

Managing Change: Recovery and EA MobileScapes



Today's Presenters



Jason Norfolk

VP, Product
Management



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SVP, Research and
Development



Casey Price

SVP and Practice
Leader





Retail



Restaurant



Banking



Auto



Not-For-Profit



Travel

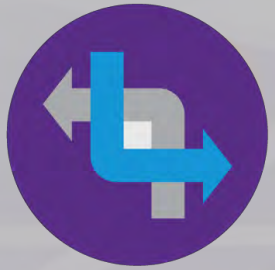


COVID-19 Behaviors - New Norms?





- Who is starting to move? How quickly? How far?
- Who is visiting local businesses and when?
- Which citizens are returning to work or school?
- Are the same people coming back to bank branches as during pre-pandemic times?
- How has retail shopping changed pre- and post-pandemic? How can this help with sales forecasting?



MobileScapes

Leveraging Mobile
Movement Data to
Understand Changing
Consumer Behaviors

What are Mobile Movement Data?

Anonymized, permission-based data collected from location-enabled apps on mobile devices

- Unique, persistent, anonymous device ID, along with a day, time and location for each observation
- All observed latitude and longitude coordinates are moved to the nearest ZIP+4
- Researchers can “observe” devices within a defined area such as a store, public square or on a roadway for a given date and time range
- The common evening location (CEL) and common daytime location (CDL) are inferred according to where these devices are most frequently observed during the day and at night

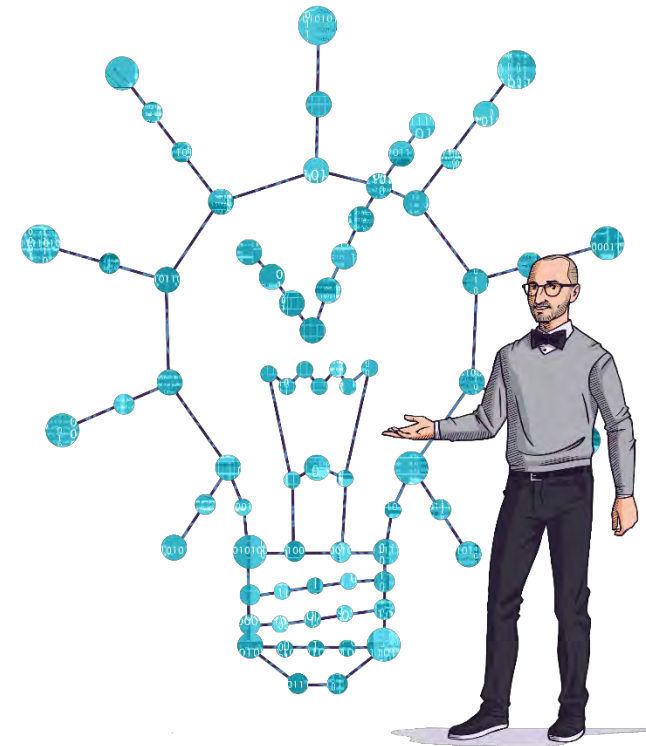


Why MobileSapes?



The most comprehensive, accurate and up-to-date mobile movement database available for marketing and other business applications.

- High-quality data
- 100% privacy compliant
- Updated daily
- Visits and Visitors
- Available at the ZIP+4 level and linked to EA's 20,000 data points
- Easily accessible through EA's analytics platforms as data extract files and in project work



MobileScapes Product Suite



The MobileScapes mobile movement database is easily accessible in configurations to suit various business needs.

1

MobileScapes ENVISION

Using ENVISION's user-friendly interface, quickly analyze large volumes of mobile movement data by location (using hand-drawn polygons or existing location files).

2

MobileScapes Plus

Access MobileScapes data or configured extracts for use in your tools, and monitor activity weekly or monthly.

3

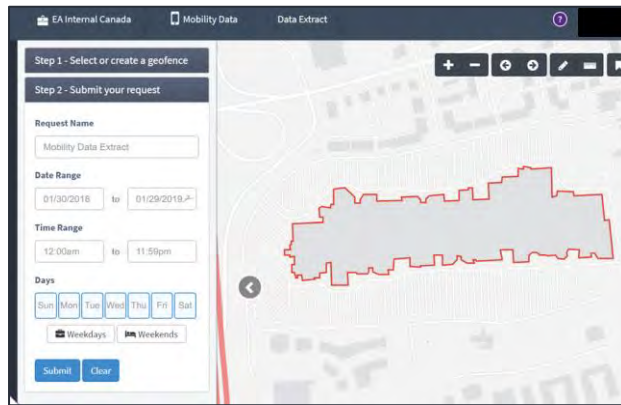
MobileScapes Out & About

Understand movement at the neighborhood level: who leaves home, goes out to work, to shop, on which days, at what time of day.

1. MobileScapes ENVISION

Mobile Movement data and functionality in EA's software platform.

Geofence



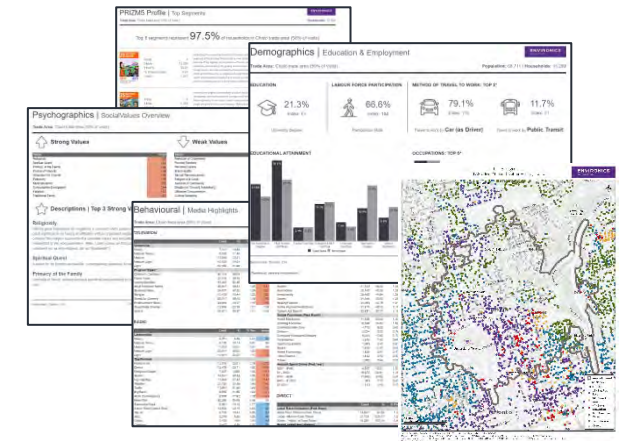
Draw or import a shape and select timeframe, days or dayparts for the retrieval

Data



Creates two data points:
Common Evening Locations
Common Daytime Locations

Output



Usable with 20,000 data variables and in maps, dashboards and tables in ENVISION



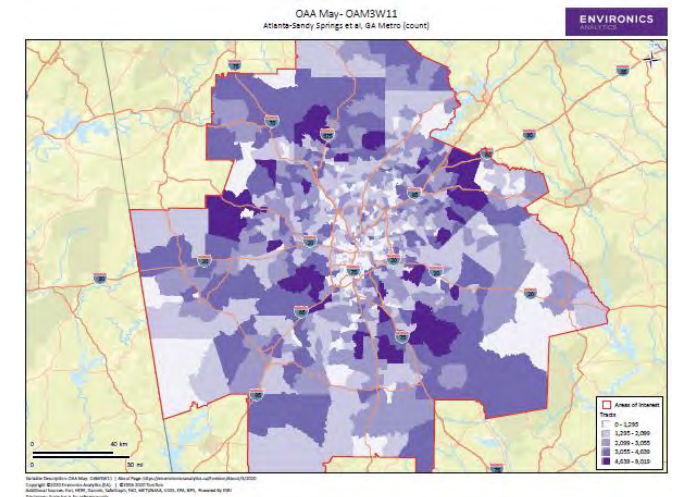
Trend reports available to monitor change

2. MobileScapes Plus

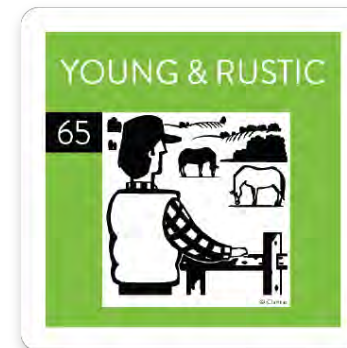
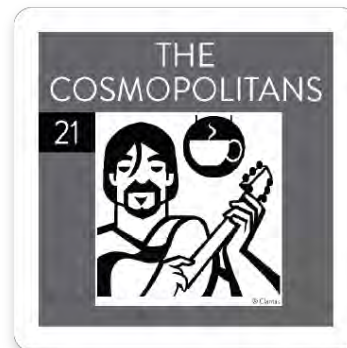
MobileScapes Plus provides flexibility to access standard and configured mobile movement data extracts outside ENVISION.

- Any type of configured, then standardized deliverables:
 - Weekly/monthly reports
 - Tableau dashboards
 - Other client-defined extracts
- Provides weekly data (historical and future)

Where they came from



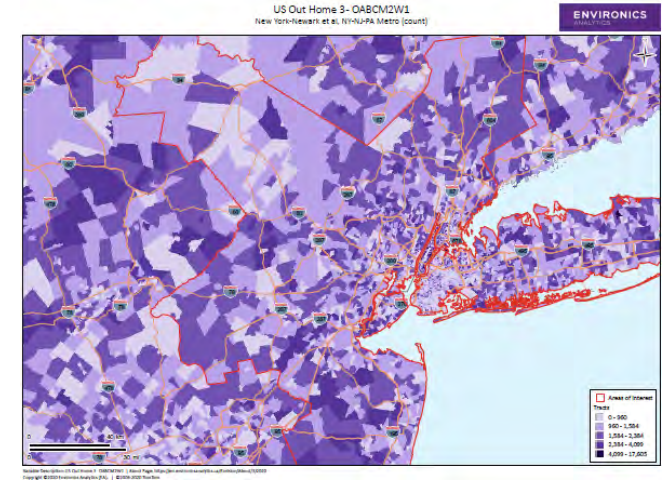
Who they were



3. MobileScapes Out & About

MobileScapes Out & About identifies the movement of populations at the neighborhood level.

