

UNDERSTANDING THE 2023 ANNUAL FORECAST

Frequently Asked Questions

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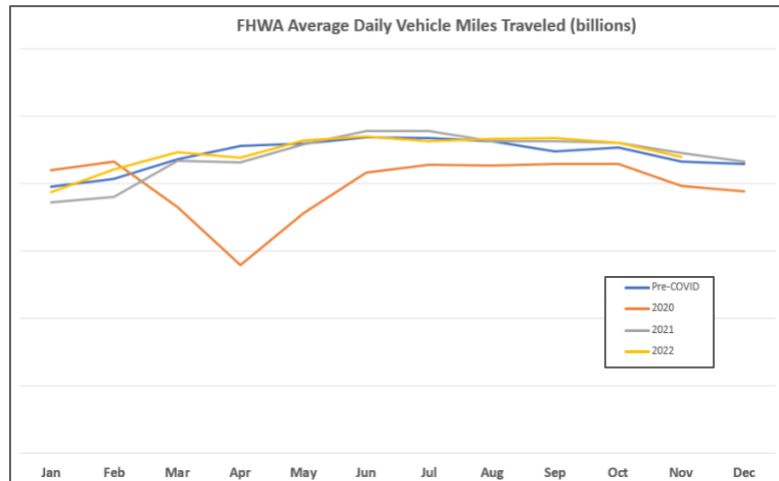
2023 ANNUAL FORECAST OVERVIEW

Q: How was the 2023 annual forecast developed?

A: Geopath’s annual forecast is a key deliverable for the out of home industry and one that is inherent in our purpose as an organization. When building the 202106 forecast, the time periods used to produce that dataset included data from March and April in 2019, which was then compared to 2021 during the same 2 months and extrapolated to the year.

The time period used for the 2023 forecast encompasses a full year of observed data (from September 2021 through August 2022), which allows for greater understanding of overall mobility patterns.

This provides a more stable dataset that is less susceptible to short-term anomalies that may have impacted the previous forecast.



Q: How does the 2023 annual forecast align with other data sources?

A: The 2023 Annual Forecast has been aligned against multiple sources. One of these sources of “ground truth” is the US Energy Information Administration’s report of US gasoline consumption. Gasoline consumption correlates well with Vehicle Miles Traveled (VMT), a key ingredient in understanding circulation, as over 95 percent of on-road travel still use internal combustion engines. The graphs below illustrate how Motionworks VMT (Figure 3) fluctuates correspondingly with the fluctuations in gasoline consumption (Figure 2).

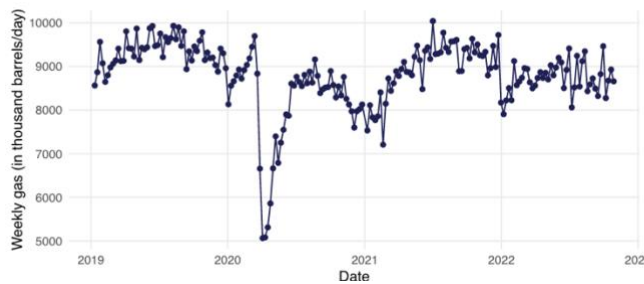


Figure 2: Weekly US EIA gasoline consumption through time.

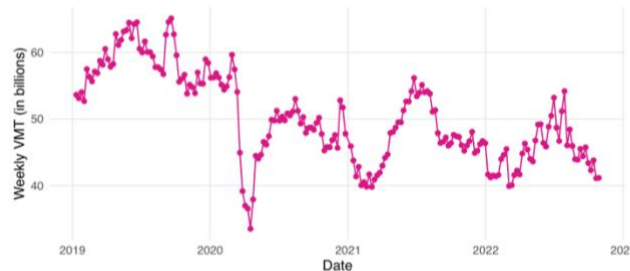


Figure 3: Weekly Motionworks vehicle-miles traveled.

Q: Why might my unit-level metrics (impressions, reach, frequency) differ in the 2023 annual forecast?

