USING FREIGHT DATA IN THE PROPER GEOGRAPHIC CONTEXTS: CHALLENGES AND OPPORTUNITIES

Talking Freight; December 19, 2018

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Overview

Virginia Freight Data Sources and Purposes

Smart Scale

Truck Parking

Challenges and Opportunities

Virginia Freight Data Sources and Purposes

Sources

- **Commodity flow data: FAF, Transearch**
- **Economic data: Transearch and TREDIS**
- **Traffic data: VDOT's count program**
- **GIS data: Freight generators**

Purposes

- **VTrans – Commonwealth's long range transportation plan**
- **Truck-rail diversion studies**
- **Corridor EIS**
- ***Smart Scale***
- ***Truck parking***

Smart Scale

http://vasmartscale.org/

Smart Scale *Factor Areas*

Factor Areas	Measure ID	Measure Name	Measure Weight
Safety	S.1	Equivalent property damage only (EPDO) of Fatal and Injury Crashes*	50%
	S.2	EPDO Rate of Fatal and Injury Crashes	50%
Congestion Mitigation	C.1	Person Throughput	50%
	C.2	Person Hours of Delay	50%
Accessibility	A.1	Access to Jobs	60%
	A.2	Access to Jobs for Disadvantaged Persons	20%
	A.3	Access to Multimodal Choices	20%
Environmental Quality	E.1	Air Quality and Environmental Effect	50%
	E.2	Impact to Natural and Cultural Resources	50%

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Smart Scale *Factor Areas (cont'd)*

Factor Areas	Measure ID	Measure Name	Measure Weight
Economic Development	**ED.1**	**Project Support for Economic Development**	**60%**
	ED.2	*Intermodal Access and Efficiency*	*20%*
	ED.3	**Travel Time Reliability**	**20%**
Land Use	**L.1**	**Transportation-Efficient Land Use**	**70%**
	L.2	**Increase in Transportation Efficient Land Use**	**30%**

Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category A	45%	5%	15%	5%	10%	20%
Category B	15%	20%	25%	20%	10%	10%
Category C	15%	25%	25%	25%	10%	-
Category D	10%	35%	15%	30%	10%	-

http://vasmartscale.org/documents/20171115/smart_scale_policy_guide_oct24_2017.pdf

Smart Scale: ED2 – Intermodal Access and Efficiency

1. **Improve access to distribution, intermodal and manufacturing facilities**

    2 points *Project provides direct access (within 1 mile) to existing or planned locations*

    1 point *Project provides indirect access (between 1 and 3 miles) to existing or planned locations*

2. **Improve STAA truck route**

    2 points *Project is on the designated STAA National and Virginia Network or a STAA Virginia Access Route*

    1 point *Project directly connects to designated STAA National and Virginia Network or a STAA Virginia Access Routes*

