

Exhibit 202

February 21, 2020

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VIA E-MAIL BEAU.ROYSDEN@AZAG.GOV

Brunn (Beau) Roysden III
Chief, Appeals & Constitutional Litigation Division
Arizona Attorney General's Office
2005 North Central Avenue
Phoenix, AZ 85004

Re: Consolidated Final Responses to the First, Second, and Third Civil Investigative Demands

Dear Beau:

We write in further response to the Civil Investigative Demands (CIDs) by the Attorney General's Office (AGO). Below we provide a comprehensive document listing Google's final responses to the First, Second, and Third CIDs. This response represents several hundred hours of collective work by Google. Google believes that it fully satisfies its obligations with respect to the First, Second, and Third CIDs. To the extent the AGO disagrees, Google requests an in-person, meet-and-confer discussion in the very near future, perhaps in conjunction with one of the several upcoming EUOs at which we will be together.

This letter is not intended to and does not waive any applicable privileges or protections, including any attorney-client, work product, or other privileges or constitutional protections. Should any privilege or protection apply to the information provided to you, such disclosure was inadvertent and was not intended to constitute a waiver of such privilege or protection. In such an instance, we respectfully request the return of such material to our firm pursuant to our agreement. By responding here, or otherwise, Google does not waive any of its objections, and Google specifically reserves its right to raise, at any time, any substantive or procedural objections it may have.

Finally, we also request that this response, and all correspondence regarding the CIDs, be afforded confidential status pursuant to the Confidentiality Agreement in this matter, the Consumer Fraud Act, A.R.S. § 44-1525 et seq., and the Arizona Public Records Law, A.R.S. § 39-121 et seq.

Sincerely,

CONFIDENTIAL

147291338.1

A handwritten signature in black ink, appearing to read 'JJ Cabou', with a large loop at the end.

Jean-Jacques Cabou
JC;jm

INTRODUCTION AND RESERVATION OF RIGHTS

Google provides the below responses and information to respond to the discovery demands by the AGO and its outside counsel. As stated previously, including in Google's August 26, 2019 letter, if, notwithstanding Google's efforts to comply with the AGO's discovery demands, an enforcement petition or judicial complaint of any kind is brought against Google, it reserves the right to assert any claim, defense, or argument it may have.

GOOGLE'S RESPONSES TO THE FIRST CID

I. DEMANDS FOR INFORMATION

Demands for Information Regarding User Location Tracking

DEMAND FOR INFORMATION NO. 1

Explain the types of data Google collects from which a user's location can be determined.

INITIAL RESPONSE (April 17, 2019): The user location information that Google may collect depends on a number of factors. As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy#infocollect>), user location information includes information from inputs such as search queries and other information the user chooses to provide to Google (e.g., destination address for driving directions), users' IP addresses, device sensors (as explained further below in Response to DFI No. 2), and device signals including GPS, information cellular networks provide to a device, information from nearby Wi-Fi networks, and information from nearby Bluetooth devices. Location information can be used to provide a range of functionality, including ensuring that Google products and services use the correct default language based on a user's location, providing search results that relate to a relevant place, or providing optional account features, such as current traffic predictions.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 2

Explain how user location data is collected in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): As we explain in our Privacy Policy and above in response to Demand for Information No. 1, the user location information that Google collects depends on a number of factors, including the product or service being used and an individual user's settings. As described in Google's Privacy Policy and public documentation, when users interact with Google products and services, including when certain Google Account features and settings are enabled, location information may be collected. Further, this location information may be characterized as providing implicit or explicit information about a user's location.

Implicit user location information does not tell Google where a user's device is located, but through user inputs, Google may infer that a user is either interested in a place or that the user might be at a place. An example of implicit user location information would be a user inputting a search query for a particular place. For example, if a user conducts a Google Search for "Eiffel Tower" Google may infer that the user may like to see information for places near Paris, and Google can then use that inference to provide localized recommendations about those places.

When users use or interact with certain Google products and services, their devices may send explicit user location information to enable Google to provide those products and services. Explicit user location information contains information about where a device is located and comprises the location information types described below. Some Google products and services, such as turn-by-turn navigation in Google Maps for mobile, require explicit device location. For these products and services, users must turn on device-based settings that can be used to derive precise location.

The source and nature of the explicit user location types that Google collects are described below as well as in the Google Privacy Policy:

- **GPS**

GPS is a radio navigation system that is relatively precise. It works by using radio waves between satellites and a receiver inside a device to geolocate the device. The device's GPS receiver uses data from the satellite signals to triangulate where the device is and what time it is.

- **Device sensors**

Built-in sensors on devices measure motion, orientation, and various environmental conditions. The Android OS supports a number of these different sensor types, which vary from device to device. These sensors are used to provide a variety of functionality to Android OS developers—such as the ability to measure device movement or positioning to support motion-based games, or to report a compass bearing for a travel application.

Android OS application developers, including Google, can use accelerometers, gravity sensors, gyroscopes, rotational vector sensors, barometers, orientation sensors, and magnetometers to more precisely determine a device's location. For example, Google uses the accelerometer readings to help determine the device's orientation and direction, the gyrometer helps determine if a user is turning, and the barometer can help determine the user's elevation.

- **Cellular Network Information**

Depending on the type of network to which the device is connected, Google may collect the tower-broadcasted latitude and longitude of the cell tower from which the device is receiving service.

- **Wi-Fi & Bluetooth Scanning**

These settings (on a user's device) allow apps and services to scan for publicly available information from nearby devices (for example, Wi-Fi access points or Bluetooth beacons). These settings allow the user's device to scan for nearby networks or other devices, even when Wi-Fi or Bluetooth connectivity settings are disabled on a user's device.

- **IP Address**

IP address information is another type of information that Google collects, stores, and uses, as explained in Google's Privacy Policy. IP addresses are required for devices to be able to connect to one another through the Internet and are necessary for online services to function. Because IP addresses are usually assigned in geographic blocks, they may be used to provide an estimate of the location from which a device is connecting to the Internet. Inferring location based on an IP address alone can be quite inaccurate. Nonetheless, Google may use IP addresses when other more precise location information may be unavailable or in connection with available user location information.

Google may need to roughly estimate a user's location by using an IP address, even when particular device and Google Account settings affecting other user location information are disabled. For example, it is important for Google to approximate the location of its users to comply with certain legal requirements, such as restrictions on advertising for gambling services, which differ by jurisdiction. Google may also collect, store, and use user location information to help detect fraud or other suspicious activity on a user's account. For example, IP address information may enable users to determine when their Google Accounts have been compromised by unusual activity. Users can review the dates and times on which their Google Accounts have been accessed, as well as the IP address and general location from which these accesses occurred.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it, including in answering DFI No. 7, below. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

Additionally, Google made three witnesses available for examinations under oath, who were prepared to speak about how user location information is collected in connection with Android and Google

Accounts. Further, as we mutually agreed, Google is making a fourth witness available for examination under oath later this month to speak about how user location information is collected in connection with Google-authored apps and Google search through a web browser.

Furthermore, in its April 17, 2019 response, Google comprehensively answered how it collects location information. In response to Demand for Information No. 2, Google described GPS, device sensors, IP Addresses and scanning for Wi-Fi, Bluetooth, and cellular network information. Moreover, in its response to Demand for Information No. 7, Google provided additional explanations about location information collection via Google Account (including Location History, Web & App Activity, and Google Location Sharing) and device settings, including the Device Location Setting, Google Location Accuracy (formerly known as Google Location Services), and Usage & Diagnostics. Google also explained that the user location information that Google collects depends on a number of factors, including the product or service being used and an individual user's settings. In its June 20, 2019 supplemental response, Google asserted that "it ha[d] fully responded" and said "[i]f there are follow-up questions regarding this response" to "please let us know."

Your January 17, 2020 letter says that "Google's response does not mention products that the AGO now knows are involved in user location data collection, such as the FLP (Fused Location Provider) or ULR (User Location Reporting). *See, e.g.*, [REDACTED] EUO Tr. at 66:1–8; [REDACTED] EUO Tr. at 68:11–69:18." Your letter reflects a misunderstanding of relevant facts. First, Fused Location Provider does not collect location information. It "can provide estimated location received from Google Location Services." *See, e.g.*, [REDACTED] EUO Tr. at 60:21–23. Google described Google Location Services (now known as Google Location Accuracy) in its written responses, including as early as April 17, 2019. Second, User Location Reporting is tied to the Google Location History Product, which Google described in multiple Demands for Information, including, for example, Demands No. 4–8, 11, 12, 15, 17, and 18. Google specifically explained in its responses, including on April 17 and September 4, 2019, that "users can also opt out a particular device from collecting and reporting user location to Location History."

DEMAND FOR INFORMATION NO. 3

Describe the user location data collected in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts, including the precision of the data and the frequency with which the data is collected.

INITIAL RESPONSE (April 17, 2019): We describe the location information that Google collects in response to Demand for Information No. 2 above. The frequency with which location information is collected depends on a number of factors, including how often the user is interacting with Google products and services, the product or service being used, and an individual user's settings. For example, if Web & App Activity is enabled for a user's Account, the frequency of collection will

depend on the user's web activity or other interactions with Google products and services (e.g., finding a place in Maps).

The degree of precision of location information is also described in response to Demand for Information No. 2. As we explain above, user location inputs may be characterized as providing implicit or explicit information about a user's location. Implicit user location information does not tell Google where a user's device is located, but through user input allows Google to infer that a user is either interested in a place or that the user might be at a place. Explicit user location information contains information about where a device is located, and enables Google to provide its products and services to users.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

Specifically, Google's April 17, 2019 response to this Demand explained that Google described the degree of precision of location information in response to Demand for Information No. 2. There, Google addressed precision of GPS, IP Address, device sensors, implicit location information, and Google Maps location information.

Google also produced multiple informative documents on the topic of the precision of location information. For example:

- GOOG-GLAZ-00044520 - GOOG-GLAZ-00044770: Discusses the precision of numerous kinds of information from inputs including Wi-Fi, GPS, Compass, and magnetometers.
- GOOG-GLAZ-00173091 - GOOG-GLAZ-00173105: Discusses the precision of location in the context of indoor navigation.
- GOOG-GLAZ-00171989 - GOOG-GLAZ-00171995: Discusses the precision of location in the context of indoor navigation.
- GOOG-GLAZ-00171906 - GOOG-GLAZ-00171908: Discusses the coarsening of location across Google and the [REDACTED]

- GOOG-GLAZ-00090592 - GOOG-GLAZ-00090600: Discusses [REDACTED] in logging” and its application.
- GOOG-GLAZ-00159799 - GOOG-GLAZ-00159801: Discusses coarsening non-device location in search.
- GOOG-GLAZ-00141961 - GOOG-GLAZ-00141986: User Location Newsletter.
- GOOG-GLAZ-00096793 - GOOG-GLAZ-00096823: Entitled “Precise IP.”

Additionally, Google made three witnesses available for examinations under oath, who were prepared to speak about the user location information collected in connection with Android and Google Accounts, including the precision of the information and the frequency with which the information is collected. Further, as we mutually agreed, Google is making a fourth witness available for examination under oath later this month to speak about the user location information collected in connection with Google-authored apps and Google search through a web browser, including the precision of the information and the frequency with which the information is collected.

Your January 17, 2020 letter alleges that “Google’s 6/20/2019 response is devoid of any substantive information.” As an example, you cite the topic of changes to the precision of WAA location information in 2014/2015 or early 2019. See [REDACTED] EUO Tr. at 185:19–187:11, 193:10–194:19, 195:11–19, 197:25–204:22. Your citation to Google’s testimony is proof that Google made knowledgeable witnesses available on the topic. Further, on September 4, 2019, Google responded to all of the AGO’s Demands for Information and Requests for Production on this topic. Google’s responses and productions specifically addressed the topics of the storage of device-based location as part of Web & App Activity in 2014/2015, and its 2019 changes to coarsen Web & App Activity location information. This includes Google’s production of relevant launch reports and other documents in response to Requests for Production No. 7 and 18 and Google’s written responses to Demands for Information No. 22, 23, and 25 in the AGO’s Third CID.

Furthermore, for example, for Web & App Activity before 2015, device location was coarsened to approximately a neighborhood-sized area with a sufficient number of unique users (e.g., 1,000). When precise location was added in 2015, the location provided by the user’s device was stored, which could be a precise lat/lon. In 2019, the device-based Web & App Activity location was moved to a coarser level than it was in 2015, approximately a city-sized area with a sufficient number of unique users (e.g., +1,000).

DEMAND FOR INFORMATION NO. 4

Explain how Google stores and deletes user location data collected in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts, including the length and location of storage.

INITIAL RESPONSE (April 17, 2019): As Google explains in its Privacy Policy and above in response to Demands for Information Nos. 1-3, the way that Google collects, stores, and deletes user location information depends on a number of factors, including the product or service being used and an individual user's settings. For example, users can change their device location settings in the "Security and location" section of their Pixel. In their Google Account, users can remove Location History entries from their Timeline and Web & App Activity entries from their My Activity page at any time (available at <https://myaccount.google.com/activitycontrols>).

As Google explains on its Data Retention page (available at <https://policies.google.com/technologies/retention>), as a general matter, when a user deletes data in the user's Google Account, Google starts the process of removing it from the product and its systems. Google also tries to ensure that its products and services protect information from accidental or malicious deletion, including of user location information. Because of this, there may be delays between when users delete something and when copies are deleted from Google's active and backup servers. Google products and services also use encrypted backup storage as another layer of protection to help recover from potential disasters. Data can remain on these systems for up to six months.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.



FINAL RESPONSE:

In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

In addition to explaining Google's general policies about data deletion, Google's April 17, 2019 response also explained that users could view, manage, and delete their Location History and Web & App Activity data at any time.

Additionally, Google made three witnesses available for examinations under oath, who were prepared to speak about how Google stores and deletes user location information collected in connection with Android and Google Accounts, including the length and location of storage. Further, as we mutually agreed, Google is making a fourth witness available for examination under oath later this month to speak about how Google stores and deletes user location information collected in connection with Google-authored apps and Google search through a web browser, including the length and location of storage.

Again, because of the overbroad scope of this DFI, it is difficult for Google to provide useful information. But subject to and without waiving its objections, Google stores and deletes user location information including but not limited to as follows:

Store	Data Stored	Retention/Deletion ¹
SensorVault/Location History	Location information for users that have enabled Location History.	Deleted upon user request and/or account closure.
Web & App Activity	Coarse location information from which a user used a Google service.	Deleted upon user request and/or account closure.
	Cache of recent user location, coarse or precise depending upon account/device settings.	Deleted upon user request and/or account closure or, if neither of those occurs, within two months of collection.
Google Location Accuracy and Google Location Services	Location information for users with Google Location Accuracy/ Google Location Services on - not tied with user's account.	

Google also produced multiple informative documents on the topic of the length and location of storage of location information. For example,

- GOOG-GLAZ-00176439 - GOOG-GLAZ-00176441: Discusses the length of data storage.
- GOOG-GLAZ-00175307 - GOOG-GLAZ-00175312: Discusses the length of data storage in the specific context of advertising.
- GOOG-GLAZ-00093216 - GOOG-GLAZ-00093244: Discusses SensorVault.
- GOOG-GLAZ-00168023 - GOOG-GLAZ-00168032: Discusses specific retention for different data types.
- GOOG-GLAZ-00167051 - GOOG-GLAZ-00167056: Discusses various locations in which data is stored.

¹ The information provided in this column is also subject to Google's Privacy and Data Retention Policy, available at <https://policies.google.com/technologies/retention>.

- GOOG-GLAZ-00082159 - GOOG-GLAZ-00082160: Discusses “LH retention storyline.”
- GOOG-GLAZ-00154824 - GOOG-GLAZ-00154826: Discusses Writing Location History Setting.
- GOOG-GLAZ-00151237 - GOOG-GLAZ-00151247: Discusses SensorVault storage requirements and retentions.
- GOOG-GLAZ-00196328 - GOOG-GLAZ-00196330: Discusses “retention plans.”

Moreover, in response to more detailed questions about user location information deletion and storage in the AGO’s Third CID, Google provided additional narrative information. For example, in response to Demand for Information No. 10, which asked more specifically about deletion of user location information outside of Location History and Web & App Activity, Google provided relevant information for all of its Google Mobile Services products:

- Google
- Chrome Browser
- Gmail
- Google Maps
- YouTube
- Google Play Store
- Drive
- Google Play Music
- Google Play Movies
- Duo
- Google Photos

Google also provided additional information about the storage and deletion of user location information in relation to Location History and Web & App Activity in its response to the Third CID. Specifically, Google explained that it introduced a feature in May of 2019 that allows users to set the information to auto-delete after 3 or 18 months, or to be retained indefinitely for users to manage and delete when they wish.

Furthermore, the AGO’s Fourth CID asks additional questions about how and under what circumstances Google stores and deletes user location information (for example, in Demands for Information No. 1, 4, 12, and 13), which Google is in the process of responding to.

Finally, the specific example your January 17 letter cites from documents Bates-stamped GOOG-GLAZ-00031110 simply elaborates on information Google already provided. As Google explained in its original response to this Demand, “as a general matter, when a user deletes data in the user’s Google

Account, Google starts the process of removing it from the product and its systems. Google also tries to ensure that its products and services protect information from accidental or malicious deletion, including of user location information. Because of this, there may be delays between when users delete something and when copies are deleted from Google's active and backup servers. "[REDACTED]"

DEMAND FOR INFORMATION NO. 5

Explain how Google uses user location data collected in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): Google's Privacy Policy and user instructional videos describe the information that Google collects, why it collects that information, and how Google keeps that information secure. The Privacy Policy specifically explains to users how Google uses location information in a section entitled, "Information Google collects," with a subsection titled, "Your location information." Under Google's Terms of Service and Privacy Policy, users agree that Google can collect information about location. As Google's Privacy Policy states, we "collect information about your location when you use our services, which helps us offer features like driving directions for your weekend getaway or showtimes for movies playing near you."

As we explain in our response above to Demand for Information No. 2, and in our Location Data page (available at <https://policies.google.com/technologies/location-data>), user location inputs may be characterized as providing implicit or explicit information about a user's location. Implicit user location information does not tell Google where a user's device is located, but through user inputs, allows Google to infer that a user is either interested in a place or that the user might be at a place. Explicit user location information contains information about where a device is located, and enables Google to provide its products and services to users.

Google also uses user location information collected when Location History and Web & App Activity are enabled to provide advertising services to signed-in users. Google does not use information from Location History and Web & App Activity if a signed-in user has opted out of ads personalization features. When Location History and Web & App Activity are disabled, they do not provide user location information to Google.

Additionally, Google uses location information from users who have enabled Location History to report aggregated and anonymised statistics to advertisers—for example, aggregate number of store visit conversions. Store visit reports provide advertisers with only anonymized and aggregated statistics about how ad clicks and viewable impressions are followed by visits to stores, and cannot be tied to individual ad clicks, viewable impressions, or individuals.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

Google made three witnesses available for examinations under oath, who were prepared to speak about how Google uses user location information collected in connection with Android and Google Accounts. Further, as we mutually agreed, Google is making a fourth witness available for examination under oath later this month to speak about how Google uses user location information collected in connection with Google-authored apps and Google search through a web browser.

Your January 17 letter asks about [REDACTED]. Google produced multiple documents on [REDACTED] and [REDACTED] each of which are proprietary technologies important to Google's location-related work, including:

- GOOG-GLAZ-00173493 - GOOG-GLAZ-00173503: Describing, among other things, Google's work "to build platforms that allow other teams within Google to leverage [REDACTED] data."
- GOOG-GLAZ-00168730 - GOOG-GLAZ-00168818: Describes uses of [REDACTED] data.
- GOOG-GLAZ-00168710 - GOOG-GLAZ-00168714: Describes uses of [REDACTED] data.
- GOOG-GLAZ-00022990 - GOOG-GLAZ-00022990: Discussing "raw location clients."
- GOOG-GLAZ-00167051 - GOOG-GLAZ-00167056: Discussing integration of [REDACTED] location signals.
- GOOG-GLAZ-00082055 - GOOG-GLAZ-00082059: Discussing GoogleFit and PlaceVault.
- GOOG-GLAZ-00153420 - GOOG-GLAZ-00153423: Discussing the "upcoming launch of [REDACTED]"
- GOOG-GLAZ-00077279 - GOOG-GLAZ-00077355: Describing Timeline and the History of Timeline, including its data sources and other particulars.
- GOOG-GLAZ-00034858 - GOOG-GLAZ-00034946: Discussing the "Location Platform Summit- Welcome."
- GOOG-GLAZ-00141961 - GOOG-GLAZ-00141986: User Location Newsletter.
- GOOG-GLAZ-00162682 - GOOG-GLAZ-00163027: Geo June 2017 "[REDACTED] Review."
- GOOG-GLAZ-00147911 - GOOG-GLAZ-00147946: [REDACTED] Ads Targeting Slides.

