

Interface Committee (CGSIC)

Maps Camp

Rick Hamilton CGSIC Executive Secretariat United Nations Headquarters, NY, NY July 09, 2016

Civil GPS Service Interface Committee

•Over 1000 Members: U.S. Federal, State, Public, Non-U.S., Industry, Universities, 59 Nations

- •Chaired by the Department of Transportation (DOT)
- •Meets once a year in plenary session

•Subcommittees: These subcommittees meet as needed including overseas

- -International
- -Timing
- –U.S. States and Localities

-Surveying, Mapping, and Geo-Sciences

Civil GPS Service Interface Committee

- Represent civil interests in GPS management and operations decisions
- •Collect civil user requirements for GPS
- Collect information from users of GPS for input back into the GPS program
- •Support U.S. Space-Based PNT Policy

U.S. Coast Guard Navigation Center

- Commanding Officer is CGSIC Deputy Chair
- CGSIC Executive Secretariat for management and administrative duties
- Civil Service Center for GPS Operational Information





U.S. Department of Homeland Security **United States Coast Guard**



The GPS Triad Joint GPS User Support Service



NAVCEN Report a Problem page

UNCLASSIFIED			
http://www.navcen.uscg.gov/?pageName=gpsUserInput 🔎 < 🖒 📈 GPS Problem Reporting 🗙			
r 🖃 🖶 🔻 Page 🔻 Safety 🔻 Tools 👻 🔞 🖉 📖			
	Heport an NUGPS Problem Report an LRIT Problem Report an LRIT Problem Contact Us Maritime Information Maritime Safety Information Downloads Maritime Telecommunications CG Nat1 Distress System Global Maritime Distress and Safety System Maria Safety Information Broadcasts MF & HF Channels Nav Pubs and Documents Radio Watch Requirements Vessel Traffic Services VHF Channels & Freqs USCG 'Homeport' Webste	 You do not have to give us personal information to visit our site. We will collect personally identifiable information (name, email address, telephone number) only if specifically and knowingly provided by you. Any information provided will solely be used to resolve the problem that you are reporting. Resolution of the reported problem may entail the sharing of the information provided with other U.S. Government Agencies. These agencies may contact you directly in order to expedite resolution of the reported problem. All personally identifiable information provided will be kept internal to the U.S. Government. If you are experiencing GPS issues relating to positioning, navigation, timing or signals please proceed to fill out a GPS disruption report using the form below. * Denotes a required field	
		1) * Your Name: 2) * Email Address:	
	- 0303 Hollieport Website	3) * Telephone number: [i.e (703) 313-5900]	
		 Preferred method and time to be contacted if additional information is necessary: 	Click Here For Choices ▼ Click Here For Choices ▼
		5) *What was the start time and date of the GPS disruption?	Date: 10/15/2014 Time: Zone; Select Time Zone V
		6) * Is the GPS disruption ongoing?	Select •
		7) * Where did the disruption occur? (LAT/LONG; Nearest City or landmark)	Lat Long City/Landmarks
		8) GPS user equipment make and model (receiver manufacturer and model, antenna type, etc)?	Remaining Characters 3000
		9)GPS installation type (aviation, marine, surveying, agriculture, transportation, timing)?	Click Here For Choices Other:
		10) What was the elevation of the GPS antenna?	Click Here For Choices Click Here For Choices Click Here For Choice
		11) What GPS frequency are you using? (press Ctrl while selecting to select multiple satellites)	L1 (1575.42 MHz) L2 (1227.6 MHz)
		12) How many satellites were being tracked at the time of the disruption?	Click Here For Choices 💌
		13) Which satellites were being tracked at the time of the disruption? (press Ctrl while selecting to select multiple satellites)	Don't Know SVN23/PRN32
		14) What was the GPS receiver being used for at the time of occurrence?	
		15) Summary (Please provide any additional information, unusual screen display indicating a problem and/or operator intervention that may have helment?	×

What Are Jammers?

Generally includes devices commonly called signal blockers, GPS jammers, cell phone jammers, text blockers, etc

- Illegal radio frequency transmitters
- Designed to block, jam, or otherwise interfere with authorized radio communications







Why Are Jammers Prohibited?

• Jammers do not just weed out noisy or annoying conversations and disable unwanted GPS tracking.



Jammers can prevent 9-1-1 and other emergency phone calls from getting through



Can interfere with ambulance, police and other law enforcement communications.



Interference at a "Highly Automated Container Port Facility"



One ship can bring as many as 19,000 20ft containers





Shanghai Harbor: 33.62 million TEUs in 2013.