Smart Scale: ED2 – Intermodal Access and Efficiency

3. Improve access reduce congestion ports/airports

2 points *Project provides direct access to (within 1 mile) existing or planned ports or airports (measured from designated entry gates to port or air cargo facilities)*
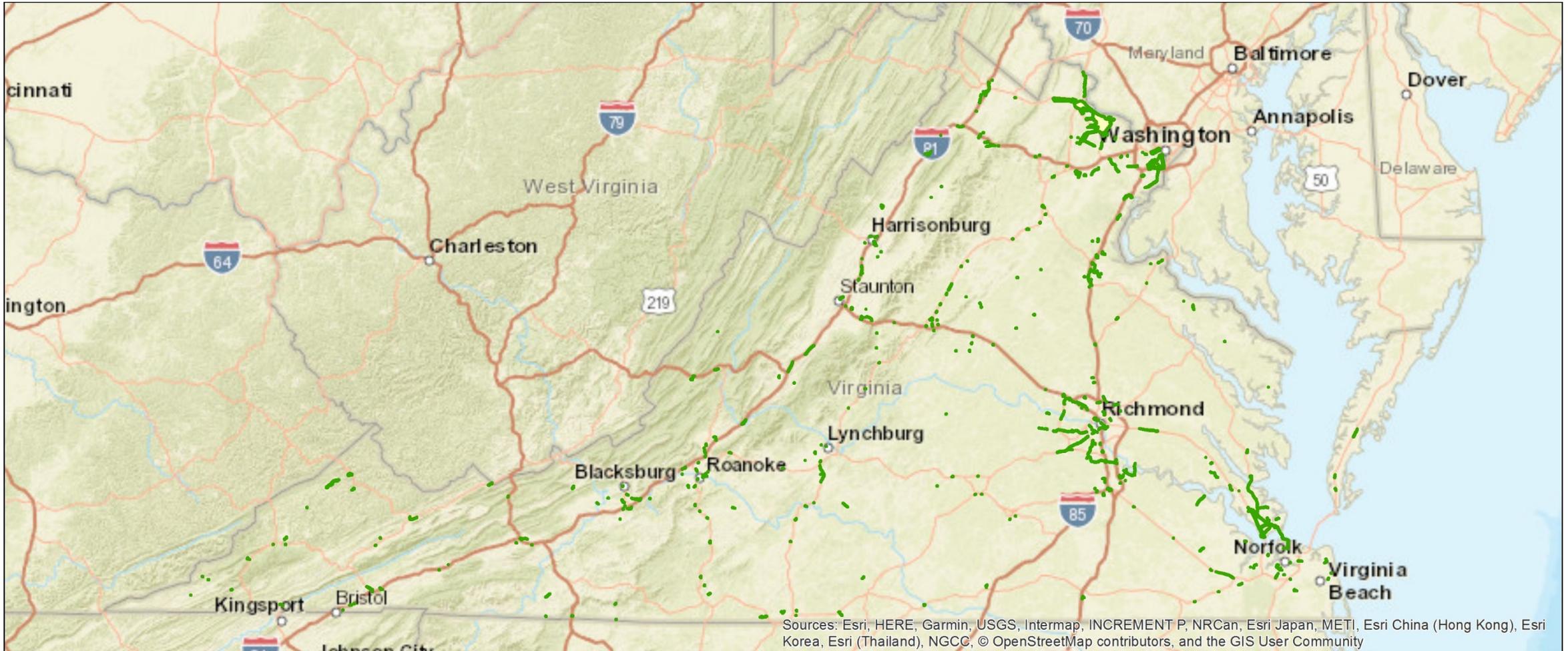
1 point *Project provides indirect access to (between 1 and 3 miles) existing or planned ports or airports (measured from designated entry gates to port or air cargo facilities)*
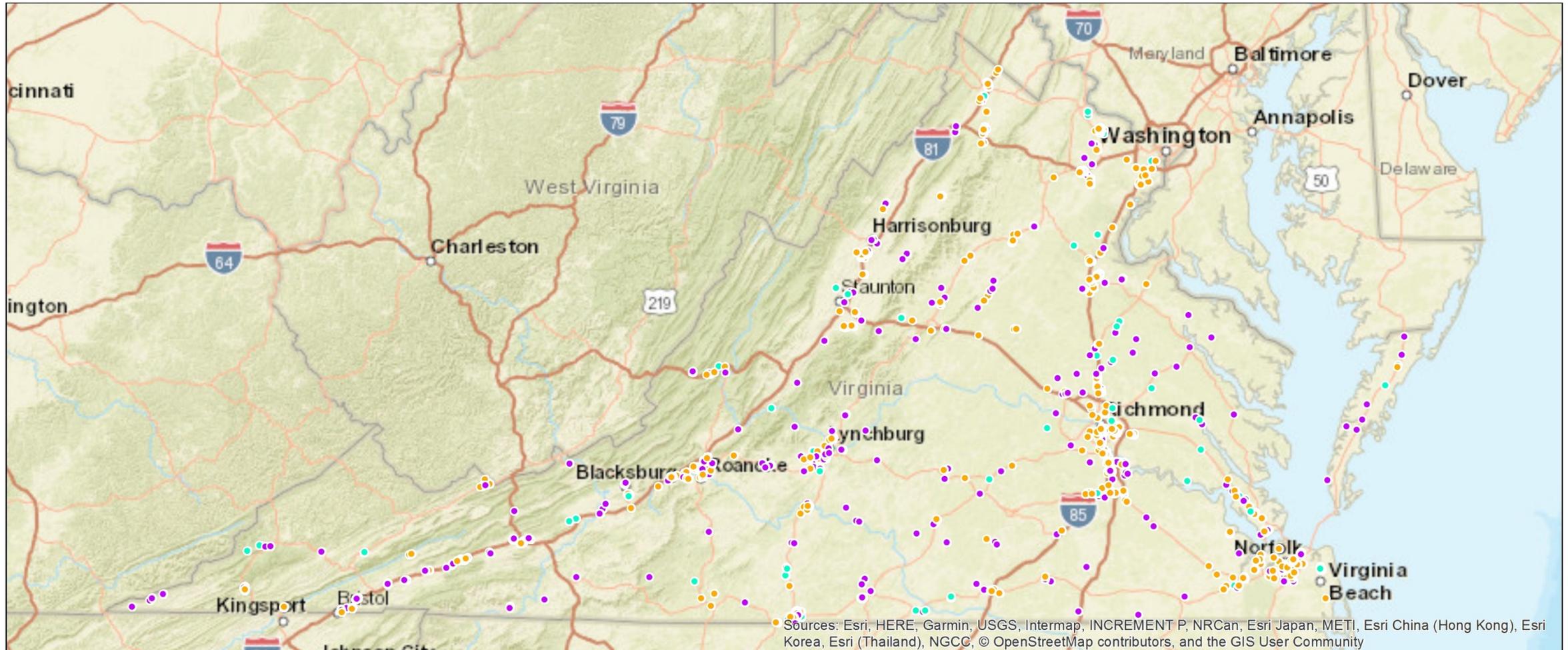
4. Tonnage (1000s) per day*

