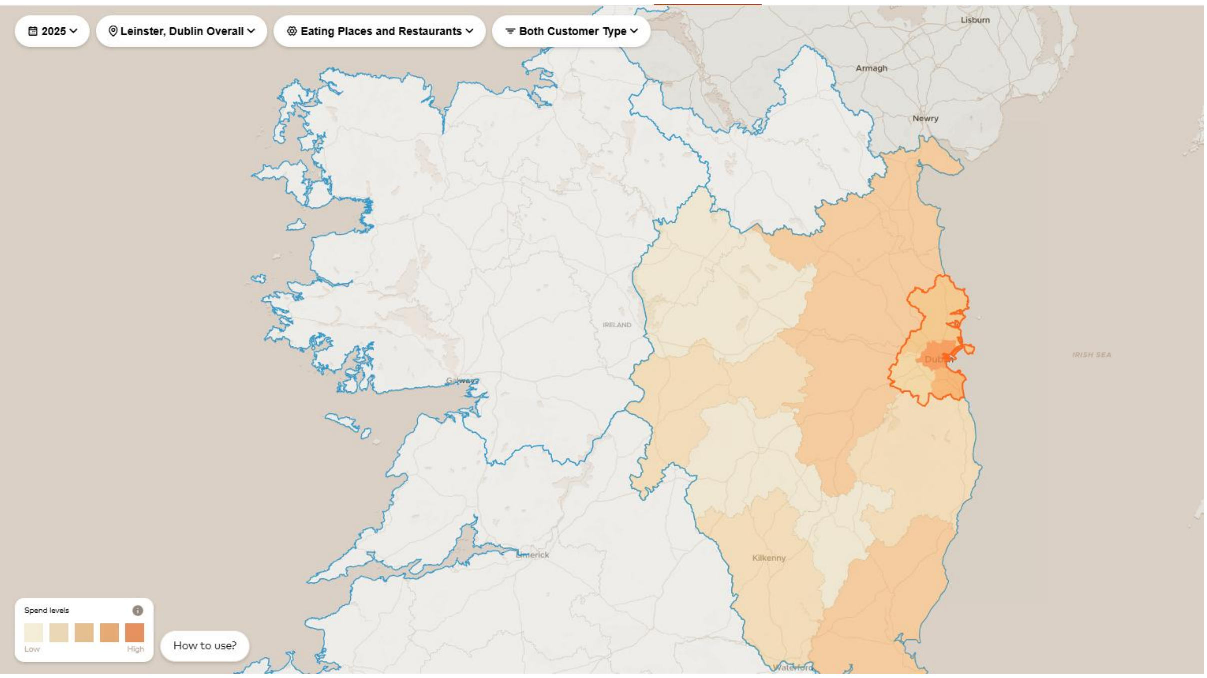
What the Service Provides

Geo Insights 2.0 Platform:

Geo Insights 2.0 is an online, user friendly data visualisation platform with the ability to view retail spend trends at the National, Regional, County and Postcode Area level across the entirety of the UK.

This will include total spending (both in-person retail and e-commerce), year-on-year growth rates with historic data as far back as 2019, as well as spend performance across a wide-range retail industry sectors (detailed below) as well as a wide range of supporting metrics relevant to the health of the retail sector in each of the geographies selected by the subscriber (Full UK, National, Region, County or Post-code area).

The Geo Insights 2.0 Platform provides National, Regional and local level spending insights:



Geo Insights 2.0 is built leveraging the core-Mastercard transaction data set as a core input.

To process the billions of Mastercard card transactions occurring on an annual basis, we require a specific set of data to be collected – at the point of the transaction – to allow the payment to be processed. The process occurs in a fraction of a second and once aggregated and anonymised, creates a huge data 'pool' from which insights can be derived and leveraged for decision making.

To power Geo Insights 2.0, this aggregated and anonymised Mastercard-only data is then combined with other proprietary and 3rd party data set and publicly available national statistics relating to retail spend data and through proprietary advanced data modelling techniques is used to provide data on the "Full Cash-Mix" which is a £ GBP figure and accounts for total retail spending across all card schemes and payment types including Cash.

The Full Cash-Mix Data will be provided on a national, regional, county, and postcode area granularity with the historical dataset starting in 2019 and being updated each month with the most recent data. The expected latency is two (2) weeks.

The data will be available in a user-friendly platform with appropriate visualisation. There will also be the ability to access data in the structured raw format (CSV, XLS) to ensure smooth integration with any organisation's existing analytical tools and platforms. A Data dictionary with definitions, methodology and structure will be provided to explain the metrics and column names in the data files will be provided.

Users will be able to filter, sort and drill into the metrics based on timeframes, areas, sectors and transaction types. Once the filter is applied users will be able to download reports directly from the platform in formats including CSV, XLS and PDF, which will allow for easy exploration of the metrics and raw data as well as for a visually appealing report to be shared with external audience for presentation purposes.

The cloud-based platform will be accessible via URL that Mastercard will provide together with login information for each user so no implementation or maintenance on the side of the client is needed. The platform will be provided in a responsive design that can be viewed on different types of devices including smartphone (iOS, Android). The only requirement for accessing the platform is an internet connection.

Geo Insights 2.0 Service Model:

Geo Insights 2.0 is an online data visualisation platform which is accessible via a web-browser and through an easy-to-use interface allows users from senior decision makers to technical data analysts and economists to access near real-time, robust and granular insights into retail spending across all payment types. To ensure successful outcomes from leveraging the platform, each subscriber will be assigned a dedicated customer success manager (“CSM”) who be the regular point of contact for the length of the license agreements.

The CSM will work with the subscriber to schedule training sessions to ensure all users of the platform are able to access the relevant insights within the platform and will be available during regular business hour to answer any questions regarding the use of the platform or the metrics, data or insights presented within the tool. In addition, the CSM will be bridge between the subscriber and Mastercard product teams and will be the main point of contact to resolve any access of platform availability issues should they occur throughout the lifetime of the contract.

Throughout the contracting process each subscriber will be introduced to a dedicated commercial contact (Services Business Lead) at Mastercard to finalise the specific scope required on the platform. This commercial contact will be the formal escalation contact throughout the lifetime of the contract should any issues arise and will be the main point of contact regarding any contract renewals/expansions.

Outcomes:

By using Geo Insights 2.0, subscribers will gain unparallelled insights into retail spending activity across the UK.

Geo Insights 2.0 will support data-driven decision making at the National and Local level by providing near-real time visibility into the evolution of intra-day spending across a wide-variety of industry sectors and provide a comprehensive understanding of other key indicators into the health of high-streets such as International Tourism, Consumer Demographics and Business opening/closings statistics.

Through having access to this highly representative and granular data, national and local decision makers will be able to rapidly measure, iterate and improve the services they deliver to constituents and ultimately support the health of high-streets and local businesses that are so crucial to the national economy as well local people.

Associated Services available at additional cost

Mastercard Geo Insights 1.0 Data Feed

Alongside the online Geo Insights 2.0 platform, subscribers will be able to license (at additional cost) Mastercard’s most granular spending data, using indices based on Mastercard spend data only, and measure the evolution of spending at a hyper-local level of 150 x 150m grids.

This additional service based on Spend Indices and 150m x 150m grids is based on Mastercard data only.

This data will be available at either Weekly, Daily or 3-hourly levels and will be provided to clients through a dedicated file-transfers mechanism (SFTP or Secure File Transfer or alternative) agreed with the subscriber.

The pricing for the Geo Insights 1.0 Data Feed is found in the pricing document.

