

Cell Site Simulators (“CSSs”)

What they are & how they work:

- 🌐 CSSs are devices that law enforcement uses to locate and identify suspects.

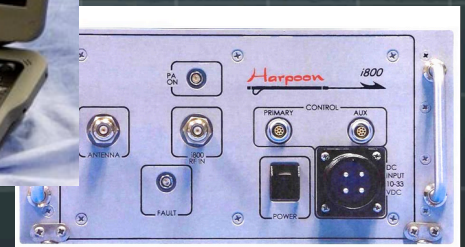


- 🌐 CSSs masquerade as legitimate cell phone towers, tricking all phones nearby into connecting to the device instead of the tower.

Cell Site Simulators (“CSSs”)

Also Known as:

- IMSI catchers
- digital analyzers
- Brand names include:
 - Stingrays
 - Hailstorm
 - Triggerfish
 - Kingfish
 - Arrow-Head
 - Amberjack
 - Harpoon
 - WITT (FBI’s “Wireless Intercept Tracking Team”) devices



Cell Site Simulators (“CSSs”)

What they are & how they work:

- 🌐 CSSs log the IMSI numbers (a unique identifying number) of all mobile phones within range, including non-target data.
- 🌐 CSSs can pinpoint a phone’s location in real time with much greater precision than CSLI from the phone company.
- 🌐 Helpful video from Vocativ: <https://eff.org/CSSvideo>



Cell Site Simulators (“CSSs”)

How they work:



Cell Site Simulators (“CSSs”)

In the Wild – What to Look for:

🌐 CSSs come in many shapes and sizes.



SECRET SPY PROGRAM TARGETS

HOW IT WORKS

- 1 Planes equipped with "dirtbox" devices pick up cellphone signals to track criminal suspects
- 2 Track and locate suspect phones; "lets go" of non-suspect phones
- 3 Find signal location



WSJ: CELLPHONES TARGETED BY U.S. SPY PROGRAM







SECRET SPY PROGRAM TARGETS U.S. CELLPHONES

HOW IT WORKS:

SOURCE: WSJ

- 1** Planes equipped with "dirtbox" devices pick up cellphone signals to track criminal suspects



- 2** Track and locate suspect phones; "lets go" of non-suspect phones



- 3** Find the strongest signals to help locate a suspect



- 4** Use data collected to catch suspect



WSJ: CELLPHONES TARGETED BY U.S. SPY PROGRAM

CNN

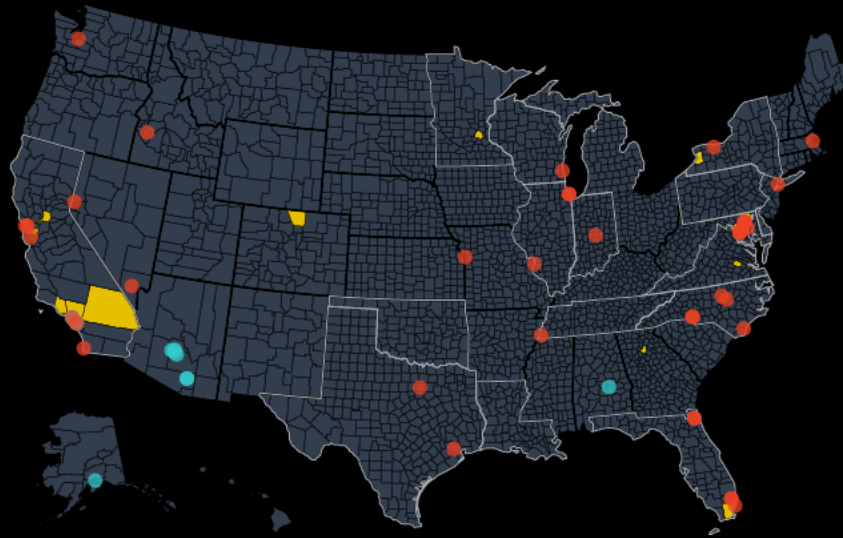
10:36 AM ET



Who Can Track Your Phone?

