Reversing the Tide: Geofence & Keyword Warrants

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Mike Price, Hayley Tsukayama, Laura Koenig

August 17, 2023

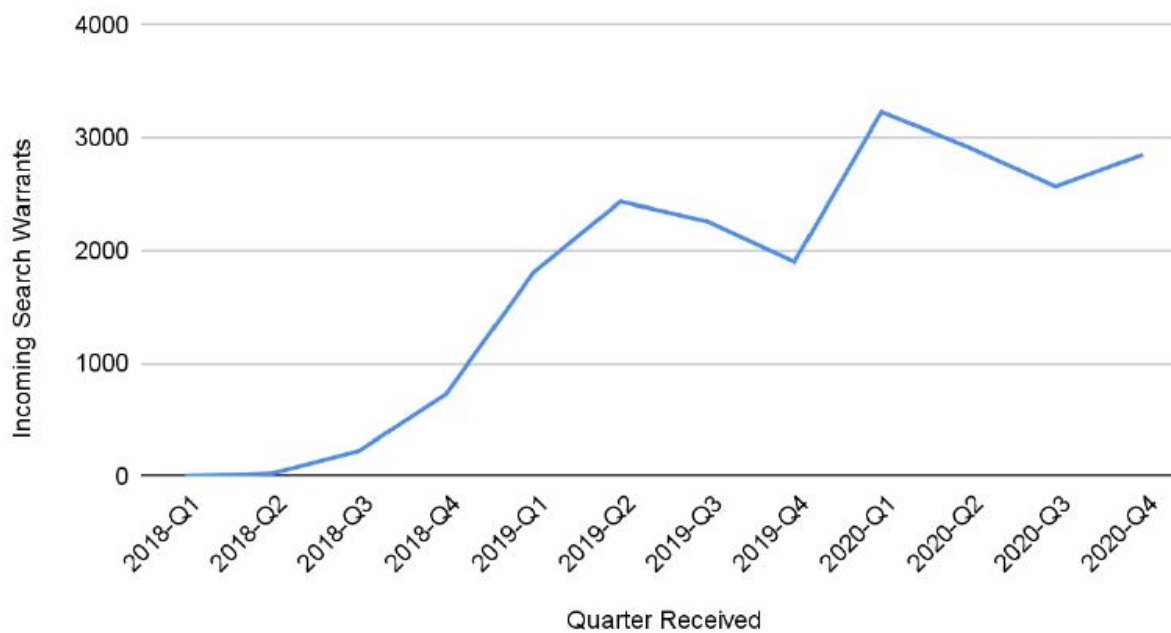# "Reverse" Warrants

- Geofence Warrants

