



# I-81 Multimodal Improvements Technical Report

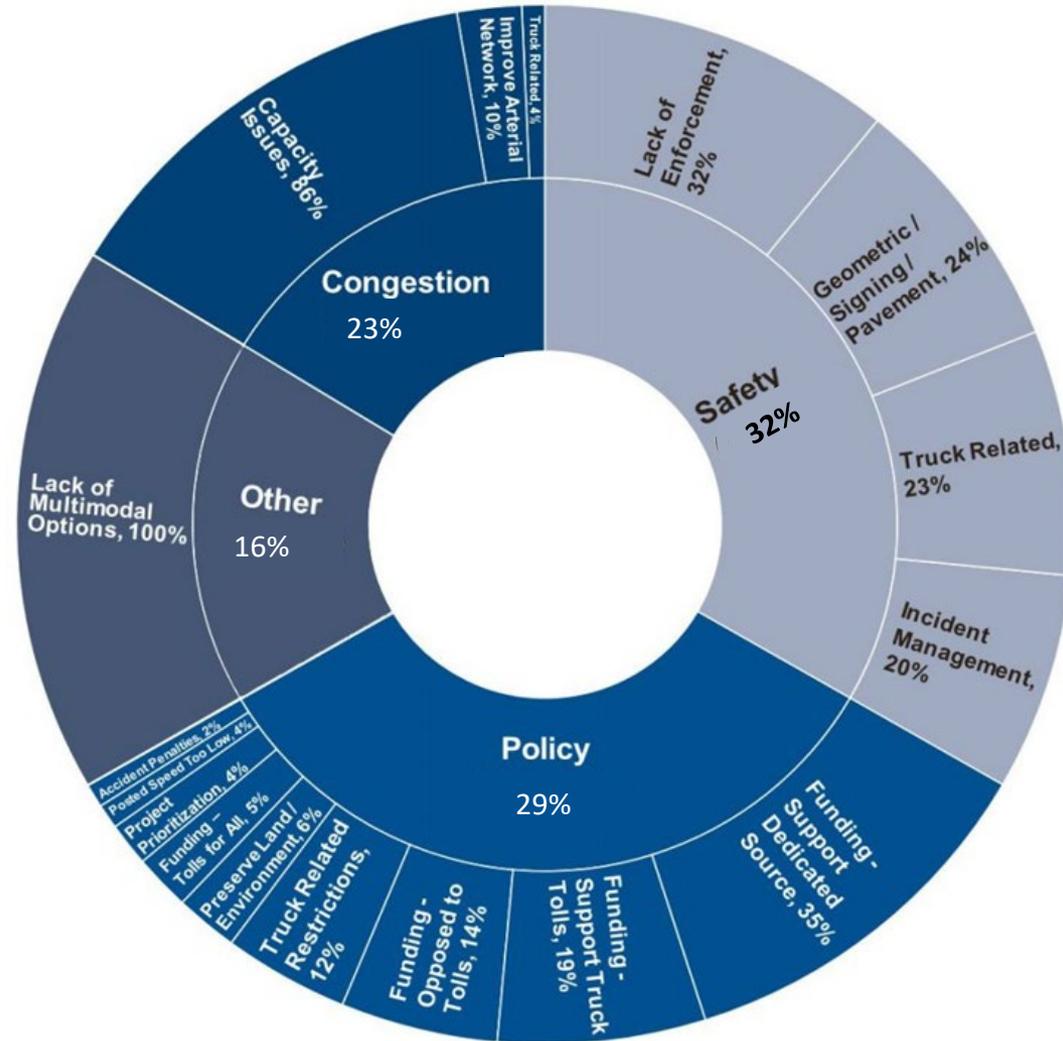
October 23, 2020

I-81 CORRIDOR  
IMPROVEMENT PLAN



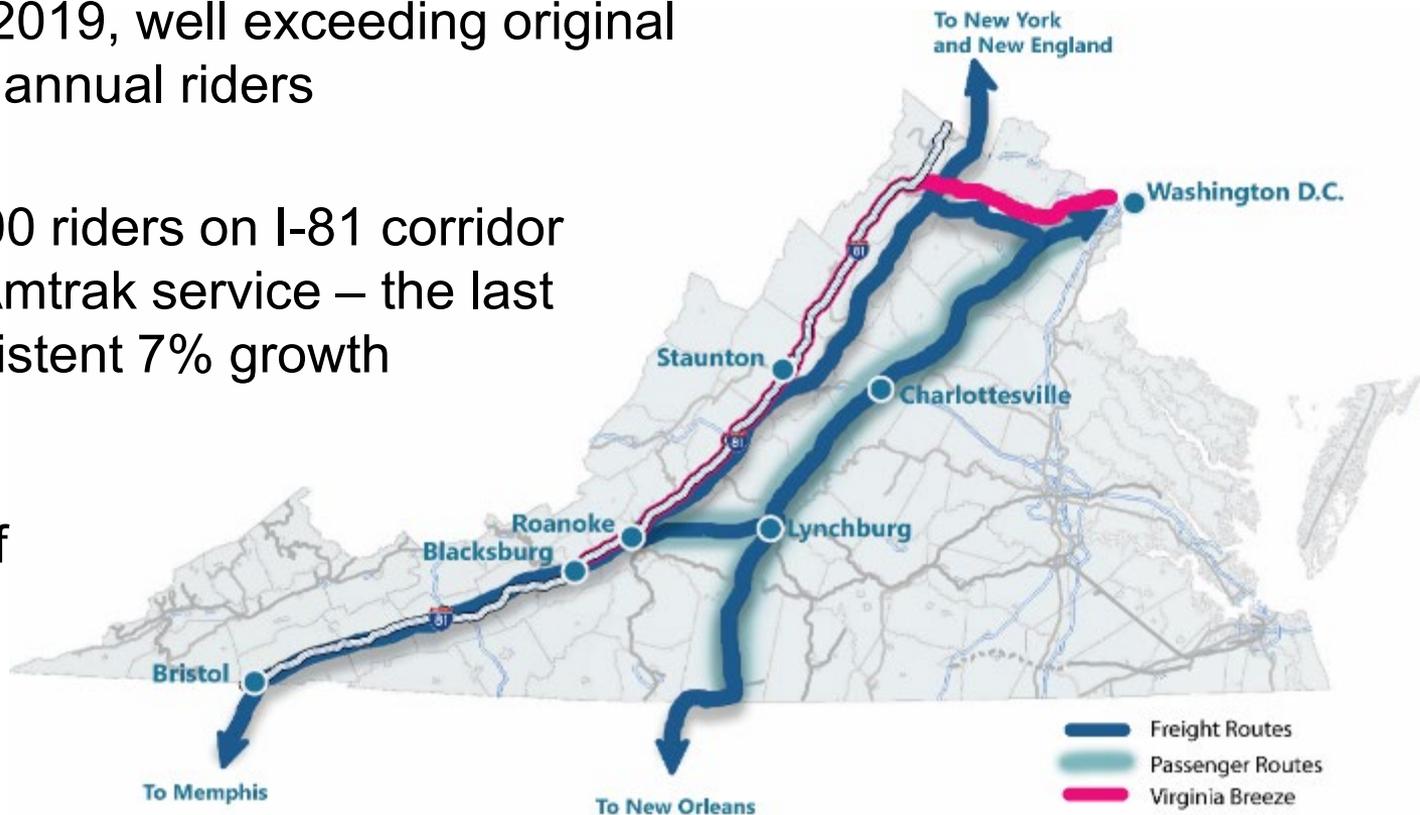
# Background

- DRPT is identifying and prioritizing multimodal improvements along the corridor
- Over 300 comments from I-81 Corridor Improvement public meetings referenced lack of multimodal options
- DRPT has identified potential transit and rail improvements, taking into account existing gaps in service