Police departments known to have purchased stingrays

● City police ● Local police ■ County police □ State police



City police
(17 states, 32 cities)

CA 7 TX 2
FL 5 ID 1
NC 5 IN 1
MD 4 MA 1
DC 2 TN 1
IL 2 VA 1
MO 2 WA 1
NV 2 WI 1
NY 2

Local police:
(4 states, 9 cities)

AZ 6
CA 4
AK 1
AL 1

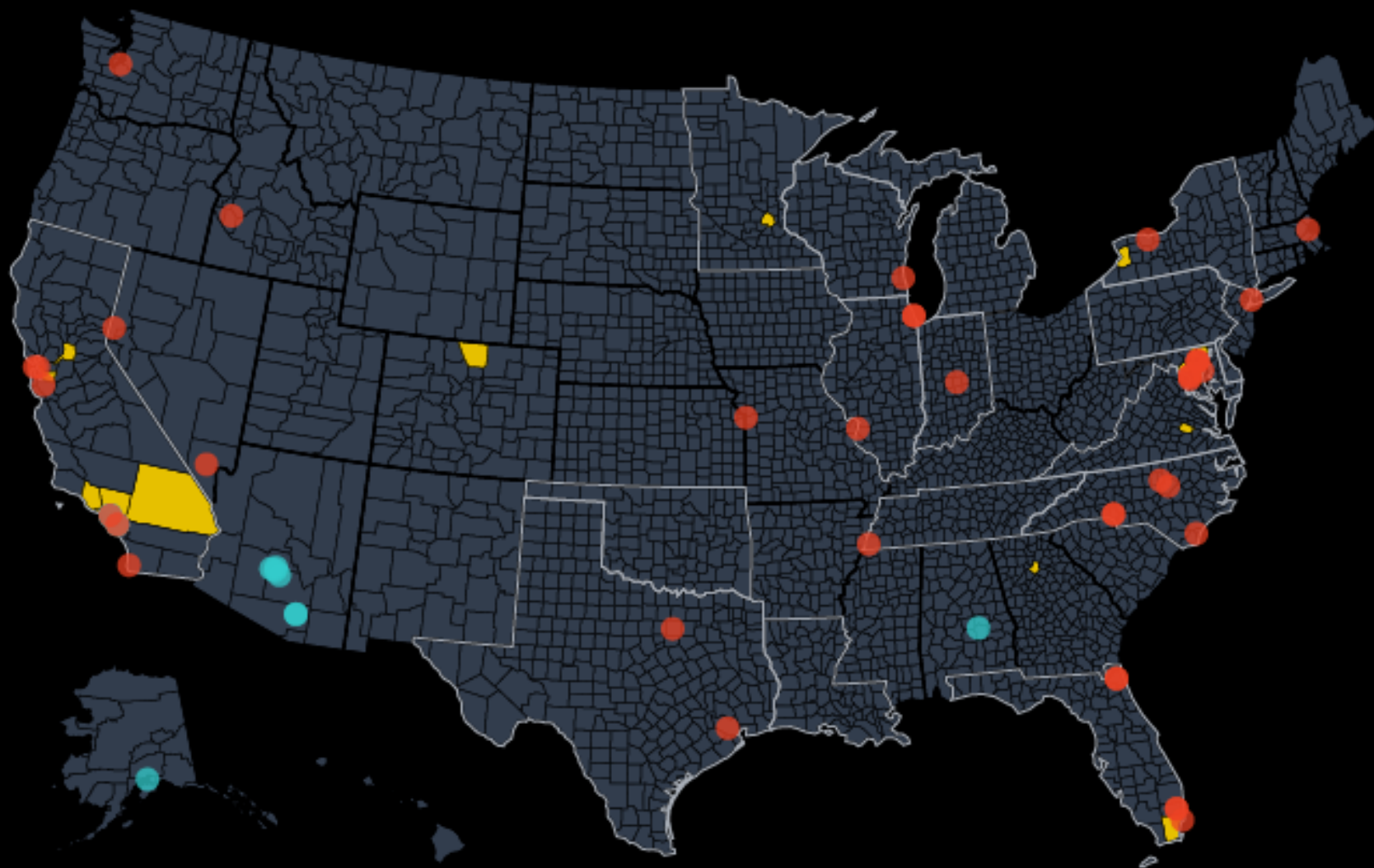
County police:
(8 states, 17 counties)

CA 13
MD 6
GA 2
MN 2
NY 2
CO 1
FL 1
VA 1

State police:
(17 states)

