

# LOCATION INTELLIGENCE

Changing the Business Landscape



*THE SOUTHERN AFRICA ESRI USER CONFERENCE 2023*



# Agenda

- Introduction – Ravi
- Consumer Behavior in South Africa: Using unique data to shed some light on the underlying drivers of behavior change – John
- The importance of spatial analysis within the Nedbank business decision making process – Katy
- Gaining competitive Intelligence through location analytics
- Q & A



## Some data trivia.....

**90%**

Of **ALL** data was created in the **last 2 years**

.....Gartner

**80%**

Of **Decisions** made today include Geospatial components

.....Forrester

**53%**

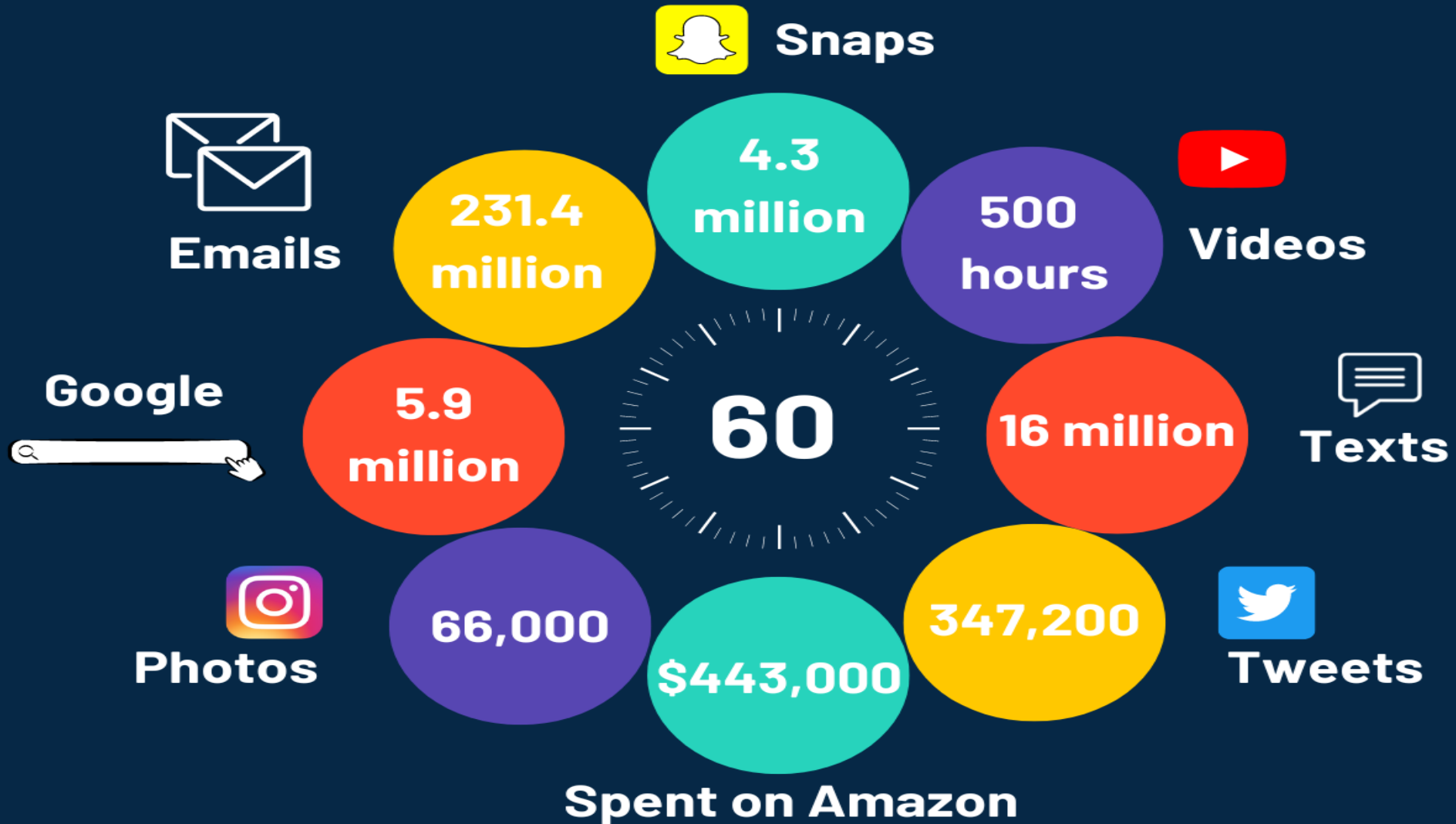
of enterprises believe **location intelligence** is critically important to achieving their goals

.....Forrester





# Data We Create Online in 60 Seconds



# Unleashing the Power of Location Intelligence

- Understanding Consumer Behavior (*Know your customer*)
- Geo Insights and Demographic Analysis (*who are your best customers*)
- Competitive Intelligence (*how is your competition doing*)
- Site Selection and Expansion (*where is the best place to expand*)
- Trend Analysis and Predictive Modeling (*predict the future*)





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Data and Technology In Real Life

# Consumer Behaviour in South Africa

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# OUR COMPANY

# ABOUT US

IRL is built at the junction of where Innovative Data Science and vast Industry Experience meet.

We are a trusted and proven data provider and geospatial product delivery team.

1

## GLOBAL LEADER

We are a global leader and trailblazer in the field of Location Intelligence. Our speciality lies in visualising and interpreting disparate data sets to provide actionable insights.

2

## PRODUCT SUITE

We offer a comprehensive suite of Location Products, including:

- MAYA, Metrics & Optimiser
- Multiple Data Solutions
- All data integration

3

## INDUSTRY VERTICALS

Custom Solutions tailored to industry verticals and specific client needs. Custom Solutions for Unique Client Demands.

4

## BEST MANAGEMENT

A senior management team with industry expertise across the industry verticals including retail, media, digital and more. T





PRODUCT

# Data Inputs

01

Consumer Universe

02

Business Universe

03

Geospatial Data

04

Retail Partner Data

05

Contactability

06

POI

07

Mobile Location  
Histories

08

Social Media  
Profiles

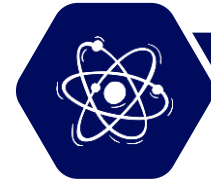


# COMPETITIVE ADVANTAGE

# MOBILITY

# DATA

- New Technology
- Bleeding Edge Applications
- Location Based Survey on Steroids
- IRL Mobility Sample
  - +5.000.000.000 Data events per month
  - 500 events per second



IRL MOBILITY SAMPLE

- Multiple Sources



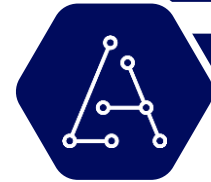
IRL MOBILITY SAMPLE

- 18 Million MAU Device Visibility



IRL MOBILITY SAMPLE

- 2 Million Monthly Active Users in research sample



IRL MOBILITY SAMPLE

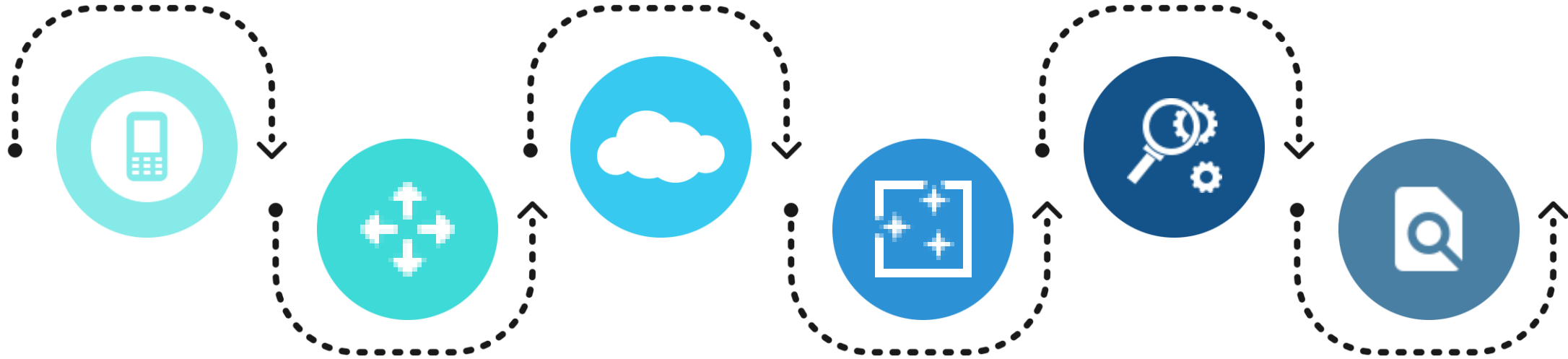
- High Accuracy POI



IRL MOBILITY SAMPLE

- Industry Experience!

# IRL MOBILITY DATA FLOW



## 1 – Device User

- Downloads one of 120k Apps
- Accepts Location Permissions
- GDPR Compliant

## 2 – Phone Moves

- GPS Location
- Cache
- Sends to Cloud

## 3 – Cloud Stored

### Locations

- Billions of Points
- Anonymous Device ID Plus Additional Fields

## 4 – Data Cleaned

### & Normalized

- Sample Bias
- Sample Fluctuations
- Structured for Analytics

## 5 – Analysis

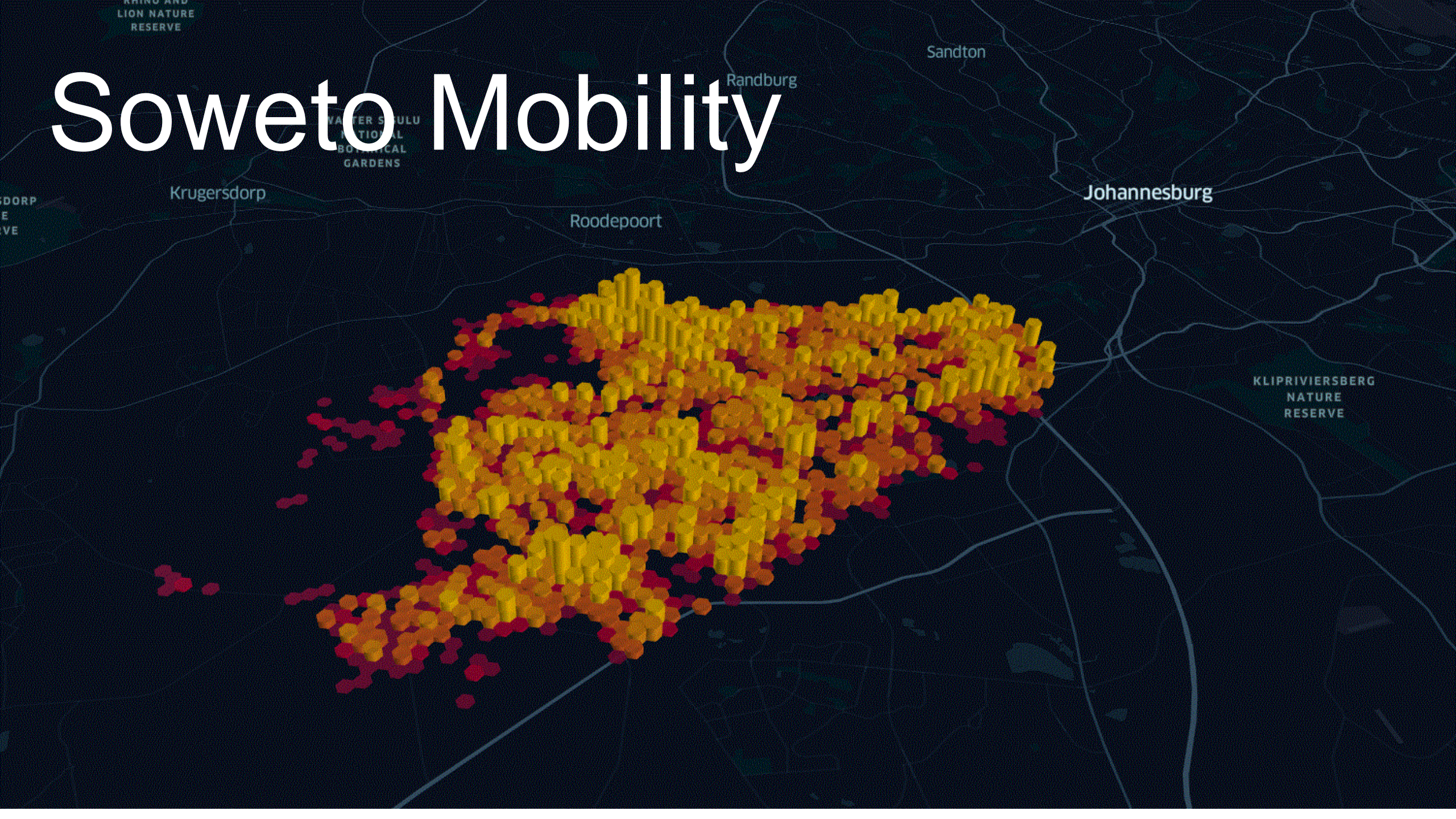
- Google Big Query
- Points of Interest
- Demographics

## 6 – Execution

- Outlet Location Optimization
- Advertising Location Optimization
- Growth Strategy Inputs
- Competitor Overview & Insights
- Own Customer Insights
- Location-Based Custom Audience Communication



# Soweto Mobility



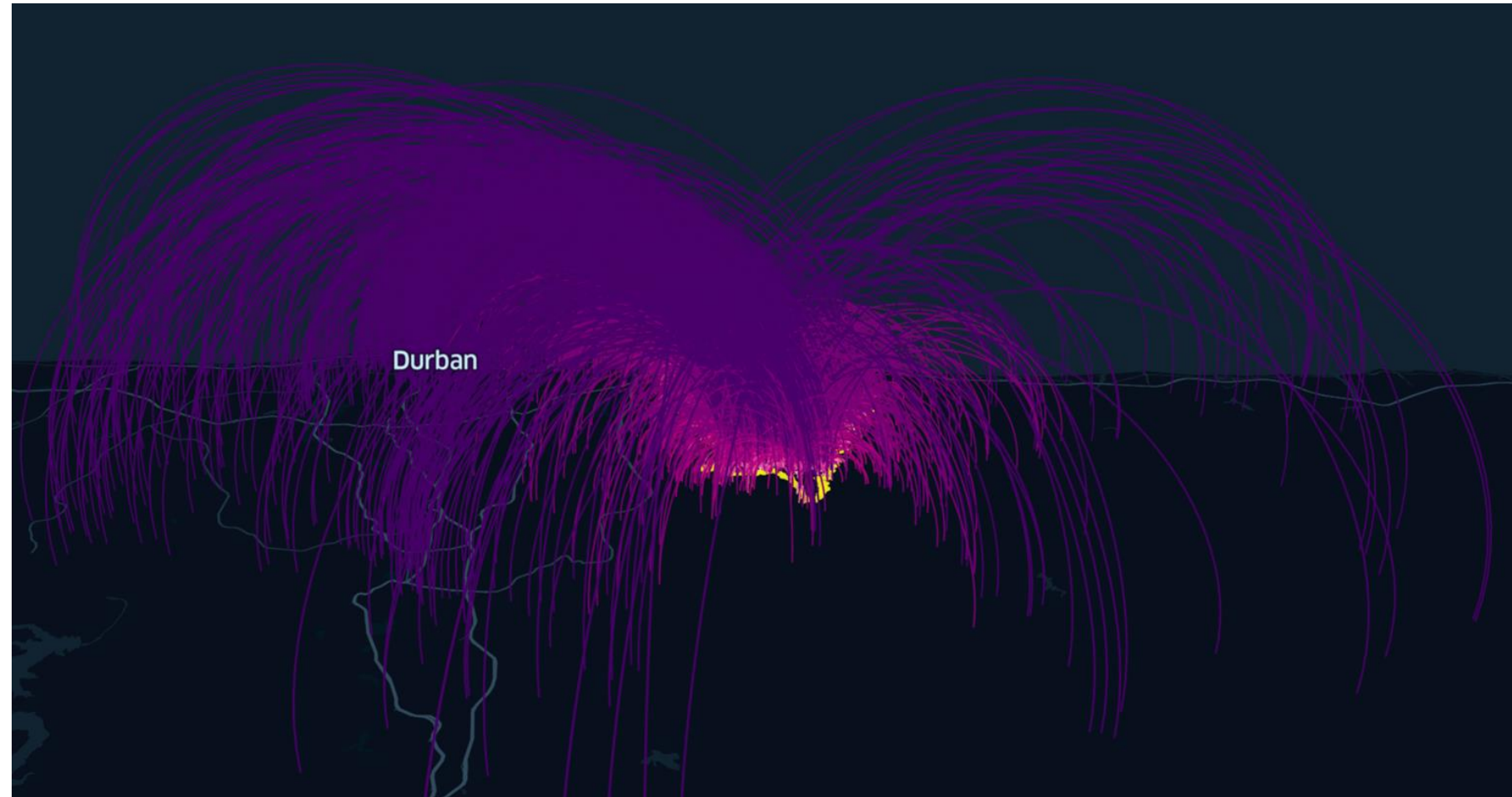


DATA SOLUTIONS

# RELATIONAL MATRIX

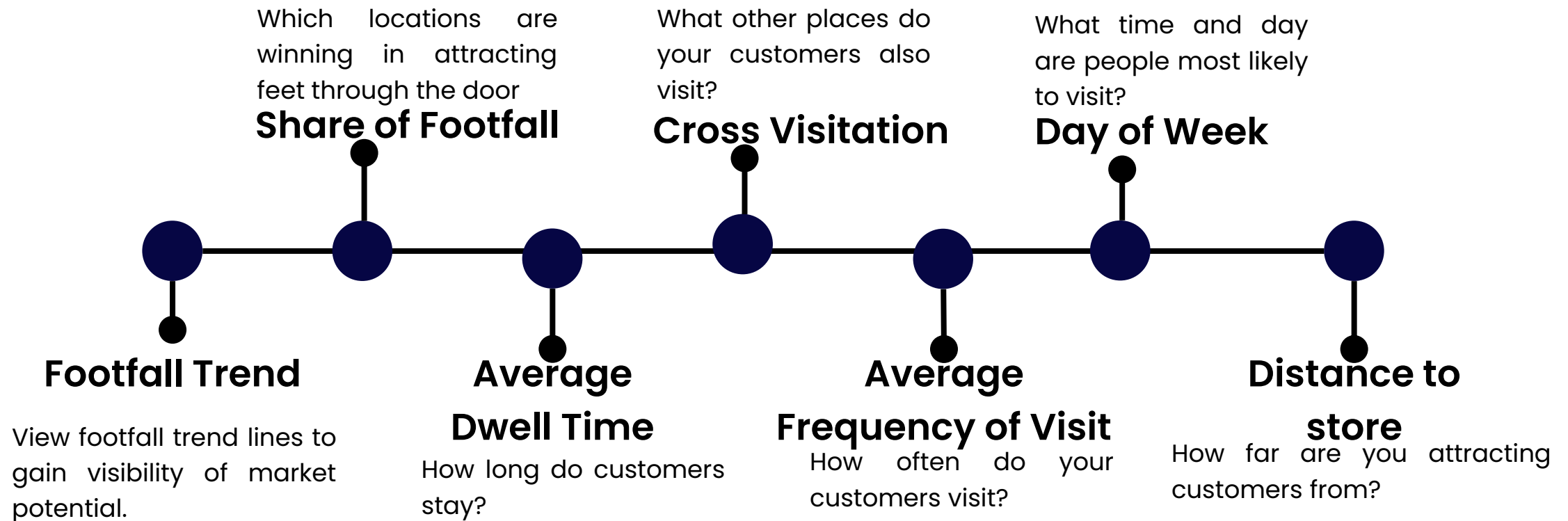
Understanding where people live relative to places that they visit.

