Appendix D: Working Group Meeting Materials
**SHRP2 Interstate 64 Corridor Plan**

*Shenandoah Piedmont area Collaborative Effort (SPaCE)*

**Project Introduction and Overview**

November 18, 2016

---

**Project Study Area**

- I-64 from mile marker 87 to mile marker 118 (Charlottesville to Staunton)
- US-250 from the I-81 Interchange to the Charlottesville US250/29 Bypass
- CSX Buckingham Branch, Amtrak from Charlottesville to Staunton

---

**Project Funding**

- Grant funding provided by Federal Highway Administration (SHRP2 Solutions Program)
- $100,000 in federal funds
- CA-MPO $70,000
- SAW-MPO $30,000
- CA-MPO providing project management and oversight

---

**Strategic Highway Research Program (SHRP2)**

- Authorized under SAFETEA-LU
- Funds innovation research and pilot projects that address state and local challenges
- Improving the way transportation plan, operate, maintain and ensure safety on Americas roadways

---

**SHRP2 Solutions**

Tools for the Road Ahead

---

11/18/2016
PlanWorks: Better planning. Better projects. (C01)
- Web based decision support tool
- Supports and improves collaborative decision making
- Built around key decision points in the project, LRTP, & planning process
- Provides a flexible roadmap for project planning and stakeholder involvement

**Corridor Planning Toolkit**
- The Decision Guide streamlines the transportation process by systematically building in collaboration. It was developed using examples of successful practice and with input from all partners in transportation decision making.
- The Decision Guide was developed from 23 in-depth, detailed case studies (Including the CA-MPO 2040 LRTP TCAPP Process)

**Project Scope**
1. Open a dialog with interests in the I64 Corridor
2. Build an understanding of the issues through collaborative discussions and by engaging the experts
3. Use transportation performance measure to identify deficiencies in the corridor
4. Identify ways to improve collaboration and communication on issues of governance, maintenance and project identification
5. Document lessons learned and produce a final document that outlines deficiencies and concept level solutions
Project Activities

- Multi-agency and jurisdiction working group
- Joint MPO meetings (SAW-MPO CA-MPO)
- Data collection
- Needs assessment
- Draft MOU’s
- Draft Corridor Study Results and Lessons Learned

Working Group Meetings

- Meeting 1 (Nov)
  - Scope and problem statement
  - Project Goals and process
  - Public Open House Dec 12
- Meeting 2 (Jan)
  - Goals
  - Public Safety
- Meeting 3 (Mar)
  - Evaluation Criteria
  - Economic Development/Accessibility
  - Joint MPO Meeting
- Meeting 4 (May)
  - Identify Hotspots
  - Environmental
- Meeting 5 (Jul)
  - Congestion and traffic
  - Review problem areas
  - Joint MPO Meeting
- Meeting 6 (Aug)
  - Lessons Learned
  - Recommendation of problem areas & next steps
  - Public Open House

Preliminary Data

- Highway performance related measures
  - AADT
  - Truck Traffic
  - Crashes
- Demographics
  - Commuting patterns
  - Incomes

Existing Projects

- Existing LRTP, BLP, and SMART SCALE Projects
Crashes

- Eastbound I-64 sees delays as crews clean up crash. The Daily Progress staff reports. Nov 14, 2016. Accident is about a mile east of the Route 20 interchange.
- Crashes clog I-64 eastbound. The Daily Progress staff reports. Nov 7, 2016. At least four crashes reported eastbound around Ivy in the last hour.
- Both lanes of eastbound I-64 now open at crash scene near Ivy exit. The Daily Progress staff reports. Nov 2, 2016. Traffic is beginning to move smoother through the site.
- Eastbound I-64 crash is cleared and traffic slowly getting back to normal. The Daily Progress staff reports. Oct 25, 2016. Crash is in the left lane. Traffic is crawling through the site.
- Crash cleared, traffic getting back to normal on eastbound I-64 near Ivy. The Daily Progress staff reports. Oct 18, 2016. Third crash on the interstate in just over 24 hours.
- I-64 crash injures 3, ties up traffic. The Daily Progress staff reports. Oct 17, 2016. State police said at least one of the injured had serious injuries, but no further information on their conditions was available Monday evening.
- I-64 traffic crash cleared at Ivy, all traffic lanes open. The Daily Progress staff reports. Oct 10, 2016. A crash on Interstate 64 involving a camper-style vehicle closed westbound lanes of the highway closed at mile marker 114 near the Ivy exit.