# Multimodal Improvements

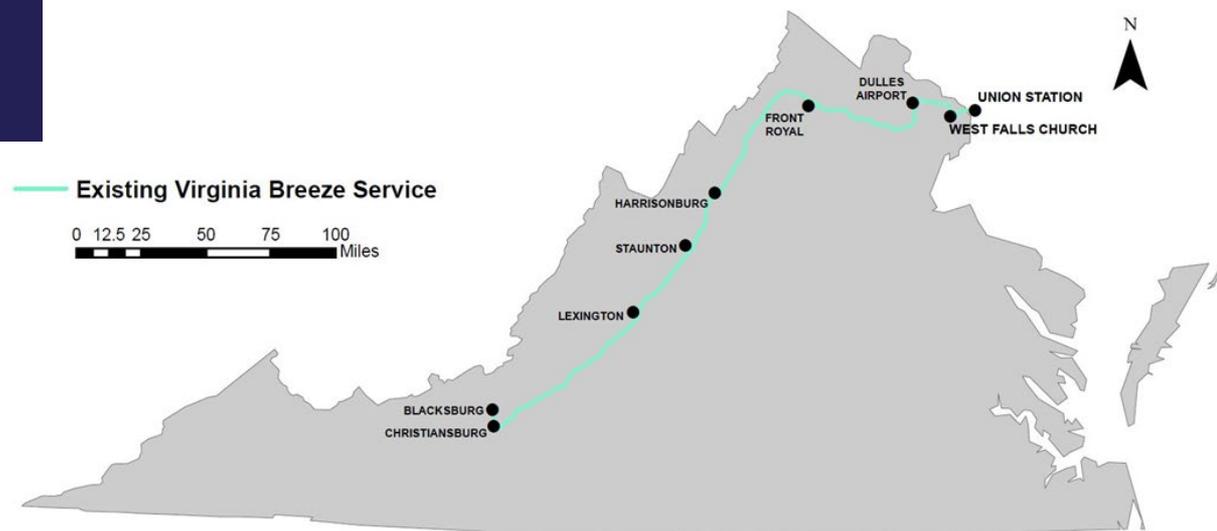
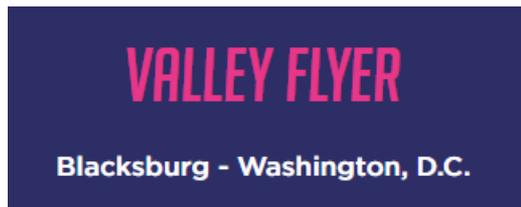
- *Virginia Breeze* bus service carried 28,855 riders in calendar year 2019, well exceeding original forecast of 7,000 annual riders
- More than 220,000 riders on I-81 corridor state supported Amtrak service – the last 2 years had consistent 7% growth
- ~70 million tons of freight moved by rail each year



# Transit Improvements

## Existing Conditions and Problem Identification

- *Virginia Breeze* Bus Lines operates the Valley Flyer daily roundtrip service between Blacksburg and Washington D.C. with stops in the Shenandoah Valley, Front Royal, Dulles Airport, and Arlington
- DRPT studied an extension of *Virginia Breeze* intercity bus service in southwestern Virginia, along with new bus stops and critical improvements to existing intercity bus stops along the corridor



# Transit Improvements

## Transit Improvement Concepts and Selection Process

- *Virginia Breeze* study concluded that one new round trip with service to Bristol and new stops at Wytheville and Salem (Alternative 3) would yield a farebox recovery of 83%, and an annual ridership increase of close to 70%
- Net annual O&M cost estimated at \$243,000\*
- Bus stop improvements at Front Royal and Lexington estimated to cost \$60,000
- New bus stops at Bristol, Wytheville, and Salem estimated to cost \$40,000