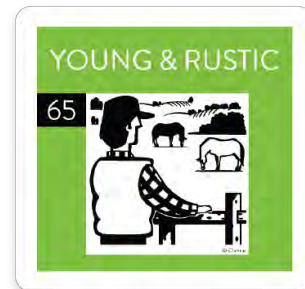
- In ENVISION as a standard database or outside ENVISION as projects
- Weekly / Monthly monitoring reports included
- Historical data from Jan 1, 2019
- Built at Block Group level, then rolled up to geographies
- Weighted to Pop 15+
- Available by weekpart and daypart, with dayparts available for weeks and weekends
- Two levels: base insights & add-on insights



↑ 26%



↑ 35%



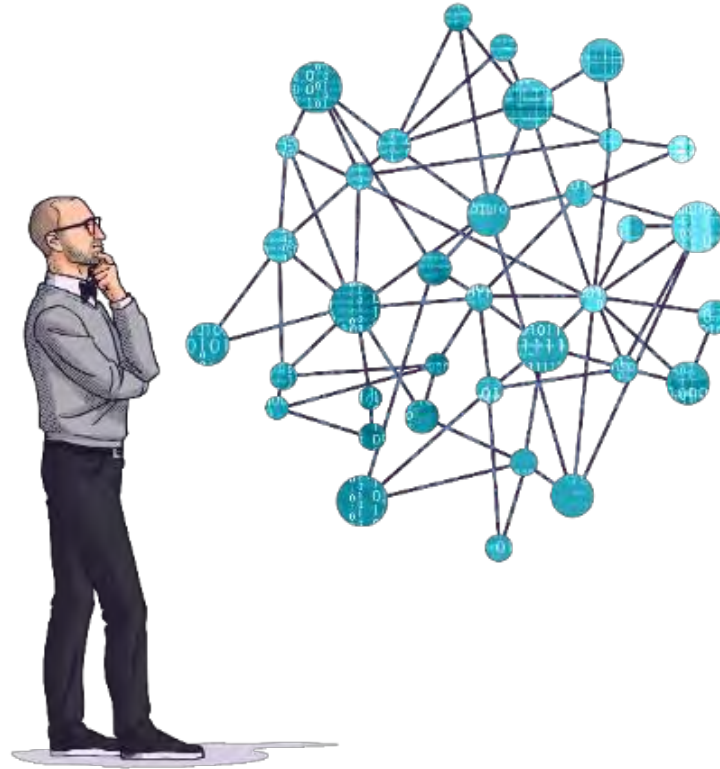
↑ 43%

3. MobileScapes Out & About Details

Base & Add-On	
Base Insights	<ul style="list-style-type: none">1) Population going out (beyond 0.25 miles from inferred home location)2) What time of day are they going out?3) How far are they going out?4) How long are they observed away from home when they're out?
Add-On Insights	<ul style="list-style-type: none">5) Purpose: work, school or other6) Shopping/economic /commercial activity

MOBILE MOVEMENT DATA

Methodology, Practicality and Privacy



Guiding Principles of Mobile Research



Intelligence Infused

Incorporate our expertise to produce population estimates rather than device counts

Automatically adjust for bias, both spatial and temporal



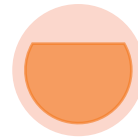
Automated

Use pre-defined geofences where available

Allow custom geofence ingestion

Pre-build complex estimates where appropriate

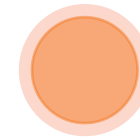
Data updated in near real time (daily)



Compliance Certified

Results from the system are pre-sanitized prior to distribution

Onus of compliance handled automatically by tools



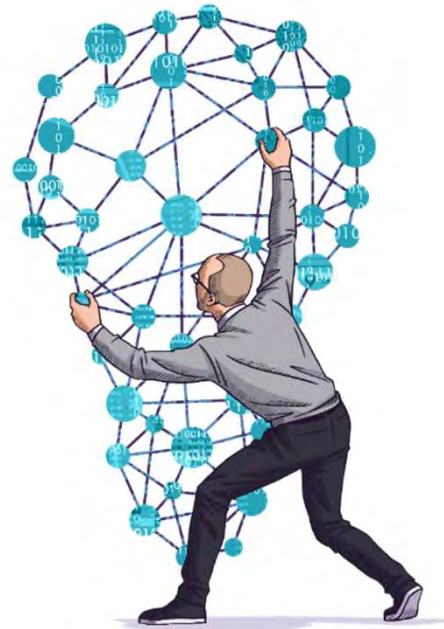
Accessible

Tools for querying the data accessible from both within and outside of ENVISION (APIs)

Tools should handle: one-off queries, multisite analysis and pre-structure on-going reporting

DATA APPLICATIONS

Using data to power insights



Applying analytics to..

- Quick Service Restaurants
- Financial Institutions

Retail landscape

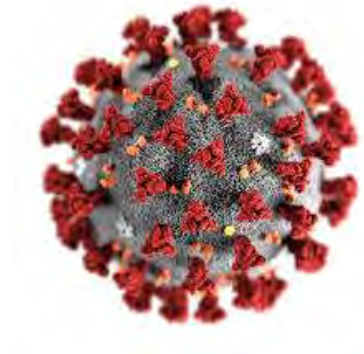


QSR Example..



Restaurant landscape

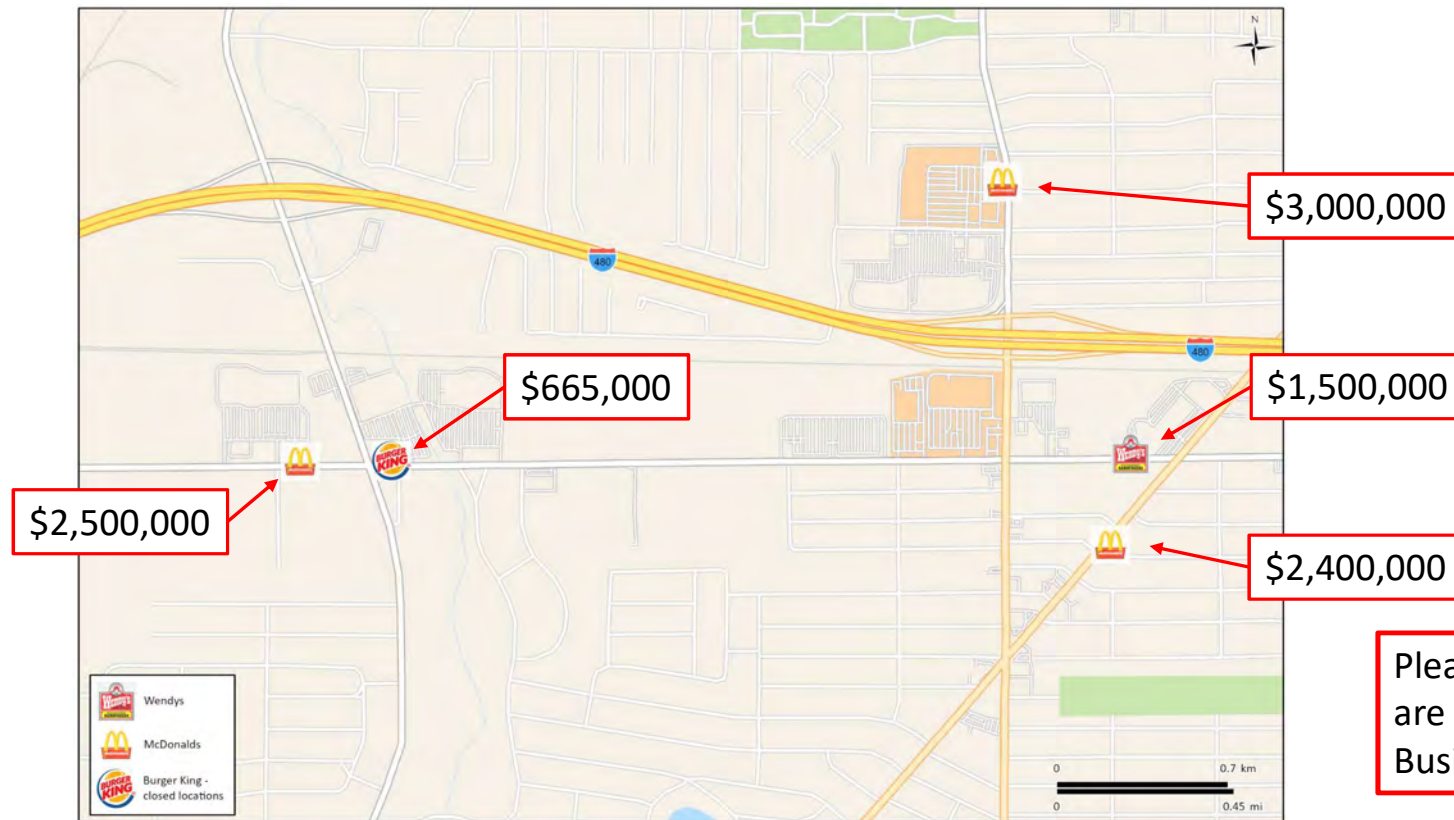
- 26,000 restaurant closures since pandemic began
- 4,400 quick service restaurants closed
- 45% of consumers expect to dine out less in the future