- Keyword Warrants

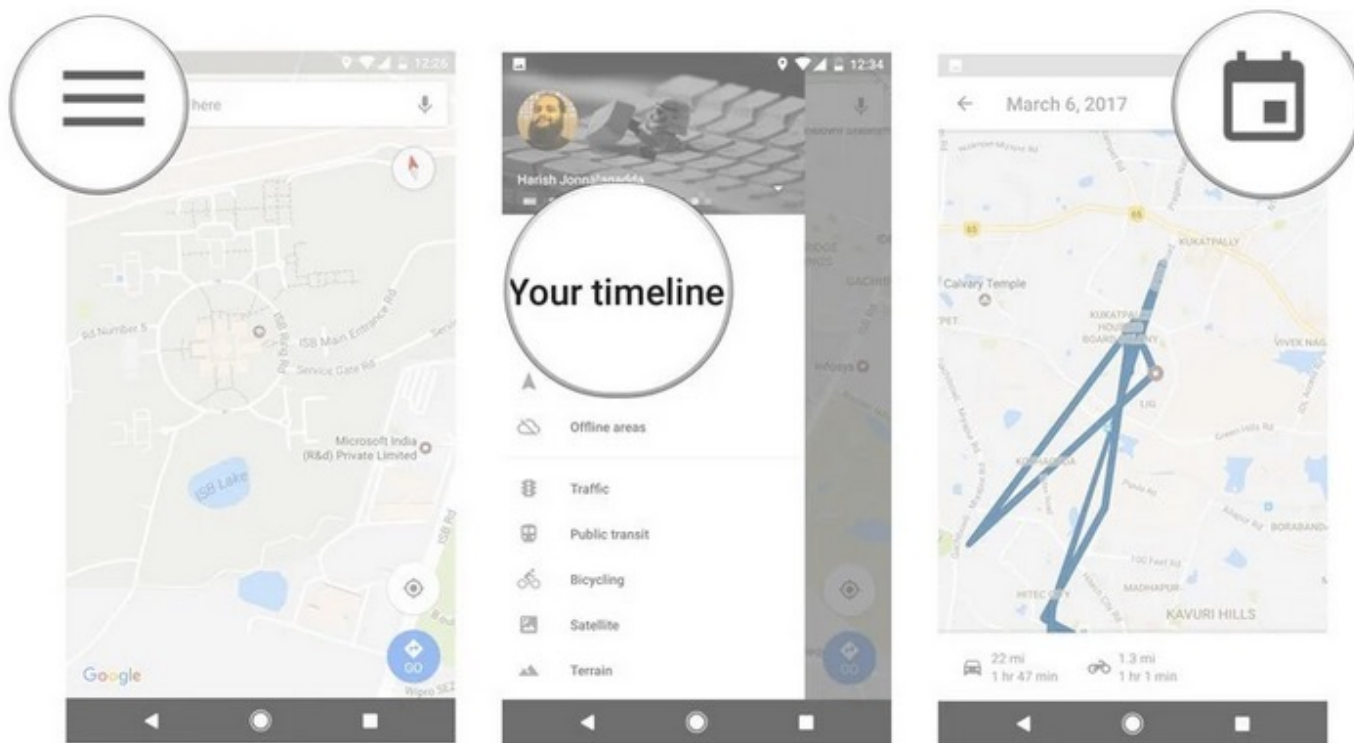Supplemental Information on Geofence Warrants in the United States
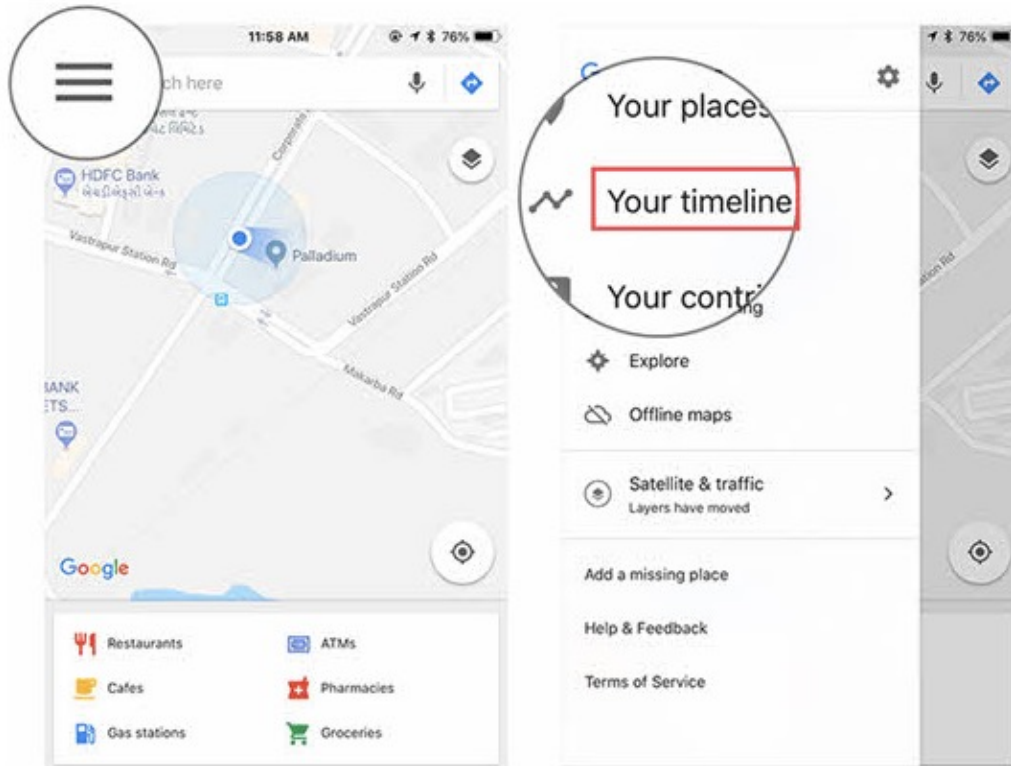
Geofence Warrants
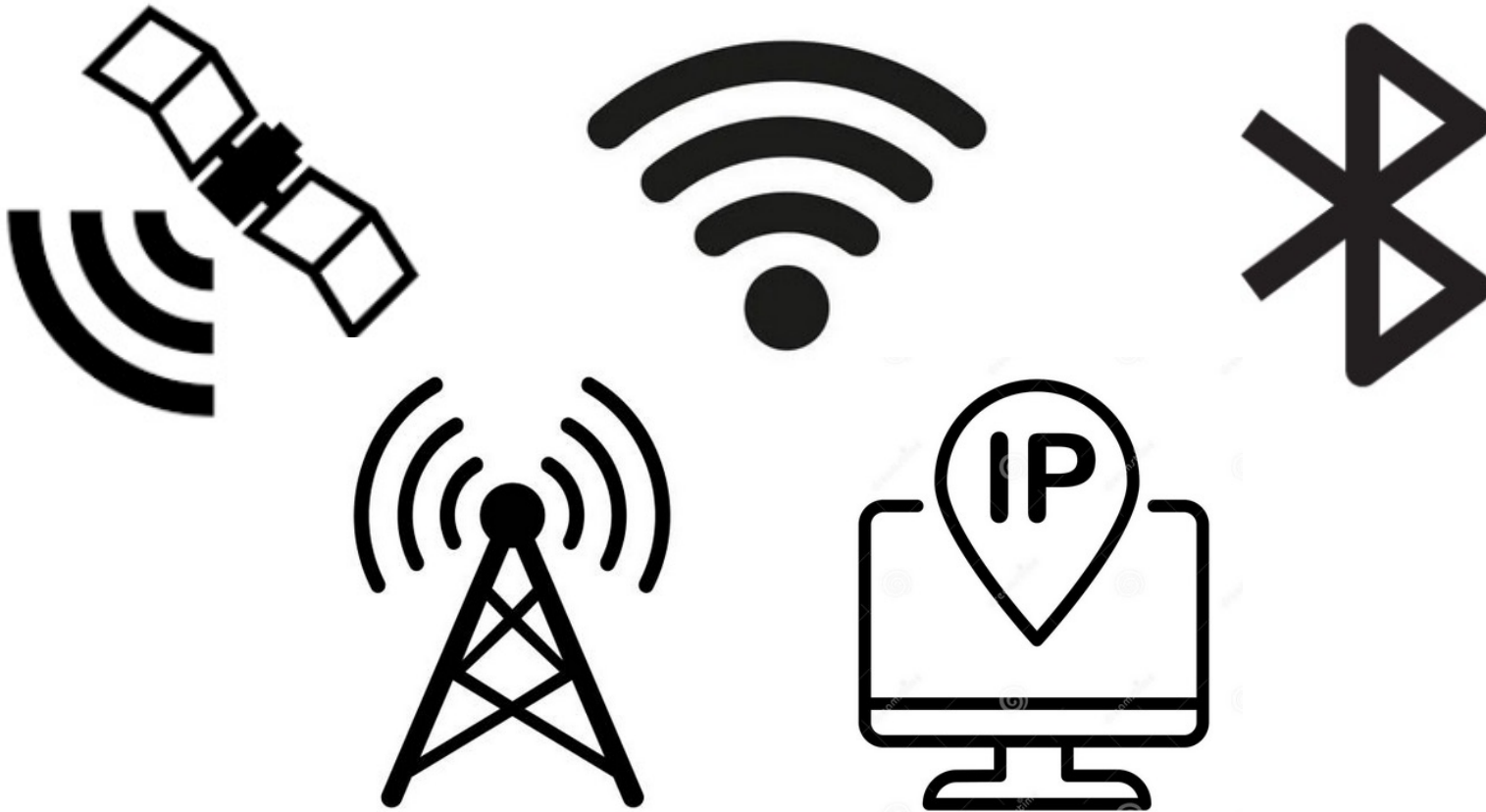

