



OECD International Academy for Tax Crime Investigation

*Anti-Money Laundering: Current Trends, Prosecutions,
and the Challenges around Cryptocurrencies*



Open Source Intelligence + Crypto

Trucker Freedom Protest (Ottawa) 2022

Open Source Information + Tracing = More Complete Story

Open Source Intelligence

- Many crypto related crimes have a large open source component.
 - Facebook / Twitter / Discord / Reddit
 - Blockchain metadata
 - Etc.
- Open source information helps you understand the human activity behind transactions that you see on blockchains
- Open source information helps you prepare for searches and seizures

OSINT Can Inform Tracing

- OSINT may tell you which **activities** on-chain transactions represent.
- OSINT may show you the **intent** behind on-chain transactions.
- *OSINT may tell you whether **multiple individuals** are involved in conducting transactions.*
- OSINT may tell you whether the seizure of virtual assets will require multiple keys.

Exercise

1. Search **YouTube** for “**Canadian freedom truckers bitcoin donations**”
2. Are you able to find a video of Bitcoins being handed out to the truckers?



<https://www.youtube.com/>

Canadian Freedom Truckers Receive Bitcoin Donations in Ottawa Peer To Peer, Without Censorship



<https://www.youtube.com/watch?v=zzW4ieVSejs>

Questions

1. How many dollars worth of bitcoins did each trucker receive?
2. What method was used to share the bitcoins – what was being given to the truckers?
3. What wallet were the truckers told to use in order to claim their Bitcoins?
4. How many donations were made to the fundraiser?

Trucker Protest OSINT Sources

- Social media posts on *YouTube*, *Twitter*, *Reddit*, etc.
- Comments on *donation web pages*
- *Blockchain* data

Protesters were posting information everywhere.

Twitter Exercise

- Navigate to the following Twitter web page:
<https://twitter.com/HonkHonkHodl>
- Where were supporters directed to navigate to in order to make donations (i.e. leave tips)?

Twitter: <https://twitter.com/HonkHonkHodl>

← HonkHonk Hodl
430 Tweets

Follow

HonkHonk Hodl
@HonkHonkHodl

Love, unity and freedom. Raising hard money for hard workers.
[#FreedomConvoy2022](#) [#Canada](#) [#Bitcoin](#)

Bitcoin tips: tallyco.in/s/lzxccm/

📍 Canada tallyco.in/s/lzxccm/ 📅 Joined February 2022

<https://tallyco.in/s/lzxccm/>

Two Main Fundraisers

• Adopt-a-Trucker



- Small amount raised (\$10,000)
- Multiple cryptocurrencies
- **Website shut down because of policy violations**



• HonkHonk Hodl



- Large amount raised (~\$1.2 Million)
- Bitcoin only
 - Lightning Network donations possible
- **Website security & privacy has been increased**
- Donations are still being cashed out



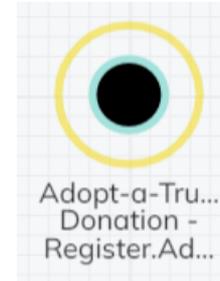
Initial donation site

ADOPT-A-TRUCKER

Adoptatrucker.ca

- **Website facilitated donations using fiat payment systems.**
- Linked to GoFundMe
- Bitcoin, Ether, and other cryptocurrencies were accepted.
- Bitcoin address active starting 5 Feb
- Total donations approximately \$10,000

Chainalysis - Adopt-a-Trucker Bitcoin Donation Timeline



Root Address	Balance:	0.024366 BTC	Transfers:	82
-----	Sent:	0.132172 BTC	Withdrawals:	9
bc1qvetv213v5081mpral067kghhm6...	Received:	0.156919 BTC	Deposits:	73
Watch	Total Fees:	0.000379 BTC	Addresses:	2

Overview Counterparties Transfers Addresses OSINT ↓

i Both external and internal withdrawal transfers are displayed in the transfers list.



Adoptatrucker.ca

The Adoptatrucker currently redirects to RAM RANCH web site.



(RAM Ranch is a song by Grant MacDonald which was used to disrupt the trucker communication channels.)

A screenshot of the RAM RANCH website's "Ranchers Donation Zone". The page has a dark background with orange and white accents. At the top, the "RAM RANCH" logo is visible. Below it, the heading "Ranchers Donation Zone" is centered. The main content area features a large banner for "THE ottawa mission" with the tagline "more than a shelter". To the right of the banner, there is a section titled "THIS WEEK'S CHARITY FOCUS" with a "DONATE NOW" button. Below the banner, there are six charity cards arranged in a 2x3 grid. Each card includes a logo, the charity name, a brief description, and a "DONATE NOW" button. The charities featured are: ANTIHATE.CA (CANADIAN ANTI-HATE NETWORK), Cornerstone (Homeless Services), DEBRA DYNE Family House, DISTRESS CENTRE (OTTAWA AND REGION), FELINE CAFE (Ottawa's LGBTQ+ Police Cell), and FIRST NATIONS CHILD & FAMILY CLAIMS SOCIETY.

Adopt-a-Trucker donation info was available on Reddit and Twitter

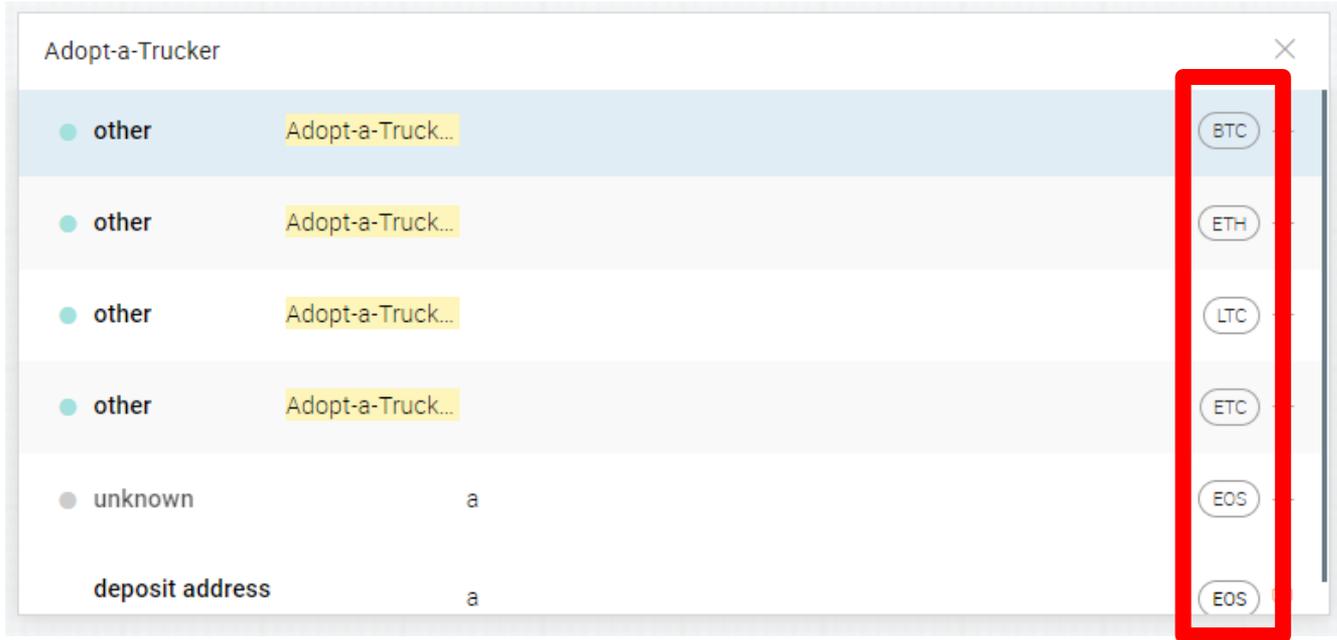
bc1qvetv2l3v508lmpal067kghhm6x6nsm70rgwhx

Ways to donate

"the best way to make sure your donation is received, is always to arrive yourself in Ottawa and deliver the aid, or sponsor someone from your community"

Online	https://givesendgo.com/warroomcanadanet https://givesendgo.com/freedomconvoy2022
eTransfer	donations@adopt-a-trucker.ca (set power to: truc'ker)
BTC	bc1qvetv2l3v508lmpal067kghhm6x6nsm70rgwhx
ETH	0x859481Ef7dAc321078547f50c756C8924EaB183f
LTC	ltc1qqhzc2dflesccd5gx6ugqqcplzakrk8wixl8zq
ADA	addr1qxwxppd3ahfsh43f88h4jn8ngrum64fe6meck3nnwkwgtsp6elsk4xhyrdtm5v6tnq3ulw9u9gcmvkhjrj4xcu3sm60hqtz3wuy
XMR	423nPDQqsPrAaGFSHaUBMrYQCgb2562iLLWu1dZyEGEGsavxfpNxWtDjreSUzwwQWCxi6GrSz8jtYWjS4pW9mK9DoBVdWo
ETC	0x88CD1D4611D456357eF8620450d3121672305d03