QSR Example using MobileScapes analytics



Burger King Brookpark, Cleveland Ohio

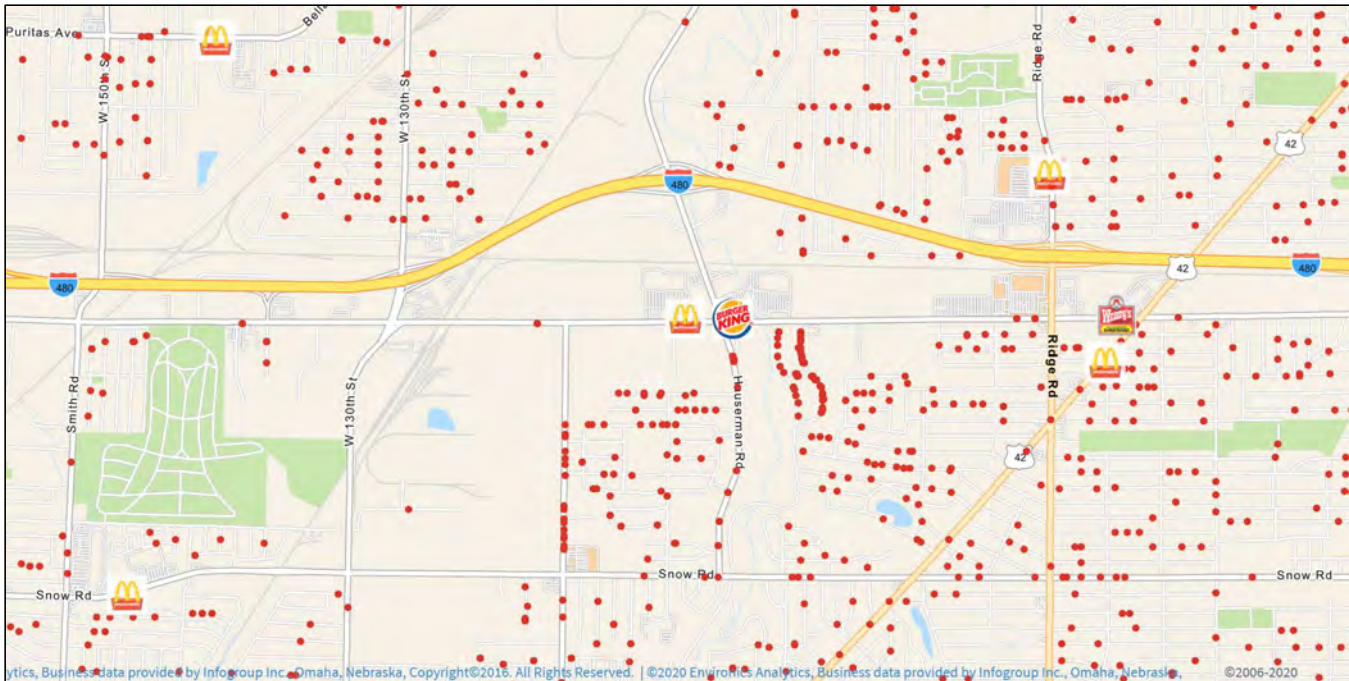


Burger King Brookpark, Cleveland Ohio

A screenshot of the MobileScapes web interface. The interface has a dark blue header with navigation links: "USA Webinar", "MobileScapes", and "Data Extract". A user profile icon and the name "dev_casey" are in the top right. On the left is a sidebar with various icons. The main content area is divided into two steps: "Step 1 - Select or create a geofence" and "Step 2 - Submit your request". Under Step 2, there are input fields for "Request Name" (filled with "Burger King Brookpark"), "Date Range" (from "01/01/2019" to "12/31/2019"), "Time Range" (from "12:00am" to "11:59pm"), and "Days" (with buttons for Sun, Mon, Tue, Wed, Thu, Fri, Sat, and checkboxes for Weekdays and Weekends). "Submit" and "Clear" buttons are at the bottom of the form. The background of the interface is an aerial map of a parking lot and building area, with a large orange semi-transparent rectangle overlaid to represent the geofence. Map controls like zoom in (+), zoom out (-), and pan arrows are visible in the top right of the map area. A small "Areas of Interest" legend is in the bottom right corner of the map.

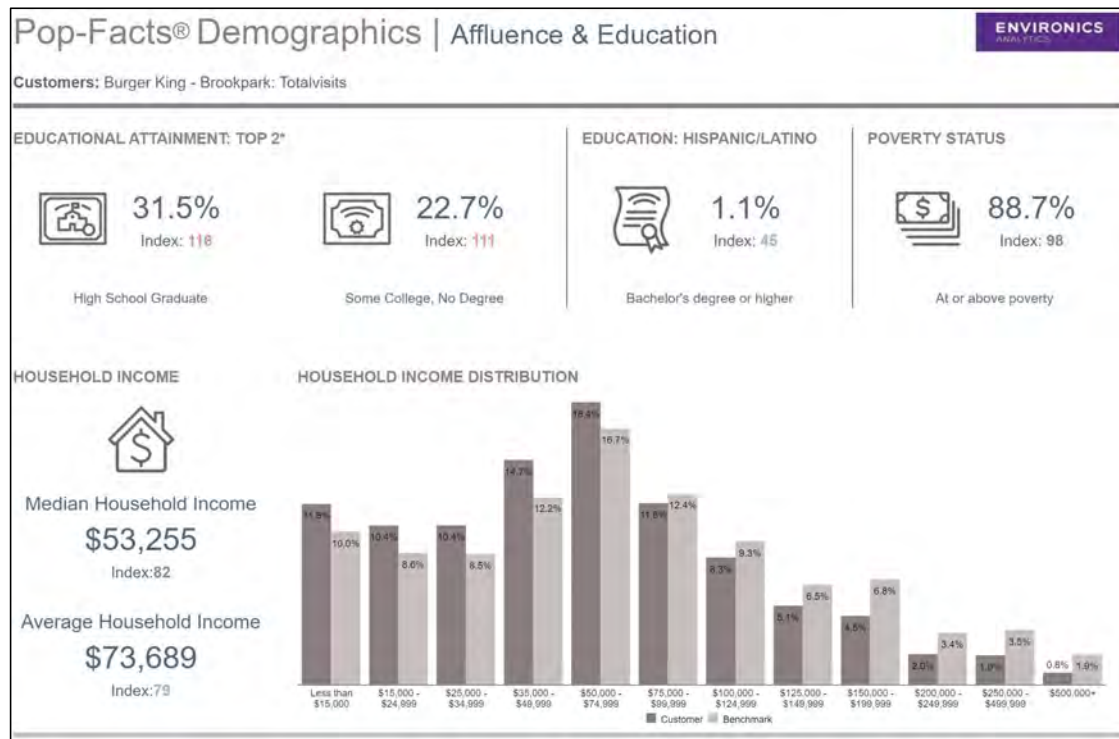
Please note: This is an example of a geofence. The MobileScapes extract will be based on what devices were identified within this area for all of 2019.

Burger King Brookpark, Cleveland Ohio MobileScapes extract..



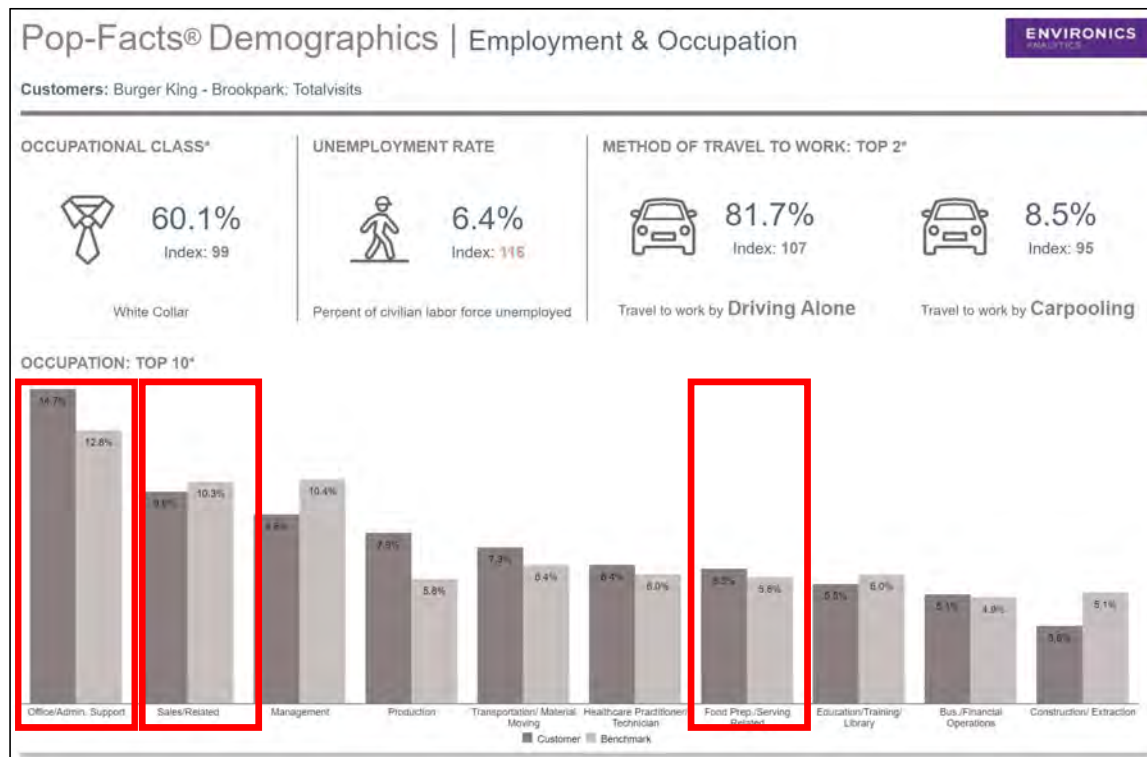
Each red dot represents one visitor to Burger King during 2019.

Burger King Brookpark, Cleveland Ohio WHO visited this location?



This report illustrates the demographics of the neighborhoods that the Burger King visitors came from.

Burger King Brookpark, Cleveland Ohio WHO visited this location?



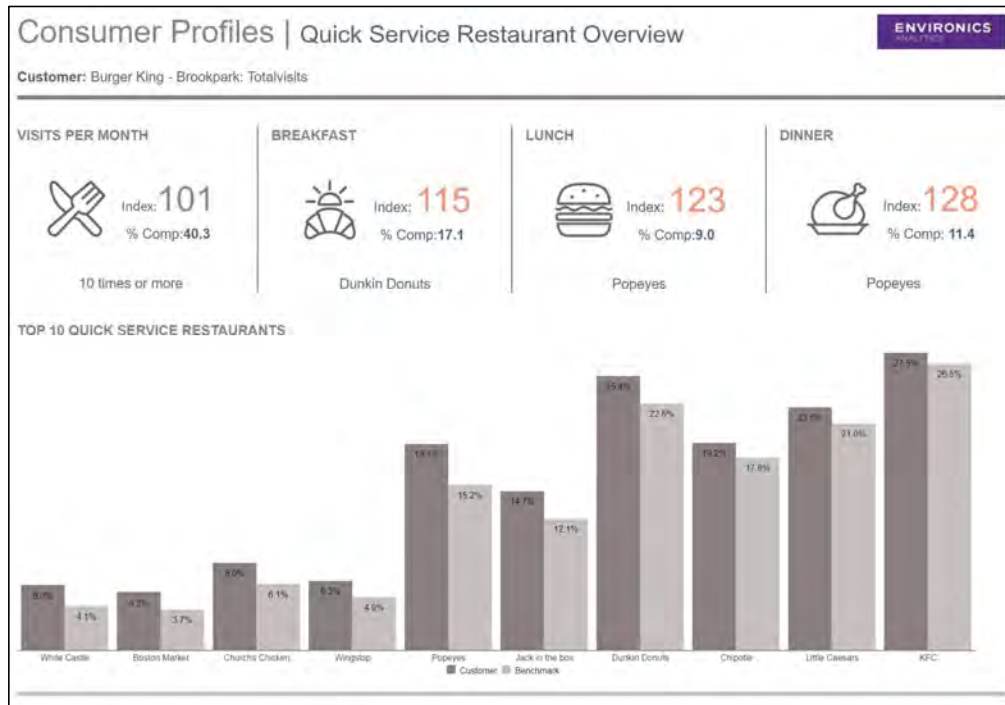
Top occupations include:

- Admin
- Service / Sales
- Healthcare practitioners

This report illustrates the demographics of the neighborhoods that the Burger King visitors came from.