- Work vs Home Locations for uMlazi residents.



# Metrics to Profile any Geography

## The metrics



# The South African Landscape

The South African consumer has been placed under mounting pressure over the past three years, with local and global events causing disruptions to supply chains. This has caused the cost of living to sky rocket, leaving the consumers struggling to make needs meet. This has caused a shift in the South African retail space, with footfall and expenditure down for all customer segmentations.

## Initial COVID-19 Lockdown

Following the declaration of a National State of Disaster, South Africa enters its first lockdown.

## Gauteng experiences further restrictions

Adjusted alert level 4 put in place, with Gauteng residents affected the most.

## Russia Invades Ukraine

After rising tension, Russia invades Ukraine, sparking the start of the Russo-Ukraine War. Global supply chains are disrupted.

## Cape Town Taxi Strikes

The Taxi Association strikes against laws put in place by the Western Cape government. Supply chains are disrupted and airports are closed.



## Lockdown ramps up again after loosening restrictions

Lockdown levels moved to level one through the year, but were quickly increased again in December after lots of travel and socialising.

## KwaZulu-Natal Riots

Civil unrest breakout in KwaZulu-Natal. Retailers are looted and supply chains are heavily disrupted across multiple industries.

## Constant Loadshedding begins

Years of negligence accumulate and loadshedding is permanently put in place at varying levels.

## Israel declares war on Hamas

Years of tension in Gaza and Israel culminate in war being declared by Israel on the Hamas militant group.

# KEY TAKEAWAYS

1

CONVENIENCE DRIVES CHOICE

2

CONSUMERS DON'T LIVE WHERE THEY USED TO

3

LOADSHEDDING IS IMPACTING THE CONSUMER

4

TECHNOLOGICAL REVOLUTION IS SIMMERING DOWN

5

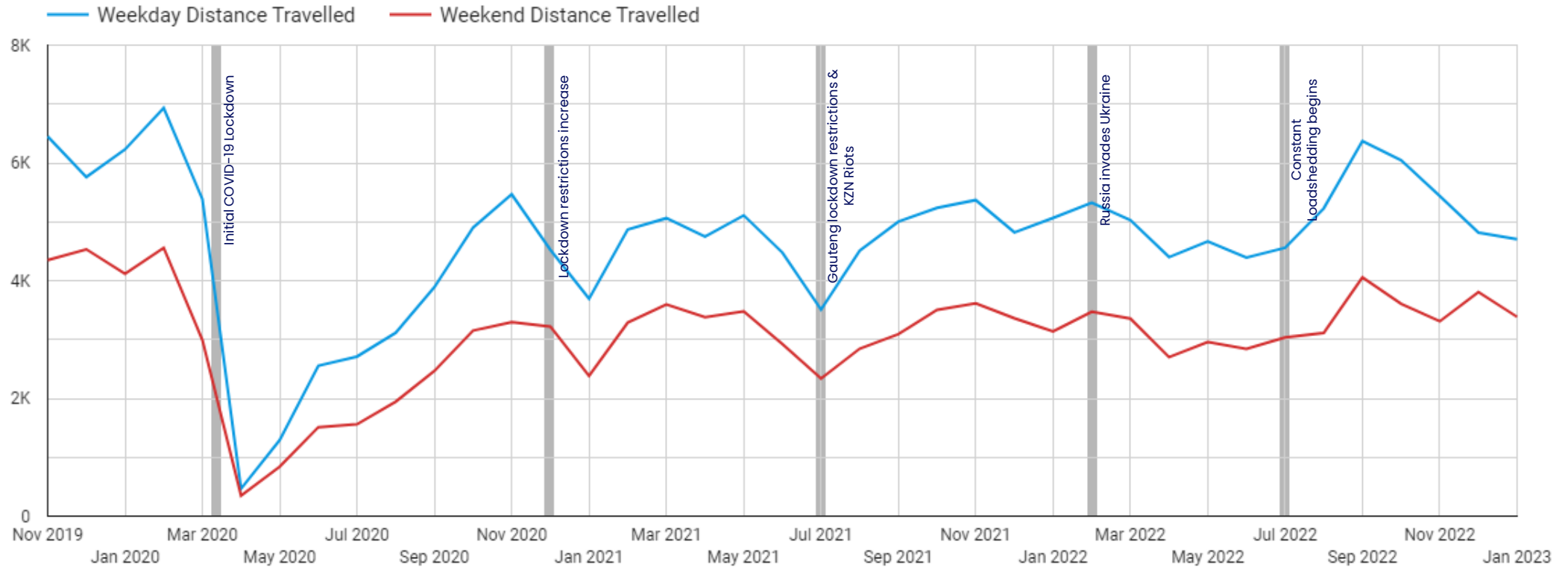
DEBT DEFAULTS ARE INCREASING THROUGH COST OF LIVING CRISIS





**1 CONVENIENCE DRIVES CHOICE**

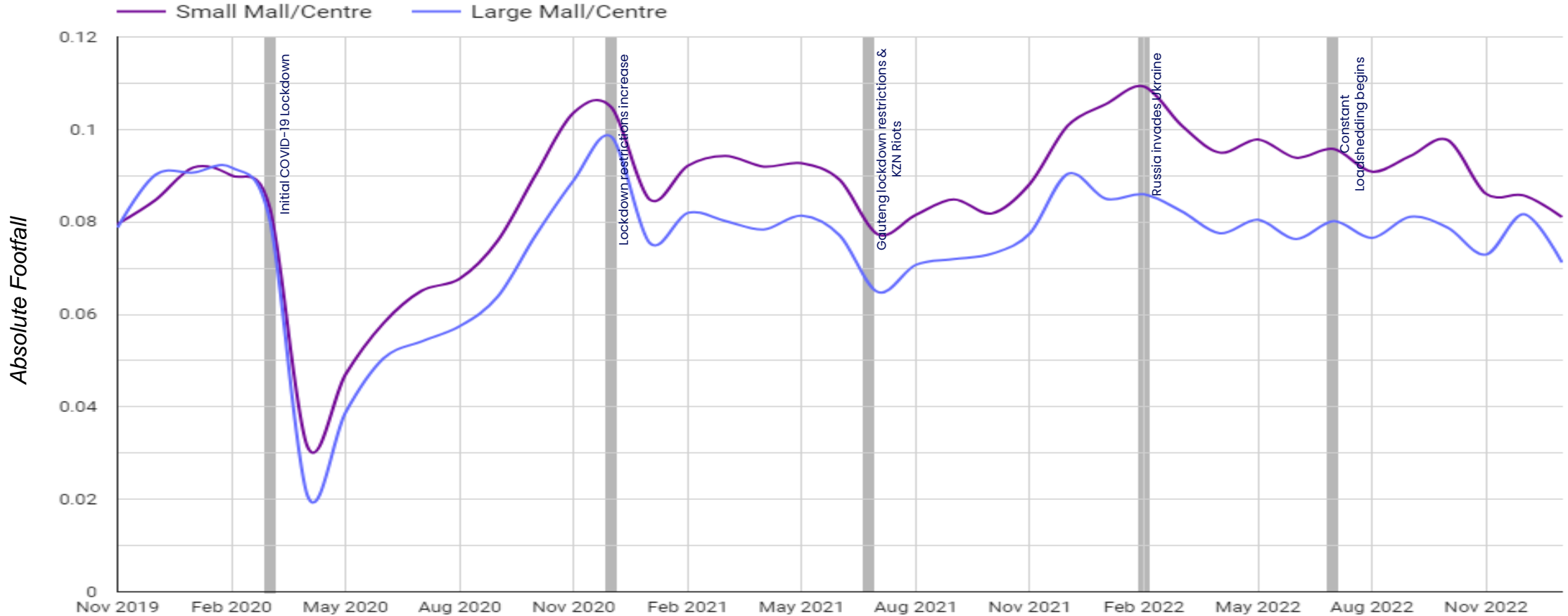
# Consumers are Travelling Less



Average distances travelled by consumers from November 2019 to January 2023, split by weekdays and weekends.

- Consumers travelled further prior to COVID-19 than they are seen to travel in recent months
- Dips in distances travelled observed when lockdown regulations were increased in January 2021 and July 2021
- Distances travelled now are similar to those travelled during COVID-19
- Fuel prices have a direct impact on distances travelled, as seen by distance increases in September 2022 and consecutive fuel price decreases

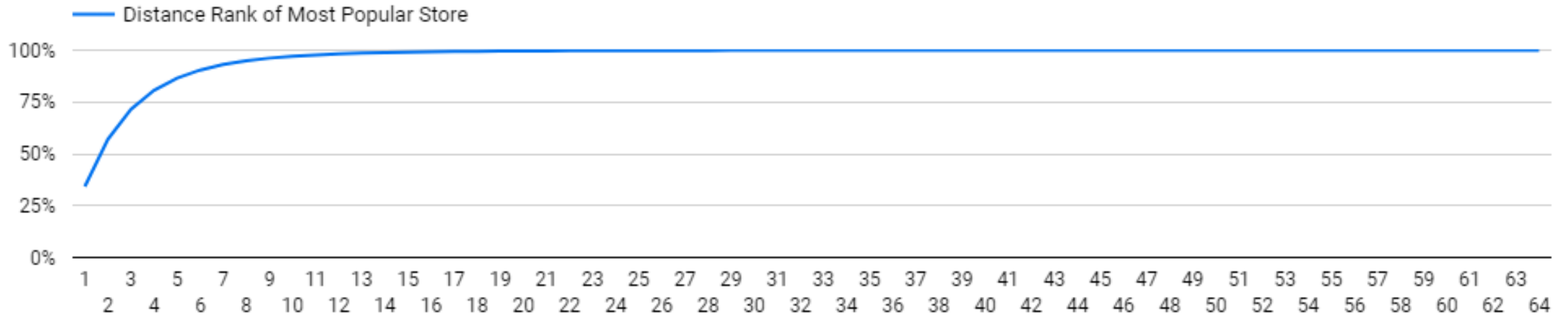
# Small Malls are Gaining Share of Footfall



Footfall experienced by large malls and small malls from November 2019 to January 2023.

- Large malls are experiencing lower footfall than they did in pre COVID-19 times
- Small malls are experiencing increased footfall after the pandemic

# Proximity Drives Consumer's Choice of Store



This graph shows the Average Distance Travelled from home to the most popular grocery store measured in kilometres. Most popular is measured by frequency of visit by month.

- Consumers will travel to get to their favourite retailer, provided this is within 750m from their nearest store, and no more than 1.7km from home
- ± 75% of shopper's favourite store will be one of their three closest stores to home
- A store that is not within the six closest stores to home only has a 10% chance of being the consumers favourite





**2**

**CONSUMERS DON'T LIVE WHERE THEY USED TO**

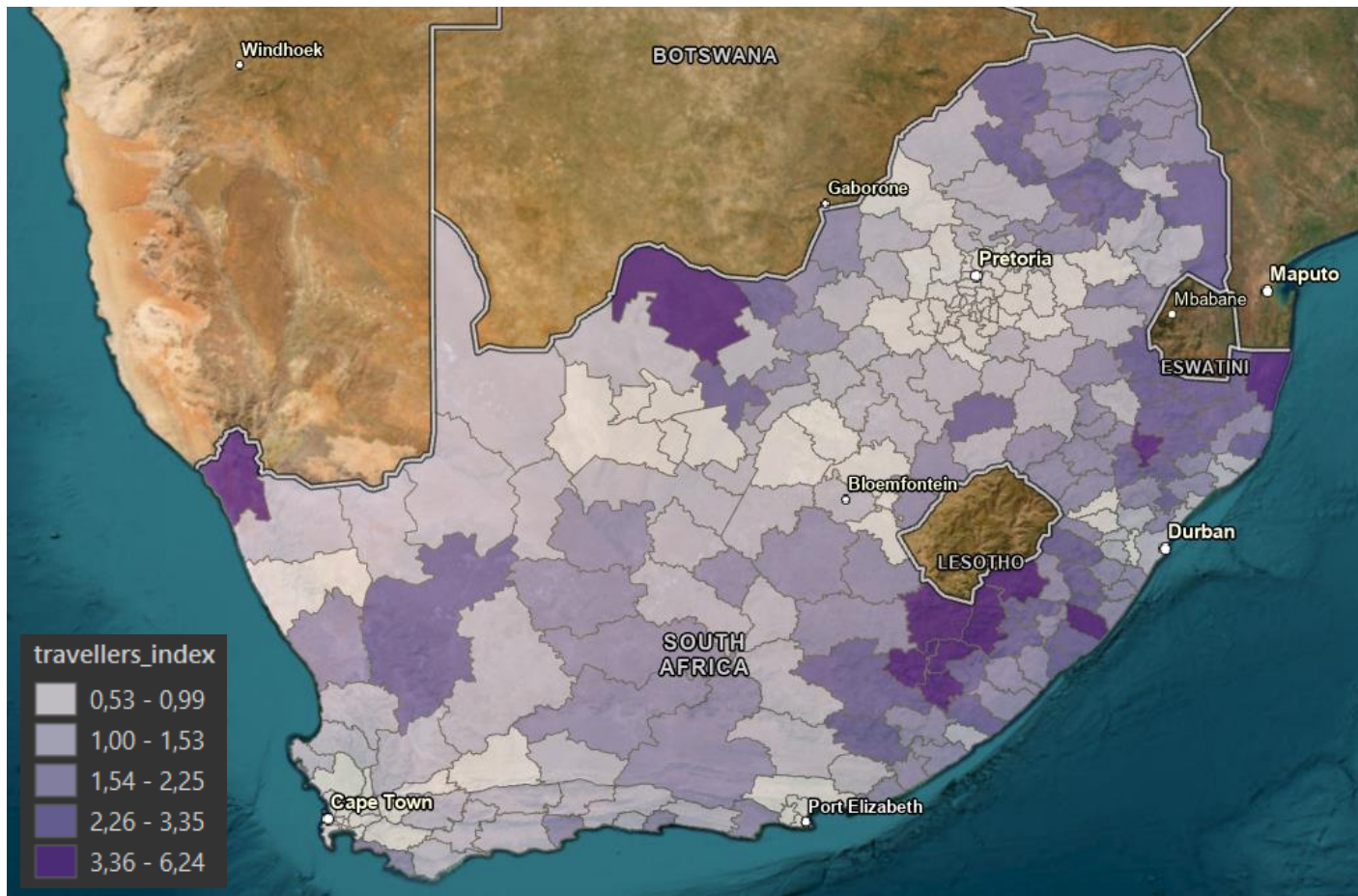
# Consumers Moved Home at the End of 2020



Percentage of consumers seen away from their pre festive season home location from November 2020 to February 2021.

- Prior to the festive season, 10% of consumers were seen to travel across district boundaries daily
- Festive travel starts in late November, peaking at 22.5%. Drop off begins from New Years Day onwards
- Interprovincial travel stabilises at 15% in the last half of January, suggesting that 5% of observed consumers moved at the end of 2020

# Rural South Africa Gains New Residents



- A band of new residents is observed in rural Eastern Cape and KwaZulu-Natal
- New residents are also observed in Limpopo, but to a lesser extent than what is observed at the coast
- An influx of visitation is also seen in the Northern Cape Municipality of Richtersveld and the North West Municipality of Kagisano-Molopo

# Stats SA 2022 Census Results



**+20%**

2011: 51 770 562  
2022: 62 027 506



Johannesburg

**+8.3%**

2011: 4 434 631  
2022: 4 803 262



Cape Town

**+27.6%**

2011: 3 740 031  
2022: 4 772 846



Ethekwini

**+22%**

2011: 3 476 686  
2022: 4 239 901



Richtersveld

**+102.3%**

2011: 11 982  
2022: 24 235



Thabazimbi

**-23.7%**

2011: 85 234  
2022: 65 047



**3**

**LOADSHEDDING IS IMPACTING THE CONSUMER**



## Footfall Declines During Loadshedding

**-80%**

|          | No Loadshedding | Light Loadshedding | Heavy Loadshedding | % Change |
|----------|-----------------|--------------------|--------------------|----------|
| QSR      | 100             | 20                 | 22.4               | +12%     |
| Malls    | 100             | 20                 | 21.6               | +8%      |
| Grocery  | 100             | 20                 | 23.4               | +17%     |
| Clothing | 100             | 20                 | 22                 | +10%     |

Effect of loadshedding on footfall from mass market consumers.

|          | No Loadshedding | Light Loadshedding | Heavy Loadshedding | % Change |
|----------|-----------------|--------------------|--------------------|----------|
| QSR      | 100             | 20                 | 19.8               | -1%      |
| Malls    | 100             | 20                 | 20.6               | +3%      |
| Grocery  | 100             | 20                 | 20.6               | +3%      |
| Clothing | 100             | 20                 | 18.4               | -8%      |

Effect of loadshedding on footfall from affluent market consumers.