"Location History"

Google

SensorVault

Location History - Android

Location History - iPhone

Google Location Inputs

Geofence Warrant 3-Step Process

ATTACHMENT II
THE THINGS OR PERSONS TO BE SEARCHED FOR (CONTINUED):

This search warrant applies to the Google Accounts associated with devices that were located inside the following geographical areas: NW Corner: 37.42667, -77.49562, NE Corner: 37.42788, -77.49389, SW Corner: 37.42597, -77.49499, SE Corner: 37.42689, -77.49302 During the following time frame: **October 14th, 2016 @ 1703hrs EST – October 15th, 2016 @ 1303hrs EST.**
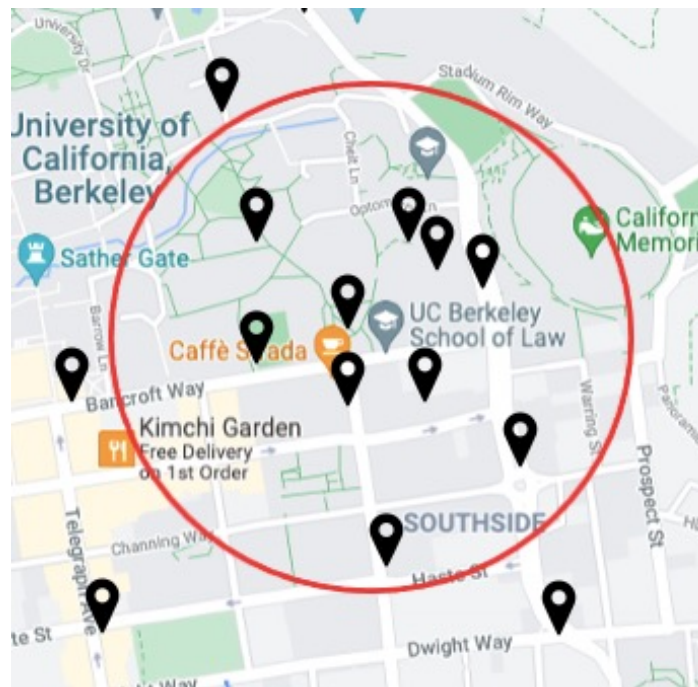

Date/Time: **07/07/2018 at 2130 hours (EST) – 07/08/2018 at 0000 hours (EST)**

Geographical Area: Radius of 150 meters around a latitude/longitude coordinate: Latitude: **37.426567, Longitude: -77.494904**

Geofence Warrant 3-Step Process

1) Google provides "anonymized" data for devices "inside" the geofence

"Numerous Tens of Millions"

DECLARATION OF MARLO MCGRIFF

13.   In 2019, the majority of Google users worldwide did not have LH enabled on their account. While a more precise percentage is difficult to calculate in part due to fluctuating numbers of users, in 2019, roughly one-third of active Google users (i.e., numerous tens of millions of Google users) had LH enabled on their accounts.