Truck density (via Transearch) X Truck AADT
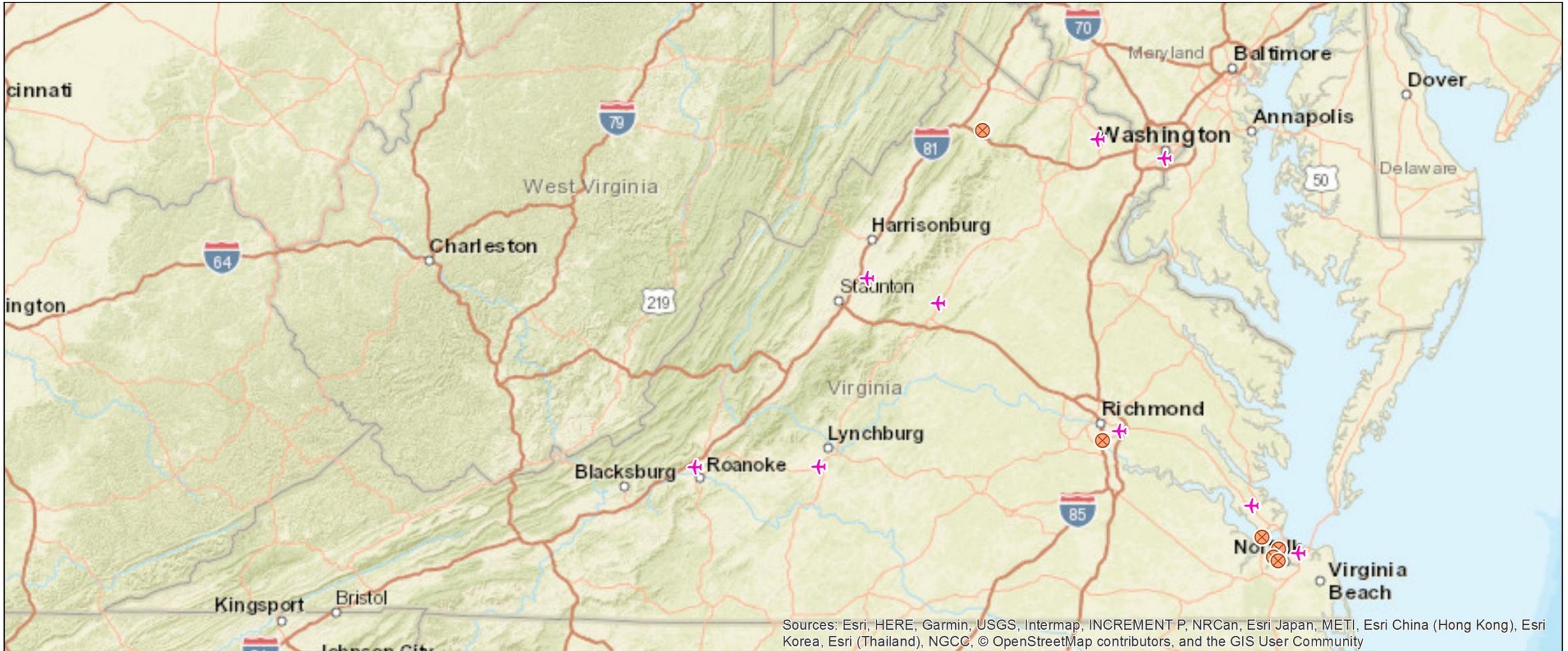
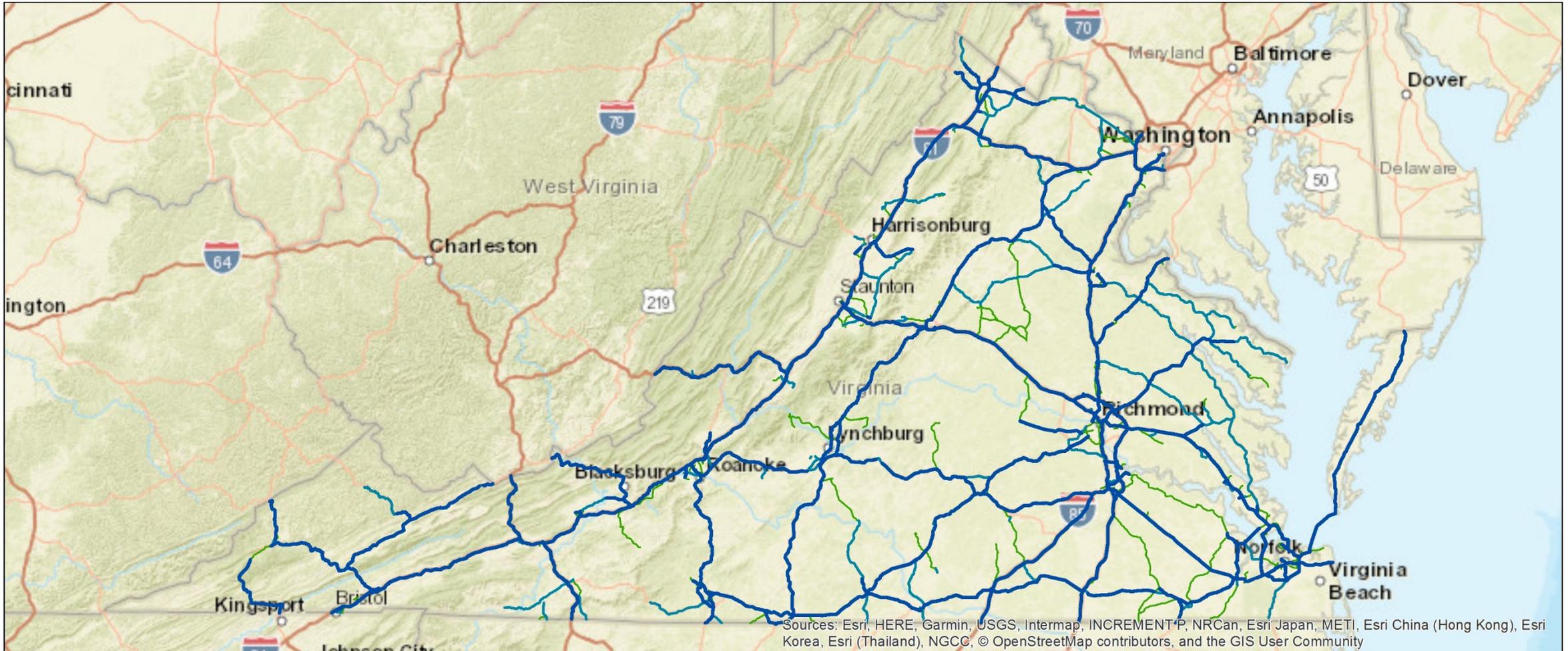* used as a scaling factor

