



UBERMEDIA

GeoSocial + Human Movement Data

Combining GeoSocial data from Spatial.ai and Human Movement Data from UberMedia to provide a social media-based profile of visitors.

Overview

Are your location visitors heavily engaged with Hip Hop Culture? Farm Culture? Yoga? Fashion? Identifying with Connected Motherhood? Are they Wine Lovers? Or something entirely different? UberMedia and Spatial.ai have partnered to create two new products that unlock the power of human movement data combined with GeoSocial segmentation to reveal insights into the social media behaviors behind geo-footprints.

Two Reports

First, Spatial.ai data on social media segmentation are paired with UberMedia's Market Insights to provide neighborhood-level views of human movement, social media activity, visitation growth over time, and general retail activity.

Second, the GeoSocial Affinity report gives you the ability to narrow in on observed visitors within a POI or retail location, and discover dominant and uniquely significant social media segments of the people who are frequenting the location.

Market Insights

Spatial.ai's GeoSocial dataset, broken out by census block group, categorizes social media activity in an area into 71 different segments and 19 affinity groupings. Each census block ID contains a percentile score from 0- 100, which indicates the prevalence of social media activity in the area for each of the 72 segments and 19 affinity groupings, baselined to a national average.

The basis of census block group in Spatial's data instantly layers in valuable context to UberMedia's Market Insights products: Pulse Daypart, Pulse Trend and Market Potential. By combining the 4 data sets, users can begin to unlock greater insights into the footprint and behaviors of people moving in and around any particular neighborhood. This fosters a greater understanding of visitor profiles and aids in site selection.

When delivered with UberMedia Market Insights package, GeoSocial Insights provides both the raw, nationally-baselined scores for each segment, as well as a market-baselined score for each segment.

White papers which discuss the specific interpretation of the market insights data sets are available from your UberMedia representative.

GeoSocial Affinity

While Market Insights concentrates on activity on a neighborhood-level, the GeoSocial Affinity report provides a profile of the social media segments of your actual visitors. This paper discusses how the report is generated and how to interpret the results.

Methodology

At its core, the GeoSocial affinity report reveals two facets of the social media segmentations of visitors to your location:

1. The overall intensity of each social media segment within your visitors.
2. How the social media preferences and behaviors of your visitors stand out from the baseline established by the given market's population as a whole.

The Spatial.ai data set

Within the raw Spatial.ai data, each census block group contains a measurement (an index from 0-100) that represents a percentile ranking of a given geography compared to the United States as a whole. For example, a score of "90.00" would reflect that this geography has scored higher than 90% of the country for the given segment. Each of these scores is accompanied by a volume index which measures the number of samples in a given census block. To ensure reports are directly actionable for granular decision-making, UberMedia custom crafts two different measurements using the visitor data to a specific location.

Social Scoring

To best identify the social media segments associated with a specific location, a weighted raw social score is created for each of the 71 Spatial.ai social media segments and the 19 affinity groupings. UberMedia first determines the devices that visited the specific study geography. Then, UberMedia matches those devices to their Common Evening Location (CEL)¹ census block group, and the associated social segments in those census block groups. This allows a weighted average for each social segment, like Hops & Brews or Connected Motherhood), to be calculated for the observed visitors. This score is weighted by visits.

This calculation enables you to understand the social segments that are visiting your location, where a higher Raw Social Score means a higher level of social media behavior associated with the specific segment.

GeoSocial Affinity

To create a uniqueness measurement, the "GeoSocial Affinity" score, UberMedia creates weighted market-level baselines using Spatial AI's national index and counts of our local mobile population. Thus, social segments values in high population areas within a market will count more heavily into the baseline than social scores in the lower population areas.

Creating a baseline is critical for determining the uniqueness of your specific store visitors. For instance, if the raw weighted social score for your location is "Hipsters | 82" you can make the determination that your visitors are often performing a lot of social media activity related to hipsters. This result becomes even more insightful when you layer in a value to compare it to. It is hard to interpret that number without something to compare against, as it is hard to interpret that number (82) without knowing if it is high or low compared to the market as a whole. If the market baseline is 43, then your location definitely skews Hipster. If the baseline is 83, then your location is Hipster-neutral. Therefore, the key metric for uniqueness is the GeoSocial Affinity Score, where a higher positive number means greater skew toward those social media behaviors.

¹ A white paper discussing the CEL methodology is available from your UberMedia representative.