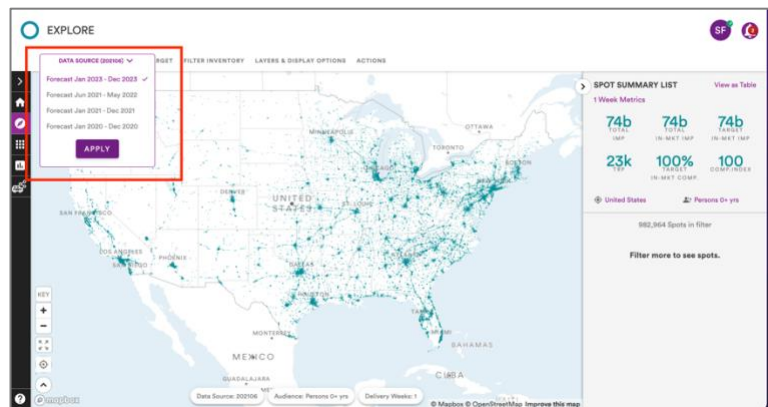
A: Pedestrian volumes originally used in the 2021 midyear forecast (202106/2021R1) differed due to the pandemic. Various factors such as gasoline consumption and overall economic landscape drive the volumes of people on roadways, both pedestrian and vehicular. Fluctuations in these counts correlate to fluctuations in metrics at the unit level. In addition to this, the 2023 forecast considers a full year of observed data, allowing for a more stable forecast overall. Geopath has also vastly improved its Reach & Frequency model to align with observed circulation and Reach & Frequency per unit. For those media units that show 'outliers' which are reported by media operators as "deviating significantly from 202106/2021R1 data", Geopath will set the status to "Under Review" and continue to evaluate. Media operators should reach out to their assigned Media Analyst with questions on specific inventory.

Q: Are Transit Station and Scheduled Fleet media included in the 2023 release?

A: We are excited to announce that all media types that Geopath audits, including transit station and scheduled fleet media, are now available via the Insights Suite and API. Geopath members can now access 2023 forecast metrics for all audited media classes: roadside, place-based, transit station interior, and scheduled fleet exterior.

Q: How can I access the 2023 annual forecast?

A: The 2023 Forecast can be accessed in the Geopath Insights Suite by switching the "Data Source" and selecting the Jan 2023 – Dec 2023 forecast. API users must use API version 2.2. This is the only API version that can access the 2023 annual forecast, updated Reach and Frequency metrics, as well as transit station and scheduled fleet exterior media.



For users accessing the data via the API, [Updated Geopath API documentation is available](#), as well as a [list of 'new features' and 'breaking changes' for the 2.2 API](#), which are summarized in the [API version 2.2 release notes](#).

Q: When will the 2023 Annual Forecast become the default forecast in Geopath's tools and API?

A: The 2023 annual forecast is the default data source used in the Insights Suite and API as of February 27, 2023. Members will have until April 3rd to integrate the new data into their proprietary platforms, particularly operators that are building packages for the first time with this data. On this date, the new forecast will become the only transactional dataset for the industry.

As always, when using these or any Geopath data, please ensure that the data vintage (2023) as well as the following text are included:

GEOPATH AUDIENCE LOCATION MEASUREMENT(TM) Data is proprietary intellectual property owned by Geopath, Inc. and is to be used only by the recipient solely and exclusively for its planning

and /or buying of out-of-home media advertisements. (C)Copyright, 2023 Geopath, All Rights Reserved. Powered by Streetlytics(TM)

Note: The data vintage and above text are included in any export from the Geopath Insights Suite.

Q: What audiences are available in the forecast?

A: Geopath will initially support 100+ unique demographic audience segments and all 68 PRIZM Premier audience segments with the launch of the 2023 annual forecast on February 27, 2023. Following this initial release, Geopath intends to augment these demographic and PRIZM audiences with additional consumer profiles based on historical usage metrics. These will be made available by March 31, 2023.

A complete list of available audiences and downloadable excel file can be found [here](#).

Q: Are previous annual forecasts still available?

A: The 2021 Midyear Forecast (202106/2021R1) will be available in the Insights Suite and API version 2.1 throughout 2023 for historical comparison purposes only. The 2023 forecast will be the default data source used in the Insights Suite unless manually changed.

