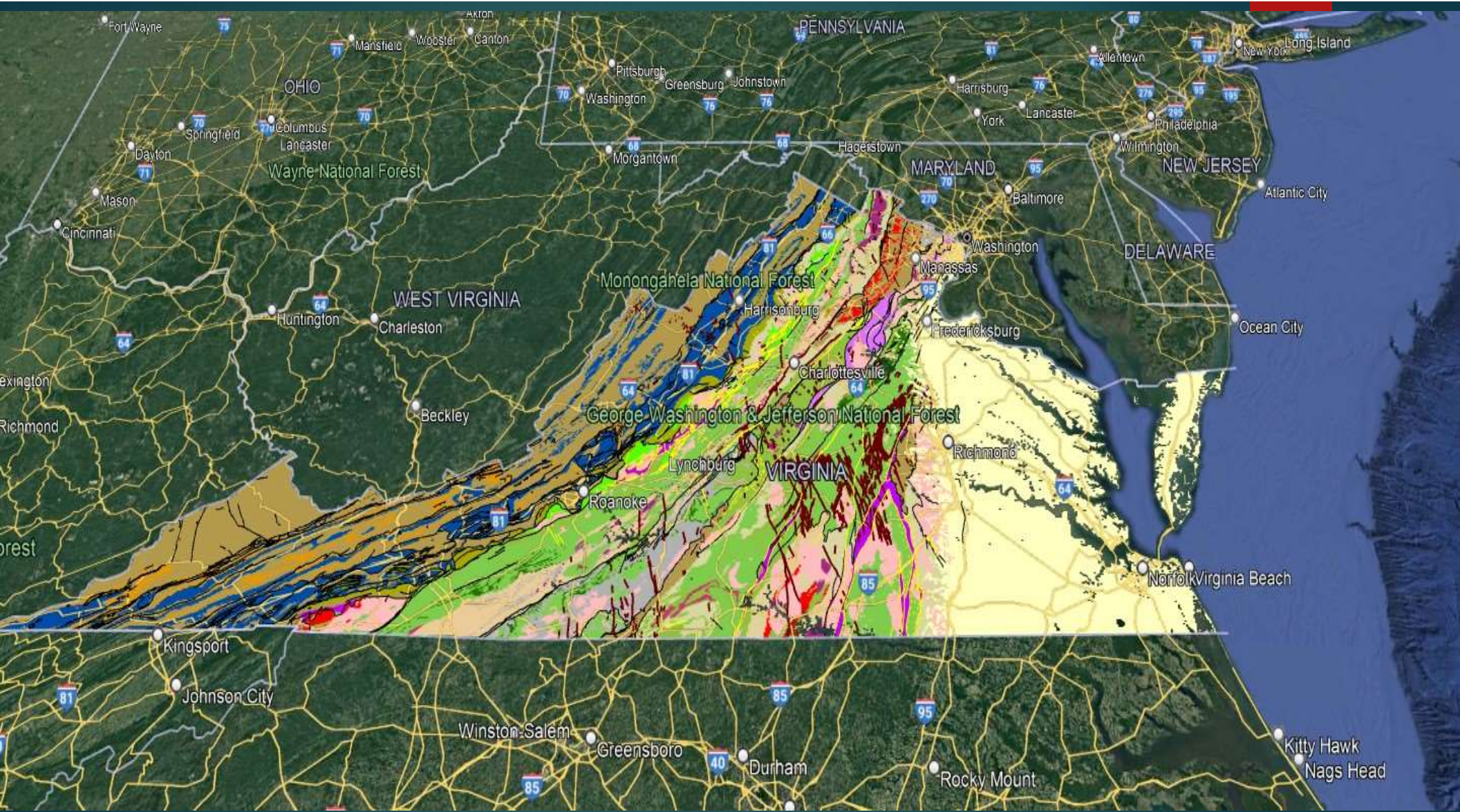




Eastern VA Aggregate Supply Challenges



**Why is it so hard to get aggregates
to the Peninsula/or Southside?**



Why talk about it?