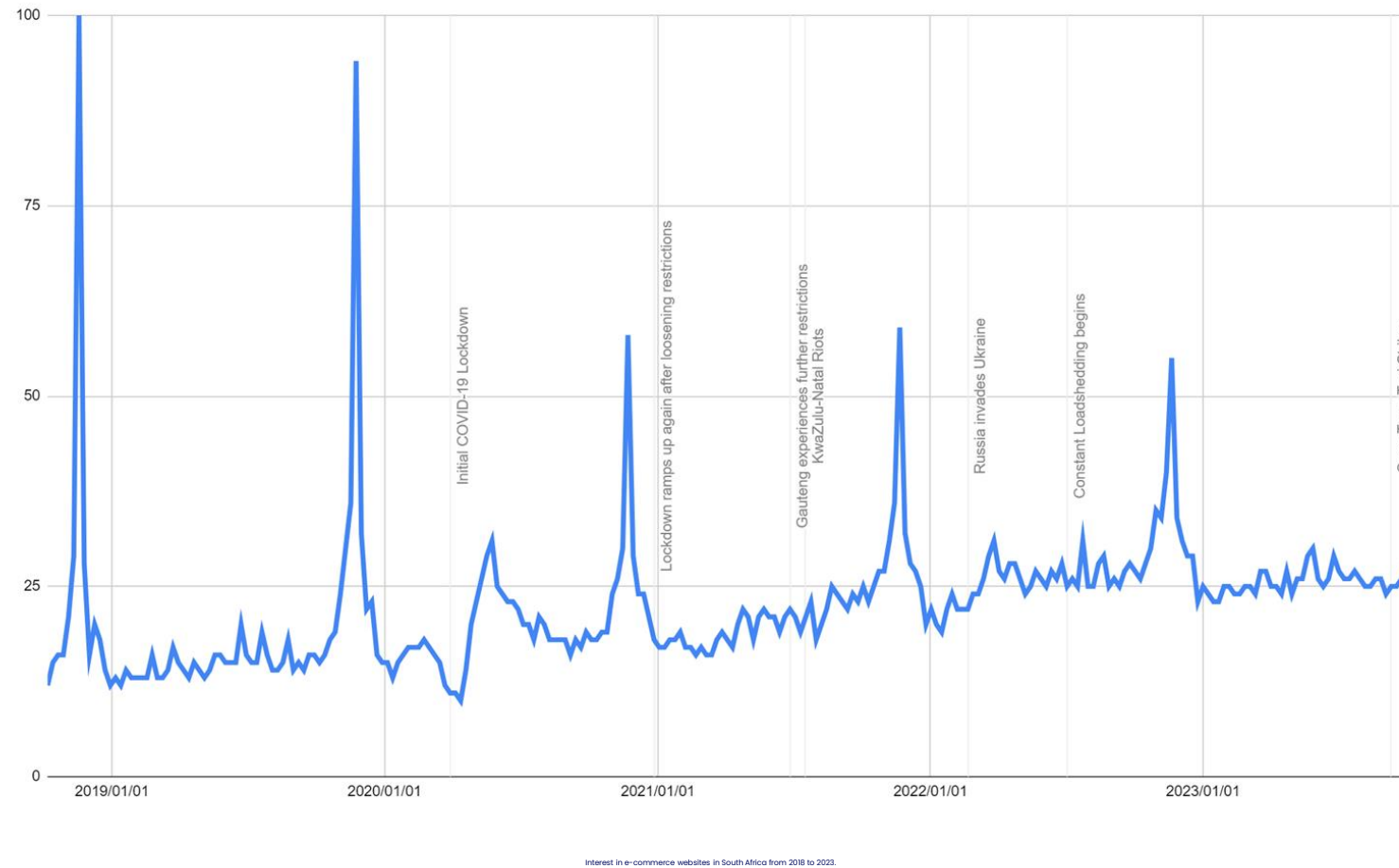
- Affluent footfall varies the least when comparing light loadshedding to heavy loadshedding.
- Mass footfall is higher during heavy loadshedding compared to light loadshedding across all categories, specifically Grocery & QSR
- Affluent footfall to QSRs and Clothing are the only categories to experience worse levels of footfall during heavy loadshedding



**4**

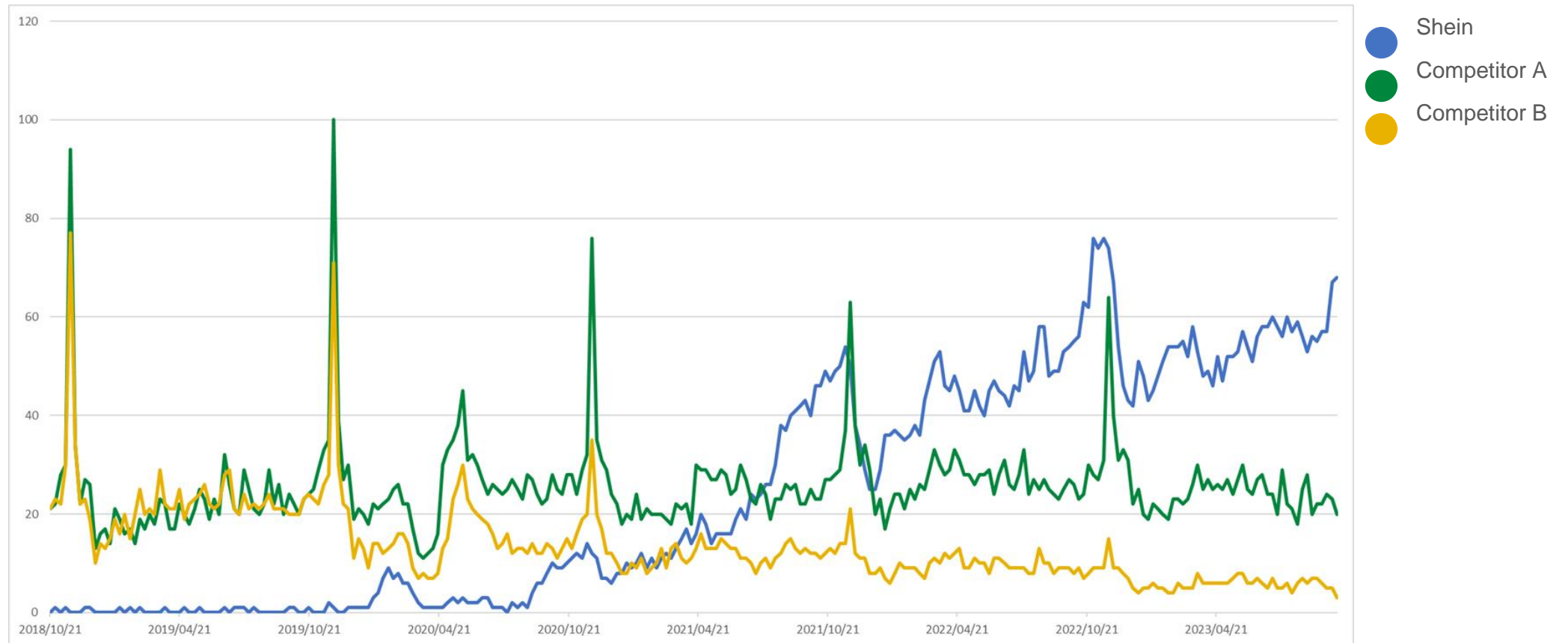
**TECHNOLOGICAL REVOLUTION IS SIMMERING DOWN**

# Rate of E-commerce Growth is Flattening



- Peaks in interest in e-commerce are observed around Black Friday
- Interest was seen to increase quickly around 2020, but has since flattened off to a constant level

# Shein Constantly Gaining Popularity



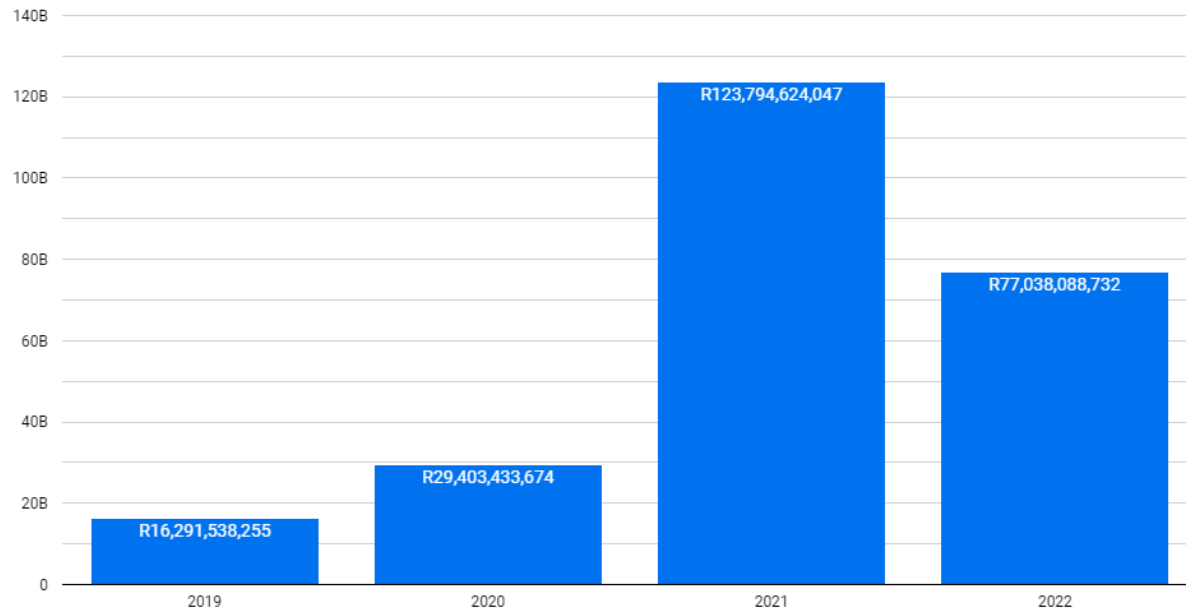
- Shein is rising in popularity in the South African market, at the expense of South African apparel competitors
- Interest in competitors spike around Black Friday at the expense of Shein
- Competitor A has stable interest from consumers from 2021 onwards



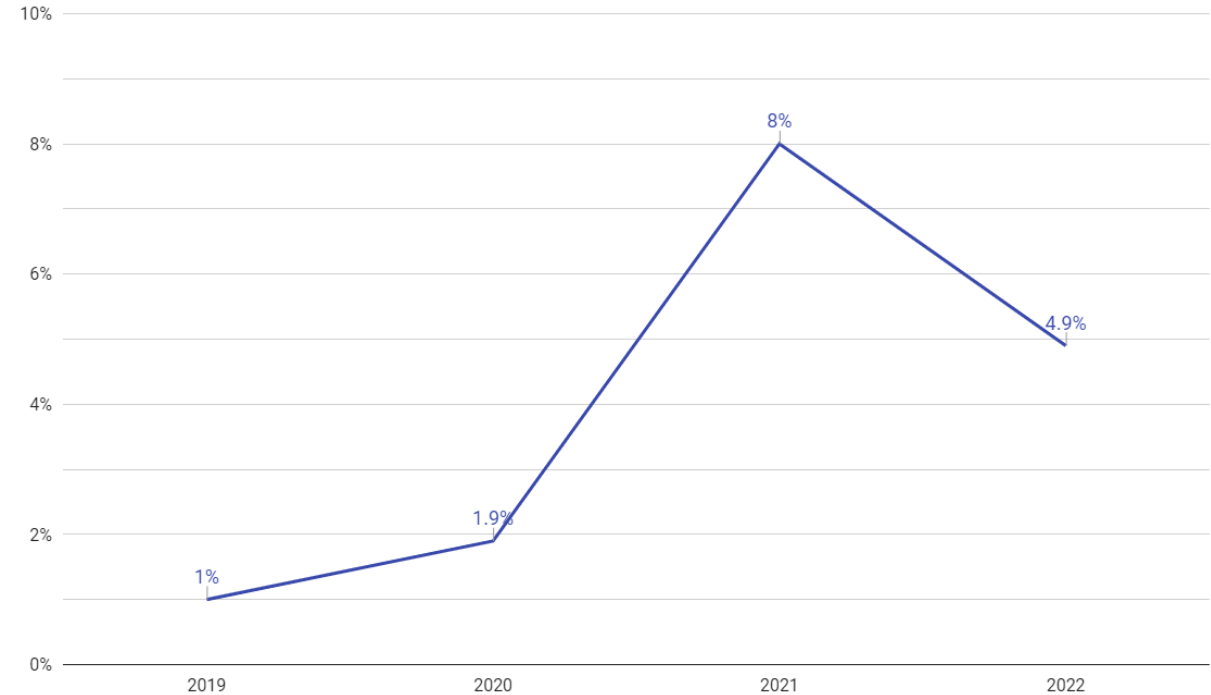
**5**

**DEBT DEFAULTS ARE INCREASING THROUGH COST OF LIVING CRISIS**

# Recent Macro Disruptions are Driving Debt Defaults



Amount of debt that has been defaulted on in South Africa from 2019 to 2023.

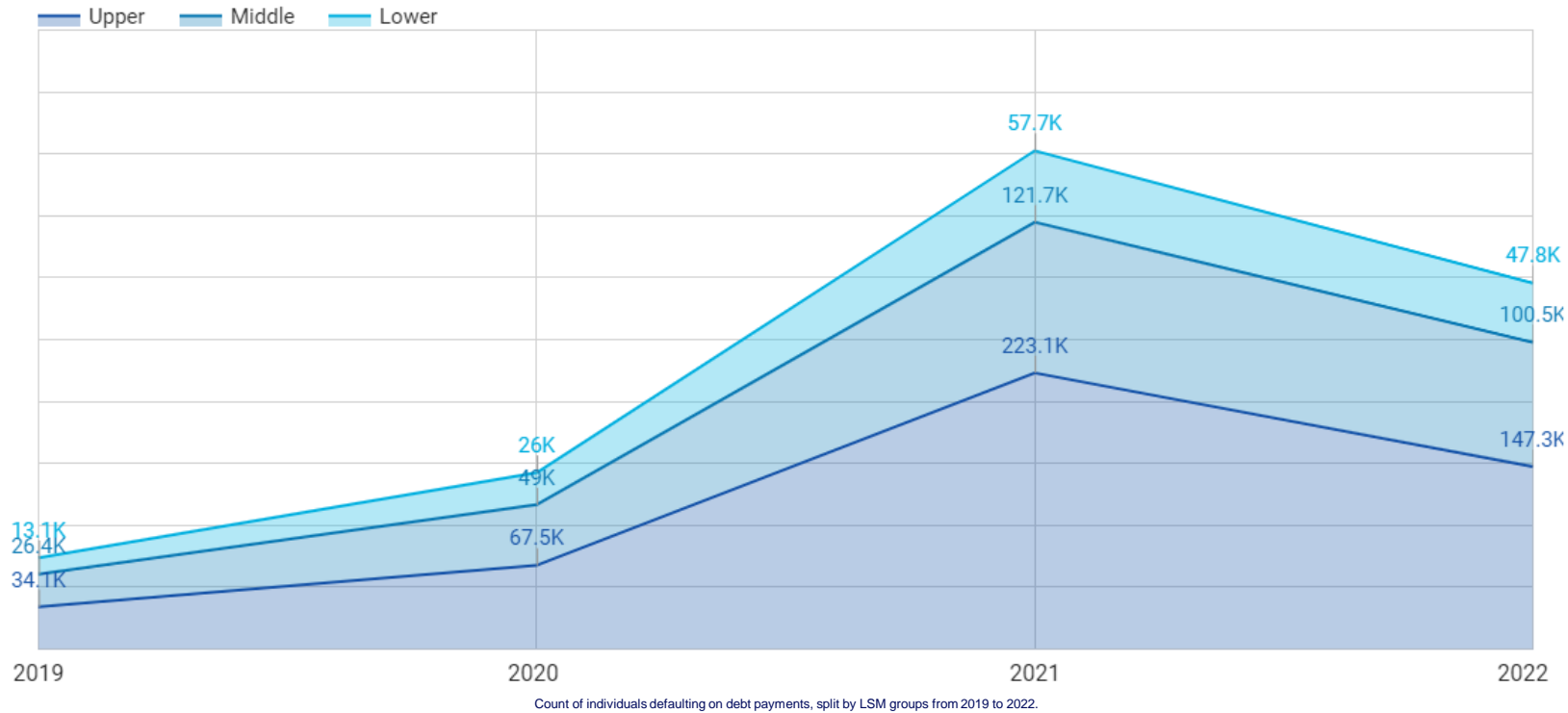


Defaulted debt as a percentage of total debt from 2019 to 2023.

- Defaulting debt hit a high in 2021 at over R123 billion
- Consumer has managed to slightly recover in 2022, but debt is still higher than it was in 2019
- 8% of total debt was defaulted on in 2021



# Middle and Lower LSM Groups Further Under Pressure

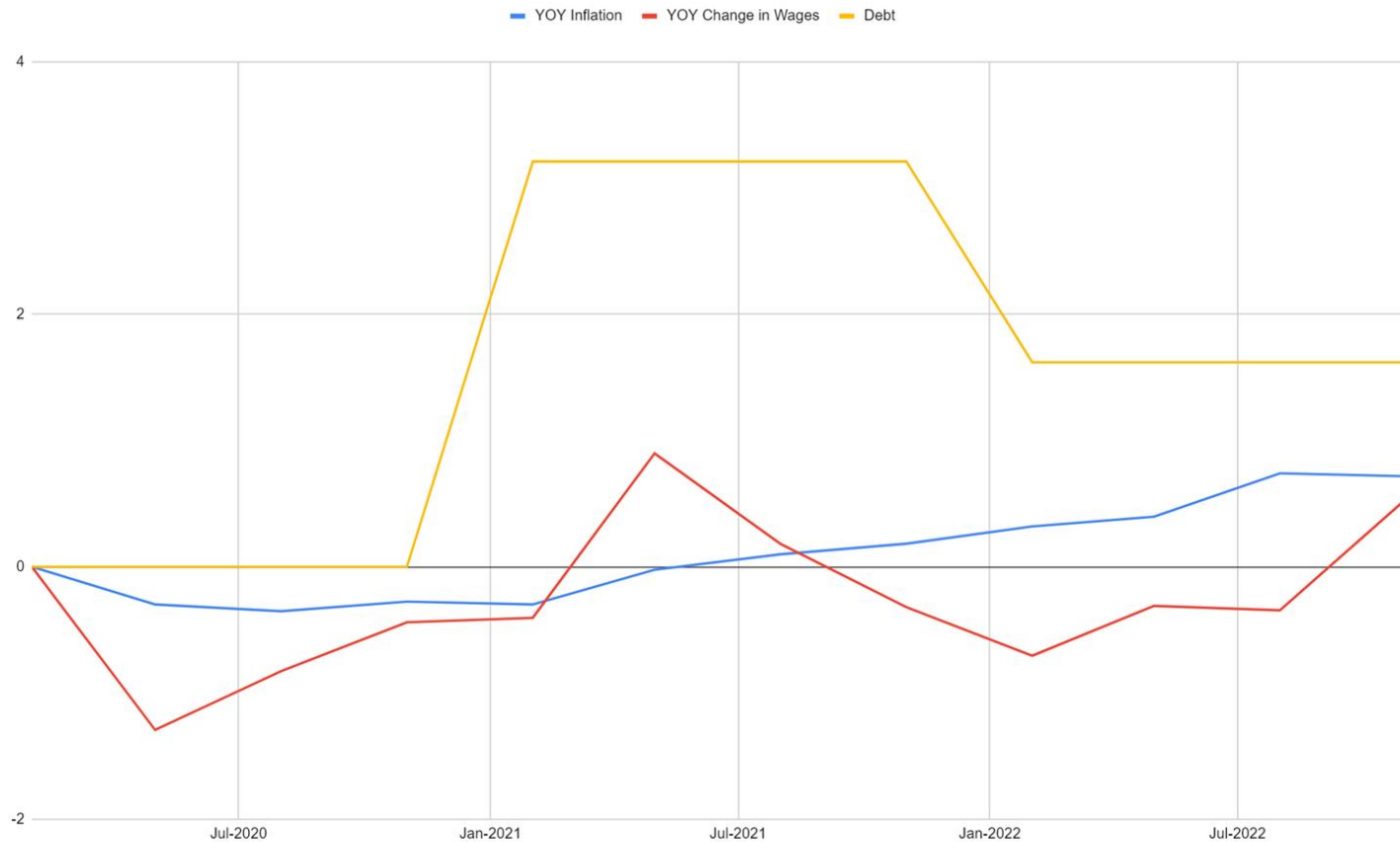


- Upper LSM group holds majority share of defaulting debt which is an element of having access to high value debt to begin with
- The lower and middle LSM groups are holding a higher proportion of defaulting debt than they used to

|               | 2019            | 2020            | 2021            | 2022            |
|---------------|-----------------|-----------------|-----------------|-----------------|
| <b>Upper</b>  | R11 060 375 570 | R18 863 613 302 | R83 719 099 128 | R46 078 917 764 |
| <b>Middle</b> | R 3 111 827 317 | R 5 797 444 160 | R22 950 289 926 | R17 561 990 837 |
| <b>Lower</b>  | R 1 186 837 434 | R 2 525 970 916 | R 9 475 118 962 | R 7 128 475 151 |

Rand value of defaulting debt held by LSM groups from 2019 to 2022.

# Wage Growth not keeping up with Inflation Rates



Year on year inflation, change in average wages and defaulting debt from early 2020 to end 2022.

- Inflation rate increases happen more steadily than increases in wages. Wage fluctuations are much more volatile
- Large increase in wages observed in 2021 which may have helped counteract the decreases seen in 2020
- Wage decreases of 2020 may have been what set up the high levels of defaulting debt seen in 2021



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Data and Technology In Real Life

# CONTACT US

Our approach fuses diverse datasets in groundbreaking ways, unveiling the present-day reality in unprecedented clarity. Our mission revolves around expanding access to goods, services, and knowledge for a broader audience across the globe.