Smart Scale: Round 3 Project Applications
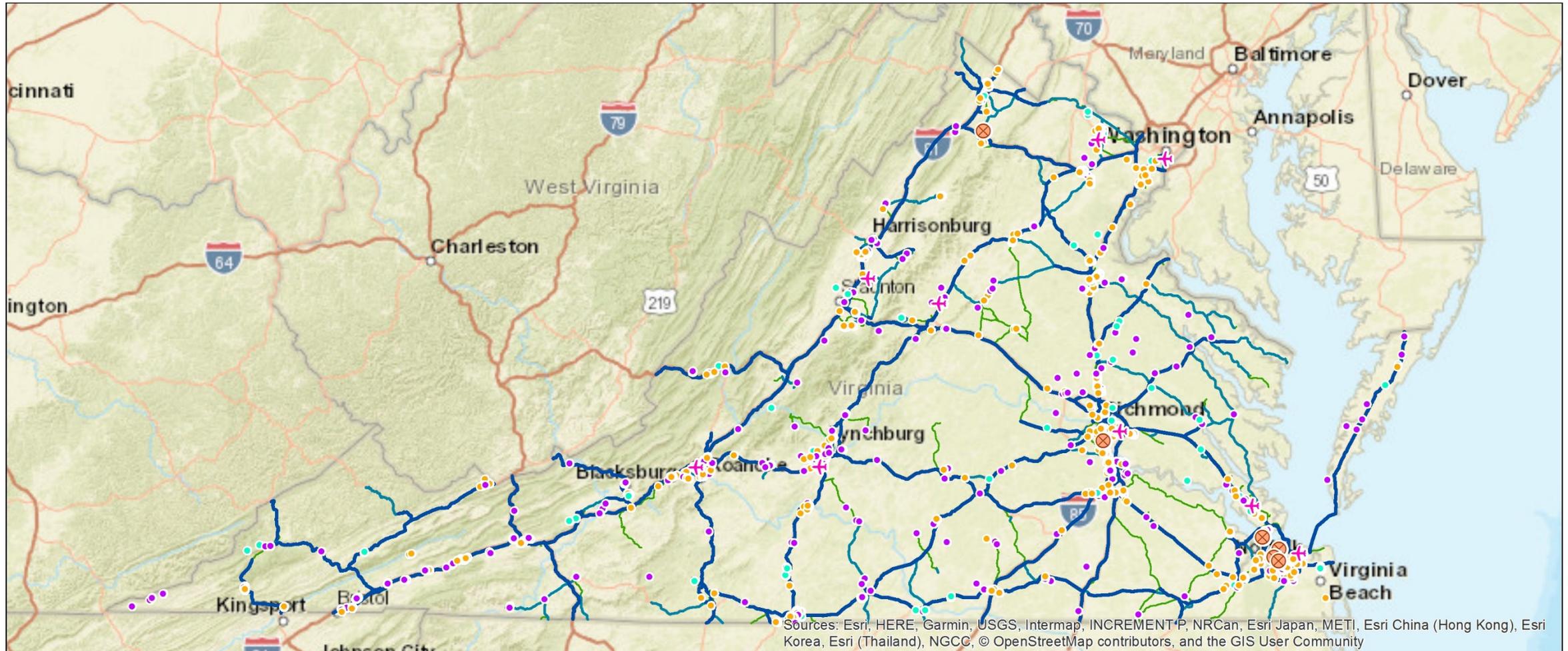