Additionally, Geopath will no longer apply any inventory updates to the 2021 Midyear Forecast. Any inventory added to, removed from, or updated within our database after the December 19, 2022 release will only be viewable within the 2023 annual forecast and will only be accessible via API version 2.2, or using the current data source in the Insights Suite.

Q: Which annual forecast should I use?

A: The 2023 forecast should be used for all transactional purposes upon release on February 27, 2023. Members will have until April 3rd to integrate the new data into their proprietary platforms, particularly operators that are building packages for the first time with this data. On this date, the new forecast will become the only transactional dataset for the industry.

The 2023 dataset is the only way to access updated Reach and Frequency metrics, as well as transit station and scheduled fleet exterior media. Previous data vintages may be used for comparison, but the data source must be clearly disclosed when sharing metrics.

For plans currently in flight and ending after February 2023, we recommend that members use the 2023 dataset to understand any impact to the project's goals. As always, Geopath members should clearly disclose which data vintage is being used when sharing Geopath Audience Data with other members or clients. If this is not provided, we recommend asking to ensure that the appropriate forecast was used.

UPDATED REACH & FREQUENCY MODEL & METRICS

REACH & FREQUENCY geopath
What Has Changed and Why it Matters

The below chart covers some of the major components that have evolved from Geopath's historical reach & frequency approach to the new approach. Along with the factors mentioned above, these components help shape how reach & frequency are compiled at the package level.

COMPONENT	WHAT HAS CHANGED	WHY IT MATTERS
AUDIENCE COVERAGE The geographic dispersion around a market of the home location of the exposed audience and amount of exposure in each neighborhood.	Previously, audience coverage was aggregated at larger geographic or market levels. Now, with increased precision, looking down to the neighborhood level coverage (even tract, within the market, we can now accurately identify the reachable and unreachable target audience population.	Audiences are not always evenly spread across a target market. Understanding the inventory which has coverage (potential reach) of local areas in which your audience lives within a larger market is key to audience targeting and efficient media planning.
DUPLICATION Within a package of inventory, there are overlaps in audience delivery. Two or more media units will deliver to some of the same audience in a market.	Duplication of reach was previously assumed to be random at the package level, within the coverage area of the market. This meant that reach and frequency estimates were not sensitive to the overlap of coverage and precise duplication. However, reach duplication is not necessarily random. Some media have significant overlap of audience and therefore will not add much incremental reach, but will add frequency. Similarly, inventory which has very little overlap will add reach, but very little additional frequency. Using mobile movement data, we can now precisely calculate the overlap and duplication of audience within a package.	At the package level, each piece of media has a unique relationship with every other piece of media in a package. Individual and collective duplication of the media units in the package is now better accounted for when estimating reach. The clustering or spread of an inventory package within a market has a significant impact on the audience that it is able to reach. If all of the inventory within a package is concentrated in one area, large portions of the target audience may never have the opportunity to see the campaign.

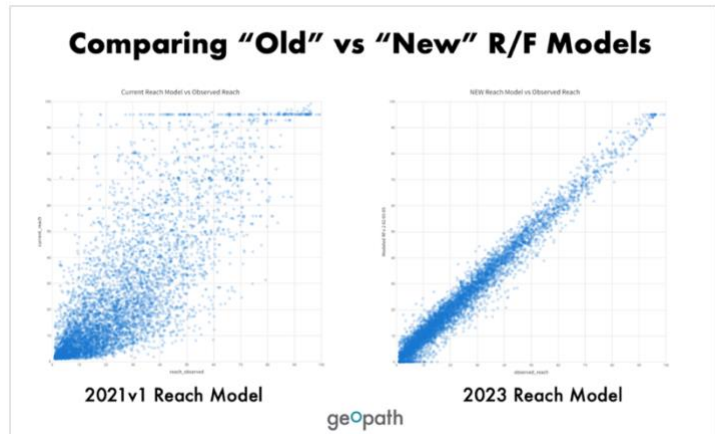
Q: What updates to Reach and Frequency are included in the 2023 annual forecast?