Moreover, Google is in the process of responding to your Fourth CID, which specifically asks about [REDACTED] in Demand for Information No. 12.

DEMAND FOR INFORMATION NO. 6

Explain the disclosure to third parties of user location data collected in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): As described in our General Objections and here more specifically, Google cannot respond with regard to devices, browsers, applications, or other products and services that it does not create, own, or control. We respond to this Demand for Information to the extent possible based on information regarding Google Account-level settings, Android on Pixel devices, and as a general matter, with regard to Google products and services.

Pixel Devices. On the Pixel (and many third-party Android devices), users may grant their express consent for individual third-party apps to access the Android device location permission. The settings that allow a user to control this access are explained further below in response to Demand for Information No. 7.

Google Products and Services. Certain Google products and services may have an option or a setting that allow a user to choose to share user location with a third party. Given the number of Google products and services, it is not possible for Google to respond to this overbroad and burdensome request with regard to each product and service.

Location History, Web & App Activity, Usage & Diagnostics. Information on a specific user's location that Google collects via Google Account and device settings for Location History, Usage & Diagnostics, and Web & App Activity is not shared with third parties. However, aggregated and anonymized information that cannot be used to identify the location of a particular user is used by Google and third parties to develop and improve products, for system optimization, advertising, and other purposes.

Google Location Sharing. Google Location Sharing is the only Google Account setting that allows a user to choose to share his or her location with third parties. Please refer to our response to Demand for Information No. 7 for how users control that setting and the sharing of location information with third parties.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a

Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

Google's April 17, 2019 response explained the specific controls available for users to manage the sharing of location information to third parties for Pixel Devices, certain Google products and services, Location History, Web & App Activity, and Google Location Sharing. In its June 20, 2019 supplemental response, Google asserted that "it ha[d] fully responded" and said "[i]f there are follow-up questions regarding this response" to "please let us know."

Additionally, Google made three witnesses available for examinations under oath, who were prepared to speak about the disclosure to third parties, if any, of user location information collected in connection with Android and Google Accounts. Further, as we mutually agreed, Google is making a fourth witness available for examination under oath later this month to speak about the disclosure to third parties, if any, of user location information collected in connection with Google-authored apps and Google search through a web browser.

Your January 17 letter asked for additional information about the types of situations in which data is shared with third parties, what precisely is shared, and the frequency of this sharing. Again, Google reasserts its objections to the breadth of this question, but provides additional examples and information below. Google would also like to reiterate that it has produced thousands of pages of documents that contain additional responsive information.

- Store Sales Visits

This is a feature that Google offers to a select group of approved advertising customers that uses aggregated and anonymized data from users that have opted into Location History to tell advertisers how their online ad clicks and viewable impressions influence physical store visits. Only certain advertising customers are approved. The feature is not available to advertisers with sensitive location categories related to healthcare, religion, adult content, and children. In addition, advertisers must meet certain criteria such as having sufficient store visits data on the backend to attribute to ad click or viewable impressions traffic and pass Google's user privacy thresholds.

The data that Google provides to advertisers is an aggregated statistic. It will show, for example, how an increase of x% in ad spend, can result in y% increase in store visits and z% increase in online conversions. Store visit data is based on anonymous, aggregated statistics, using differential privacy

techniques from which users cannot be reidentified. Google creates modeled numbers by using current and past data on the number of people who click or view an advertiser's ads and later visit their store. Store visit data cannot be tied to individual ad clicks, viewable impressions, or people. The data is available to advertisers to access in their Google Ads account at any time.

- Emergency Location Services (ELS) / [REDACTED]

Android Emergency Location Services (ELS) helps mobile network operators, emergency infrastructure providers, and governments provide more accurate location information to first responders during an emergency. ELS uses the location technologies on an Android phone, including cell, GPS and WiFi signals, and device sensors, to estimate an accurate emergency location. The location is often [REDACTED] and is calculated by the [REDACTED]

[REDACTED] ELS is solely for the use of emergency service providers, and location is sent from the user's device to emergency services only when the user explicitly places an emergency call, either directly or through their mobile network.

- **Google Person Finder**

On several occasions of catastrophe—such as during large earthquakes, tsunamis, or acts of terrorism—Google has made its Person Finder application available to users. This application is a message board-like service that, with a user's consent, allows them to share their current location and other pertinent information with a wide audience to facilitate their rescue by emergency services personnel or reunite them with family members.

Demands for Information Regarding User Privacy Controls

DEMAND FOR INFORMATION NO. 7

Explain whether and how a user can prevent Google or any third party from collecting his or her location data in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): Users have a number of options to control how their location information is collected and shared. For example, users can enable or disable device location controls, as well as deny apps access to location on an app-by-app level. Specifically, users can adjust the following device or Google Account settings:

Devices

- **Device's Location Setting**

On the Pixel (and many Android devices), a device-level setting controls device-based location. When the device's location setting is on, apps with the user's permission can access the device's location. Users can change the setting at any time in the "Security & location" panel of their Pixel. If a user disables this setting for their device, then no apps can access the device's location. Note that apps or websites connecting to the Internet may continue to use other signals like IP address, or other information the user provides, to infer information about the user's location. Google, for example, may use IP-based location to prevent abuse or to ensure users get search results that are relevant to their location (for example, people searching for "football" in England likely want different results than people searching for "football" in the U.S.).

- **Google Location Accuracy (formerly known as Google Location Services) ("GLA")**

GLA is a network-based location service that collects data to improve location accuracy and provide certain location information to the apps and services with the requisite permissions. Users can change the setting at any time from their Pixel device's "Security & location" panel. The information Google collects from GLA is linked to a temporary and rotating device identifier that is not used by or shared with other services. It is not connected with any identifier that would associate that data with a specific user.

- **Usage & Diagnostics**

The optional Usage & Diagnostics setting helps Google improve Android OS based on information about how devices are used and work. When this setting is enabled, Google collects IP addresses. When the Usage & Diagnostic setting is disabled, Google may still collect user location information via other relevant settings.

Google Account

- **Location History**

This is a distinct product Google provides to Google Account holders that saves a private map (that is not accessible to or shared with third parties) of where the user goes with his or her signed-in devices, even when the user is not using a Google service. Location History is disabled by default and users must opt in to enable it. Opting in to Location History allows Google to build a user's Timeline (which users can review and delete at any time at <https://maps.google.com/timeline>) of the places the user's devices have been and to provide more personalized features across Google products and services, such as traffic predictions for their daily commute.

- **Web & App Activity**

This is a Google Account setting that stores a user's Google activity data to My Activity (<https://myactivity.google.com>) in their Google Account. The user location information that is saved

as a result of Web & App Activity (which users can review and delete in My Activity at any time) is collected and stored in a user's Google Account when the user is engaging with a Google product and has Web & App Activity enabled. For example, when a user uses Google Search or Google Maps to search for "restaurant," Google collects the search term as well as information about that activity, including IP address and location information, so that the search results returned to the user will show nearby restaurant options.

- **Google Location Sharing**

Google Location Sharing allows Account holders to share their real-time location with others. Account holders choose whom they want to share their location with and for how long. For example, a user may share their estimated time of arrival with a friend once they are navigating on a journey to see them. A user may also create a share that will expire after a defined period of time, such as with friends during a vacation. Finally, a user may create an ongoing share (for example, with a family member) and decide to stop the share at a later date.

Google provides users centralized dashboards to control their Account-level and device-level location, privacy, and security settings.

Additionally, and as we explain above in response to Demand for Information No. 4, users can manage device location settings in the "Security and location" settings and their Google Account settings at <https://myaccount.google.com/activitycontrols>. Users can remove Location History entries from their Timeline at any time and Web & App Activity entries from their My Activity page at any time.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 8

Explain whether and how a user can entirely prevent Google or any third party from collecting his or her location data.

INITIAL RESPONSE (April 17, 2019): Google cannot respond with regard to users' interactions with third parties, nor can it respond with regard to mobile devices that have settings that are neither designed nor controlled by Google. Google focuses its response on Google Account settings that control the collection and use of location information for Location History, Web & App Activity, and Google Location Sharing, as well as certain Pixel device level settings.

The CID defines "User location data" as "any data from which a user's location can be determined, including but not limited to location information collected through device sensors, GPS, Wi-Fi,

Bluetooth, cell towers, and IP addresses.” As Google explains in its Privacy Policy, mobile device and Google Account settings enable users to manage location information collection. As a general matter, IP addresses are required for devices to be able to connect to one another through the Internet and are necessary for online services to function. As a result, in order to use and interact with products and services from mobile and other devices, IP address information is transmitted when device or Account settings are disabled.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

As Google has previously explained, in order to use and interact with products and services from mobile and other devices, IP address information is transmitted when device or Account settings are disabled. Among other things, this information helps Google approximate the location of its users to comply with certain legal requirements, such as restrictions on the supply of gambling services or advertising services, which differ by jurisdiction. Google may also collect, store, and use location information to help detect fraud or other suspicious activity on a user’s account. In addition, IP address information may enable users to determine when their Google Accounts have been compromised by unusual activity.

DEMAND FOR INFORMATION NO. 9

Explain whether and how, during the set up process for an Android device, the user can turn off any settings, functions, or permissions relating to the collection of user location data, and identify any such settings, functions, or permissions that the user cannot turn off at that point.

INITIAL RESPONSE (April 17, 2019): As described in our General Objections, it is not possible for Google to provide responses regarding the numerous manufacturers and variations and versions of Android devices they design, develop, or market. These devices may have different user interfaces and settings. Consistent with our objections, Google’s response to this Demand for Information is thus limited to Pixel devices.

When a user sets up a Pixel-running Android Pie (version 9.0 and up), they are prompted to manage the device location setting. The user’s choice for this setting will also apply to the Google Location Accuracy (“GLA”) setting described in response to Demand for Information No. 8 above. On Pixel devices running older versions of Android, users were presented with an option to manage the GLA setting during set up and would exit the set up with the device location toggle setting enabled. Users can manage these settings any time after device set up.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 10

Explain whether and how, after completing the set up process for an Android device, the user can turn off any settings, functions, or permissions relating to the collection of user location data, and identify any such settings, functions, or permissions that the user cannot turn off after the set up process.

INITIAL RESPONSE (April 17, 2019): As described in our General Objections, it is not possible for Google to provide responses regarding the numerous manufacturers and variations and versions of Android devices they design, develop, or market. These devices may have different user interfaces and settings. Consistent with our objections, Google's response to this Demand for Information is thus limited to Pixel devices.

At any time after setting up a Pixel device, a user can disable any or all of the device settings, functions, or permissions described above in response to Demand for Information No. 7.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 11

Explain whether and how Google collects, stores, uses, deletes, and discloses user location data when the user turns off the Location History setting of his or her Google Account but keeps the Web & App Activity setting turned on.

INITIAL RESPONSE (April 17, 2019): The Web & App Activity Google Account setting is described above in Demand for Information No. 7. It is a distinct and separate Google Account setting from Location History. Users can access and manage the Web & App Activity Google Account setting at any time from their Google Account.

As we explain in our Privacy Policy and above in response to Demands for Information Nos. 1-4 the user location information that Google collects and stores depends on a number of factors, including the product or service being used and an individual user's settings. When a user pauses Location History, Google presents specific disclosures to remind the user that Google may still use location information that we received from their use of other Google products or services.

If a user has Web & App Activity enabled, when they use a Google service, like Google Maps or Search, Google may process information about that activity including location information. Google discloses how it handles user data in the Google Privacy Policy (available at <https://policies.google.com/privacy>) and Location Data page (available at <https://policies.google.com/technologies/location-data>), within the Web & App Activity setting itself, and in various publicly-available help center pages. When Web & App Activity is enabled, certain user location information is stored with the user's Google Account alongside the activity and can be viewed, managed, and deleted in My Activity (available at <https://myaccount.google.com/activitycontrols>).

As a general matter, as described above, IP addresses are required for devices to be able to connect to one another through the Internet and are necessary for online services to function. As a result, in order to use and interact with products and services from mobile and other devices, IP address information is transmitted, even when location settings are disabled.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 12

Describe the user location data that Google collects (including through the Android operating system or through Google-authored apps or Google websites running or accessed through an Android device or iOS device) when the user turns off both the Location History and the Web & App Activity settings of his or her Google Account, including location data collected through IP addresses, GPS, Wi-Fi scanning, Bluetooth scanning, cell tower information, barometer, or any other sensors.

INITIAL RESPONSE (April 17, 2019): As we explain in our Privacy Policy and above in response to Demands for Information Nos. 1-4, the user location information that Google collects and stores depends on a number of factors, including the product or service being used and an individual user's settings. As we explain above in response to Demand for Information No. 7, the Location History and Web & App Activity settings are distinct Google Account settings that a user can choose to enable or disable at any time. These Google Account settings do not affect or control device settings, which vary based on the specific device and which Google does not create or control.

Android or iOS mobile devices have settings that enable users to control the collection of device-based location information. IP addresses are required for devices to be able to connect to the Internet and are necessary for online services to function. As a result, in order to use and interact with products and services from mobile and other devices, IP address information is transmitted, even when location settings are disabled.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 13

Explain whether and how Google collects, stores, uses, deletes, and discloses user location data when the user turns off the Location setting of an Android device, and describe the user location data so collected.

INITIAL RESPONSE (April 17, 2019): Please refer to our responses to Demands for Information Nos. 10-12.

SUPPLEMENTAL RESPONSE (June 20, 2019): Please also refer to our response to Demand for Information No. 7. Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 14

Explain whether and how Google collects, stores, uses, deletes, and discloses the location data of any user of a device made by an entity other than Google, but on which the user has installed a Google-authored app or through which the user accesses a Google Account, when the user has otherwise disabled location tracking on the device.

INITIAL RESPONSE (April 17, 2019): As described in our General Objections, Google cannot respond with regard to the conduct of third parties, nor can it respond with regard to Android or other devices that have settings that are neither designed or controlled by Google.

With regard to Google Account settings, and Google's collection and use of location information when a user has disabled locating settings, please refer to our responses to Demands for Information Nos. 10-12.

Given the number of Google products and services, it is not possible for Google to respond to this overbroad and burdensome request with regard to each product and service that a user may install on a mobile device.

As a general matter, as described above, IP addresses are required for devices to be able to connect to one another through the Internet and are necessary for online services to function. As a result, in order to use and interact with products and services from mobile and other devices, IP address information is transmitted, even when location settings are disabled.

SUPPLEMENTAL RESPONSE (June 20, 2019): Please also refer to our response to Demand for Information No. 7. Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 15

Explain the means by which third-party apps accessible through Android collect user location data, including when (a) the user turns off the Location setting of the device, (b) the user turns off the Location History setting of his or her Google Account but leaves the Web & App Activity setting turned on, and (c) the user turns off both the Location History and the Web & App Activity settings, and describe the user location data collected in all such cases.

INITIAL RESPONSE (April 17, 2019): As we explain above in response to Demands for Information Nos. 7 and 12, Location History and Web & App Activity are distinct Google Account features that a user can choose to enable or disable at any time. These Google Account settings do not affect or control mobile device settings, which vary based on the specific device. As we explain above in response to Demand for Information No. 2, mobile devices have settings that enable users to control the collection of device-based location information. Also, as described in our General Objections, Google cannot respond with regard to the conduct of third parties, nor can it respond with regard to Android or other devices that have settings that are neither designed or controlled by Google.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 16

Explain how users can delete the user location data Google collects in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): We address deletion of location information in our responses to Demands for Information Nos. 2, 4, and 11 above.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 17

Explain whether and how user location data is collected through the Location History setting even when the user turns off that setting, and then stored once the user turns that setting back on.

INITIAL RESPONSE (April 17, 2019): As we explain above in response to Demand for Information No. 7, Location History is a distinct product that allows Google Account holders to save a private map of where the user goes with his or her signed-in devices. Opting in to Location History allows Google to build a private Timeline of the places the user's devices have been and to provide more personalized products and services, such as traffic predictions for their daily commute. Google stores Timeline information until an Account holder edits or deletes it. Account holders can disable Location History at any time, and they can edit or delete their Timeline at any time.

When Location History is paused, the product no longer saves the user's location information to the user's private Timeline (users can also opt out a particular device from collecting and reporting user location to Location History). However, pausing Location History—the distinct product—does not disable other settings that affect the collection of user location information (e.g., IP addresses).

When a user pauses Location History, Google presents specific disclosures to remind him or her that Google may still use location information that Google receives from his or her use of other products and services. For example, if a user has Web & App Activity enabled, when they use a Google product or service like Google Maps or Search, Google may process user location information including the device's IP address and other user location information.

Google discloses how it collects user data, including location information, in its Privacy Policy (available at <https://policies.google.com/privacy>), on the Location Data page (available at <https://policies.google.com/technologies/location-data>), and within the settings described above, in response to Demand for Information No. 7, and in help center pages.

SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Demand for Information, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

Demands for Information Regarding Tracking of Arizonans

DEMAND FOR INFORMATION NO. 18

Identify the number of users in Arizona whose location data you have collected in connection with Android, Google-authored apps, Google search through a web browser, and Google Accounts. Specify the number of Arizona users whose location data you collected even when (a) the user had turned off the Location setting of his or her Android device, (b) the user had turned off the Location History setting of his or her Google Account but left the Web & App Activity setting turned on, and (c) the user had turned off both the Location History and the Web & App Activity settings.

INITIAL RESPONSE (April 17, 2019): In the ordinary course of its business, Google does not determine, or maintain any document stating, the number of users in Arizona who have had Google Accounts during certain periods of time. Neither does Google, in the regular course of its business, determine or maintain any document stating, the number of users in Arizona who may have had Location History or Web & App Activity enabled or paused.

SUPPLEMENTAL RESPONSE (June 20, 2019): As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google has not identified information maintained in the ordinary course that states the number of users in the manner described in DFI 18. However, with regard to the specific scenarios described in (a)-(c) of DFI 18, as we have previously explained, the user location information that Google collects and stores depends on a number of factors, including the product or service being used and an individual user's settings. For instance, every device connected to the Internet is assigned an IP address and these numbers are usually assigned in geographic blocks. Thus, an IP address can often be used to identify the location from which a device is connecting to the Internet.

When a user pauses Location History, Google presents specific disclosures to remind the user that Google may still use location information that we received from their use of other Google products or services.

Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>), and in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates- stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), that Google collects IP addresses.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 19

Identify the number of times that you have refused to disclose the user location data, however collected, of any Arizonan when requested by any third party, including law enforcement.

INITIAL RESPONSE (April 17, 2019): Google objects to this Demand for Information as vague and ambiguous, overly broad, and irrelevant to any investigation under the Arizona Consumer Fraud Act. Subject to and without waiving its objections, Google refers the AGO to its semi-annual Transparency Report, which provides information about the requests for user data Google receives from government agencies, courts, and parties in civil litigation (<https://transparencyreport.google.com/>).

SUPPLEMENTAL RESPONSE (June 20, 2019): Google continues to object to this request, including for the reasons stated previously. Google does not maintain the data requested on a state-by-state basis. National data, among others, is in the Transparency Report discussed below.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 20

Identify all third-party advertising firms that you worked with to create TV, print, video, and digital ads run or viewed in Arizona relating to Android, Google-authored apps, Google search through a web browser, and Google Accounts. (Examples would include the T-Mobile G1 ads run in 2008, the “be together. not the same.” ad campaign run during 2014-2016, and the Fred Rogers ad run in 2018.) For each such advertising firm, also provide the relevant dates, the names/titles of the advertising campaigns, and the types of ads created.

INITIAL RESPONSE (April 17, 2019): We object to this Demand for Information as unduly broad, overly burdensome, and irrelevant to the extent that it seeks information about advertisements that

do not relate to the collection, use, or disclosure of user location information, which appears to be the focus of the Attorney General's investigation.

SUPPLEMENTAL RESPONSE (June 20, 2019): Google continues to object to this request, including for the reasons stated previously.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google continues to object as stated above. This item has not been the subject of any discussion between Google and the AGO to date.

**Demands for Information Relating to Responses to
This Civil Investigation Demand**

DEMAND FOR INFORMATION NO. 21

Identify all natural persons from whom documents were collected for possible production by respondent in response to this Civil Investigative Demand (i.e., "custodians") and the specific Bates range in the production applicable to each custodian.

INITIAL RESPONSE (April 17, 2019): Google did not collect any documents from individual custodians in order to prepare its response to this CID.