- US v. Chatrie

Hundreds of Millions

Location History in October 2018

3.   In October 2018, there were approximately 592 million daily active users of Location History worldwide. Roughly one-third of all active Google users had Location History enabled on their accounts.
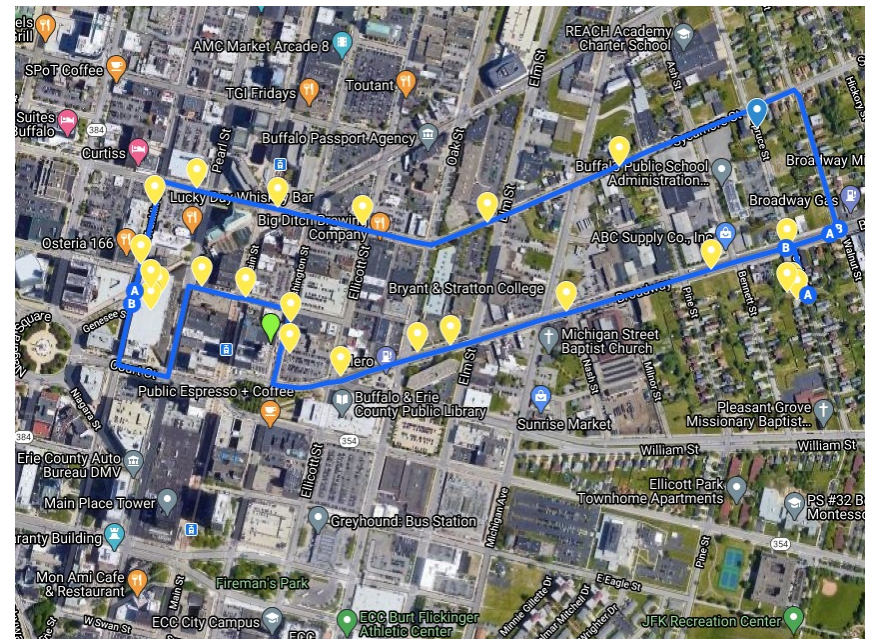
- Decl. of Emily Mosely, *People v. Dawes* **(Cal. Sup. Ct.)**

Geofence Warrant 3-Step Process

2) Police narrow the list, get additional data on "devices of interest"
   – <u>no geographic limits</u>, more time
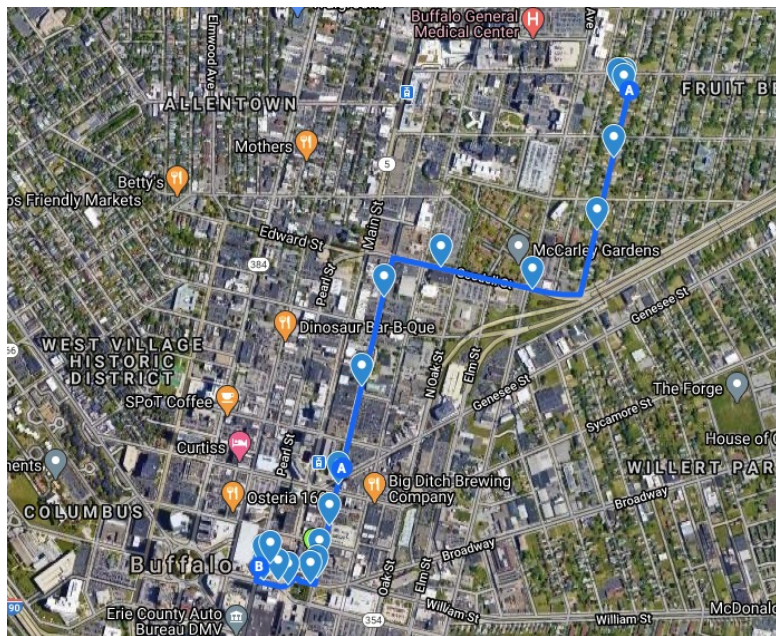
Geofence Warrant 3-Step* Process