\*All costs shown are 2022 YOE

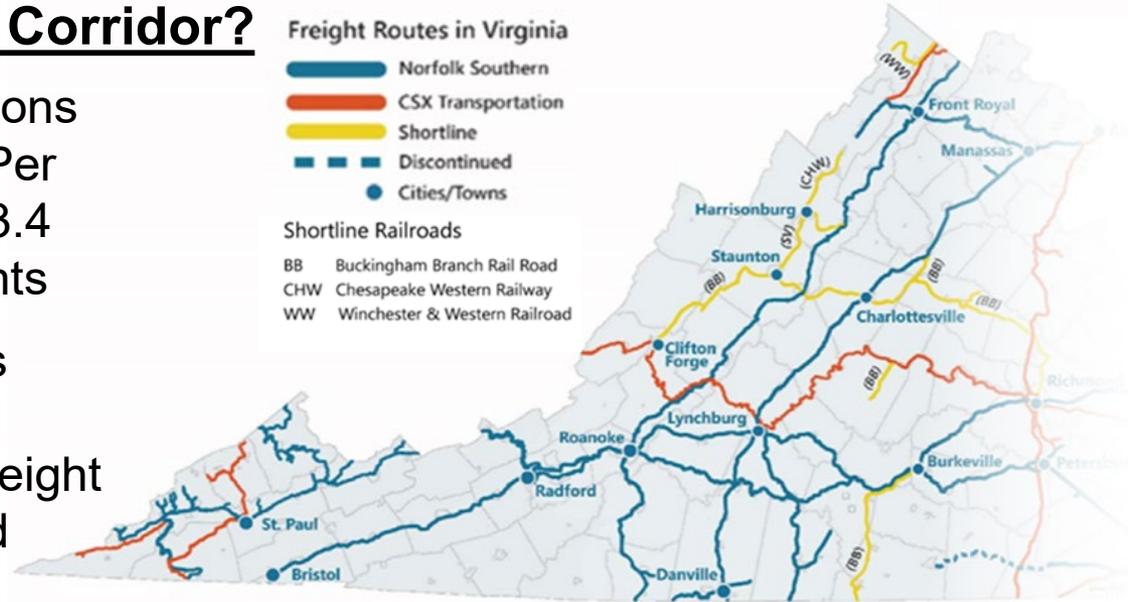


# Rail Improvements

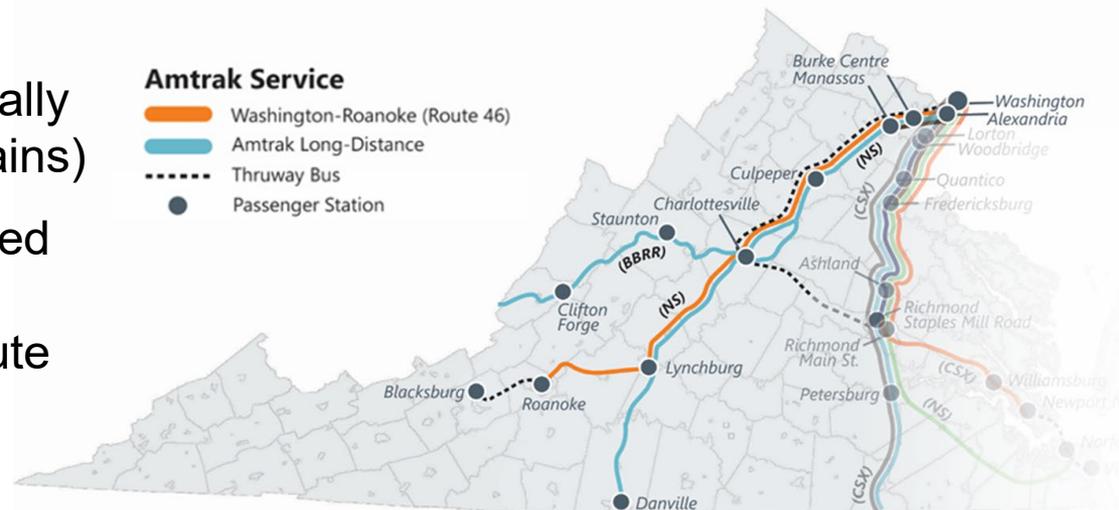
## What does rail do for the I-81 Corridor?