SUPPLEMENTAL RESPONSE (June 20, 2019): Documents were collected from [REDACTED] and [REDACTED] and are labeled GOOG-GLAZ-00001205 to GOOG-GLAZ-1479.

FINAL RESPONSE:

Google has collected documents from these custodians:

[REDACTED]

DEMAND FOR INFORMATION NO. 22

To the best of your knowledge and belief, are you producing or otherwise making available for examination with your response to this Civil Investigative Demand all non-privileged documents responsive to numbers 1–21 of the Requests to Produce Documents, below, that are in your possession, custody, or control?

INITIAL RESPONSE (April 17, 2019): Subject to the responses and the objections set forth here and in Google's February 28, 2019 letter, Google is producing non-privileged, responsive information.

SUPPLEMENTAL RESPONSE (June 20, 2019): As stated above, Google's effort to comply with the broad requests contained in the AGO's RFPs is ongoing and includes continued production of responsive, non-privileged materials. Google will continue to update the AGO on the status of Google's efforts, including when its anticipated production is complete.

FINAL RESPONSE:

As of the date of this response, Google asserts that it has completed its document production of responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating certain feedback from the AGO.

DEMAND FOR INFORMATION NO. 23

To the extent that your answer to demand 22 is not an unequivocal "yes," are the reasons why all non-privileged, responsive documents in your possession, custody, or control are not being collected and produced set forth in the response to each request in accordance with the instructions?

INITIAL RESPONSE (April 17, 2019): Google has asserted responses and objections here and in our February 28, 2019 letter.

SUPPLEMENTAL RESPONSE (June 20, 2019): Google has provided these Supplemental Responses as part of its continuing effort to respond to the AGO's numerous demands for investigative discovery. Google's efforts are ongoing and a complete catalogue of those efforts and their results cannot be provided at this time. Google has described above the status of its efforts, the currently-known limitations thereon, and other information related to their status. Google will continue to update the AGO on the status of its efforts, including when its anticipated production is complete.

FINAL RESPONSE:

As of the date of this response, Google asserts that it has completed its document production of responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating certain feedback from the AGO.

II. REQUESTS TO PRODUCE DOCUMENTS

REQUEST FOR PRODUCTION NO. 1

Produce all DOCUMENTS referenced, reviewed, or relied on in providing your responses to the above demands for information in this Civil Investigative Demand. In your response below, provide the specific bates range(s) for these documents and identify the demand(s) for information to which each document applies.

INITIAL RESPONSE (April 17, 2019): Google is producing with its response, as Bates-stamped GOOG-GLAZ-00000001 to GOOG-GLAZ-00000057 and GOOG-GLAZ-00000871 to GOOG-GLAZ-00000875, copies of the following records:

<https://policies.google.com/privacy> (DFIs Nos. 1, 11, 17)
<https://policies.google.com/technologies/retention> (DFIs Nos. 4)
<https://policies.google.com/technologies/location-data> (DFIs Nos. 5, 11, 17)
<https://support.google.com/transparencyreport/answer/7381738> (DFIs Nos. 19)
<https://transparencyreport.google.com/user-data/overview> (DFIs Nos. 19)

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive documents and cited them in its initial response.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Based on our understanding of this Request for Production, Google asserts that it has fully responded to it. If there are follow-up questions regarding this response, please let us know.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO 2

Produce organizational charts or other similar documents sufficient to show the names of the relevant present and former Google employees with responsibilities for each of the following areas as they relate to Android, Google-authored apps, Google search through a web browser, and Google Accounts used by consumers in Arizona. Account for the full relevant time period.

- a. The user set up process for Android mobile devices after a user turns it on for the first time.**
- b. The collection, storage, use, deletion, and disclosure of user location data relating to Google-authored apps running on Android and iOS mobile devices.**
- c. The collection, storage, use, deletion, and disclosure of user location data relating to Google searches run on Android and iOS mobile devices.**

- d. The Settings app/panel in Android and any settings that relate to the collection, storage, use, deletion, or disclosure of any user location data.
- e. Google Accounts and any settings, functions, and permissions on Google Accounts that relate to the collection, storage, use, deletion, or disclosure of any user location data.
- f. Advertising to consumers relating to Android, Google-authored apps, Google search through a web browser, and Google Accounts.
- g. Communications with users (including tutorials, help pages and videos, “how to” pages and videos, and blog posts) relating to settings on Android, Google-authored apps, Google search through a web browser, or Google Accounts and the collection, storage, use, deletion, or disclosure of any user location data collected through Android mobile devices, Google-authored apps, Google search through a web browser, and Google Accounts.
- h. User privacy for Android, Google-authored apps, Google search through a web browser, and Google Accounts relating to the collection, storage, use, deletion, or disclosure of any user location data.
- i. Google’s marketing and sales to advertisers of any and all types of location-aware advertising products and services (including targeting ads to specific locations or interests, local campaigns, tracking the effectiveness of online ads at driving foot traffic, and building user profiles for ads based in part on the user’s location data).
- j. Google’s communications to third-party developers relating to the collection, storage, use, deletion, and disclosure of user location data collected by such third-party apps running on Android.

INITIAL RESPONSE (April 17, 2019): Google objects to this request as overly broad and unduly burdensome in seeking organizational charts for detailed functions that would not constitute one unit or division of employees at Google. Google does not maintain, in the ordinary course of business, organizational charts of this type, and would be forced to create extensive work product that would not remain current once generated. Additionally, it is not clear how all of these documents being requested for all the topics listed above are relevant to the location-related requests.

SUPPLEMENTAL RESPONSE (May 30, 2019): In the absence of more detailed guidance regarding the AGO’s investigation, Google does not understand the relevance of this Request to the AGO’s location-focused investigation and therefore reiterates its objection on this ground. In addition, Google reiterates that it does not maintain organizational charts in the ordinary course of business. In order to provide responsive information to the AGO’s investigation as we understand it, Google notes that the person most knowledgeable about Location History is [REDACTED] and the person most knowledgeable about Web & App Activity is [REDACTED]

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): As discussed during our last telephone call, to answer this request Google is instead providing the following information:

Google has previously responded that the person most knowledgeable about Location History is [REDACTED], and the person most knowledgeable about Web & App Activity is [REDACTED]. Google is in the process of collecting and producing responsive, non-privileged records for which these two employees were custodians.

Mr. [REDACTED] reports to [REDACTED]. Mr. [REDACTED] reports to [REDACTED]. And Mr. [REDACTED] reports to senior management. Google reiterates that Mr. [REDACTED] is the person most knowledgeable about Location History.

Mr. [REDACTED] reports to [REDACTED]. Mr. [REDACTED] reports to [REDACTED]. And Mr. [REDACTED] reports to senior management. Google reiterates that Mr. [REDACTED] is the person most knowledgeable about Web & App Activity.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO 3

Produce a representative example of the complete user set up process in English (including all screens seen by the user and showing all pictures, icons, text, and pop-ups visible to the user, and all linked documents such Google's terms of use and privacy policy) for each version of the set up process for Android mobile devices used in Arizona during the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00000058 to GOOG-GLAZ-00000128. Google's response to this RFP is limited to Pixel devices. The first Google Pixel device was released in October 2016. Google's response to this RFP is limited to January 1, 2017 - January 30, 2019.

Please see the documents Bates-stamped GOOG-GLAZ-00000491 to GOOG-GLAZ-00000781, for the Google Terms of Service and Privacy Policy in effect from January 1, 2017 - January 30, 2019.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced a responsive representative example and cited it in its initial response.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google has conducted a diligent search for and previously produced all responsive documents regarding the set up of Pixel devices.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 4

Produce documents (including screen shots or images) sufficient to show all portions of the Settings app/panel on Android relevant to turning on or off particular settings, functions, or permissions relating to Location, Web & App Activity, and Location History for all versions of Android used in Arizona during the relevant time period, as well as all notifications or other explanations provided to users when turning on or off any of the foregoing.

INITIAL RESPONSE (April 17, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00000129 to GOOG-GLAZ-00000149. Google's response to this RFP is limited to Pixel devices. The first Google Pixel device was released in October 2016. Google's response to this RFP is limited to January 1, 2017 - January 30, 2019.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive documents and cited them in its initial response.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google has conducted a diligent search for and previously produced all responsive documents regarding the relevant settings of Pixel devices.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 5: Produce documents (including screen shots or images) sufficient to show all portions of the Google Accounts website relevant to users in Arizona during the relevant time period turning on or off particular settings, functions, or permissions relating to the collection, storage, use, deletion, or disclosure of any user location data, as well as all notifications or other explanations provided to users when turning on or off any of the foregoing.

INITIAL RESPONSE (April 17, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00000150 to GOOG-GLAZ-00000170. Google's response to this RFP is limited to January 1, 2017 - January 30, 2019.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive documents and cited them in its initial response.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google is producing responsive documents Bates-stamped GOOG-GLAZ-00001114 to GOOG-GLAZ-00001141.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 6

Produce all support pages relating to Location, Location Services, Web & App Activity, My Activity, and Location History for Android mobile devices or Google Accounts used in Arizona during the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00000171 to GOOG-GLAZ-00000427. As described in our Responses and Objections to the CID's Instructions, "Location" and "Location Services" can potentially refer to a broad range of settings and features that may have no connection to Google's products or services. For example, devices other than the Pixel may have device settings referred to as Location or Location Services. Google's response to this RFP is thus limited to statements made about the Pixel device location toggle and the Pixel setting Google Location Accuracy, as well as the requested Google Account features that control the collection of location information (i.e., Web & App Activity and Location History) between January 1, 2017 - January 30, 2019.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive documents and cited them in its initial response. Google supplements its response with new responsive Help Center materials currently available online, Bates-stamped GOOG-GLAZ-00000876 to GOOG-GLAZ-00000949. Google anticipates producing by June 12, 2019 further responsive Help Center materials showing how they appeared online between January 30, 2019, and before today.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Earlier this week, Google produced documents Bates-stamped GOOG-GLAZ-00001059 to GOOG-GLAZ-00001113. These documents reflect additional prior versions of Google's Help Center pages.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 7

Produce the English versions of all contracts and policies with users in Arizona (including privacy policies and terms of service) relating to Android, Google-authored apps, Google search through a web browser, and Google Accounts for the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00000428 to GOOG-GLAZ-00000781, the Google Terms of Service and Privacy Policy in effect from January 1, 2017 - January 30, 2019.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive documents and cited them in its initial response.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google's prior productions included its Terms of Service and Privacy Policy in effect from January 1, 2017 - January 30, 2019. Google objects to further production on the grounds previously stated.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 8

Produce all contracts and policies with third-party Android app developers, and all Google advertisements, presentations, sales communications, videos, tutorials, webpages, and blog posts addressed to third-party app developers, relating to user location data.

INITIAL RESPONSE (April 17, 2019): Google is producing the following documents Bates-stamped GOOG-GLAZ-00000782 to GOOG-GLAZ-00000862:

Google APIs Terms of Service
Google API Services: User Data Policy
Google Play Developer Distribution Agreement
Google Play Developer Policy Center

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive documents and cited them in its initial response.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google's prior productions included its consumer-facing contracts and policies. Google objects to further production on the grounds previously stated.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 9

Produce a representative example of each television advertisement run in a geographic area including any part of Arizona by Google or a third-party partner of Google (such as a hardware manufacturer, telephone carrier, or electronics retailer) during the relevant time period relating to Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production to the extent that it seeks information that is seemingly irrelevant to the Attorney General's investigation and/or outside of the scope of the Attorney General's investigatory authority. Google also does not maintain this information in the ordinary course of business as Google does not categorize the information requested by U.S. state.

Given the broad scope and timeframe for the request, it would help Google to respond if we understood how (if at all) these requests relate to the location-focused requests. The request on its face reflects an entirely separate topic.

SUPPLEMENTAL RESPONSE (May 30, 2019): In the absence of more detailed guidance regarding the AGO's investigation, Google does not understand the relevance of this Request to the AGO's location-focused investigation and therefore reiterates its objection on this ground. Subject to and without waiving Google's objections to this Request, since our meet-and-confer call on May 23, we have worked to identify television advertisements that are relevant to the AGO's investigation, as we understand it, that ran in a geographic area including any part of Arizona between January 1, 2017 and the present, and that are in Google's possession, custody, and control. As of today, we have not located television advertisements for Location History or Web & App Activity. If we locate any such responsive materials, we will promptly produce representative examples.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. Google remains in the process of searching and reviewing for responsive documents. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google previously conducted a search of information regarding the Geo product area, which includes Google Maps and other geo products, to find a representative sample of online advertisements that Google ran for the Location History, Web & App Activity, and Google Maps products. Google previously produced these advertisements to the AGO on June 20, 2019. Google has not located any responsive television advertisements.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 10

Produce a representative example of each print advertisement (e.g., newspaper ads, magazine ads) run in a geographic area including any part of Arizona by or on behalf of Google during the relevant time period relating to Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production to the extent that it seeks information that is seemingly irrelevant to the Attorney General's investigation and/or

outside of the scope of the Attorney General's investigatory authority. Google also does not maintain this information in the ordinary course of business as Google does not categorize the information requested by U.S. state.

Given the broad scope and timeframe for the request, it would help Google to respond if we understood how (if at all) these requests relate to the location-focused requests. The request on its face reflects an entirely separate topic.

SUPPLEMENTAL RESPONSE (May 30, 2019): In the absence of more detailed guidance regarding the AGO's investigation, Google does not understand the relevance of this Request to the AGO's location-focused investigation and therefore reiterates its objection on this ground. Subject to and without waiving Google's objections to this Request, since our meet-and-confer call on May 23, we have worked to identify print advertisements that are relevant to the AGO's investigation, as we understand it, that ran in a geographic area including any part of Arizona between January 1, 2017 and the present and that are in Google's possession, custody, and control. As of today, we have not located print advertisements for Location History or Web & App Activity. If we locate any such responsive materials, we will promptly produce representative examples.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. Google remains in the process of searching and reviewing for responsive documents. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google previously conducted a search of information regarding the Geo product area, which includes Google Maps and other geo products, to find a representative sample of online advertisements that Google ran for the Location History, Web & App Activity, and Google Maps products. Google previously produced advertisements to the AGO on June 20, 2019. Google did not locate any responsive traditional print media advertisements, but did produce ads that ran online.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 11

Produce a representative example of each online advertisement (e.g., digital ads, text ads, pop-up ads, video ads, online ads) run in a geographic area including any part of Arizona by

Google or a third-party partner of Google (such as a hardware manufacturer, telephone carrier, or electronics retailer) during the relevant time period relating to Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production to the extent that it seeks information that is seemingly irrelevant to the Attorney General's investigation and/or outside of the scope of the Attorney General's investigatory authority. Google does not maintain this information in the ordinary course of business as Google does not categorize the information requested by U.S. state.

SUPPLEMENTAL RESPONSE (May 30, 2019): In the absence of more detailed guidance regarding the AGO's investigation, Google does not understand the relevance of this Request to the AGO's location-focused investigation and therefore reiterates its objection on this ground. Subject to and without waiving Google's objections to this Request, since our meet-and-confer call on May 23, we have worked to identify online advertisements that are relevant to the AGO's investigation, as we understand it, that ran in a geographic area including any part of Arizona between January 1, 2017 and the present and that are in Google's possession, custody, and control. As of today, we have not located online advertisements for Location History or Web & App Activity. If we locate any such responsive materials, we will promptly produce representative examples.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. Google is producing responsive documents Bates-stamped GOOG-GLAZ-00001142 to GOOG-GLAZ-00001204. Google remains in the process of searching and reviewing for responsive documents. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google previously conducted a search of information regarding the Geo product area, which includes Google Maps and other geo products, to find a representative sample of online advertisements that Google ran for the Location History, Web & App Activity, and Google Maps products. Google previously produced advertisements to the AGO on June 20, 2019. Google has not identified additional responsive records within its possession, custody, or control.

FINAL RESPONSE:

After conducting a diligent search to respond to Requests for Production 9–11, on June 20, 2019, Google produced advertisements related to Location History, Web & App Activity, and Google Maps. In your letter dated January 17, 2020, you asked Google to provide the dates that the advertisements in question were first shown to the public.

The content produced in documents Bates-stamped GOOG-GLAZ-00001142 - GOOG-GLAZ-00001198 appeared on the Apple App Store Landing page (at <https://apps.apple.com/us/app/google-maps-transit-food/id585027354>) and the Google Play Store

landing page (at https://play.google.com/store/apps/details?id=com.google.android.apps.maps&hl=en_US), and was captured for production in June 2019. The product images on those pages were first made available on the following dates:

- GOOG-GLAZ-00001142 - GOOG-GLAZ-00001143, GOOG-GLAZ-00001180 - GOOG-GLAZ-00001182: 07/30/2018
- GOOG-GLAZ-00001162: GOOG-GLAZ-00001163,
- GOOG-GLAZ-00001165: 08/26/2016
- GOOG-GLAZ-00001164: Google is unable to determine the exact date the image in this document was first made available to the public, but it believes it was around March 2016.
- GOOG-GLAZ-00001195: 07/20/2018

For the YouTube files, Google is able to provide the below information and is also producing additional metadata in GOOG-GLAZ-00200233 - GOOG-GLAZ-00200237:

- GOOG-GLAZ-00001202: https://www.youtube.com/watch?v=7ZrW-_nKSfs (published 12/10/2018)
- GOOG-GLAZ-00001203: <https://www.youtube.com/watch?v=ogfYd705cRs&feature=youtu.be&t=1h17m34s> (published 05/08/2018)
- GOOG-GLAZ-00001204: https://www.youtube.com/watch?v=Q_XPrk824Vs&t=65s (published 12/13/2018)

For the Twitter files, Google is able to provide the following additional information:

- GOOG-GLAZ-00001199: <https://twitter.com/googlemaps/status/861661514549219330> (published 05/08/2017; collected June 2019)
- GOOG-GLAZ-00001200: <https://twitter.com/googlemaps/status/959456310197739520> (published 02/02/2018; collected June 2019)
- GOOG-GLAZ-00001201: <https://twitter.com/googlemaps/status/966776119625121792> (published 02/ 22/2018; collected June 2019)

REQUEST FOR PRODUCTION NO. 12

Produce all tutorials, “how to” videos, or product explanations created by Google or a third-party partner of Google (such as a hardware manufacturer, telephone carrier, or electronic retailer) relating to the collection, storage, use, deletion, or disclosure of user location data

obtained from Android, Google-authored apps, Google search through a web browser, and Google Accounts.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production to the extent it seeks information not in the possession, custody, or control of Google. Google is producing files Bates-stamped GOOG-GLAZ-00000863 to GOOG-GLAZ-00000870, which include a video in the Google Privacy Policy under *Your location information?* And “Types of Location Information,” <https://policies.google.com/technologies/location-data>.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google has produced responsive materials and cited them in its initial response. Google supplements its response with new responsive material currently available online, Bates-stamped GOOG-GLAZ-00000950. Subject to and without waiving Google’s objections to this Request, Google has conducted a reasonable search to identify responsive documents and to date has not identified additional responsive records within Google’s possession, custody, or control.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. Google remains in the process of searching and reviewing for responsive documents. We will update you on our progress

THIRD SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google has not identified additional responsive records within its possession, custody, or control.

FINAL RESPONSE:

In your letter dated January 17, 2020, you express surprise about the volume of Google’s production in response to this Request. You also point to publicly-available material that you searched for and that you allege is responsive. The Request specifically asks for content that relates to “the collection, storage, use, deletion, or disclosure of user location data.” In the context of the AGO’s consumer-protection investigation, Google reasonably understood this Request to be seeking tutorials for Google users (in other words, consumers). The material you cite in your letter, however, is not such a tutorial. It is a marketing document that describes certain ads features for Google’s advertising customers. So, it is neither a tutorial, nor is it aimed at consumers.

Google reiterates that it has conducted a reasonable search for, and has produced, responsive material. Complying with the breadth of the AGO’s Request, which (i) covers every single Google product and service, (ii) spans more than thirteen years, and (iii) defines “user location data” to include IP addresses, which are required for all devices to be able to connect to the internet, is impossible. Google has made a good-faith effort to provide the AGO with relevant, useful, and responsive information by conducting a reasonable search for tutorial-like material aimed at Google consumers, and focused

on Google Account settings, that users can use to control the collection, storage, use, deletion, or disclosure of their location information.

REQUEST FOR PRODUCTION NO. 13

Produce all communications and other documents relating to the Associated Press article of August 13, 2018 entitled “Google tracks your movements, like it or not,” including all communications and other documents relating to the changes you made after that article’s publication to your representations about the collection, storage, use, or disclosure of user location data and about users’ ability to prevent you and third parties from doing any of those things.

