USING LOCATION FOR AUDIENCE TARGETING

A Perspective Issued By the MMA On Behalf of
The MMA NA Location Committee
Audience Working Group

MMA
MOBILE MARKETING ASSOCIATION

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MOBILE MARKETING ASSOCIATION

Introduction

Mobility has changed the way we think about digital audiences. Before the advent of the ubiquitous mobile phone, traditional marketing and advertisement strategies that were "location-based" had a very different meaning than "location-based marketing" does today.

Options for location-based mobile audiences have expanded far beyond the simple geo-fence campaign, and offer both sophisticated targeting options and insights on reaching the consumer on their mobile device with the right message at the right time.

At the most basic level, location-based advertising simply utilizes a smartphone's GPS data to geographically target audiences for the purpose of delivering relevant ads. New technologies in mobile leads to both refinement and expansion of location-based audiences, with terms such as "hyper-local" and "proximity-based" proliferating.

Location-based marketing, unlike traditional marketing methods, is adaptive and effective in targeting specific consumer audiences based on not only location, but location data combined with a plethora of additional data, such as search traits and patterns. The always-there, always-on nature of mobile devices gives real-time access to user behaviors, preferences, and location profiles. This helps marketers understand consumers in a new way. The results give marketers the ability to send real-time relevant content to these segments.

According to a 2013 report from Verve Mobile, mobile campaigns that leveraged location targeting outperformed non-location-targeted campaigns by a factor of two, The report found all location-based strategies exceeded the industry average click-through rate (CTR) of 0.4%, with geo-aware campaigns leading with a 1% click-through average. For the report, Verve reviewed more than 2,500 mobile campaigns run across its location-based ad platform.

Location data is ever-changing and provides context and relevance that has never before been available to marketers. In this paper we explore several methodologies and use cases for specific types of location-based audiences for use in mobile advertising.

How Location-Based Audiences are Created

Location-based audiences are developed using historical geographic data from mobile devices to build audience profiles.

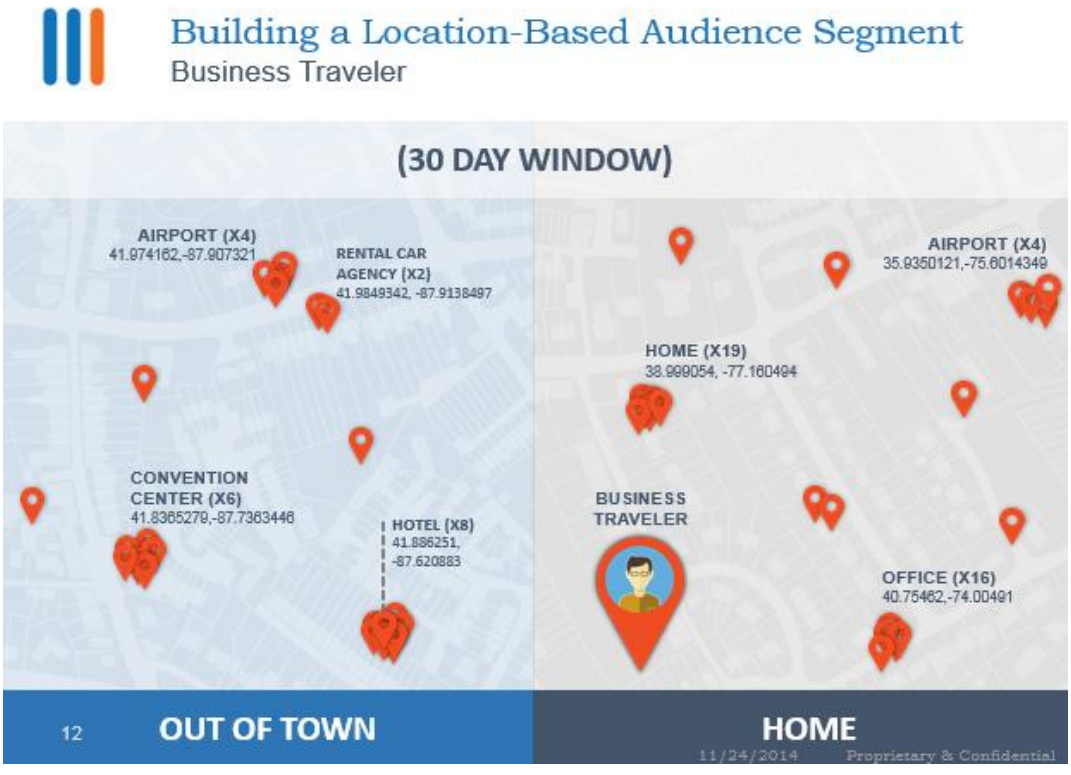
Location data is generated by mobile devices, typically using a mobile phone's GPS capabilities, but sometimes using other sources of location information available from the device. This can be obtained, on an opt-in basis, from ad exchanges or through direct relationships with mobile publishers. The user location data generated by the device takes the form of latitude and longitude coordinate pairs.