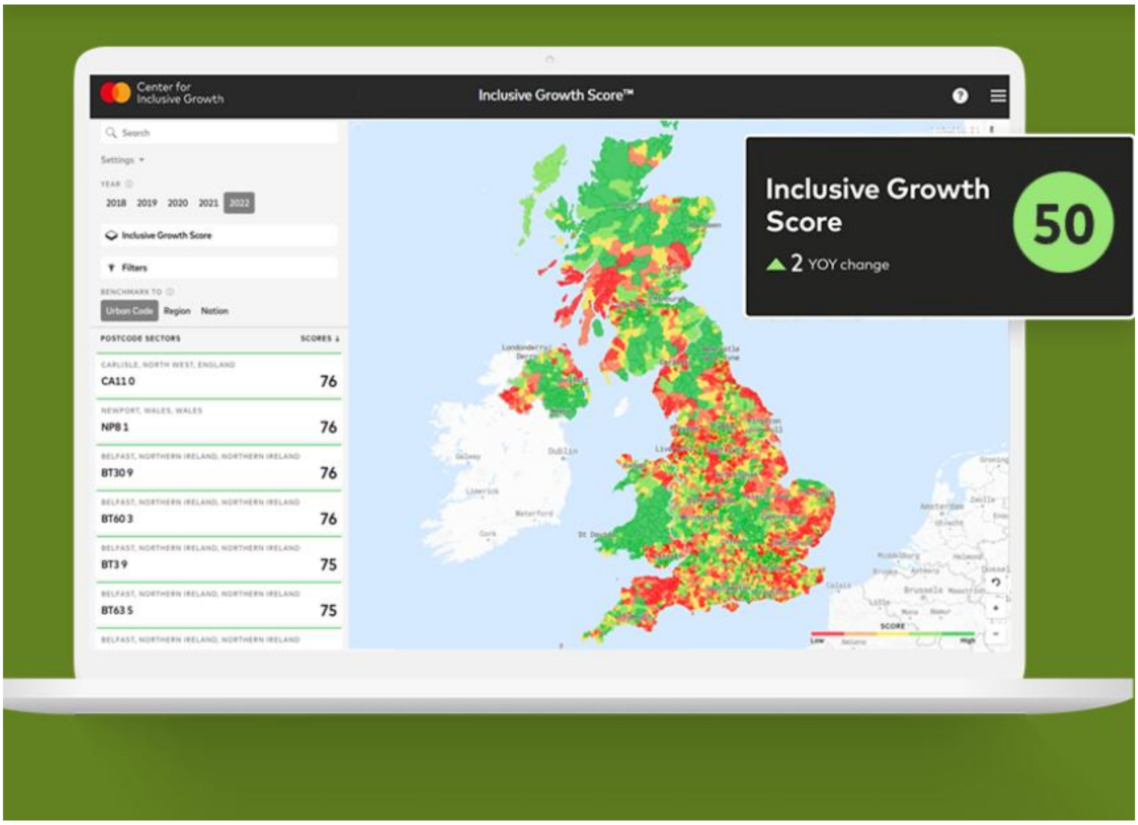
Social Value

PPN 002 Value: Kick start economic growth

At Mastercard, we are powering economies and empowering people, building a sustainable economy where everyone prospers. We call this connection between our business and our impact, doing well by doing good. Mastercard is a global community of more than 35,000 people united by a common purpose; applying our technology, insights and innovation to create a world where opportunity is available to everyone, everywhere. This work contributes to our mission to power economies and empower people, building a resilient digital economy where everyone prospers. All of this is rooted in the belief and the trust that we deliver on our commitments.

Our full impact report can be viewed here; https://www.mastercard.com/global/en/for-the-world/corporate-impact.html

An example of how Mastercard is supporting efforts to kickstart economic growth in the UK and ensuring that this growth is both sustainable and equitable, is the Mastercard Inclusive Growth score. In this initiative, Mastercard leverages the power of data for good and through our Inclusive Growth Score™ tool we offer an interactive way to visualize economic and social health at a hyper local level.



In this tool, users can access economic, social health and inclusion across 18 key metrics with the ability to compare geographies and download the data, and more.

The Inclusive Growth Score has been designed to support a wide range of public sector beneficiaries:

- **Local Governments:** Gain valuable economic and inclusion insights about your city, compare neighbouring communities and observing the city's or town's inclusive growth improvements over time
- **Planners and Policy makers**: Use data to drive planning activities and better design policies to fit the needs of communities
- **Nonprofits:** Understand the areas in which they operate to prioritise services delivery to maximise impact

From Shamina Singh (Founder & President, Mastercard Center for Inclusive Growth):

"Every sector, and every company, can play a vital role in leveraging knowledge and information for social impact. If private-sector companies like ours that incentivize a race to the top and value a 'culture of decency' can join together with public- and social-sector organizations, not only can we respond with speed and scale, but we can rebuild our economies for the benefit of everyone."

We are committed to increasing the capacity of the public and social sectors to solve systemic problems using real evidence. Mastercard provides Social Impact Reports for areas covered by the Inclusive Growth and tracks the number of partners and users of the platform to measure the long-term impact of the Inclusive Growth Score. This reporting can be found on the Mastercard Center for Inclusive Growth website.

A summary of the measured impact of the Center for Inclusive Growth:

- **Financial Security: 4.5 Million**

  We've reached more than 4.5 million workers and students with support and tools to increase their financial security and economic mobility

- **Small Businesses: 40 Million**

  We've helped connect 40 million small businesses – 60% of which are women-run or owned – to financial services, tools or other resources to support their resilience and growth.

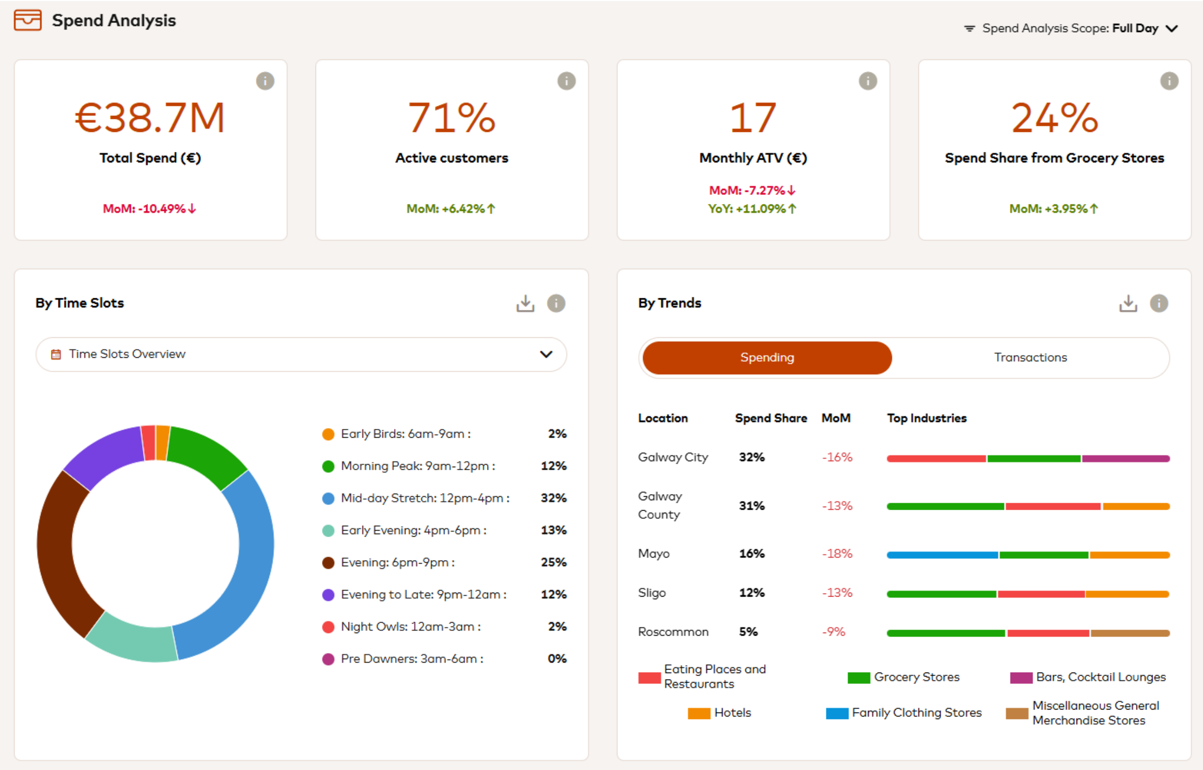
- **Impact Data Science: 1,650+**

  We've helped more than 1,650 social impact organisations connect to tools and resources to build their data capacity.