INITIAL RESPONSE (April 17, 2019): Google objects to the “all communications and other documents” scope of this Request for Production, as it is overly broad and unduly burdensome. To the extent this Request for Production seeks attorney-client privileged communications, Google also objects to producing such documents as protected by the privilege. Google is willing to meet and confer about an appropriate scope of information.

SUPPLEMENTAL RESPONSE (May 30, 2019): Subject to and without waiving Google’s objections to this Request, Google is conducting a keyword search of the email records of relevant custodians to identify any non-privileged responsive documents. The search and review process is underway. Google currently anticipates that the process will be complete and any non-privileged responsive documents will be produced on or before June 12, 2019.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00001205 to GOOG-GLAZ-00001479. Google remains in the process of searching and reviewing for responsive documents. We will update you on our progress.

FINAL RESPONSE:

Based on our understanding of this Request for Production, Google has no additional information to provide related to it.

REQUEST FOR PRODUCTION NO. 14

Produce all communications and other documents relating to the New York Times article of December 10, 2018 entitled “Your Apps Know Where You Were Last Night, and They’re Not Keeping It Secret,” including all communications and other documents relating to the changes you made after that article’s publication to your representations about the collection, storage, use, or disclosure of user location data and about users’ ability to prevent you and third parties from doing any of those things.

INITIAL RESPONSE (April 17, 2019): Google objects to the “all communications and other documents” scope of this Request for Production, as it is overly broad and unduly burdensome. To

the extent this Request for Production seeks attorney-client privileged communications, Google also objects to producing such documents as protected by the privilege. Google is willing to meet and confer about an appropriate scope of information.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google continues to object to this request for the reasons stated below and as not relevant to the AGO's investigation of Google's policies, practices, and representations because the article referenced does not relate to or reference collection of location information when the Google Account settings Web & App Activity or Location History are enabled or disabled. Google is willing to search for responsive information if the AGO provides appropriate guidance on what aspects of this article are relevant to its investigation.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Absent clarification from the AGO on the relevance of this Request, Google reiterates its objections below.

FINAL RESPONSE:

Based on our understanding of this Request for Production, Google has no additional information to provide related to it.

REQUEST FOR PRODUCTION NO. 15

Produce documents sufficient to show the amount of money Google spent on advertising in Arizona (or, if such data is not state-specific, in the United States) relating to the Android operating system, Android devices, Google-authored apps, Google search through a web browser, and Google Accounts for each year during the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production to the extent it seeks sensitive and competitive business information. Additionally, Google objects to this Request for Production as Google does not maintain records in the ordinary course of business that categorize the information requested by U.S. state. Relatedly, because this Request for Production seeks information and data not connected to the state of Arizona and thus not relevant to this investigation, Google objects to this request as falling outside the Attorney General's authority related to this investigation. Preparing such information also would be unduly burdensome and difficult. Finally, Google does not understand how (if at all) this request relates to the location-focused requests as, on its face, it reflects an entirely separate topic.

SUPPLEMENTAL RESPONSE (May 30, 2019): In the absence of more detailed guidance regarding the AGO's investigation, and because Google does not sell the location information of a specific Google user, Google does not understand the relevance of this Request to the AGO's location-focused investigation and therefore reiterates its objection on this ground. Subject to and without waiving Google's objections to this Request, since our meet-and-confer call on May 23, we have worked to identify television, print, and online advertisements that are relevant to the AGO's investigation, as we understand it, that ran in a geographic area including any part of Arizona between January 1, 2017 and the present and that are in Google's possession, custody, and control. As of today,

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

FOURTH SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google has not identified information kept in the ordinary course of business that specifically states the amount of money Google spent on advertising in Arizona relating to the Android operating system, Android devices, Google-authored apps, Google search through a web browser, and Google Accounts for each year during the relevant time period the number. In order to satisfy the Attorney General's request for information, Google has made an effort to estimate the marketing spend in the United States for the following Google Mobile Services and Android:

[illegible]

REQUEST FOR PRODUCTION NO. 16

Produce documents sufficient to show the number of users of the Android operating system in Arizona during the relevant time period.

INITIAL RESPONSE (April 17, 2019): In the ordinary course of its business, Google does not determine, or maintain any document stating, the number of users of the Android OS in Arizona. Further, Google objects to this Request for Production to the extent it seeks information regarding third-party Android devices, which is not under its possession, custody, or control.

SUPPLEMENTAL RESPONSE (May 30, 2019): Subject to and without waiving Google's objections to this Request, Google reiterates that it does not currently maintain an existing document stating the information sought by this Request. It is nonetheless in the process of trying to determine what, if any, information can be compiled to provide a substantive response to this Request and will further supplement this response as soon as possible.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Sept. 4, 2019): Google does not maintain an existing document stating the information sought by this Request. Google remains in the process of determining whether it can provide other information responsive to this request.

FOURTH SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google has not identified information kept in the ordinary course of business that specifically states the number of users of the Android operating system in Arizona during the relevant time period. Android is an open source software that can be used by anyone without a license. In order to satisfy the Attorney General's request for information, Google has made an effort to estimate the number of users of an Android operating system based on limited nationwide data available for device activations of Google-licensed Android mobile devices. Google estimates the number of Android devices in Arizona at:

- 2016 - [REDACTED]
- 2017 - [REDACTED]
- 2018 - [REDACTED]
- 2019 (January - July) - [REDACTED]

FINAL RESPONSE:

Your January 17, 2020 letter asked Google to answer the following questions:

1. Which Google employees were involved in collecting or compiling this data? Please also identify their titles.

Other than legal counsel, Google employees involved were:

- [REDACTED]
- [REDACTED]
- [REDACTED]

2. Please explain where Google's figures are derived from. For example, from which documents, repositories or other systems was this data collected?

In order to provide these estimates, Google had to query its Android Device Configuration Service database, which contains data related to Android device activation.

3. Google stated that the figures it provided were estimates. Please explain how Google arrived at these estimates from the raw data.

As we explained in our previous response dated December 31, 2019, Google has made an effort to estimate the number of users of an Android operating system based on limited nationwide data available for device activations of Google-licensed Android mobile devices. For the limited time period for which Google had this data, Google estimated Arizona numbers by counting activations with zipcodes inferred to be between 85001 and 86999.

REQUEST FOR PRODUCTION NO. 17

Produce documents sufficient to show the number of users of a Google Account, Google-authored app, or Google search through a web browser in Arizona during the relevant time period.

INITIAL RESPONSE (April 17, 2019): In the ordinary course of its business, Google does not determine, or maintain any document stating, the number of users of a Google Account, Google-authored app, or Google search through a web browser in Arizona. In addition, Google objects to this Request for Production to the extent it seeks information which is not under its possession, custody, or control.

SUPPLEMENTAL RESPONSE (May 30, 2019): Subject to and without waiving Google's objections to this Request, Google reiterates that it does not currently maintain an existing document stating the information sought by this Request. It is nonetheless in the process of trying to determine what, if any, information can be compiled to provide a substantive response to this Request and will further supplement this response as soon as possible.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Sept. 4, 2019): Google does not maintain an existing document stating the information sought by this Request. Google remains in the process of determining whether it can provide other information responsive to this request.

FOURTH SUPPLEMENTAL RESPONSE (Jan. 17, 2020): As we stated previously, Google does not maintain an existing document stating the information sought by this Request. Google undertook a reasonable effort to compile responsive data for this request. Based on available Google Account data, Google is providing monthly numbers (excluding prepay and terms customers) of purchases for the time period of Jan 2017 to November 2019, where the billing address of the form of payment used was associated with an Arizona zip code.²

[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	

² These numbers do not necessarily represent unique account holders across months and years.

[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	

FINAL RESPONSE:

Google responded to this request on January 17, 2020. Based on our understanding of this Request for Production, Google has no additional information to provide related to it.

REQUEST FOR PRODUCTION NO. 18

Produce documents sufficient to show the number of users for whom any location information was collected or stored as a result of the user's use of an Android mobile device, Google Account, Google-authored app, or Google search through a web browser, and for which the user was based in Arizona at any point during the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production as Google does not maintain this information in the ordinary course of business categorized by U.S. state. In addition, Google objects to this Request for Production to the extent it seeks information regarding third-party Android devices, which is not under its possession, custody, or control.

SUPPLEMENTAL RESPONSE (May 30, 2019): Subject to and without waiving Google's objections to this Request, Google reiterates that it does not currently maintain an existing document stating the information sought by this Request. It is nonetheless in the process of trying to determine what, if any, information can be compiled to provide a substantive response to this Request and will further supplement this response as soon as possible.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Sept. 4, 2019): As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>), in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), Google collects IP addresses. Every device connected to the Internet is assigned an IP address and these numbers are usually assigned in geographic blocks. Thus, an IP address can often be used to identify the location from which a device is connecting to the Internet.

FINAL RESPONSE:

As Google previously stated, Google collects IP addresses, which the AGO included in its definition of "User Location Data." See, e.g., First Civil Investigative Demand, pg. 6 ("User location data' means any data from which a user's location can be determined, including but not limited to location information collected through device sensors, GPS, Wi-Fi, Bluetooth, cell towers, and IP addresses."). Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>) and in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), that Google collects IP addresses.

Google has previously produced a number of other responsive documents including but not limited to:

- GOOG-GLAZ-00080897 - GOOG-GLAZ-00080951: “Growth Opportunities for Location.”

REQUEST FOR PRODUCTION NO. 19

Produce documents sufficient to show the revenue Google received from the use by consumers of Android mobile devices in Arizona, including revenue from advertisements displayed to users of Android devices in Arizona during the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production to the extent it seeks sensitive and competitive business information. Google also objects to this Request for Production as Google does not maintain this information in the ordinary course of business categorized by U.S. state. Preparing such information would be burdensome and difficult. In addition, Google objects to this Request as seeking information irrelevant to this investigation.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google reasserts its initial relevancy objection, and reasserts the other objections made below. Google understands the AGO’s investigation relates to the collection and use of location information, and specifically, via the Google Account settings Location History and Web & App Activity. Google does not understand, and the AGO has not provided any guidance, regarding any nexus of revenue from Android mobile devices and location information.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Sept. 4, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00001544 to GOOG-GLAZ-00002105. Google does not maintain documents showing revenue received from Android mobile devices in Arizona, including revenue from advertisements displayed to users of Android devices in Arizona. Google therefore is producing financial statements from 2014 to 2018 that show revenue from all Google products and services, including for Android mobile devices and from advertising. These financial statements identify total revenues as follows: \$65,674,000,000 in 2014, \$75,544,000,000 in 2015, \$89,984,000,000 in 2016, \$110,378,000,000 in 2017, and \$136,224,000,000 in 2018. In addition, Google remains in the process of determining whether it can provide other information responsive to this request.

FOURTH SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google has not identified documents maintained in the ordinary course of business that reflect revenue on a state level. In order to satisfy the Attorney General’s request for information, Google has made an effort to estimate revenue for Arizona relating to mobile devices using Android OS by using nationwide data for Search Ads shown on Google.com for the period of January 1, 2014 - June 30, 2019. That estimate is [REDACTED]

FINAL RESPONSE:

In your letter dated January 17, 2020, you asked Google to answer the following:

1. Which Google employees were involved in collecting or compiling this data? Please also identify their titles.

- [REDACTED]

2. Please explain where Google's figures are derived from. For example, from which documents, repositories or other systems was this data collected?

[REDACTED]

3. What does "Search Ads shown on Google.com" mean? For example, does it include only those ads shown on searches done via Google.com? Does it include searches via other points of entry? Does it include searches done on mobile, desktop, and tablet?

"Search Ads shown on Google.com" are ads that appear on the Google Search Results page on Google.com. This Request for Production asked about Android mobile devices, so Google limited its response to Android mobile devices.

4. Please provide a breakdown of the estimate by year since 2014.

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

REQUEST FOR PRODUCTION NO. 20

Produce documents sufficient to show the revenue Google received from the use by consumers of Google Accounts and of Google-authored apps or Google websites on iOS

devices in Arizona, including revenue from advertisements displayed to such users when using iOS devices during the relevant time period.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production as Google does not maintain this information in the ordinary course of business categorized by U.S. state. Preparing such information would be burdensome and difficult. Additionally, Google objects to this Request as seeking information irrelevant to this investigation.

SUPPLEMENTAL RESPONSE (May 30, 2019): Google reasserts its initial relevancy objection, and reasserts the other objections made below. Google understands the AGO's investigation relates to the collection and use of location information, and specifically, via the Google Account settings Location History and Web & App Activity. Google does not understand, and the AGO has not provided any guidance, regarding any nexus of revenue from apps and websites, and location information.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial relevancy objection and reasserts the other objections made. As previously stated, Google does not maintain such documents in the ordinary course of business. We are currently attempting to ascertain whether this information can be determined through other means. We will update you on our progress.

THIRD SUPPLEMENTAL RESPONSE (Sept. 4, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00001544 to GOOG-GLAZ-00002105. Google does not maintain documents showing revenue received from the use by consumers of Google Accounts and of Google-authored apps or Google websites on iOS devices in Arizona, including revenue from advertisements displayed to such users when using iOS devices. Google therefore is producing financial statements from 2014 to 2018 that show revenue from all Google products and services, including for Google Accounts, Google-authored apps, Google websites on iOS devices, and revenue from advertisements displayed to such users. These financial statements identify total revenues as follows: \$65,674,000,000 in 2014, \$75,544,000,000 in 2015, \$89,984,000,000 in 2016, \$110,378,000,000 in 2017, and \$136,224,000,000 in 2018. In addition, Google remains in the process of determining whether it can provide other information responsive to this request.

FOURTH SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google has not identified documents maintained in the ordinary course of business that reflect revenue on a state level. In order to satisfy the Attorney General's request for information Google has made an effort to estimate revenue for Arizona relating to mobile devices using iOS by using nationwide data for Search Ads shown on Google.com for the period of January 1, 2014 - June 30, 2019. That estimate is [REDACTED]

FINAL RESPONSE:

In your letter dated January 17, 2020, you asked Google to answer the following:

1. Which Google employees were involved in collecting or compiling this data? Please also identify their titles.

- [REDACTED]

2. Please explain where Google’s figures are derived from. For example, from which documents, repositories or other systems was this data collected?

[REDACTED]

3. What does “Search Ads shown on Google.com” mean? For example, does it include only those ads shown on searches done via Google.com? Does it include searches via other points of entry? Does it include searches done on mobile, desktop, and tablet?

“Search Ads shown on Google.com” are ads that appear on the Google Search Results page on Google.com. The numbers provided in this response are for Apple mobile devices (iOS devices).

4. Please provide a breakdown of the estimate by year since 2014.

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

REQUEST FOR PRODUCTION NO. 21

Produce all complaints or inquiries you have received from users in Arizona about your collection, storage, use, or disclosure of user location data or about users’ ability to prevent you from doing any of those things and all of your responses regarding the same.

INITIAL RESPONSE (April 17, 2019): Google objects to this Request for Production because the word “location” is a general and widely-used term that will not meaningfully identify specifically relevant documents. Additionally, Google objects to this Request for Production as Google does not

maintain this information in the ordinary course of business categorized by U.S. state. As a consequence, locating such information would be unduly burdensome. Google is willing to meet and confer about an appropriate scope of, and response to, this Request.

SUPPLEMENTAL RESPONSE (May 30, 2019): Subject to and without waiving Google's objections to this Request, Google is conducting a keyword search of its system for storing communications from users. The search and review process is underway, and Google is working to produce these as soon as possible.

SECOND SUPPLEMENTAL RESPONSE (June 20, 2019): Google remains in the process of searching and reviewing for responsive documents. We will supplement this response when we can, and we anticipate doing so by June 28, 2019.

FINAL RESPONSE:

On June 27, 2019, Google produced responsive information found after a diligent search in documents Bates-stamped GOOG-GLAZ-00001480 - GOOG-GLAZ-00001507. Based on that search, Google has produced responsive documents and has not identified further responsive documents.

GOOGLE'S RESPONSES TO AGO'S SECOND CID

I. DEMANDS FOR INFORMATION

DEMAND FOR INFORMATION NO. 1

To the best of your knowledge and belief, are you producing or otherwise making available for examination with your response to this Civil Investigative Demand all non-privileged documents responsive to numbers 1–2 of the Requests to Produce Documents, below, that are in your possession, custody, or control?

FINAL RESPONSE:

As further described below, yes, to the best of Google's knowledge and belief, it produced all non-privileged and responsive documents.

Regarding Request for Production No. 1, on June 20, 2019, Google produced documents Bates-stamped GOOG-GLAZ-00000951 to GOOG-GLAZ-00001058, containing the written testimony and responses to Questions for the Record submitted by its [REDACTED] and [REDACTED], including all exhibits and attachments thereto. Google confirms that no other non-privileged materials within the scope described above were submitted to Congress in connection with the hearings on September 26, 2018, and December 11, 2018.

Regarding Request for Production No. 2, in its June 20, 2019 response, Google objected, stating that the documents selected by counsel and reviewed by Mr. [REDACTED] and Mr. [REDACTED] in preparation for their testimonies are protected by attorney-client privilege and/or the work-product doctrine and, on these grounds, Google did not produce documents responsive to the request.

DEMAND FOR INFORMATION NO. 2

To the extent that your answer to demand 1 is not an unequivocal "yes," are the reasons why all non-privileged, responsive documents in your possession, custody, or control are not being collected and produced set forth in the response to each request in accordance with the instructions?

FINAL RESPONSE:

Please see Google's response to Demand for Information No. 1. Based on our understanding of this Request for Production, Google has no additional information to provide related to it.

II. REQUESTS TO PRODUCE DOCUMENTS

REQUEST FOR PRODUCTION NO. 1

Produce all documents relating to consumer location tracking or location-data collection, storage, or dissemination by Google or by third-parties that were shared with Congress, any house of Congress, any committee or subcommittee of Congress, any senator or member of Congress, or any congressional staff before or after the Senate Commerce, Science, and Transportation Committee hearing on September 26, 2018 or the House Judiciary Committee hearing on December 11, 2018. This includes but is not limited to any such documents provided, shown, read, referenced, or summarized, in whole or in part, to any senators or members of Congress or staff on Google's own initiative or in response to any formal or informal request; the written testimony submitted by [REDACTED] and [REDACTED] including all exhibits and attachments thereto; and the written responses to committee members' or staff's questions submitted before or after the hearings, including all exhibits and attachments thereto.

INITIAL RESPONSE (May 30, 2019): Google objects to this Request for Production because the hearings held before the Senate Commerce, Science, and Transportation Committee on September 26, 2018, and the House Judiciary Committee on December 11, 2018, did not focus on consumer location tracking or location-data collection, storage, or dissemination by Google or by third parties.

Subject to and without waiving its objections, Google is producing, Bates-stamped as GOOG-GLAZ-00000951 to GOOG-GLAZ-00001058, the written testimony and responses to Questions for the Record submitted by its [REDACTED] and [REDACTED], including all exhibits and attachments thereto. We are in the process of confirming that no other non-confidential materials within the scope described above were submitted to Congress in connection with the hearings on September 26, 2018, and December 11, 2018.

SUPPLEMENTAL RESPONSE (June 20, 2019): Google has conducted a diligent search for and previously produced all responsive documents regarding this Request for Production.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 2

Produce all documents relating to consumer location tracking or location-data collection, storage, or dissemination by Google or by third-parties that were referenced, reviewed, or relied on in preparing for or providing Google [REDACTED] testimony before the Senate Commerce, Science, and Transportation Committee hearing on September

26, 2018 or Google [REDACTED] testimony before the House Judiciary Committee hearing on December 11, 2018.

INITIAL RESPONSE (May 30, 2019): Google objects to this Request for Production on the grounds that the documents selected by counsel and reviewed by Mr. [REDACTED] and Mr. [REDACTED] in preparation for their testimonies are protected by attorney-client privilege and/or the work-product doctrine and, on these grounds, will not produce documents responsive to this request. *See State ex rel. Corbin v. Ybarra*, 161 Ariz. 188, 192 (1989) (citing with approval *United States v. Noble*, 422 U.S. 225, 238 (1975)), which recognized that “societal interests were far better served when attorneys have the opportunity for ‘thorough preparation and presentation of each side of the case’”; *see also* 1 Testimonial Privileges § 2.5 (3d ed. 2017) (“Most courts recognize that when an attorney exercises professional skill in compiling selected documents while preparing the client’s case, the documents (as compiled) reflect the attorney’s mental impressions and should be afforded work product protection.”).

