

MINING OF OPEN-SOURCE DATA

To inform regional freight planning

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Freight Subcommittee
May 13, 2021

Background and motivation

- Provide geospatially accurate location data for distribution centers, intermodal terminals, and active surface mining and quarrying activities around the region and nearby counties (some mines and quarries attract and produce hundreds of heavy-duty trucks every day)
- Open-source data are free of added charge
- Generally accurate and reasonably current since they can be checked against high-resolution satellite images
- Data from the public sector can be helpful (and also free)



Methodology

- Built upon previous work presented to the subcommittee by HSEMA, NS, CSX, and others
- Also used data found on Web sites from Virginia Port Authority and Maryland Port Administration
- Used search engines to identify possible locations and cross-checked against satellite images - and - obtained latitude and longitude for geocoding as part of this process. All records were coded to county (including independent cities in Virginia).
- Mine and quarry data obtained from mine regulators in Maryland, Virginia, Pennsylvania (counties reasonably near Washington and Baltimore) and West Virginia (Eastern Panhandle counties only) and checked for activity using satellite images

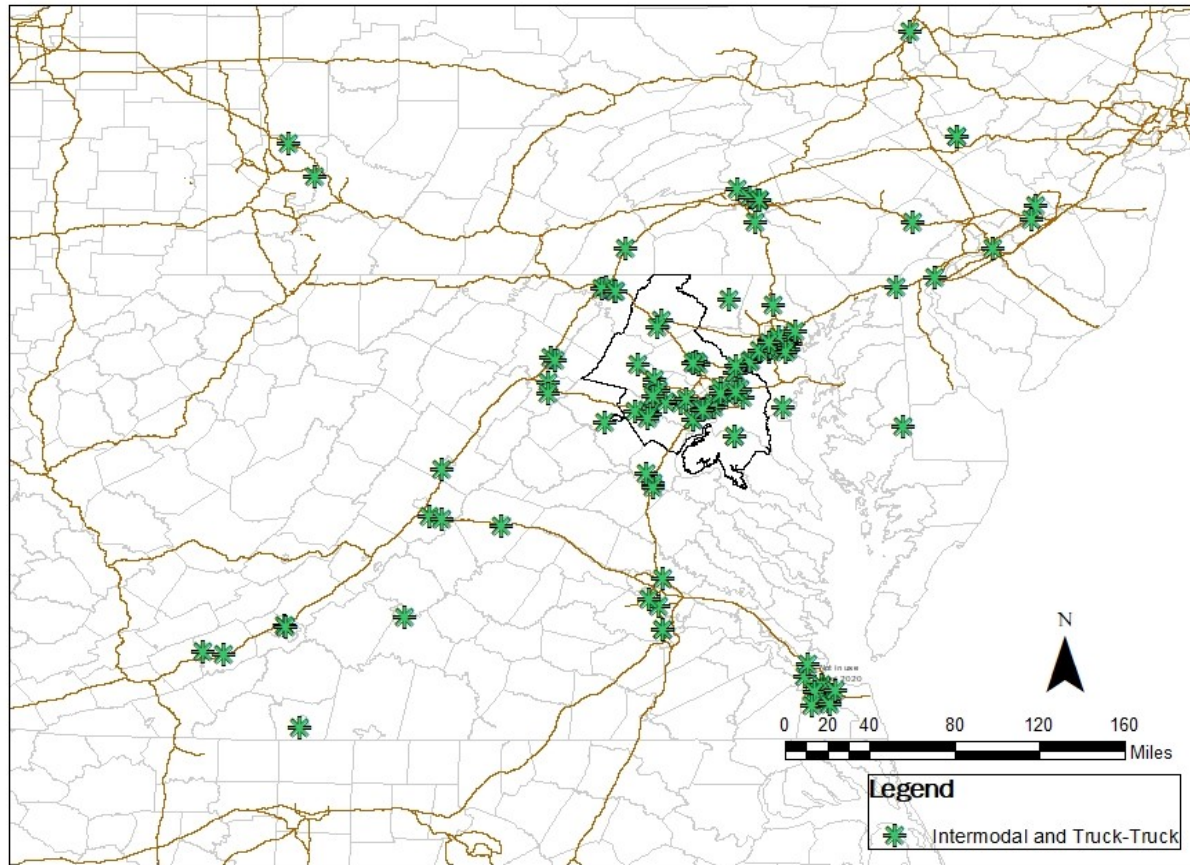


Intermodal and truck-truck facilities

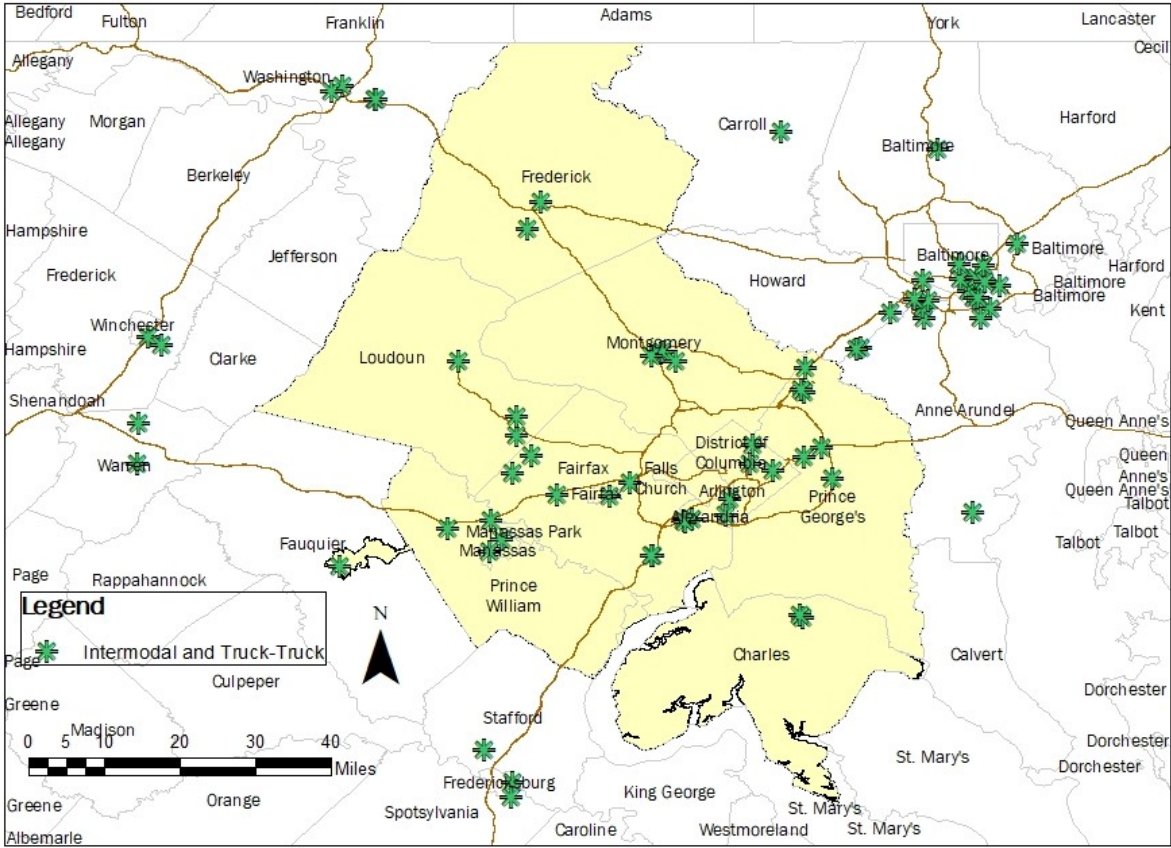
- Airports (BWI, DCA, IAD)
- Seaports (especially MPA terminals in Baltimore and VPA terminals in Hampton Roads and Richmond)
- Railroad intermodal terminals (such as the CSX auto yard at Jessup, Howard County, Maryland; the NS yard in City of Alexandria and Virginia Inland Port in Front Royal)
- Pipeline terminals for petroleum products (many hundreds of truck trips every day)
- Truck-truck terminals, including FedEx, UPS and USPS and others
- Trash transfer stations
- Many of these are well beyond the TPB region