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Offices in South Africa  
and Singapore





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**THANK YOU**  
FOR YOUR ATTENTION

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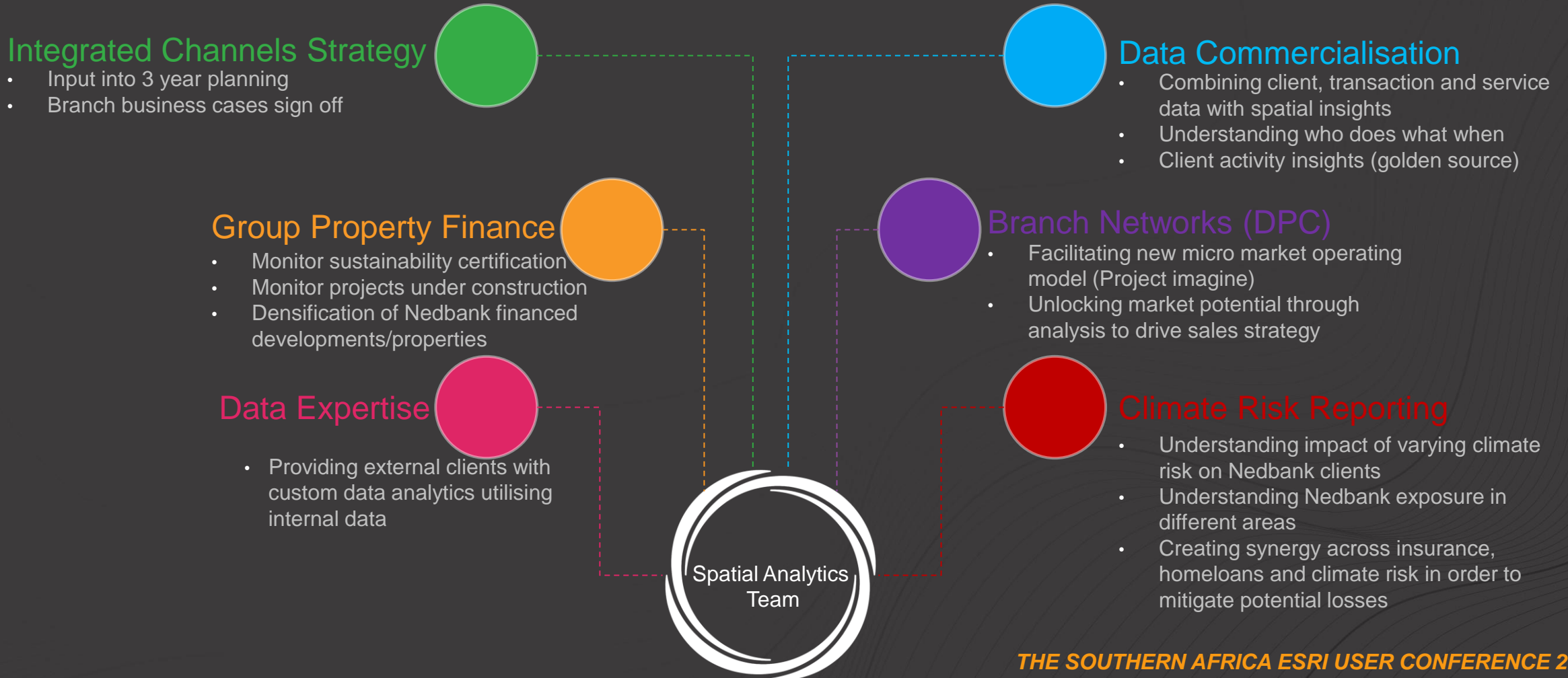
# The importance of spatial analysis within the Nedbank business decision making process

Katy Sonnekus  
Nedbank



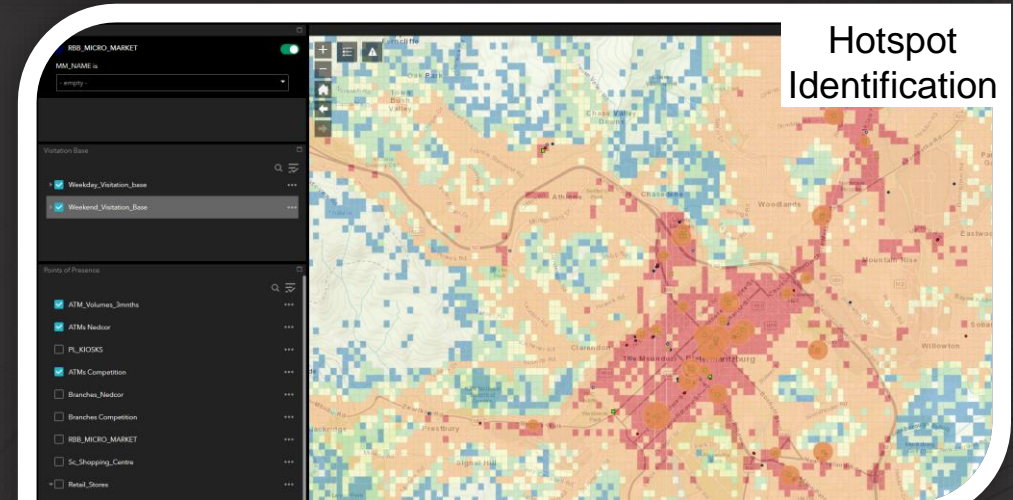
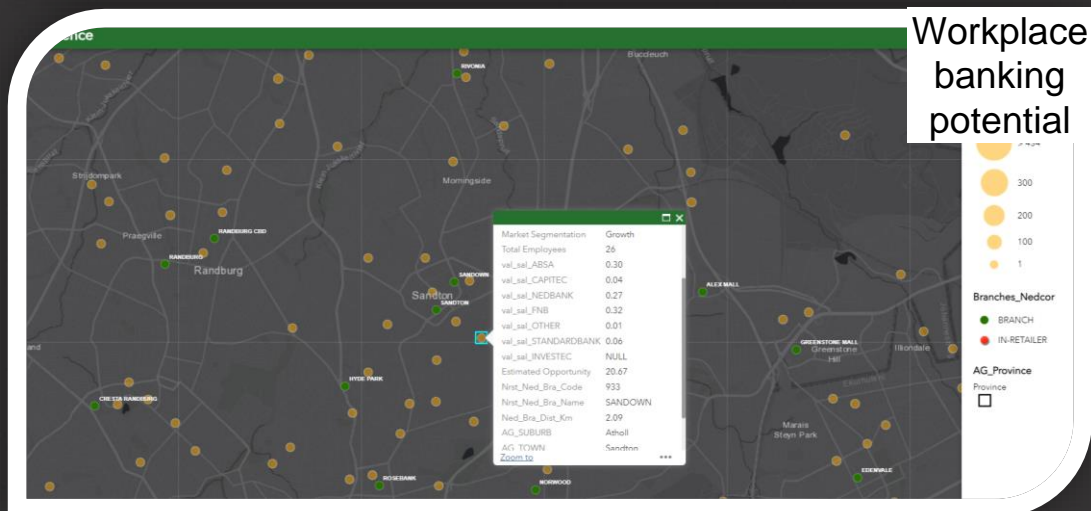
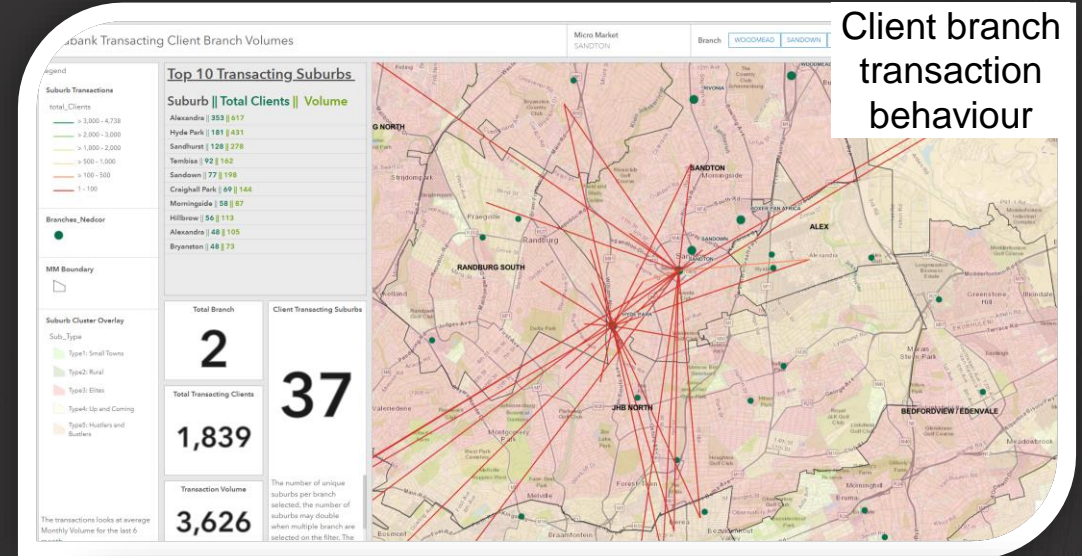
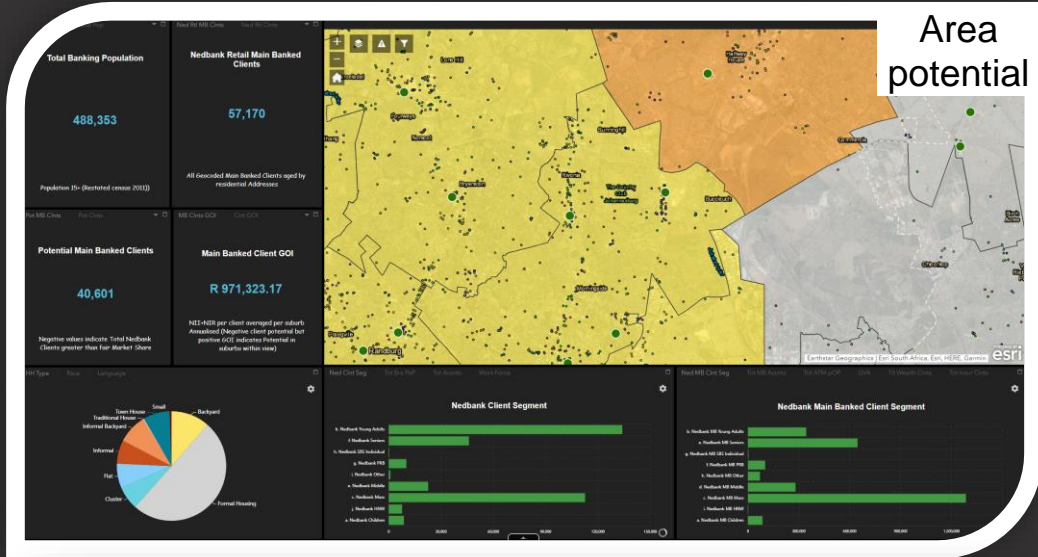


# Areas of the bank that make use of spatial data



# Integrated Channels Strategy

Using spatial data to inform, shape and monitor strategic objectives







**THE SOUTHERN AFRICA  
ESRI USER CONFERENCE  
2023**

**CONNECTING COMMUNITIES**

# Location Intelligence

## Getting ahead of the competition

Sean Cullen

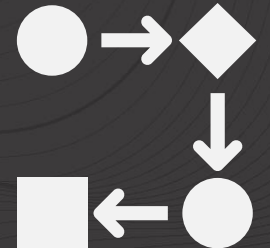
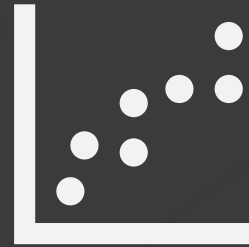




# Location, location, location



80%



# Site selection

## Challenge

- Vast amount of factors
- Vast amounts of data
- Incorporating your working formula
- Can't survey every site
- Automation

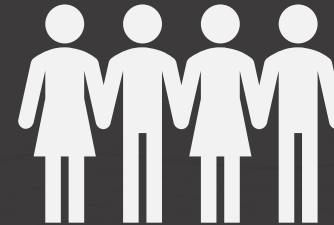
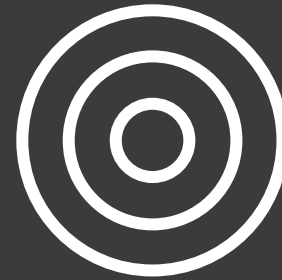


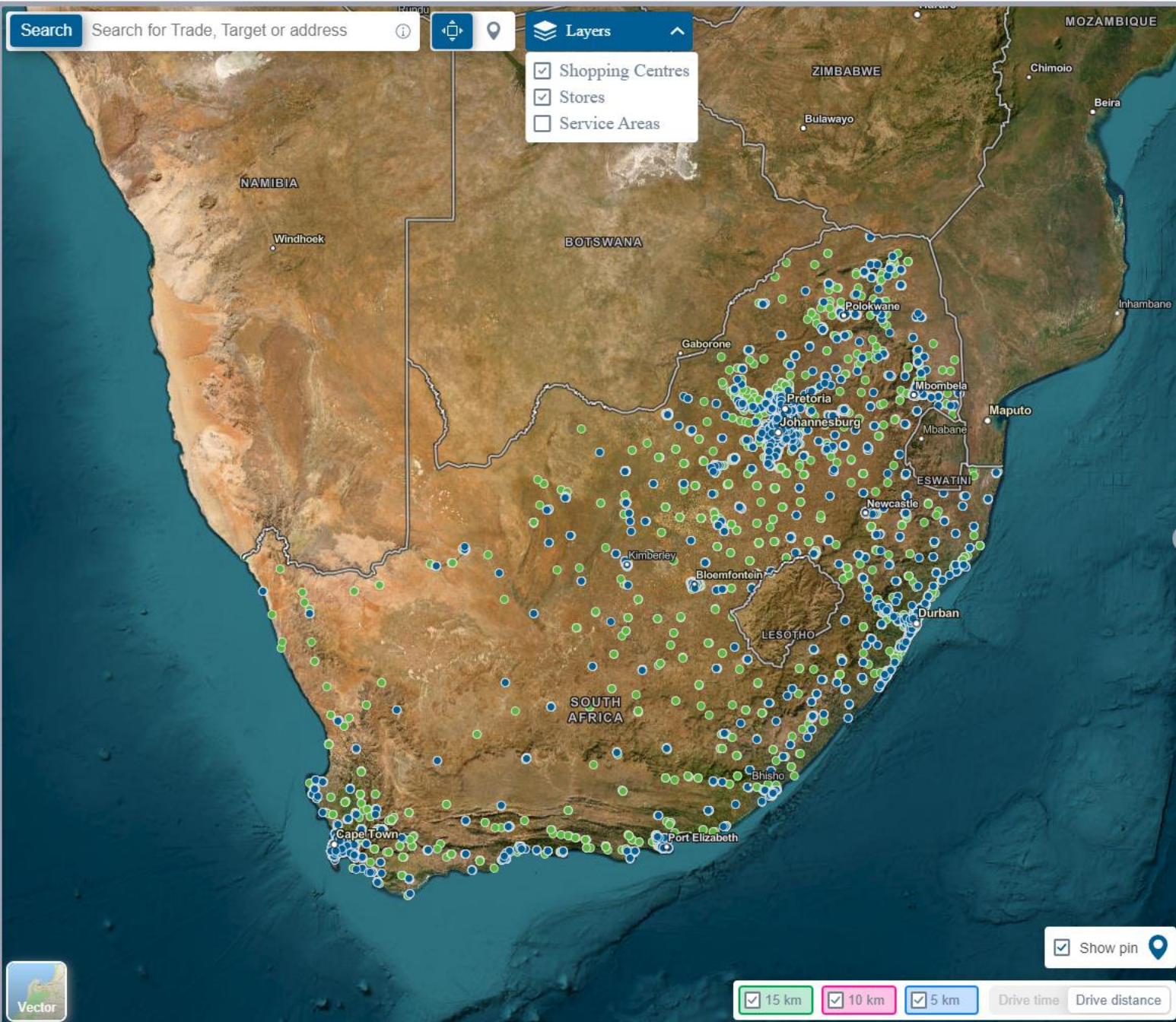
Restaurants – ATM's – Clinics – Anything really!

# Site selection

## Traditional

- Drop a pin
- Drive time - catchment
- Underlying demographics
- Report





### Create New Report

Site Location: Location not provided

Service Area:  Time  Distance  
5 km 10 km 15 km

Shopping Centre Type: Airport Retail

[Create Report](#)





**Create New Report**

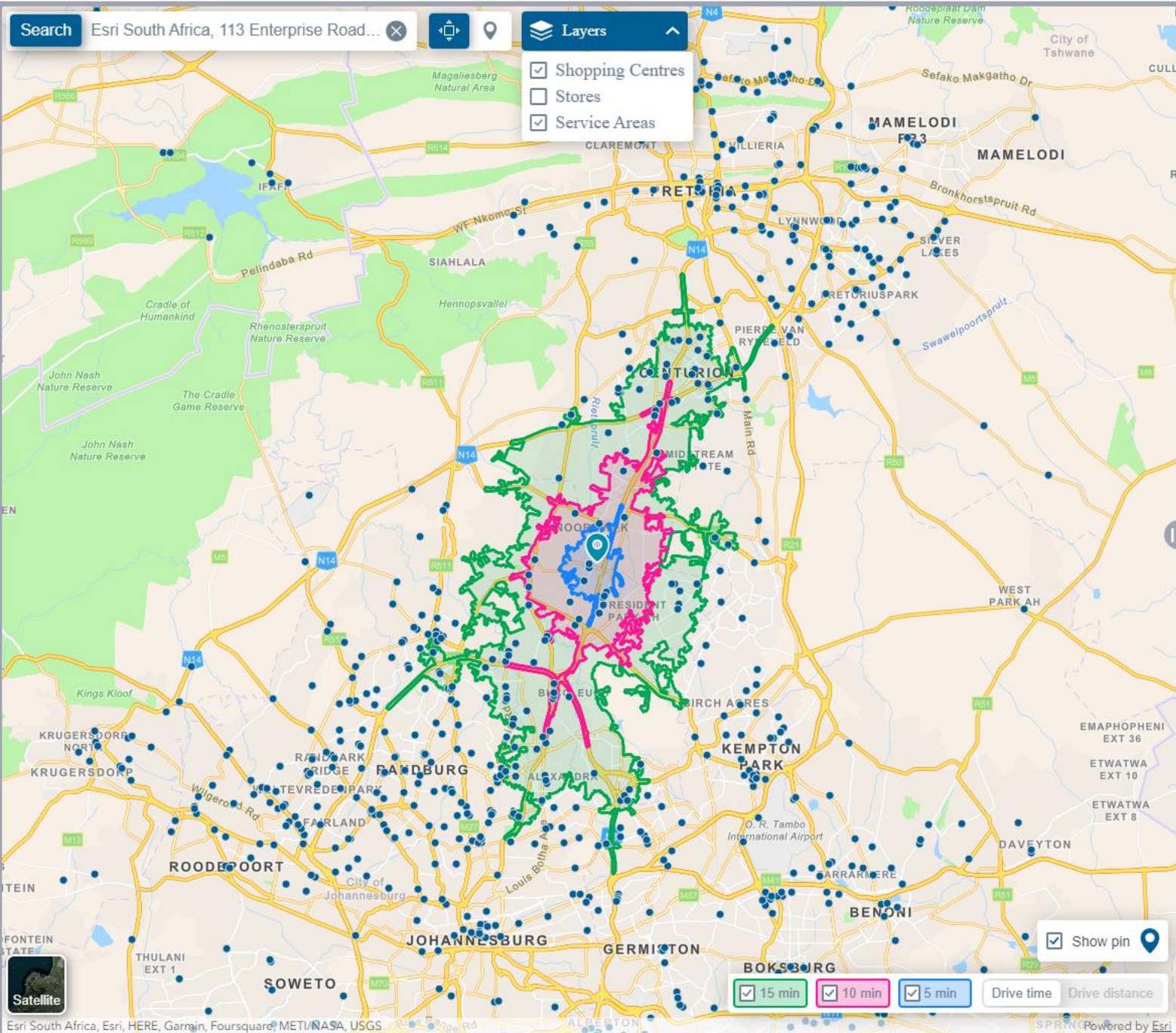
Site Location  
 Esri South Africa, 113 Enterprise Road, Mid...  
 28.122157008, -25.975684092