SUPPLEMENTAL RESPONSE (June 20, 2019): Google reasserts its initial objections made below.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

GOOGLE'S RESPONSES TO AGO'S THIRD CID

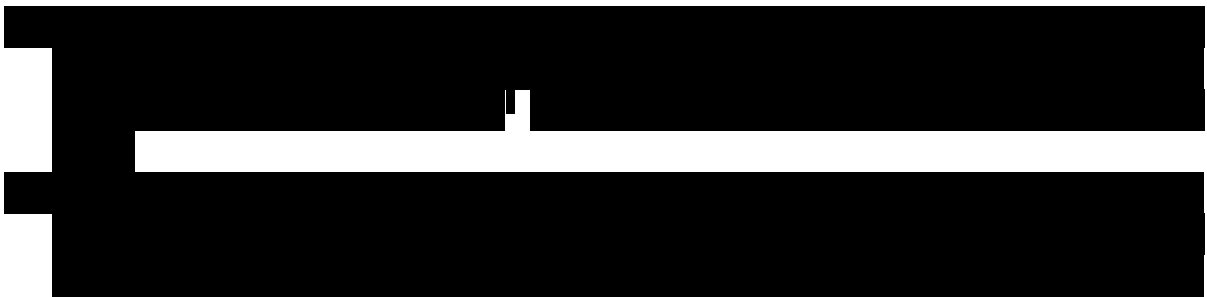
I. DEMANDS FOR INFORMATION

DEMAND FOR INFORMATION NO. 1

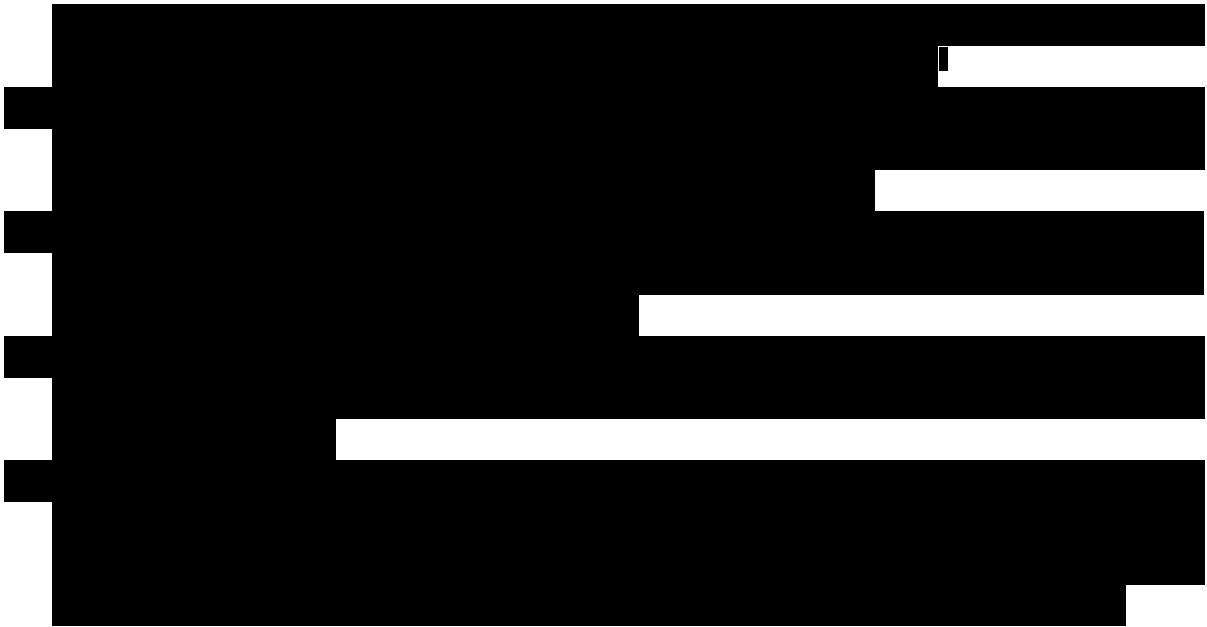
Describe the path that User Location Data takes, beginning with the initial collection by device sensors (i.e., “below” the stack (7/11/19 [REDACTED] EUO Rough Tr. at 81:13-83:23)), and ending with storage in Sensor Vault, and identify all instances where the location data is “stored” by Google in any form. Identify documents sufficient to confirm the information provided in your response.

INITIAL RESPONSE (Sept. 4, 2019): As Google has described in prior written responses, for a user who enables Location History, a distinct and opt-in Google Account setting, the user has asked Google to save a private map of where the user goes with his or her signed-in devices. As requested, Google's response to this Request focuses on the path of data stored in Sensorvault when a user enables Location History.

This response describes an example of a data path to illustrate as a general matter the way collection, transmission, and storage can occur. This example is therefore not intended as a comprehensive description of every possible path that data could take on a device to Sensorvault. Providing that detailed of a response is not possible given the variety of combinations of device settings and user choices about settings. If the AGO has other examples about which it is interested, Google is willing to meet and confer about providing further information.



³ As Google explained in previous responses, users can opt any device out of reporting to Location History.



Location History data is stored with these major repositories:

1. Sensorvault (previously Placevault): the history of lat/long locations and associated sensors with users that opted in to Location History.
2. Semantic database: this is a layer of semantic inference data on top of the raw Sensorvault data. This simply means that the data has been given a semantic description, such as “McDonald’s” for a place, or “driving on (example road)” for activity segments. This makes locations more user-friendly and understandable than geo coordinates, for example.

3. [REDACTED]

Internal Google product teams can seek permission to access the data described above, and depending on the use of the data, may access and/or store location information. Any team that needs to store the Location History tied to an individual user is required to respect user deletion choices.

⁴ Google Location Services stores a short-term record of the device’s query for its location; this record is not associated with the user's Google Account.

FINAL RESPONSE:

Your January 17 Letter asks Google to supplement its previous responses by describing additional paths user location information takes. Specifically, you ask about the following scenarios:

1. Location History on, Location Reporting on, [REDACTED]/GLA on, battery saver mode off

In order to answer this question, Google is making the following assumptions: (i) the device is running on Android 8, (ii) the device's Location Master toggle is enabled, (iii) "[REDACTED]/GLA on" and "Battery saver mode off" means the device is in *High Accuracy* mode, and (iv) the user is signed into their Google Account on the device. As the documents Google produced in response to Request for Production 4 of the First CID (e.g., GOOG-GLAZ-00000131) show, when [REDACTED] had various modes, users could select *High Accuracy*, *Battery Saving*, or *Device only* mode. The disclosure to users explained that Google would improve location accuracy only when users selected *High Accuracy* or *Battery saving* mode. In those modes, the device might use, for example, Wi-Fi and mobile network information to calculate location. In *Device only* mode, the device only calculated location based on GPS.

[REDACTED]

2. Location History on, Location Reporting on, [REDACTED]/GLA off, battery saver mode on

As explained above, the documents produced in response to RFP 4 of the First CID (e.g., GOOG-GLAZ-00000131) show that when [REDACTED] had various modes, users could select *High Accuracy*, *Battery Saving*, or *Device only* mode. The disclosure to users explained that Google would improve location accuracy only when users selected *High Accuracy* or *Battery saving* mode. In those modes, the device might use, for example, Wi-Fi and mobile network information to calculate location. In *Device only* mode, the device only calculated location based on GPS.

Google thus understands this question to be asking about a situation where (i) the device is running on Android 8, (ii) the device's Location Master toggle is enabled, (iii) Battery saving mode is enabled,

and (iv) the user is signed in to their Google Account on the device. This is the same scenario that Google described in its September 4, 2019 response.

3. Location History on, Location Reporting on, [REDACTED]/GLA off, battery saver mode off

As explained above, the documents produced in response to Request for Production 4 of the First CID (e.g., GOOG-GLAZ-00000131) show that when [REDACTED] had various modes, users could select *High Accuracy*, *Battery Saving*, or *Device only* mode. The disclosure to users explained that Google would improve location accuracy only when users selected *High Accuracy* or *Battery saving* mode. In those modes, the device might use, for example, Wi-Fi and mobile network information to calculate location. In *Device only* mode, the device only calculated location based on GPS.

Google thus understands this question to be asking about a situation where (i) the device is running on Android 8, (ii) the device's Location Master toggle is enabled, (iii) "[REDACTED]/GLA off" and "Battery saver mode off" means *Device only* mode is on (where the phone only uses GPS to determine location and [REDACTED] is not improving location accuracy), and (iv) the user is signed into their Google Account on the device.

[REDACTED]

2. The user's location information is stored in Sensorvault (previously known as Placevault). The data stored in Sensorvault is not available to third parties. The user can enable Google Location Sharing, which shares the user's location, based on information calculated and available from their Location History, with any person who the user herself designates.

DEMAND FOR INFORMATION NO. 2

Identify all clients, groups, teams or people, internal or external to Google, that have direct access to Location History location data.

INITIAL RESPONSE (Sept. 4, 2019): Access to the Location History data stored in a user's account is limited to internal Google services and products. No parties external to Google have direct access to a user's Location History data.

Any Google teams' access to Location History data is subject to review and compliance with usage policies. To be considered for permission to access Location History data, the team must submit a detailed request that includes information about the Privacy Working Group they work with, their Privacy Design Documents (which are privileged documents created to seek the advice of counsel

advising on the product), and their relevant launch report documentation. The team also must identify their product counsel contact. Additionally, Google requires that the requester seeking access to the data for a specific team and use have a certain level of seniority.

The groups of Google teams that can and do seek approval to access Location History data in Sensorvault are listed below in response to Demand for Information No. 5.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 3

Identify all clients, groups, teams, servers or other subdivisions at Google where User Location Data in any form (whether or not aggregated or anonymized) is stored.

INITIAL RESPONSE (Sept. 4, 2019): Google objects to this request as overly broad and unduly burdensome. Specifically, the term “User Location Data” is overly broad and not within a reasonable definition. As an initial matter, defining “User Location Data” as “data from which a user’s location can be determined” suggests that even extremely coarse location information (e.g., country level) could conceivably be included in the definition. Furthermore, including IP address within that definition, when an IP address is needed for any device to connect to and function on the internet, renders this defined term even more unwieldy. Especially when combined with an all inclusive request like this Demand for Information, such a vague term renders the demand prohibitively burdensome.

Notwithstanding this objection, Google provides the following information in an effort to be responsive to this request:

Google previously provided written responses to the First Civil Investigative Demand (“First CID”) that described Google Account level location settings.

There are three major repositories that store Location History data: Sensorvault, a semantic database, and [REDACTED]. These repositories are described in further detail in response to Demand for Information No. 1. Sensorvault stores the location information that a user can share with a third party when the user enables Location Sharing.

The repository that stores users’ Web & App Activity data is called [REDACTED]

Location data that Google saves from the Usage & Diagnostics setting is stored in [REDACTED] and in corresponding internal logging platforms. It is associated with a user's account for users that have Web & App Activity enabled, as Google explained in response to the First CID. When Usage & Diagnostics data is not associated with a Google user's account because the user does not have the additional Web & App Activity setting (the sub-setting to "Include Chrome history and activity from sites, apps, and devices that use Google services") enabled, the data is not associated with a user's Account in [REDACTED] and also is stored in Google's internal logging platforms. Both systems have access controls for teams that log and read data from these repositories.

Other Google products and services may receive and store a user's location information, e.g., IP addresses, when a user interacts directly with the product or service from a mobile device. For example, Google's [REDACTED] team receives and temporarily stores location information when users interact with Google Maps. That team assists in providing geolocation information that enables Google Maps to respond to the user's query to the app. IP address information is needed to operate and offer Google services, and is used for legal compliance and other product operations.

With regard to the request's reference for information about aggregated and/or anonymized location information, Google needs a more detailed understanding of what types of information to which the AGO is referring. Google is willing to meet and confer to determine whether additional information about Google teams' storage of information can be provided.⁵

FINAL RESPONSE:

In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

Specifically, Google's September 4, 2019 response described where location information is stored for Location History, Web & App Activity, and Usage & Diagnostics. Google also explained that other

⁵ Google also reiterates its objection to this Demand, and others that reference "aggregated" or "anonymized" data, that such data not associated with a specific user's account is not a proper subject of the Attorney General's investigation under the Arizona Consumer Fraud Act.

products and services may receive and store a user's location information, and mentioned [REDACTED] as an example.

In addition, as explained above in response to Demand for Information No. 4 of the First CID, Google also produced multiple informative documents on the topic of the storage of location information.

Furthermore, the AGO's Fourth CID asks about 18 additional potential data stores, which Google is in the process of responding to.

Your January 17 letter also asked Google to confirm whether the semantic database is known or referred to by any other name. It is also referred to as [REDACTED]

Finally, your January 17 letter asked Google to identify where the following information is stored:

- information that is tied to a rotating device ID (see, e.g., [REDACTED] EUO Tr. page 98)
- Location History data that is used in an "anonymized and aggregated manner" for ads purposes (as described by Google in its response to CID 3, DFI 4)
- anonymized use of Web & App Activity location data (as described by Google in response to CID 3, DFI 8)

For information tied to a rotating device ID, this information is not stored, collectively, in a specific location. Rather, information is stored in the datastore that is specific to the relevant Google product.

For anonymized, aggregated Location History information used for ads (as described by Google in its Response to CID 3, DFI 4), this information is stored in the [REDACTED] repository. For more information about this repository, please refer to Google's Response to Demand for Information No. 1 of the Third CID.

For anonymized Web & App Activity location information (as described by Google in response to CID 3, DFI 8), this coarsened location information is stored in [REDACTED] anonymous logs that [REDACTED]

DEMAND FOR INFORMATION NO. 4

Identify all clients, groups, teams or people, internal or external to Google, that use Location History location data.

INITIAL RESPONSE (Sept. 4, 2019): As we explain in response to Demand for Information No. 2, no parties external to Google have access to or use Location History information that indicates any individual user's location. Each team that has direct access to Location History location data, as explained in response to Demand for Information No. 2, has a process to seek approval and get access to Location History data and is able to use the data for their product or feature implementation in accordance with their user data access request and Google's policies. It is not possible for Google to explain each and every use case, but in response to Demand for Information No. 5, Google has provided examples of how each team that has access to the data uses it.

As Google explained in its previous responses to the First CID, Google also uses Location History data in an anonymized and aggregated manner, for users that choose to opt-in to the product, to help advertisers measure how often an online ad campaign helps drive traffic to physical stores or properties. Google does not share any individually identifying Location History information with advertisers. Store visit data cannot be tied to individual ad clicks, viewable impressions, or people.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 5

Identify all approved uses of Location History location data. (See 7/11/19 [REDACTED] EUO Rough Tr. at 231:10-22).

INITIAL RESPONSE (Sept. 4, 2019): Google provides below teams that had approved uses for Location History information, along with representative examples of each team's use case. It is not practical for Google to identify in a static answer all approved uses given the evolving nature of the work of product teams, which is the reason that Google's Privacy Policy and product-related pages describe broadly the ways in which Google uses data. As we explain in response to Demand for Information No. 1, all teams accessing Location History data must seek approval and must use the data in accordance with Google's policies regarding data access and Google's Privacy Policy.

[REDACTED]

[REDACTED]



FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 6

Describe the path that Web & App Activity location data takes, beginning with the initial collection by device sensors, and ending with the location data's storage in Web & App Activity. (See 7/12/19 [REDACTED] EUO Rough Tr. at 208:19-210:18).

INITIAL RESPONSE (Sept. 4, 2019): As Google has described in prior written responses, for users who enable Web & App Activity, Google saves the user's activity (e.g., search queries) on Google products and services in the user's Google Account.

The location that is associated with the user's activity on Google products and services is obtained from the device's location services Application Programming Interfaces (API). The device can derive location from sensor data and information about things near a user's device, such as Wi-Fi access points and cell towers, and is provided to the Google products and services via APIs.

If location information is not available from device sensors or otherwise is not part of the user's action (e.g., the user has disabled their device-level location setting), the Web & App Activity entry for that action will not include device-based calculated location. The entry will still include the IP address associated with the user's activity. IP addresses are required for devices to be able to connect to one another through the Internet and are necessary for online services to function.

Below Google sets forth two examples of a path starting with a user's search, which is saved in Web & App Activity. This response is not intended as a comprehensive description of every possible path

that data could take when a user has enabled Web & App Activity. Providing that detailed of a response is not possible given the variety of combinations of device settings and user choices about settings. If the AGO has other examples about which it is interested, Google is willing to meet and confer about providing further information.

The following is an example of a search query for a Google Account with Web & App Activity ON using a device with system location OFF or when device location is otherwise unavailable.



The following is an example search query for a Google Account with Web & App Activity ON using a device with system location ON and the OS location permission ON for the Google App.



FINAL RESPONSE:

Your January 17 letter asked Google to respond to the following questions:

1. To which settings do “system location” and “OS location permission” refer?

“System location” refers to, for example, Google Location Services on a Google-licensed Android device. “OS location permission” refers to, for example, the Location Master toggle on a Google-licensed Android device.

2. Does the term “devices location services API” refer to the Fused Location Provider API? If not, to which API(s) does it refer?

This example was meant to be device agnostic. Thus, the APIs used on iOS devices may be different than APIs used on Android devices. For Google-licensed Android devices, Fused Location Provider is an API that provides location to apps and services with the requisite user permission.

3. What is intended by the term “Google servers,” and are these the same servers referenced by Mr. [REDACTED] See [REDACTED] EUO Tr. at 218:15–220:6.

“Google servers” as used by Mr. [REDACTED] refers, generically, to any Google web service that a user may connect to through, for example, the Internet or an app.

4. What is intended by the term “device sensors”?

“Device sensors” has the same meaning as that which Ms. [REDACTED] used. Device sensors also are explained more in Google’s Response to DFI No. 2 of the First CID.

DEMAND FOR INFORMATION NO. 7

Identify all clients, groups, teams or people, internal or external to Google, who have direct access to Web & App Activity location data. (See 7/12/19 [REDACTED] EUO Rough Tr. at 121:20-123:10).

INITIAL RESPONSE (Sept. 4, 2019): Access to information stored in a user’s Web & App Activity is limited to internal Google services, and such access is subject to review and must be in compliance with policy. No parties external to Google have direct access to a user’s Web & App Activity data.

As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>) and in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), Google may store user information for use across Google's products and services. Web & App Activity data is specifically used to help Google give users more personalized experiences across Google services. This includes things like faster searches, better recommendations, and useful ads, both on and off Google. In order to provide this personalization to users, various teams at Google use Web & App Activity data for as long as the user chooses to keep it associated with their account.

One type of data that Web & App Activity stores is coarsened device-based location data saved from a user's interactions with Google Search, Maps, and Assistant. According to Google's policies, teams may only access data that they use. So, while teams using a user's past searches to personalize search results would be able to view the coarsened device-based location data in Web & App Activity, they would not access that location data unless they had a use case permitted by Google's policies, examples of which we explain in response to Demand for Information No. 8.

Given Web & App Activity is used by many teams to improve Google users' experiences across Google products and services, in the time provided to respond to this Demand for Information, Google was not able to identify a mechanism to list all teams that can access Web & App Activity data generally. Google is in the process of determining if there is a mechanism to do so and will keep you updated on its progress.

SUPPLEMENTAL RESPONSE (Jan. 17, 2020): Please see Google's response to Demand for Information No. 8, which explains examples of authorized uses for which certain teams accessed device-based Web & App Activity location data. As Google previously explained, various teams at Google are able to view Web & App Activity data, to use it in compliance with Google's policies for permitted use cases.

FINAL RESPONSE:

Google responded to this demand on December 31, 2019, and January 17, 2020. Additionally, Google produced documents responsive to this DFI on February 14, 2020, at GOOG-GLAZ-00203130 - GOOG-GLAZ-00203442.

DEMAND FOR INFORMATION NO. 8

Identify all clients, groups, teams or people, internal or external to Google, that make use of Web & App Activity location data.

INITIAL RESPONSE (Sept. 4, 2019): As we explain in response to Demand for Information No. 7, no parties external to Google have access to or use location information stored in Web & App Activity. Per Google's policies, all internal clients that want to use the device-based location data saved in Web & App Activity must seek approval for their product or feature implementation.

To accurately respond to this request and verify which teams are in fact using Web & App activity device-based location data, Google needs to query data sources including logs, which it was not possible to do in the time provided to respond. Google is in the process of working on this request and will keep you updated on its progress.

There are generally three types of uses for which teams use device-based location from Web & App Activity. The first is to display to users their Web & App Activity in their Google Account and allow users to edit and manage that data. The second use case is to get location for a user at the time of a user's interaction with a Google product or service in order to deliver a more relevant and personalized experience. An example might be a user searching for "weather in Paris" followed by "things to do" where Google would infer that the user means "things to do in Paris." This data may also be used to show the user more relevant ads. The third use of the data is related to product development, improvement, or analysis. This could include, for example, using data at an aggregated level for the query "restaurants near me" to improve search results for users in a given area.