Known incidents of Interference

- Jammers' overwhelm anti-theft devices on cars and Trucks. 46 luxury cars returned to Port of Los Angeles discovered with GPS jammers attached to the batteries
- Have been used in vicinity of airports disrupting air traffic
- Establishing quiet zones and textfree zones in Churches and Schools





- Used to defeat the fleet tracking devices in company cars and trucks for theft of high value pharmaceuticals
- Used to defeat attempts to document road use for taxes
- These uses of jammers are
 <u>all illegal</u>



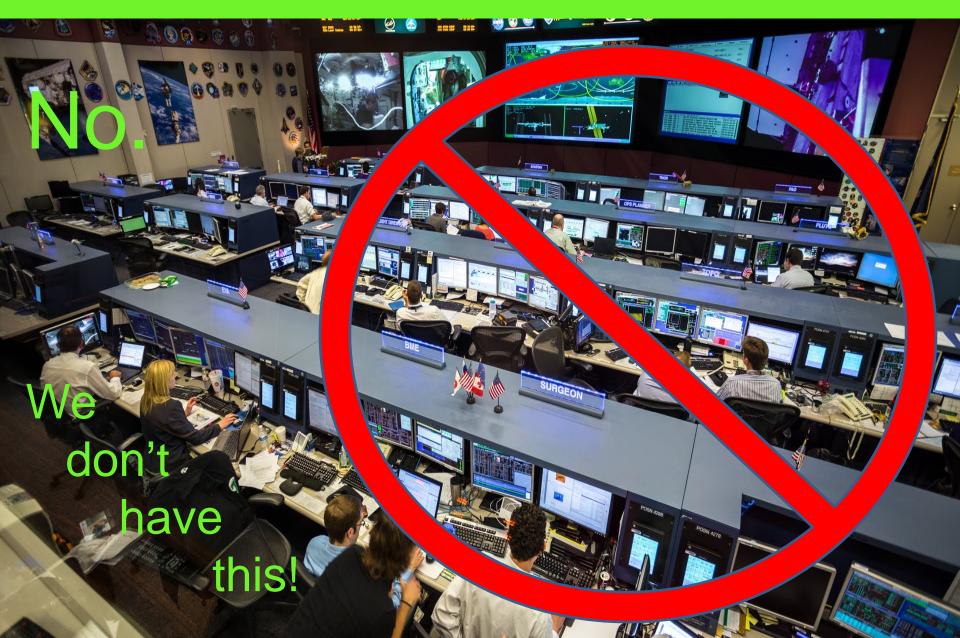
- Used to disrupt communications during commission of a robbery
- Used in vicinity of a major port disabling GPS on large cruise ships attempting to dock



GPS Global Address and Traffic Monitoring Center



GPS Global Address and Traffic Monitoring Center



Maritime Information Operations Center Responsibilities

24/7 Operation:

- Web based Information Services
- Navigation Information Service (NIS)
- GPS Civil Interface
- Long Range Identification and Tracking (LRIT)
- DGPS Monitor & Control.
- Nationwide Automatic Information System (AIS).



U.S. Department of Homeland Security United States Coast Guard



Users reporting mapping problems

- "My Grandmother's address is wrong in GPS and I am worried about emergency services getting to her. You need to fix it."
- "My customers cannot find my business location in GPS, please fix it."
- "GPS is directing customers to a competitor's location instead of mine. The address is wrong and you need to correct it."

Disclaimer on the NAVCEN web-site

Please read before submitting a report:

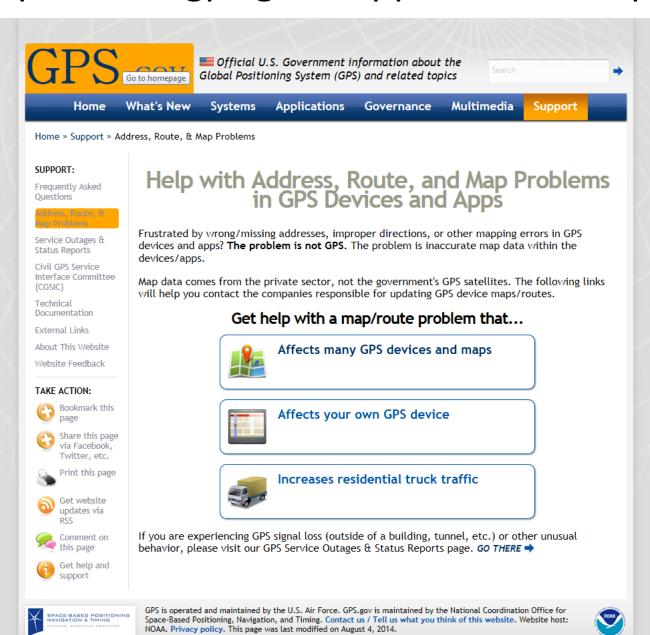
If your GPS unit or others' GPS units are leading people to an incorrect address OR are otherwise leading people to an incorrect location, the problem is not likely a "GPS" problem, but rather, it is very likely a MAPPING problem.

Unfortunately, the Navigation Center cannot assist you with GPS unit mapping problems, as we do not develop, control, nor repair the mapping software contained in GPS units, including vehicle navigation systems. Please see our <u>GPS mapping problems</u> page for additional information.