CA 2 NY 3
DE 3 NC 3
FL 3 OK 2
IL 2 PA 3
IN 2 TN 2
LA 2 TX 2
MD 3 VA 3
MI 4 WI 2
MN 3

● City police ● Local police ■ County police □ State police



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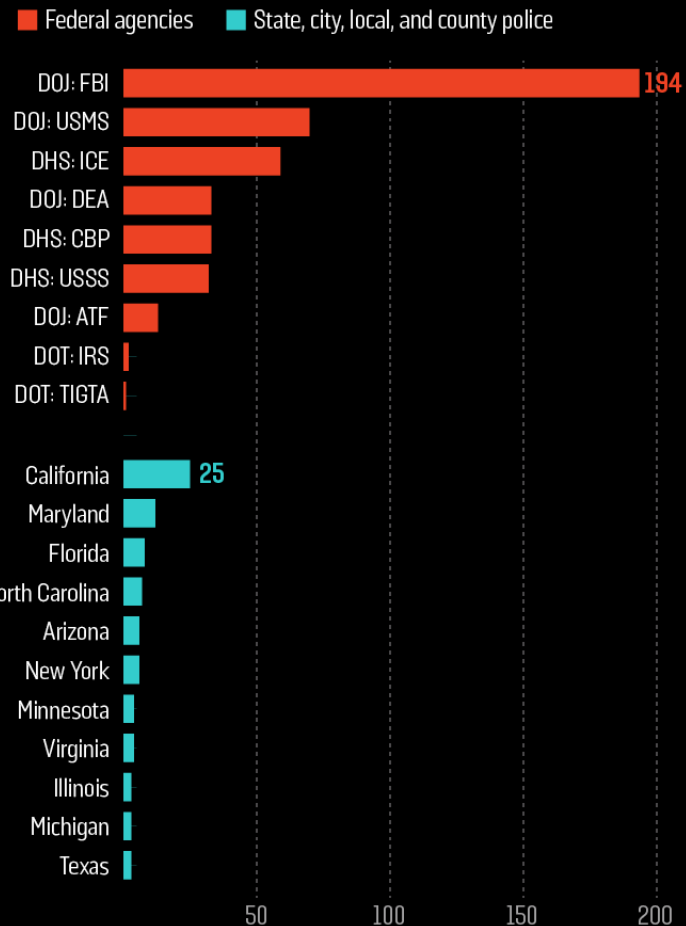
State police:

(17 states)

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DE 3	NC 3
FL 3	OK 2
IL 2	PA 3
IN 2	TN 2
LA 2	TX 2
MD 3	VA 3
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MN 3	

Who Has The Most Stingrays?

Number of purchased devices per agency or local police



2 stingrays:

DC, Delaware, Georgia, Indiana, Missouri, Nevada, Pennsylvania, Tennessee, and Wisconsin

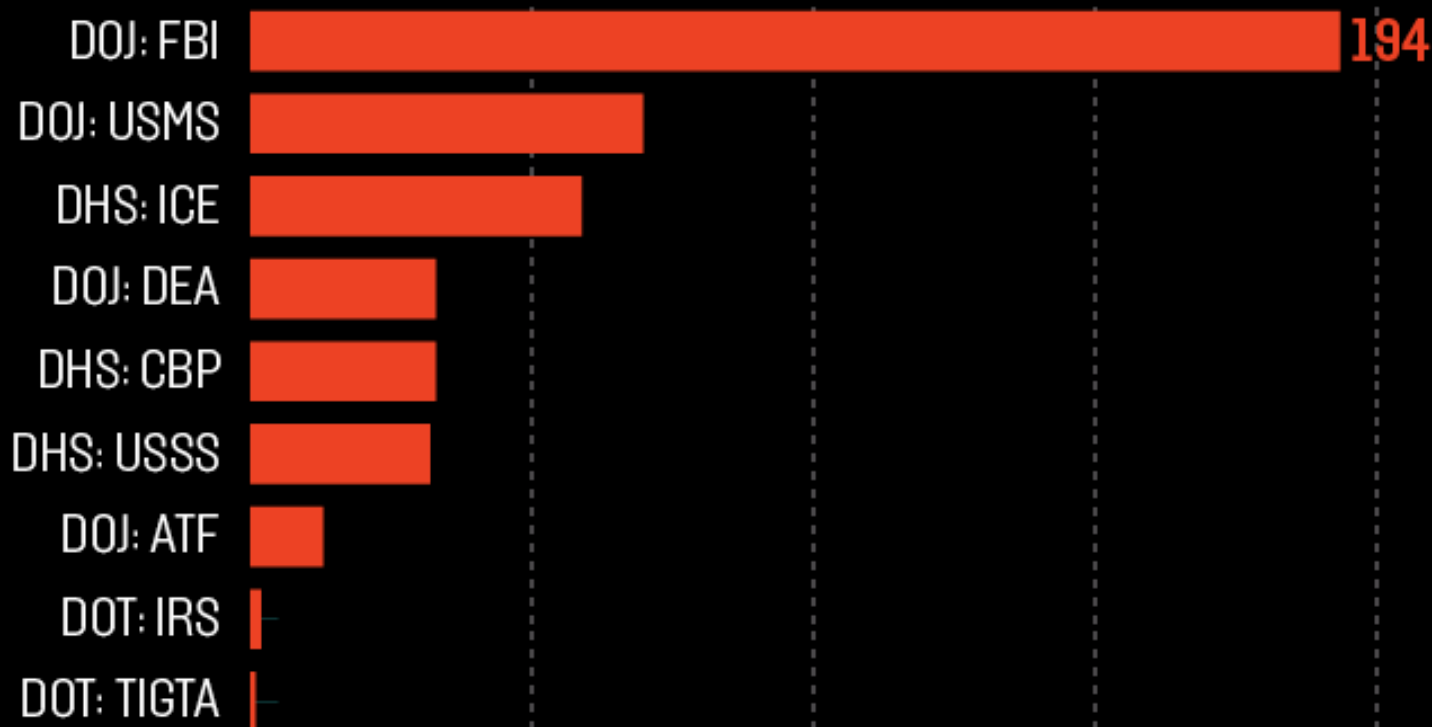
1 stingray:

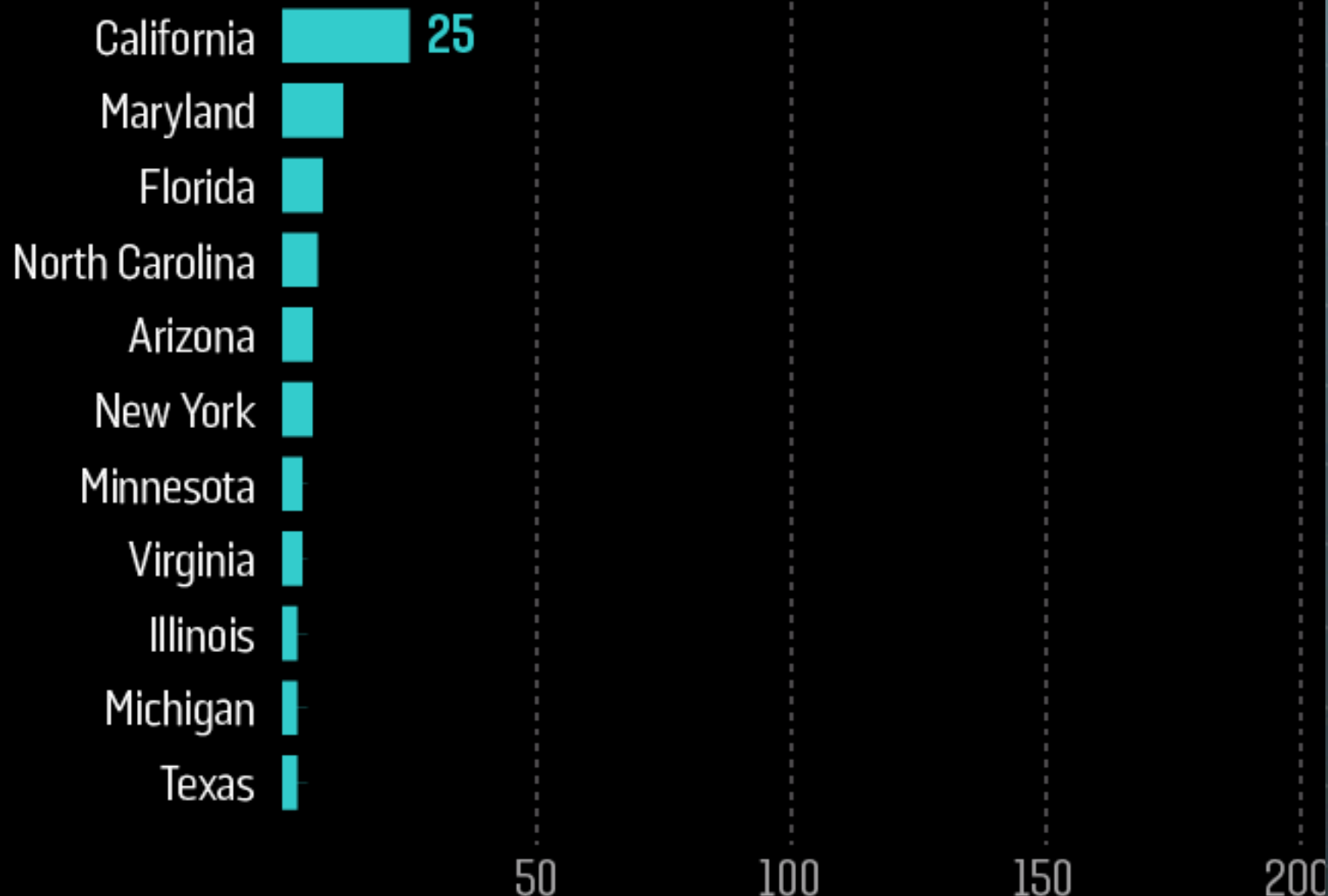
Alabama, Alaska, Colorado, Idaho, Louisiana, Massachusetts, Oklahoma, Washington