Location based audiences can provide a rich understanding of users on mobile by analyzing the historical location patterns of the devices people own and use. Once an audience profile is developed, that profile can be used to inform ad targeting regardless of where the device is at the time of the ad placement. Location-based audiences are developed using two essential types of location data: 1) user location and 2) places data. Beyond these core data elements, additional data sets are often used to enrich the profile and provide a deeper understanding of the user.

Location can indicate quite a bit of information about users. Geo-behavioral patterns can indicate demographics (age, gender, race, income etc.), behavioral/psychographic traits (travel, dining habits, shopping behavior, brands and retail locations frequented etc.), and geographic data (areas that the user spends time). Additional datasets such as purchase data, TV viewership, auto ownership or credit card data can allow for additional segmentation.

Sample Location Profiles

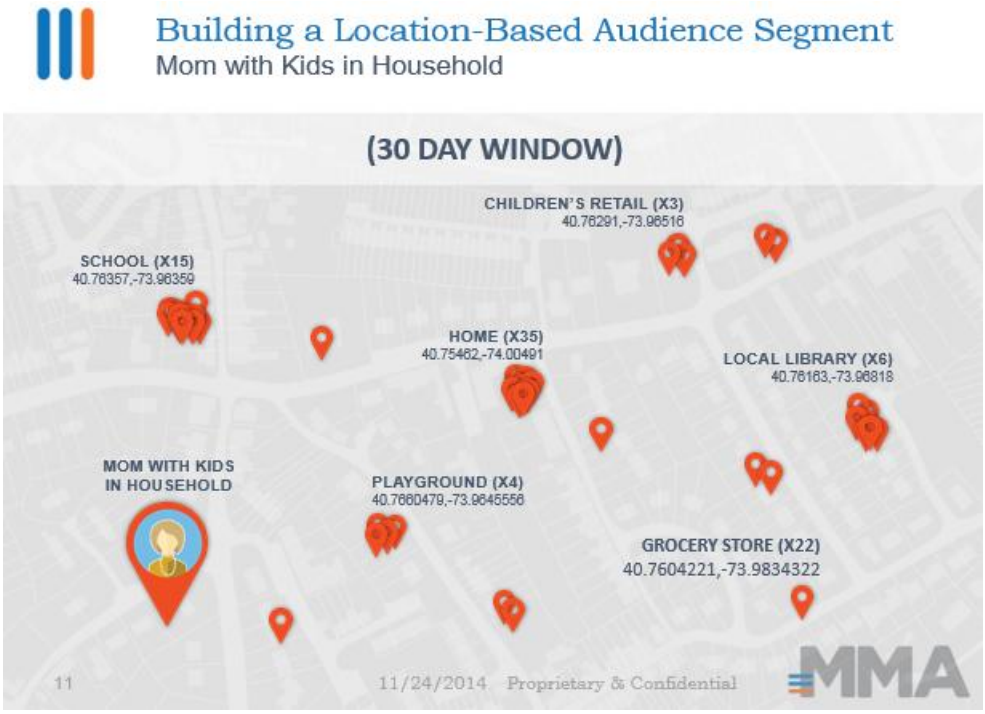
First, an example of a mobile device profile that indicates the owner is a business traveler



Example 1: Business Traveler

A location history over 30 days indicates that this mobile user is a business traveler. First, we see that the user is observed in two different cities, indicating travel. We've also seen the user at the airport in both the home city and the away city, indicating air travel. We can identify the home city by looking for a pattern that indicates home location – numerous observations (19 in this case) that take place at a residential location during hours that indicate a residence (i.e., mornings, evenings, and weekends). Furthermore, in the away city, we've seen the user spend time at the convention center and nearby hotel, indicating travel for business, instead of leisure (if we had seen the user at a resort and spending time on the beach, we could infer that this was travel for leisure).