The GeoSocial Affinity Report Output

The GeoSocial Affinity Summary report is provided as follows:

Polygon Name	GeoSocial Segment Name	Market Baseline Social Score	Market Baseline Score Rank	Weighted Raw Social Score	WRSS Rank	Social Score Differential	GeoSocial Affinity Score	GSA Rank
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Column Name	Interpretation
Polygon Name	Name of study geography. Note this is collected from the source polygon, geoJSON or shape file as the “NAME” field.
GeoSocial Segment	Name of the GeoSocial segment being analyzed. See taxonomy.spatial.ai for full descriptions of the 72 segments. Additionally, this includes the “affinity” segments created by Spatial. See <i>Appendix A for an outline of the affinity segments</i> .
Market Baseline Social Score	A derived number which evaluates social behaviors across all Census Block Groups within a Metropolitan Statistical Area (MSA) or market. This percentile is a baseline social score reflecting overall intensity of social media behaviors within the larger market where your study geography is located. If your report includes stores from multiple markets, each store’s baseline reflects the market the store is in. If you have used multiple study geographies/locations in the same market, these market scores will be consistent across all your study geographies/locations.
Market Baseline Score Rank	Market Baseline Score Rank simply orders each social group for the market by Market Baseline Social Score. If you have used multiple study geographies/locations in the same market, these market rankings will be consistent across all your study geographies/locations.
Weighted Raw Social Score	Weighted average of the Spatial.ai social score measurement of visitors to your location, weighted by the CEL of visitors to your location.
WRSS Rank	WRSS Rank simply orders each social group for a single location's visitors by social score (#1=highest ranking social group amongst visitors of each location).
GeoSocial Affinity	The percent difference between your visitors social score and the market baseline score. Interpreted as “the site visitors are X% more likely to heavily engage in social media behaviors associated with this segment than the average person in the market.”
GeoSocial Affinity Rank	GSA Rank simply orders each social group for a single location's visitors by GeoSocial Affinity (#1=most unique social group amongst visitors of each location). These rankings allow the easy identification of a Top 3 or Top 10 unique social segments per location.

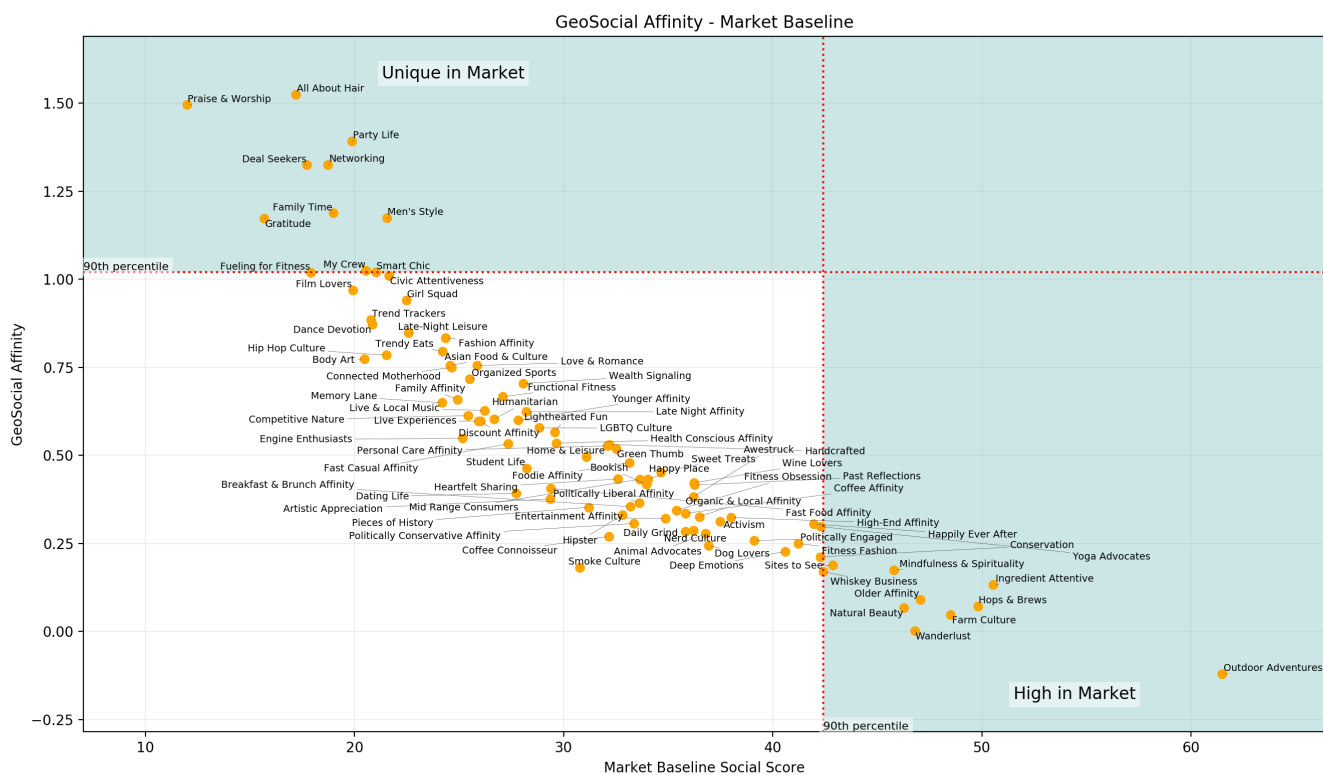
Note: See the Appendix B for a deeper dive into the methodology of creating the Market baselines and GeoSocial Affinity Score.