3) Police narrow it down to the finalists, then get "de-anonymized" info on selected users.
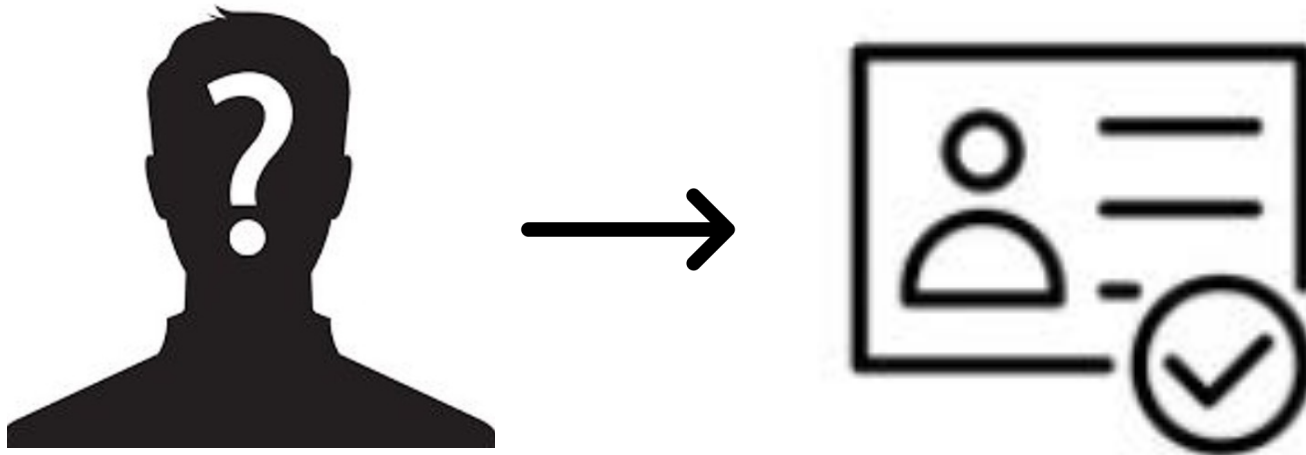
*Steps may vary.

Keyword Warrants

For any Google accounts that conducted a search while using Google Services (i.e., Google Chrome, Google Maps, or any other Google service) using any one or more of the following the search terms:

- "5312 Truckee"
- "5312 Truckee St"
- "5312 Truckee Street"
- "5312 N Truckee St"
- "5312 N. Truckee St."
- "5312 N. Truckee St"
- "5312 N Truckee St."
- "5312 North Truckee"
- "5312 North Truckee Street"

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Keyword Warrants

2.   In particular, this application seeks to obtain information from Google associated with the following search terms, as further described in Attachment A (collectively referred to as the "Google Search Terms") or any other applicable variants of the following search queries that satisfy the below parameters in any order, inclusive of additional search terms:

1) ("▮▮▮▮▮" OR "▮▮▮▮▮") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

2) ("▮▮▮▮▮" OR "▮▮▮▮▮") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

3) ("motion" OR "pull" OR "victim") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

4) ("low explosives") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

5) ("▮▮▮▮▮" OR "trigger" OR "▮▮▮") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

6) ("cardboard" OR "package") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

7) ("fragmentation") AND ("bomb" OR "explosive" OR "ied" OR "explosion" OR "pipebomb" OR "pipe bomb" OR "PVC bomb")

Keyword Warrants

Searches **_everyone_** who ran a search during a given time. **Search & Maps**.

- "Authenticated" (signed-in)

  ➡ "GAIA ID"

- Not authenticated (not signed-in)

  ➡ "Browser Cookie ID"

Billions

4.   First, a member of the Google LIS team creates a text-based query (that can include letters, numbers, or characters) based on the requirements of the warrant. That query is then run over the records of searches conducted through Google Search and Maps. It has been reported by Google and publicly that Google Search has more than 1 billion average monthly users, and each day, Google Search receives billions of queries. *See, e.g.*, Alphabet Q4 2015

- Decl. of Nikki Adeli, *People v. Seymour* **(Colo. D. Ct.)**

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Keyword Warrant Return

Google creates a "production copy" that is "de-identified"

	A	B	C	D	E	F	G	H	I	J	K	L
1	Time	Country	Subdivisions	IP	Query	Result	Host	Request	Truncated GaiaID	Truncated CookieID	UserAgent	
2	2022-09-19 9:52:04.492341 -0400 EDT			192.168.255.255	123 Main St MA		www.google.com	GET /search?q	20036	0	Mozilla/5.0 (iPhone;	
3	2022-09-19 9:53:54.542342 -0400 EDT	US	US-NY	10.255.255.255	123 Main St Springfield, NY 14141 United States		www.google.com	GET /search?q	60724	0	Mozilla/5.0 (iPhone;	
4	2022-09-19 10:01:04.232568 -0400 EDT	US	US-NJ	2607:fb90:6c3c:780c:c04:fde7:f52c:b55b	123 Main St Union County NJ		www.google.com	GET /search?q	0	5463892	Mozilla/5.0 (iPhone;	
5	2022-09-19 10:02:02.092343 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St		www.google.com	GET /async/irc	14622	0	Mozilla/5.0 (iPhone;	
6	2022-09-19 10:03:32.145342 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St		www.google.com	GET /search?q	14622	0	Mozilla/5.0 (iPhone;	
7	2022-09-19 10:04:53.492568 -0400 EDT	US	US-NJ	2607:fb90:6c3c:780c:c04:fde7:f52c:b55b	123 Main St Union County NJ for sale		www.google.com	GET /search?q	0	5463892	Mozilla/5.0 (iPhone;	
8	2022-09-19 10:05:02.492568 -0400 EDT	US	US-NY	10.255.255.255	123 Main St Springfied, NY 14141 United States		www.google.com	GET /search?q	60724	0	Mozilla/5.0 (iPhone;	
9	2022-09-19 10:05:43.112568 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St Newport		www.google.com	GET /async/irc	0	6471344	Mozilla/5.0 (iPhone;	
10	2022-09-19 10:05:55.672364 -0400 EDT	US	US-MA	172.31.255.255	123 Main St Sheblyville		www.google.com	GET /maps/pr	20036	0	Mozilla/5.0 (iPhone;	