Chainalysis identified additional Adopt-a-Trucker Addresses

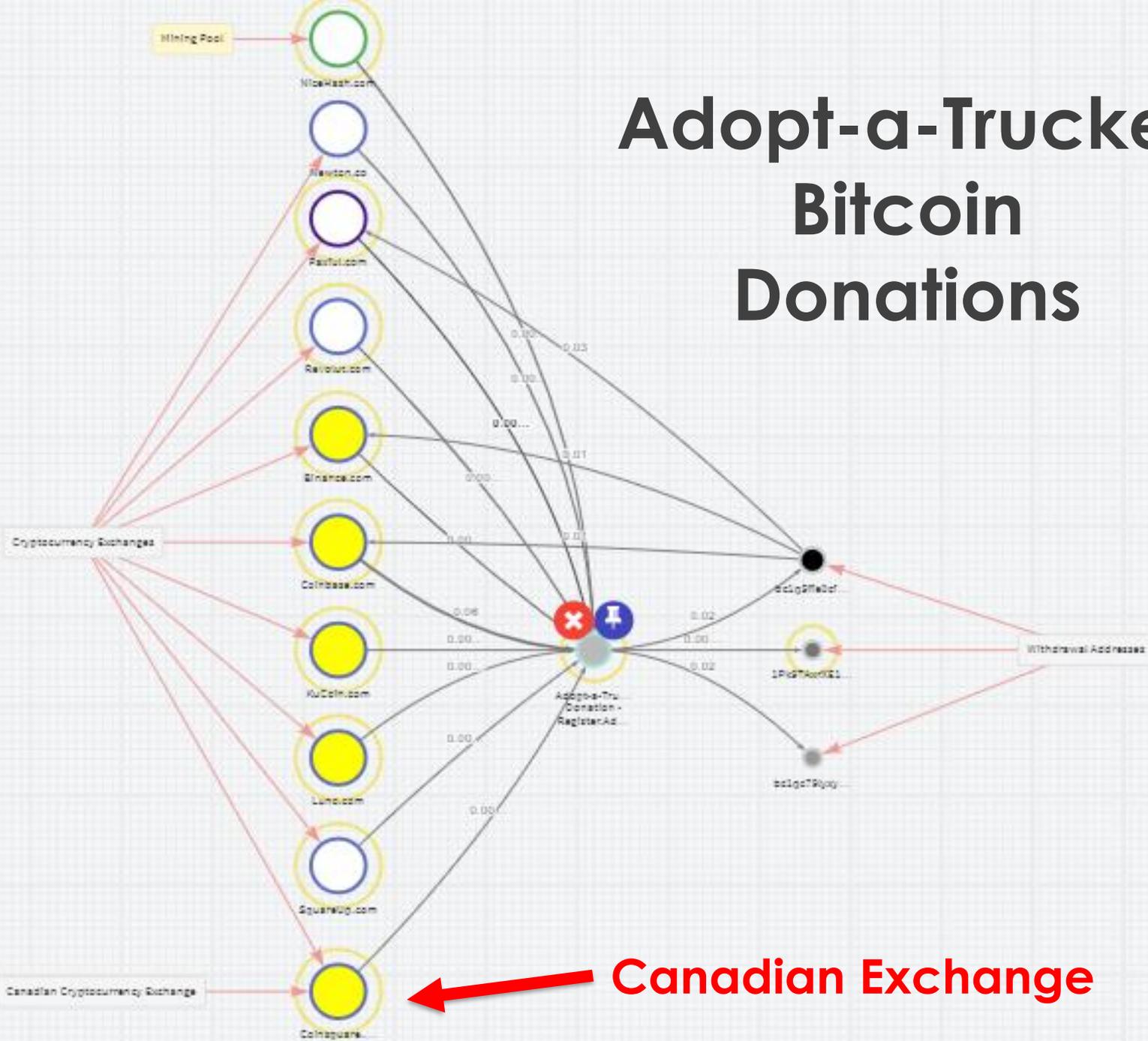


BTC: bc1qvetv2l3v508lmpal067kghhm6x6nsm70rgwhx

ETH: 0x859481Ef7dAc321078547f50c756C8924EaB183f

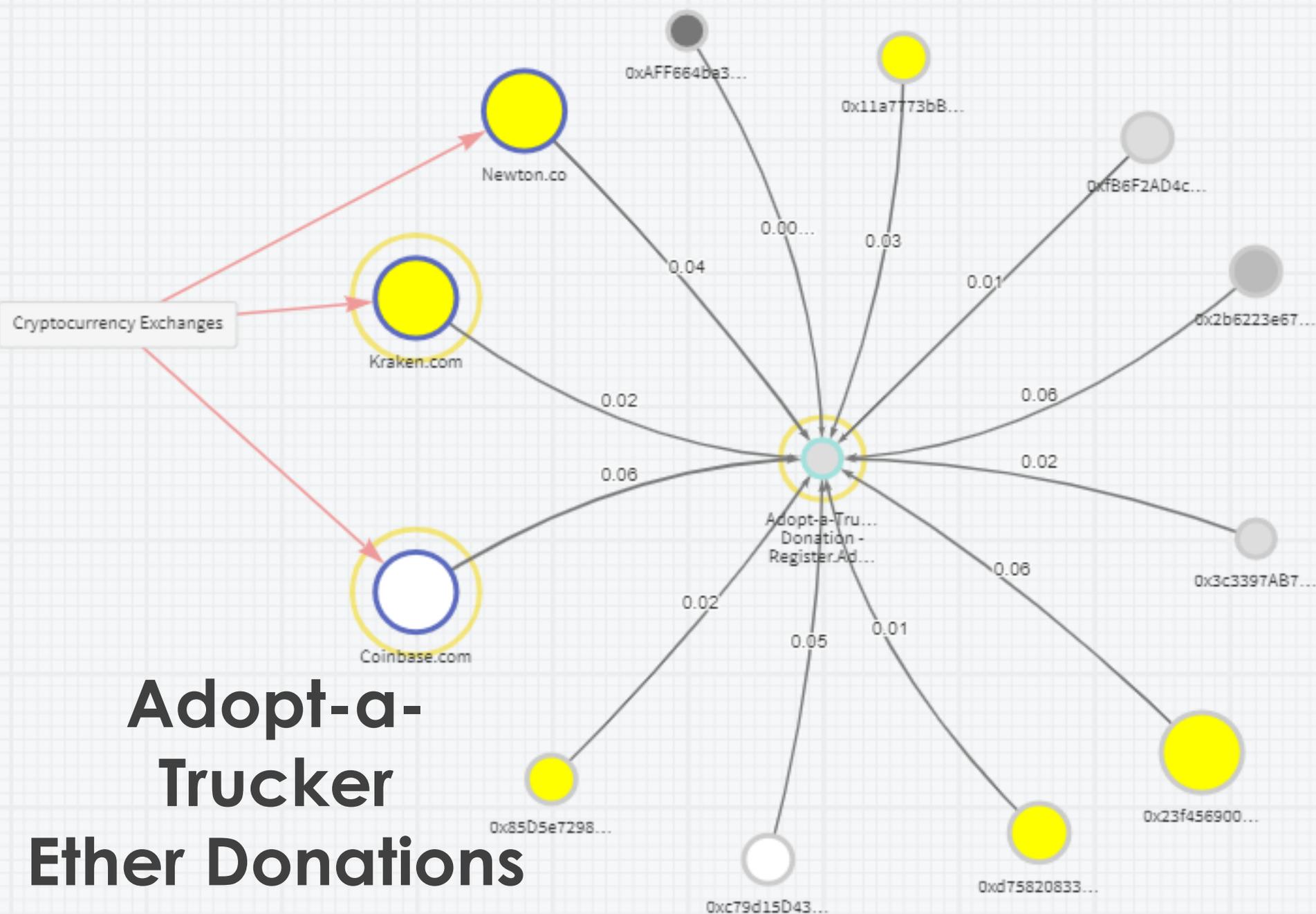
LTC: ltc1qqhzc2dflescdd5gx6ugqqgcplzakrk8wlxl8zq

Adopt-a-Trucker Bitcoin Donations



Canadian Exchange

Adopt-a-Trucker Ether Donations



Set up after GoFundMe/Adopt-a-Trucker shut down

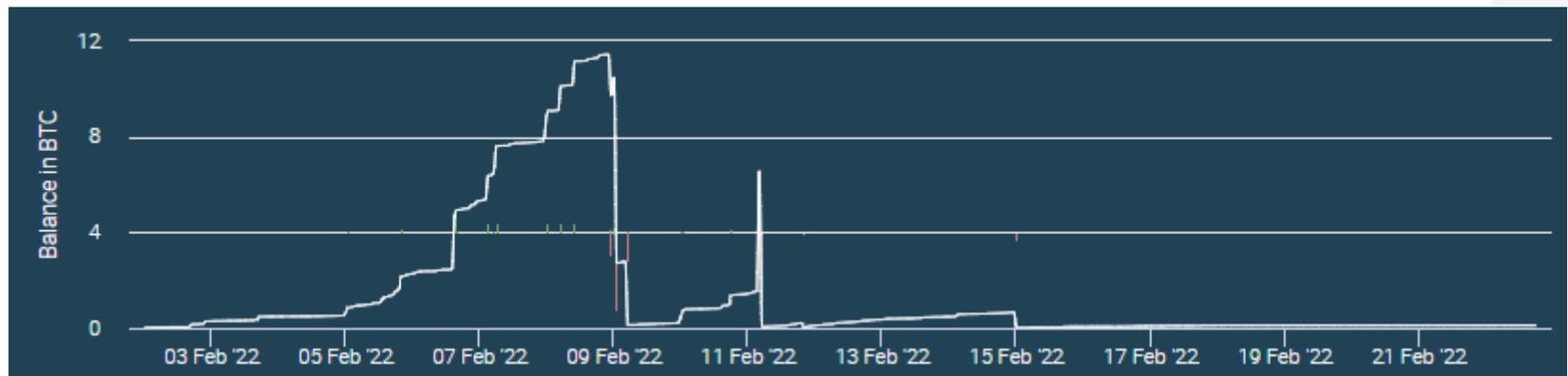
HONKHONK HODL

TallyCoin – HonkHonk Hodl



<https://tallyco.in/s/lzxccm/>

- Set up in response to other donation sites being shut down.
- 2339 donations (**not 10s of thousands as claimed**)
- 17 withdrawals
- 20.735 BTC received (**\$1.2 Million CAD**)
- Primarily active from 2 to 15 February, 2022



Donation Web Page (Tallycoin) Shows the Donation Address

bc1qlc2gpmzrr9gded07d9a40lt2lq7pp2v7h4c5jx



The screenshot shows the Tallycoin website interface for a campaign titled "BITCOIN FOR TRUCKERS". The page features a progress bar indicating that the goal has been reached. The raised amount is CAD \$ 1161857.67, and the goal was \$ 1119958.09. Below the progress bar, there is a "Send Bitcoin to" section with a QR code and a table of donation amounts. The table lists various denominations: 50c, \$1, \$2, \$5, \$10, \$15, \$20, \$30, \$40, \$50, \$100, and \$200. The page also includes a public message area and a list of contributors.

Amount	Amount	Amount
50c	\$1	\$2
\$5	\$10	\$15
\$20	\$30	\$40
\$50	\$100	\$200

This block shows a summary of the donation campaign. It includes a progress bar at 100%, a goal of 21 BTC, and a raised amount of 21.69934385 BTC. A QR code is provided for scanning. The URL tallyco.in/s/lzxccm/ is displayed at the bottom.

Goal	21 BTC
Raised	21.69934385 BTC

OSINT availability is time sensitive

(but don't worry...)

- The donation page now redirects to a login page!
- As situations change, sites tend to get locked down

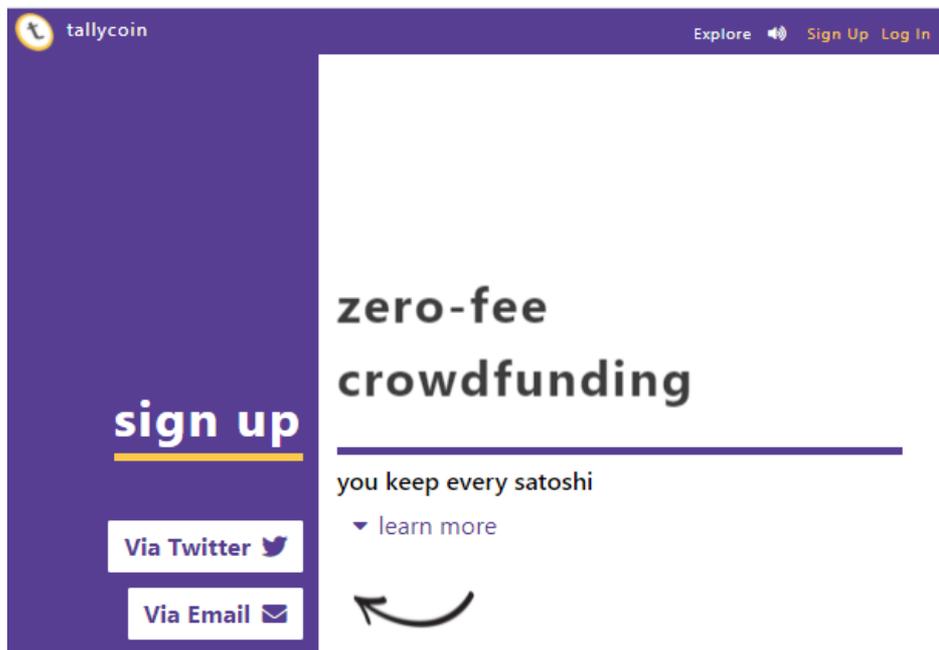
<https://tallyco.in/s/lzxccm/>

redirected to

<https://tallyco.in/>

currently redirects to

<https://tallycoin.app/>



WHAT WERE THE MOTIVATIONS
BEHIND THE DONATIONS?