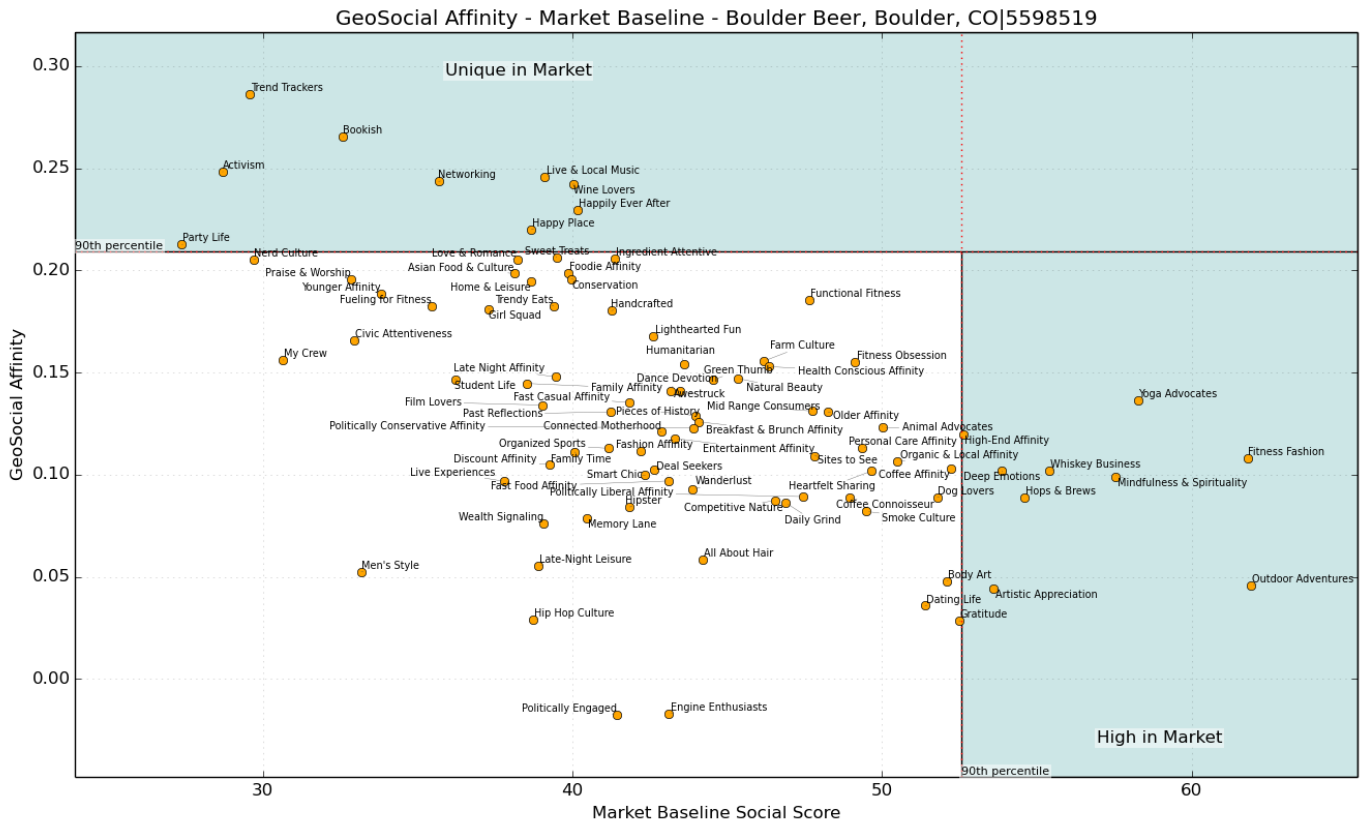
Interpreting the GeoSocial Affinity Report