- Approximately 70 Million total tons moved by rail in I-81 Corridor Per Year - equal to approximately 3.4 million individual truck shipments
- Once dominant coal shipments down, leaving capacity for intermodal and merchandise freight (includes agricultural and wood products)
- Over 270,000 ons and offs at Amtrak stations in corridor annually (state supported and intercity trains)
- Roanoke train revenues exceeded operating costs and route had highest load factor of any VA route

### Freight Routes in Virginia



### Amtrak Service



# Rail Improvements

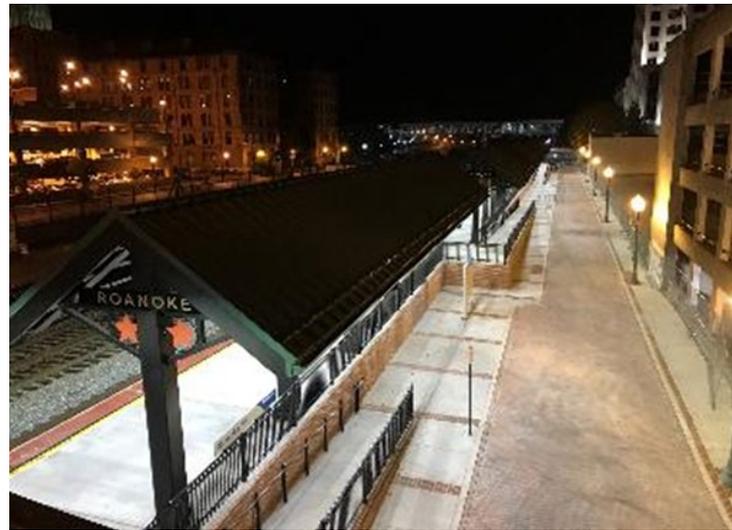
## What does the Commonwealth do to support rail?

- Invested approximately \$200 million since 2006 to increase capacity and network reliability for freight and passenger rail
  - Created double stack clearance
  - \$1.2 billion annual savings to Virginia – avoided costs from accidents, congestion and pavement maintenance
  - Approximately \$100 million for capacity improvements to extend service to Roanoke
- \$11 million allocated in SYIP for Virginia Inland Port capacity improvements

Virginia Inland Port in Front Royal



Roanoke Amtrak Station



# I-81 Corridor Rail Investments



## **REF - \$70.1 M**

- 2<sup>nd</sup> Mainline Improvements, Tunnel Clearances, and Siding Extension
- Since 2006



## **RPF - \$9.3 M**

- Shenandoah Valley Railroad
- Winchester & Western Railroad
- Since 2006



## **RIA - \$12.3 M**

- 31 Projects currently in their 15-Year Commonwealth Interest Period



## **IPROC - \$100 M**

- Extension of Amtrak Service: LYN - Roanoke
- NS Mainline Capacity Improvements
- Signal Upgrades



## **Amtrak Operating Support - \$3.6M** **FY19 – FY24**

- Service between Roanoke and the Northeast

# I-81 Corridor Rail Investments

## Examples Spurring Economic Development

- Houff Corporation – Railside Industries
  - \$450,000 Rail Industrial Access Grant
  - 17,415 trucks off road during 5-year performance period
  - 28 new full-time jobs
  - Located on Shenandoah Valley Railroad
- Shenandoah Valley Railroad
  - \$3.1M Rail Preservation Fund investment since 2006
  - 52,074 trucks off road between 2009 to 2018
  - Preservation Fund investment has aided SVRR in doubling customer base



# Rail Improvements

## Why does the Commonwealth invest in rail?

Freight and passenger rail supports our economy efficiently and effectively

### GROW THE ECONOMY

RAIL SERVICES DRIVE 6% OF VIRGINIA'S TOTAL ECONOMY.  
MORE THAN 6,000 JOBS CREATED DIRECTLY BY RAIL NETWORK



**\$2.2 BILLION**  
in direct annual benefits

**\$** about 9 cents per ton-mile of rail use



**\$190 MILLION**  
in direct annual benefits

**\$** about 46 cents per passenger-mile of rail use

### BREATHE EASIER

3M TONS OF CO<sub>2</sub> EMISSIONS AVOIDED  
(6.4% OF TOTAL IN VIRGINIA PER YEAR)