Smart Scale: Freight Generators
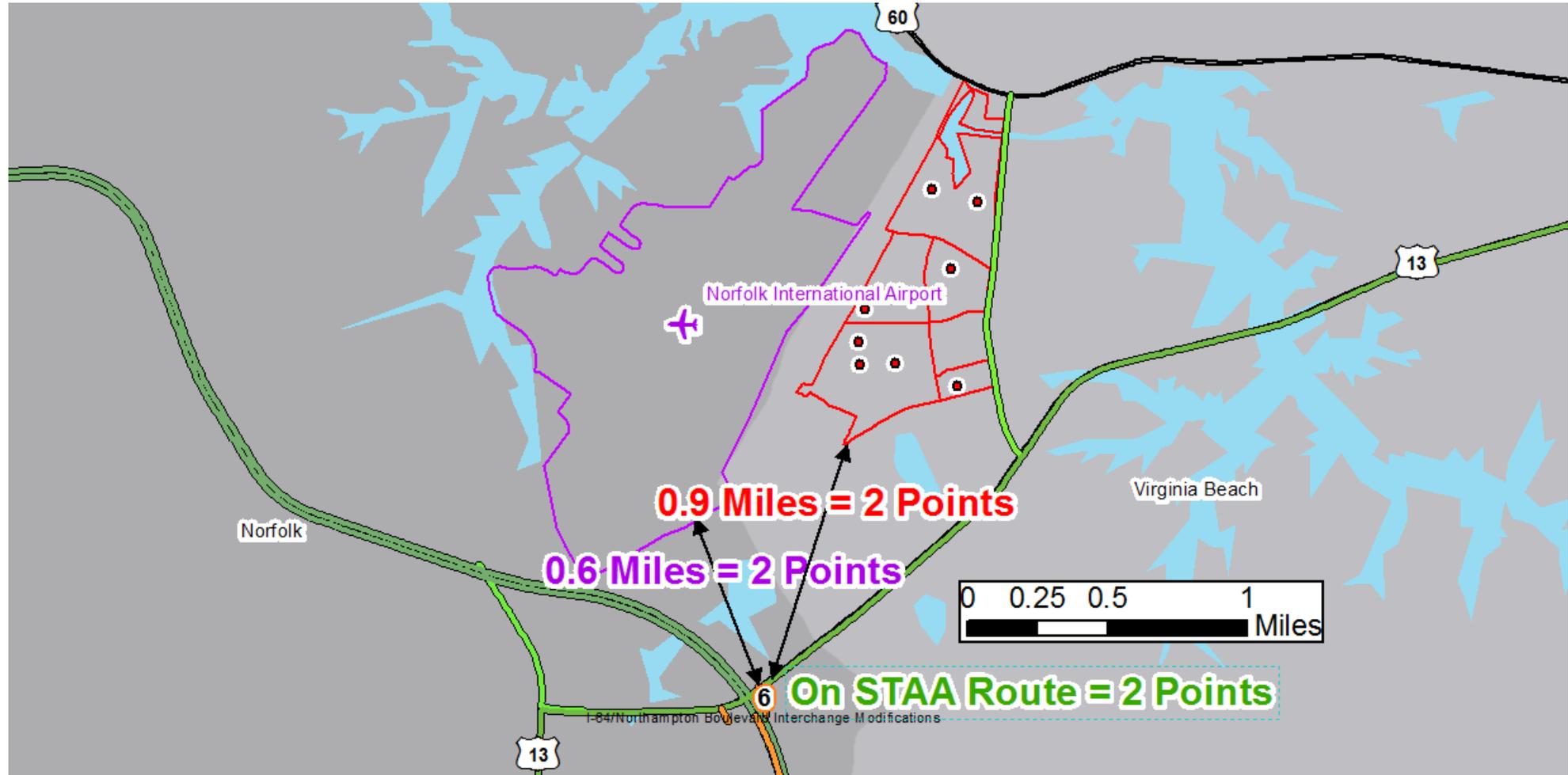
Smart Scale: Port Facilities