- ▶ Approximately 11M tons – 14M tons of aggregate needs in Eastern VA
- ▶ Aggregate ends up in:
 - ▶ Concrete
 - ▶ Asphalt
 - ▶ Construction
 - ▶ Infrastructure
 - ▶ Erosion Control
 - ▶ PreCast Concrete
 - ▶ etc



**How do we get crushed
stone/aggregates to Eastern
Virginia?**

TRUCK IT







Trucking Pros:

- ▶ Precise delivery locations
- ▶ Generally available in all markets
- ▶ Number of Trucks in the market
- ▶ Faster delivery service ? See above
- ▶ All weather delivery
- ▶ Don't have to deal with rail or barge

Trucking Cons:

- ▶ Maintenance
- ▶ DOT regulations
- ▶ Weight Restrictions
- ▶ Staffing
- ▶ Aluminum vs. Steel Body
- ▶ Traffic/Tunnel (Time sensitive products....asphalt/concrete/CTA)
- ▶ Need more trucks to do more volume
- ▶ Military base restrictions
- ▶ Limited hours of service for CDL Drivers

RAIL IT





Rail Pros:

- ▶ Move lots of material at one time
 - ▶ Amount depends on locomotive power/track grade/number of cars that can fit into yard
- ▶ Can move multiple sizes of aggregates at once
- ▶ Don't have to deal with trucking or barging

Rail Cons

- ▶ Transit Time from Quarry to Yard could be hours or days
- ▶ Track Length at Yard dictates how many cars can be received
- ▶ Dealing with Norfolk Southern or CSX or Short Lines
- ▶ Union Strikes (2022)
- ▶ Derailments/Track Gauge
- ▶ Maintenance
- ▶ Unloading time at Yard
- ▶ Limited to small aggregates/Can't haul larger RipRap (coastal regions use more)
- ▶ Weather
- ▶ Federal Rail Administration – FRA (can take cars out of service for issues)
- ▶ Little to no competition can lead to “leverage” – their rail and no one else's
- ▶ Rail Crews have limited service hours

BARGE IT





Barge Pros:

- ▶ Large amounts of volume moved at once
- ▶ Move multiple sizes at once
- ▶ Can move Rip Rap (assuming there is unloading capabilities)
- ▶ Ownership can lead to better efficiency (vs. Leasing 3rd party)
- ▶ Can be on a river or on the bay
- ▶ Don't have to deal with trucking or rail

Barge Cons:

- ▶ Mother Nature – wind/tide/moon
- ▶ USCG Regulations
- ▶ Maintenance
- ▶ River barges are smaller than Bay barges (less capacity)
- ▶ Draft
- ▶ Bulkheads
- ▶ Load Time/Transit Time could be days or weeks
- ▶ Unload time
- ▶ Water is not friendly to equipment or heavy things
- ▶ Bridge closures



SHIP IT





We haven't even landed in Eastern Virginia yet...only discussed ways to get product here

.....**Sales Yards**







Sales Yards

- ▶ Smaller in acreage vs. large quarry acreage
- ▶ Less staffing than a production quarry
- ▶ Shoe horned into small industrial use footprint
- ▶ Limited Stockpile Space
 - ▶ Can't keep switching products if there isn't room to stockpile (also effects what we load and produce back at the quarry)
 - ▶ Try to stock the "essentials"
- ▶ Planning – we try to be weeks or months in advance of aggregate needs so we are ready when the project calls for aggregates
- ▶ Additional handling of product can cause quality issues
- ▶ Can be "just in time" service as barge/rail/truck didn't show up

Quality

- ▶ Aggregate Producers are held to DOT standards and specifications for their products (with exception of railroad ballast or Army Corp Specs)
- ▶ Often times we have to make the products out of spec at the quarry source, in order for the product to be in spec when it arrives at the yard
- ▶ Sometimes the source quarry is not in Virginia, therefore quarry would have to make products that meet the state specs they reside in, as well as VDOT specs where the product ends up
- ▶ Empty Truck beds need to be cleaned to avoid contamination
- ▶ Empty Barges need to be cleaned to avoid contamination
 - ▶ Consistency
- ▶ Empty Rail cars need to be cleaned out to avoid contamination
 - ▶ Consistency
- ▶ Additional handling can lead to quality concerns



SUMMARY

Lots of Logistics and Planning go
into supplying aggregates in the
Eastern VA market

Things that could be done to assist with better aggregate supply in the Tidewater Region

- ▶ Be consistent in specifying materials, stick with the basic most demanded products
- ▶ Plan your aggregate needs accurately, when, what and how much and avoid altering those needs
- ▶ When designing a project – talk to the aggregate producers to see what they are capable of (may have local inventory on hand?)