**GAIA ID or
Browser Cookie ID**

Keyword Warrant Return

Google creates a "production copy" that is "de-identified"

	A	B	C	D	E	F	G	H	I	J	K	L
1	Time	Country	Subdivisions	IP	Query	Result	Host	Request	Truncated GaiaID	Truncated CookieID	UserAgent	
2	2022-09-19 9:52:04.492341 -0400 EDT			192.168.255.255	123 Main St MA		www.google.com	GET /search?q	20036	0	Mozilla/5.0 (iPhone;	
3	2022-09-19 9:53:54.542342 -0400 EDT	US	US-NY	10.255.255.255	123 Main St Springfield, NY 14141 United States		www.google.com	GET /search?q	60724	0	Mozilla/5.0 (iPhone;	
4	2022-09-19 10:01:04.232568 -0400 EDT	US	US-NJ	2607:fb90:6c3c:780c:c04:fde7:f52c:b55b	123 Main St Union County NJ		www.google.com	GET /search?q	0	5463892	Mozilla/5.0 (iPhone;	
5	2022-09-19 10:02:02.092343 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St		www.google.com	GET /async/irc	14622	0	Mozilla/5.0 (iPhone;	
6	2022-09-19 10:03:32.145342 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St		www.google.com	GET /search?q	14622	0	Mozilla/5.0 (iPhone;	
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10	2022-09-19 10:05:55.672364 -0400 EDT	US	US-MA	172.31.255.255	123 Main St Sheblyville		www.google.com	GET /maps/pr	20036	0	Mozilla/5.0 (iPhone;	

No Geographic Limit

Keyword Warrant Return

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1	Time	Country	Subdivisions	IP	Query	Result	Host	Request	Truncated GaiaID	Truncated CookieID	UserAgent	
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6	2022-09-19 10:03:32.145342 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St		www.google.com	GET /search?q	14622	0	Mozilla/5.0 (iPhone;	
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Queries may contain "other words"

Keyword Warrant Return

Google creates a "production copy" that is "de-identified"

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1	Time	Country	Subdivisions	IP	Query	Result	Host	Request	Truncated GaiaID	Truncated CookieID	UserAgent	
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3	2022-09-19 9:53:54.542342 -0400 EDT	US	US-NY	10.255.255.255	123 Main St Springfield, NY 14141 United States		www.google.com	GET /search?q	60724	0	Mozilla/5.0 (iPhone;	
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5	2022-09-19 10:02:02.092343 -0400 EDT			2104:db40:6d2c:780c:c04:fde7:f52a:a25b	123 Main St		www.google.com	GET /async/irc	14622	0	Mozilla/5.0 (iPhone;	
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Full IP Addresses

Why Everyone Should Care

- **We all leave a digital trail.**
  - Carrying a smartphone, using social media, and allowing apps to track our location is a part of all of our daily routines. Our digital trail reveals much about us and must be safeguarded.

- **Where we go and what we search reveals who we are.**
  - Just one geofence can reveal who visits schools, religious institutions, union halls, bookstores or health clinics.

- **They have been used for fishing expeditions.**
  - Such warrants have already been used to track the locations and identities of people protesting police violence
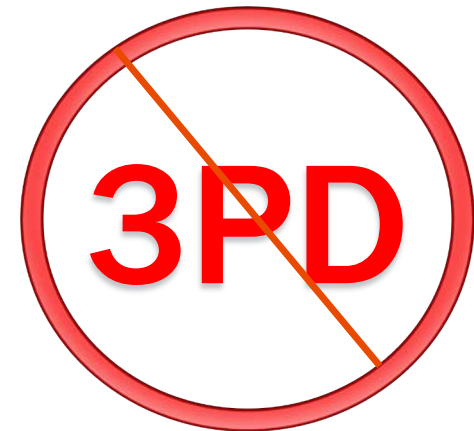
Challenging Geofence Warrants

1. **A "Search" Occurred**
   - Reasonable expectation of privacy (the "third-party doctrine" does not apply)
   - Property interest