In this example, a mobile device profile is created that indicates the user is a parent:



Example 2: Adult with Kids in Household

This illustration demonstrates how a user's location history over 30 days indicates an adult with kids in household. We've observed this user making repeated trips to areas that indicate presence of children – school (15 times), children's retail (3 times), the playground (4 times), and the local library (6 times). This could be further validated by matching it against other third party data sources associated with this mobile ID, to determine the user is female – probably a mom.

While the above examples are fairly intuitive, in most cases, machine-learning models are used to uncover non-intuitive patterns in behaviors that can be used to better understand users based on the places they visit. For example, it may turn out that business travelers not only often show up at airports, car rental offices, and hotels, but they also tend to frequent specific coffee shops and bars when not in their home city. In addition, additional data is often used to enrich a pure location-based profile for more accuracy. Most vendors have their own secret sauce of algorithms and data that contribute to creating audience profiles.

Proximity Targeting vs Location Based Audiences

It is important to note that delivering advertising based on location-based audiences is not the same as delivering advertising based on a proximity, often referred to as geo-fencing, or polygons, etc.. Location-based targeting tactics such as geo-fencing enable advertisers to deliver ads to users based on where they are at the moment the ad is being delivered (e.g., reach users currently within 300 meters of a Walmart, reach users who are currently at airports etc.). While geo-fencing is sometimes used as a proxy for audiences (geo-fence airports to reach business travelers), location-based audiences enable advertisers to use the rich contextual information that location can provide without being tied to the user's specific location at the point of time of the ad impression.

For example, location-based audience providers could develop a segment of "Walmart Shoppers" that would enable advertisers to reach people who shop at Walmart wherever they may be at the time of the ad impression. They need not be at Walmart at that moment, to receive an ad. Location-based audiences are also more sophisticated than the blunt instrument of proximity – as illustrated above, the audience of business travelers is significantly smarter than simply just looking at people at airports. Simply put, proximity targeting is about targeting users based on where they are in real-time, and location-based audiences are about developing a rich understanding of the device's user by examining a history of location data.

The Data Behind Location Based Audiences

There are two primary types of location data involved in location-based audience development – user data and places data.

User Location Data

User location data is the location data generated by mobile devices that indicate where a user is. The user location data generated by the device takes the form of latitude and longitude coordinate pairs, for example the 40.76357, - 73.96359 seen on the Moms example above (underneath where it says "school (x15)"). The quality of a given location-based audience profile is dependent on the quality and quantity of the underlying location data. The data needs to be precise to be most useful in developing audiences, and the more extensive the history, the more accurate and extensive the audience profile will be.

The quality of user location data varies due to many factors:

- Source Site/App
- Handset & Technology (GPS)
- Whether location was determined in presence of WiFi or OTA
- Indoor vs Outdoor

For more information about this, please find the MMA Location Terminology Guide here.

Buyers of location-based audience should always verify that their provider is using clean, precise data when building audiences.

Places Data

For user location data to be meaningful, it needs to be tied to a specific places. The data that says that 40.76357, - 73.96359 is a school, is known as “places” data. The quality of a location-based audience profile is also dependent on the quality of the underlying places data. Without an accurate understanding of what place a given location represents, the audience profiles will not be accurate. Place data is constantly changing as new businesses open, existing businesses close and/or move, so it’s important that one understands where their audience provider is getting their places data and how they keep it up to date.

Combination of User and Places Data

Most location-based audience providers combine user-location and places data to create audience segments. One approach is commonly referred to as the “tile” or “frame” approach. Providers divide up the world into a series of equal sized tiles, with a popular tile being a 100x100 meter square, and the location (place data) is profiled by the types of users (user data) previously observed there at various times of day.

Non-Location Data Used to Supplement Location Data

In addition to the user location data and places data, location based audiences may also incorporate data from additional sources.

App Data

Publicly available data is continuously collected on mobile apps including;

- Static app metadata (*Name, Description, Publisher, Price, Release Date, etc.*)
- Dynamic data (*Ranks, Ratings, Reviews, Feature Mentions etc.*),
- Social Media mentions (Twitter, FB, YouTube)
- Private Data (Sales, Downloads) from publishers

These data points are collected, and machine learning is used to combine these sources into an audience profile for each app. This can provide an audience estimation for an app directly, or can be used to inform the location profile information.

Household Data

The United States Census provides rich demographic information (race, income, education level etc) at fairly granular geographic levels. Location data can be used to infer the household of the device owner. Understanding the demographics of the neighborhood where the user resides can help enrich the audience profile.