The GeoSocial Affinity report enables you to understand the social media behaviors of your customers within the context of your larger market. The critical information to focus on has two dimensions:

- **Unique to your location behavior:** This dimension allows you to understand how your specific visitors differ from the market average in their social media behaviors. For instance, your visitors may have significantly more social media activity related to “Connected Motherhood” than the average in the larger market. This would be a good indicator that your location is appealing to mothers more than average, and could be a dimension to lean into for marketing or merchandising efforts for this location.
- **High in market behavior:** This dimension allows you to identify segments which aren’t unique to your store, but are so high in activity in the larger market that it should not be ignored. For instance, Green Thumb segment may be one of the top interests in your market, and even if your store is right around that same level, its an important dimension to consider in your visitor profiling.

In order to assist in this analysis, the GeoSocial Affinity report comes with visualizations which help to understand these two critical dimensions of your report. In the examples below, note the segments that appear in the green areas: these are the segments most unique to your location and the high in market segments discussed above.





GeoSocial Affinity Scores for Boulder Beer, Colorado

The upper-right quadrant of these diagrams is the magic zone. If a segment pops into this zone (which doesn't happen often) then it is a Key Segment for the study location. It means that not only is the market baseline in the 90th percentile, but the geosocial affinity score is as well. Any Key Segments means your market has a lot of social media activity around that segment AND the visitors to the site are even *higher* in those already-prevalent behaviors.

An aerial photograph of a dense urban skyline, likely New York City, featuring numerous skyscrapers and a river in the background. The entire image is overlaid with a semi-transparent blue filter. The text 'Appendix A: Affinity Segments' is centered in the middle of the image in a white, sans-serif font.

Appendix A: Affinity Segments

Within the output of the GeoSocial Affinity Report, you will see scores for various affinity groups. The below chart outlines the contents of these affinity groupings, wherein Spatial.ai takes segments that have similar correlations and groups them into one affinity grouping.

Dimension Type	Affinity Grouping Name	Correlation Dimension	Segments within the Affinity Grouping
Retail Type	Foodie Activity	Top segments with strongest correlation to high end restaurants	Trendy Eats, Wine Lovers, Handcrafted, Girl Squad, Ingredient Attentive
	Breakfast & Brunch Affinity	Top segments with strongest correlation to breakfast or brunch POIs	Bookish, Coffee Connoisseur, Wanderlust, Trendy Eats
	Fast Casual Affinity	Top segments with strongest correlation to fast casual restaurant locations like Chipotle, Zaxby's, etc.	Student Life, Dating Life, Connected Motherhood, Fitness Obsession, Trend Trackers.
	Coffee Affinity	Top segments with the strongest correlation to coffee shops	Bookish, Artistic Appreciation, Mindfulness & Spirituality, Fitness Fashion
	Fast Food Affinity	Top segments with the strongest correlation to QSR POIs	Farm Culture, Praise & Worship, Engine Enthusiasts, Daily Grind, Competitive Nature
	Organic & Local Affinity	Top segments with strongest correlation to Organic and Local POIs.	Hipster, Handcrafted, Yoga Advocates, Artistic Appreciation, Mindfulness & Spiritual
	Fashion Affinity	Top segments with strongest correlation to fashion & retail shopping locations	Trend Trackers, Men's Style, All About Hair, Smart Chic, Fitness Fashion
	Health Conscious Affinity	Top segments with strongest correlation to health and wellness POIs	Functional Fitness, Fitness Obsession, Feeling for Fitness, Organized Sports, Yoga Advocates
	Entertainment Affinity	Top segments with strongest correlation to entertainment-centric POIs: movie theaters, arcades, music venues, breweries, dancing, etc.	Nerd Culture, Whiskey Business, Live Experiences, Hops & Brews, Film Lovers
	Late Night Affinity	Top segments with strongest correlation to late night activities such as bars, clubs, nightlife, cocktail POIs, etc.	Party Life, Late-Night Leisure, Girl Squad, Live & Local Music, Hops & Brews
	Person Care Affinity	Top segments with strongest correlation to Pois like gyms, nail salons, massages, etc	Yoga Advocates, Functional Fitness, Wealth Signaling, All About Hair, Mindfulness & Spirituality