SUPPLEMENTAL RESPONSE (Jan. 17, 2020): Based on a query of Google's systems, the following is a representative list of teams with access to and their use of device-based Web & App Activity location data:



FINAL RESPONSE:

Google responded to this demand on December 31, 2019, and January 17, 2020. Additionally, Google produced documents responsive to this DFI on February 14, 2020.

DEMAND FOR INFORMATION NO. 9

Identify all approved uses of Web & App Activity location data. (See 7/12/19 [REDACTED] EUO Rough Tr. at 122:2-123:10).

INITIAL RESPONSE (Sept. 4, 2019): It is not possible for Google to explain each and every use case of Web & App Activity device-based location data. Google has provided three examples of the uses for WAA data as part of its response to Demand for Information 8. In order to respond to Demand for Information No. 8, Google is working to identify teams that use Web & App Activity device-based location. If Google is able to do so, Google will provide representative examples of the ways in which the teams use the data in response to the current demand.

SUPPLEMENTAL RESPONSE (Jan. 17, 2020): Please see Google's response to Demand for Information No. 8, which explains examples of authorized uses for which certain teams accessed device-based Web & App Activity location data.

FINAL RESPONSE:

Google responded to this demand on December 31, 2019, and January 17, 2020. Additionally, Google is producing documents Bates-stamped produced documents responsive to this DFI on February 14, 2020.

DEMAND FOR INFORMATION NO. 10

Identify any and all other means Google uses to collect, store, transmit, use, delete or disclose User Location Data outside of Location History and Web & App Activity.

INITIAL RESPONSE (Sept. 4, 2019): Google objects to this request as overly broad and unduly burdensome. Specifically, the term "User Location Data" is overly broad and not within a reasonable

definition. As an initial matter, defining “User Location Data” as “data from which a user’s location can be determined” suggests that even extremely coarse location information (e.g., country level) could conceivably be included in the definition. Furthermore, including IP address within that definition, when an IP address is needed for any device to connect to and function on the internet, renders this defined term even more unwieldy. Especially when combined with an all inclusive request like this Demand for Information, such a vague term renders the demand prohibitively burdensome.

Google is making a good-faith effort to respond by providing information about how its suite of GMS products collect, store, transmit, use, delete, and disclose location information, as the AGO has specifically inquired about these services in Request for Production No. 5:

As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>), in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), Google collects, stores, and uses a number of categories of location information.

Collection

Google may collect location information in the following general ways:

IP Addresses

Every device connected to the Internet is assigned an IP address and these numbers are usually assigned in geographic blocks. Thus, an IP address can often be used to identify the location from which a device is connecting to the Internet. IP addresses are needed to operate and offer Google services, including for legal compliance and other product operations.

User Provided Information

Users may provide Google with billing address information or address delivery information in a number of Google products and services. In addition, when users create a Google Account, they may (but are not required to) provide an address. Users may also provide phone numbers associated with their Google account, the area code of which may infer a user’s location. In certain products, such as Maps, users may input a home or work address. Finally, users provide information to Google when they enter queries on Search or Maps such as “restaurants near me.”

Device Sensors

A number of Google products and services can request access to device-based location, as calculated and provided by the device. As Google explained in its response dated April 17, 2019, to Demand for Information No. 7 of the First CID, Google Location Accuracy (formerly known as Google Location Services) (“GLA”) is a network-based location service that collects data to improve location accuracy and provide certain location information to the apps and services with the requisite permissions. The information Google collects from GLA is linked to a temporary and rotating device identifier that is not used by or shared with other services. It is not connected with any identifier that would associate that data with a specific user.

Below we explain how the GMS products may collect location information.

Google

Google may collect search terms associated with a user’s search, which may allow Google to infer a user’s location. In addition, Google Search may request device-based location.

Chrome Browser

The Chrome browser can request access to device-based location.

Gmail

Gmail may collect user location information from messages, for example, in order to create a calendar entry for an upcoming event (e.g. dinner reservation at [example]). In addition, Gmail will have location metadata associated with certain attachments like photos or videos. As part of the Gmail/Google Account creation process, users may also provide an address to associate with their account.

Google Maps

Maps can collect various location information such as users’ queries, device-based location for providing navigation directions, or the location of manual entries that users may save such as their home/work addresses or favorite/saved locations. Maps may also collect location information from other Google products to provide a more personalized user experience. For example, a user’s upcoming reservation sent in a Gmail message may display on their Google Maps.

YouTube

The YouTube service may request access to device-based location.

Google Play Store

As a commercial service, Google Play collects user/developer billing information. Play also requests access to device-based location.

Drive

Google Drive stores users' files in the cloud. To the extent that the files contain user location information, for example the metadata associated with a photo, Drive has that information saved for the user.

Google Play Music

As a commercial service, Google Play Music may collect user/artist billing information. Play Music may also request access to device-based location.

Google Play Movies

As a commercial service, Google Play Movies may collect user/artist billing information. Play Movies may also request access to device-based location.



As a video-calling app, [REDACTED] may collect location information based on phone numbers.

Google Photos

Google Photos may collect geolocation EXIF data from any uploaded photos.

Usage

Google

This app uses location information to provide users with more personalized and relevant search results. This helps Google respond to queries like “restaurants near me.”

Chrome Browser

The Chrome browser will allow sites to access the user's location for a number of reasons, including being able to surface relevant content to a user based on location (including for legal obligations -- e.g. users in the EEA must provide consent to websites to use cookies). In addition, the Chrome browser allows users to save addresses for auto-filling and stores location in a way that users can manage (e.g., block certain sites or allow certain sites access to location without having to re-request permission).

Gmail

Gmail may use the location data from messages to populate other Google products with personalized information for the user. This could include upcoming travel or dining reservations on Calendar and on Google Maps.

Google Maps

As a Geo-focused product, Google Maps uses location in a variety of ways including to show users locations they searched for, to provide navigation, and to personalize and recommend places on a map. Maps also displays to users relevant location information based on things like appointments and reservations that a user may have in Gmail or Calendar.

YouTube

YouTube uses location information, for example, to provide users with localized and personalized results, such as surfacing local artists. In addition, YouTube previously used aggregated and anonymized location data to provide wireless carriers network quality information. YouTube also uses location information to restrict access to content as necessary to comply with legal obligations, for example in licensing agreements.

Google Play Store

The Google Play Store uses location information, for example, to send and receive billing and payment information, provide users with relevant app recommendations, and restrict access to content as necessary to comply with legal obligations, for example in licensing agreements.

Google Drive

Google Drive may use IP addresses to determine which Google Drive server should be used to fulfill a user's request in order to reduce latency and be as expedient as possible.

Google Play Music

Play Music uses location information, for example, to send and receive billing and payment information, provide users with relevant app recommendations, and restrict access to content as necessary to comply with legal obligations, for example in licensing agreements.

Google Play Movies

Play Movies uses location information, for example, to send and receive billing and payment information, provide users with relevant content recommendations, and restrict access to content as necessary to comply with legal obligations, for example in licensing agreements.



may use IP address to determine a user's country and check if the service is available there.

Google Photos

Photos uses location information, for example, to help users search for photographs from a particular place, to display the location information to the viewer of the photo, and to recognize famous objects and landmarks in a photo, such as the Statue of Liberty or the Eiffel Tower.

Disclosure

Google

Users conducting searches can see the location that Google Search is using at the bottom of the Google Search Results Page.

Chrome Browser

When the user grants a third-party site permission to access location, the Chrome browser will transmit that location to the site. Users are made aware of this request by a browser pop-up.

Gmail

Gmail allows users to send information to other users, and to the extent that includes location information, this will be transmitted to others.

Google Maps

Maps allows users to choose to share Map locations with others by clicking the "Share" options.

YouTube

As explained above, Google used to provide network quality information to third parties based on aggregated and anonymized YouTube location data.

Google Play Store

When users interact with apps on Google Play, they may grant those apps permission to access their location. In addition, developers may access a user's billing information to complete transactions.

Drive

Google Drive allows users to share files with others. To the extent there is location information associated with or in the file, that information may be viewable to others with whom the user has chosen to share the files.

Google Play Music

Content providers may access a user's billing information to complete transactions.

Google Play Movies

Content providers may access a user's billing information to complete transactions.



allows others to see the user's phone number, which can provide information about the user's location.

Google Photos

Users may choose to share images in Google Photos with others who will be able to view the location metadata information of the photograph.

Storage & Deletion**Google**

For users that have Web & App Activity enabled, Google saves their search results and associated location information in the users' Google Accounts. Users can delete that data at any time. Google recently introduced a feature to allow users to set the data to auto-delete after 3 or 18 months, or to be retained indefinitely for users to manage and delete when they wish.

Chrome Browser

Chrome History may be saved in a user's Web & App Activity with relevant location information, which the user can edit or delete at any time. Also, users can delete any addresses they have stored in Chrome.

Gmail

Users can delete their Gmail content, including location information, at any time.

Google Maps

Users can delete any of their saved locations in Maps at anytime. In addition, Timeline in Maps provides the user interface to manage and delete Location History. Search queries in Maps are saved in a user's Google Account if the user has Web & App Activity enabled, which the user can manage and delete at anytime.

YouTube

Users cannot delete the aggregated and anonymized network quality information data described above, as that data is not associated with any user.

Google Play Store

Users are able to revoke the location permission for any apps at any time. In addition, users can update their account or billing addresses at any time.

Drive

Users can delete files and their associated location information at any time.

Google Play Music

Users can update their account or billing addresses at any time.

Google Play Movies

Users can update their account or billing addresses at any time.



stores a user's phone number which users can update at any time.

Google Photos

Users can delete any of their photos along with the associated location information. Additionally, users can remove access permission to photos that they have chosen to share with others via the sharing functionality, so that those users can no longer see the photo and associated metadata that may include location.

Transmission

Data is routinely transmitted between users and Google when users interact with the Internet and on Google's products and services. Like other data, location data can be transmitted to Google passively (e.g., Google receives an IP address) and actively (e.g., Google asks a user to provide their billing

address as part of a transaction and the user enters the information into a form). If the AGO has particular examples about which it is interested, Google is willing to meet and confer about providing further information.

FINAL RESPONSE:


In Google's February 28, 2019 letter to the AGO and in its first response to the First CID, Google objected to requests to the extent that they were overly broad and unduly burdensome in defining a Relevant Time Period of more than 10 years—January 1, 2007 - present—across such a broad range of products and services. Google explained that in the absence of appropriate limitations, the scope was not manageable and made it difficult for Google to provide useful information in a timely and efficient manner. Subject to and without waiving those objections, Google provided detailed and substantive narrative responses and produced documents.

Additionally, Google made a witness, [REDACTED] available for examinations under oath, who was prepared to speak about how user location information is collected in connection with Android. Further, as mutually agreed, Google is making a fourth witness available for examination under oath later this month to speak about how user location information is collected in connection with Google-authored apps and Google search through a web browser.

Your January 17 letter asked about Google Play Services. As Ms. [REDACTED] explained in her deposition, Google Play Services is synonymous with GMS Core, which is comprised of many services. Ms. [REDACTED] explained that she is responsible for the location services within Google Play Services. (See [REDACTED] EUO Tr. at 62:23-25). She provided detailed information on how those location services work, including the Fused Location Provider API and the Geofencing API. Google's September 4, 2019 response discussed the Fused Location Provider API, for example.

Your January 17 letter also asked about Google's IP Address objection. As Google has stated, Google collects IP addresses, which the AGO included in its definition of "User Location Data." See, e.g., First Civil Investigative Demand, pg. 6 ("User location data' means any data from which a user's location can be determined, including but not limited to location information collected through device sensors, GPS, Wi-Fi, Bluetooth, cell towers, and IP addresses."). Google has explained that including IP address within that definition, when an IP address is needed for any device to connect to and function on the internet, renders this defined term unwieldy, especially when combined with an all inclusive request like this Demand for Information. Google cannot answer this request given how expansively the AGO has defined User Location Data.

As your January 17 letter pointed out, Google has made a good-faith effort to respond to this request by explaining its location practices for the GMS products:

- Google
- Chrome Browser
- Gmail
- Google Maps
- YouTube
- Google Play Store
- Drive
- Google Play Music
- Google Play Movies
- 
- Google Photos

Google is also in the process of responding to the AGO's Fourth CID, which asks about specific additional Google products and services.

DEMAND FOR INFORMATION NO. 11

For each of the means identified in Demand For Information No. 10, identify all clients, groups, teams or people within Google who have direct access to any and all User Location Data collected, stored, transmitted, used, deleted or disclosed by Google.

INITIAL RESPONSE (Sept. 4, 2019): The broad scope of this demand makes it impractical and overly burdensome for Google to identify each team or person across the company who has access to location information. The difficulty in complying with this demand is illustrated by how apps and services interact with a user's mobile device. To the extent that a user is interacting with a Google product on a mobile device, IP address may be collected in order to respond to user requests to the product. For example, if a user seeks directions or wants to identify a location in Google Maps from a mobile device, a request for information is sent directly to Google via the app. When a user sends a request via the app, Google will receive the user's IP address in order to return a response (i.e., to send information back to the app in response to the request).

As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>) and in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-

00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), Google may store user information for use across Google's products and services.

As we describe in response to Demands for Information Nos. 1-9, for users that are signed in to Google and that are using Google's products and services identified in Demand for Information No. 10, Google only stores the associated location data in the user's Google Account using Sensorvault and [REDACTED] if they have Location History or Web & App Activity, respectively, enabled. The teams that can access and use the data in these repositories are explained above in response to Demands for Information Nos. 1-9.

Google is willing to meet and confer to determine whether additional information about Google teams' access of information can be provided.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 12

For each of the means identified in Demand For Information No. 10, identify all clients, groups, teams or people within Google that use any and all User Location Data collected, stored, transmitted, used, deleted or disclosed by Google.

INITIAL RESPONSE (Sept. 4, 2019): Please see our response to Demand for Information No. 11.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 13

For each of the means identified in Demand For Information No. 10, identify all approved uses of any and all User Location Data collected, stored, transmitted, used, deleted or disclosed by Google.

INITIAL RESPONSE (Sept. 4, 2019): Please see our response to Demand for Information No. 11.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 14

For each of the means identified in Demand For Information No. 10, identify the path that location data takes, beginning with the initial collection by device sensors, and ending with its use or storage by Google.

INITIAL RESPONSE (Sept. 4, 2019): Google objects to this request as overly broad and unduly burdensome. Specifically, the term “User Location Data” is overly broad and not within a reasonable definition. As an initial matter, defining “User Location Data” as “data from which a user’s location can be determined” suggests that even extremely coarse location information (e.g., country level) could conceivably be included in the definition. Furthermore, including IP address within that definition, when an IP address is needed for any device to connect to and function on the internet, renders this defined term even more unwieldy. Especially when combined with an all inclusive request like this Demand for Information, such a vague term renders the demand prohibitively burdensome. In response to Demand for Information No. 10, Google has made a good-faith effort to provide a number of examples of how its products and services collect, use, store, transmit, delete and disclose location data.

Despite the overly broad scope of this request, to the extent that the AGO is seeking to understand another path that data takes beyond the specific responses to Demands for Information 1 (Location History) and 6 (Web & App Activity), Google is willing to meet and confer about data paths for location information relating to specific Google products, for example, Google Search or Google Maps.

FINAL RESPONSE:

Google’s Response to DFI No. 6 of the Third CID outlines a representative path that location information can take from device to storage in a Google Account for Google Search and Google Maps.

DEMAND FOR INFORMATION NO. 15

Identify the person(s) most knowledgeable about the aggregation and anonymization of User Location Data (e.g., via the “aggregation and anonymization” team (7/11/19 [REDACTED] EUO Rough Tr. at 236:10-14)) that is collected, transmitted, stored, used, deleted or disclosed via Location History.

INITIAL RESPONSE (Sept. 4, 2019): The person most knowledgeable about the aggregation and anonymization of user location information is [REDACTED]

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 16

Identify the person(s) most knowledgeable regarding Google's collection, storage, use and transmission of User Location Data, as it relates to each of the following (i) Google Mobile Services, (ii) Google Play Services, (iii) the Android Operating System, (iv) the [REDACTED] team, (v) Google Maps, (vi) web browser(s) and (vii) any other group (except for Web & App Activity or Location History) involved in collection, storage, use and/or transmission of User Location Data.

INITIAL RESPONSE (Sept. 4, 2019):

(i) Google Mobile Services

As explained in our letter dated August 26, 2019, Google Mobile Services (GMS) is a collection of Google applications and APIs that help support functionality across devices. We are providing information about the specific Google applications that are included in GMS in the United States and that use location information:

- Google
- Chrome
- Gmail
- Maps
- YouTube
- Play Store
- Drive
- Play Music
- Play Movies
- [REDACTED]
- Photos

The person most knowledgeable regarding Google's collection, storage, use and transmission of user location information, as it relates to these products, is [REDACTED]

(ii) Google Play Services

Please see response to (i) above.

(iii) the Android Operating System

The person most knowledgeable regarding Google's collection, storage, use, and transmission of user location information, as it relates to the Android Operating System is [REDACTED]

(iv) the [REDACTED] team

The person most knowledgeable regarding Google's collection, storage, use and transmission of user location information, as it relates to [REDACTED] is [REDACTED]

(v) Google Maps

Please see response to (i) above.

(vi) web browser(s) and (vii) any other group (except for Web & App Activity or Location History)

Please see response to (i) above.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 17

Identify the person(s) most knowledgeable regarding Google's collection, storage, use and transmission of User Location Data company wide, including the collection, storage and/or transmission of User Location Data from one group to another.

INITIAL RESPONSE (Sept. 4, 2019): The person most knowledgeable is [REDACTED]

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 18

Identify the people, including their titles and groups or teams they are a part of, who were at the meeting referenced in the August 13, 2018 email from [REDACTED] as reflected in GOOG-GLAZ-00001521 at 1523.

INITIAL RESPONSE (Sept. 4, 2019): Google is unable to confirm this information.

FINAL RESPONSE:

Google inquired of Ms. [REDACTED] and Mr. [REDACTED] regarding this meeting. Neither has any recollection of the attendees; neither recalls attending the meeting themselves. The invited attendees from Google were: [REDACTED], and [REDACTED]. These Googlers are all members of the Communications team.

DEMAND FOR INFORMATION NO. 19

Describe in detail the hierarchical structure of Google's "Geo" product area, including each "component," "team," "product," "product focus" and "service" within Geo. (For reference, see 7/11/19 [REDACTED] EUO Rough Tr. at 34:7-42:15, 52:8-55:8). Include the person(s) (along with title) who oversees, supervises or is otherwise in charge of each hierarchical level.

INITIAL RESPONSE (Sept. 4, 2019): As [REDACTED] testified in his July 12, 2019 examination under oath and as Google has explained previously, Google does not have a traditional organizational structure. Google maintains a more informal, organic organizational structure of business components and employees that continuously change (in varying degrees) to meet various demands. Google does not maintain a chart or list identifying the "hierarchical structure of Google's 'Geo' product area." That said, this response identifies several representative examples of the "teams" (and their leaders) within Geo. This response uses "teams" to refer to any subset of Geo. This example is not intended as a comprehensive identification of every single "component," "team," "product," "product focus," and "service" within Geo. Providing such a response is not possible given the numerous informal, organic "teams" within Geo. If the AGO has other examples about which it is interested, Google is willing to meet and confer about providing further information.

"Geo" is a product area within Google that is overseen by [REDACTED]. Ms. [REDACTED] is a [REDACTED] [REDACTED] at Google.

“Location Platform” is a team within Geo that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

“Timeline” is a team within Location Platform that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED] and Mr. [REDACTED] is a [REDACTED].

“Location History” is a team within Location Platform that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

“Sensorvault” (previously “Placevault”) is a team that serves Location History and that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

“Inference Layer” is a team within Location History that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

“Quality” is a team within the Location Platform that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

“IP Geo” is a team within Geo that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

[REDACTED] is a team within Geo that is overseen by [REDACTED] and [REDACTED]. Mr. [REDACTED] is a [REDACTED], and Mr. [REDACTED] is a [REDACTED].

“Geo product experience” is a team within Geo that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Google Maps Mobile” is a team within Google Maps that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

FINAL RESPONSE:

To reiterate, Google does not maintain a formal, static organizational chart. Based on our understanding of this Demand for Information, Google has no additional information to provide

related to it.

DEMAND FOR INFORMATION NO. 20

Describe in detail the hierarchical structure of Google’s “Knowledge” product area, including each “component,” “team,” “product,” “product focus” and “service” within Knowledge. (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 39:11-47:20). Include the person(s) (along with title) who oversees, supervises or is otherwise in charge of each hierarchical level.