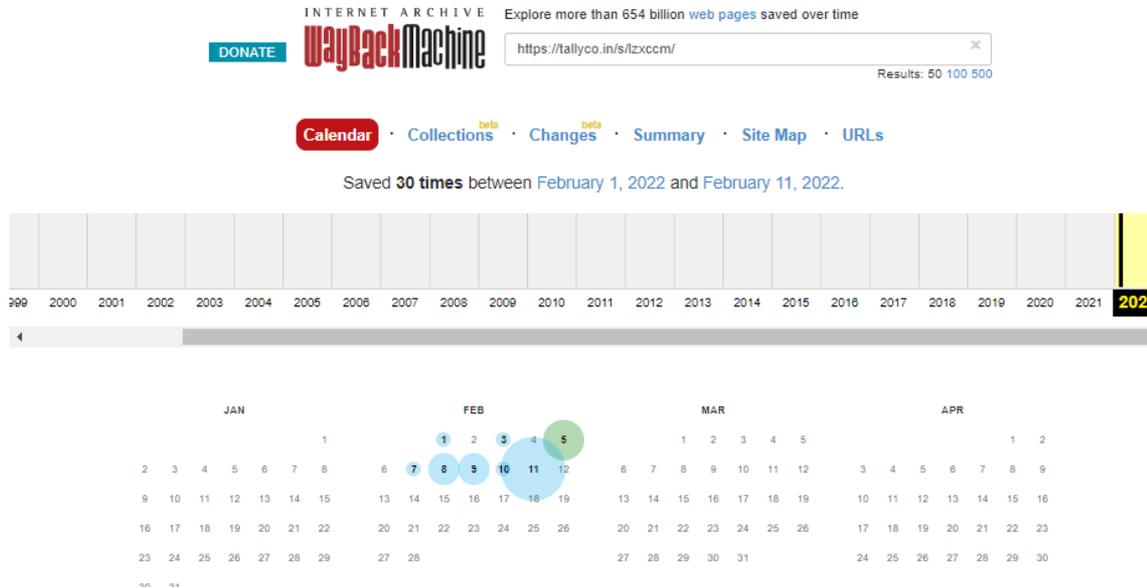
Exercise: Internet Archive



- A locked down site's content may remain available via snapshots taken by the **Internet Archive**.
1. Go to <https://web.archive.org/>
 2. Enter the trucker donation URL from Facebook: <https://tallyco.in/s/lzxccm/>
 3. Select a date and open a snapshot.
 4. What information can you see?

Internet Archive has Snapshots

https://web.archive.org/web/*/https://tallyco.in/s/lzxccm/



INTERNET ARCHIVE Explore more than 654 billion web pages saved over time

DONATE **WaybackMachine** Results: 50 100 500

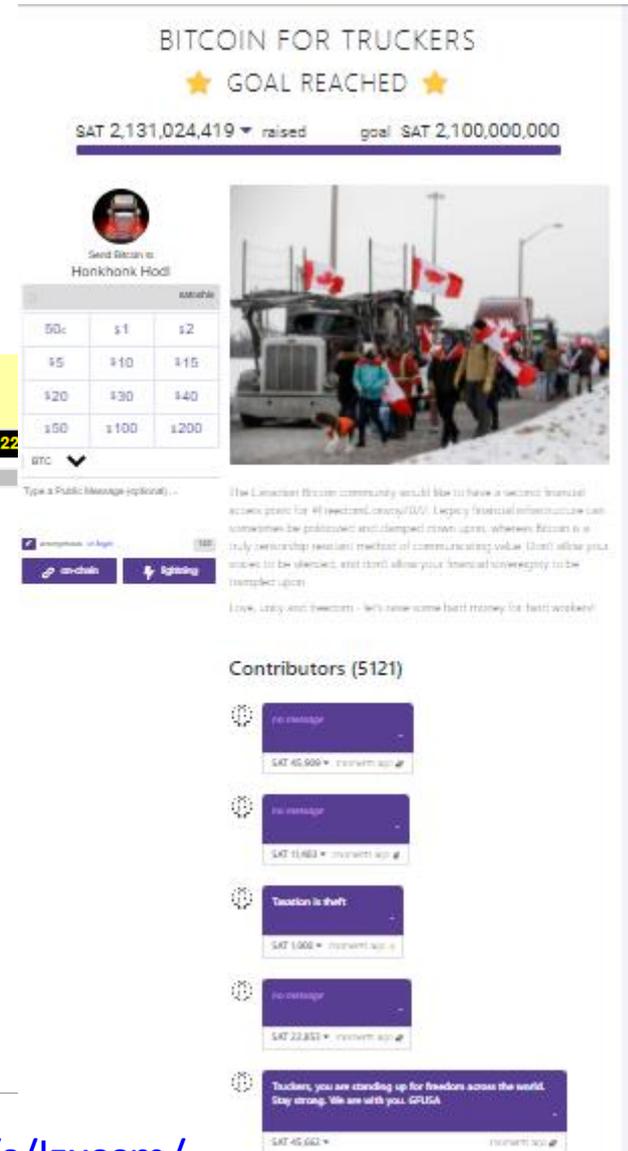
Calendar · Collections ^{beta} · Changes ^{beta} · Summary · Site Map · URLs

Saved **30 times** between February 1, 2022 and February 11, 2022.

999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 **2022**

JAN FEB MAR APR

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29



BITCOIN FOR TRUCKERS

★ GOAL REACHED ★

SAT 2,131,024,419 raised goal SAT 2,100,000,000

Send Bitcoin to: **Honkhonk Hodl**

\$0:	\$1	\$2
\$5	\$10	\$15
\$20	\$30	\$40
\$50	\$100	\$200

BTC

Type a Public Message (optional) ...

The Libertarian Bitcoin community would like to have a second financial access point for 4f (weirded.concept/D/). Legacy financial infrastructure can sometimes be prohibitively expensive and clamped down upon, whereas Bitcoin is a truly censorship resistant method of communicating value that allows your assets to be stored, and spent, under your financial sovereignty to the fullest extent.

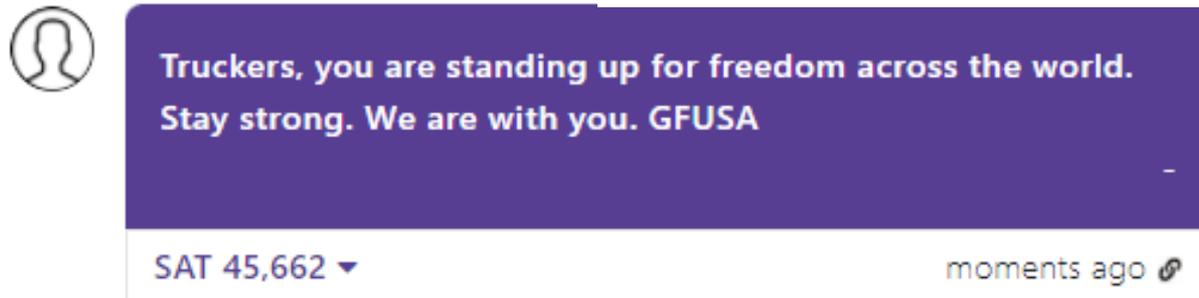
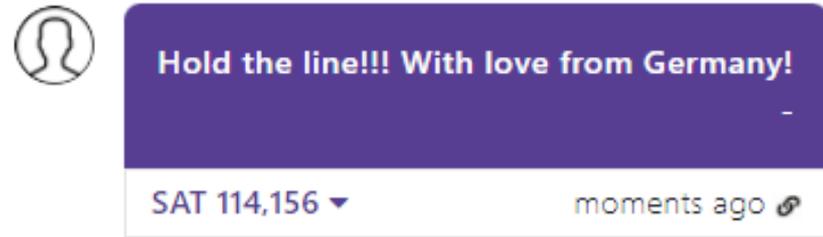
Love, Liberty and Bitcoin - We raise some hard money for hard workers!

Contributors (5121)

- SAT 45,900 •
- SAT 11,683 •
- Taxation is theft SAT 1,566 •
- SAT 23,853 •
- Truckers, you are standing up for freedom across the world. Stay strong. We are with you. GRUSA SAT 45,662 •

Each of the snapshots shows 500 donations and **associated messages**.

Users were able to post messages when they donated



- Messages can still be seen
- Messages can be tied to specific donations via amounts of Satoshis.
- **Snapshots may be deleted if the website owner requests it.**

Chainalysis



- Displays the donation Date & Time
- Displays precise donation amounts
- Displays the donating addresses

You can link the donation comments to an exported spreadsheet of transactions from Chainalysis

Date & Time – Amount - Address

Root Address: bc1q1c2gpmzrr9gded07d9a401t21q7pp2... Balance: 0.112941 BTC Transfers: 2,357
Sent: 20.618579 BTC Withdrawals: 17
Received: 20.737385 BTC Deposits: 2,340
Total Fees: 0.005864 BTC Addresses: 1

Watch

Overview Counterparties Transfers Addresses OSINT

Both external and internal withdrawal transfers are displayed

Date (UTC)	Tx Hash	Amount	Address	Counterparty
> 02/26/2022 04:21	cf1267cefed4c9e...			bc1qmt73k9szt467w...
> 02/23/2022 18:14	87106f227929e25...			bc1qvx70aazuemaza...
> 02/22/2022 18:38	0a73188f0f3edd2...			bc1qkjinm0zyuzsx9s...
> 02/22/2022 05:23	6f749eb948bfe6e...			bc1q06ew9edh6f5mj...
> 02/22/2022 05:23	5207660b2a5ff5e...	0.000213	bc1q1c2gpmzrr9gded07...	bc1q08z8f28t3vzgw...
> 02/20/2022 15:48	b949d3aed6a4885...	0.000178	bc1q1c2gpmzrr9gded07...	bc1qr08hx4np5k4rc...
> 02/19/2022 22:28	5fad80a04373107...	0.000124	bc1q1c2gpmzrr9gded07...	bc1qv08duljezz6h5...

CSV Exports

- Export Exposure
- Export Exposure USD
- Export Counterparties
- Export Transfers
- Export Transfers with Fees
- Export Addresses
- Export OSINT

Cluster_transfers_of_Honkhonk_Hodl_-_Canadian_Freedom_Convoy_Donation_-_Tallyco_in_BTC - Excel

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

G25

	A	B
1	This file contains a list of all transfer outputs of the cluster identified by the following root address:	
2	bc1q1c2gpmzrr9gded07d9a40lt2lq7pp2v7h4c5jx	
3	The cluster is also known by the following name:	
4	Honkhonk Hodl - Canadian Freedom Convoy Donation - Tallyco.in	
5		
6	Each line represents a transfer output which is either sent to the cluster or received by the cluster.	
7		
8	Columns:	
9	Hash: The 32 byte hash of the transfer that contains the output.	
10	Date: The date when the transfer was confirmed.	
11	Receiving Address: If the output is received by this cluster then this will be the address in the cluster that received payment.	
12	Counterparty Address: If the output is sent by this cluster then this will be the address in the peer cluster that payment was sent to.	
13	Counterparty Cluster Name: The name of the peer cluster if it has been given a name.	
14	Counterparty Category: The category of the peer cluster if it has a category.	
15	Counterparty Org Name: The org name of the peer cluster if it has been given an organization name.	
16	Value: The approximate values.	
17	USD value: The approximated USD value converted by using daily average prices. 0 if the price is unknown.	
18		
19	Hash	Date Receiving Address
20		
21	4f3d2f959776e505d1e93415da8a23d743f6d53185a7ae6a819934972985b386	2022-02-02 0:09 bc1q1c2gpmzrr9gded07d9a40
22	4cbfb8044d40a5431e4c1c7e48d6ab6e082def6c42be73a595ba580040d8fd05	2022-02-02 0:17 bc1q1c2gpmzrr9gded07d9a40
23	3233ed66b9815e0dbfc308ac9551a30c13179667e1a84d823f8bd2f9609dab42	2022-02-02 1:19 bc1q1c2gpmzrr9gded07d9a40
24	0450edf39a65a2780ff5c8f8e82e8f7ce711e5c74ac003769e1d616e1a23c291	2022-02-02 1:19 bc1q1c2gpmzrr9gded07d9a40
25	811cc80972814086f9e78b1b4944ebf16b2f9c19fe8a2c8fd84691ae46c798df	2022-02-02 1:19 bc1q1c2gpmzrr9gded07d9a40
26	3848a196d735cf080edc3de4eb22cd55abcf6b4e6b4e74f7f3975cb6434cdb53	2022-02-02 1:29 bc1q1c2gpmzrr9gded07d9a40