To correct mapping problems such as an incorrect address, or to request a change to the address for a business or home, or to add an address, please submit your corrections to these websites: <u>Map Share Reporter</u> and <u>NAVTEQ</u>.

Please understand that until mapping software is updated in GPS units (owners must usually purchase and install update mapping data), GPS units will continue to show previously incorrect addresses or locations. Again, this is not a GPS problem.

http://www.gps.gov/support/user/mapfix/



Partner with the Map Data centers



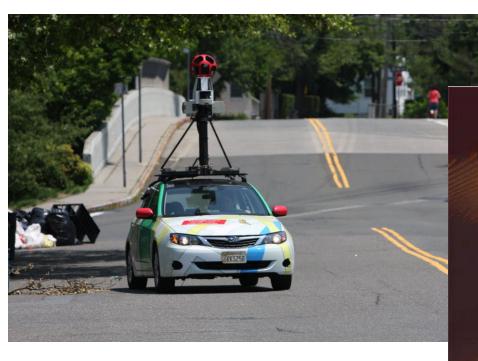
The websites above are not run by the government and may require registration and/or browser plug-ins. We list them for information only and do not endorse any non-governmental products, services, or views.

Most importantly....



Unless the address has been accurately recorded by the Google StreetMap car or other GIS data mapper, it may, in fact, not be in the correct location.

New automobile map version may already be 1-2 years out of date at time of purchase





That house at the end may be the third house on this street but to mapping algorithms, its at the end of the street so it is #10, or #100 or #1000



"If you send one more car down my driveway in the middle of the night, I don't care, I'm putting out a spike strip."



If I told you to...



Dedicated Truck Routing Guidance Systems

 "GPS is sending trucks down our road that cannot fit.
 You have to stop them."





Easy to dismiss but....

- These are your users and the GPS system as a whole is blamed
- This is a problem for Emergency Services, First Responders
- Some are very important business users:
 - **Grocery Stores**
 - Hotels
 - Dealerships
 - Tech industry
 - Gas Station
 - Banks
 - **Government Services**

Education is important and necessary and we need to enlist the entire GIS community to address the problem

The Cline Avenue Bridge was demolished and closed in 2009

SOAP

CALL POLICE PLER

KEEP OUT

MickeyBPhotography

Woman Dies After GPS Directs Couple Onto Closed Bridge, Police Say

Death by GPS Why do we follow digital maps into dodgy places?

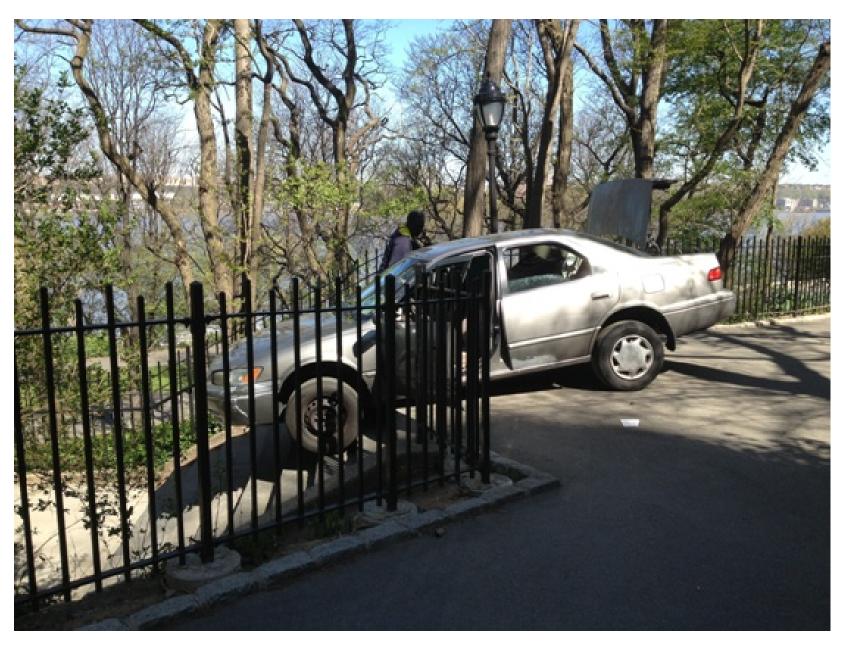
Pathways

- How do users know where to get this information, how to report?
- Should we partner with industry to engage them in the problem?
- Should we bring these companies to an "Industry Day" or to forums such as Maps Camp?
- Why aren't they at large exhibitions like ION?
- Should we propose equipment/software changes to inform users of correction methods that are built right in to the GNSS devices?
- Should there be an industry standard for this kind of information exchange method for UE?

No matter who is driving and where they are trying to go, at some point....



It will always be necessary to look out the window.



NAVCEN Contact Information

- Navigation Information Service
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Questions?