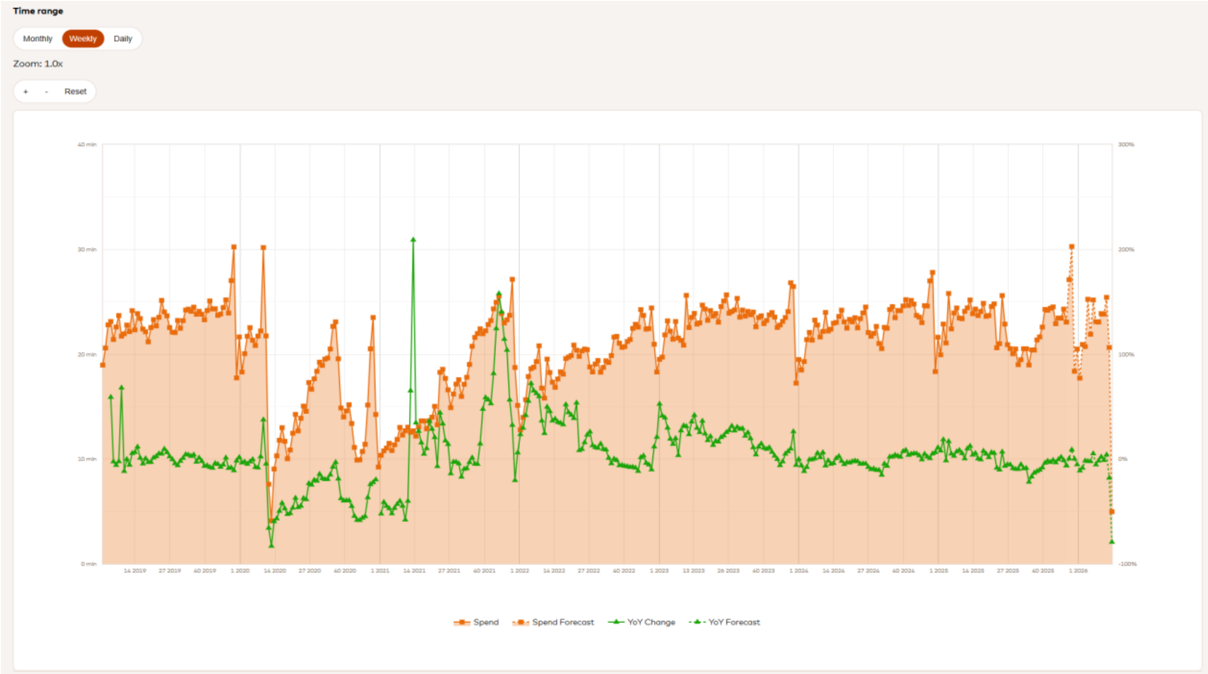
Overview of the G-Cloud Service – Mastercard Geo Insights 20

Key Services Capabilities:

Geo Insights 2.0 is an online, data visualisation platform that provides near-real-time insights into retail spending across the UK across a wide number of industry sectors providing insights into historic and intra-daily spending patterns.



The platform provides detail summary statistics (above) as well as time-series data visualisation capability for analysing current and historic spending patterns:



The Geo Insights 2.0 platform provides the following metrics:

Type of metrics	UK Total	National	County	Post-Code Area
Total spend in absolutes (EUR)*	YES	YES	YES	YES
Heatmap of spend	YES	YES	YES	YES
Total spend split by month or week in absolutes	YES	YES	YES	YES
Spend by NACE code in absolutes	YES	YES	YES	YES
Spend by NACE code split by month or week in absolutes*	YES	YES	YES	YES
Spend month over month %	YES	YES	YES	YES
Spend year over year %	YES	YES	YES	YES
Forecasted total spend in the next 3 months in absolutes*	YES	YES	YES	YES

Forecasted total spend by NACE code in the next 3 months in absolutes*	**YES**	**YES**	**YES**	**YES**
Main demographic segments	**YES**	**YES**	**YES**	**YES**
Local / Transitioning / Cross border split	**YES**	**YES**	**YES**	**YES**
Visitor country by share of spend	**YES**	**YES**	**YES**	**YES**
Average length of stay	**YES**	**YES**	**YES**	**YES**
Main countries of origin of cross border customers	**YES**	**YES**	**YES**	**YES**

The Geo Insights 2.0 Platform will provide spend data for the following industries:

Industries Available
• Grocery Stores. • Bars, Cocktail Lounges. • Tobacco Stores. • Freezer and Locker Meat Provisioners. • Package Stores—Beer, Wine, and Liquor. • Drug Stores, Pharmacies and Cosmetics*. • Family Clothing Stores. • Furniture Stores. • Hardware Stores. • Electronics Stores. • Book Stores. • Miscellaneous General Merchandise Stores. • Hotels. • Eating Places and Restaurants.

The Geo Insights 2.0 platform will provide data at the following levels of temporal granularity:

Area	Monthly Data	Weekly Data	Daily Data	3 Hourly Data
UK	YES	YES	YES	YES
National	YES	YES	YES	YES
County	YES	YES	YES	YES
Post-Code Area	YES	YES	YES	YES

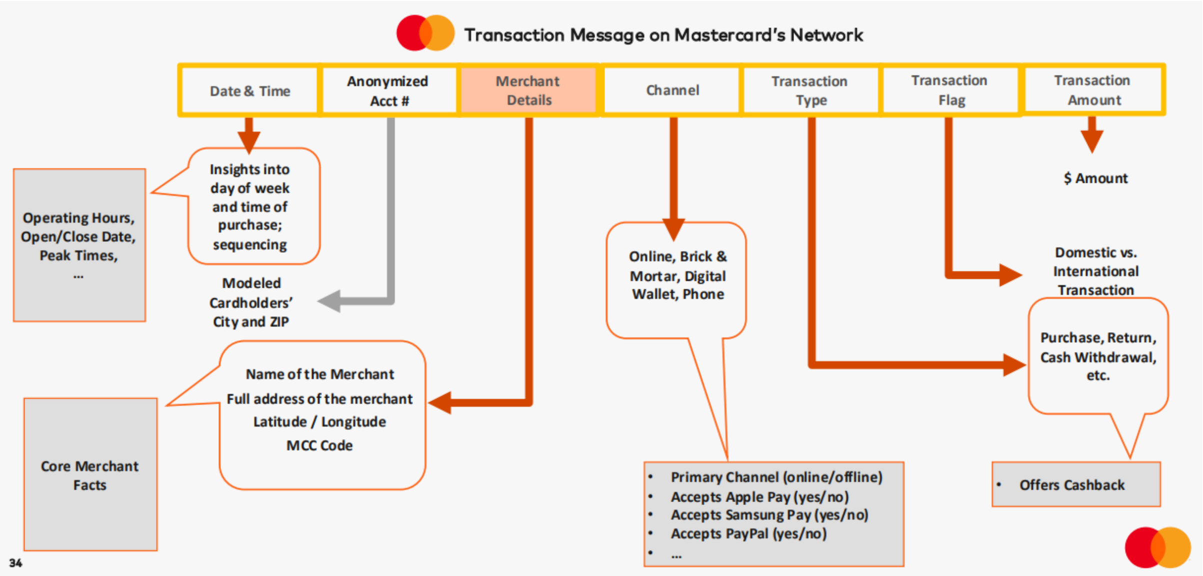
The data contained within the Geo Insights 2.0 platform will having the following historic availability and updated & refreshed on the following schedule:

Historic Data Availability	Data Update Schedule
• Seven (7) years of historic data availability	• Data updated monthly • Two (2) weeks latency – I.e Data for January

Data Methodology – Mastercard's Data:

To process the billions of Mastercard card transactions occurring on an annual basis, we require a specific set of data to be collected – at the point of the transaction – to allow the payment to be processed. The process occurs in a fraction of a second and once aggregated and anonymised, creates a huge data 'pool' from which insights can derived and leveraged for decision making.

The table below summarises the data tags we see in each payment transaction – every time a person uses their card, whether in person or online. All the data we leverage for the proposed Ireland service will be based on these elements.



- **Date and times of the transaction:** Enabling insights into purchasing by time of day and insights into when retailers are most busy / least busy.
- **Merchant details:** Including merchant name, address, longitude / latitude geolocation and Merchant Category Code (MCC) i.e. a code identifying what the business is (for example, a restaurant, petrol station, hotel etc.)
- **Channel and transaction type:** Whether the payment was made in-person, online and whether it was a purchase, return. Differentiation between credit and debit card is also possible.
- **International / domestic:** We are able to differentiate whether the card transaction was a domestic transaction (i.e. by a cardholder resident in the country of purchase) or an international transaction (cardholder resident outside the country of purchase).
- **Transaction amount:** The value of the transaction.

Data Methodology – Producing Geo Insights 2.0:

To produce the data found in the Geo Insight 2.0 platform, Mastercard takes the underlying transactions seen on the Mastercard network (which form a robust and statistically significant proportion of retail card payments) and then builds an advanced econometric model which accounts for the various factors that influence overall spending, including Mastercard market share in domestic and cross-border transactions, levels of card-usage vs. alternative payments methods (cash, cheque etc.) and broader macro-economic indicators such as inflation rates.

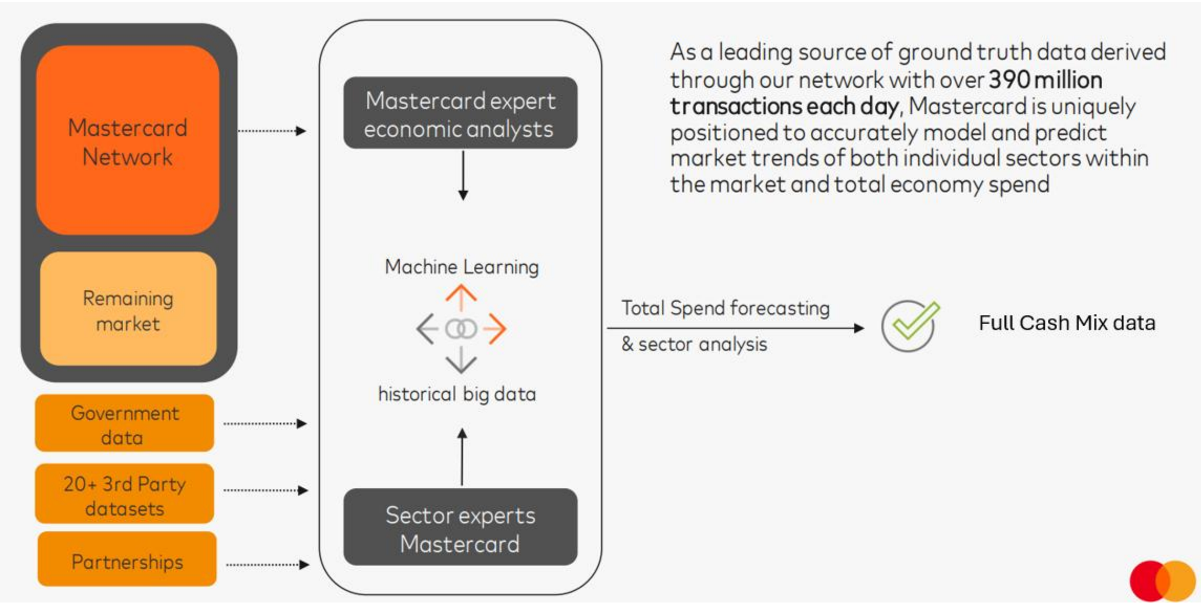
This model is then fed with the latest up-to-date data from the Mastercard network on a near real-time basis, allowing for predictions at the total spend level to be measured.

A key factor in ensuring the statistical robustness of this data is a comprehensive – and ongoing – series of historical back-testing against government published statistics on retail spending (including domestic and cross-border tourism spend) to then verify, and if needed, update, the algorithms within the model.

This approach has proved valuable within the Irish market, where we have experience of following these processes to deliver retail spending data as part of the Dublin Economic Monitor, which is produced by Dublin City Council, in collaboration with Grant Thornton (see here: https://www.dublineconomy.ie/tag/spending-pulse/).

In the below, we illustrate how Mastercard uses multiple sources of transaction data (including from its own network) to ultimately arrive at a true picture of all retail spend activity – cards (irrespective of card scheme, bank etc.), cash and other alternative payment types – what is called the "Full Cash Mix".

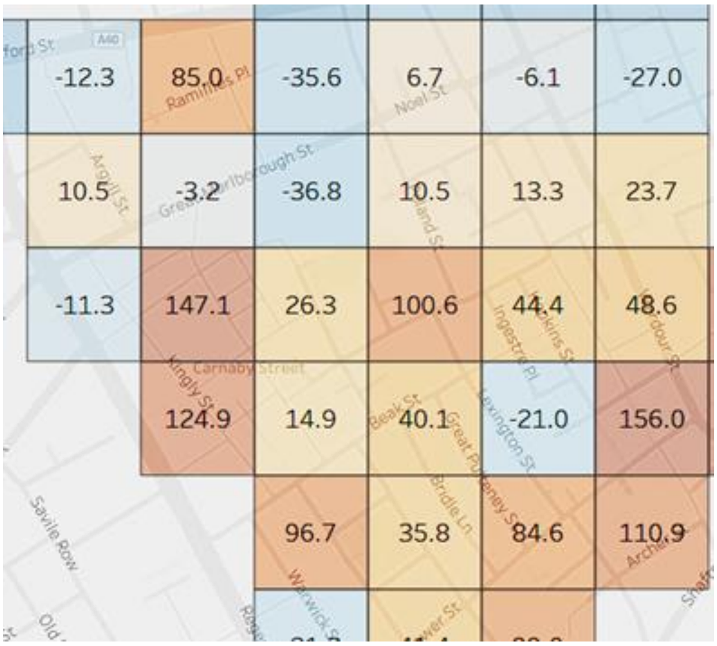
Data sources and methodology for creating robust, statistically valid data:



Associated Services – Geo Insights 1.0 Data Feed

An associated service available at additional cost (see relevant section in our pricing submission), subscribers may purchase a license for regular deliveries of Mastercard's most granular data relating to retail spending ("Geo Insights 1.0") that through a flexible data feed model provides indexed Mastercard spend data at the 150m x 150m grid level.