Purchase Data

Data companies such as Acxiom, Catalina Marketing, Datalogix, and Dunnhumby aggregate purchase data from retailer loyalty programs. Location-based audience providers can link to first or third party purchase data with mobile devices through location history, and this can be used to enrich profiles with product, product category, or brand preferences.

Publisher Data (data passed by app/website)

Publishers of apps and mobile websites can provide a wealth of audience data, provided they are focused on collecting that data. Publishers focused on developing a data management platform to capture data about each user, whether declared or inferred, can do so in a variety of ways including; user registration, SDK access, native platform database, Facebook connect, Google analytics integration, user surveys, and many other methods.

These data include:

- Engagement Metrics
- Location data
- Device Data
- Connection Data
- Demographic Information

These elements can be used to enrich a location-based audience profile.

Location Data Accuracy

The quality of any location-based audience profile is dependent on the quality and quantity of the underlying user location data, as well as the places data used. While understanding and verifying location data accuracy continues to be a work in process, the MMA Location Committee has formed the Location Data Accuracy Working Group. This group is tasked with identifying and resolving the issues that give rise to the use of, or the appearance of, inaccurate location data. The working group will be issuing their findings in mid-2015. In the meantime, the following methods are currently used to assure the accuracy of location-based audiences.

3rd Party Audience Measurement & Verification

Third party independent measurement of what "audience" (Age, Gender, Ethnicity, Children/no children, Income, Education, Language) was exposed to an advertisers campaign, while new to mobile, is the foundation of all other media buying – print, TV, radio, digital etc. At least two major initiatives, comScore's vCE and Nielsen's mOCR, enable the measurement of who was exposed to or viewed an advertiser's ad. This is very different from recognizing actions taken on an ad (click etc.). The key reason audience measurement is important is that it allows comparisons using a single metric across different media – when a campaign reaches 38% of the female population age 18-34 – this is a metric that makes sense to brand marketers and enables measurement across media channels. Audience is a key and important component in all media buys, and is equally available in mobile.

Traditional Panel-based Methods

The most common methodology used to verify audiences is to leverage panels. These panels are either internal, proprietary, or can leverage large third parties data sets. The key factor when using panels other than size is to ensure they are representative of whatever universe is being estimated – in the case of US mobile users, the US population would be the universe. Each person in the panel represents a number of people in the universe. If the universe is 10 million, and the panel is 10,000 people, then (without weighting) each person represents (10 million / 10,000), or 1,000 people. Many providers of location-based audience ad targeting utilize panels to provide an ongoing check of the validity of their profiling techniques.

How Location Audiences Differ From Non Location-Based Sources

Methodology

Traditionally audiences have been derived from observed mobile usage, search, and browsing history (app data) or common traits of households in a static area (household data). These data sources use digital or self-reported data to give a robust view of demographics as well as past attitudes, behaviors, and brand preferences. They work to break down a large market into smaller areas, as granular as zip+4, based on these commonalities so that marketing strategies can be tailored to a specific group of consumers at a household level. In contrast, location-based audiences capture actual offline behavior in discrete locations. So, instead of saying someone shopped at Walmart because they used their phone to search for Walmart, instead with location-based audiences you can say that they have actually been observed from a location that is inside a Walmart store.

Granularity

While non-location based audience approaches work well for reaching target consumers while at home, location-based audiences expands this targeting to find consumers not only at home, but as they move throughout their days. By leveraging location, marketers can enhance this static, historical audience data to also take into account the powerful context of where a user is or has been. Location-based audiences are more dynamic, even targeting users at a one-to-one level.

Freshness

Audience data based on app and web visitation can be refreshed based on digital behavior but for the most part, non-location based audiences are only refreshed about once a year. Given their static nature, this is enough to provide a general idea of the traits of a market. Location-based audiences are constantly evolving and refining based on consumer visitation patterns and are therefore refreshed in real-time.

Use Cases

Goodwill

Audience Target: Hispanic and Local Donors
Campaign Goal: Reach Hispanic and local donor audiences to increase donation center visits.
Audience Approach: Audience targeting was based on a combination of demographic and past visitation behaviors (i.e., people that had visited another donation facility in the past)
Overall Impact

- 43% Increase in store visitation
- Over 13k additional visits
- Donations received from the campaign contributed to 1,300 job training hours
- Assisting Goodwill's ability to place a person in a job every 27 seconds

Source: xAd, Inc.

Pinkberry

Audience Target: Like-Minded Health Food Consumers
Campaign Goal: Reach Pinkberry loyalists and consumers of similar health food and fast-dessert brands.