Dimension Type	Affinity Grouping Name	Correlation Dimension	Segments within the Affinity Grouping
Age & Lifestyle	Younger Affinity	Top segments with strongest correlation to youth	Student Life, Bookish, Party Life, Dance Devotion, Nerd Culture
	Older Affinity	Top segments with strongest correlation to older generations	Farm Culture, Natural Beauty, Sites to See, Outdoor Adventures, Wine Lovers
	Family Affinity	Top segments with strongest correlation to family-related behaviors	Family Time, My Crew, Praise & Worship, Connected Motherhood, Farm Culture
Political Values	Politically Conservative Affinity	Top segments that tend to vote conservative	Farm Culture, Connected Motherhood, Natural Beauty, Outdoor Adventures, Dating Life, Praise & Worship, Trend Trackers, Organized Sports
	Politically Liberal Affinity	Top segments that tend to vote liberal	Activism, Heartfelt Sharing, Hip Hop Culture, Artistic Appreciation, Deep Emotions, Mindfulness & Spirituality, Hipster
Income	High-End Affinity	Top segments with strongest correlation to high income.	Wine Lovers, Yoga Advocates, Mindfulness & Spirit, Dog Lovers
	Mid Range Consumer Affinity	Top segments with strongest correlation to mid-level incomes	Green Thumb, Animal Advocates, Handcrafted, Fitness Fashion, Organized Sports
	Discount Affinity	Top segments with strongest correlation to lower-level incomes	Hip Hop Culture, Party Life, Activism, Body Art, Smoke Culture

An aerial photograph of a dense urban skyline, likely New York City, featuring numerous skyscrapers and a prominent highway with traffic. The image is overlaid with a solid blue color filter. The text "Appendix B: Methodology Discussion" is centered in white.

Appendix B: Methodology Discussion

This Appendix discusses more on the methodology by which the GeoSocial Affinity report is created.

Inputs

The GeoSocial Affinity report for any one location is created with three raw data sets:

1. The Spatial.ai nationwide data set which contains social score percentiles for each census block group in the US and volume index for each census block group. *Note: other countries coming soon.*
2. UberMedia’s full US Common Evening Location database.
3. UberMedia’s Common Evening (CEL) and Common Daytime (CDL) report *for the specific study location(s)*. The CEL and CDL report first determines visitors to the study site, then assigns the device CEL and CDL with its census block ID for each device in the report which has a CEL/CDL. Note for purposes of creating this report, CEL is used to connect the two data sets, so from here forward, CEL will be used as a shorthand when discussing the report.

Creating the Baseline

The market-level baseline is derived from the Spatial.ai nationwide data set. This is done by first calculating a count of the number of devices in each census block group in a market that UberMedia has paired with a Common Evening Location. This count is used as the weight in a weighted average calculation of social scores across all census block groups for each social group in the Spatial.ai taxonomy. This is labeled the Market Baseline Social Score and is present in the “Full” version of the GeoSocial Affinity report.

It is worth noting here that the Market Baseline Social Score is expressed as a percentile, and is an *average* of percentiles. A persuasive argument for the validity of averaging percentiles can be found here: <https://rpubs.com/jrauser/percentiles>. Note that the methodology at the time of the writing of this paper includes as a best practice using a max of percentiles, and future enhancements of the baseline methodology may add bootstrapping to add increased robustness to the method.

The Social Score

The third dataset is now brought into the analysis. The Common Evening Report from UberMedia’s location intelligence platform Vista contains information about the CELs of visitors to a study location. The information in the report relevant to the GeoSocial Affinity report is:

Polygon Name	UberMedia ID	CEL Block Group
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Again, a weighted average is applied for each GeoSocial segment to create the Raw Weighted Raw Social Score. This time, the weight applied is the count of visiting devices from each census block group.

A simple example serves as illustration. Suppose your store in Trumbull, CT sees 10 visitors from CBG “1” and 100 visitors from CBG “2”. Looking at one social segment, “Bookish”, we can see that census

CBG “1” has a social score of 78 and CBG “2” has a Bookish social score of 40. The formula for the Bookish Weighted Raw Social Score is:

$$\text{WRSS} = \frac{[\text{social_score}(1) * \text{visitor_count}(1)] + [\text{social_score}(2) * \text{visitor_count}(2)]}{[\text{visitor_count}(1) + \text{visitor_count}(2)]}$$

where $\text{social_score}(N)$ is the Bookish score in census block group “N” and $\text{visitor_count}(N)$ is the count N of visitors from that census block group in the study location.

The GeoSocial Affinity Score

The Social Score Differential is derived by calculating the difference between the Weighted Raw Social Score and the Market-Baseline Social Score. This is then divided by the Market-Baseline Social Score to derive the GeoSocial Affinity Score. This score is expressed as a percentage, and the interpretation is outlined above.