Service Area  
 Time  Distance  
 5 min 10 min 15 min

Shopping Centre Type  
 Regional Mall

**Create Report**





### Create New Report

**Site Location**  
 Esri South Africa, 113 Enterprise Road, Mid...  
 28.122157008, -25.975684092

**Service Area**  
 Time  Distance  
 5 min 10 min 15 min

**Shopping Centre Type**  
 Regional Mall

**Create Report**

### esri South Africa Site Assessment Report

Enterprise Ave, Midridge Park, Midrand, Johannesburg, 1687 - 5 min  
 Date: 2023/10/06

**Legend**

- Click Point
- Adjacent Trade
- Competitor
- Anchor Site
- Service Area

### esri South Africa Site Assessment Report

Enterprise Ave, Midridge Park, Midrand, Johannesburg, 1687 - 5 min  
 Date: 2023/10/06

Page 1 of 5  
 Proprietary Data Sources: HERE, South African Council of Shopping Centres (SACSC)  
 Icons in this report were designed using images from [Esri.com](#)

**Demographics** | **Expenditure** | **POI Summary** | **Store Similarity** | **Glossary**

**Age Distribution**

| Category   | Value  |
|------------|--------|
| Site       | 41 054 |
| Population | 14 954 |
| Households | 2.75   |



Demographics

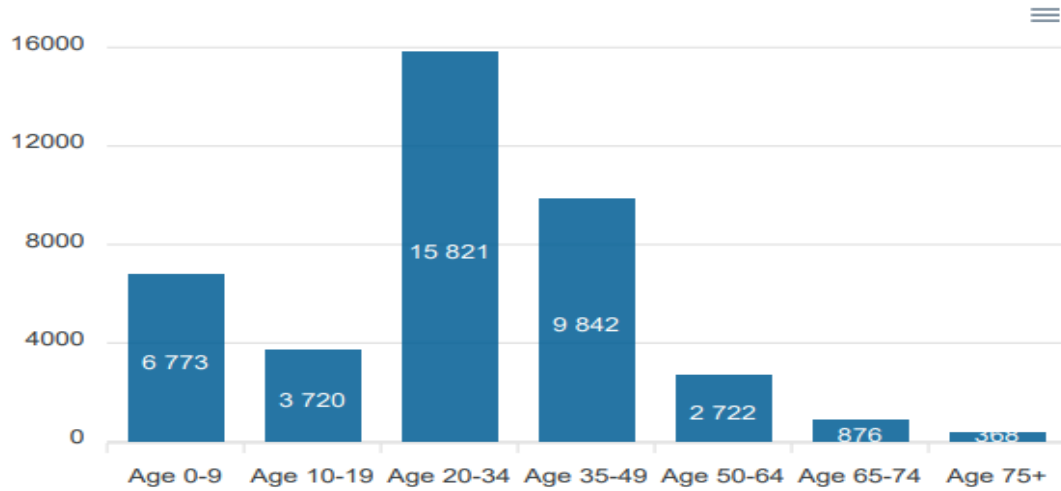
Expenditure

POI Summary

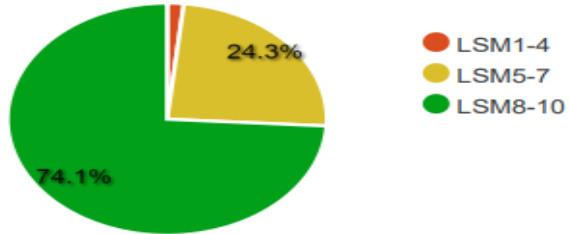
Store Similarity

Glossary

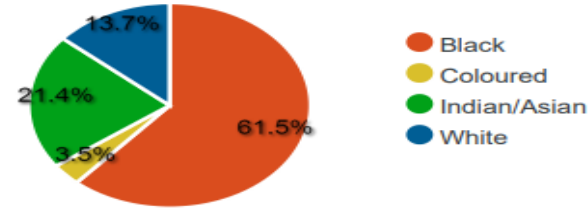
Age Distribution



LSM Distribution

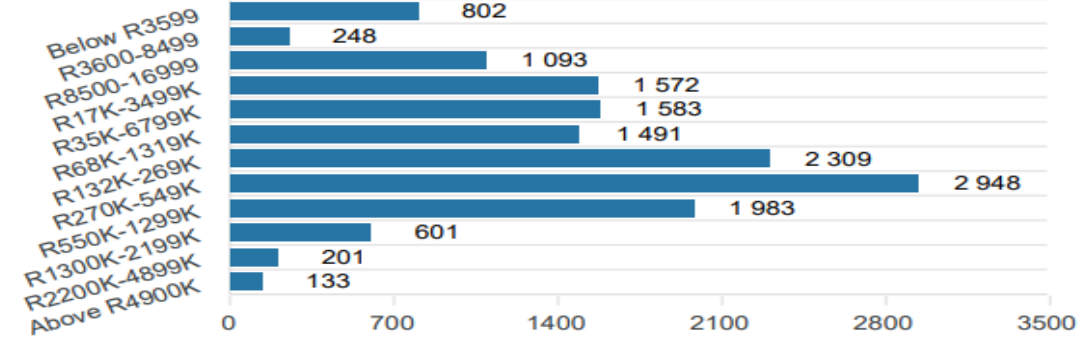


Racial Profile



Household Income

\* where K denotes thousands



|                              | Population | Households | Household Size |
|------------------------------|------------|------------|----------------|
| <b>Site</b>                  | 41 054     | 14 954     | 2.75           |
| <b>Local Municipality</b>    | 6 004 701  | 1 811 320  | 3.32           |
| <b>District Municipality</b> | 6 004 701  | 1 811 320  | 3.32           |
| <b>Province</b>              | 15 785 011 | 4 759 784  | 3.32           |
| <b>South Africa</b>          | 60 226 470 | 16 306 837 | 3.69           |

| Daily Visitation Metrics for Service Area  |               |                  |
|--|---------------|------------------|
| Migration In & Out (Net Inflow)  | Avg. Visitors | Footfall Density |
| <p><b>136570</b></p> <p>There are <b>more</b> people during the day than during the night.</p> | 176 679       | 99 570           |

Demographics

**Expenditure**

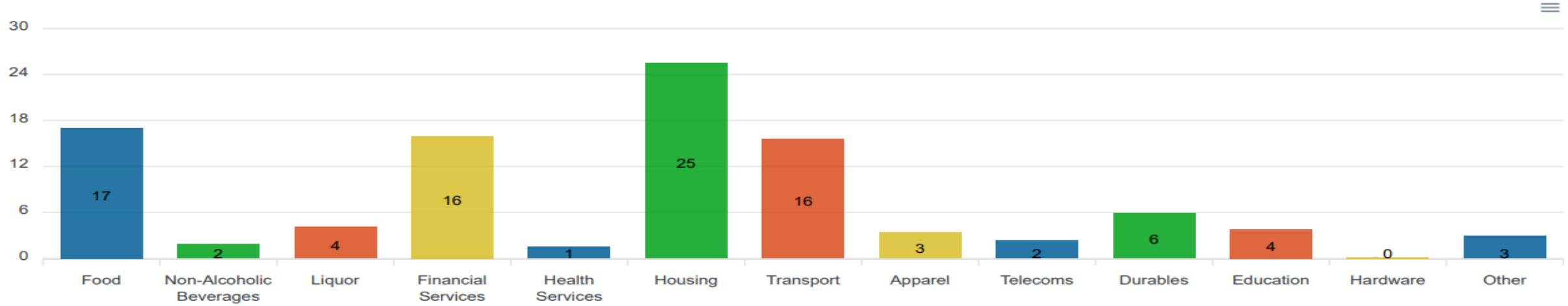
POI Summary

Store Similarity

Glossary

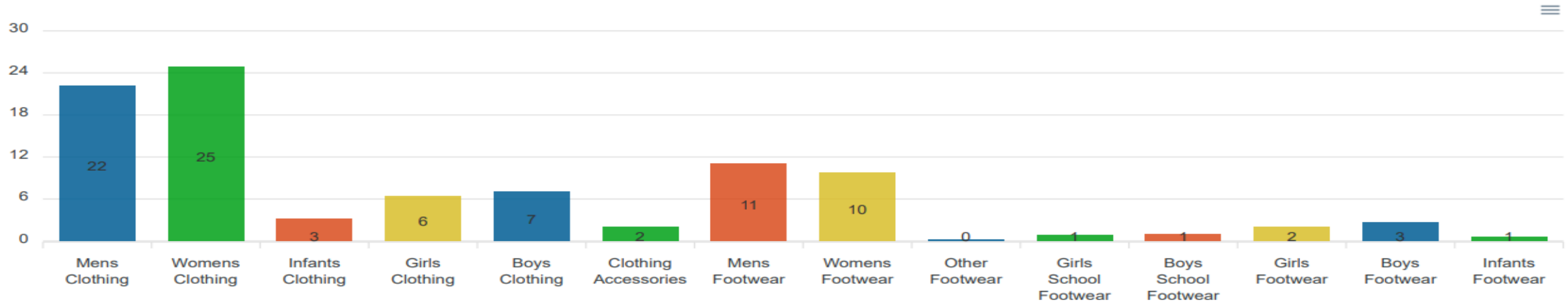
## Expenditure Breakdown (% of Total Spend)

Total Expenditure: R11 746 171 000



## Apparel Expenditure (% of Total Apparel Spend)

Total Apparel Expenditure: R397 502 000



Demographics

Expenditure

**POI Summary**

Store Similarity

Glossary

**Shopping Centre Types**



**Summary**



**4** Shopping Centres



**8** Competitor Stores

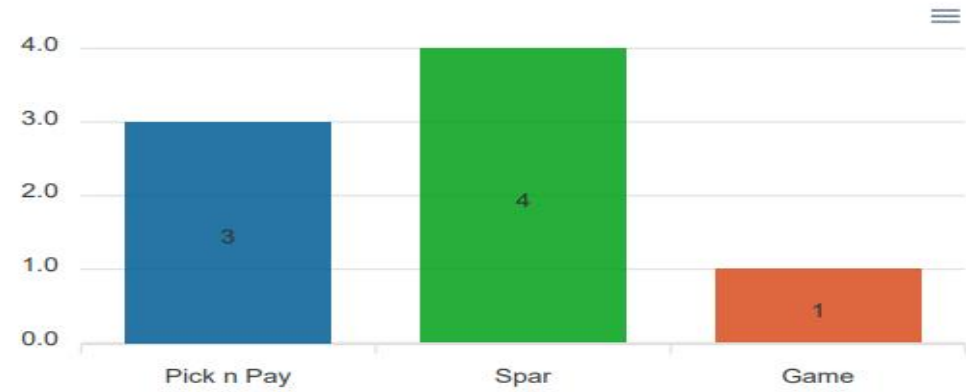


**3** Anchor Sites

**Anchor Sites**



**Competitor Stores**



Demographics

Expenditure

POI Summary

Store Similarity

Glossary

**Table 1: Closest Regional Mall (0 total)**

| Rank | Mall/Centre Name | Distance (km) | Rank | Mall/Centre Name | Distance (km) |
|------|------------------|---------------|------|------------------|---------------|
|------|------------------|---------------|------|------------------|---------------|

**Table 2: Closest Competitor Stores (showing maximum of 6)**

| Rank | Competitor | Mall/Centre Name           | Distance (km) | Rank | Competitor | Mall/Centre Name | Distance (km) |
|------|------------|----------------------------|---------------|------|------------|------------------|---------------|
| 1    | Pick n Pay | San Ridge Square           | 0.54          | 4    | SPAR       | Unknown          | 1.31          |
| 2    | SUPERSPAR  | Carlswald Lifestyle Centre | 0.66          | 5    | Pick n Pay | Midway Mews      | 1.59          |
| 3    | SUPERSPAR  | Unknown                    | 1.25          | 6    | Game       | Unknown          | 1.66          |

**Table 3: Closest Anchor Sites (showing maximum of 6)**

| Rank | Anchor Site | Store Type    | Distance (km) | Rank | Anchor Site | Store Type | Distance (km) |
|------|-------------|---------------|---------------|------|-------------|------------|---------------|
| 1    | Pick n Pay  | Grocery Store | 0.54          |      |             |            |               |
| 2    | Pick n Pay  | Grocery Store | 1.59          |      |             |            |               |
| 3    | Pick n Pay  | Grocery Store | 2.28          |      |             |            |               |



Demographics

Expenditure

POI Summary

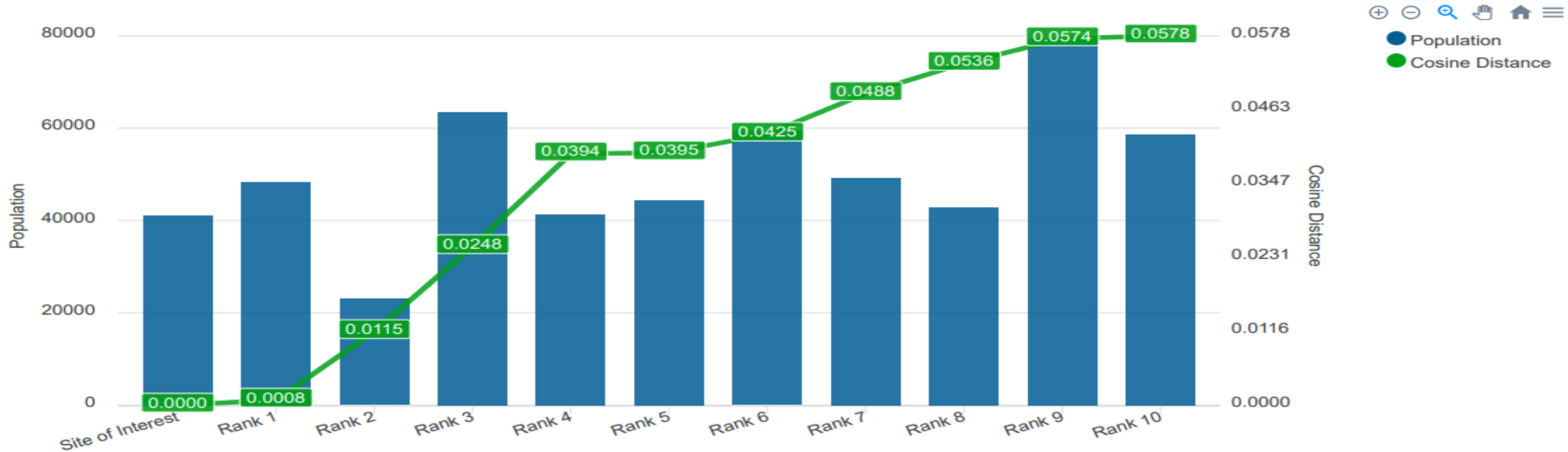
Store Similarity

Glossary

## Top 10 Most Similar Centres (Centre Classification: Regional Mall)

| Rank | Mall/Centre Name                                | Population | Rank | Mall/Centre Name                  | Population |
|------|---|------------|------|-----------------------------------|------------|
| 1    | 1367 - The Boulders Shopping Centre             | 48 349     | 6    | 78 - Bedford Centre               | 59 413     |
| 2    | 1903 - Forest Hill City Mall (Forest Hill Mall) | 23 011     | 7    | 1325 - Stoneridge Centre          | 49 161     |
| 3    | 1585 - Westwood Mall                            | 63 530     | 8    | 517 - Hemingways Mall             | 42 884     |
| 4    | 1013 - Pine Crest Centre                        | 41 294     | 9    | 477 - Golden Walk Shopping Centre | 79 512     |
| 5    | 1132 - Savannah Mall                            | 44 393     | 10   | 59 - Balfour Mall                 | 58 589     |

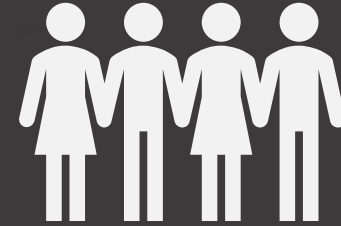
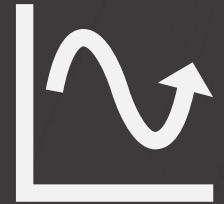
## Centre Comparison



# Site selection

## Elevated

- Drop a pin
- Previous analysis points and reports
- Drive time - catchment
- Underlying demographics
- Cannibalization
  - Movement data
- Cosine similarity
  - Azure deep learning on sales data
- Report



# Insurance

## Challenge

- Identifying the correct risk address
- Reduce exposure
- Proactive response

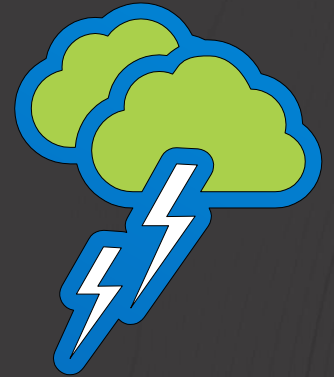


- Underwriters – Risk surveyors – Disaster response – Facility Management

# Insurance

## Traditional

- Geocoding policies
- Sum insure and exposure
- Areas of risk
  - Peril data
  - Proximity to other buildings
- Underwriting report



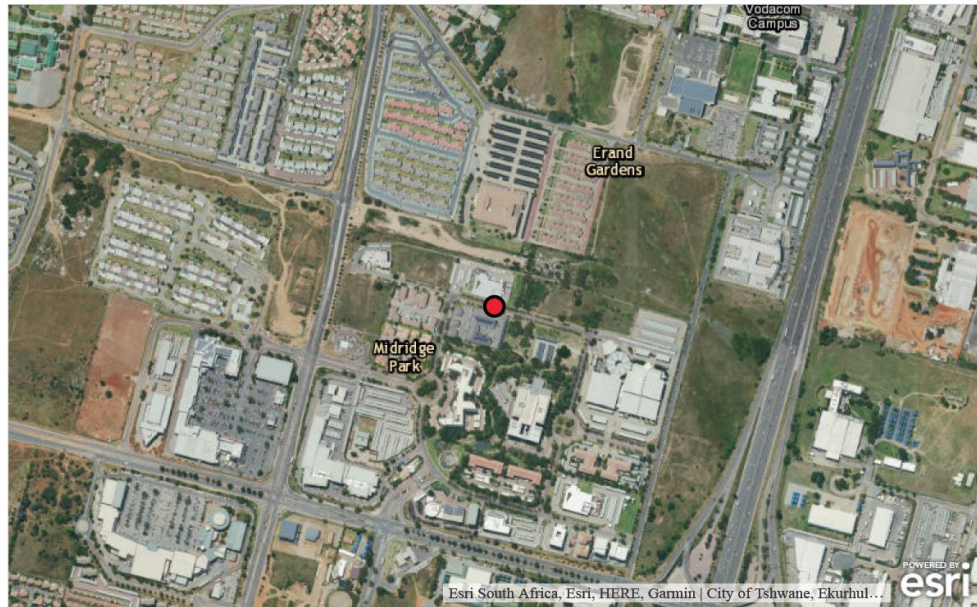
Report Information

|                     |                                      |           |                                |
|---------------------|--------------------------------------|-----------|--------------------------------|
| Policy Holder Name: | Sean                                 | Date:     | Friday, 06 March 2020 17:52:39 |
| Reference Number:   | 5b9e9006-2ab7-4544-9a4d-f76c33562ca2 | Username: | admin.x                        |
| Weighting Category: | Default                              |           |                                |

Disclaimer

By accessing report, you agree to be bound by the following terms and conditions: <https://www.esri-southafrica.com/reportdisclaimer/>

Geocoding



|                  |   |             |                   |
|------------------|---|-------------|-------------------|
| Geocoded Address | Enterprise Ave, Midridge Park, Midrand, Johannesburg, Gauteng, 1687 | Latitude    | -25.9753487692879 |
| Postal Code      | 1687  | Longitude   | 28.12234465293195 |
|                  |   | Cresta Zone | 7                 |

Street View Information



Scan this QR code to view an interactive Street View of the report location if available

Or go directly to this link <http://tinyurl.com/xy6tblp>

Peril Summary

All perils listed below have been reclassified into categories from 1 to 5. A 1 would indicate an area with the lowest risk, while 5 would indicate areas with the highest risk.