An example of the Geo Insights 1.0 indexed spend data at a 150m x 150m grid level is found below:



Geo Insights 1.0 featuring the following:

- Spend **data aggregated to small geographic areas** – up to 150x150m blocks or admin areas
- **Indexed metrics** enable spend activity comparison across geographic areas and time periods
- Metrics available for **multiple industries and segments** – to serve analytics needs and use cases

Spend Metrics:

Indexes:

- Total Spend
- Total Transactions
- Total Accounts (Cards)
- Spend per Account
- Spend per Transaction (Ticket size)
- Transactions per Account

YoY % change variables:

- Change for Total Spend, YoY %
- Change for Total Transactions, YoY %

Consumer Segments

• **Overall** spend for all segments • **Domestic** – only cards of the same country of origin as the merchant • **International** – foreign cards only
Merchant Industries
Quad* **zoom level up to 150m x 150m** • Total Retail (macro spend – all industries) • Eating Places • Apparel Quad* **zoom level up to 1.2km x 1.2m** • Grocery & Food stores • Bars/Taverns/Nightclubs • Accommodations • Art, Entertainment & Recreation • Automotive Fuel • Motor Vehicles (excl. Fuel) • Consumer Electronics • Cosmetics & Beauty Services • Home Furnishings/Furniture • Jewelry & Giftware • Professional Services • Department & General Merch

The data elements for Geo Insights 1.0 are detailed below:

Field Name	**Description**	**Type**	**Available Options / Examples**
Txn_date	Date of analysis with time period based on time slice.	Date, 'yyyy-mm-dd'	Daily YYYY-MM-DD, Weekly 1-52, Monthly 1-12
Industry	Categorical variable indicating the industry of the merchants	String	Total Retail
Segment	Segment by card origin	String	Overall, Domestic, International

Geo_type	The comparison boundary (benchmark) used to generate the index	String	Country, State/Province/Region or Metro
Geo_name	The name of the relevant comparison boundary (Geo_type name)	String	United States
Quad_id	The Quadtree identification number (quadkey/ID) for each quad	String	031313131112233110
Latitude	The full precision latitude coordinate of the quad centroid	String	51.5151524790064
Longitude	The full precision longitude coordinate of the quad centroid	String	-0.133895874
Bounding_box	Contains the geometry of the Quad ID in WKT format.	Tuple list, WKT	POLYGON ((-0.133209228515625 51.51472517425701, -0.133209228515625 51.51557978375592, -0.13458251953125 51.51557978375592, -0.13458251953125 51.51472517425701, -0.133209228515625 51.51472517425701))
Txn_amt	-Index measuring total spend | Calc: Quad total transaction amount / Geo_name total transaction amount for anchor period	Float	Index 1-9999 Average 100
Txn_cnt	-Index measuring total number of transactions | Calc: Quad total transaction count / Geo_name average transaction count for anchor period	Float	Index 1-9999 Average 100
Acct_cnt	-Account Count index measuring total number of distinct card numbers -Quad total # of accounts / Geo_name average # of accounts for anchor period	Float	Index 1-9999 Average 100
Avg_ticket	-Average Ticket index measuring average spend per transaction -Quad average ticket size / Geo_name average ticket size for anchor period	Float	Index 1-9999 Average 100
Avg_frequency	-Index measuring average number of transactions per card | Calc: Quad average transaction frequency /	Float	Index 1-9999 Average 100

	Geo_name average transaction frequency for anchor period		
Avg_spend_amt	-Index measuring average spend per card | Calc: Quad average spend amount / Geo_name average spend amount for anchor period	Float	Index 1-9999 Average 100
YoY Spend	Year on year % change in spend - Optional on request	Float	% value (not an index)
YoY Transactions	Year on year % change in transaction count - Optional on request	Float	% value (not an index)

Geo Insights is provided through a license data delivery model.

Therefore, the geographic area included within data license is flexible and customizable.

Please refer to our rate/card for detail pricing regarding this solution.

2. Data Protection

Information Assurance

Mastercard maintains a Cyber Essentials accreditation. Additionally, Mastercard retains organisational policies to ensure alignment with the necessary requirements relating to ISO 27001 relating to data privacy and data retention.

The dataset is compliant with all relevant data privacy regulations and specifically GDPR and other data privacy regimes in use in the multiple territories in which Mastercard operates. Data is anonymised and aggregated, and granularity of data is suppressed against internal rules where geographies under view are too small to ensure anonymity of merchants with significant market share in specific locations.

Users are required to sign up to a data protection agreement as part of the contracting process that would ensure the data is not shared elsewhere, exploited in commercially inappropriate ways and viewed only by agents of the customer organisation. Regular monitoring of public domain publications is undertaken to monitor compliance with these requirements.

Note that we hold fully up to date PCI DSS certification.

Data Back-Up and Restoration

Data is held remotely. Mastercard holds data in numerous data centres around the world to ensure resilience and load balancing, and is subject to rigorous test and back up procedures on a regular basis.

Data centres are fully air-gapped and accessible only to authorised personnel. For users working remote from office locations, VPN access is mandatory. Further details are available but note that the sensitive nature of activities in this area, and the critical importance of the Mastercard network to economies around the world, mean we will not be able to provide specifics.

Business continuity statement/plan

Mastercard has numerous extensive business continuity arrangements in place in multiple territories and in relation to numerous products and services. Further details are available but note that the sensitive nature of activities in this area, and the critical importance of the Mastercard network to economics around the world, mean we will not be able to provide specifics.

Privacy by Design

It is essential that the personal data of any individual and the commercial data of any business remains unidentifiable and confidential. Geo Insights 2.0 platform is designed to ensure all data is anonymised and aggregated in line with GDPR and other data privacy regimes in use in the numerous territories in which Mastercard is commercially active around the world.

In adhering to this principle, any provider of payments data must ensure that there is a minimum number of merchants operating in any one specific geographic area, industry and time internal to ensure that it is not possible for any user of the data to reverse engineer the performance of any one specific merchant or to re-identify an individual consumer/cardholder. This same logic applies to the number of transactions that take places in any one specific geographic area, industry and time interval.

This presents a challenge in certain local geographies, such as in more rural towns or villages, where there may not be a high enough density of merchants in any one specific industry to allow the data to be reported without breaking the strict rules outlined above. This same logic applies when there is a specific merchant with a very high volume of the overall spend in one specific category when compared to the total. The high share of this merchant would, if known, allow for the calculation of the other merchants in the industry, leading to non-compliance with merchant performance confidentiality.

This challenge is addressed directly within the design of Geo Insights 2.0 as the Mastercard-only data will be aggregated to the national, regional, county and post-code area level – thus representing a high level of geographic aggregation with a significant number of merchants trading across all 14 industry categories in each geographic area.

The Mastercard-only data is therefore fully aggregated and anonymised at the individual cardholder and merchant level at a foundational level. This data is then further combined with further Mastercard proprietary datasets, 3rd party data sets and government published statistics to produce a further aggregated view across all payment types (“Full Cash Mix”) and therefore providing an even further level of aggregation at the consumer and business level.

For the Associated Services (Geo Insights 1.0), subscribers will be provided with geographically hyper-granular data sets to the 150 x 150m data based on indexed Mastercard data only.