On average, railroads are **four times** more fuel efficient than trucks



Moving freight by rail instead of truck generates **75% less** greenhouse gas emissions



The total estimated level of rail service in Virginia in 2015 was about **25 billion ton-miles**

### TRAVEL SAFE

18 LIVES SAVED AND 3,000 CRASHES AVOIDED EACH YEAR



Shipping by rail avoids about **1.7 billion miles** of truck travel in Virginia



Passenger travel by rail avoids about **271 million miles** of personal driving in Virginia

### SAVE MONEY

**\$123M ANNUAL PAVEMENT MAINTENANCE SAVINGS**  
(6% OF ANNUAL VDOT MAINTENANCE BUDGET)

**\$312M ANNUAL CONGESTION SAVINGS**  
(FREIGHT AND PASSENGER DIVERSION)



**8 = 240**  
PASSENGER RAILCARS = PASSENGER VEHICLES



**100 = 340**  
FREIGHT RAILCARS = SEMI-TRAILER TRUCKS

# Rail Improvements

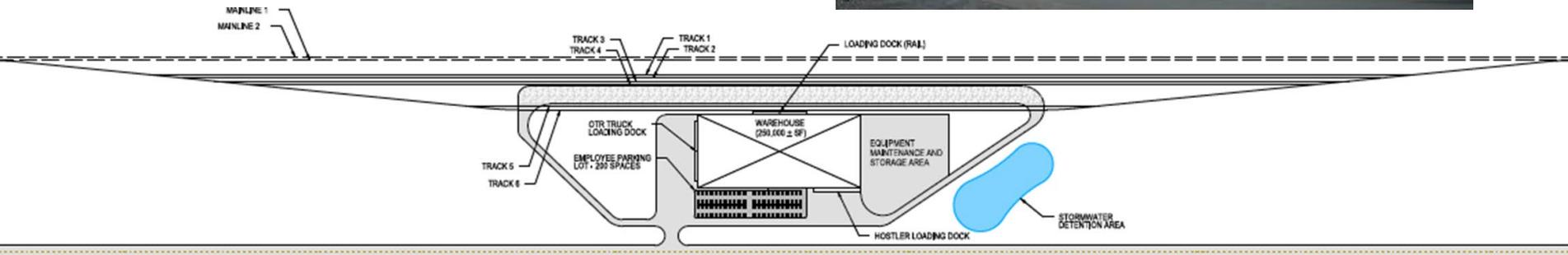
## What type of rail investments make sense in the I-81 Corridor?

- Existing industries with commodities conducive to rail that currently ship by truck present opportunity to accommodate more freight transported by rail in the corridor
- Intermodal access** will facilitate shipments by rail. This can be at a large scale, such as the Virginia Inland Port; or a smaller scale transload facility, like Houff in Augusta County

*Houff Industries, Augusta County  
transload facility funding from  
DRPT Rail Industrial Access Program*