Flooding: 1 indicates areas that are not within a 2m flood risk potential area. 5 indicates areas that are within a 2m Flood Risk Potential area.

Lightning has been reclassified into groups of 10 lightning strikes. A rating of 2 would indicate between 11 and 20 lightning strikes per year on average.

Hail: 1 = 1 Hail day per year (HDY), 2 = 2 HDY, 3 = 4 HDY, 4 = 6 HDY and 5 = 6 HDY.

Dolomite: 1 indicates areas that have no dolomitic lithology. 5 indicates areas that have dolomitic lithology.

Fire data has been broken into equal intervals with a maximum count of 91 fires within a year.

The crime data has been normalised on the population count, then multiplied by 10 000 and then reclassified into 5 classes based on natural breaks.

| Peril  | Risk Score |
|--|------------|
| Flood  | 1          |
| Lightning  | 3          |
| Hail   | 3          |
| Dolomite (Geology)                                       | 1          |
| Fire   | 1          |
| Crime: Burglary at non-residential premises (BNRPRisk)   | 2          |
| Crime: Burglary at residential premises (BRPRisk)        | 2          |
| Crime: Malicious damage to property (MDPRisk)            | 2          |
| Crime: Property related crime (PRCRisk)                  | 2          |
| Crime: Robbery with aggravating circumstances (RNRPRisk) | 3          |
| Crime: Robbery at residential premises (RRRPRisk)        | 4          |
| Crime: Shoplifting (SHOPLRisk)                           | 2          |
| Overall Risk Score                                       | 22 %       |

Nearest Police Stations

| Police Station   | Approximate Distance |
|------------------|----------------------|
| Midrand          | 2.36 km              |
| Olievenhoutbosch | 8.96 km              |
| Rabie Ridge      | 9.61 km              |

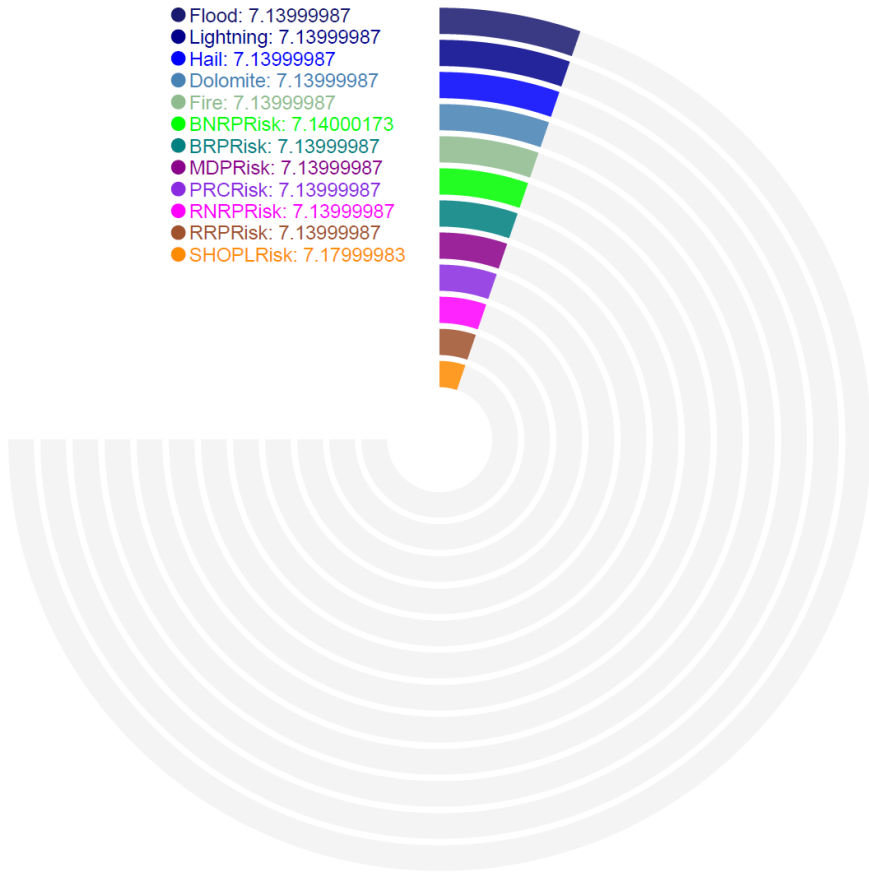
Nearest Fire Stations

| Fire Station           | Approximate Distance |
|------------------------|----------------------|
| Lonehill               | 12.51 km             |
| Fire Station           | 15.46 km             |
| Alexandra Fire Station | 17.14 km             |

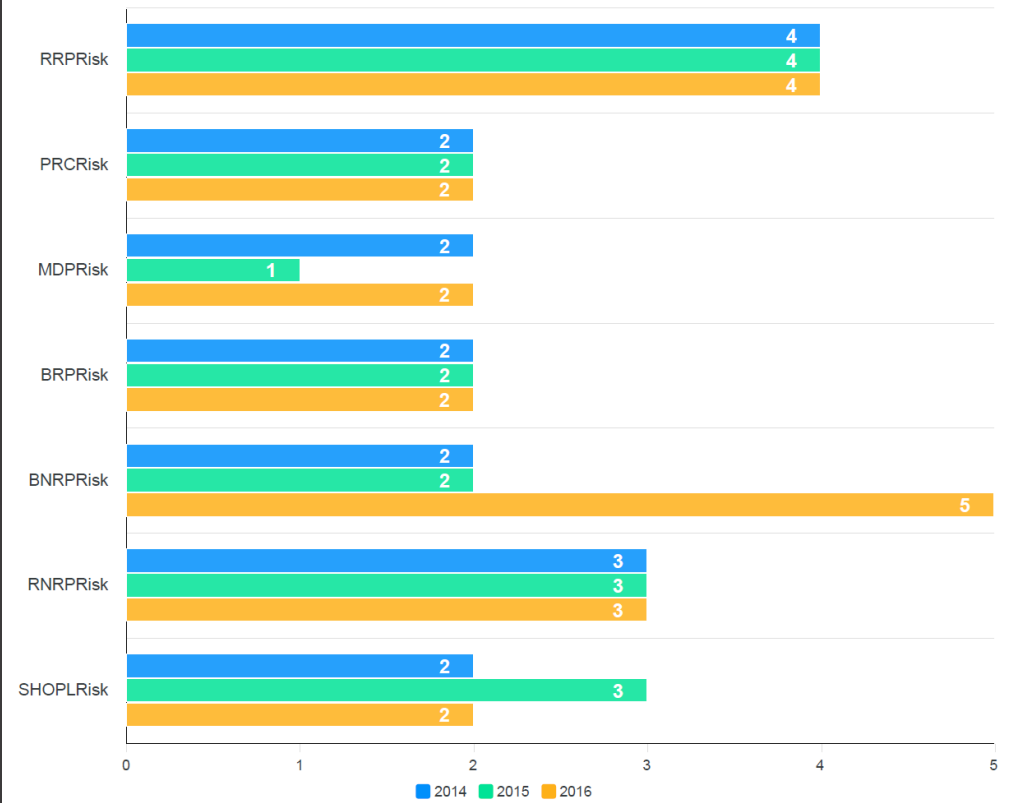


Peril Weightings: Default

- Flood: 7.13999987
- Lightning: 7.13999987
- Hail: 7.13999987
- Dolomite: 7.13999987
- Fire: 7.13999987
- BNRPRisk: 7.14000173
- BRPRisk: 7.13999987
- MDPRisk: 7.13999987
- PRCRrisk: 7.13999987
- RNRPRisk: 7.13999987
- RRPRisk: 7.13999987
- SHOPLRisk: 7.17999983



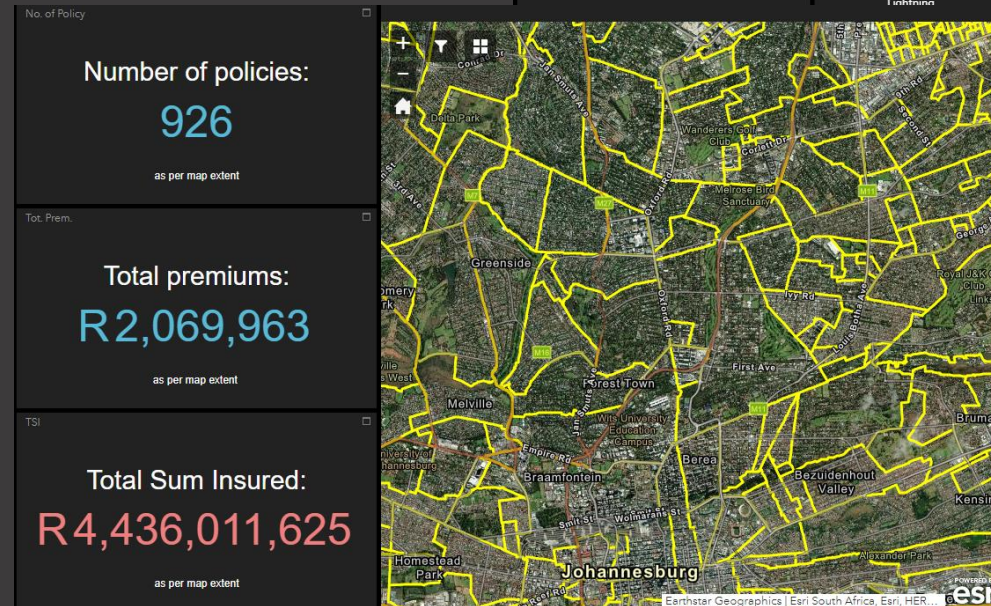
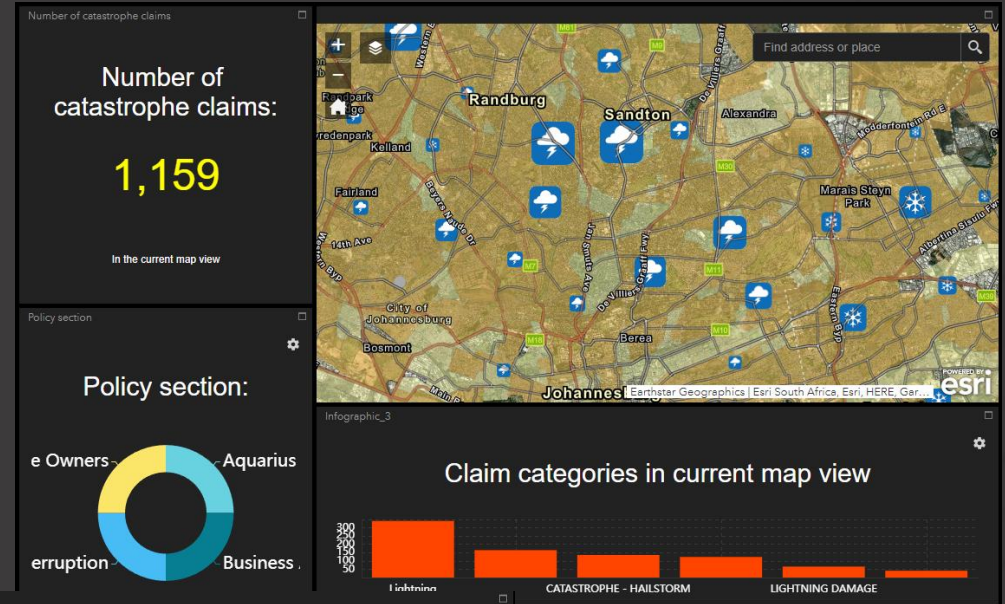
Crime Risk Over a 3 Year Period



# Pre-Risk Reporting

Elevated

- Claims data
- Custom risk areas
- Interactive drawing tools
- Exposure
- Prevent loss
- Reduce risk



# Logistics

## Challenge

- Cut costs
- Increase efficiency
- Network optimization
- Increase market share



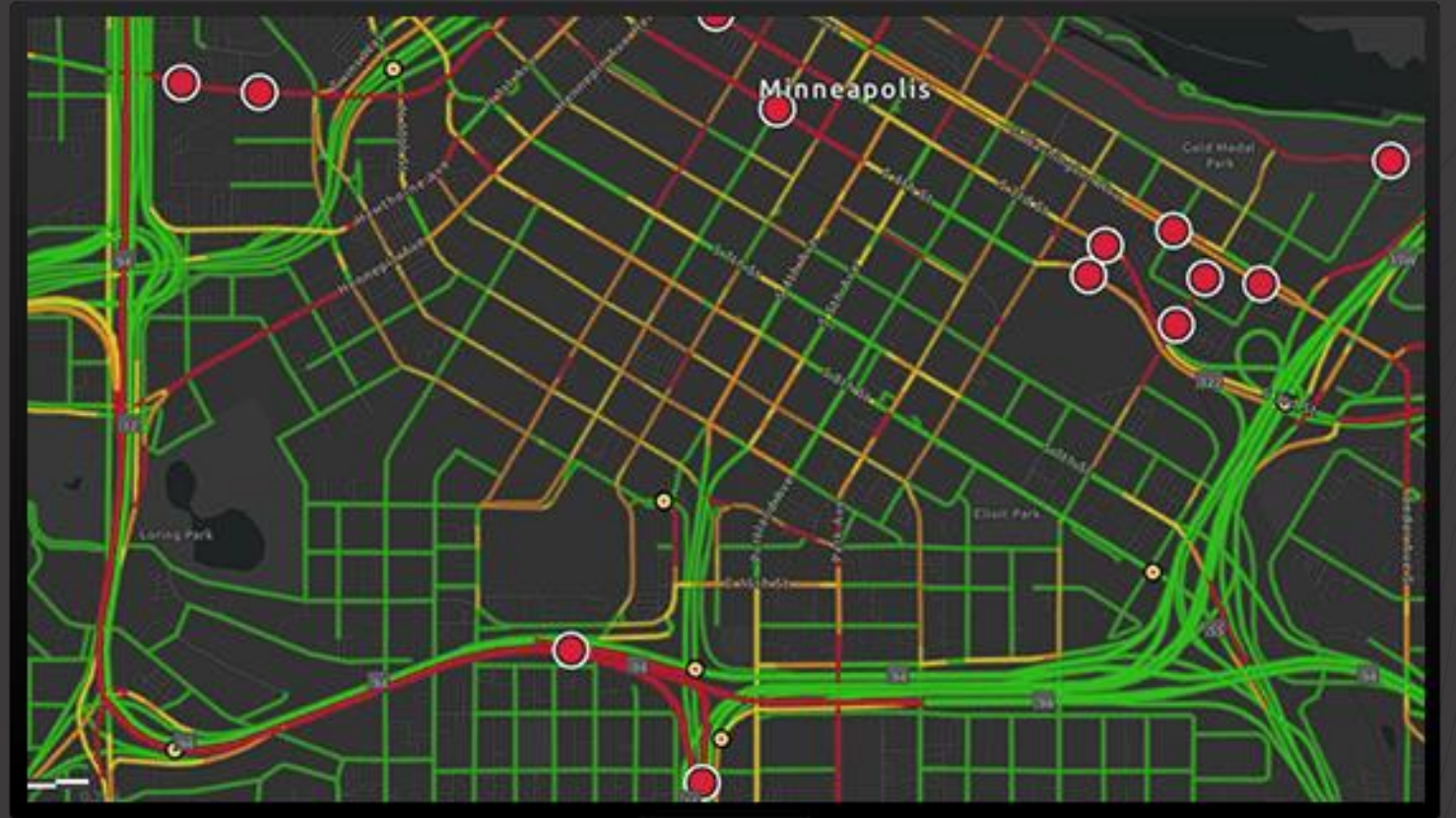
- Retailers – Cash in Transit – FMCG – Services (Health)



# Logistics

## Traditional

- Geocode delivery locations
- Plot out delivery locations
- Vehicle routing problem
- Assign routes



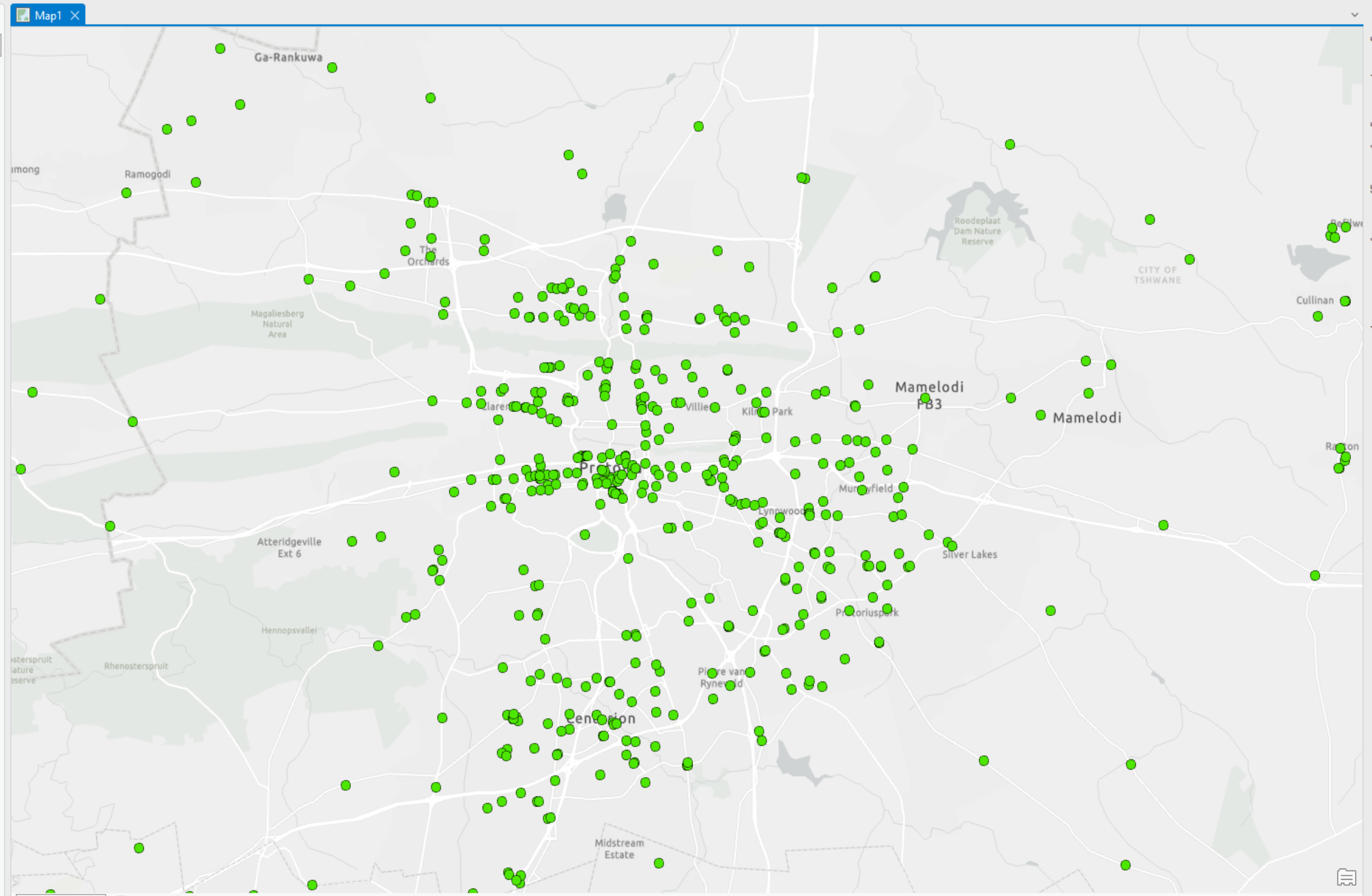


Contents

Search

Drawing Order

- Map1
  - Vehicle Routing Problem
  - Potential customers
  - Customers
  - Light Gray Reference
  - Light Gray Base