This presents a potential challenge relating to merchant density / aggregation. When selecting smaller geographic areas, such as a small town or even individual high streets, there may be fewer than the minimum number of merchants trading across all available industries.

If this occurs and a data point does not reach thresholds for cardholder, transaction or merchant density then in accordance with Mastercard Data Privacy policies we would be unable to share the data in question for the specific geography, and the relevant area/data point would be left blank and not accessible to the subscriber.

Both Mastercard and the Customer will comply with all (i) all data privacy legislation – including GDPR; (ii) the applicable industry data security standards; (iii) all applicable provisions of Mastercard's or Customer's written information security requirements, and (iv) Mastercard's privacy policies. Customer acknowledges and agrees that Mastercard may transfer such data to any country in which any member of the Mastercard group does business.

3. Using the service

Ordering and Invoicing

Any interested subscriber to Geo Insights 2.0 would be required to reach out to the relevant Mastercard commercial contact at the following address:

- Simon.wrightlakin@mastercard.com

This commercial contact will respond to the client in a timely manner and support them throughout the order process.

Typically, this would include a preliminary 30–60-minute discussion via Video Call to discuss the relevant requirements and geographic scope and align on the relevant commercials as per the rate card provided.

Following this discussion, the subscriber will be provided with the necessary details to be included within the order form for the procurement of the services.

Once the completed order form is returned then Mastercard will review and upon approval issue for signature with the subscriber.

Availability of Trial Service

A Trial Period is not available for Geo Insights 2.0. Please refer to our rate card/pricing for details regarding minimum contracting periods.

On-Boarding, Off-Boarding, Service Migration, Scope etc:

Onboarding into the platform

After platform access is granted, an assigned dedicated Customer Success Team member will reach out to the subscriber to schedule bi-weekly / monthly reviews and support during the onboarding period to answer any questions or provide more details as needed.

The participating subscriber will share the list of contact details of people who will be using the platform (the Authorised Members). Mastercard will provide each user with their own login credentials and a URL to access the platform. Training will be provided on the methodologies, functionality and capabilities of the dashboard and a more detailed onboarding will be set up and conducted in relation to customised services.

Education materials

Mastercard will provide access to education materials including Frequently Asked Questions (FAQs), methodology documentation of the calculations and indexes as well as the definitions of each metric in the platform. We typically provide this documentation online / as soft copies but are open to any hard copy provision, if feasible.

Demo of the platform

Either the CSM or a dedicated team member from our Product team will conduct as many demonstrations of the platform with users as needed and requested, to ensure understanding and support of specific use case. At the backend, the Product team will work on preparation of the data and UI.

Regular check-ins and support

As mentioned above, an assigned dedicated Customer Success Team member will meet with the users for bi-weekly / monthly reviews and support during the contract to answer any questions or provide more details as needed. This Customer Success Team member will also liaise with you to report bugs or data issues if those were to arise.

Quality assurance

A monthly quality assurance process of the platform and the data to ensure a good experience for the users will be implemented, as well as a tracking system to assess the most used metrics and filters to inform areas for future improvements.

User research

We propose to the following user research during the period of this contract:

1. Users of the platform: A one-hour interview with an identified user will allow us to gather valuable feedback and insights to optimise the user experience and enhance the solution.

Quarterly Business Reviews

Every quarter, the Mastercard Relationship Lead – alongside colleagues from Customer Success and other relevant business areas – will meet LGMA representatives in-person to review the use of the services, review progress with additional requests, plans for additional services and bring any additional insights / developments pertinent to the service.

Outage and Maintenance Management

Whenever needed, scheduled outages and maintenance will be communicated to customer no less than 48 hours beforehand, by their Relationship Lead.

Offboarding

Upon conclusion of the subscribers' license contract, the access for the user-logins to the dedicated instance of the platform will be revoked. No further input is required from the subscriber.

Training

During the onboarding process the Customer Success Manager will work with the subscriber to schedule and complete a comprehensive demonstration of the full functionality of the Geo Insights 2.0 platform. Further Demos and training sessions are not limited and are available at zero-incremental cost. These will be scheduled upon clients request with the relevant users of the platform.

Implementation Plan

A detailed implementation plan can be provided to the buyer on request.

Service Management

The Service will be managed between the subscriber and the CSM with client feedback reviewed and addressed during the regular QBRs throughout the license period. In these sessions, the CSM will provide the subscriber with visibility into the development roadmap and future developments/enhancements being launched on the platform. Additionally, the CSM will document and respond to any subscriber data or platform queries which is to include a RAID log of any issues or platform downtime identified during the use of the platform.

Service Constraints

Support via CSM and product team is available during UK Business hours (9am-5pm, Monday – Friday) via email/telephone. Relevant contact details will be provided during the onboarding process.

Service Levels

Whenever needed, scheduled outages and maintenance will be communicated to customer no less than 48 hours beforehand, by their Customer Success manager. These tend not to occur more than once every six months and last for no more than three hours. Notifications of disruption to service and emails from the subscriber will be provided and responded to by the CSM (or other named Mastercard contact during periods of annual leave/public holidays) within 1-2 business days.

Outage and Maintenance Management

Mastercard may update a Platform from time to time in its sole discretion as part of its ongoing mission to improve such Platform. Mastercard maintains separate staging and production version of the platform. Updates are only pushed to the production version once thoroughly tested and verified for publication.

Mastercard will support the Platform through regular maintenance procedures, such as monitoring of servers, review of disk space usage and database fragmentation, addition of commercially available security patches and upgrades, and review of event log files.

Financial Recompense Model for not Meeting Service Levels

Unplanned service outages will be subject to recompense on a pro rata basis where these prevent service delivery for more than one full week.

4. Provision of the service

Customer Responsibilities

The subscriber/client agrees to the following responsibilities:

1. This Agreement and the information contained in this Agreement is confidential information and its disclosure is subject to the confidentiality provisions as set out in the Agreement. Mastercard may provide certain proposed materials and make certain recommendations in connection with this Agreement. Client acknowledges and agrees that the Services, including the recommendations suggested by the

Mastercard in connection with this Agreement, do not constitute legal or investment advice and the Mastercard does not otherwise warrant that execution of any recommendations or guidelines contained in the Services will result in compliance with applicable laws or will be up to date, complete or accurate at the time of any such execution. Furthermore, any reliance upon any forecasts, revenue projections or indications of financial opportunities provided or identified by the Mastercard hereunder, shall be made or undertaken entirely at Client's own discretion and determination, after Client's own, thorough review and consideration of all risks involved.