INITIAL RESPONSE (Sept. 4, 2019): As [REDACTED] testified in his July 12, 2019 examination under oath and as Google has explained previously, Google does not have a traditional organizational structure. Google maintains a more informal, organic organizational structure of business components and employees that continuously change (in varying degrees) to meet various demands. Google does not maintain a chart or list identifying the “hierarchical structure of Google’s ‘Knowledge’ product area” (now known as “Search & Assistant”). That said, this response identifies several representative examples of the “teams” (and their leaders) within Search & Assistant. This response uses “teams” to refer to any subset of Search & Assistant. This example is not intended as a comprehensive identification of every single “component,” “team,” “product,” “product focus,” and “service” within Search & Assistant. Providing such a response is not possible given the numerous informal, organic “teams” within Search & Assistant. If the AGO has other examples about which it is interested, Google is willing to meet and confer about providing further information.

“Search & Assistant” (previously “Knowledge”) is a product area within Google that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Search” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Google Assistant” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] ent at Google.

“Search Platforms” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“News Content/Proactive Search” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Ranking & Eval Tech Advisors” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is [REDACTED] at Google.

“Web Search” is a team within Search that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Image Search” is a team within Search that is overseen by [REDACTED]. Ms. [REDACTED] is [REDACTED] at Google.

“Search Logs” is a team within Search that is overseen by [REDACTED]. Ms. [REDACTED] is a [REDACTED] at Google.

“Scholar Search” is a team within Search that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

[REDACTED] is a team within Search that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Research and Machine Intelligence” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Technical Infrastructure” is a team within Search & Assistant that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

FINAL RESPONSE:

To reiterate, Google does not maintain a formal, static organizational chart. Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 21

Describe in detail the hierarchical structure of Google’s “Ads” product area, including each “component,” “team,” “product,” “product focus” and “service” within Ads. (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 39:11-47:20). Include the person(s) (along with title) who oversees, supervises or is otherwise in charge of each hierarchical level.

INITIAL RESPONSE (Sept. 4, 2019): As [REDACTED] testified in his July 12, 2019 examination under oath and as Google has explained previously, Google does not have a traditional organizational structure. Google maintains a more informal, organic organizational structure of business components

and employees that continuously change (in varying degrees) to meet various demands. Google does not maintain a chart or list identifying the “hierarchical structure of Google’s ‘Ads’ product area.” That said, this response identifies several representative examples of the “teams” (and their leaders) within Ads. This response uses “teams” to refer to any subset of Ads. This example is not intended as a comprehensive identification of every single “component,” “team,” “product,” “product focus,” and “service” within Ads. Providing such a response is not possible given the numerous informal, organic “teams” within Geo. If the AGO has other examples about which it is interested, Google is willing to meet and confer about providing further information.

“Ads” is a product area within Google that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Display Ads” is a team within Ads that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Search Ads” is a team within Ads that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Google Properties & Platforms” is a team within Ads that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Shopping, Travel” is a team within Ads that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Next Billion Users, Payments” is a team within Ads that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

“Display, Video & Apps” is a team within Ads that is overseen by [REDACTED]. Ms. [REDACTED] is a [REDACTED] at Google.

“Reach User Experience” is a team within Ads that is overseen by [REDACTED]. Ms. [REDACTED] is a [REDACTED] at Google.

“Measurement & Analytics” is a team within Ads that is overseen by [REDACTED]. Ms. [REDACTED] is a [REDACTED] at Google.

FINAL RESPONSE:

To reiterate, Google does not maintain a formal, static organizational chart. Since Google's Initial Response, some of the above information has changed. For example, "Display Ads" is overseen by [REDACTED] and [REDACTED], who are both [REDACTED]. "Shopping, Travel" now is within the "Commerce" organization—rather than Ads. "Display, Video & Apps" now is called "Apps, Video, & Display." "Measurement & Analytics" now is called "Analytics, Insights, and Measurement." And "Ads Privacy and Safety" is a new team within Ads that is overseen by [REDACTED]. Mr. [REDACTED] is a [REDACTED] at Google.

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 22

Describe in detail the change(s) relating to "coarsening," i.e., "making the location appropriate," with respect to User Location Data that is collected, stored, used and/or displayed in Web & App Activity in early 2019. (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 176:18-178:10, 184:9-185:17).

INITIAL RESPONSE (Sept. 4, 2019): We believe that Mr. [REDACTED] referred to "making the location approximate," and have responded accordingly. For location information associated with a user's activity on Google's Search, Maps, and Assistant products, Google made a privacy-enhancing decision to store less precise location data than the user's device is technically capable of providing (e.g., based on the device-sensors and GPS). In addition, Google took steps to make the previous location data stored in users' Google Accounts more coarse. This change occurred in and around April of 2019.

FINAL RESPONSE:

Though it did improve personalization for users, like more accurate areas of interest, it was determined that precise location did not contribute significant improvement to the use of Web & App Activity location information beyond the previous approximate location precision. Before 2015, device location was coarsened to approximately a neighborhood-sized area with a sufficient number of unique users (e.g., 1,000). When precise location was added in 2015, the location provided by the user's device was stored, which could be a precise lat/lon. In 2019 the device-based Web & App Activity location was moved to a coarser level than it was in 2015, approximately a city-sized area with a sufficient number of unique users (e.g., +1,000). Various teams in Geo, Search, and Ads worked on implementing the changes.

DEMAND FOR INFORMATION NO. 23

Identify and describe all disclosures by Google, or changes to Google's public-facing disclosure documents, relating to "coarsening," i.e., "making the location appropriate," of

User Location Data in Web & App Activity in early 2019. (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 176:18-178:10, 184:9-185:17). Identify responsive documents by Bates number. If there are no documents, state “None.”

INITIAL RESPONSE (Sept. 4, 2019): Google has multiple express disclosures to users about how it collects, uses, and saves location information, including specifically in connection the Web & App Activity Google Account feature.

The fact that Google stores location information as part of Web & App Activity is disclosed in many places, including:

Google’s Privacy Policy

Google’s Privacy Policy (available at <https://policies.google.com/privacy?hl=en>) expressly tells users that “We collect information about your location when you use our services.” The Privacy Policy explains how location is determined with varying degrees of accuracy, explaining the different data that can be collected from devices, user-provided information, and data depending on the user’s activity on the device and their selected device and account settings. Each explanation has a link for users to click to learn additional information.

The section on Privacy Controls explains how users “Decide what types of activity [they’d] like saved in [their] account.” There is a direct link to Activity Controls, which takes a user to the page where they can review, manage, edit, or delete Web & App Activity Data. In navigating to their Google Account and interacting with their Google Account settings, users would see the type of location data stored in their Account.

The relevant parts of Google’s Privacy Policy have not been updated in the timeframe inquired about in this request.

Google’s Location Data Policy Page

Google publishes a page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data>). Google has updated this page from time-to-time to provide users additional information. This page specifically addresses how Google may know a user’s location based on the user’s activity on Google services and explains that it may be stored in the user’s Account, depending on their settings:

“As you use our services, we may infer that you’re interested in a place even if your device isn’t telling us exactly where you are. For example, if you search for “Cafes in Paris”, we may assume that you would like to see places near Paris and show you results of cafes there. Depending on your settings, this type of information may be stored with your account and used as one signal to decide whether you might still be in Paris when you do more searches at a later time.”

Google last updated this page in June 2019 (see document Bates-stamped GOOG-GLAZ-00002731 - GOOG-GLAZ-00002733). Google produced versions of this page in prior productions. The prior versions of this page also disclosed that “[Google] may collect and use a few types of location information - depending on the products and features you’re using - to provide you with a more useful experience on Google.”

Help Center Page

Google’s help center page about Web & App Activity (available at <https://support.google.com/websearch/answer/54068>) explains to users that “When Web & App Activity is on, Google saves information like:

- Searches and other things you do on Google products and services, like Maps
- Your location, language, IP address, referrer, and whether you use a browser or an app
- Ads you click, or things you buy on an advertiser’s site
- Information on your device like recent apps or contact names you searched for”

The relevant part of this help center page has not been updated in the timeframe inquired about in this request (see documents Bates-stamped GOOG-GLAZ-00002728 - GOOG-GLAZ-00002730 and GOOG-GLAZ-00002812 - GOOG-GLAZ-00002814).

To be clear, though, deciding to coarsen location information saved in a user’s MyActivity based on their Web & App Activity was a privacy-enhancing decision. Google of course considers many obligations when deciding whether to update public-facing documentation. Because Google is constantly seeking to improve and enhance its products and services—especially when it comes to user privacy—not all product changes and features result in such updates. One reason for this is that the change will be apparent to the user as he or she interacts with the product in the normal course. Another reason is that there is no new decision or action required from the user and that an update in that instance might cause “user fatigue” and result in them paying less attention to important communications. Finally, whether an update to public-facing documentation is needed must be

balanced with the challenges of updating text across multiple surfaces and languages and the user benefit of doing this when users have other ways to understand product functionality.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 24

Describe how, whether and the extent to which Google continues to collect, store and use more “precise” User Location Data for purposes other than Web & App Activity, after the “coarsening” changed in early 2019 that was described at the July 12, 2019 EUO of Google through [REDACTED] (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 176:18-178:10, 184:9-185:17).

INITIAL RESPONSE (Sept. 4, 2019): As Google’s Privacy Policy and Location Data Policy Page describe, some location information is not precise and may allow an inference of a user’s location, but not the exact location (e.g., a user types in a Search query for “pizza place in Phoenix”). Latitude and longitude information from GPS sensors, which may be collected from a user’s device when device location settings are enabled, is more precise location information. A user can disable Web & App Activity (the Google Account setting), and still have enabled device location settings and app settings in order to use Google apps and services like Google Maps.

FINAL RESPONSE:

Google collects, stores, and uses more precise user location information in certain instances besides in relation to Web & App Activity. Android Emergency Location Services (ELS) helps mobile network operators, emergency infrastructure providers, and governments provide more accurate location information to first responders during an emergency. ELS uses the location technologie [REDACTED]

[REDACTED]. The location is often more accurate and reliable than cell tower IDs and is calculated by [REDACTED]

[REDACTED]. ELS is solely for the use of emergency service providers, and location is sent from the user’s device to emergency services only when the user explicitly places an emergency call, either directly or through their mobile network.

Additionally, Google Pay’s Tap To Pay contactless payment feature lets users pay merchants for goods and services by using their Android phones. As a part of processing payments, Google may receive the name and location of the merchant at which this service is being used. When made available to

Google, users may review a list of contactless payments they've made in the Google Pay app alongside this location information.

Furthermore, users of Google's Hangouts instant messaging application may choose to send others a message including location information. This location can either be sourced from the device's location services API, or can be a location that the user manually specifies (e.g., the user could search for and attach the location of the Eiffel Tower to a message while physically present in the United States). Locations are not automatically sent to others via this platform, and mentioning a location in one message in a conversation does not automatically append location to all subsequent messages.

DEMAND FOR INFORMATION NO. 25

Describe in detail the change(s) relating to the precision of User Location Data, or otherwise relating to the collection, storage and/or use by Google of User Location Data in Web & App Activity in 2014 or 2015. (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 185:2-11, 186:10-18, 188:24-195:17).

INITIAL RESPONSE (Sept. 4, 2019): In order to provide a more personalized experience to Google users, Google started storing precise device-based location as part of Web & App Activity from users' interactions on Google Search and Google Maps in September of 2015. This change did not affect Google's use of IP addresses which Google had been storing for users with Web & App Activity enabled prior to September 2015. Google also stores precise device-based location data from user's interactions with the Google Assistant in a user's Web & App Activity, if they have the setting enabled.

FINAL RESPONSE:

Please see our Response to Demand for Information No. 22. Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 26

Identify and describe all disclosures by Google, or changes to Google's public-facing disclosure documents, relating to changes in the precision of User Location Data, or otherwise relating to the collection, storage and/or use by Google of User Location Data in Web & App Activity in 2014 or 2015. (For reference, see 7/12/19 [REDACTED] EUO Rough Tr. at 185:2-11, 186:10-18, 188:24-195:17). Identify responsive documents by Bates number. If there are no documents, state "None."

INITIAL RESPONSE (Sept. 4, 2019): During the relevant timeframe, Google's use and storage of location information as part of a user's activity on Google products and services was disclosed to users in the following ways:

User's Google Account in MyActivity

When Google started saving location in connection with Web & App Activity, users could log in to their Google Account and see the location data being saved. Users could also, of course, manage the setting, and edit and delete any of the associated data.

Google's Privacy Policy

Google's Privacy Policies, as modified and updated throughout the years, explains Google's collection, storage, and use of user data—including the location data. Google is producing the full copies of its Privacy Policies from 2014 and 2015 in documents Bates-stamped GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782 and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811.

Help Center Page

Google updated its help center page for Web & App Activity (available at <https://support.google.com/websearch/answer/54068>) to give more detail about the types of user data being stored in a user's account. The update specifically explained that location was saved as part of Web & App Activity. Previously, the help center page already explained to users that IP addresses were being saved. Google is producing the version of the help center page where this disclosure was made.

FINAL RESPONSE:

Google previously produced documents that are responsive to this Demand for Information, including the help center page for Web & App Activity at GOOG-GLAZ-00002812-GOOG-GLAZ-00002814. This page specifically explained that location was saved as part of Web & App Activity. Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 27

Was there any way for a user to know that Google had started collecting finer location data in the Web & App Activity starting in 2014 or 2015, other than by logging into the user's activity feed and comparing past and future collections? If so, describe in detail.

INITIAL RESPONSE (Sept. 4, 2019): Please see our responses to Demands for Information Nos. 23 and 26, which explain ways in which Google disclosed (and continues to disclose) its collection of location data in Web & App Activity, including through the user's Google Account, Google's Privacy Policy, and Google's Web & App Activity help center page.

FINAL RESPONSE:

Based on our understanding of this Demand for Information, Google has no additional information to provide related to it.

DEMAND FOR INFORMATION NO. 28

As part of the set-up for Google Accounts created before 2018, did the user receive any disclosure that Web & App Activity includes User Location Data? Is [sic] so, explain and identify responsive documents.

INITIAL RESPONSE (Sept. 4, 2019): When users create a Google Account, they are presented with disclosures relating to Privacy & Terms that explain Google's Privacy Policy and Terms of Service and that provide a link to both of those documents. As explained above, Google's Privacy Policy expressly discloses to users the data that Google collects—including location data. The Google Account creation flow Privacy & Terms section before 2018 specifically informed users that "When you search for a restaurant on Google Maps or watch a video on YouTube, for example, we process information about that activity - including information like the video you watched, device ODs, IP addresses, cookie data, and location...Depending on your account settings, some of this data may be associated with your Google Account and we treat this data as personal information. You can control how we collect and use this data at My Account (myaccount.google.com).” Google is producing documents Bates-stamped GOOG-GLAZ-00002783 to GOOG-GLAZ-00002793 that show a Google Account creation flow with this language.

FINAL RESPONSE:

As part of the set-up for Google Accounts before 2018, users received disclosures that Google collected location information when the user interacted with Google's products and services, and that, depending on account settings, the data may have been stored in the user's Google Account. Google is producing screenshots of a pre-2018 Google Account set-up in documents Bates-stamped GOOG-GLAZ-00203120 - GOOG-GLAZ-00203129.

II. REQUESTS TO PRODUCE DOCUMENTS

REQUEST FOR PRODUCTION NO. 1

Produce documents sufficient to identify all clients, internal or external to Google, who can access, receive or make use of user location data from Location History.

INITIAL RESPONSE (Sept. 4, 2019): Google does not maintain an existing document stating the information sought by this Request. Google had to query a registry to view information to inform the response to the Demand for Information requesting this information.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 2

Produce the “list of uses that have been approved” as an “appropriate use” of location data from Location History, as described by [REDACTED] at his July 11, 2019 deposition. (See 7/11/19 [REDACTED] EUO Rough Tr. at 231:1 0-22).

INITIAL RESPONSE (Sept. 4, 2019): Google does not maintain an existing document stating the information sought by this Request.

Google has a registry that contains the descriptions of the proposed data use cases that teams requesting access to Location History submit, in accordance with Google’s user data access policies and Location History team guidance (a privileged document that was prepared by counsel). These access requests are privileged because they are part of a process by which teams solicit and receive legal advice and ultimately approval for the proposed data access and use.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 3

Produce documents sufficient to identify all clients, internal or external to Google, who can access, receive or make use of user location data from Web & App Activity.

INITIAL RESPONSE (Sept. 4, 2019): Google does not maintain an existing document stating the information sought by this Request. Google remains in the process of determining whether it can provide other information responsive to this request.

SUPPLEMENTAL RESPONSE (Jan. 17, 2020): Google does not maintain an existing document stating the teams that can access, receive or make use of Web & App Activity device-based location data. Google had to query its systems in order to respond to the Demands for Information 7 and 8.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 4: Produce document(s) sufficient to show “the complete list of access” to location data coming from, going to or otherwise associated with any Web & App Activity. (See 7/12/19 [REDACTED] EUO Rough Tr. at 90:18-91 :19).

INITIAL RESPONSE (Sept. 4, 2019): Google does not maintain an existing document stating the information sought by this Request. Google remains in the process of determining whether it can provide other information responsive to this request.

SUPPLEMENTAL RESPONSE (Jan. 17, 2020): Google does not maintain an existing document stating the complete access list to Web & App Activity device-based location data. Google had to query its systems in order to respond to the Demands for Information 7 and 8.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 5

Produce documents sufficient to identify all clients, internal or external to Google, who can access, receive or make use of user location data from Google Mobile Services.

INITIAL RESPONSE (Sept. 4, 2019): Google objects to this request as overly broad and unduly burdensome. Specifically, the term “User Location Data” is overly broad and not within a reasonable definition. As an initial matter, defining “User Location Data” as “data from which a user’s location can be determined” suggests that even extremely coarse location information (e.g., country level) could conceivably be included in the definition. Furthermore, including IP address within that definition, when an IP address is needed for any device to connect to and function on the internet, renders this defined term even more unwieldy. Especially when combined with an all inclusive request like this Request for Production, such a vague term renders the demand prohibitively burdensome. In response to Demand for Information No. 10, Google has made a good-faith effort to provide a number of examples of how its GMS products use and share location data. If there are any specific GMS products that the AGO would like additional information about, Google is willing to meet and confer to discuss providing such information.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 6

Produce documents sufficient to identify all clients, internal or external to Google, who can access, receive or make use of user location data from Google Play Services.

INITIAL RESPONSE (Sept. 4, 2019): Google Play is one of the GMS products, so please see our response to Request for Production No. 5, which explains why this request is overbroad and unduly burdensome.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 7

Produce any and all launch documents and similar documents related to the following launches.

- a. “[REDACTED] web view launch” (see 7/12/19 [REDACTED] EUO Rough Tr. at 295:6-14);
- b. “[REDACTED] language” or “[REDACTED] text updates” (see 7/12/19 [REDACTED] EUO Rough Tr. at 334:17-25);

- c. ““Location History and Web and App Activity help center changes and/or [REDACTED] help center changes”” (see 7/12/19 [REDACTED] EUO Rough Tr. at 335:23-336:6);
- d. ““Account creation change”” or ““account creation update”” (see 7/12/19 [REDACTED] EUO Rough Tr. at 365:17-366:17);
- e. ““Coarsening,”” i.e., ““making the location appropriate”” with respect to user location data that is collected, stored, used and/or displayed by Web & App Activity (see 7/12/19 [REDACTED] EUO Rough Tr. at 176:18-178:10, 184:9-185:17); and
- f. Changes in the precision of user location data in Web & App Activity in 2014 or 2015 (see 7/12/19 [REDACTED] EUO Rough at 185:2-11, 186:10-18, 188:24-195:17).

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing potentially responsive documents. This Request is particularly difficult to comply with as a practical matter, but we will keep you updated on our progress and expected production date. In addition to being voluminous, these launch reports are stored in a database from which information is not easily exportable in a reviewable and production-ready format. In order to comply with this Request, Google needs to run searches across its launch reports in order to locate potentially responsive information. The reports then need to be extracted from the repository, loaded to the review platform, and reviewed for responsiveness and privilege.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 8

Produce any and all documents, emails, IMs, Google Hangouts threads or other transmissions or communications relating to Project Lance.

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing custodial data sources for potentially responsive material. We will keep you updated on our progress and expected production date.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January, 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 9

Produce any and all documents, emails, IMs, Google Hangouts threads or other transmissions or communications relating to “fixing” location history or other user location data issues as referenced in the August 13, 2018 email from [REDACTED] in GOOG-GLAZ-00001521 at 1523.