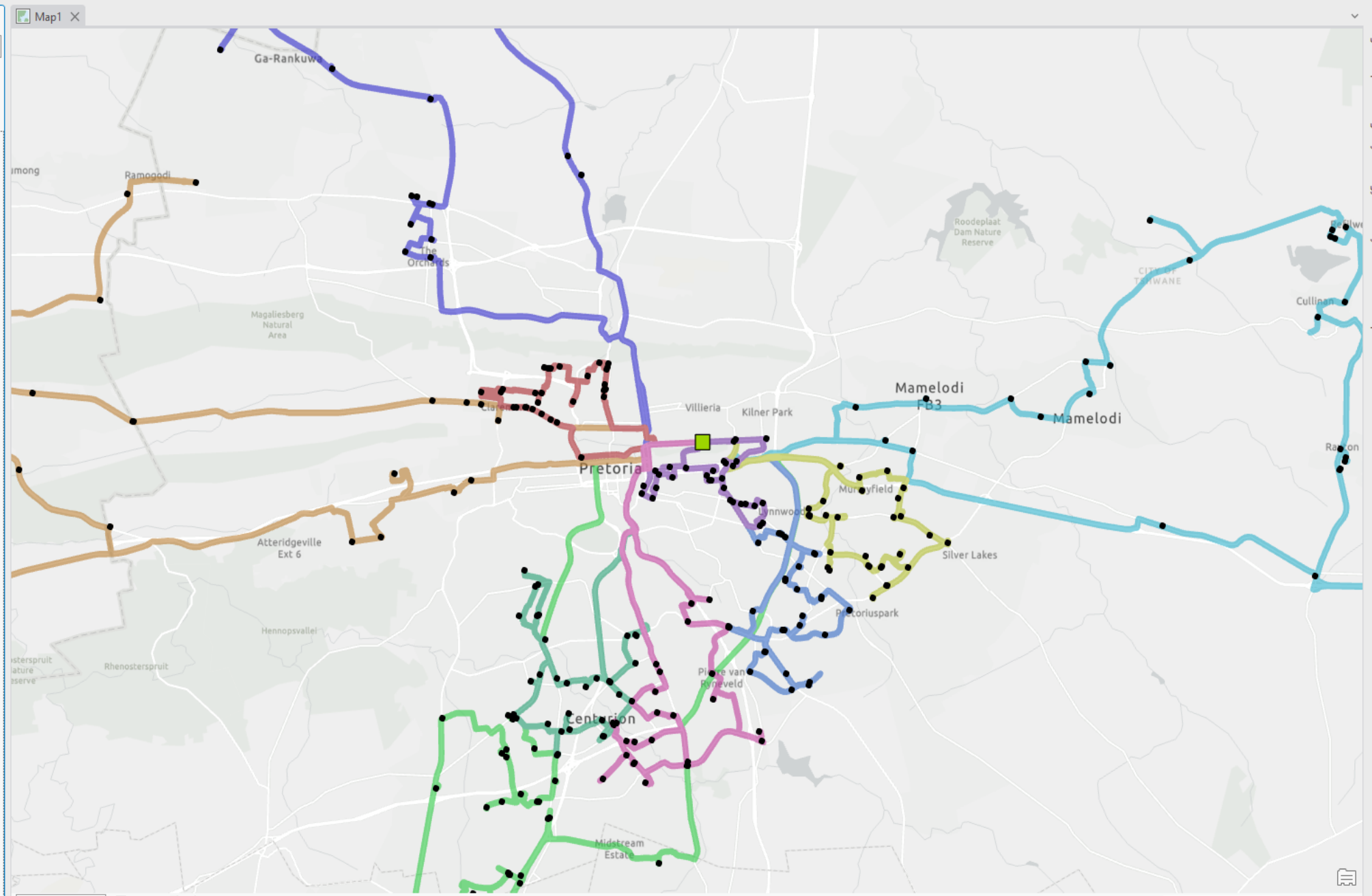


**Contents** [Map1 X]

Search [ ]

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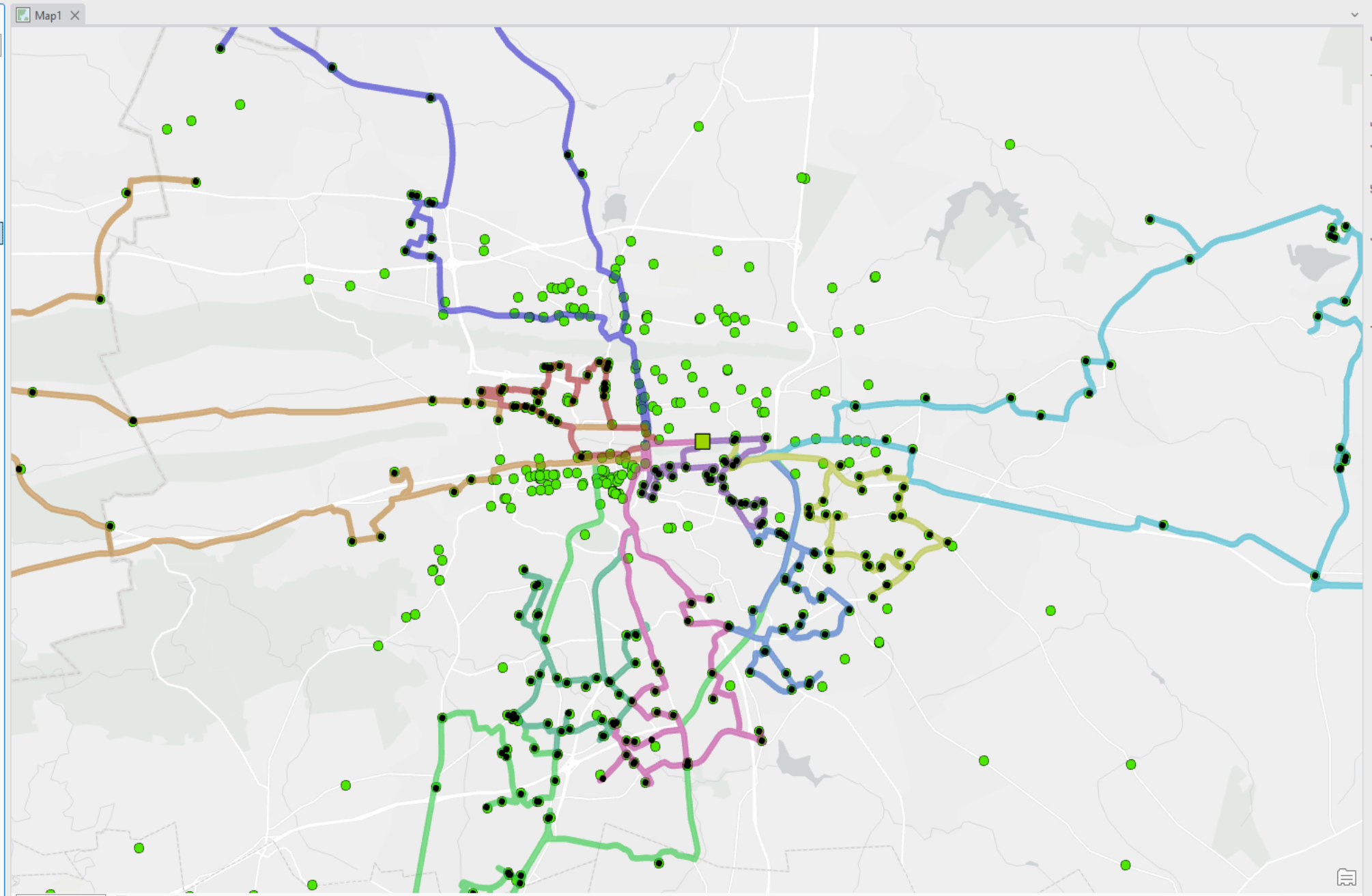


**Contents**

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  - Potential customers
  - Customers
  - Demographic Universe
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    - Light Gray Base



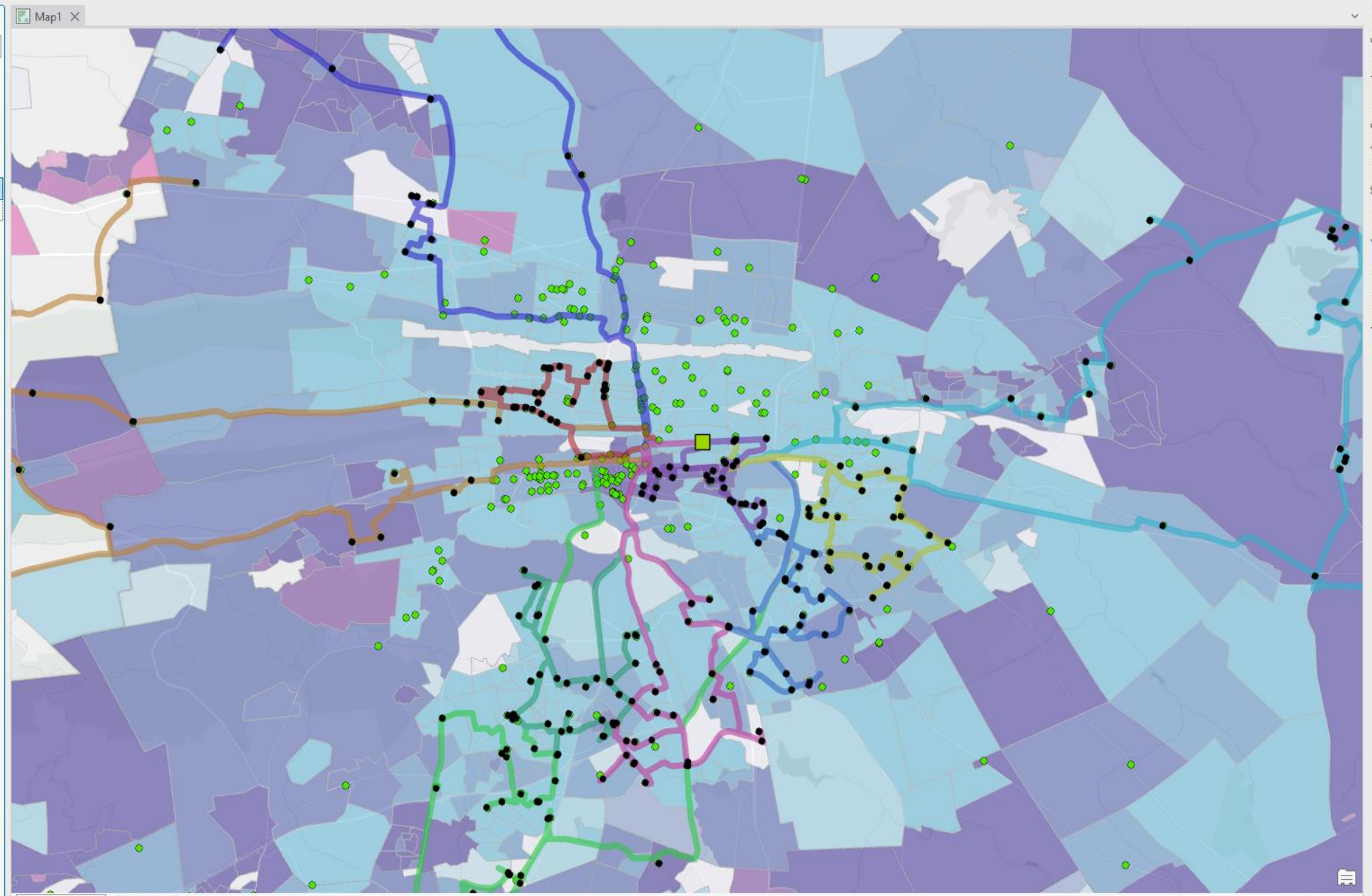


### Contents

Search

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    - Customers
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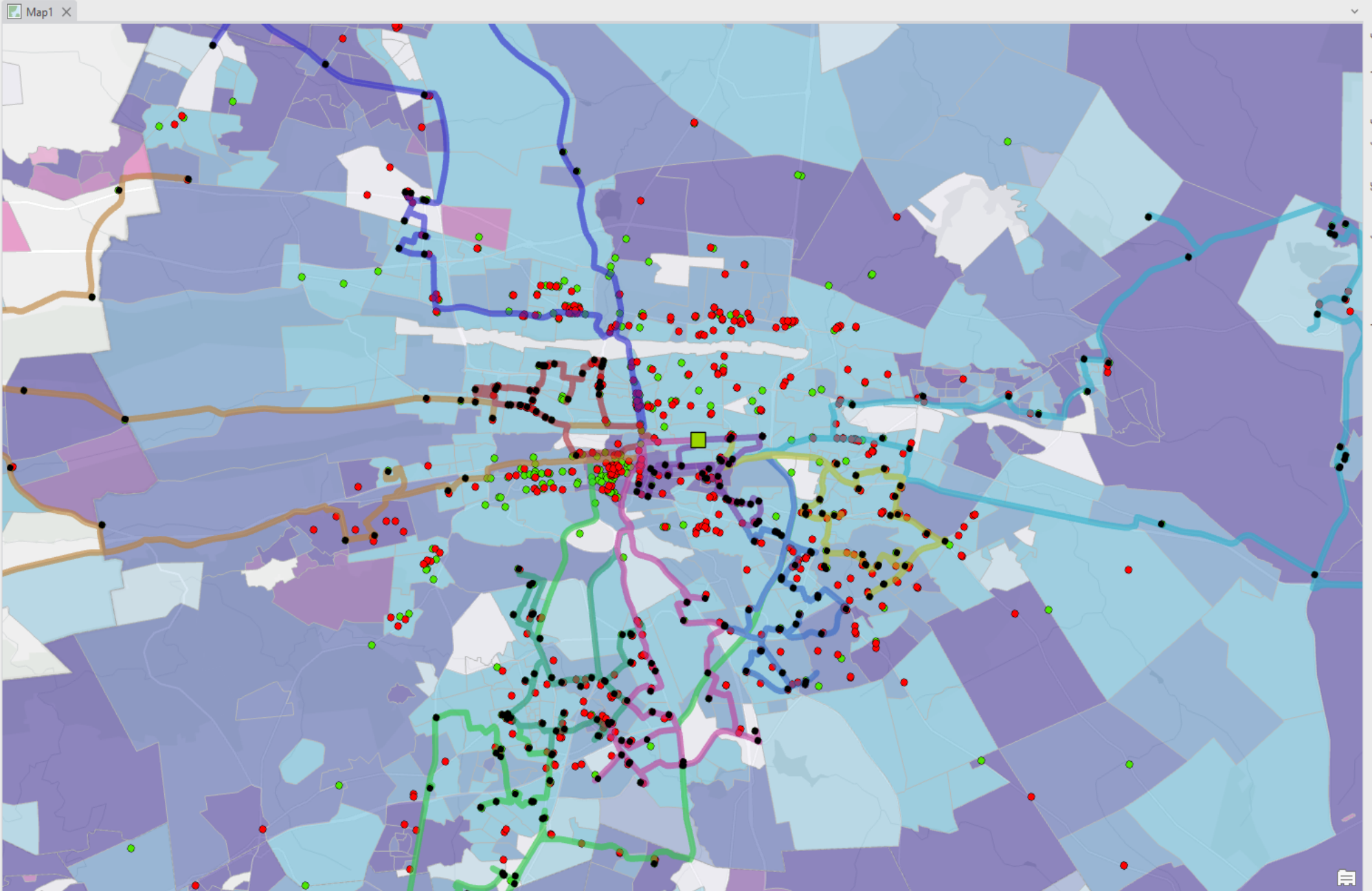
Contents

Search



Drawing Order

- Map1
  - Vehicle Routing Problem
  - Potential customers
    -
  - Customers
    -
  - Demographic Universe
    - Light Gray Reference
    - Light Gray Base



# Logistics

## Elevated

- Geocode delivery locations
  - Mobile device capture
- Plot out delivery locations
- Vehicle routing problem
- Assign routes
  - Find unserved customers
- Verify product offering
  - Segment the population
  - Is there capacity for more of a product with the same delivery?
  - Can I dedicate a resource to one product?