Cluster_transfers_of_Honkhonk_H

Ready Accessibility: Unavailable

Value	USD Value
0.00025734	9.94711
0.00122121	47.38708
0.00002587	1.00172
0.00129515	50.15014
0.00269025	104.17049
0.00002581	0.99565
0.0012938	49.90997
0.00519532	200.41602
0.00517761	199.98441
0.0005	19.31242
0.01071829	413.99234
0.00012925	5.00475
0.00077416	29.97663
0.000693	26.83399
0.00051623	19.96619
0.00097	37.55985
0.00025989	9.99288
0.00051943	19.9723
0.00025999	9.99672
0.00129947	49.96517
0.00130242	50.43164

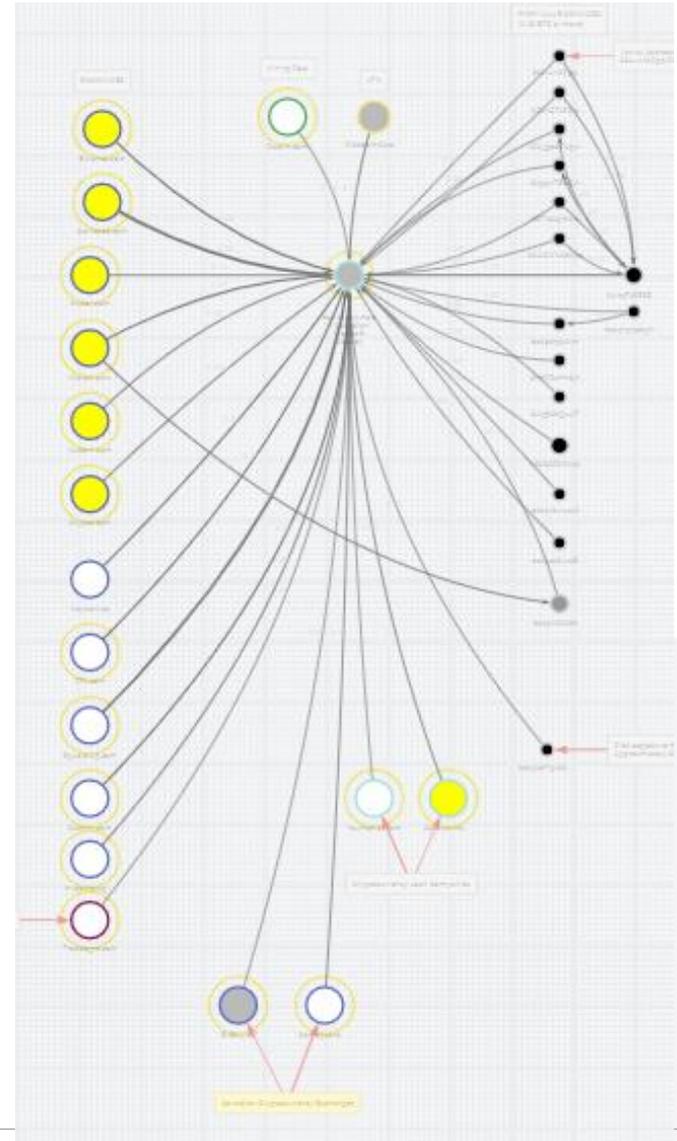
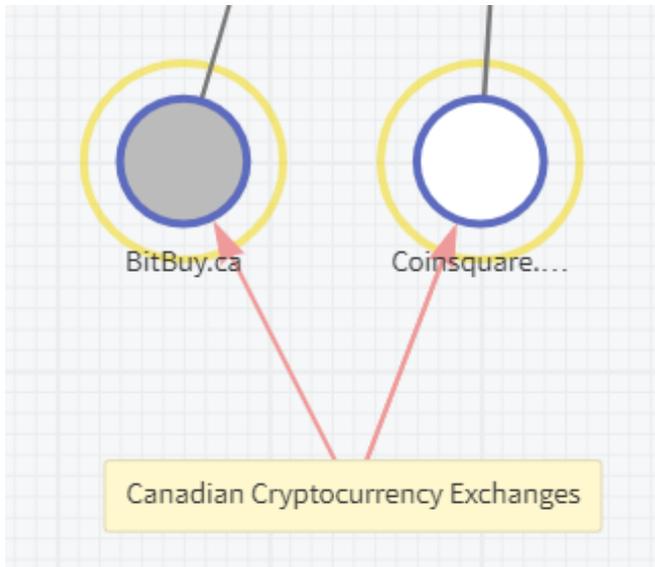
 Truckers, you are standing up for freedom across the world. Stay strong. We are with you. GFUSA

SAT 45,662 moments ago

Coinbase.com	exchange	0.00114139	49.68661
		0.00045662	19.93549
		0.0002201	10.00224

Donations from Exchanges & Large Donations

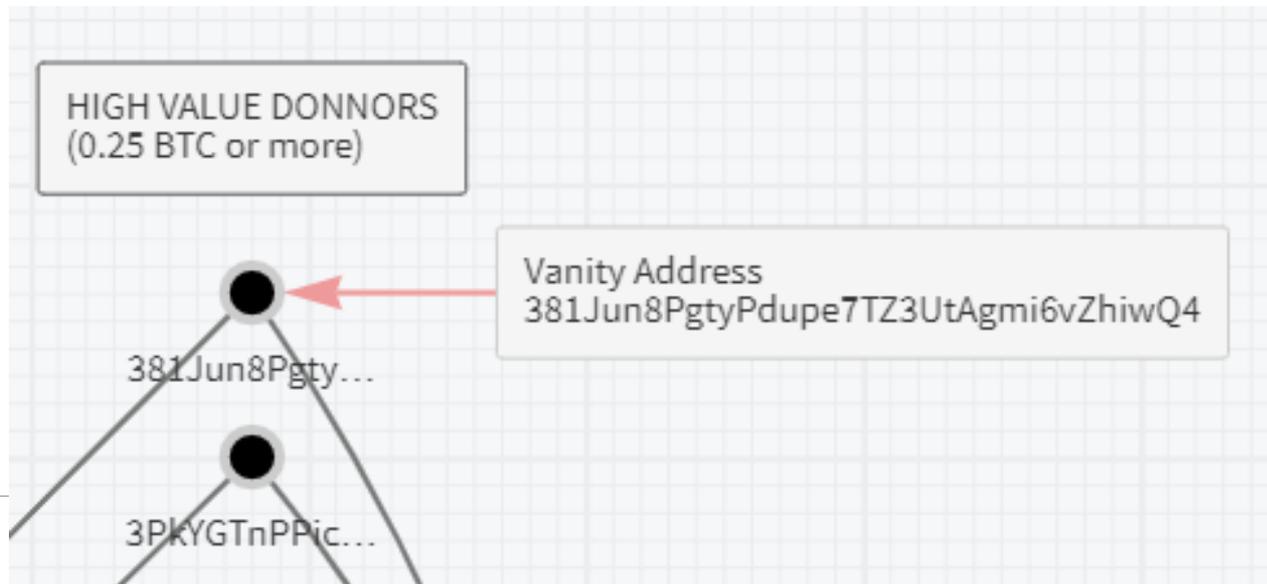
- One donation was for 5 BTC (\$250,000 CAD)
- Many donations came directly from Exchanges



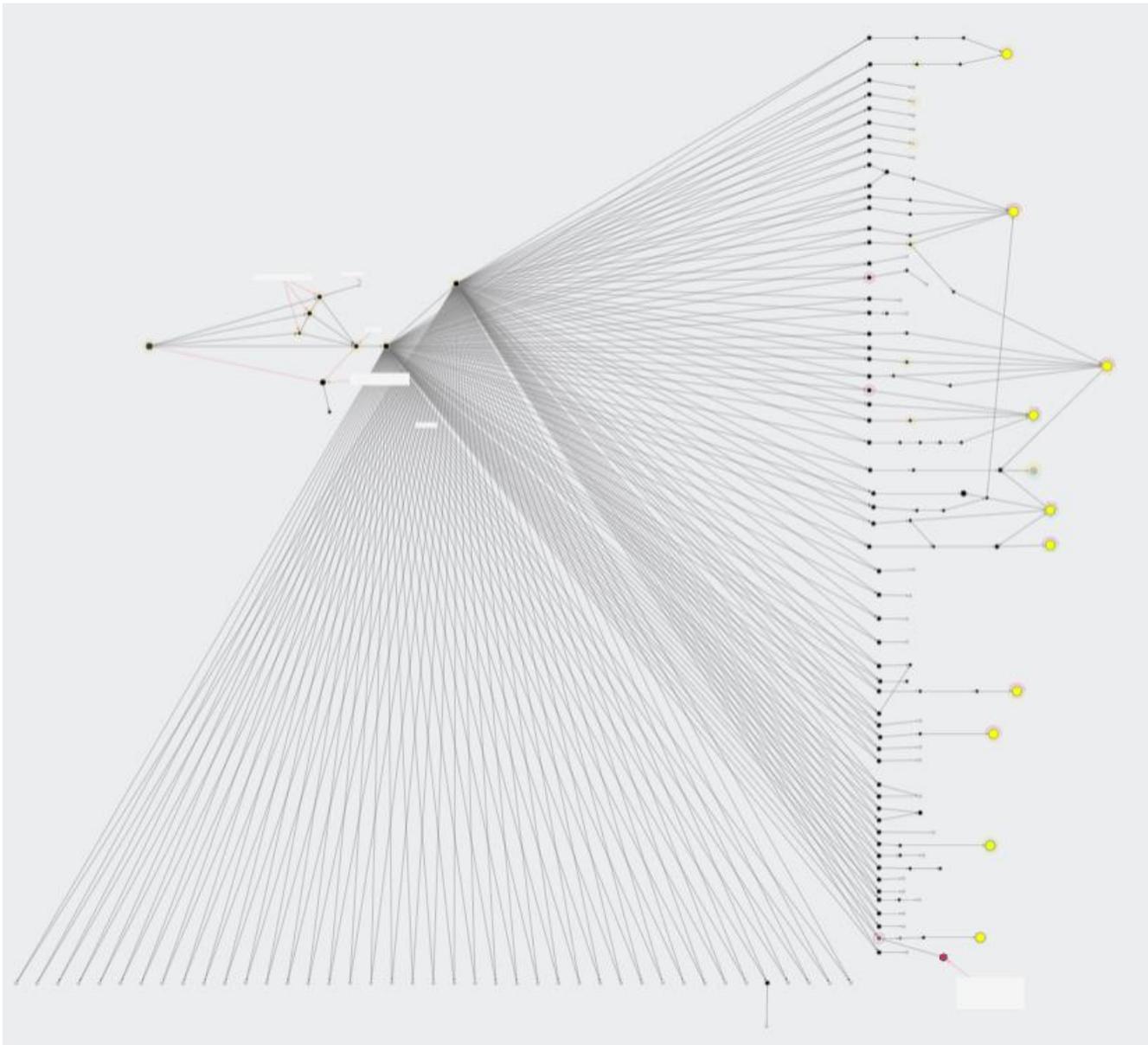
One large donation used a “Vanity Address”

381Jun8PgtyPdupe7TZ3UtAgmi6vZhiwQ4

- What does **June 8th** refer to?
- What does **gty** refer to? (Grace to You Church?)
- What does **dupe** refer to?
- Are there other donors with vanity addresses?