2. Mastercard and Client acknowledge and agree that the analyses and data included in the Services shall be subject to all relevant laws and regulations for each applicable country, as well as Mastercard's contractual obligations and internal confidentiality, privacy, and data analytics guidelines and policies ("Applicable Standards"). In no event will Mastercard be obligated to supply or share any information or data which Mastercard determines, in its sole discretion, would cause Mastercard to be in violation of any such Applicable Standards. Mastercard reserves the right, in its sole discretion, to apply adjustments in order to achieve conformance with such Applicable Standards.
3. Client agrees and acknowledges that Mastercard will not provide any legal, regulatory or compliance advice in the course of provision of Services, which shall be the sole responsibility of the Client. Mastercard may provide certain proposed materials and make certain recommendations in connection with this Agreement. Client acknowledges and agrees that the Deliverables, including the recommendations suggested by Mastercard in connection with this Agreement, do not constitute legal or investment advice and Mastercard does not otherwise warrant that execution of any recommendations or guidelines contained in the Deliverables will result in compliance with applicable laws or will be up to date, complete or accurate at the time of any such execution. Client is responsible for reviewing and evaluating the appropriateness of these same materials and recommendations, as well as any decisions made or actions taken by Client in response to such proposed materials and recommendations to Client, against Client's risk-tolerances and/or other criteria. Mastercard makes no warranty or guarantees that: (i) any assessment and recommendations arising from the Services will be effective; or (ii) the Services may provide statistically significant results with respect to any analysis, whether as a result of the fact that relevant data does not support the drawing of statistically significant results or because the data was corrupted, inaccurate, or incomplete in any way.
4. The below provisions of this item 5 shall apply to and govern the Client's access to and use of Mastercard's and/or its vendors' technology platforms that made available by the Mastercard in connection with Services provided by Mastercard to Client ("Platform"). As it relates to any Platform, the below provisions of this item 5 will control in the event of any conflict with the other sections of these terms and conditions.

a. Platform Access. Subject to the terms and conditions contained herein and in a Call Off Contract/Contract, Mastercard grants Client a limited, revocable, non-sublicenseable, non-exclusive, non-transferable right to permit its authorized users to access the Platform(s) for the purposes and term set forth in this Agreement and in a Call Off Contract/Contract. Client's use of a Platform is subject to the restrictions and limitations set out in herein and in a Call Off Contract/Contract, which may limit the amount and type of data and users and the Client's permitted territory of use. Mastercard or Mastercard's vendor will host and retain control of the Platform(s) and will provide Client's authorized users with access to use a Platform. A Platform is not considered a Deliverable and no rights in or related to a Platform are deemed granted. For any Platform, the only Deliverables will be the tangible reports and output specific to Client. Mastercard may, at any time, suspend or terminate the Client's access to the Platform(s) at its discretion in the event of a breach by Client of the provisions of this Agreement or relevant Call Off Contract/Contract (provided that such suspension or termination shall not in and of itself constitute a termination of this Agreement or the applicable Call Off Contract/Contract) and in the event that the Client's access to the Platform(s) is suspended as aforesaid, Mastercard will not be obligated to return any Confidential Information in its possession, custody or control to the Client.
b. Usage. Client will use a Platform only for its own internal purposes and by Users. Client will not: (a) use a Platform or its outputs either directly or as a service bureau for any third party; (b) sublicense, distribute, transfer, or otherwise make available to any third party (including any Mastercard, franchisee, or agent) access to or use of a Platform without Mastercard's prior written consent (which may be conditioned on such third party executing an agreement with Mastercard); (c) access or use (or permit the access or use of) a Platform in order to: (i) build a similar or competitive product or service (or contract with a third party to do so); or (ii) build a product using similar ideas, features, functions or graphics of a Platform; or (iii) copy any features, functions or graphics of or in a Platform; or (d) derive specifications from, reverse engineer, reverse compile, modify, disassemble, translate, record, or create derivative works based on a Platform.
c. Users. Client shall limit its authorized users only to employees, agents/ Mastercards or who are bound in writing to maintain the confidentiality of a Platform unless otherwise agreed in writing by Mastercard. Client will provide Mastercard the information necessary to enable Mastercard to establish usernames for authorized users. Client will appoint one or more administrative users to manage Client's user accounts. Client is responsible for: (a) maintaining the confidentiality of all usernames and passwords; and (b) the acts and omissions of any person to whom it provides or permits access to a

Platform. Mastercard may suspend or terminate access for any user who violates the Agreement or relevant Call Off Contract/Contract.

d. Client Data. Client will be solely responsible for any Client Data provided to Mastercard for use in a Platform. Client agrees that the timely provision of access to a Platform shall be dependent upon Client providing the required Client Data.

e. Support. Mastercard will support a Platform through regular maintenance procedures, such as monitoring of servers, review of disk space usage and database fragmentation, addition of commercially available security patches and upgrades, and review of event log files. Mastercard may update a Platform from time to time in its sole discretion as part of its ongoing mission to improve such Platform.

f. Client Responsibility. Client acknowledges and agrees that, with respect to its use of a Platform, the purchase and installation of appropriate computer and communication equipment and the appropriate operating systems and all connectivity is the sole cost and responsibility of Client. Client shall institute security measures necessary to safeguard any remote access to a Platform from unauthorized access by persons other than its authorized users. Client shall notify Mastercard immediately and assist Mastercard in remedying any instance of unauthorized access to, or use of, a Platform.

g. Ownership. Mastercard retains all right, title, and interest in and to all current and future versions of all Platforms (including any algorithms, documentation, data models, and user interfaces therein or related thereto) and any other know-how, processes, techniques, concepts, methodologies, tools, or intellectual property Mastercard uses in performing hereunder, even if provided or developed as a result of performing services related to a Platform and all technology, algorithms, and data models relating thereto, even if provided or developed as a result of performing under this Agreement or an Call Off Contract/Contract for Platforms. All of the foregoing will be deemed Mastercard's Confidential Information. Client's rights to use any Platform are strictly limited to those granted under this Agreement or in the applicable Call Off Contract/Contract for Platform(s), and all rights in a Platform not expressly granted to Client are reserved to Mastercard.

h. Modifications. Client may, from time to time, request modifications or customizations to a Platform. Mastercard, in its sole discretion, shall determine whether to perform such modifications or customizations and, if so, any such modifications or customizations, and related fees and charges, shall be set forth in the separate mutually executed amendment to this Agreement or a Call Off Contract/Contract and all resulting modifications and customizations shall remain the property of Mastercard.

i. Feedback. Client may, from time to time, provide suggestions, comments, feedback or other input to Mastercard with respect to a Platform, Mastercard may freely use such feedback as it sees fit in perpetuity, entirely without obligation or restriction of any kind on account of intellectual property rights or otherwise, provided that Client is not identified as the source of such feedback.

j. Claim. If a Platform is or, in Mastercard's opinion, likely to become the subject of any infringement-related claim, Mastercard will use its reasonable efforts to: (a) procure the right for Client to continue to use such Platform or (b) replace or modify such Platform so that it is no longer subject to a claim, but is functionally equivalent in all material respects. If neither (a) nor (b) is commercially reasonable, Mastercard may terminate access to the Platform and/or any affected terms of this Agreement or Call Off Contract/Contract and refund to Client any prepaid but unused fees thereunder. This item 5.10 states Mastercard's entire liability, and Client's exclusive remedy, with respect to any claim of infringement of the intellectual property rights of a third party.

5. Should Client wish to use the Services or any part thereof in an external setting, Client shall submit such request to Mastercard for review and approval whereby Mastercard will have a thirty (30) day period from receipt of the request to review such request and the associated material. Mastercard will review and, if necessary, modify such request/material; alternatively, if requested by Mastercard, Client shall promptly amend such request/material so that such 1) complies with Mastercard's requirements, 2) contains attribution and / or a disclaimer (as updated from time to time by Mastercard) approved by Mastercard.

Technical Requirements and Client-Side Requirements

Geo Insights 2.0

Geo Insights 2.0 platform access provided via web-based platform accessible via all major web browsers. SFTP or Secure File Transfer access required for Additional Services access to 150 x 150m Indexed spend data.

Outcomes/Deliverables

Subscribers will receive user-logins to the Geo Insights 2.0 platform containing the retail spend data relating to the geographies scoped within the relevant order form.

Once able to access the platform, Subscribers will be able to readily investigate the spending performance and trends within their National, Regional or Local area using the data visualisation platform. Subscribers will additional be able to rapidly download the underlying historic performance data spanning back 7-years allowing for comprehensive historical data analysis as well as comparative analysis with other internal data sets.