# Real Estate

## Challenge

- Work from home
- Vacant offices
- Access to your market
- Access to resources (staff)
- Decentralisation

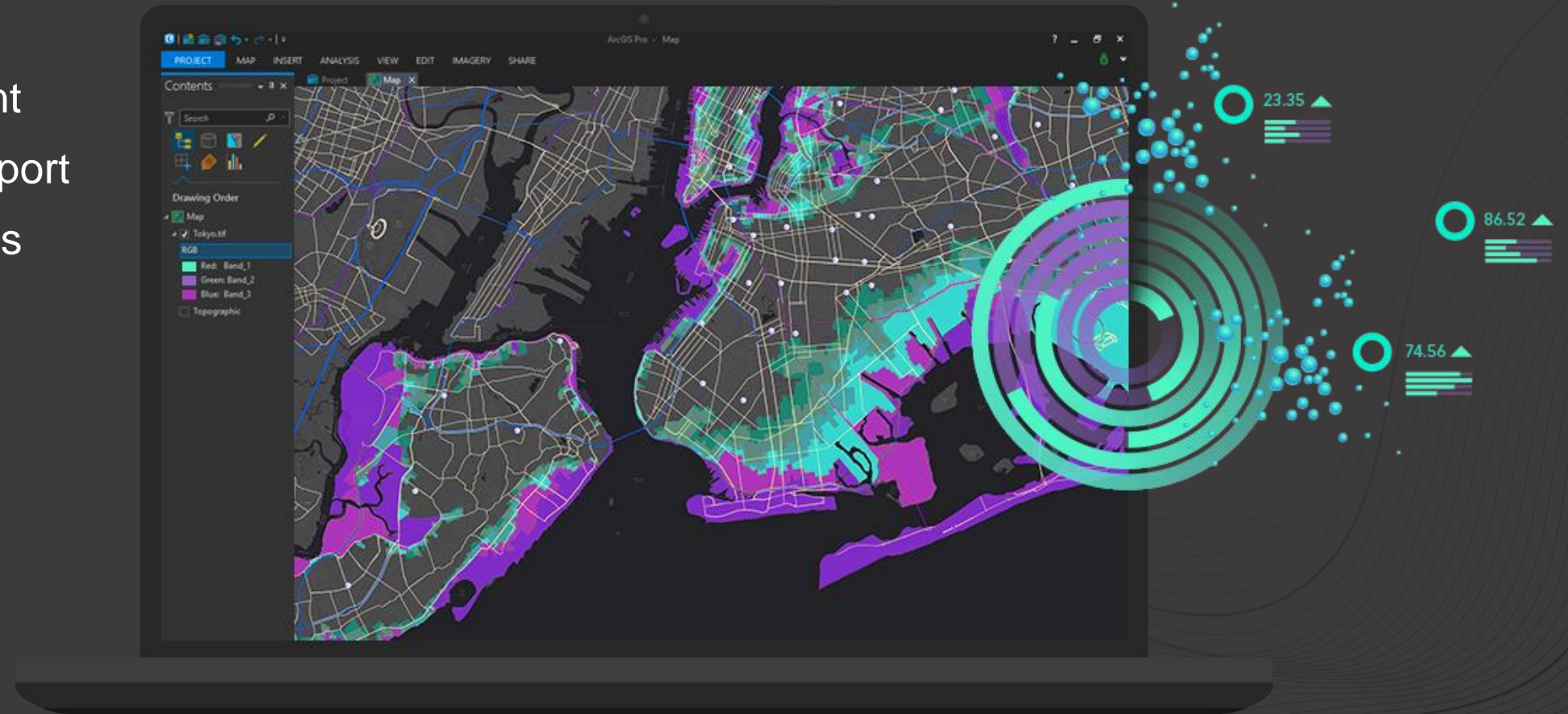


- HR – Property Groups – Facilities Management – Network Teams

# Real estate

## Traditional

- Best rate for rent
- Access to transport
- Access to clients





# Real estate

## Elevated

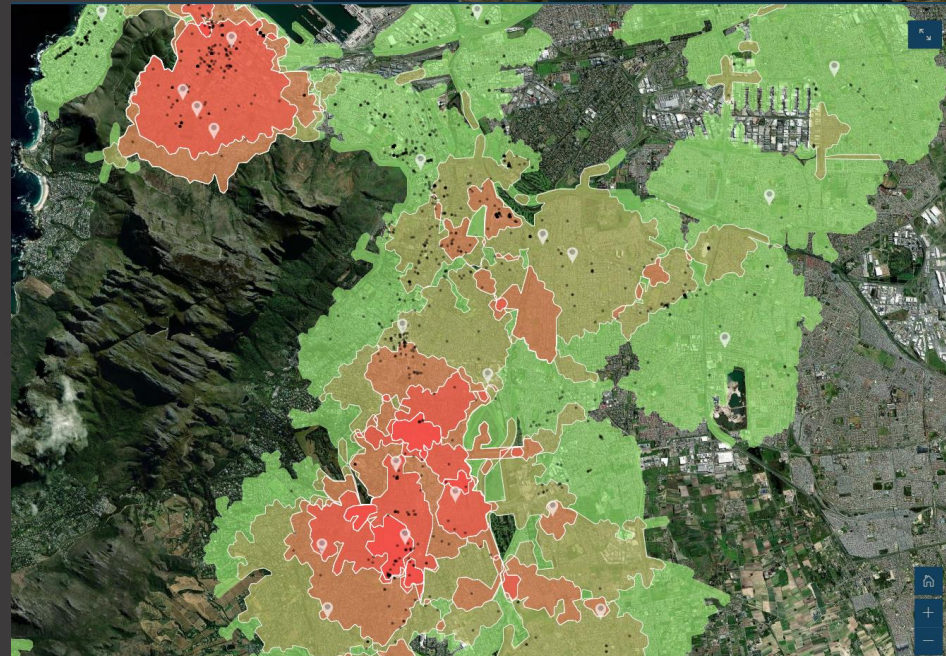
- Site management (Multiple)
- Drive times
  - Staff traveling
  - Employees within catchment
- Hybrid work environment
  - Access to satellite offices
- Assets in the field
  - Accessing clients



### Generate Desire Lines

In the recent past, it was difficult to visualize spatial relationships between entities – customers and stores, students and schools, patients and their medical providers, etc. Users can now visualize these relationships and measure the distances between each pair using the Generate Desire Lines tool. Distances can even be calculated as straight-line or network-based – like drive times, drive distances, walk times, and more.

Business example: Billy is the owner of a chain of grocery stores and is planning to open his twenty eighth location. Before he signs the final paperwork, he's interested in identifying the relationship between his customers and the stores they visit. After using the Generate Desire Lines tool, Billy can see that the proposed location for his twenty eighth store could take customers from an existing one, while not adding enough additional revenue to justify the expansion to that specific area. Seeing that there are large travel distances, he can do further research to find a new location for the twenty eighth store, solving the distance problem.



### Measure Cannibalization

Business Analyst provides a robust toolset of trade area capabilities and methods. An important part of understanding your store or franchise network is to calculate the amount of trade area overlap across a market.

By identifying the areas of overlap you can analyse the market area and the customers being impacted. A certain percentage of overlap might signify a level of market saturation that is positive to your business model. Conversely, your analysis may show operational redundancies and require re-alignment of the boundaries or re-distribution of marketing resources. You also can use the outputted layer to append demographics to the overlapped boundaries.

The overlapped areas could signal marketing inefficiencies or in some cases show a positive market saturation. To further assess this cannibalization, an optional report summarizes statistics that show the proportion of overlap between areas.

Consider a scenario where David owns 27 dragon fruit specialty stores with trade areas defined by 3-kilometre drive distance polygons. David wants to

# Security

## Challenge

- Map out sites of incident
- Directory of customers
- New business
- Capacity of loads and risk



- Armed Response – Community Security – Estate Management

# Reporting app

Elevated

- Customer/users log incidents quickly and easily
- Ability to take a picture/make a comment about the incident
- Locks in the GPS location to ensure the correct location is visited





# Manage the workforce

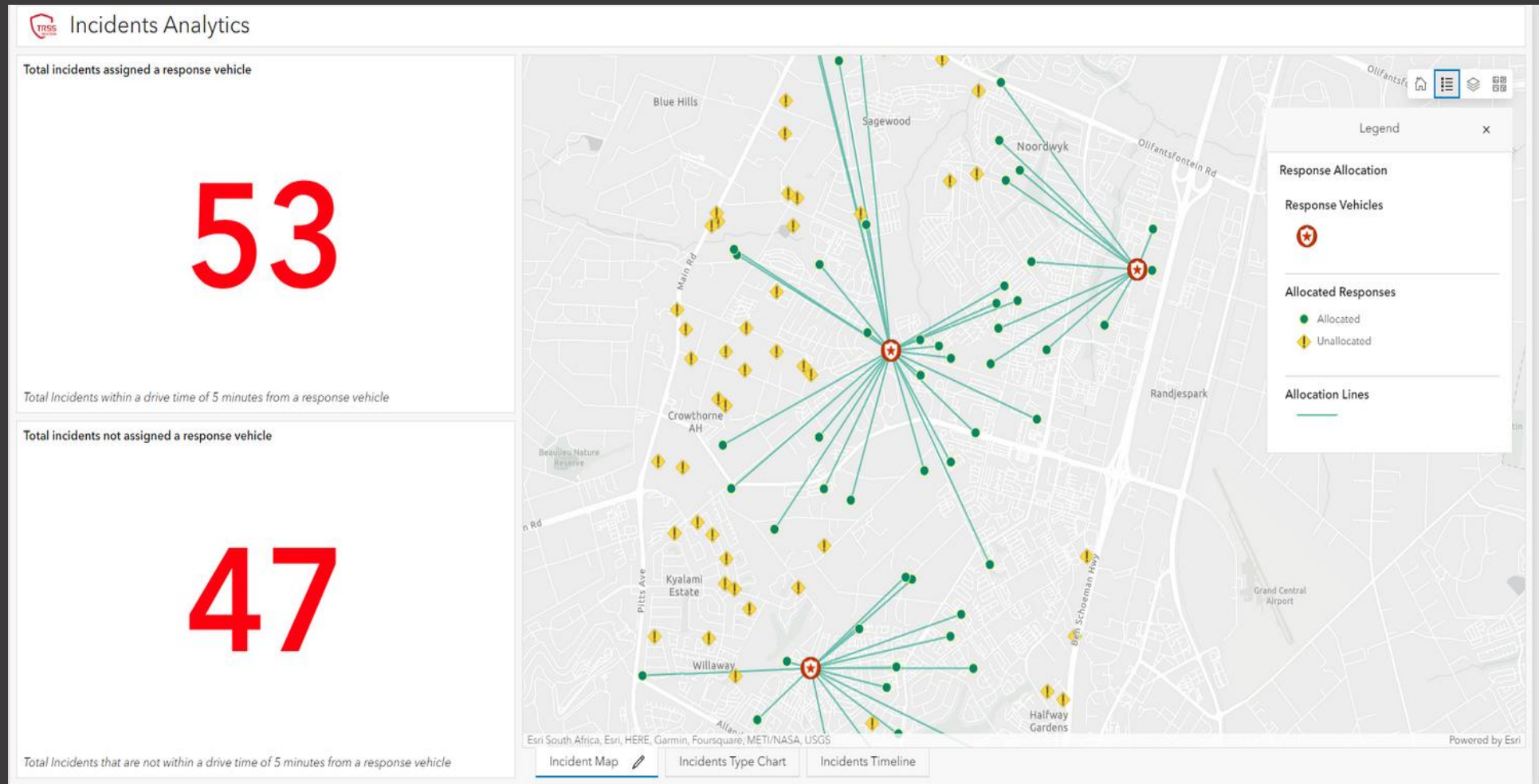
The screenshot displays a workforce management application interface. On the left, there is a sidebar with a list of assignments. At the top of the sidebar, there is a search bar labeled "Filter by type, location or ID" and a button labeled "+ Assignments". Below the search bar, there are dropdown menus for "Status", "Due", "Priority", "Assignee", and "Sort". The list of assignments is as follows:

| Assignment            | Priority | Action |
|-----------------------|----------|--------|
| Investigate Robbery   | Critical | DS     |
| Investigate Assault   | High     | DS     |
| Investigate Assault   |          | DS     |
| Investigate Hijacking | Critical | DS     |
| Investigate Assault   | Critical | DS     |

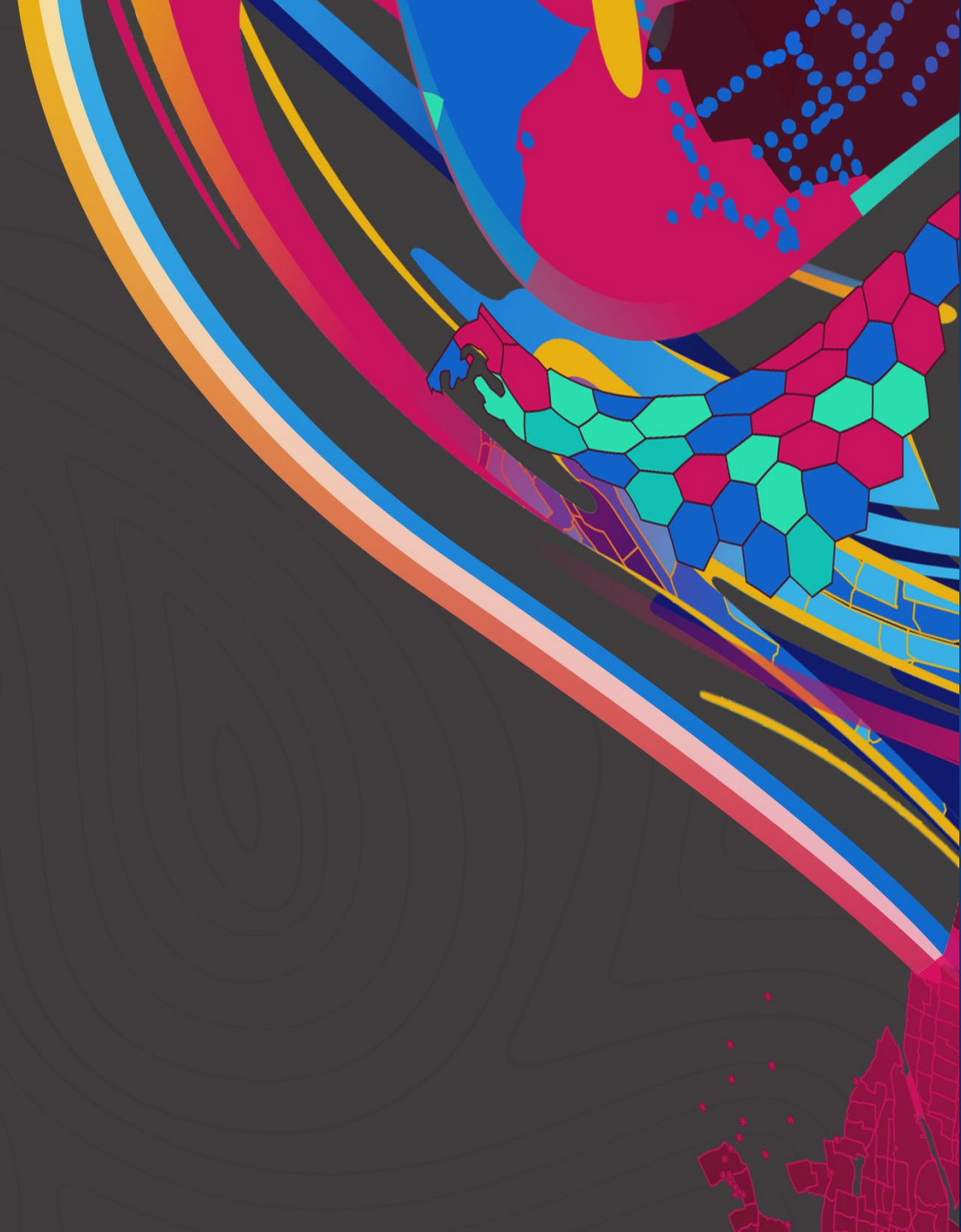
At the bottom of the sidebar, there are two tabs: "Assignments" and "Workers". The main area of the interface is a map of the Randjesfontein area, showing roads, landmarks, and a purple polygon representing a specific geographic area. The map includes labels for "Blue Hills", "Noordwyk", "Randjespark", "Beaulieu", "Crowthorne", "Carlswald", "Kyalami Park", "Blue Valley Golf and Country Estate", "Randjesfontein Racecourse", "Randjesfontein Country Estate", "Randjesfontein Country Estates", "Eskom Convention Centre", and "Grand Central Airport". The map also shows major roads like R55, R101, R562, M71, M36, and N1. A small "DS" icon is visible on the map near the bottom left. The map data is attributed to OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri, and Powered by Esri.



# Analytics on incidences



**Thank you**



# Questions and Answers





# Please share your feedback in the UC2023 app

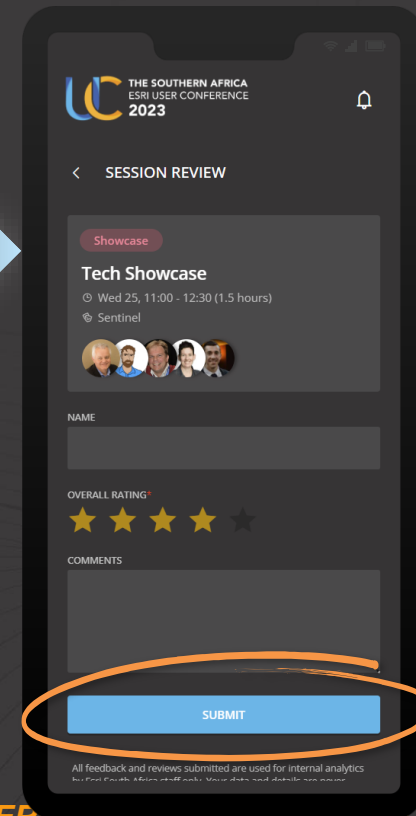
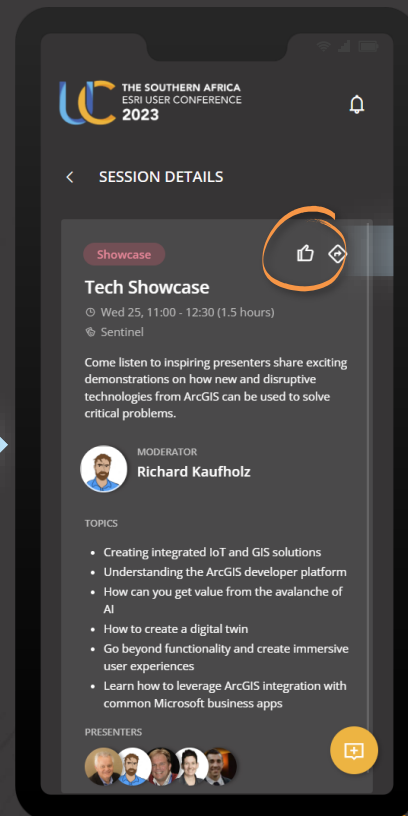
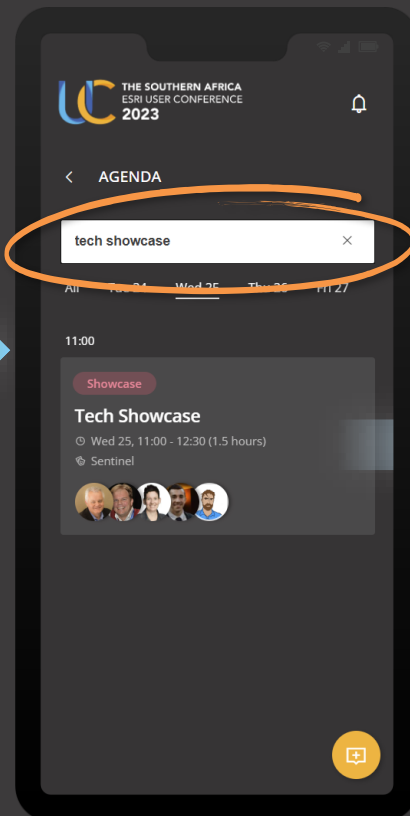
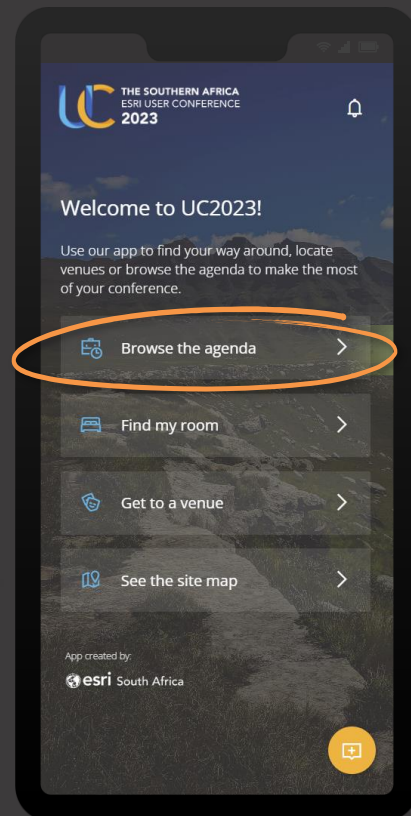


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and browse the agenda

Search and select the  
session you attended

Click the "thumbs up"  
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Complete and submit  
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