2. **Unconstitutional General Warrant**
   - Overbreadth
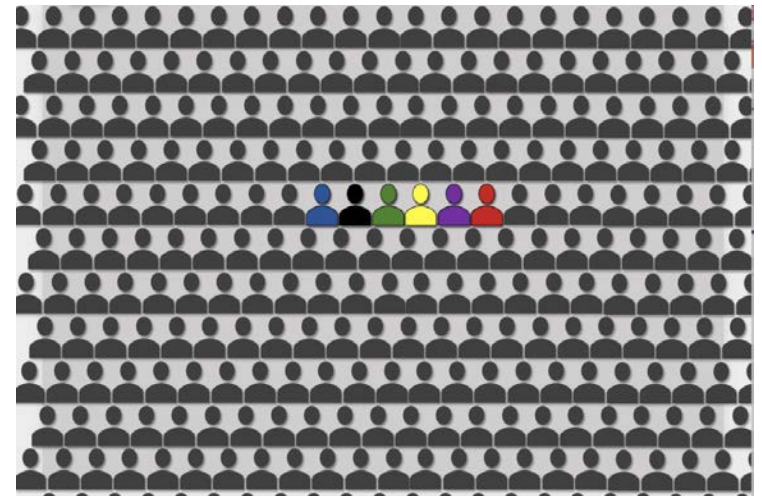   - Lack of particularity

3. **No Good Faith**

3PD

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Overbreadth

(Lack of Probable Cause)

Scope of the search:

- <u>Requires searching **all accounts** with LH enabled</u>

- 1/3 of Google users have LH enabled

    = 592 million users (2018)

- Epic dragnet → general warrant

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Particularity (Discretion) – Steps 2 & 3

- **Explicitly** up to the police whose data gets searched & seized in Steps 2 & 3.

- No judge

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United States v. Chatrie
2022 WL 628905 (E.D.Va. 2022)

Held: Geofence warrant violated the Fourth Amendment because the Government lacked "particularized probable cause as to every Google user in the geofence."

Overbreadth:

- "[W]arrants, like this one, that authorize the search of every person within a particular area **must establish probable cause to search every one of those persons**."

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United States v. Chatrie
2022 WL 628905 (E.D.Va. 2022)

Particularity:

- "Steps 2 and 3—undertaken with no judicial review whatsoever—**improperly provided law enforcement and Google with unbridled discretion** to decide which accounts will be subject to further intrusions."

Briefs & Transcripts: **www.nacdl.org/Chatrie**

Geofence Opinions

- *In re Search Warrant Application for Geofence Location Data Stored at Google*, 2020 WL 6343084 (N.D. Ill. 2020)

- *In re Information Stored at Premises Controlled by Google*, 481 F. Supp. 3d 730 (N.D. Ill. 2020)

- *In re Information Stored at Premises Controlled by Google*, 2020 WL 5491763 (N.D. Ill. July 8, 2020)

- *In re Search of Information that is Stored at the Premises Controlled by Google*, 542 F. Supp. 3d 1153 (D. Kan. 2021)

- *In re Search of Information That Is Stored at the Premises Controlled by Google*, 2021 WL 6196136 (D.D.C. 2021)

- *Commonwealth v. Fleischmann*, No. 2072CR00046 (Ma. Sup. Ct. Aug. 31, 2021)

- *In re Search of Information Stored at the Premises Controlled by Google*, No. KM-2022-79 (Va. Cir. Ct., Feb. 24, 2022)

United States v. Rhine, 2023 WL 372044 (D. D.C. 2023)

- **Step 1:** Geofence restricted to roughly the area of Capitol building

- Three sets of data:
  - 1) LH data 2:00 – 6:30 pm 1/6/21
  - 2) control list – 12:00 – 12:15 pm
  - 3) control list – 9:00 - 9:15 pm

United States v. Rhine, 2023 WL 372044 (D. D.C. 2023)

Step 2

- No further disclosures by Google

- Compare primary list to control list and strike devices from the primary list that appear on either control list

Step 3

- Court approval required to "deanonymize" through basic subscriber information

United States v. Rhine, 2023 WL 372044 (D. D.C. 2023)

- REOP = undecided

- Step 1 not overbroad (ignores haystack of millions)

- Step 2 & 3 not overbroad (use of control lists and judicial oversight)

- Unique situation where Capitol building closed as were public streets and nearby buildings.

- Good faith

Challenging Keyword Warrants

1. **Fourth Amendment Interest**
   - Reasonable expectation of privacy
   - Property interest

2. **Unconstitutional General Warrant**
   - Overbreadth
   - Lack of particularity

3. **No Good Faith**

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Fourth Amendment Interest

- Expectation of privacy:
  - Search history is some of the most private data that exists.
  - See *Seymour* briefing & EFF amicus

- Property interest:
  - Search History is "account contents"
  - Like photos, emails = private "papers"

Overbreadth

- No probable cause for even one person's search history

- No probable cause to search billions

- Over-seizure of searches that contain "other words"

Particularity

■ Place to be searched = "1600 Amphitheater Parkway"?

