Is Hampton Roads a Cul-de-Sac...
or a GATEWAY?

Presented to HRTPO Board
March 17, 2022
by Robert Case, PE, PhD and Keith Nichols, PE
• Improvements have been proposed for many of the corridors that provide access to and from Hampton Roads.

• Because of the importance of these gateways to the vitality of Hampton Roads, HRTPO is preparing a study to compare proposed improvements for these gateways.

• Vision for Study: Strategic and Systematic Analysis
I. Need for Improvements
   A. Vehicle volumes
   B. Truck volumes
   C. Safety

II. Candidate Projects- Transportation Impact
   A. Project Description
   B. Project Impacts
      1. Trips to Hampton Roads
      2. Trucking to Hampton Roads
      3. Hurricane Evacuation
VEHICLES BY GATEWAY

ANNUAL AVERAGE DAILY TRAFFIC (AADT) VOLUMES AT REGIONAL GATEWAYS, 2019

Data source: HRTP0 analysis of VDOT and CBBT data.
2011 & 2019
TWO-WAY AVERAGE ANNUAL
DAILY TRAFFIC VOLUMES
SELECTED HAMPTON ROADS
REGIONAL GATEWAYS

Prepared by HRTPO Staff
Data source: HRTPO analysis of VDOT and CBBT data.
SHARE OF AADT VOLUMES AT REGIONAL GATEWAYS, 2011 AND 2019

Data source: HRTPO analysis of VDOT and CBBT data.
VEHICLES BY SEASON AND DAY OF WEEK

VOLUMES BY SEASON AND DAY OF WEEK AT REGIONAL GATEWAYS, 2019

Data source: HRTO analysis of VDOT and CBBT data. Daily data not available on Route 17 at the Gloucester County gateway.
WEEKDAY TRUCK VOLUMES AT REGIONAL GATEWAYS, 2019

Data source: HRTPO analysis of VDOT and CBBT data.

Route 58 Gateway
AVERAGE 2011 & 2019 WEEKDAY TWO-WAY TRUCK VOLUMES
SELECTED HAMPTON ROADS REGIONAL GATEWAYS

Prepared by HRTPO Staff.
TRUCK SPLIT BY GATEWAY

SHARE OF WEEKDAY TRUCK VOLUMES AT REGIONAL GATEWAYS, 2011 AND 2019

Data source: HRTPO analysis of VDOT and CBBT data.
CRASHES INVOLVING TRUCKS PER 100 MILLION TRUCK-MILES OF TRAVEL, 2015-2019

Data source: HRTPO analysis of VDOT data.
Candidate Gateway Projects

- Two projects on US 58
- Two projects on US 17
- One project on I-64
US 58 – EXISTING TRAFFIC SIGNALS

Existing Traffic Signals

5 signals near CenterPoint Intermodal
US 58 “MOSTLY LIMITED ACCESS” (MLA)

Legend
- Blue: already fully-controlled access
- **Purple:** to be upgraded to fully-controlled access
- Black: to remain signalized

Travel Time Improvement (vs. current time)
- For trips accessing I-95 5 minutes
Travel Time Improvement (vs. current time)

- For trips accessing I-95: **12 minutes**
Legend

- **Blue**: already fully-controlled access
- **Purple**: not fully-controlled access

Existing Conditions

Upgrade to Interstate

Travel Time Improvement

- 2 minutes
I-87 (NC)

Existing Conditions

Upgrade to Interstate

Legend

- **Blue**: already fully-controlled access
- **Purple**: not fully-controlled access

Travel Time Improvement

- 14 minutes
I-64 GAP

- **Termini:** MM205 to MM234 (29 miles)
- **Work:** Widening to 3 lanes in each direction
- **Time Improvement:** 2 minutes (vs. current time)
B. TRANSPORTATION IMPACT OF CANDIDATE PROJECTS

1. **Trips** between Hampton Roads and external areas
2. **Trucking** between Hampton Roads and external areas
3. Hurricane **Evacuation**
1. TRIPS BETWEEN HR AND EXTERNAL AREAS

Note:
“Trips” are for any reason - business trips, family visits, vacations, etc.

Existing Trips to Hampton Roads per day, 2019

Source: HRTP via StreetLight
58 MLA - Additional HR Trips
I-87 (NC) - Additional HR Trips
I-64 Gap - Additional HR Trips
Additional VA/NC Trips to Hampton Roads per day (vs. existing)

- US 58 Mostly Limited Access: 804
- I-58: 1,986
- I-87 (VA): 209
- I-87 (NC): 969
- I-64 Gap: 1,533
PROJECT COSTS

Note: Virginia and NC compete for federal funds.
COST PER ADDITIONAL TRIP TO HR

(lower is better)

Note: Virginia and NC compete for federal funds
2. TRUCKING TO/FROM HAMPTON ROADS

Existing Trucking to/from Hampton Roads, per year, 2017, k-tons

Legend
Tr_wHR_ktn

- 100
- 1,000
- 10,000

[Map showing existing trucking to/from Hampton Roads with various dot sizes representing k-tons.]
COST PER ADDITIONAL TON TRUCKED TO/FROM HR

(lower is better)

Note: Virginia and NC compete for federal funds
3. IMPACT OF PROJECTS ON EVACUATION

• ✔✔ Capacity Improving
  • I-58
  • I-64 Gap

• ✔ Travel-time Improving
  • US 58 MLA

• Projects NOT on an Evacuation Route
  • I-87
STUDY OVERVIEW

• Presented Today
  • Volumes
  • Safety
  • Transportation Impacts of Candidate Projects

• Future Work
  • Forecasted Volumes and Congestion
  • Quality of Life
  • Community Impacts
  • Economic Development Opportunities
  • Return on Investment