A: Geopath's new Reach & Frequency approach is centered around observed mobile location data from smartphone applications and connected cars. Observable reach metrics from mobile data provide a "ground truth" for Geopath to analyze and understand how Reach builds over time for different packages of inventory, targeting various audiences across markets. These observed Reach datapoints can then be used with inventory attributes and unit level audience metrics to build and train Reach and Frequency models through machine learning. For an overview of what has changed with Geopath's approach to R&F and why these changes matter, click [here](#).

Q: How has Geopath's Reach and Frequency approach increased in precision and accuracy?

A: The new Reach & Frequency model shows a *significantly tighter correlation* with 'observed' mobile device data (Geopath's 'truth set') which can be seen to the right.

Geopath has also refined how it accounts for coverage and duplication for a package of inventory. Its revised Reach and Frequency approach allows for greater precision at the package level, with regards to audience coverage and duplication. This precision allows buyers and sellers to better understand the ways that these metrics compile for different packages of inventory.



SPOT	SPOT A	SPOT B	SPOT C	PACKAGE ABC		
SPOT A	40%	23%	4%	2%	0%	
SPOT B	16%	18%	2%	0%	0%	
SPOT C	14%	16%	5%	0%	0%	
PACKAGE ABC	5%	2%	0%	0%	0%	
SPOT A	1%	0%	0%	0%	0%	
SPOT B	0%	2%	3%	2%	0%	
SPOT C	0%	2%	5%	8%	5%	2%
PACKAGE ABC	3%	8%	30%	8%	3%	
SPOT A	2%	5%	8%	5%	2%	
SPOT B	0%	0%	2%	3%	2%	
SPOT C	1%	2%	3%	1%	0%	
PACKAGE ABC	40.6%	27.6%	9.7%	4.9%	0%	
SPOT A	19.3%	27.6%	14.3%	6%	2%	
SPOT B	19.1%	35.1%	38.8%	8.9%	3%	
SPOT C	8.8%	11.6%	11.7%	6.9%	2%	
PACKAGE ABC	2%	4%	5.9%	3%	0%	

For example, in packages where the target audience resides in only certain clusters of the market, additional spots in the package may not add much additional Reach. If the reachable audience has already been exposed to the campaign, additional spots will likely increase the overall frequency of the plan, meaning the same audience is being exposed to the messaging again. In instances where the target audience is spread

over a larger area, additional spots in the package will likely increase the overall Reach, so more of the reachable audience will be exposed, as opposed to the same portion of audience exposed multiple times.

Q: How does Geopath's Reach and Frequency approach align with other data?



A: We source from a representative panel of mobile devices for determining home location and trips, by observing the mobile signal and rest patterns. For example, roughly 83k devices observed over the 50-day period qualified for frequency analysis in Los Angeles. From there, we compare the observed mobile data with traffic counts on particular roadways from different DOTs, and live traffic counts to ensure a high level of alignment between data sources.

Once we are confident in the trip volume, and that we're able to observe a device over time, we are then able to evaluate the frequency of trips over time as devices pass by OOH inventory. Knowing that the panel of devices is representative of the movement in the market, we can then conduct Reach and Frequency analysis based around this. Device-level data allow us to understand Reach and Frequency more closely, as we're

able to understand duplication and model at the device and inventory level.

Q: Where can I find more information on Geopath's approach to Reach and Frequency?

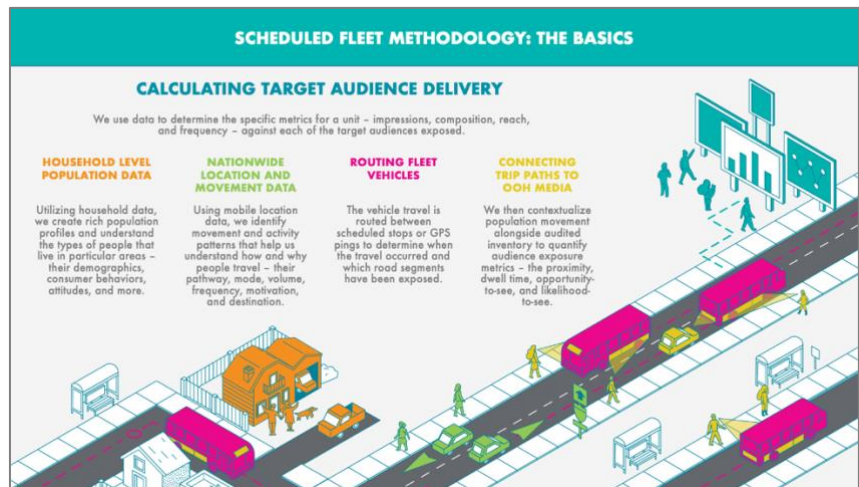
A: A series of "one-pagers" that provide overviews on Geopath's approach to accounting for Reach and Frequency, as well as examples on how it accounts for Reach coverage and duplication in at the package level, can be downloaded by clicking [here](#), or by going directly to the [geekOUT Library](#).