■ Fails to identify individual accounts

■ Digital equivalent of a billion-story apartment building

California

STOP
DIGITAL DRAGNET SURVEILLANCE
OF VULNERABLE PEOPLE!
PASS AB 793

- Bans geofence & keyword warrants

- Bans "voluntary" requests

- Suppression remedy

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New York

Assembly Bill A84A

2021-2022 Legislative Session

Prohibits the use of reverse location and reverse keyword searches

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- Bans both geofence warrants and keyword warrants
- Also bans police purchases of similar data from tech companies and data brokers

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Missouri

- Bans both geofence warrants and keyword warrants
- Bans voluntary requests
- Republican author

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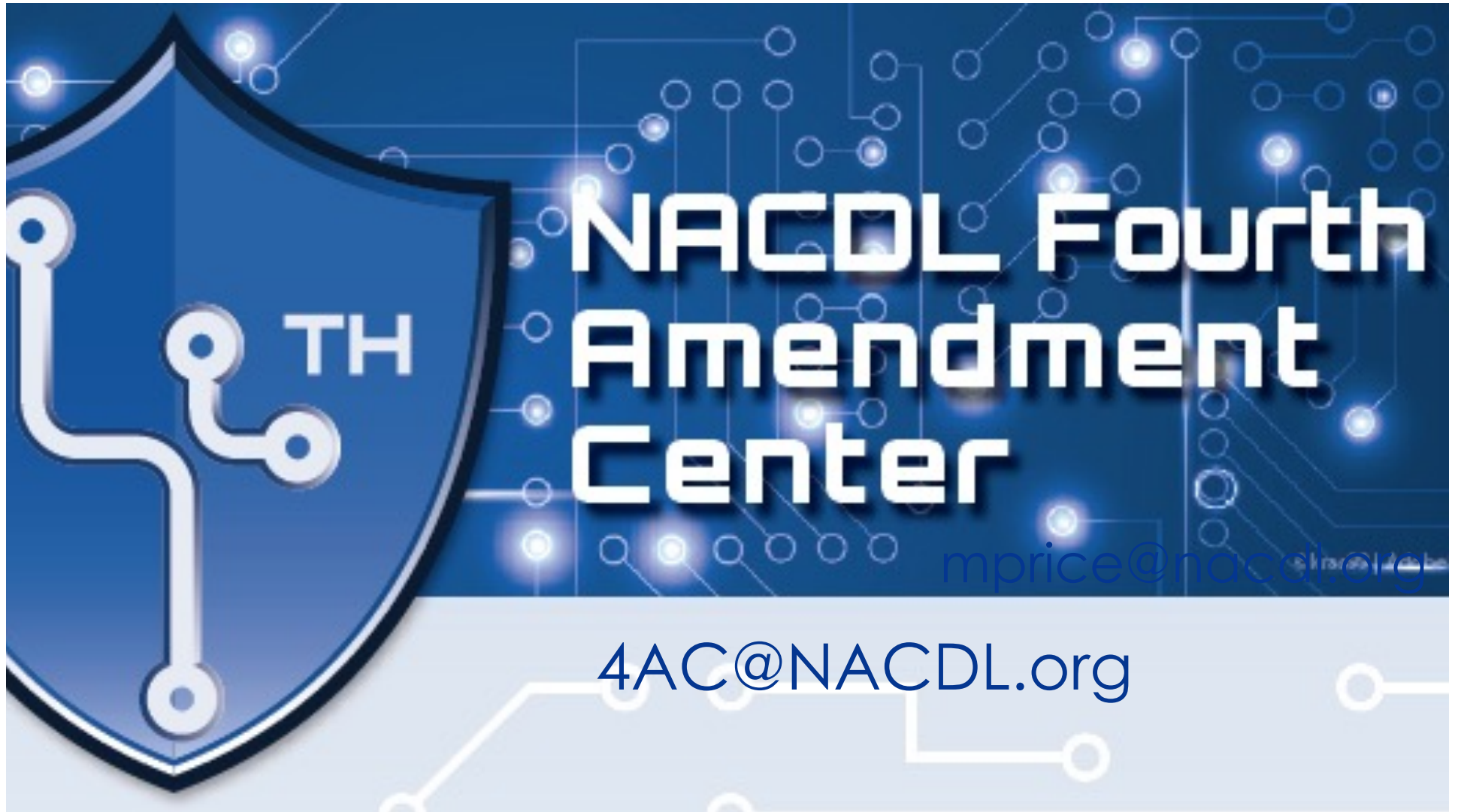
Other bills

- **Guideline model (Utah)**
  - Requires a transparency report
  - Requires a warrant for geofence demands
  - Requires notice
  - Requires a warrant for cell-site simulator demands

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Questions?

NACDL Fourth Amendment Center

4AC@NACDL.org