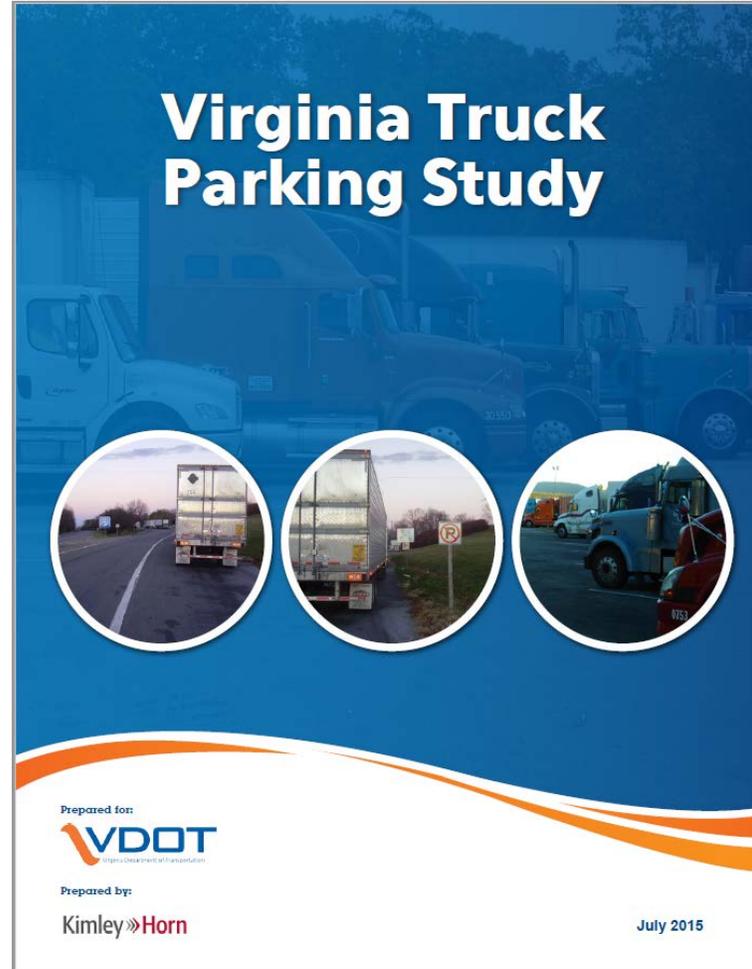
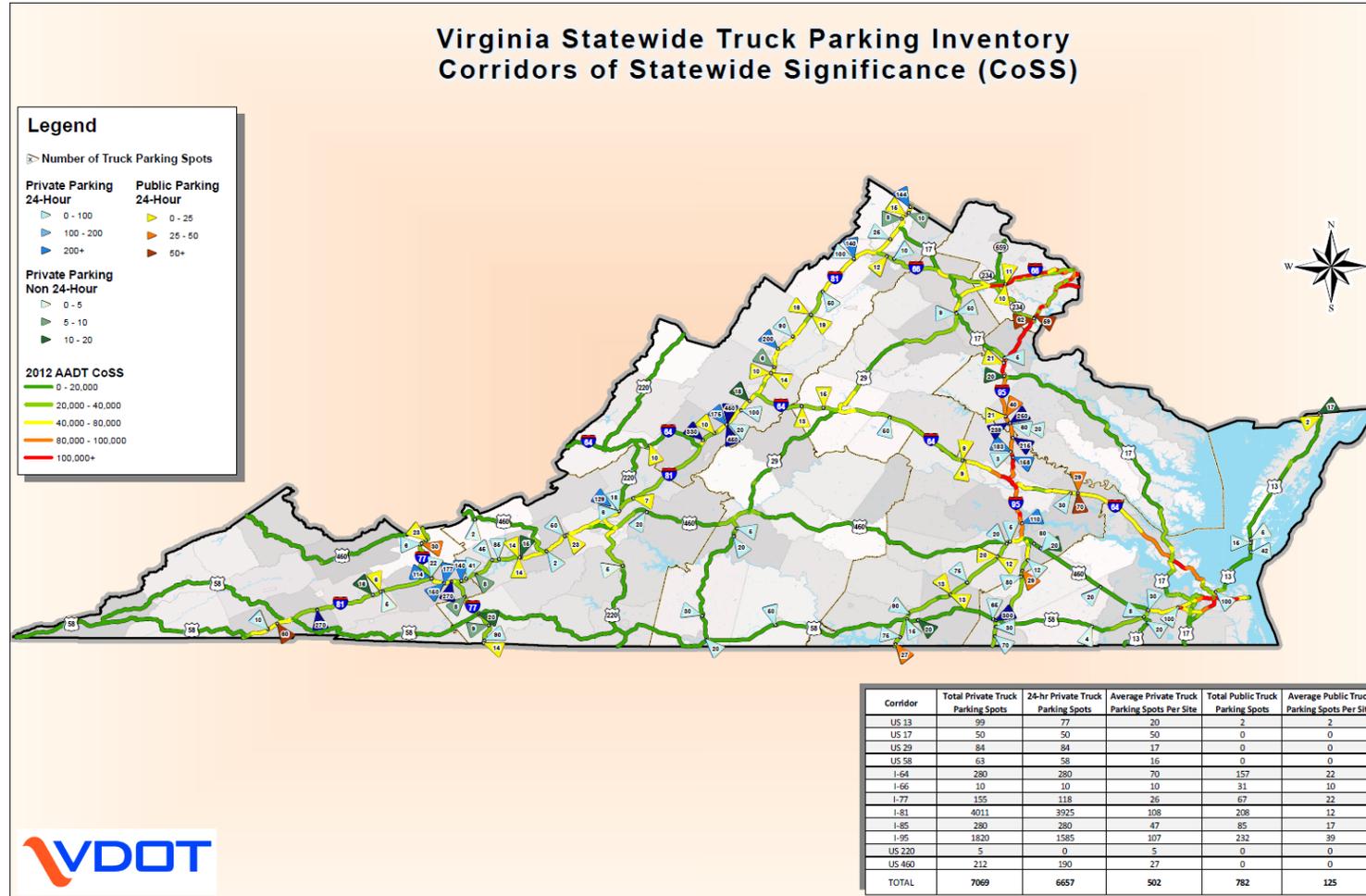# Smart Scale: STAA