Audience Approach: Audience targeting was based on past visitation to defined points of interest including health food stores, gyms and targeted fast food chains.
Overall Impact

- 100% lift in location-audience targeting tactics over industry average
- Exceptional engagement with secondary actions including coupon and maps

Source: xAd, Inc.

Sunscreen

Audience Target: Outdoor Enthusiasts
Campaign Goal: Build brand awareness for leading sunscreen brand by reaching beach-going outdoor enthusiasts
Audience Approach: A custom location-based audience was created by targeting users near beaches and pools. Additionally, real-time UV index data was used to refine the audience to locations with high UV ratings for a specific day.
Overall Impact

- Performance peaked when temperatures exceeded 100 degrees and when UV index hit level 8, which is the level where the UV risk goes from high to very high.
- Engagement rates exceeded industry averages by 2x
- The custom audience ensured a relevant ad was delivered to the right target audience

Source: Thinknear

Quiznos

Audience Target: People with high likelihood to dine at Quiznos
Campaign Goal: Increase sandwich sales
Audience Approach: A custom campaign audience was compiled of mobile users who frequented Quiznos and key competitors, had HHI under $50k and either lived near or were in real-time proximity to a Quiznos. Mobile coupons were offered to this target across three markets.
Overall Impact

- 6% lift in sales over national average

Source: YP

Automotive

Audience Target: In-market Minivan Shoppers
Campaign Goal: Reach prospective minivan buyers, defined as moms with kids in household in-market for a new car
Audience Approach: A custom location-based audience was created using locations that over-index for parents with children in the household, indexing patterns of frequency for locations such as Gymboree, Children's Place, playgrounds, and

household device matching to demographic data, and purchase history of children's clothing and CPG products. The campaign also targeted P.O.I.s where there were high over-indexes of the minivan target audience.

Overall Impact

- 30% increase in CTR when location and audience targeting were combined versus Geo-Fencing alone

Source: Verve

CPG - Sports Drink

Audience Target: Frequent buyers of sports beverages, busy parents, and health enthusiasts.
Campaign Goal: Increase sales of new sports beverage product
Audience Approach: Audience targeting was based on a combination of past purchase data, demographic data and included differential messaging based on current location.

Overall Impact

- 4% increase in product sales
- Return on ad served of $4.89

Source: 4INFO

Conclusion

Sophisticated buyers can benefit from an understanding of the underlying influences and techniques in using location to enhance audience targeting, in order to reasonably weigh the value that location-based audiences can provide.

Outlined in this document are a number of location-based audience development practices, resulting in more effective ways to employed to reach an intended audience with mobile campaigns. Location data, including a user's current, past, and future locations coupled with data such as demographics, psychographics, and behavioral data is a powerful combination. There are now more possibilities than ever before for marketers to create a truly targeted and engaging advertising experience.

MMA Overview

The MMA is the world's leading global non-profit trade association comprised of more than 800 member companies, from nearly fifty countries around the world. Our members hail from every faction of the mobile marketing ecosystem including brand marketers, agencies, mobile technology platforms, media companies, operators and others. The MMA's mission is to accelerate the transformation and innovation of marketing through mobile, driving business growth with closer and stronger consumer engagement.

Anchoring the MMA's mission are four core pillars:

- **Cultivating Inspiration**
  Aimed at the Chief Marketer; guiding best practices and driving innovation
- **Building Capability for Success**
  Fostering know-how and confidence within the Chief Marketer's organization
- **Demonstrating Measurement and Impact**
  Proving the effectiveness and impact of mobile through research providing tangible ROI measurement and other data.
- **Advocacy**
  Working with partners and our members to protect the mobile marketing industry. Additionally MMA committees work collaboratively to develop and advocate global best practices and lead standards development.

Mobile Marketing is broadly defined as including advertising, apps, messaging, mCommerce and CRM on all mobile devices including smart phones and tablets. Members include, American Express, AdChina, Colgate-Palmolive, Dunkin' Brands, Facebook, Google, Group M, Hewlett Packard, Hilton Worldwide, Kellogg Co., L'Oreal, MasterCard, McDonalds, Microsoft, Mondelēz International, Inc. Pandora Media, Procter & Gamble, R/GA, The Coca-Cola Company, The Weather Company, Unilever, Visa, Vodafone, Walmart, xAd, Zenith Optimedia and many more.

The MMA's global headquarters are located in New York and it has regional operations in Europe/Middle East/Africa (EMEA), Latin American (LATAM) and Asia Pacific (APAC), with local councils in 17 countries.

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