Burger King Brookpark, Cleveland Ohio

WHO visited this location?



This report illustrates the estimated quick service restaurant behaviors of the neighborhoods that the Burger King visitors came from.

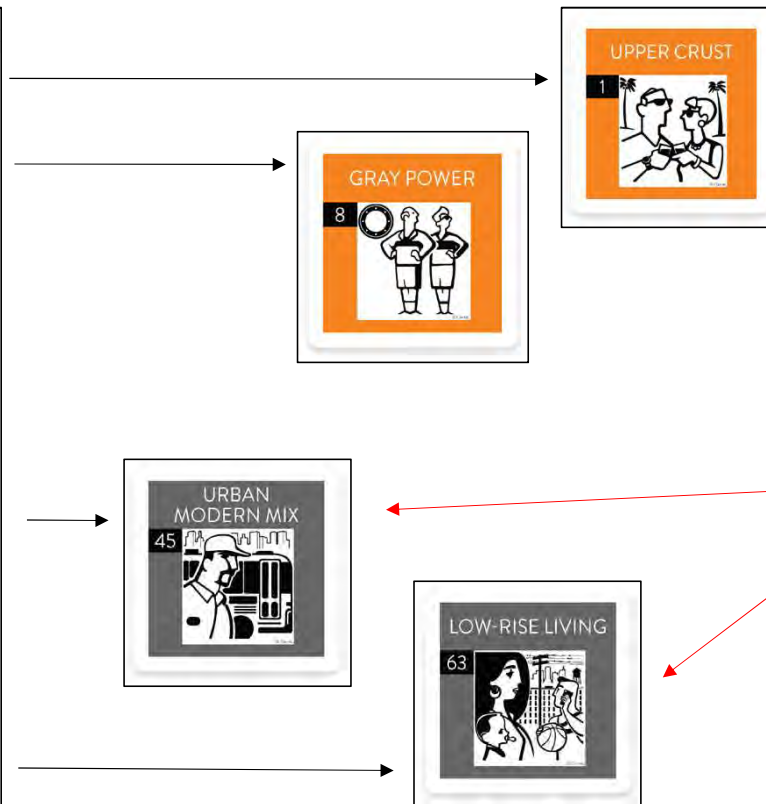
What are trend reports?

Trend reports compare the visitors that went to a specific geofence location over two time periods including a current time period as well as the same time last year. This comparison highlights any changes in the makeup or description of people who visited locations year over year. Figures within the reports have been generalized to Population 15+ years old to more closely emulate the true number of people that visit a physical location. Trend reports have been created for PRIZM Premier to help identify WHO your customers are year over year. Pop Facts Premier trend reports illustrate how the demographic descriptions of your visitors may have changed and Consumer Buying Power – our product that essentially looks at how much people spend on over 700 categories money year over year.

PRIZM MobileScapes trend report



PRIZM Premier Profile - MobileScapes Trend Customers							
Reference: Cleveland - BK Bookpark							
Customer Level: Unique Visitors							
		2020-05-16 - 2020-04-30		2019-05-11 - 2019-04-30		Trend	
SG	LG	Code	Count	Count	Visitor Change	Count	% Change
B1	F1	01	Upper Crust	1	0.11	2	0.34
B1	F1	02	Networked Neighbors	1	0.11	2	0.34
B1	M1	03	Movers & Shakers	0	0.00	2	0.34
U1	Y1	04	Young Digital	1	0.11	1	0.17
F1	F1	05	Courtesy Squares	13	1.48	13	2.21
S2	F1	06	Winner's Circle	2	0.23	2	0.34
U1	M1	07	Money & Brains	0	0.00	3	0.51
S2	M1	08	Gray Power	4	0.46	3	0.51
T1	M1	09	Big Fish, Small Pond	5	0.57	4	0.68
S2	F1	10	Executive Suites	19	2.17	16	2.72
T1	F1	11	Fast Track Families	1	0.11	9	1.53
S2	M1	12	Cruiser to Retirement	14	1.60	8	1.36
S2	Y1	13	Upward Bound	7	0.80	3	0.51
S2	F1	14	Kids & Cul-de-Sacs	5	0.57	1	0.17
T1	F1	15	New Homeowners	5	0.57	2	0.34
S2	F1	16	Barney's Boomers	3	0.34	3	0.51
U2	M2	17	Urban Edens	1	0.11	2	0.34
T2	M2	18	Mayberryville	1	0.11	1	0.17
U1	M2	19	American Dreams	2	0.23	1	0.17
S3	M2	20	Empty Nests	35	3.99	25	4.25
U1	Y1	21	The Cosmopolitans	3	0.34	7	1.19
C1	M2	22	Middleburg Managers	29	3.31	25	4.25
T2	F2	23	Township Travelers	0	0.00	2	0.34
T2	M2	24	Pickup Patriarchs	5	0.57	5	0.85
S3	Y1	25	Up-and-Comers	3	0.34	5	0.85
S3	F2	26	Home Sweet Home	28	3.19	16	3.96
T2	F2	27	Big Sky Families	4	0.46	2	0.34
T2	M2	28	Country Casuals	1	0.11	4	0.68
T2	F2	29	White Picket Fences	3	0.34	0	0.00
S3	F2	30	Pools & Patios	20	2.28	12	2.04
U2	Y1	31	Connected Bohemians	8	0.91	7	1.19
T3	M3	32	Traditional Times	6	0.68	6	1.02
C1	F3	33	Second City Startups	0	0.00	3	0.51
S4	Y1	34	Young & Influential	4	0.46	3	0.51
U2	Y1	35	Urban Achievers	18	2.05	8	1.36
S4	M3	36	Troubled Traditionalists	53	6.04	42	7.14
C1	F3	37	Bright Lights, L1 City	28	3.19	19	3.23
T3	M3	38	Handmade Hobbies	1	0.11	2	0.34
F3	F3	39	Kid Country, USA	0	0.00	1	0.17
U2	Y2	40	Aspiring A-Listers	5	0.57	6	1.02
S4	M3	41	Domestic Divas	5	0.57	6	1.02
U3	F4	42	Multi-Cult Mosaic	18	2.05	10	1.70
U3	M3	43	City Roots	98	11.17	52	8.84
F3	F4	44	Country Strong	5	0.57	4	0.68
U3	F4	45	Urban Modern Mix	229	26.11	119	20.24
T3	M3	46	Heartlanders	2	0.23	0	0.00
C2	Y2	47	Striving Selfies	5	0.57	2	0.34
C2	Y2	48	Generation Web	12	1.37	6	1.02
C2	M3	49	American Classics	31	3.53	15	2.55
S4	Y2	50	Metro Glitz	19	2.17	9	1.53
F3	F3	51	Campers & Camo	3	0.34	2	0.34
F3	M3	52	Simple Pleasures	2	0.23	0	0.00
C2	M3	53	Lo-Tech Singles	5	0.57	6	1.02
C2	Y2	54	Struggling Singles	14	1.60	14	2.38
T4	Y3	55	Rust, White & Blue	2	0.23	5	0.85
U3	F4	56	Multi-Cult Families	1	0.11	1	0.17
T4	MA	57	Back Country Folks	1	0.11	3	0.51
T4	MA	58	Golden Ponies	2	0.23	2	0.34
C3	Y3	59	New Mating Pot	4	0.46	0	0.00
T4	Y3	60	Small-Town Collegiates	0	0.00	1	0.17
C3	F4	61	Second City Generations	3	0.34	2	0.34
T4	MA	62	Crossroad Villagers	0	0.00	0	0.00
U3	Y3	63	Low-Rise Living	63	7.18	36	6.12
C3	Y3	64	Family Thrills	1	0.11	4	0.68
T4	Y3	65	Young & Rustic	1	0.11	0	0.00
C3	Y3	66	New Beginnings	3	0.34	1	0.17
C3	MA	67	Park Bench Seniors	7	0.80	8	1.36
T4	F4	68	Bedrock America	2	0.23	1	0.17
Total				877	100.00	588	100.00
						289	20.00



This report illustrates the year over year change through PRIZM Premier. This example shows that lower income segments now represent a larger proportion of the visitors that walked into this location.