SCHEDULED FLEET MEDIA

Q: What is Geopath's approach to measuring Scheduled Fleet media?

A: Geopath has refined several components of its Scheduled Fleet measurement.

Trip routing now follows specific roadways in a more detailed way, GTFS routing data has increased in precision, and circulation, speed, and dwell data are now more aligned with the specific roadways where buses travel, among other refinements.



A one-pager that provides additional context and details on how the methodology has evolved can be downloaded by clicking [here](#) or by going directly to the [geekOUT Library](#).

Q: What does a Geopath Spot ID represent when using Scheduled Fleet media?

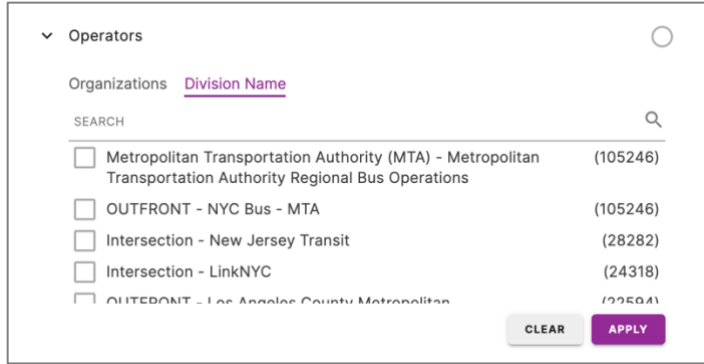
A: A Geopath Spot ID for Scheduled Fleet media acts as a representative for all similar media formats from the same garage. When planning with scheduled fleet media, it is important to be aware that a Geopath Spot ID represents a specific media type (e.g., King) within a transit system based on a combination of the following set of attributes: Frame Media Name, Garage, Size, Make and Model, and Placement. Therefore, a Spot ID represents multiple ad units.

Any variation in these attributes would be represented by a different Spot ID. For example: all driver-side, 30" x 144" Kings on a New Flyer 30' bus from the **West Garage** would share the same spot ID, but identical inventory from the **East Garage** would have a different Spot ID.

Q: What do "Total Spots" signify and how do you use them?

A: The Total Spots number indicates the total number of spots with the same set of attributes within a particular garage. Any variation in attributes, such as a different size bus advertisement, would result in a different Geopath ID and a potentially different number of "Total Spots" within the garage.

Q: What is the difference between the “Organizations” and “Division Name” filters?



A: The Organizations filter can be used for selecting a media operator’s entire collection of inventory. It is also helpful for selecting the inventory of an entire transit system.

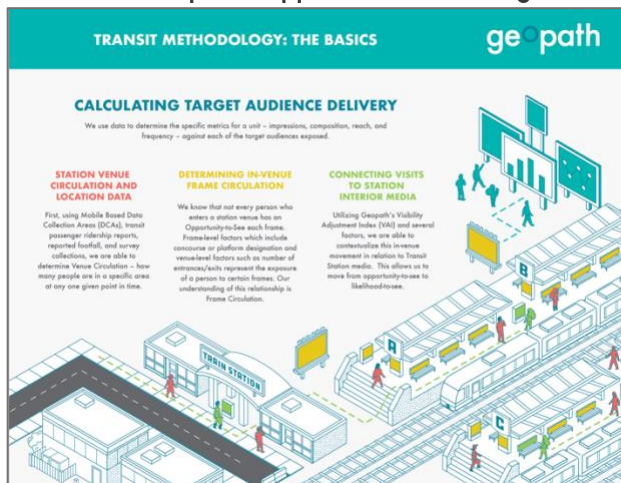
The Division Name filter is helpful for selecting a more specific subset of inventory, such as an individual operator’s fleet inventory, or subset of inventory within a larger transit system.