Smart Scale

Smart Scale

Smart Scale

Truck Parking

Truck Parking

Virginia Statewide Truck Parking Inventory
Corridors of Statewide Significance (CoSS)

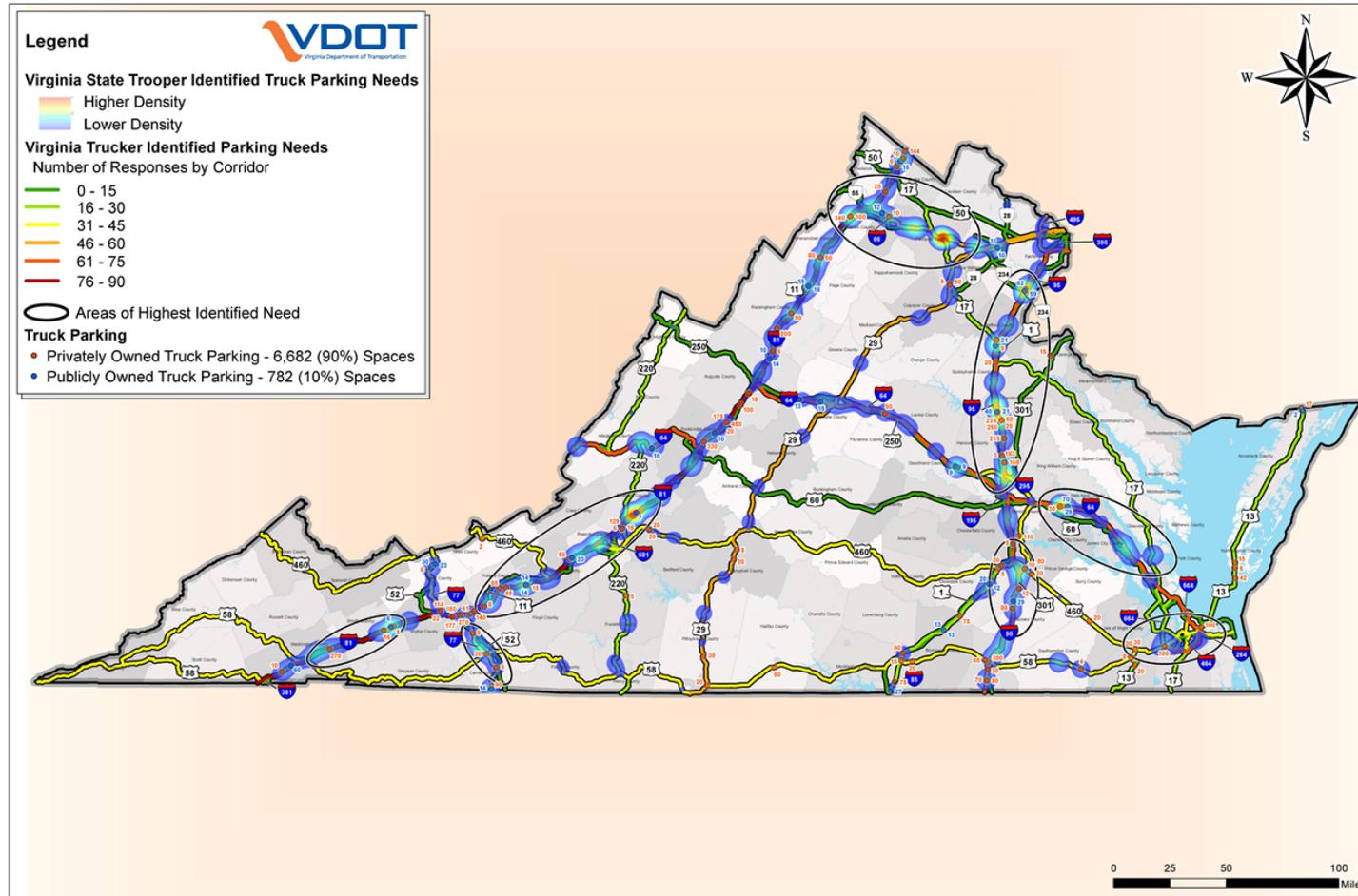| Corridor	Total Private Truck Parking Spots	24-hr Private Truck Parking Spots	Average Private Truck Parking Spots Per Site	Total Public Truck Parking Spots	Average Public Truck Parking Spots Per Site
US 13	99	77	20	2	2
US 17	50	50	50	0	0
US 29	84	84	17	0	0
US 58	63	58	16	0	0
I-64	280	280	70	157	22
I-66	10	10	10	31	10
I-77	155	118	26	67	22
I-81	4011	3925	108	208	12
I-85	280	280	47	85	17
I-95	1820	1585	107	232	39
US 220	5	0	5	0	0
US 460	212	190	27	0	0
TOTAL	7069	6657	502	782	125