Demographic MobileScapes trend



Pop-Facts® Highlights - MobileScapes Trend Customers				
Geofence: Cleveland - BK Brookpark				
Customer Level: Visits				
	2019-03-11 - 2019-04-30	2020-03-10 - 2020-04-30	Trend	
	% Comp	% Comp	% Change	
Population				
2020 Households by Household Income				
< \$15,000	11.20	10.94	0.26	
\$15,000 - \$24,999	10.81	10.81	-0.40	
\$25,000 - \$34,999	10.75	11.08	-0.31	
\$35,000 - \$44,999	14.77	15.22	-0.45	
\$45,000 - \$74,999	17.97	18.66	-0.68	
\$75,000 - \$99,999	11.73	12.11	-0.38	
\$100,000 - \$124,999	8.50	8.33	0.17	
\$125,000 - \$149,999	5.28	4.90	0.30	
\$150,000 - \$199,999	4.61	4.94	-0.37	
\$200,000 - \$249,999	2.04	1.70	0.34	
\$250,000 - \$499,999	1.89	1.53	0.36	
\$500,000+	0.74	0.52	0.22	
Average Household Income	74,005.58	75,288.05	\$,716.83	
2020 Families by Poverty Status				
At or Above Poverty	89.58	88.80	0.78	
At or Above Poverty, With Kids	38.81	36.19	0.62	
Below Poverty	10.42	11.20	-0.78	
Below Poverty, With Kids	7.91	8.47	-0.56	
2020 Population by Sex and Educational Attainment (25+)				
Less than 9th Grade	2.68	2.63	0.05	
Some High School, No Diploma	7.37	7.82	-0.45	
High School Graduate	30.87	32.63	-1.75	
Some College, No Degree	22.85	23.21	-0.36	
Associate's Degree	8.65	8.55	0.10	
Bachelor's Degree	18.29	18.68	-0.39	
Master's Degree	7.01	6.57	0.44	
Professional Degree	1.45	1.28	0.17	
Doctorate Degree	0.83	0.70	0.12	
2020 Population Age 16+ by Employment Status				
Civilian Labor Force, Employed	61.71	61.28	0.43	
Civilian Labor Force, Unemployed	3.85	4.03	-0.17	
Armed Forces	0.06	0.02	0.04	
Not in Labor Force	34.37	34.67	-0.30	
2020 Employed Civilian Population by Occupation (16+)				
Architecture/Engineering	1.75	1.62	0.12	
Art/Design/Entertainment/Sports/Media	1.43	1.47	-0.03	
Building/Grounds Cleaning/Maintenance	3.47	3.31	0.15	
Business/Financial Operations	5.24	4.98	0.26	
Community/Social Services	1.53	1.62	-0.09	
Computer/Mathematical	2.90	3.05	-0.15	
Construction/Extraction	3.90	3.88	-0.08	
Education/Training/Library	5.12	5.01	0.10	
Farming/Fishing/Forestry	0.14	0.11	0.03	
Food Preparation/Cooking/Related	6.40	6.23	0.18	
Healthcare Practitioner/Technician	6.36	6.08	0.28	
Healthcare Support	2.76	2.77	-0.02	
Installation/Maintenance/Repair	2.86	2.70	0.15	
Legal	1.24	1.11	0.13	
Life/Physical/Social Science	0.60	0.55	0.05	
Management	8.91	8.32	0.59	
Office/Administrative Support	14.88	15.33	-0.45	
Production	7.84	8.69	-0.85	
Protective Services	2.01	2.31	-0.30	
Sales/Promotional	10.17	10.17	0.00	
Personal Care/Service	3.41	3.32	0.08	
Transportation/Material Moving	7.02	7.22	-0.20	
2020 Population by Age				
Age 0 - 4	5.73	5.59	0.14	
Age 5 - 9	5.84	5.88	-0.05	
Age 10 - 14	6.03	5.85	0.18	
Age 15 - 17	3.65	3.59	0.05	
Age 18 - 20	3.37	3.38	-0.01	
Age 21 - 24	4.55	4.49	0.06	
Age 25 - 34	13.43	13.53	-0.09	
Age 35 - 44	13.12	13.12	0.00	
Age 45 - 54	12.79	12.80	-0.01	
Age 55 - 64	13.90	13.96	-0.06	
Age 65 - 74	10.32	10.36	-0.04	
Age 75 - 84	5.02	5.04	-0.02	
Age 85+	2.43	2.41	0.02	
2020 Population 16+ by Sex and Marital Status				
Male	50.54	50.74	-0.20	
Female	49.46	49.26	0.20	

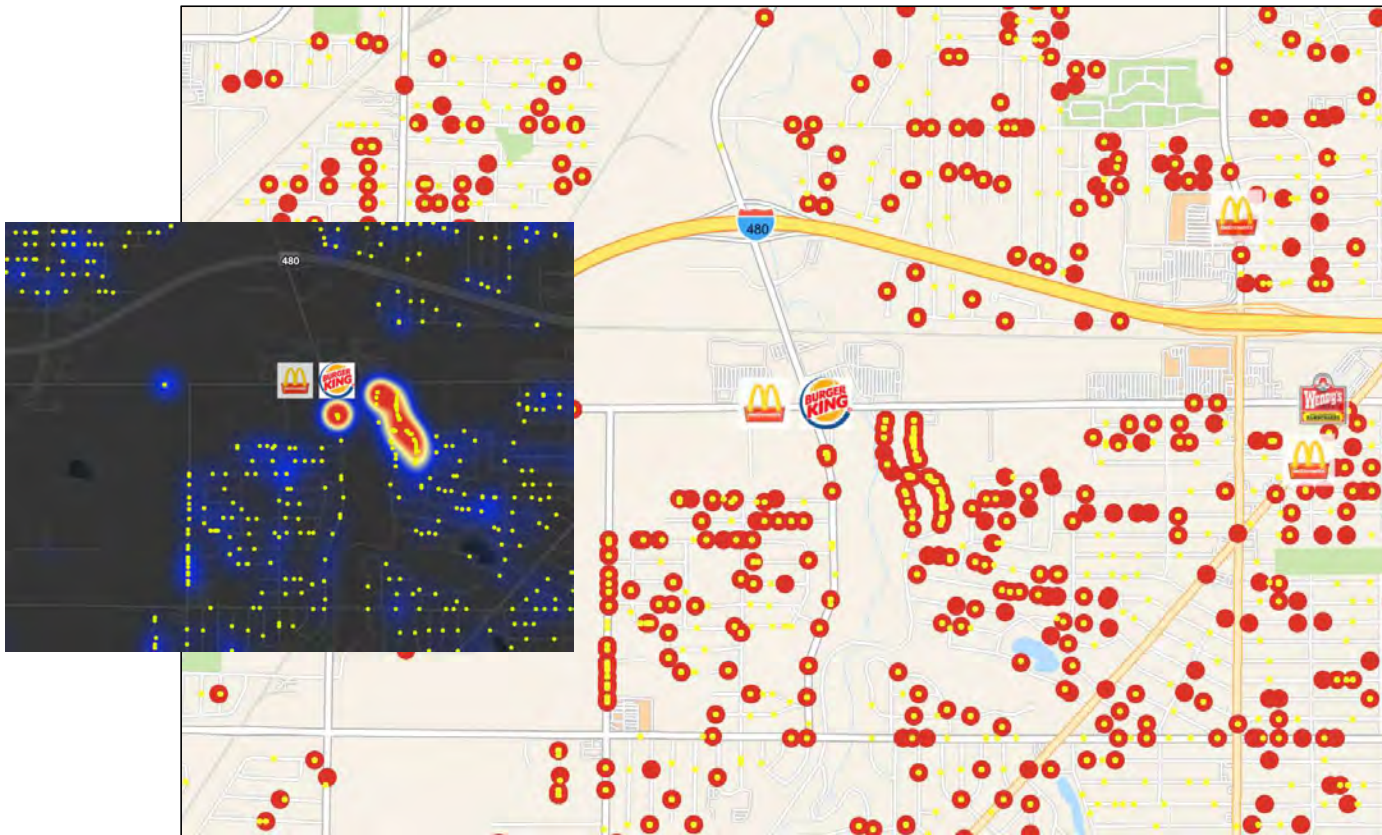
High income people are not going to location

Increasing relative patronage of those with high school diplomas

Increasing relative patronage of 1 person households


This report illustrates the year over year change in demographics of the neighborhoods that the Burger King visitors came from.

Burger King Brookpark, Cleveland Ohio



This map shows the common evening time location of Burger King and McDonald visitors. Note that in many cases the same household patronized both restaurants. Real life example of cross shop or cannibalisation.

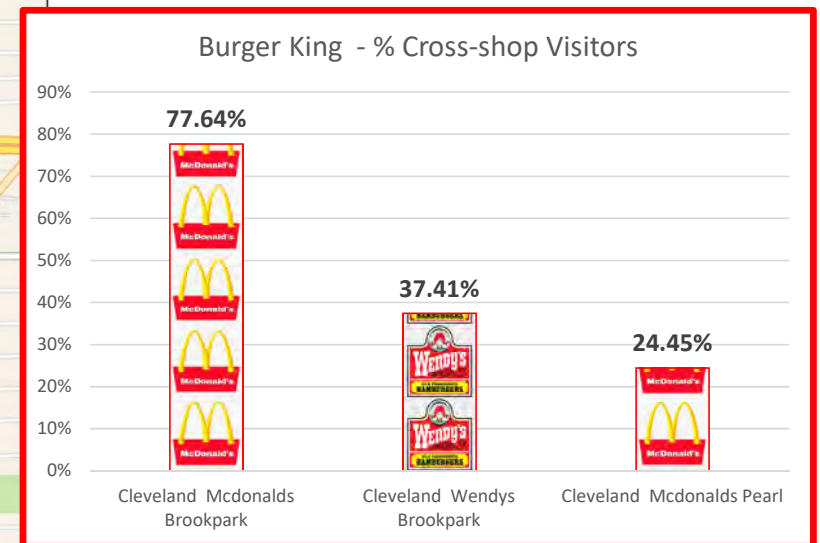
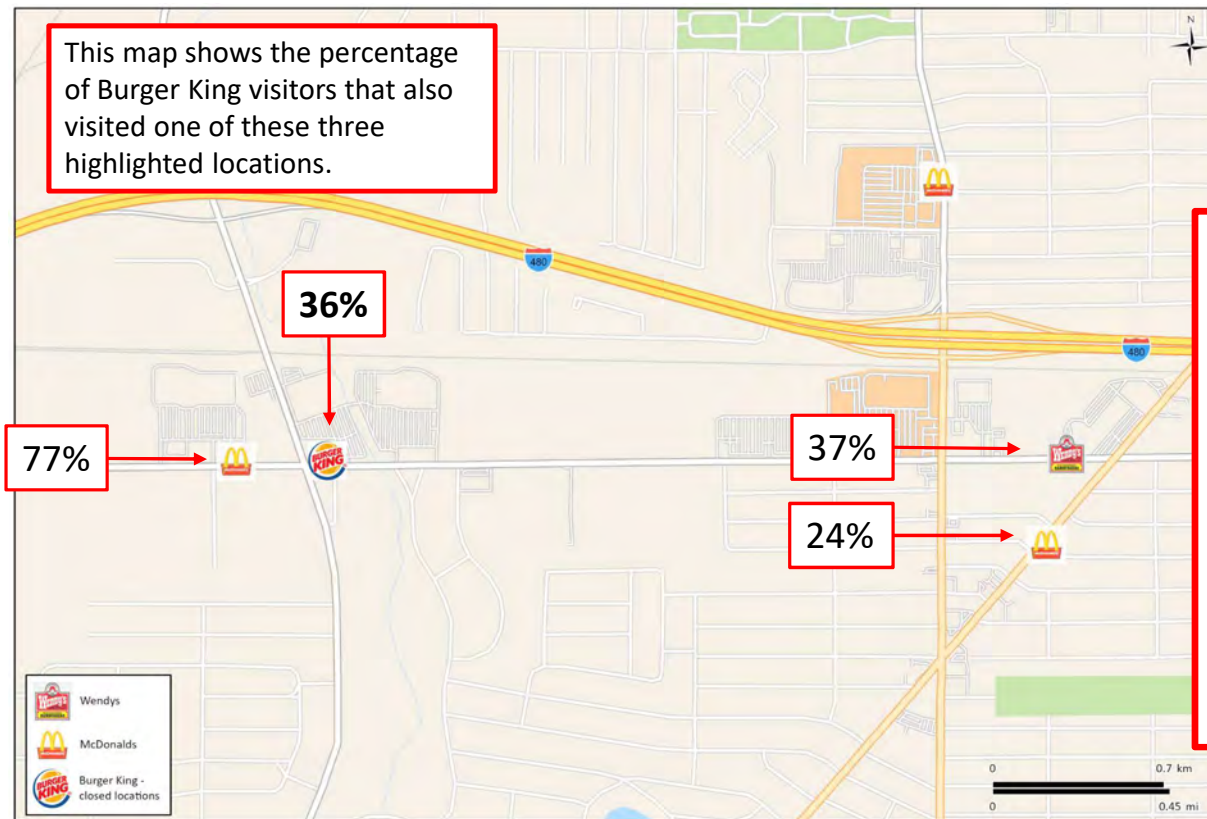
Yellow dots = 