Q: Where can I find more information on how to plan with scheduled-fleet exterior media?

A: Geopath has developed step-by-step user guides and a series of video tutorials to help our members plan with the newly added scheduled fleet inventory. These materials can be accessed in the [geekOUT Library](#), [Geopath Learning Lab](#), or by reaching out to us directly at geekout@geopath.org if you have additional questions.

TRANSIT STATION MEDIA

Q: What is Geopath’s approach to measuring Transit Station Interior media?



A: Geopath has refined its station-interior measurement by capturing more granular attributes of the venue and inventory. For the venue itself, we now observe both ridership and mobile device-based visitation data. Additional physical attributes of the venue are documented as well, such as number of platforms, concourses, and levels, in order to model a distribution of circulation. By capturing inventory details such as the placement of the frame within the venue, we can differentiate and report metrics for each area type of the station. By logging the structure type of the frame, we can differentiate

the visibility of an ad on a ceiling or interior wall. As a result, the metrics that are reported are built from the total individuals visiting the station, passing through an area type, and having the visibility and dwell time to be registered as an impression. Please note: Transit Station Interior media is considered part of the **Place-Based** media class.

A one-pager that provides an overview how the methodology has evolved can be downloaded by clicking [here](#) or by going directly to the [geekOUT Library](#).

Q: What does a Geopath Spot ID represent for transit station media?

A: Geopath Spot IDs for station interior act as a representative metric for all alike ads from the same venue. The spots will share a common Spot ID if the attributes (frame media name, size, place name, flip length, ads in rotation, and placement type) are all identical. Therefore, a Spot ID represents multiple ad units. For example, the platform in West Station may have 20 two-sheet spots that share the same attributes (e.g., 46" x 60", non-digital, platform, two-sheet poster).

Q: What do "Total Spots" represent for transit station media and how do you use them?

A: As noted above, Geopath reports a single Spot ID for every alike spot in the station, and then lists the total number of similar spots within that venue. The "total spots" represents the total number of spots that share the same attributes (frame media name, size, place name, flip length, and placement type) within that station. Revisiting the example above, there are 20 total spots in West Station represented by the same Spot ID.

When crafting an Inventory or Market Plan, users can select up to the total number of spots represented by the Spot ID. For example, 20 total spots may be selected in the West Station scenario outlined above.

Q: Where can I find more information on how to plan with transit station media?

A: Geopath has developed step-by-step user guides and a series of video tutorials to help our members plan with the newly added transit-station inventory. These materials can be accessed in the [geekOUT Library](#), the [Geopath Learning Lab](#), or by reaching out to us directly at geekout@geopath.org.

ADDITIONAL SUPPORT & TRAINING

Q: Where can I find additional information?

A: Additional information on the 2023 forecast, our updated Reach and Frequency approach, as well as user guides, videos, and overview information on Transit Station and Scheduled Fleet media can be found in the [geekOUT Library](#) or [Geopath Learning Lab](#). Please reach out to us at geekout@geopath.org if you have additional questions!

Q: How can I set up more training for my team?

A: The Geopath team is always happy to set up custom trainings for any of our members. Please email us at geekout@geopath.org, and an analyst will reach out to set up a session for you and your team!

If you have any questions or comments, please reach out to us at geekOUT@geopath.org.

APPENDIX

2023 Release Materials

Reach & Frequency	
Package-Level Metrics	One Pager
What Has Changed & Why It Matters	One Pager
Coverage and Duplication	One Pager
Scheduled Fleet Media	
Methodology Overview	One Pager
How Impressions Have Evolved	One Pager
Scheduled Fleet in the Explore Module	User Guide
Planning by Garage	User Guide
Planning by Organization/Division Name	User Guide
Scheduled Fleet in the Explore Module	Tutorial Video
Planning by Garage	Tutorial Video
Planning by Organization/Division Name	Tutorial Video
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Creating Station Interior Plans	User Guide
Creating Station Interior Plans	Tutorial Video

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