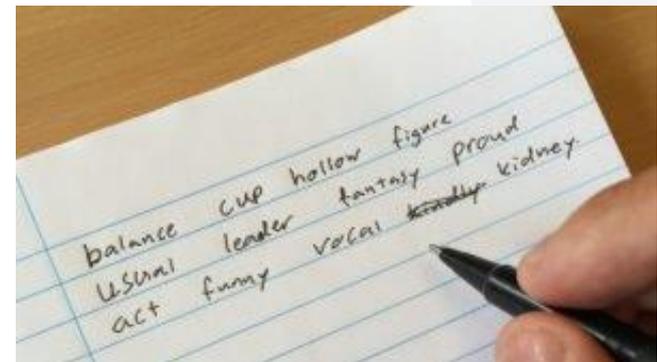


WHAT ACTIONS DO THE
GRAPHED TRANSACTIONS &
ADDRESSES REPRESENT?

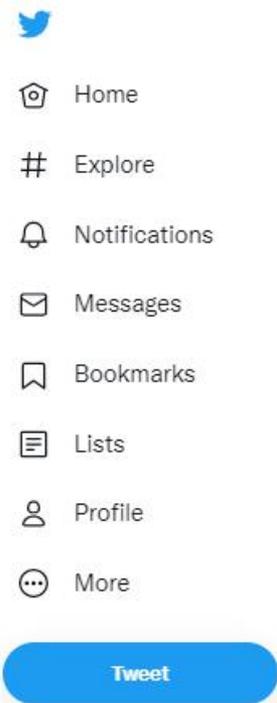


Trucker Payouts

- \$8,000 donations
- Disbursed by handing out envelopes to truckers
- Used Seed Word Lists (i.e. wallet backups)
- Used Blue Wallet



Disbursement was discussed on Twitter feeds and other social media



← Thread

 Peter Todd
@peterktodd

I need to talk about distributing BTC funds to truckers.

This is a complex topic, and aspects of it are quite counter-intuitive.

First, let's start with what a protest actually is, and what it accomplishes:

 Tim Pastoor 🚚🇨🇦🇨🇦🇨🇦🇨🇦 (@timp@x0f.org) @timpastoor · Feb 18
Trucker receives \$8k in bitcoin on livestream:
[Show this thread](#)



1:57 352.7K views

 B diplomat
@NobodyCaribou

This thread is worth a read for those who want to understand the complex situation we are dealing with in Ottawa re: distributing btc funds to truckers

 Peter Todd @peterktodd · Feb 18
I need to talk about distributing BTC funds to truckers.

This is a complex topic, and aspects of it are quite counter-intuitive.

First, let's start with what a protest actually is, and what it accomplishes:
[twitter.com/timpastoor/sta...](https://twitter.com/timpastoor/status/1494776972777558021)
[Show this thread](#)

5:49 PM · Feb 19, 2022 · Twitter for iPhone

HonkHonk Hodl donation address shows 17 Withdrawals to 11 Addresses

Root Address

bc1qlc2gpmzrr9gded07d9a40lt2lq...

 Watch

Balance:	0.112941 BTC	Transfers:	2,357
Sent:	20.618579 BTC	Withdrawals:	17
Received:	20.737385 BTC	Deposits:	2,340
Total Fees:	0.005864 BTC	Addresses:	1

Overview Counterparties Transfers Addresses OSINT 

Counterparty	Transfers	Sent	Received	02/22	02/22
<input checked="" type="checkbox"/>  bc1qfcrw4nf659e4s8d9yaldltac75a... 	5	5.010305	0.00		
<input checked="" type="checkbox"/>  bc1qv7k0hltgg5vdquy86z8m48wp7ul... 	1	4.999991	0.00		
<input checked="" type="checkbox"/>  bc1qsdherstsd6f8rswt0pklv3gckwt... 	3	2.999952	0.00		
<input checked="" type="checkbox"/>  bc1q4hqvw7a806yc8554nskuyqc4jc6... 	1	2.219986	0.00		

If we follow the bitcoins we find transfers of small amounts to 101 addresses

Root Address

bc1q42t9dhpgc6du9pjmdkvxvmke82...

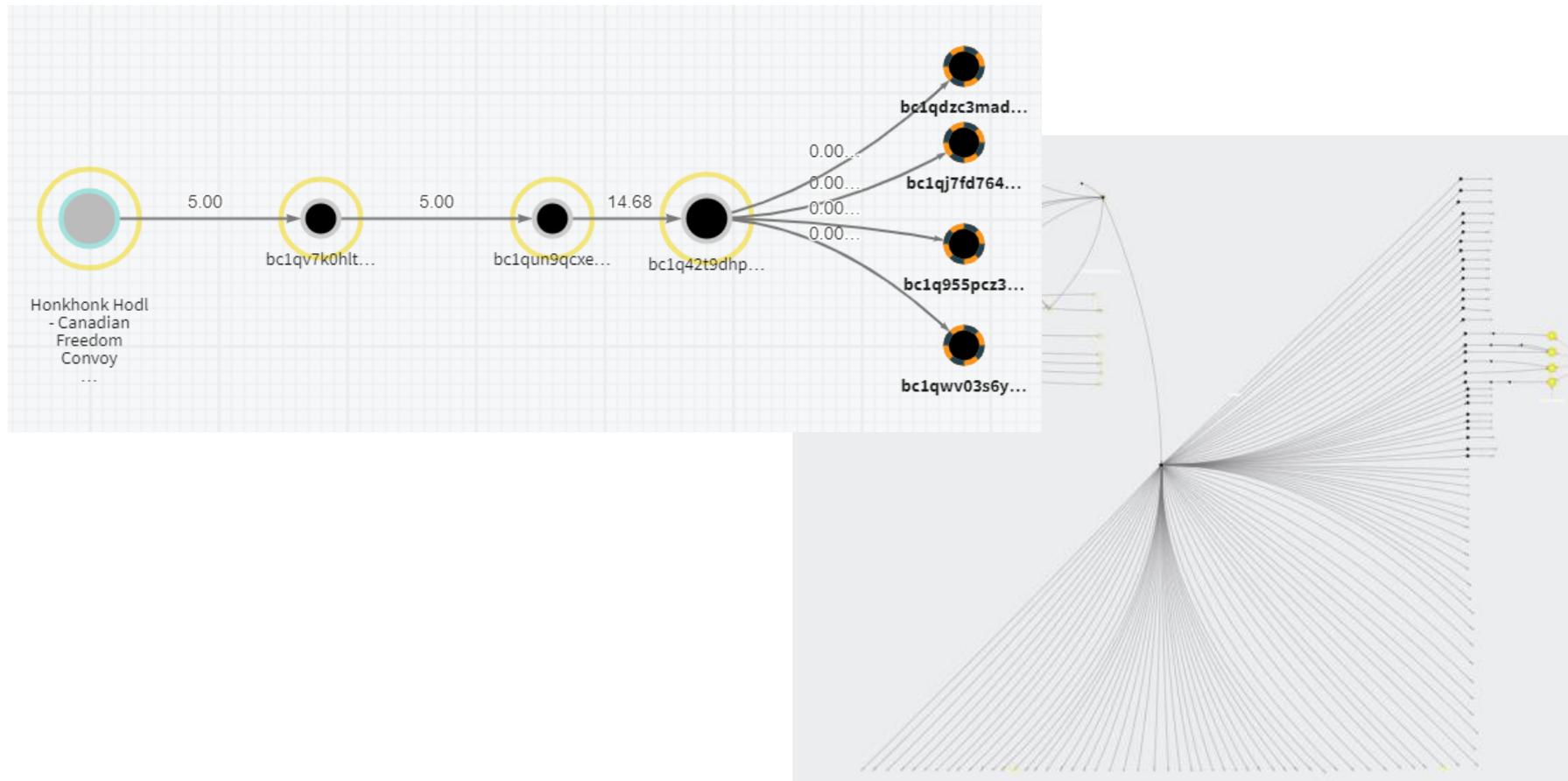
 Watch

Balance:	0.00 BTC	Transfers:	102
Sent:	14.679553 BTC	Withdrawals:	101
Received:	14.679753 BTC	Deposits:	1
Total Fees:	0.0002 BTC	Addresses:	1

Overview Counterparties Transfers Addresses OSINT 

Counterparty	Transfers	Sent	Received	02/22	02/22
<input checked="" type="checkbox"/> ● bc1qwv03s6yy3yyqf9sa48vmhfzsdju... 	1	0.004	0.00	_____	
<input checked="" type="checkbox"/> ● bc1qj7fd7642y7ufc1lyspjs7w8p80h... 	1	0.004	0.00	_____	
<input checked="" type="checkbox"/> ● bc1q955pcz3pvvef1ycjns5julkd24... 	1	0.004	0.00	_____	
<input checked="" type="checkbox"/> ● bc1qdzc3mad58rwydkkf792pdj9ed9... 	1	0.004	0.00	_____	

Each of 101 smaller addresses contains **0.144048 BTC**



Exercise

1. Go to Yahoo Finance for BTC to CAD

<https://ca.finance.yahoo.com/quote/BTC-CAD/>

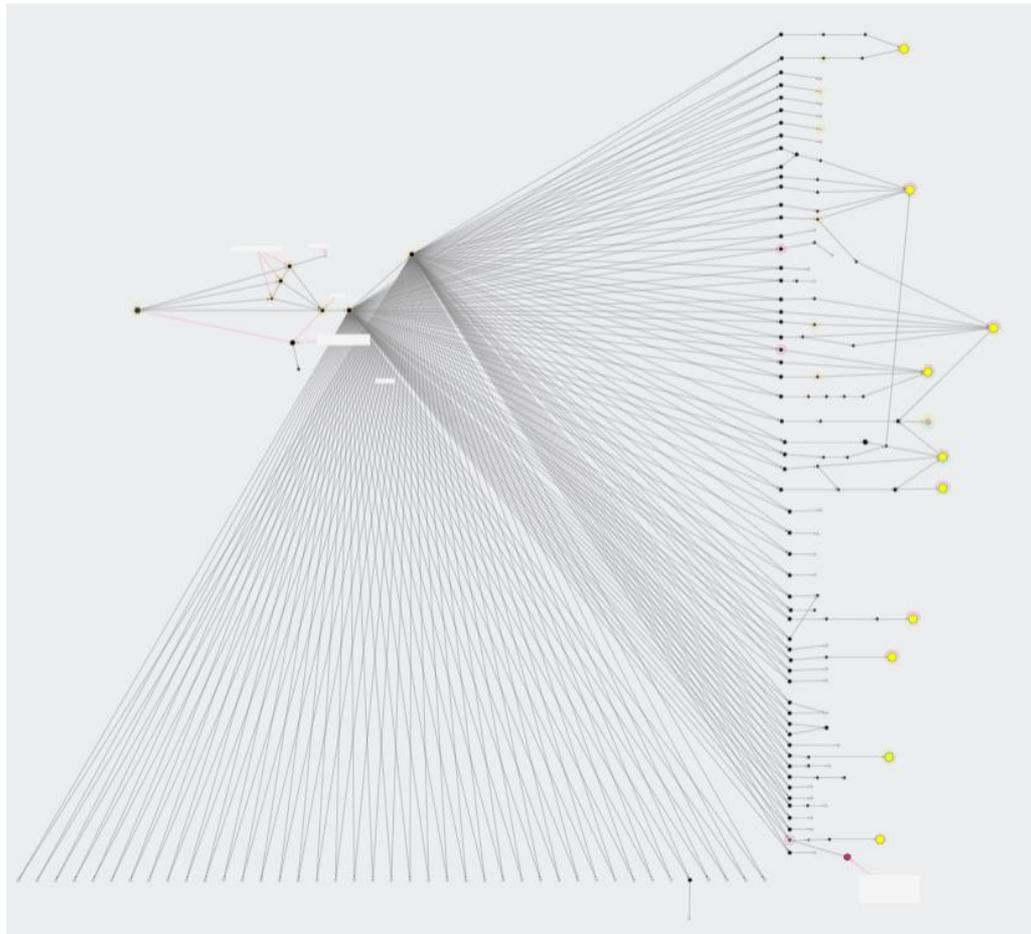
2. Navigate to the **Historic Data**
3. Look up how much 1 BTC was worth in CAD on 14 February 2022
4. Calculate how much 0.14 Bitcoins were worth
5. Compare this amount to the \$8000 amount mentioned in the YouTube video