Intermodal and Truck-Truck Facilities – Distant and Close



Intermodal and Truck-Truck Facilities – TPB Region and Nearby

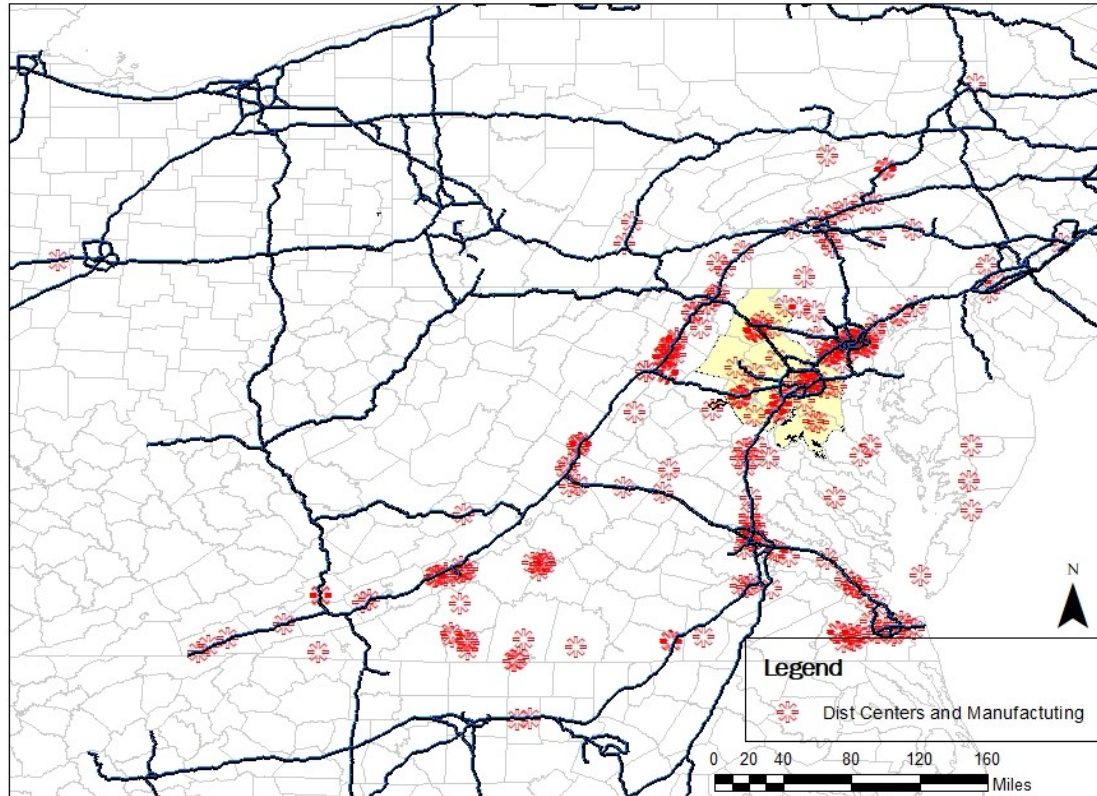


Distribution Centers and Mfg Facilities

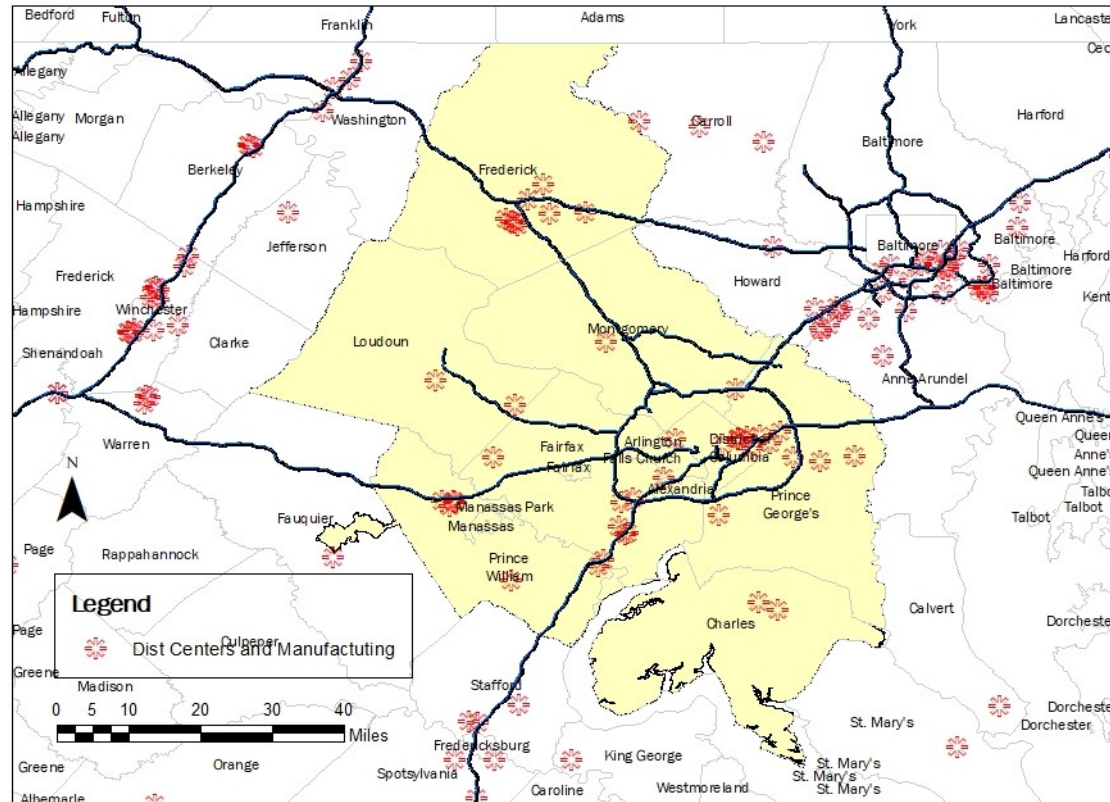
- Intermodal facilities excluded
- Manufacturing
- Also landfills and incinerators
- Does not include quarries and similar businesses