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing custodial data sources for potentially responsive material. We will keep you updated on our progress and expected production date.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 10

Produce any and all documents related to Google’s anti-fragmentation requirement for third-party developers/manufacturers who want to have Google-authored apps pre-installed on their devices.

INITIAL RESPONSE (Sept. 4, 2019): Google is producing documents Bates-stamped GOOG-GLAZ-00002106 to GOOG-GLAZ-00002724.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 11: Produce any and all documents, emails, IMs, Google Hangouts threads or other transmissions or communications relating to the document entitled “updated statement for AP LH story” as referenced in the August 13, 2018 email from [REDACTED] as reflected in GOOG-GLAZ-00001216.

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing custodial data sources for potentially responsive material. We will keep you updated on our progress and expected production date.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 12

Produce the document entitled “updated statement for AP LH story” as referenced in the August 13, 2018 email from [REDACTED] as reflected in GOOG-GLAZ-00001216.

INITIAL RESPONSE (Sept. 4, 2019): Google produced this document in full at GOOG-GLAZ-00001235 (PROD005).

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 13

Produce the document described as “go [REDACTED] in the August 17, 2018 email from [REDACTED] as reflected in GOOG-GLAZ-00001528.

INITIAL RESPONSE (Sept. 4, 2019): Google is withholding production of this document because it is privileged. This document was created by and at the direction of counsel for the purpose of giving legal advice.

FINAL RESPONSE:

Google is providing the following information about the assertion of privilege over the document:

DATE COLLECTED	E-MAIL FROM / AUTHOR / CUSTODIAN	PRIVILEGE DESCRIPTION	PRIVILEGE ASSERTION	REDACTED (YES/NO)
26/08/2019	[REDACTED]	Draft memorandum containing and reflecting legal advice of [REDACTED] regarding privacy and policy compliance issues prepared in anticipation of regulatory investigation.	Attorney-Client Communication, Attorney Work Product	No

REQUEST FOR PRODUCTION NO. 14

Produce the document described as “go [REDACTED] in the August 17, 2018 email from [REDACTED] as reflected in GOOG-GLAZ-00001528.

INITIAL RESPONSE (Sept. 4, 2019): Google is withholding production of this document because it is privileged. This document was created by and at the direction of counsel for the purpose of giving legal advice.

FINAL RESPONSE:

Google is providing the following information about the assertion of privilege over the document:

DATE COLLECTED	E-MAIL FROM / AUTHOR / CUSTODIAN	PRIVILEGE DESCRIPTION	PRIVILEGE ASSERTION	REDACTED (YES/NO)
26/08/2019	[REDACTED]	Draft memorandum reflecting legal advice of [REDACTED]* regarding privacy and policy compliance issues prepared in anticipation of regulatory investigation.	Attorney-Client Communication, Attorney Work Product	No

REQUEST FOR PRODUCTION NO. 15

Produce Google's communications to third-party developers relating to the collection, storage, use, deletion and disclosure of user location data collected by third-party apps running on Android.

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing potentially responsive documents. We will keep you updated on our progress and expected production date.

One reason it is difficult to collect these documents quickly is because there are a number of documents that may be relevant to the request. Further, these communications are stored in a repository that requires backend searching to identify a potentially relevant population of communications. After that identification process, Google needs to collect those documents and load them to the review platform. Then, Google can begin to review for responsiveness.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 16

Produce documents sufficient to show whether and the extent to which Google collects, stores and/or uses any user location data associated with users who are not signed into a Google Account. (See 7/12/19 [REDACTED] EUO Rough Tr. at 391 :1-5).

INITIAL RESPONSE (Sept. 4, 2019): As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>), in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data> and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), Google collects IP addresses. Every device connected to the Internet is assigned an IP address and these numbers are usually assigned in geographic blocks. Thus, an IP address can often be used to identify the location from which a device is connecting to the Internet.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 17

Produce documents sufficient to show how, whether and the extent to which Google collects, stores and/or uses any user location data from activity that was conducted before a user signs into a Google Account. (See 7/12/19 [REDACTED] EUO Rough Tr. at 391 :25-393:15).

INITIAL RESPONSE (Sept. 4, 2019): As Google explains in its Privacy Policy (available at <https://policies.google.com/privacy>), in additional disclosures on the page titled How Google Uses Location Information (available at <https://policies.google.com/technologies/location-data>, and produced in documents Bates-stamped GOOG-GLAZ-00002725 - GOOG-GLAZ-00002727, GOOG-GLAZ-00002734 - GOOG-GLAZ-00002782, and GOOG-GLAZ-00002794 - GOOG-GLAZ-00002811), Google collects IP addresses. Every device connected to the Internet is assigned an IP address and these numbers are usually assigned in geographic blocks. Thus, an IP address can often be used to identify the location from which a device is connecting to the Internet.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 18

All documents relating to the “coarsening,” i.e., “making the location appropriate” with respect to user location data that is collected, stored, used and/or displayed in Web & App Activity in early 2019. (For reference, see 7/12/19 [REDACTED] EUO Rough at 176:18-178:10, 184:9-185:17).

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing potentially responsive documents. Google anticipates that documents that may be responsive to this request may exist in the custodial document population or the launch report document population. Please see our response to Request for Production No. 7 for the reasons why discovery related to the launch reports is time-consuming and difficult. Google will keep you updated on its progress and expected response date.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 19

All documents relating to changes in the precision of user location data, or otherwise relating to the collection, storage and/or use by Google of user location data in Web & App Activity in 2014 or 2015. (For reference, see 7/12/19 [REDACTED] EUO Rough at 185:2-11, 186:10-18, 188:24-195:17).

INITIAL RESPONSE (Sept. 4, 2019): Google is in the process of collecting and reviewing potentially responsive documents. Google anticipates that documents that may be responsive to this request may exist in the custodial document population or the launch report document population. Please see our response to Request for Production No. 7 for the reasons why discovery related to the launch reports

is time-consuming and difficult. Google will keep you updated on its progress and expected response date.

SUPPLEMENTAL RESPONSE (Dec. 31, 2019): Google will complete its rolling document production that contains documents responsive to this request by mid-January 2019.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

REQUEST FOR PRODUCTION NO. 20

Documents sufficient to confirm your responses to Demand For Information Nos. 1-28.

INITIAL RESPONSE (Sept. 4, 2019): The documents that Google relied on for its responses are noted in each individual response above.

FINAL RESPONSE:

Google completed its rolling production for CIDs 1-3 on February 14, 2020, which contained responsive, non-privileged material from the custodians, date ranges, and search terms previously disclosed to and incorporating feedback from the AGO.

Exhibit 205

From: [REDACTED]
To: [REDACTED]
Sent: Fri, 19 Aug 2016 12:22:44 -0700
Subject: Re: Need input: projection of 2017 user growth
Cc: [REDACTED]

These are all good points [REDACTED] and to be honest I don't have good answers for all of these but I am also sure we can knit this together to have a compelling story. I look forward to spend time next week and coming months to discuss these in great details

On Fri, Aug 19, 2016 at 7:10 AM, [REDACTED] wrote:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Maybe we've already done this :)

I wonder if we should spend more effort fixing misconceptions (and making sure they're not accurate!) about must-haves rather than raising awareness of delighters? I wouldn't buy a flying car if it didn't have seatbelts...

On Fri, Aug 19, 2016 at 7:00 AM [REDACTED] wrote:

Do you have any estimates on how ID will track these?

On Thursday, August 18, 2016, [REDACTED] wrote:

Our end of year [REDACTED], we should be able to meet [REDACTED]
[REDACTED]
[REDACTED], I want to shoot for [REDACTED] This is an aggressive goal but I want to still shoot for this, we will have to come up with creative ideas to [REDACTED]
[REDACTED]
[REDACTED]

So my goal would be [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED] - please feel free to chime in.

On Thu, Aug 18, 2016 at 3:02 PM, [REDACTED] wrote:

Hi folks,
It is time to [REDACTED]. In particular, I need it for [REDACTED] capacity planning.

Please help provide input from your side.

Thanks,

[REDACTED]

--

Thanks,

[REDACTED]

--

[REDACTED] | [REDACTED] | [REDACTED] | UK-LON

--

Thanks,

[REDACTED]

Exhibit 207

From: [REDACTED]
To: [REDACTED]
Sent: Tue, 14 Aug 2018 10:36:52 -0700
Subject: Re: [Industryinfo] AP Exclusive: Google tracks your movements, like it or not
Cc: [REDACTED]
[REDACTED]

On Tue, Aug 14, 2018 at 1:50 AM, [REDACTED] wrote:

There are three location-related settings on Android:
Location History: this controls whether your location is recorded in your timeline in Google Maps.

Location toggle on the device: simplifying a little, this controls whether GPS is enabled and can be found in the notification pulldown. If this is off, the phone will not attempt to determine its precise location. Most people never turn this off, since it will prevent Maps from telling you where you are.

Web and App Activity: a catch-all for recording search and Assistant query history. If you turn this off, you can't use Assistant.

The complaint in this article is that if you have Web and App Activity enabled and the location toggle enabled, then your search history entries contain your approximate location at the time you made the query. It's also not possible to remove them by clearing your location history, which is counter-intuitive - you have to clear your search history instead.

I believe the complaint of the article is that Google records location information when "Location" is off. The rest of the article is giving an example of the additional information gathered. It is not the primary complaint.

[I hope that commenting on the article proper is still acceptable.]

On Tue, Aug 14, 2018, 09:03 [REDACTED] wrote:

It is a bit complicated, and we might need better messaging.
There is a general location tracking for figuring out your home, work locations, and routines (you go to a cafe at the same time every week, then you might get a notification for that etc). This seems to run in the background all time.

But there is also a location information passed on with individual requests, like when you search for "Walmart", or ask for weather forecast. each app, search, news, home, etc seem to have a separate setting.

There is a valid use case. I might want to keep getting local results, while disabling always on location tracking. Or disable location in weather but keep it in news, etc.

On Monday, August 13, 2018 at 6:52:57 PM UTC-7, [REDACTED] wrote:

I agree with the article. Location off should mean location off; not except for this case or that case.

The current UI feels like it is designed to make things possible, yet difficult enough that people won't figure it out. New exceptions, defaulted to on, silently appearing in settings menus you may never see is <redacted>.

The general concept of what I'd like to see on the location settings :

Location: On/Off (Off disables everything; On enables the ones selected items)
Enable GPS location (on/off)
Enable Bluetooth location (on/off)
Enable Bluetooth to report, even when Bluetooth is off (on/off)
Enable Web/App Activity (on/off)
Enable ... (on/off)

We already have this menu/style for non-Google apps.

This way the user can see and set, in ONE place all of the items related to location. If users find it useful for all of the bluetooth settings to be together, then have the "enable bluetooth to report location when bluetooth is off" in both menus.

Btw. Thank you whomever added the option for bluetooth to not respond to queries when bluetooth is off. (It used to respond, thereby giving location information away, even when location and bluetooth were off.)

On Mon, Aug 13, 2018 at 7:06 AM, [REDACTED] wrote:

IIRC we've had reports like this in the past on this list but I don't remember major outlets like AP reporting this.

<https://apnews.com/828aefab64d4411bac257a07c1af0ecb>

SAN FRANCISCO (AP) — Google wants to know where you go so badly that it records your movements even when you explicitly tell it not to.

An Associated Press investigation found that many Google services on Android devices and iPhones store your location data even if you've used privacy settings that say they will prevent it from doing so.

Computer-science researchers at Princeton confirmed these findings at the AP's request.

For the most part, Google is upfront about asking permission to use your location information. An app like Google Maps will remind you to allow access to location if you use it for navigating. If you agree to let it record your location over time, Google Maps will display that history for you in a “timeline” that maps out your daily movements.

Storing your minute-by-minute travels carries privacy risks and has been used by police to determine the location of suspects — such as a warrant that police in Raleigh, North Carolina, served on Google last year to find devices near a murder scene. So the company will let you “pause” a setting called Location History.

Google says that will prevent the company from remembering where you’ve been. Google’s support page on the subject states: “You can turn off Location History at any time. With Location History off, the places you go are no longer stored.”

That isn’t true. Even with Location History paused, some Google apps automatically store time-stamped location data without asking.

For example, Google stores a snapshot of where you are when you merely open its Maps app. Automatic daily weather updates on Android phones pinpoint roughly where you are. And some searches that have nothing to do with location, like “chocolate chip cookies,” or “kids science kits,” pinpoint your precise latitude and longitude — accurate to the square foot — and save it to your Google account.

The privacy issue affects some two billion users of devices that run Google’s Android operating software and hundreds of millions of worldwide iPhone users who rely on Google for maps or search.

Storing location data in violation of a user’s preferences is wrong, said Jonathan Mayer, a Princeton computer scientist and former chief technologist for the Federal Communications Commission’s enforcement bureau. A researcher from Mayer’s lab confirmed the AP’s findings on multiple Android devices; the AP conducted its own tests on several iPhones that found the same behavior.

“If you’re going to allow users to turn off something called ‘Location History,’ then all the places where you maintain location history should be turned off,” Mayer said. “That seems like a pretty straightforward position to have.”

Google says it is being perfectly clear.

“There are a number of different ways that Google may use location to improve people’s experience, including: Location History, Web and App Activity, and through device-level Location Services,” a Google spokesperson said in a statement to the AP. “We provide clear descriptions of these tools, and robust controls so people can turn them on or off, and delete their histories at any time.”

To stop Google from saving these location markers, the company says, users can turn off

another setting, one that does not specifically reference location information. Called “Web and App Activity” and enabled by default, that setting stores a variety of information from Google apps and websites to your Google account.

When paused, it will prevent activity on any device from being saved to your account. But leaving “Web & App Activity” on and turning “Location History” off only prevents Google from adding your movements to the “timeline,” its visualization of your daily travels. It does not stop Google’s collection of other location markers.

You can delete these location markers by hand, but it’s a painstaking process since you have to select them individually, unless you want to delete all of your stored activity.

You can see the stored location markers on a page in your Google account at myactivity.google.com, although they’re typically scattered under several different headers, many of which are unrelated to location.

To demonstrate how powerful these other markers can be, the AP created a visual map of the movements of Princeton postdoctoral researcher Gunes Acar, who carried an Android phone with Location history off, and shared a record of his Google account.

The map includes Acar’s train commute on two trips to New York and visits to The High Line park, Chelsea Market, Hell’s Kitchen, Central Park and Harlem. To protect his privacy, The AP didn’t plot the most telling and frequent marker — his home address.

Huge tech companies are under increasing scrutiny over their data practices, following a series of privacy scandals at Facebook and new data-privacy rules recently adopted by the European Union. Last year, the business news site Quartz found that Google was tracking Android users by collecting the addresses of nearby cellphone towers even if all location services were off. Google changed the practice and insisted it never recorded the data anyway.

Critics say Google’s insistence on tracking its users’ locations stems from its drive to boost advertising revenue.

“They build advertising information out of data,” said Peter Lenz, the senior geospatial analyst at Dstillery, a rival advertising technology company. “More data for them presumably means more profit.”

The AP learned of the issue from K. Shankari, a graduate researcher at UC Berkeley who studies the commuting patterns of volunteers in order to help urban planners. She noticed that her Android phone prompted her to rate a shopping trip to Kohl’s, even though she had turned Location History off.

“So how did Google Maps know where I was?” she asked in a blog post .

The AP wasn’t able to recreate Shankari’s experience exactly. But its attempts to do so revealed Google’s tracking. The findings disturbed her.

“I am not opposed to background location tracking in principle,” she said. “It just really bothers me that it is not explicitly stated.”

Google offers a more accurate description of how Location History actually works in a place you’d only see if you turn it off — a popup that appears when you “pause” Location History on your Google account webpage . There the company notes that “some location data may be saved as part of your activity on other Google services, like Search and Maps.”

Google offers additional information in a popup that appears if you re-activate the “Web & App Activity” setting — an uncommon action for many users, since this setting is on by default. That popup states that, when active, the setting “saves the things you do on Google sites, apps, and services ... and associated information, like location.”

Warnings when you’re about to turn Location History off via Android and iPhone device settings are more difficult to interpret. On Android, the popup explains that “places you go with your devices will stop being added to your Location History map.” On the iPhone, it simply reads, “None of your Google apps will be able to store location data in Location History.”

The iPhone text is technically true if potentially misleading. With Location History off, Google Maps and other apps store your whereabouts in a section of your account called “My Activity,” not “Location History.”

Since 2014, Google has let advertisers track the effectiveness of online ads at driving foot traffic , a feature that Google has said relies on user location histories.

The company is pushing further into such location-aware tracking to drive ad revenue, which rose 20 percent last year to \$95.4 billion. At a Google Marketing Live summit in July, Google executives unveiled a new tool called “local campaigns” that dynamically uses ads to boost in-person store visits. It says it can measure how well a campaign drove foot traffic with data pulled from Google users’ location histories.

Google also says location records stored in My Activity are used to target ads. Ad buyers can target ads to specific locations — say, a mile radius around a particular landmark — and typically have to pay more to reach this narrower audience.

While disabling “Web & App Activity” will stop Google from storing location markers, it also prevents Google from storing information generated by searches and other activity. That can limit the effectiveness of the Google Assistant, the company’s digital concierge.

Sean O’Brien, a Yale Privacy Lab researcher with whom the AP shared its findings, said it is “disingenuous” for Google to continuously record these locations even when users disable Location History. “To me, it’s something people should know,” he said.

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You received this message because you are subscribed to the Google Groups "Industryinfo" group.

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[REDACTED]

For more options, visit this group at

[REDACTED]

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[GOOGLE CONFIDENTIAL]

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[REDACTED]

For more options, visit this group at

[REDACTED]

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[GOOGLE CONFIDENTIAL]

You received this message because you are subscribed to the Google Groups "Industryinfo" group.

To unsubscribe from this group, send email to

[REDACTED]

For more options, visit this group at



Exhibit 208

From: [REDACTED]
To: [REDACTED]
Sent: Wed, 28 Sep 2016 06:25:06 -0700
Subject: Re: 2016-09-20 - Sync between Multi-device effort and [REDACTED]
Cc: [REDACTED]

Hi [REDACTED],
We're still working on Q4 OKR planning, but it's safe to say at this point that any work on this issue will not be tackled next [REDACTED] (At the moment we're [REDACTED]
[REDACTED])

Just sent you both an invite for Thurs (9/29) to discuss immediate-term solutions.

[REDACTED]

On Tue, Sep 27, 2016 at 2:20 PM, [REDACTED] wrote:

Hi [REDACTED],
I wanted to check in with you to see how the PRD is coming along? This is becoming to be [REDACTED]y, so we might have to do any quick fix/hack for us for our launch. We are already on our way to capturing the [REDACTED] client being used, so we can send somehow to the server so that [REDACTED] maybe just returns the location of that client back.

Cheers,
[REDACTED]

On Tue, Sep 20, 2016 at 7:33 PM, [REDACTED] wrote:

Hi [REDACTED],
Quick follow up after I spoke to our [REDACTED] (cc'ed). I know you are still working on the PRD and are open to the idea for some quick fix/hack before Q4, given that this is a high priority for [REDACTED] Here's some ideas:

- [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Cheers,
[REDACTED]

On Tue, Sep 20, 2016 at 3:30 PM, [REDACTED] wrote:

2016-09-20 - Sync between Multi-device effort and [REDACTED]

Attendees: [REDACTED]

- History
 - [REDACTED] is tasked with working on multi-device issues
 - There have been anecdotal reports [REDACTED] that location history is picking up the location from the wrong device
 - There's also some U confusion on the Android settings page
 - Some people (including even Googlers) don't know that there is a global switch and a per-device switch
 - There are different places at Google that have a notion of "primary device classification"
 - [REDACTED]
- Options
 - Consolidate primary device classification
 - There are at least three places at Google that have this notion.
 - There are currently no updates and hasn't been any recent improvements to device classification algorithm
 - UX treatments
 - The team is still debating on how to improve the UX.
 - Should the user select which one is the primary device?
 - Let the user only say "this device reports" and the server-side we determine which one is the primary based on activity?
- Timeline
 - Right now [REDACTED] I are only tasked with coming with product plan;
 - any long-term fix/implementation probably won't start until after Q4
 - Plan to have an approved technical and UX/PM design proposal in Q4
 - This Friday, [REDACTED] do the prioritization
 - [REDACTED] is TL on this
- [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
- Next
 - [REDACTED] find out if primary device classification is any better in [REDACTED] (since Location Sharing [REDACTED])
 - [REDACTED]: see if we need to escalate this further

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[REDACTED] | [REDACTED] | [REDACTED] | [REDACTED]