Chainalysis – Disbursement Graph

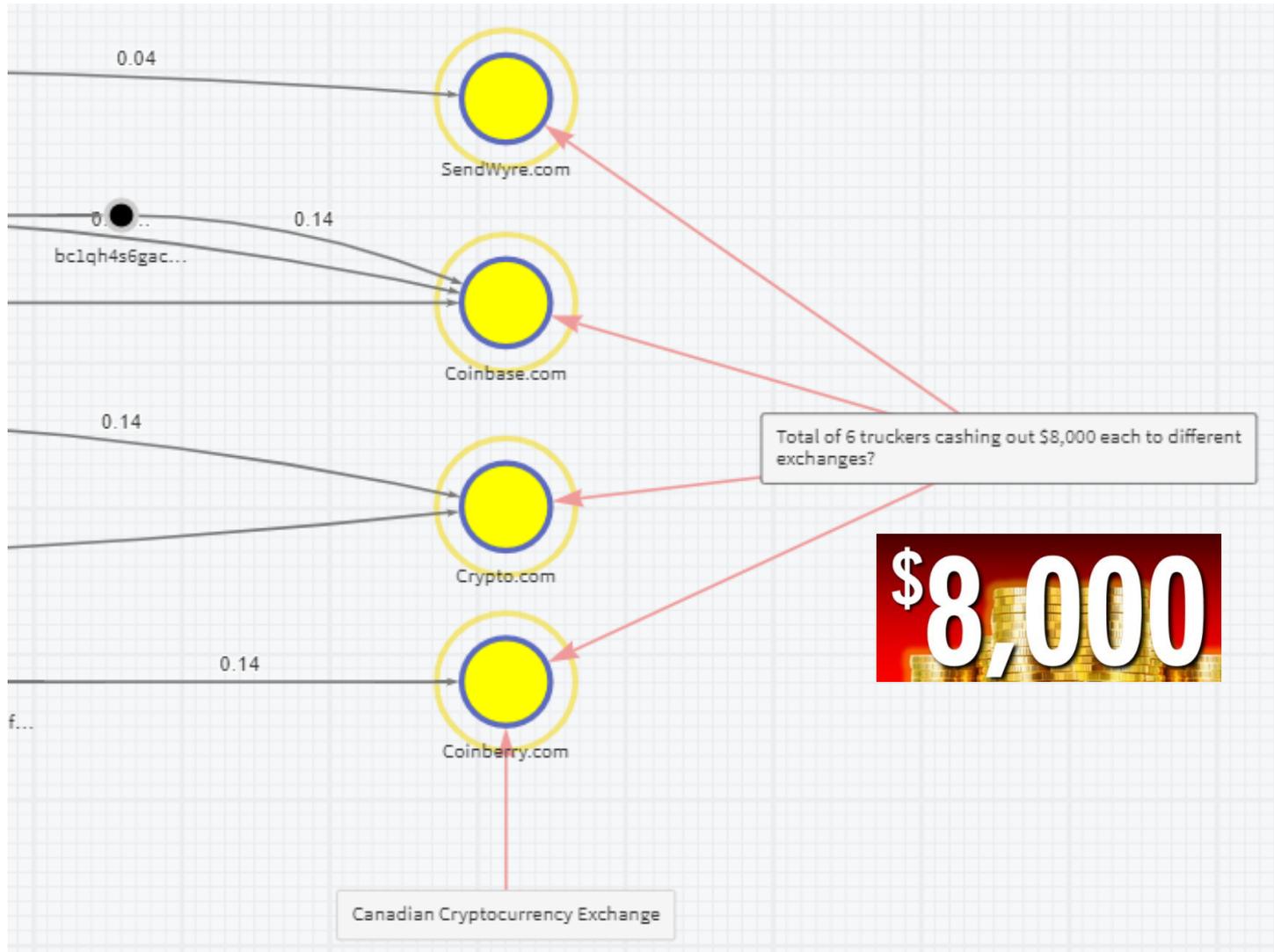
Donation site is on the far left.

Edges of the triangle are 101 addresses each containing approximately \$8k in bitcoins.

Far right are addresses cashing out at exchanges.



Truckers cashing out at Exchanges



Movement of cryptocurrency out of the \$8,000 addresses can be monitored by tools (e.g. Chainalysis)

- Chainalysis is able to send investigators notifications when the truckers cash out or transfer the bitcoins into their own cryptocurrency wallets.

Root Address

bc1qfjns4tjz39leydh4urt1c8fx7z69mx...

Balance: 0.144045 BTC

Sent: 0.00 BTC

Received: 0.144045 BTC

Total Fees: 0.00 BTC



Watch

Notifications of transfers may be sent via Email to the investigator

Watched Cluster Transfer Notification

Adopt-a-Trucker Donation - Register.Adopt-a-Trucker.ca

Root address: <bc1qvetv213v5081mpral067kghhm6x6nsm70rgwhx>

Graph(s) where this cluster appears:

- [Adopt-a-Trucker Donation - Register.Adopt-a-Trucker.ca](#)

2 new transfers:



BTC 0.00015118 Monday, Feb 21 2022, 13:30:03 UTC

<0fd41cde1430169151679e829744315d781b585f5af6695ab3aa1a4706889294>

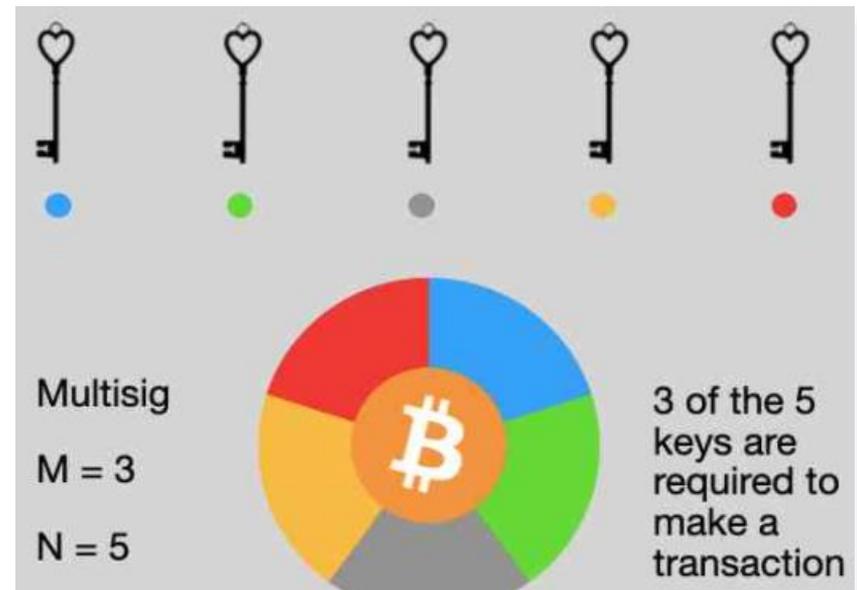
and 1 more transfers

[Stop watching this cluster](#)

WERE MULTIPLE INDIVIDUALS
INVOLVED IN TRANSACTIONS?

Multisig Addresses

- **Multi-signature (multisig) addresses require more than one key to spend any cryptocurrency held in them.**
- Limit on the number of keys varies depending on the address type.
- Upper limit is 16-20 keys.
- Standard is 3 keys.



Were multisig addresses used by the HonkHonkHoddle organizers?

- If multi-signature addresses are being used, this implies that more than one person was involved.
- If multisig addresses are being used, law enforcement will need more than one key to seize assets held at the addresses.
- Identifying who may hold the keys helps help you coordinate searches.
- Seed Word Lists may help?

Exercise

Google: “Freedom Truckers Multisig Bitcoin”

1. Are there indications that multisig addresses were used?
2. How many keys were created?
3. Can you find the names of any key holders?
4. How many keys will be required to seize?
5. What wallet was used?

Are the donation addresses “multisig”?

A committee of five bitcoin advocates — Bitcoiner Greg Foss, YouTuber BTC Sessions, Nobody Caribou, author Jeff Booth and Bull Bitcoin CEO Francis Pouliot — have organized bitcoin fundraising using Twitter and fundraising site Tallycoin.

Committee member Foss told *Bitcoin Magazine* that donations to the official bitcoin wallet will be anonymous and safe. **The donations are being stored in a multisig wallet,** so in order to access the donated funds the wallet requires three out of five key signatures to release any funds.

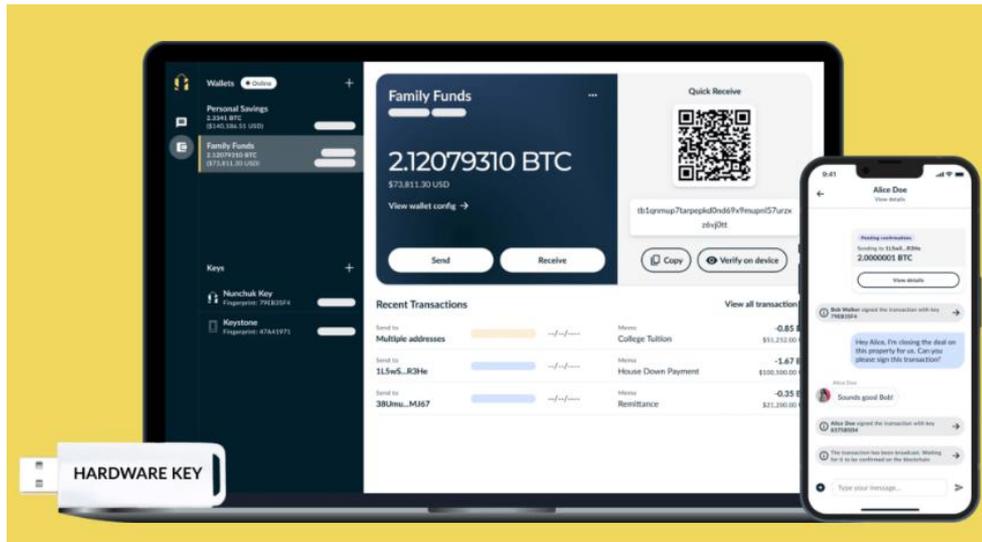


<https://bitcoinmagazine.com/culture/bitcoin-donation-drive-for-freedom-truckers>

<https://nunchuk.io/>



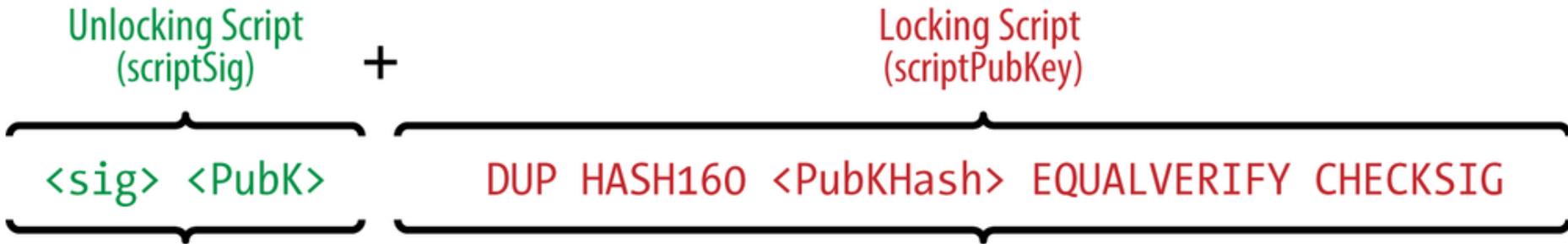
80% of funds raised are being consolidated into a multisig wallet. They are using nunchuk.io multisig wallet because “it makes collaborative custody through multisig intuitive and easy to use for non technical users,” protest organizer and Bitcoin activist, Nobody Caribou told *Bitcoin Magazine*.