Distribution Centers and Mfg Facilities Distant and Close



Distribution Centers and Factories TPB Region

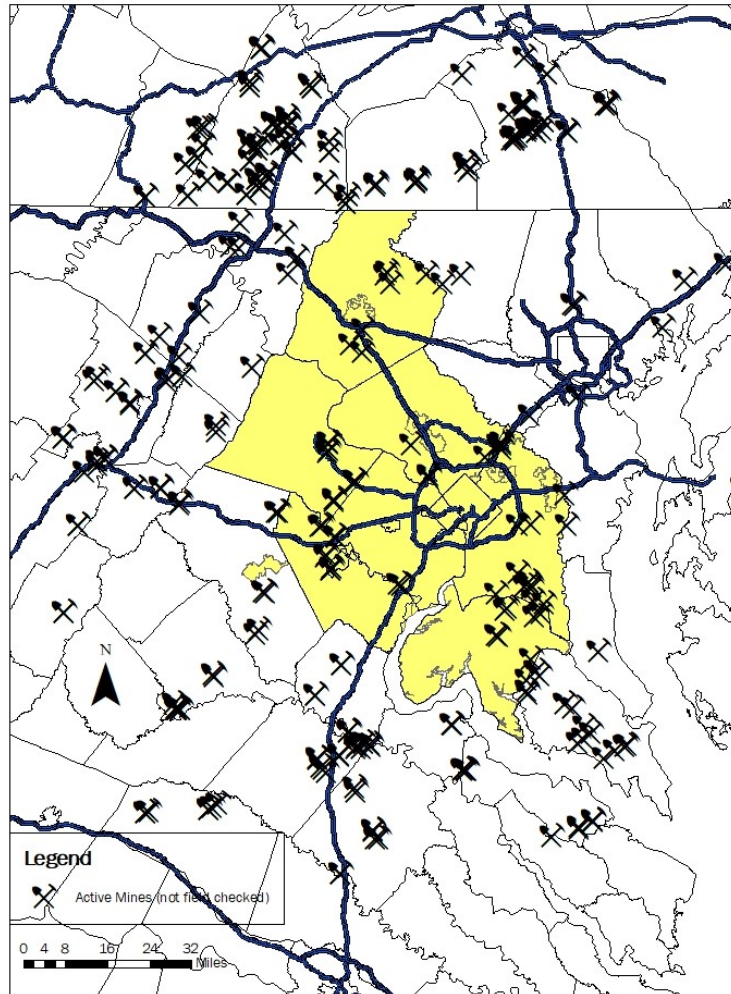


Mines and Quarries

- Sand and gravel
- Crushed stone
- Rip-rap, flagstone and other “large” stone products
- Data from mine license records of Maryland, Pennsylvania, Virginia and West Virginia
- No coal mines or fracking operations included



Mines and Quarries



Future and added steps

- These data will inform the development of an updated regional freight plan that will start after July 1, 2021
- Future outreach to COG and TPB Member jurisdictions for input will be solicited
- This dataset will probably never be 100% complete nor will it be 100% correct
- It may be possible to estimate the size of many of the distribution centers from public records online
- There may be source of data to determine how many tons of product are produced at the quarries and mines



Future and added steps (cont'd.)

- Truck trip generation studies could be done at some of the larger and closer-in distribution centers, quarries and mine sites
- Examine work done by states on truck rest areas, truck stops and related places where drivers of commercial vehicles can rest to comply with hours-of-service rules



Conclusions

- Some freight travels a long distance from the last warehouse to the retail destination or to the consumer
 - Hobby Lobby serves all of its U.S. stores from one warehouse in Oklahoma City
 - Some Target stores appear to get product from as far away as I-70 near Dayton, Ohio
- I-81 matters, as do I-66, I-70 and I-95
- Open source can serve as a starting point for informing analysis of freight moves in and across the region



Questions and comments?



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