By leveraging the data & insights from the Geo Insights 2.0 platform subscribers will be able to ensure their policies and investments are delivering maximal impact to constituents and businesses. By quantifying the overall spending impact of key initiatives, Subscribers will be able to ensure successful initiatives are repeated and expanded, and that funding for initiatives that do not deliver the desired commercial of societal impacts can be re-prioritised.

Development life cycle of the solution

An agile product development methodology is used by the Mastercard product team to continually develop and introduce enhancements to the platform. These updates are to be implemented on the platform on regular basis with the schedule to be shared to the client by their customer success manager.

After-sales Account Management

Every quarter (or more frequently as agreed), the Mastercard Commercial contact – alongside colleagues from Customer Success and other relevant business areas – will meet representatives of the subscriber in-person to review the use of the services, review progress with additional requests, plans for additional services and bring any additional insights / developments pertinent to the service.

Termination Process

Termination shall be in accordance with the Agreement/Contract.

Mastercard will notify customer of any revisions on the agreed planning and may not undertake work relating to the revised Services until customer has executed a written amendment to, or replacement of, the Statement of Work setting forth such amended or revised terms.

5. Our experience

- **Case Studies**

Case Study 1 – Greater London Authority (UK)

For several years, we have partnered with the Greater London Authority (GLA) to provide retail spend data as part of its High Street Data Service (HSDS). The HSDS is a subscription-based data service available to all London borough councils (32 and the City of London), London Business Improvement Districts (BIDs) and London membership organisations such as the West London Alliance, London Office of Technology and Innovation and South London Partnership. Over 30 organisations have paid the GLA for access.

The HSDS was originally set-up to address the challenge faced by local authorities in London not having a consistent way to understand and address the economic health of their high-streets and town centres in the wake of the Covid-19 pandemic. Subsequently, the GLA needed data on day-time and night-time spending in order to measure the impact of policies and investments designed to invigorate the nighttime economy.

To address these challenges faced by the GLA and their HSDS members we provide several types of the retail spend data:

- **Geo Insights:** Weekly spend index data (weekday / weekend split) for the Greater London area across a range of spend categories including consumer electronics, cosmetics, restaurants, lodging and many more. The data is provided at the most granular level possible (150m x 150m grid squares) and issued to the GLA monthly.
    - In addition, we also provide intraday retail spend index data (3 hourly increment spend) for Greater London, delivered monthly to support understanding of the changing patterns of work and commuting given the transition to hybrid working.
- **Spending Pulse:** We also provide the GLA with Spending Pulse retail spend data for Greater London. This data, going back to 2018, provides monthly sales values (£) across several spend categories, including apparel, lodging, restaurants and groceries. The data is delivered quarterly and differentiates between online and in-person sales; it is complementary to the Geo Insights data.

- **Mastercard (MC) Places:** More recently, we have contracted to provide the GLA MC Places data for London-based merchants / retailers. Delivered via several file drops, this data includes geolocation information on merchants, types of business, business status (active, inactive, last activity etc.), digital wallet acceptance and more. This is helping the GLA to understand the changing nature of the high street and informing decisions of targeted investment support to create greater retail resilience.

Our data is combined with data from other third parties to provide the GLA and its partner organisations a rich set of economic activity data with significant granularity and temporal span.

By using this data, the GLA and boroughs across London are able to use highly granular economic insights to is used to inform policymaking, evaluation and investment decisions relating to the 600+ high streets and 200+ town centres across the capital.

Case Study 2 – New West End Company (NWEC)

The New West End Company (NWEC) is a Business Improvement District and major player in the London ecosystem, representing over 600 UK and international businesses and tasked with ensuring the iconic West End maintains its position as a world-leading retail and leisure destination.

As part of their commitments to support their BID members, NWEC must provide regular data and insights into the key drivers of spend that impact the high profile merchants operating in the West End. .

To address these challenge, we have a long-standing partnership with NWEC to provide retail spend data, specifically relating to tourist spend in the West End. As part of our contract, we deliver monthly reports with a range of tourism spend metrics, including:

- Spend index ranking markets based on total spend;
- Number of transactions and growth trends;
- Unique visitor numbers growth;
- Average spend per transaction;
- Average length of stay; and
- Various spend category analytics, including cultural spend, mobility (taxi, car rental etc.), fashion, luxury goods and more.

We provide spend data for three areas in the West End – Oxford Street, Regent Street and Bond Street / Mayfair and a monthly total across all areas.

More recently, we have agreed to extend the retail spend data we provide NWEC to include Mastercard’s Geo Insights retail spend index data.

This data will provide NWEC daily indices relating to retail spending, broken down at postcode sector level, with information split by domestic and international spend. Our delivery frequency is monthly. NWEC will use this data to complement the additional tourism spend data and insights they purchase from Mastercard.

Case Study 3 - Tillvaxtverket (Swedish Agency for Economic and Regional Growth)

Tillväxtverket, the Swedish Agency for Economic and Regional Growth, is a government agency under the Ministry of Climate and Enterprise that works to ensure competitivity and sustainable development in all parts of Sweden, by strengthening businesses, municipalities and regions.

They offer knowledge, networks, and investment opportunities and focus on three main policy areas: enterprise policy, regional development policy and rural policy. One of their primary tasks to ensure EU funds are invested in projects that promote regional growth and employment.

The agency has approximately 500 employees spread across different locations in Sweden, including Arjeplog, Gävle, Gothenburg, Jönköping, Luleå, Malmö, Örebro, Östersund and Stockholm (headquarters).

Tillväxtverket reached out to Mastercard because they were looking to improve their provision of tourist market insights and trends, leveraging card-based transactional data.

We worked with them to provide spend reports covering key tourist industries in Sweden: these reports were based on international and domestic spend activity and split into Swedish geographical areas (Regions & Municipalities).

As part of the contract, we deliver a series of reports covering the period between January 2019 up to and including December 2025 (so the project is ongoing). In these reports, Mastercard quantifies the spend value for Accommodation, Transport, Sport and Culture and Souvenir industry categories. We worked with the agency to develop a mutually agreed definition of the following markets:

A. Consumption products:

1 – Accommodation services for visitors
2 – Food and beverage serving services
3 – Railway passenger transport services
4 – Road passenger transport services
5 – Water passenger transport services
6 – Air passenger transport services
7 – Transport equipment rental services
8 – Travel agencies and other reservation services

9 – Cultural services
10 – Sports and recreational services
11 – Country-specific tourism characteristic goods
12 – Country-specific tourism characteristic services

B. Other consumption products (a) - goods
C. Other consumption products (a) – services

Additionally, we worked together to establish the most relevant geographic scope and origin corridors to look at. Thus, each annual report is split into four sub-reports as follows (all spend is at category level):

1. Inbound country – International visitors to Sweden. Top five origin countries. Metrics for this report are spend and number of trips.
2. Inbound Municipality – For each Municipality, inbound visitors are split by whether they are domestic visitors or international visitors. The metric is spend.
3. Outbound Municipality – For each municipality based on domestic residence, split by destination and domestic / international spend.
4. Online Spend – Domestic online spend (within Europe) at specific category level, as confirmed with the client.

Clients

We are happy to provide further detail on our customer list upon request. Earlier versions of the product have been used by many organisations including the following entities:

GREATER LONDON AUTHORITY

Consumer Data Research Centre

NEW WEST END COMPANY
Bond Street | Oxford Street | Regent Street

Hull City Council

Contact Details

Interested parties may reach out to the following contacts:

- Simon.WrightLakin@mastercard.com