Who Has The Most Stingrays?

Number of purchased devices per agency or local police

■ Federal agencies ■ State, city, local, and county police





2 stingrays:




DC, Delaware, Georgia, Indiana, Missouri, Nevada, Pennsylvania, Tennessee, and Wisconsin

1 stingray:

Alabama, Alaska, Colorado, Idaho, Louisiana, Massachusetts, Oklahoma, Washington





Cell Site Simulators

What can CSSs do?

-  Capture metadata like phone numbers dialed or received, identity of sender or receiver, or date, time and frequency of communications.
-  Pinpoint location within a few meters.
-  May be configured to capture some content such as texts, calls, and unencrypted communications.




Cell Site Simulators

How do I know if cops used a CSS in my case ?

-  Be on the lookout for search warrants referring to a “confidential informant” for information on a suspect’s location.
-  Lookout for any of the device brand names.
-  Beware of police apprehending your client at an unusual location.
-  Look for language that tracks the DOJ’s model warrant application, which uses terms like: “target cell phone”, “pen register” and “trap and trace.” (See the DOJ handout)

Cell Site Simulators



How do I challenge CSS evidence?

-  File an MTS – most CSS use was without a warrant prior to the change in DOJ and DHS policy in September 2015: eff.org/CSSDOJ
-  File motion to compel discovery on the CSS technology specs – many LEAs will dismiss the case rather than reveal how it works
-  Review the scathing House Oversight Committee report : eff.org/CSSHOGGR

Cell Site Simulators Cases

- 7th Cir.: US v. Damian Patrick (842 F.3d 540 (2016)): Rejected MTS argument that CSS use required a warrant. Rehearing *en banc* denied May 2017. eff.org/CSSPatrick
- SDNY: US v. Raymond Lambis (197 F.Supp.3d 606 (2016)): Granted MTS for warrantless use of CSS and rejected govt's attenuation and third party doctrine arguments. eff.org/CSSLambis

Cell Site Simulators Cases

-  Court of Special Appeals of MD: State of Maryland v. Kerron Andrews (227 Md.App. 350 (2015)): Granted MTS for warrantless CSS use, rejected TPD, and rejected pen register and trap & trace order as substitute for warrant. eff.org/CSSAndrews
-  ND IL: Matter of the Application of the US (2015): District Court order re: minimization of CSS use. eff.org/CSSNDIL






Cell Site Simulators

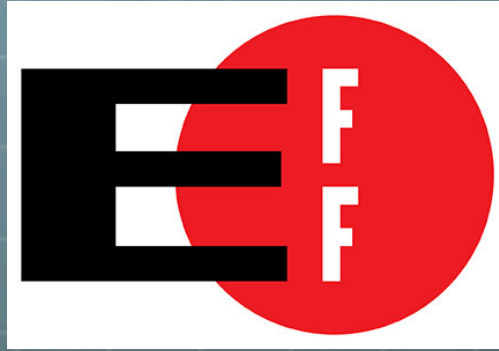
How do I protect myself and my clients?

- 🌐 There's no way for a phone to be configured to avoid sharing its unique identifying number with a CSS.
- 🌐 It's very difficult to know from the phone itself whether its info has been captured by a CSS, and there's no notice if the phone's encryption is no longer operating.
- 🌐 However end-to-end encrypted apps should still provide some protection.
- 🌐 Use Full Disk Encryption and alphanumeric PWs!!
- 🌐 Log out of apps and put on airplane mode or turn off.

Cell Site Simulators

Where do I learn more?

-  eff.org/CSSFAQ
-  eff.org/CSSACLU – guide for Crim Defense Attys
-  eff.org/CSSmanuals – from Intercept article
-  eff.org/CSSBaltimore – racially biased CSS use
-  eff.org/CSSFCC – FCC complaint filed in Baltimore, PA, against cop use of CSSs



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