Red dots = 

ENVIRONICS
ANALYTICS

Are the Burger King customers loyal?

36% of Burger King customers visited one of these locations..



Out & About definition



Impact of current lockdown



Out and About Activity Trend										
Trade Area: Burger King - Brookpark Rd - Closed - 2 mi Radius										
	April 2019				April 2020				Change	
	Count	%	% Pen	Index	Count	%	% Pen	Index	Absolute	%
Out & About	30,877	76.58	0.01	96	29,230	72.88	0.02	104	-1,647	-5.33
Dayparts										
12:00 AM to 6:00 AM	7,778	19.29	0.01	94	4,326	10.79	0.02	114	-3,452	-44.38
6:00 AM to 9:00 AM	15,004	37.21	0.01	87	10,049	25.05	0.02	106	-4,955	-33.02
9:00 AM to 12:00 PM	20,142	49.95	0.01	91	15,213	37.93	0.02	102	-4,929	-24.47
12:00 PM to 3:00 PM	22,610	56.07	0.01	94	18,919	47.17	0.02	105	-3,691	-16.32
3:00 PM to 6:00 PM	21,788	54.03	0.01	94	19,312	48.15	0.02	108	-2,476	-11.36
6:00 PM to 9:00 PM	16,653	41.30	0.01	95	13,958	34.80	0.02	111	-2,695	-16.18
9:00 PM to 12:00 AM	9,709	24.08	0.02	104	6,838	17.05	0.02	123	-2,871	-29.57
9:00 AM to 5:00 PM (Business Hours)	27,462	68.11	0.01	94	24,683	61.55	0.02	103	-2,779	-10.12
Purpose										
Commuted	6,678	16.56	0.01	100	5,743	14.32	0.02	103	-935	-14.00
Visited a commercial location	20,664	51.25	0.01	93	20,546	51.23	0.02	111	-118	-0.57
	Agg	Avg	% Pen	Index	Agg	Avg	% Pen	Index	Absolute	%
Metrics										
Furthest distance from home (Miles)	236,765	7.67	0.01	74	150,826	5.16	0.01	86	-85,939	-36.30
Time spent away from home (Minutes)	8,461,644	274.05	0.01	90	5,345,768	182.88	0.02	118	-3,115,876	-36.82
Benchmark: United States										
Copyright ©2020 by Environics Analytics (EA). Source: ©2020 Environics Analytics										
				Index:	<80		80-110		>110	

Breakfast trips – 33%
Lunch trips – 16%
Dinner trips – 16%

People staying closer to home
People not going out as much

Answering bigger questions with MobileScapes

Which locations should be recovering?

Which locations are dormant / active?

How should I staff locations?

Where do I send inventory?

Where do I send sales reps?

Restaurant ranking on Out & About

- Ranked 7600+ Burger King locations across the USA..
- Identified active & dormant trade areas
- Defined using 'Out & About'



Restaurant ranking by activity



Most active locations

Restaurant name
748959704 - Burger King (Santa Nella, CA)
901311357 - Burger King (Wytheville, VA)
898247788 - Burger King (Fort Dix, NJ)
746454464 - Burger King (Shorter, AL)
719312940 - Burger King (Panama City, FL)
537878720 - Burger King (Knightstown, IN)
512957077 - Burger King (Beresford, SD)
592738082 - Burger King (Pendleton, IN)
177852027 - Burger King (Mobridge, SD)
425893939 - Burger King (West Unity, OH)
415204267 - Burger King (Hays, KS)
493137616 - Burger King (York, NE)
462815390 - Burger King (Ionia, MI)
574607131 - Burger King (Pontotoc, MS)
447512989 - Burger King (Rensselaer, IN)
538563412 - Burger King (Max Meadows, VA)

Hays, KS



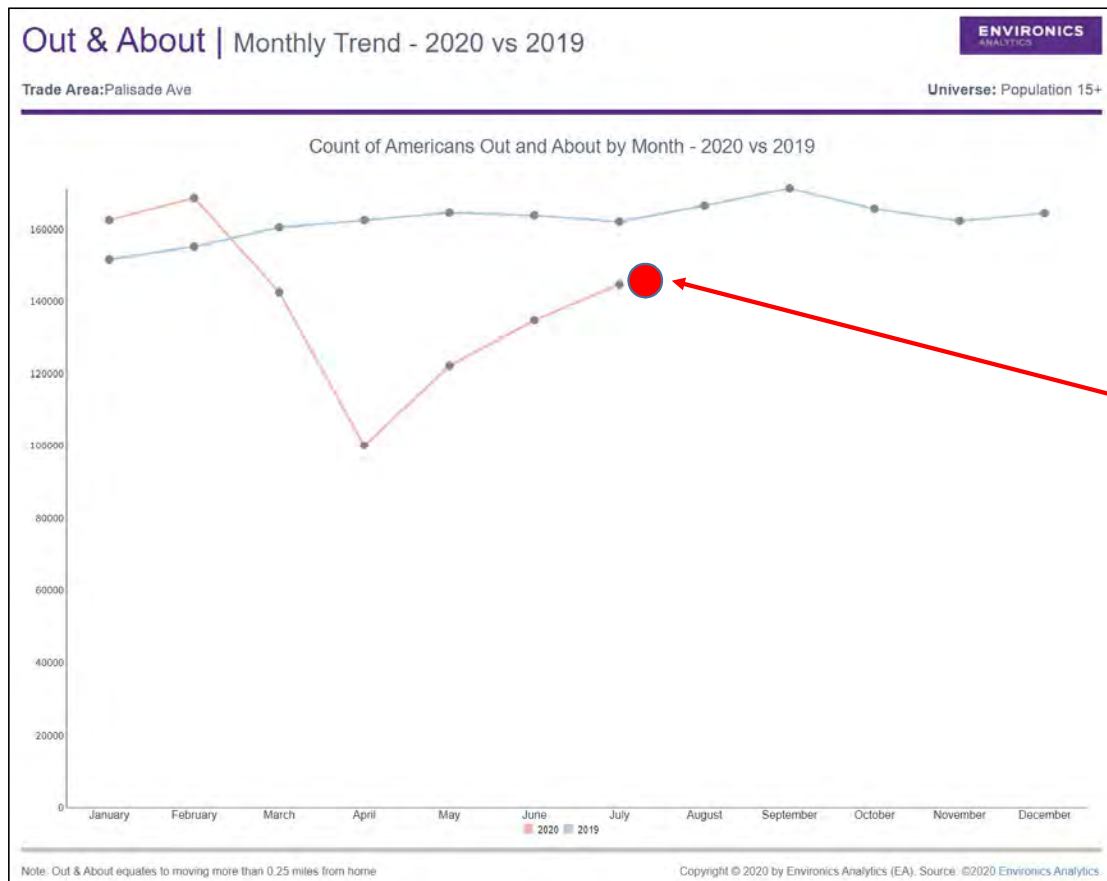
Least active locations

415205125 - Burger King (Bronx, NY)
479873275 - Burger King (Philadelphia, PA)
391156015 - Burger King (Surprise, AZ)
114048721 - Burger King (Bronx, NY)
724375826 - Burger King (Brooklyn, NY)
494909781 - Burger King (Fort Lee, NJ)
410147246 - Burger King (Fremont, CA)
107348120 - Burger King (Allston, MA)
738278458 - Burger King (Brooklyn, NY)
717422683 - Burger King (Philadelphia, PA)
402889050 - Burger King (Washington, DC)
450981949 - Burger King (Washington, DC)