YOUR BITCOIN. GUARD IT.

Use Nunchuk multisig wallet

Bitcoin transactions are scripts

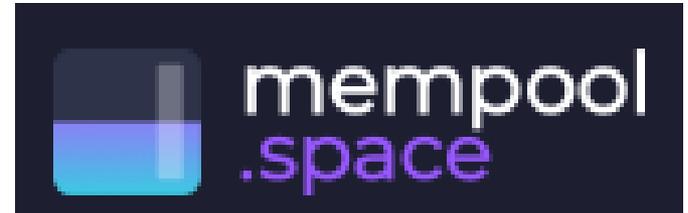
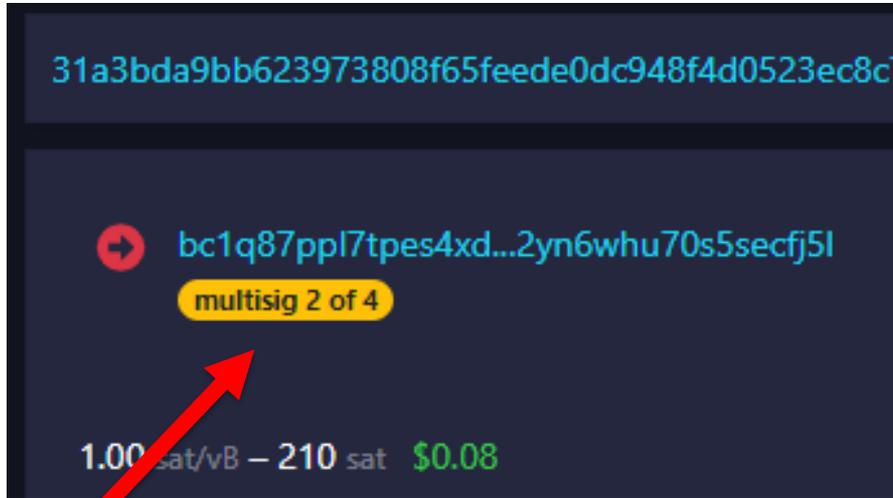


- Scripts may contain special instructions in the form of **OP_CODES**
 - Time Lock
 - **Multisignature**
 - Etc.
- Scripts are preserved on the Blockchain and can be accessed using a blockchain explorer

Multisig Transactions may be identified using a blockchain explorer

- When a multisig address sends cryptocurrency, it must use multiple signatures to authorize and sign the transaction.
- Multiple signatures in a sending transaction will be identified and tagged by some blockchain browsers such as **Mempool.Space**. 
- If you want to know if an address is multisig and identify how many keys it has and how many are required to spend from it, you need to **look at its spending transactions**.

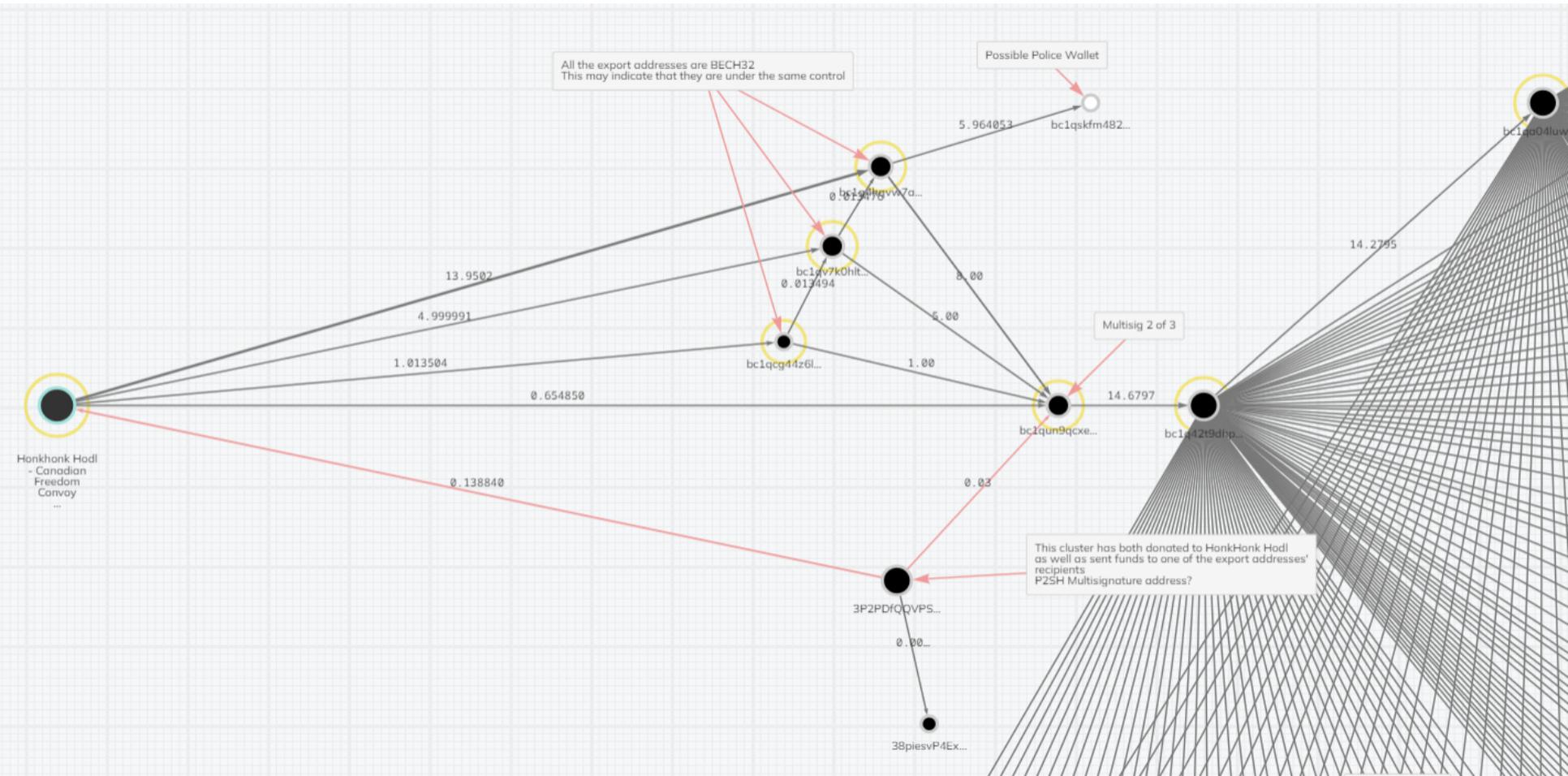
Multisig Transactions can be identified Using a Blockchain Explorer



<https://mempool.space/address/bc1q87ppl7tpes4xd9upan4q56fqes3h0vu2nzls8j3d2yn6whu70s5secfj5l>

```
P2WSH witness script → OP_PUSHNUM_2
OP_PUSHBYTES_33 027c1cafd48147045f95c2ff3a2046405
2033991db1f73bebbafddc861a83a24f0
OP_PUSHBYTES_33 03447ac5709afdf0f8a0af43ba3a683ce
a030bfd0f4848ca8b45e3ff24cf753b89
OP_PUSHBYTES_33 034e0dd693acd897fa894ad180c536df3
7fa55febba2fe53ebe6df47b46ba9e498
OP_PUSHBYTES_33 037f6e26d297bc81a9bc5951604ecfdf5
5d3140712313a2d947d6cdca22c2679a4
→ OP_PUSHNUM_4
OP_CHECKMULTISIG
```

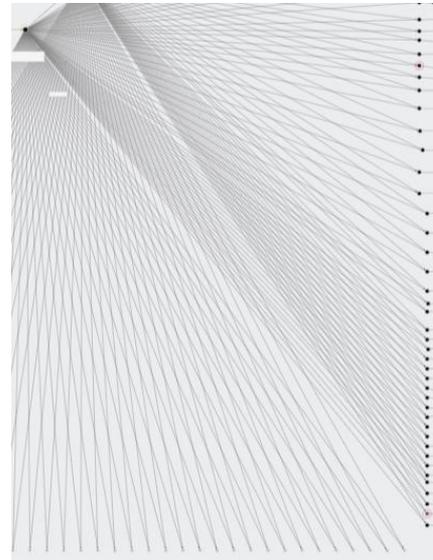
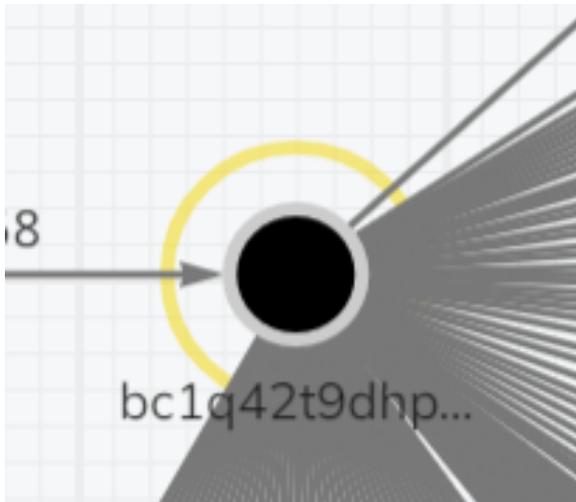
HonkHonkHodl Possible Multisig



Exercise

bc1q42t9dhpqc6du9pjmdkvxvmke82fl34jadqaxtq

1. Go to <https://mempool.space/>
2. Search for the address and determine whether it is multisig by looking at one of its **sending transactions**.