Truck Parking

Figure 17: Truck Parking Survey Demand

Truck Parking

Figure 16: Truck Parking Gaps on Study Corridors
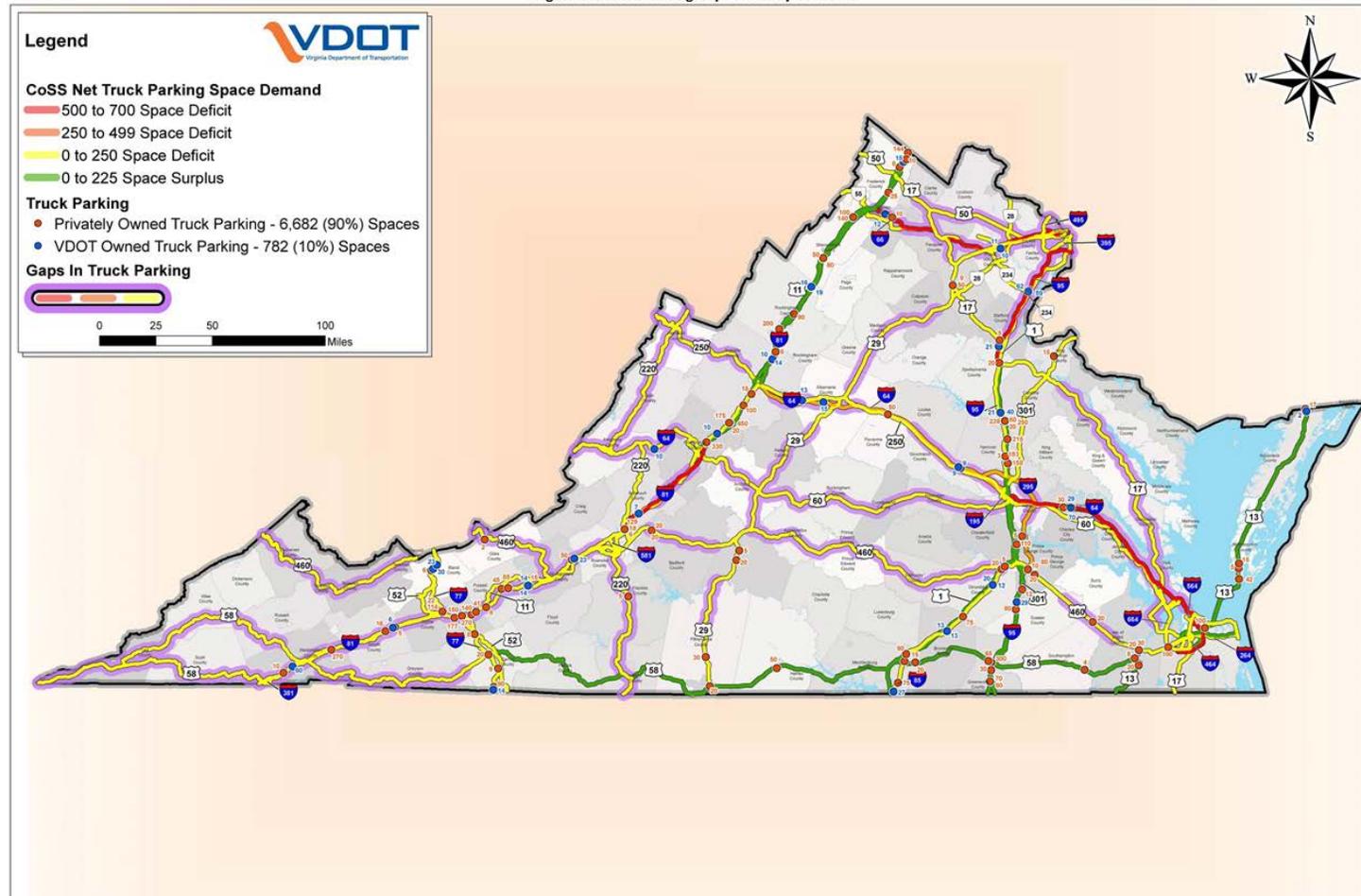
Challenges and Opportunities

- **Commodity flow data models become unreliable at the project-level resolution.**

- **The networks used by these models need regular updating and cleaning.**

- **Economic and business data is often attributed to headquarter offices—including homes and therefore skew visual data away from the actual generation of freight traffic.**

- **GIS location data may provide a significant insight to truck parking needs.**