Fort Lee, NJ



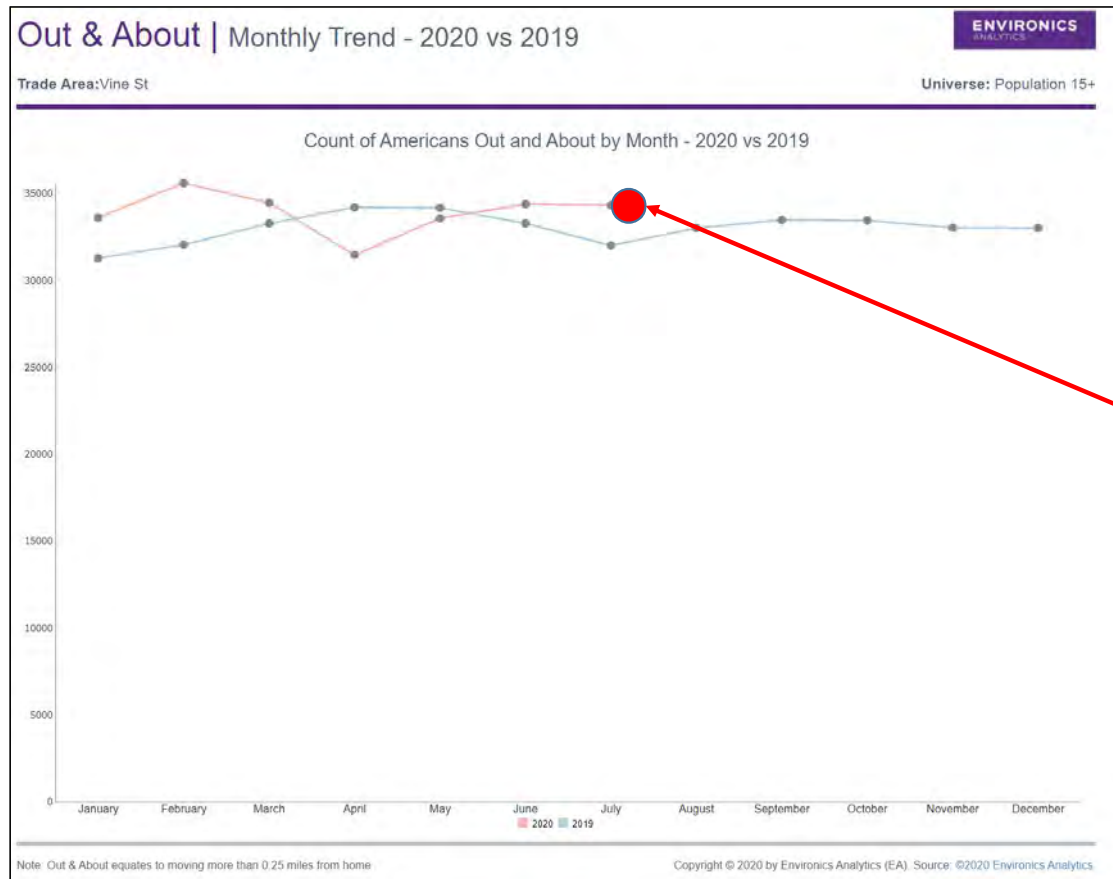
Fort Lee, NJ location - 65% active..



The trade area around this location is less busy than it was last year at this time.

- Renegotiate lease (no traffic)
- Watch recovery rates

Hays, KS location - 89% active..



The trade area around this location is now busier than it was last year at this time.

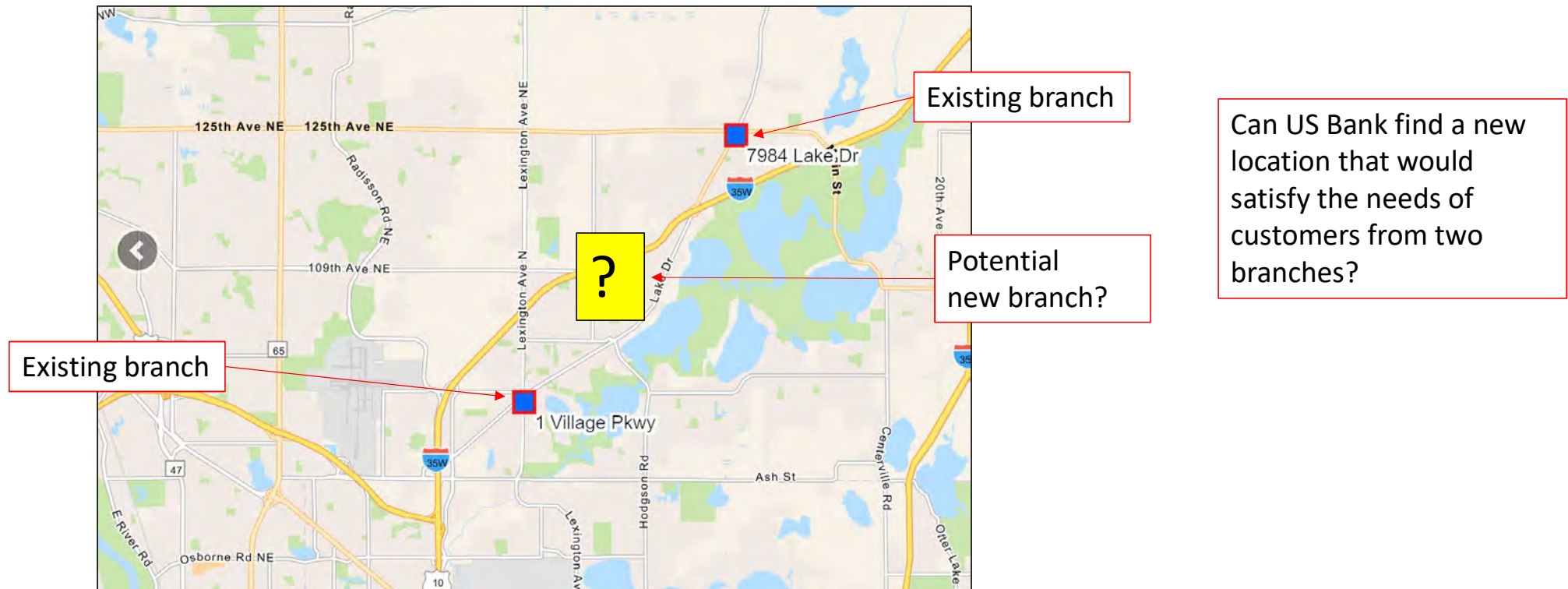
Financial Institution example using analytics



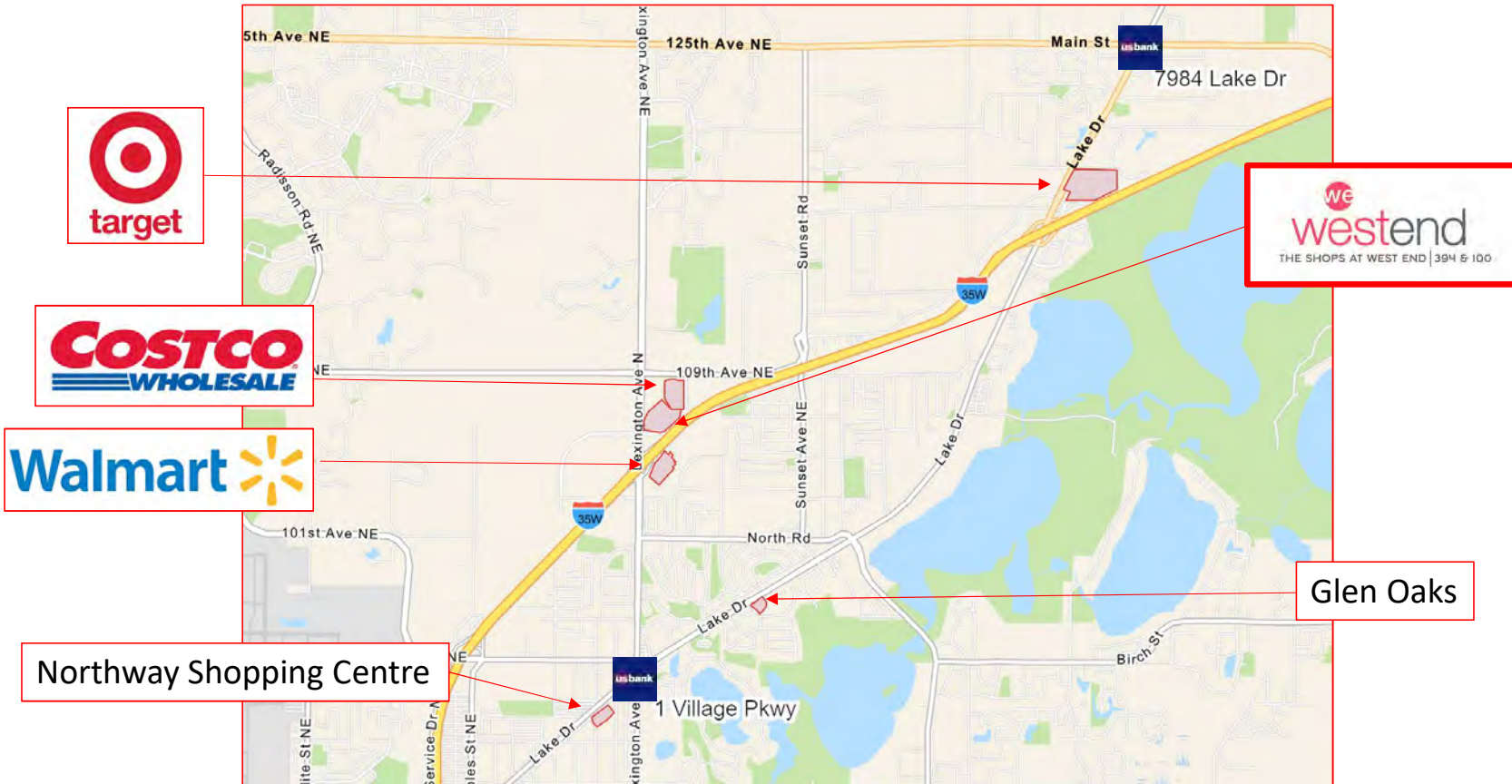
Financial landscape..

- Move towards digital was on-going and now accelerated
- Dormant branches cost \$\$ to maintain
- Which locations can I close without impacting customer experience?

US bank example – Can we close branches?