No Multisig bubble under the address



 bc1q42t9dhpgc6du9pjmdkvxvmke8...34jadqaxtq	14.67975368 BTC	bc1qa736kjp1d8a4cr40u8qhxyfy..zg7xvugynm	0.00400000 BTC	
		bc1qpntau44awgvnc8de6nm76ah0f..ethvzcx46a	0.00400000 BTC	
		bc1q2zahktlmx7mcwgep522tvu5mq..d4cv5je3fc	0.00400000 BTC	
		bc1qkqjkztfna1exjk5hpevtqc0m8..5rzut7fztk	0.00400000 BTC	
		bc1qfwemm3m3tsyvyuwaljqrvtz2..7pvnn4tuf2	0.00400000 BTC	
		bc1q062pkhf0yyp4uvp0vg893h2z7..dtyhmfs57z	0.00400000 BTC	
		bc1quxv0zw39ch8jtuvpglq9wh8ud..plgg2c5yvt	0.00400000 BTC	
		bc1qx9972yuyj8xnq4zdpdmh35ccm..9wp87zyvt7	0.00400000 BTC	
		bc1qmq6h2dh7ctqrnv451jqht9y6m..hm3z8qcse4	0.00400000 BTC	
		bc1q2n980wq4e38eer3ssuqdfjfcyg..xpynf07y3w	0.00400000 BTC	

Show all (101)

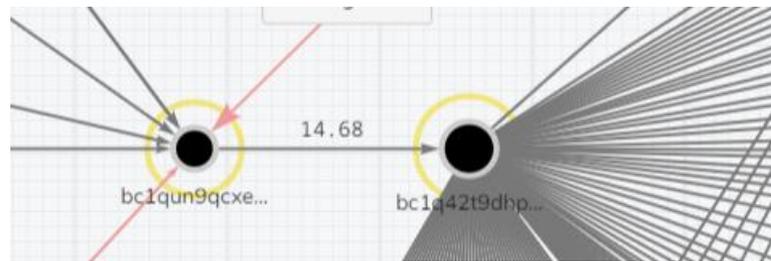
6.23 sat/vB – 20,000 sat **\$3.96**

30678 confirmations **-14.67975368 BTC**

Exercise

**bc1qun9qcxesc6avaa30anl0jvs36h3cy6nq7xh3
6yvx9frmqc8v6khq4nwnv0**

1. Go to <https://mempool.space/>
2. Search for address **bc1qun9...**
3. Find it on the left hand side of a transaction (sending) and see if it has a multisig bubble.
4. Click on the **transaction ID aa73c785c...** to view the details of the transaction
5. Click on the **Inputs & Outputs “Details”** button 
6. Scroll down and look at the **P2WSH witness script**
7. What does it tell you?



<p>➔ bc1qun9qcxesc6avaa30anl0jvs36..6khq4nwnv0 0.03000000 BTC</p> <p>Multisig 2 of 3</p>	<p>bc1qx499qzmpj4fa889tj8tfx0s32..rgtf6clhse 0.00010000 BTC ➔</p> <p>bc1q1tgmfmv25gnj5298swxhdpxee..g2wq84g9ru 0.02988867 BTC ➔</p>
<p>6.01 sat/vB – 1,133 sat \$0.22</p>	<p>30712 confirmations -0.03000000 BTC</p>

P2WSH witness script

OP_PUSHNUM_2

OP_PUSHBYTES_33 027133445ff18c4164ab80f700ec7251c
af71ca38df5b020f7c690b5709a19e094

OP_PUSHBYTES_33 028c8c43b8523b5b2872e59b9571a0591
f756840c3b60dd16cd6a1fb3699472f8c

OP_PUSHBYTES_33 03c9b9ff3de4c712f13564d3aa12d3a9a
3eb157e9e360f86c8cd06e6cc18fdc130

OP_PUSHNUM_3

OP_CHECKMULTISIG

Is the HonkHonk Hodl Donation Address Multisig?

bc1qlc2gpmzrr9gded07d9a401t2lq7pp2v7h4c5jx

- Sent large amounts to secondary addresses
- **Not Multisig**

Transaction `1391e9ef99bfd0f3ba7c`

Timestamp	2022-02-09 01:13 (2 weeks ago)
Included in block	722413
Features	SegWit RBF

Honkhonk Hodl - Canadian Freedom Convoy

Root Address
bc1qlc2gpmzrr9gded07d9a401t2lq...

Overview Counterparties Transf

Is the Address that set up the wallets containing \$8,000 Multisig?

bc1q42t9dhpqc6du9pjmdkvxvmke82fl34jadqaxtq

- Sent bitcoins to the \$8,000 Trucker addresses
- **Not Multisig**

The screenshot displays a transaction interface with the following details:

Transaction 0cd48e249fc6f7e9f9b3ft	
Timestamp	2022-02-17 00:51 (6 days ago)
Included in block	723670
Features	SegWit RBF

Multisig Conclusion?

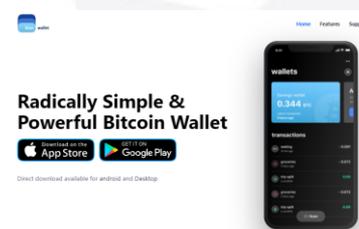
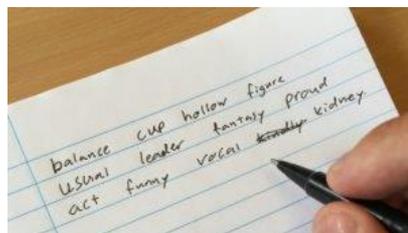
1. Was more than one individual moving bitcoins from the donation wallet?
 - **No**
2. Was more than one individual helping hold and move funds in an intermediate wallet?
 - **Yes**
3. Was more than one individual moving the bitcoins which eventually funded the 100 trucker wallets?
 - **No**

OSINT IMPLICATIONS FOR SEARCH & SEIZURE

OSINT & Search Implications

- **Search for:**

- Donation envelopes
- Seed word lists
- Wallet set up instructions
- Blue Wallets on digital devices
- Nunchuck wallets on digital devices
- Cryptocurrency exchange data in browser



OSINT – Seizure Implications

- Be prepared to re-create **Blue Wallets** on site
- Seizure should be possible with just one key/wallet



- Be prepared to recreate **Nunchuck Wallets** on site
- Seizure will be impossible without at least 2 keys



Postscript – Search & Seizure



The ‘Freedom Convoy’ Bitcoin Donations Have Been Frozen and Seized

Bitcoin was supposed to be a financial lifeline for vaccine mandate protesters in Canada. That hasn't exactly worked out to plan.

“Officers forcibly removed me from my apartment and took me to an unmarked police vehicle,” St. Louis said. “Police wanted the seed phrases for my crypto wallets. Under police compulsion I provided my seed phrases.”

Postscript - Organizer comments

FP Finance / Cryptocurrency

Behind HonkHonk Hodl: The story of the trucker convoy's 'bitcoin team lead'

“St. Louis said of his experience: *“I think it took five years off my f—ing life.”* The lawsuit, he said, was the cost of supporting what he deemed to be “freedom-loving, law abiding, peaceful Canadians.” **St. Louis started another bitcoin donation drive to fund his defence.”**

Postscript – Police Seizure

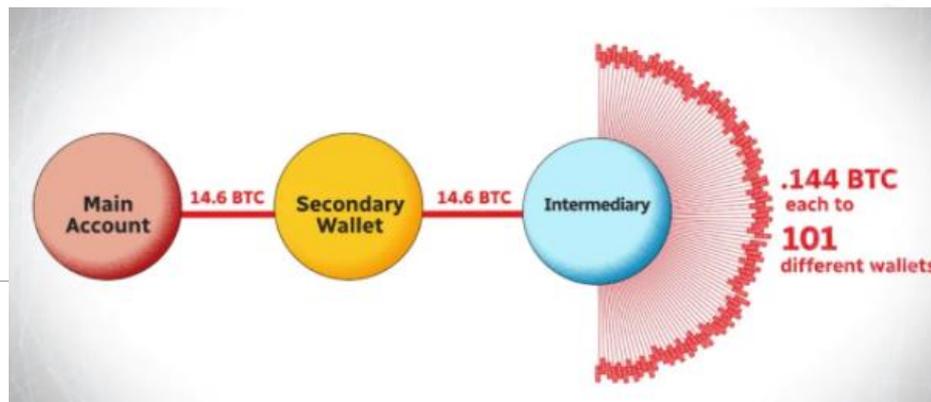
Ottawa · CBC Investigates

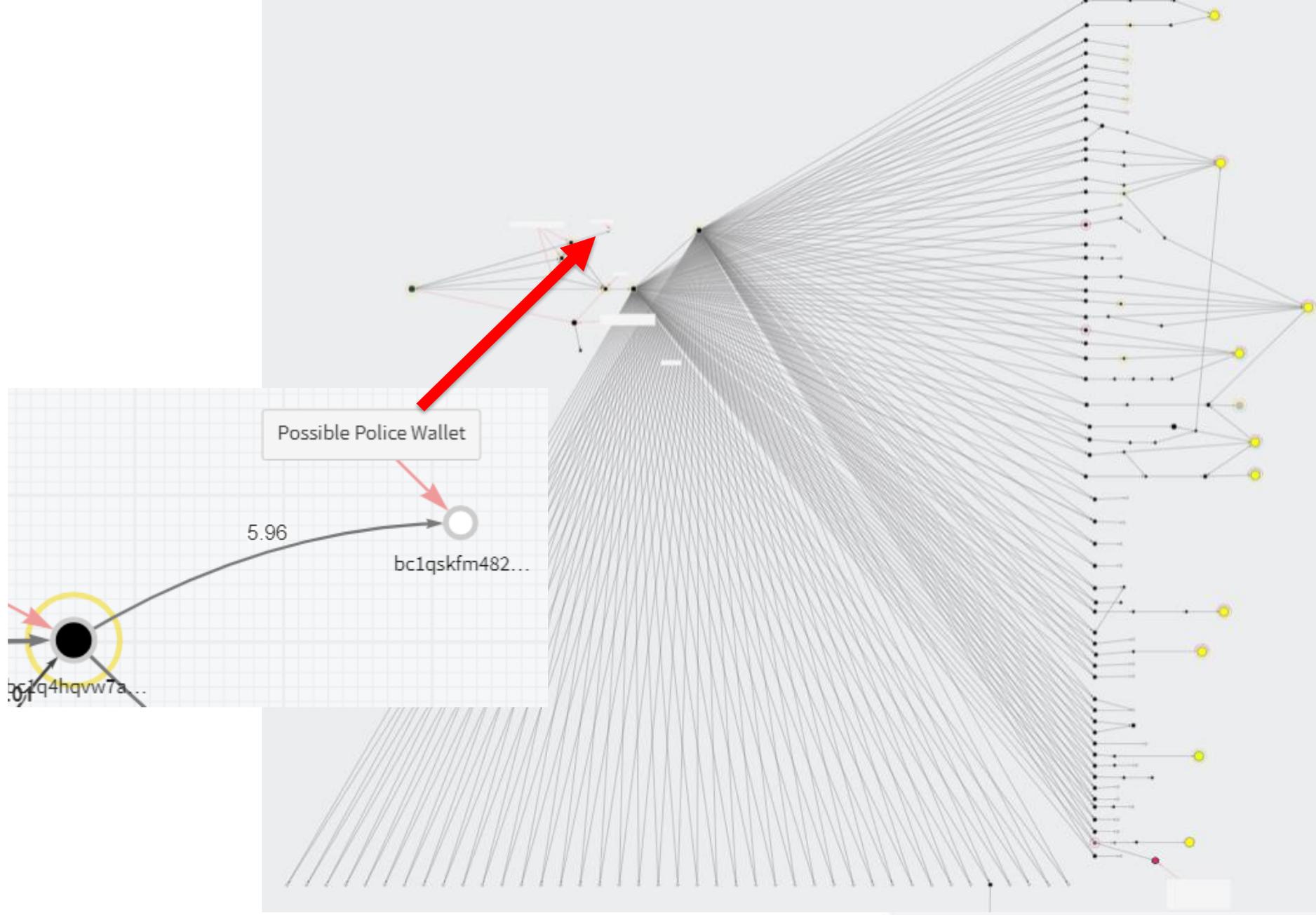
Digital currency donations for Freedom Convoy evading seizure by authorities



70 per cent of digital currency assets have been drained from original source

Most of the roughly \$1 million in known donations raised in digital currency for the Freedom Convoy appears to have evaded seizure by authorities more than a month after the federal government invoked the Emergencies Act to freeze convoy assets, according to a CBC News investigation.





Recent Snapshot