### *Example transload facility layout*



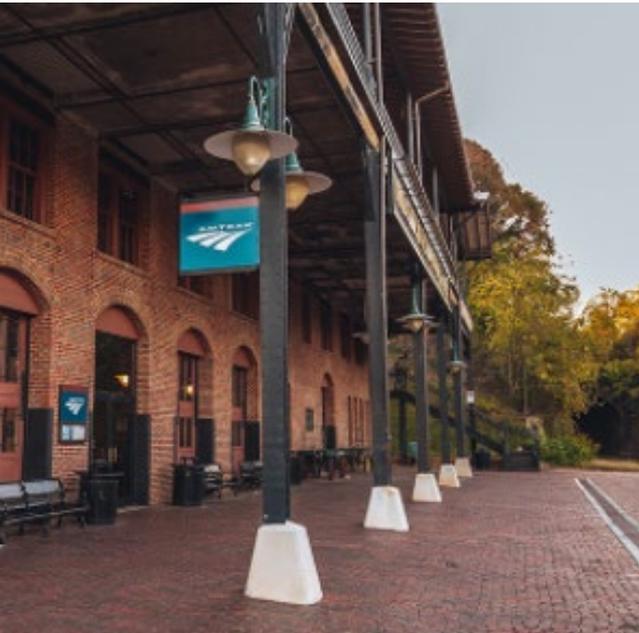
# Rail Improvements

## What type of rail investments make sense in the I-81 Corridor?

- **Passenger rail** is a vital lifeline for colleges and universities in the corridor – Virginia Tech and Radford University
- Amtrak Route 46 launched successful service to Lynchburg in 2009, at the end of the last recession
- Continued consistent demand year to year

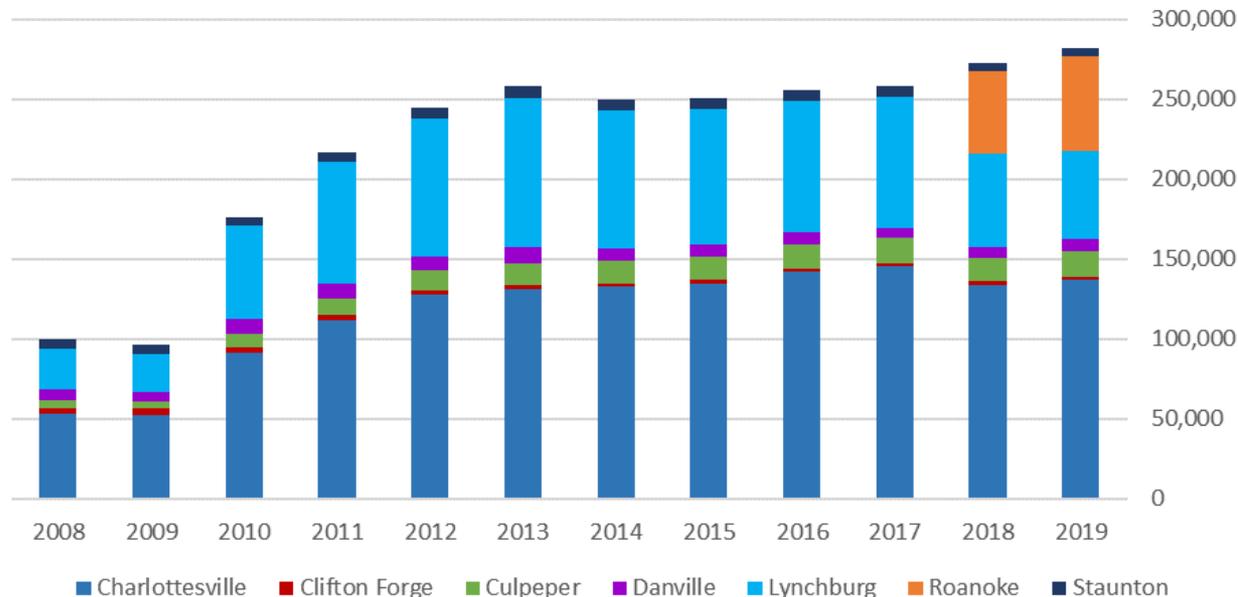
*"Regional stakeholders view Amtrak service as an asset for its provision of easy access to Washington, DC. This access provides value to firms both by enabling easy business travel, and by enhancing the image of the region for young talent interested in proximity to major urban centers."*

2017 Lynchburg Connectivity Study



**DRPT**

Amtrak Station Activity in the I-81 Corridor



# Next Steps

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- Review potential alternatives for intercity bus service, passenger rail and freight rail investments
- Quantify potential benefits of investments and assess feasibility
- Prioritize investments and present recommendations to I-81 Commission