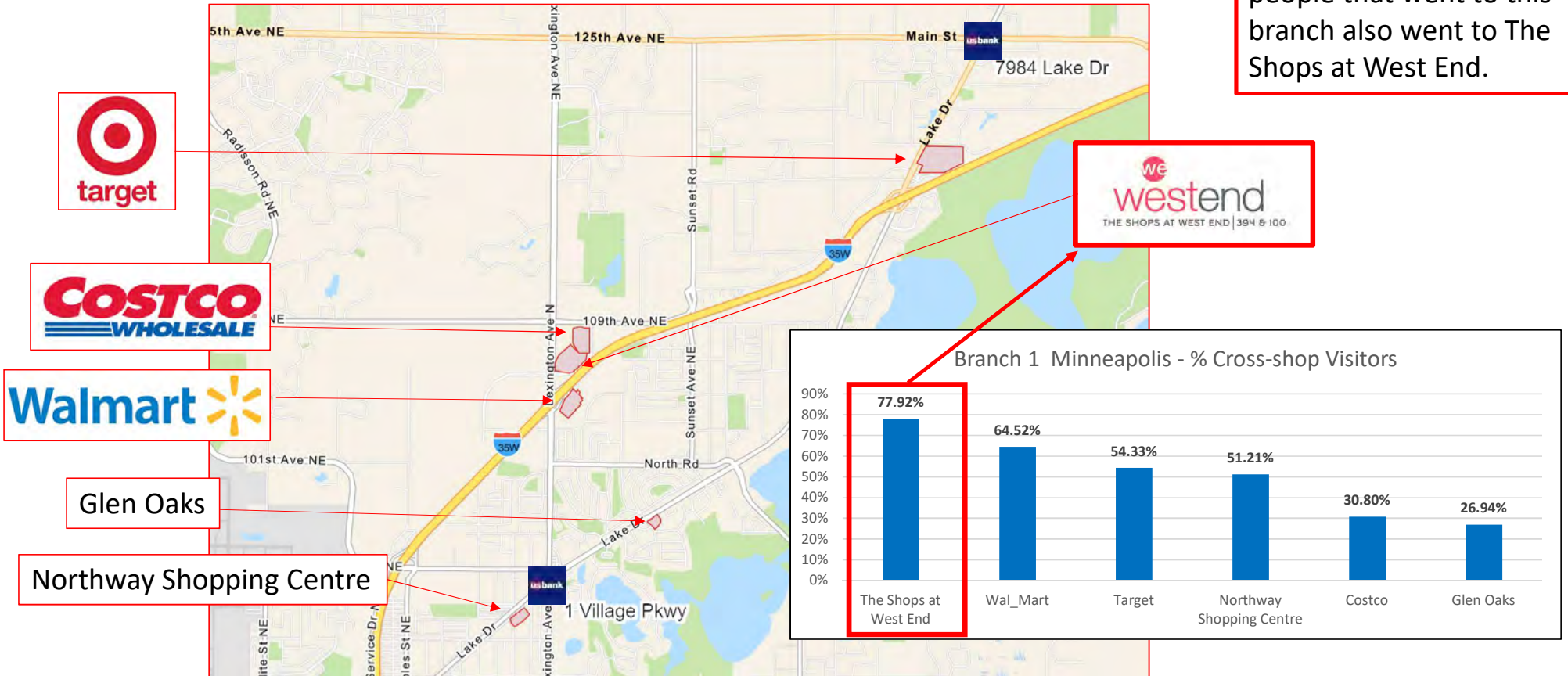
US bank – identify retail nodes



This map shows which retail nodes we want to extract mobile data for. The idea is to identify people that visited a branch as well as the retail nodes under study.

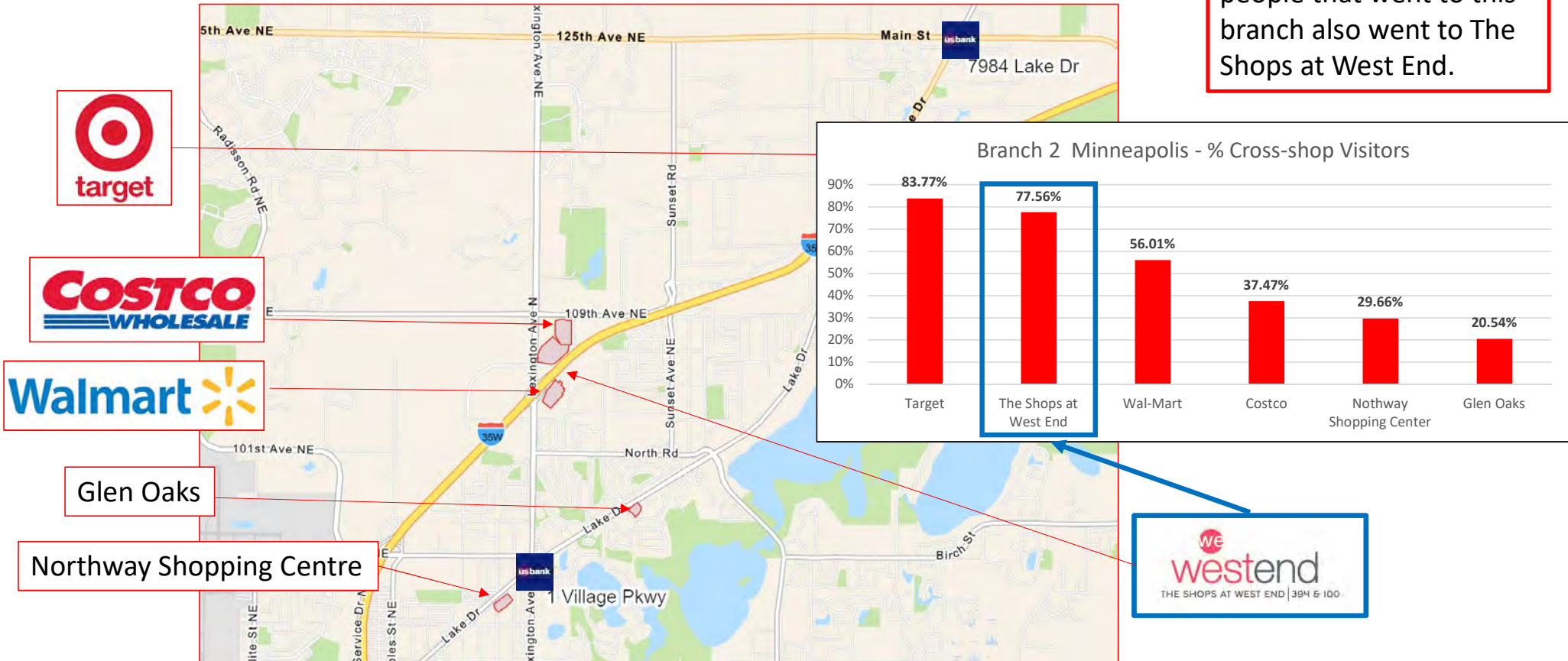
US bank – 1 Village Parkway

This slide illustrates the high percentage (77%) of people that went to this branch also went to The Shops at West End.

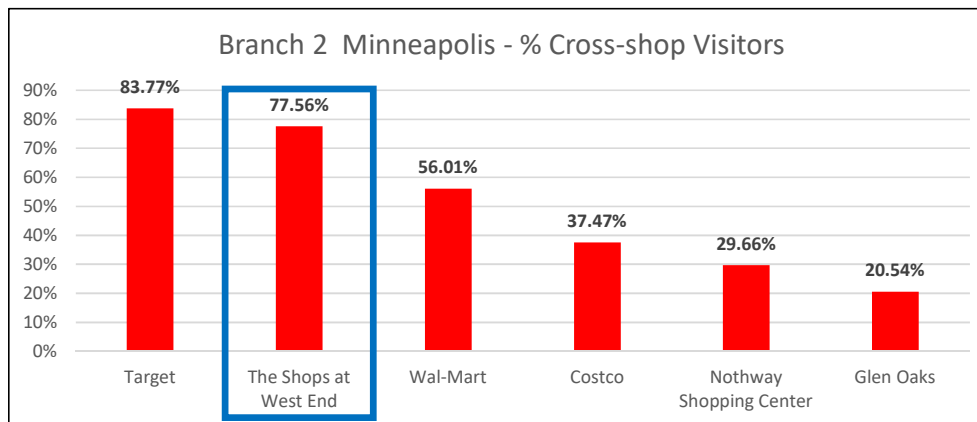
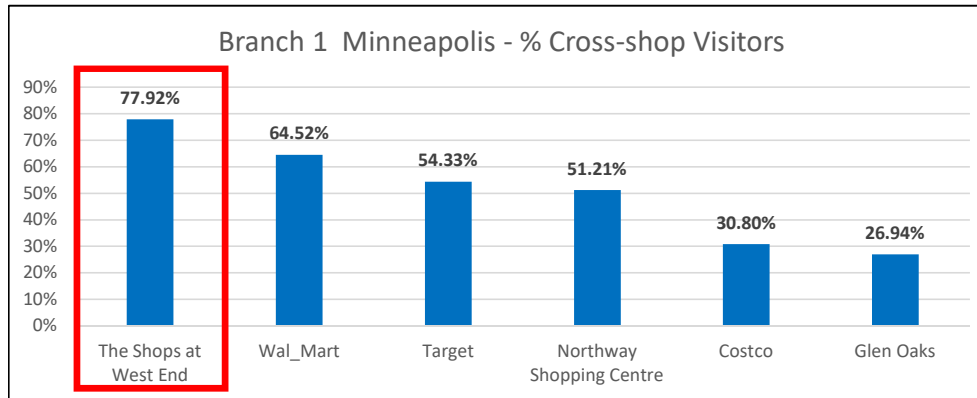


US bank – 7984 Lake Drive

This slide illustrates the high percentage (77%) of people that went to this branch also went to The Shops at West End.

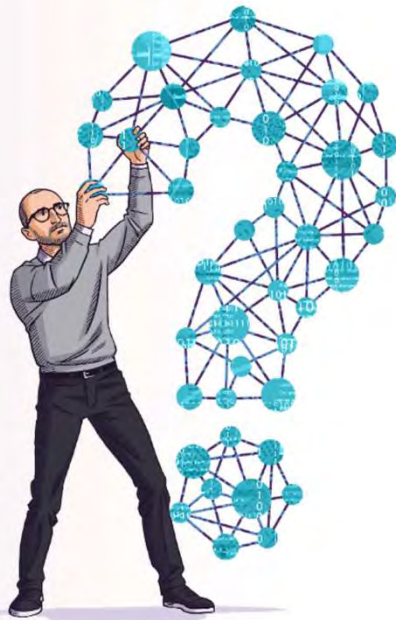


US bank example – were we successful?



- For the retail nodes identified The Shops at West End seem like the best fit.
- Seventy eight (78%) of the people that visited Branch 1 also went to the Shops at West End.
- Seventy seven (77%) of the people that visited Branch 2 also went to the Shops at West End.
- Only 7% of Branch 1 customers visited branch 2
- Only 24% of Branch 2 customers visited branch 1

QUESTIONS?



Jason Norfolk



Peter Miron



Casey Price