Analyzing Crashes: 2011-2016

- 3740 total crashes
- Rear-end collisions are the most prevalent
- 30 fatalities
- Average number of crashes per year is 523
- Average of 1.5 crashes per day
- 25% occur during peak afternoon commute times
- Fridays have slightly higher number
### Crash Type

<table>
<thead>
<tr>
<th>Collision Type</th>
<th>Number</th>
<th>Fatality</th>
<th>Serious Injury</th>
<th>Serious or Fatal % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear End Collision</td>
<td>1023</td>
<td>3</td>
<td>31</td>
<td>3%</td>
</tr>
<tr>
<td>Fixed Object Off Road</td>
<td>687</td>
<td>6</td>
<td>44</td>
<td>7%</td>
</tr>
<tr>
<td>Angle</td>
<td>535</td>
<td>8</td>
<td>27</td>
<td>7%</td>
</tr>
<tr>
<td>Deer or Other Animal</td>
<td>466</td>
<td>0</td>
<td>2</td>
<td>.5%</td>
</tr>
<tr>
<td>Sideswipe (Either Direction)</td>
<td>222</td>
<td>2</td>
<td>6</td>
<td>4%</td>
</tr>
<tr>
<td>Non-Collision</td>
<td>72</td>
<td>2</td>
<td>17</td>
<td>26%</td>
</tr>
<tr>
<td>Head On</td>
<td>54</td>
<td>3</td>
<td>10</td>
<td>24%</td>
</tr>
<tr>
<td>Other</td>
<td>36</td>
<td>1</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>Fixed Object In Road</td>
<td>19</td>
<td>1</td>
<td>0</td>
<td>5%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>18</td>
<td>3</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td>Backed Into</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3140</td>
<td>29</td>
<td>146</td>
<td></td>
</tr>
</tbody>
</table>

### Crash Severity

<table>
<thead>
<tr>
<th>Severity</th>
<th>Number</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Damage Only</td>
<td>2152</td>
<td>69%</td>
</tr>
<tr>
<td>Non-Visible Injury</td>
<td>257</td>
<td>8%</td>
</tr>
<tr>
<td>Visible Injury</td>
<td>548</td>
<td>17%</td>
</tr>
<tr>
<td>Ambulatory Injury</td>
<td>154</td>
<td>5%</td>
</tr>
<tr>
<td>Fatal Injury</td>
<td>29</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Severity Heat Map: 2011-2016

Assigned numeric value to Crash Severity:
- 1= Property Damage Only
- 2= Non-Visible Injury
- 3= Visible Injury
- 4= Ambulatory Injury
- 5= Fatal Injury

Darker red indicates clustering of more severe crashes (3, 4, & 5).

### Fatal Crashes: 2011-2016

- 29 Crashes that resulted in 30 Deaths
- 3 involved adverse weather conditions
- 6 crashes involved with 3-axle or more vehicle
- 6 Crashes were known to have impaired (drinking) motorists
- Majority occurred in morning & afternoon commute times
Crash Counts Per Year

Crash Counts Per Year: 2011-2016

Crash Rates Per One Hundred Million Miles: 2011-2016

Crash Rates Per One Hundred Million Miles: 2011-2016
Streetlight: Waynesboro to Cville Peak PM

Demographics

Community Profile: Population Change

<table>
<thead>
<tr>
<th>Geography</th>
<th>2015 Pop</th>
<th>2010-15 Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginia</td>
<td>8,382,993</td>
<td>4.8%</td>
</tr>
<tr>
<td>C-A</td>
<td>153,261</td>
<td>7.6%</td>
</tr>
<tr>
<td>Charlottesville</td>
<td>48,210</td>
<td>10.9%</td>
</tr>
<tr>
<td>Albermarle</td>
<td>105,051</td>
<td>6.1%</td>
</tr>
<tr>
<td>SAW</td>
<td>121,218</td>
<td>2.3%</td>
</tr>
<tr>
<td>Staunton</td>
<td>24,542</td>
<td>3.4%</td>
</tr>
<tr>
<td>Augusta</td>
<td>74,881</td>
<td>1.5%</td>
</tr>
<tr>
<td>Waynesboro</td>
<td>21,795</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

Community Profile: Age

Population Pyramids (2010)

Charlottesville-Albermarle has a large cohort of college students that are cut off on this chart.
Community Profile: Age

Age Structure in Staunton, Augusta, and Waynesboro

Age Structure in Charlottesville and Albemarle

Community Profile: Race and Ethnicity

- Both regions are more White than the state as a whole, with the Valley being significantly more White

Community Profile: Income

- Median household income in Charlottesville is significantly higher than in the Valley
- The income spread is similar in both communities across most income brackets.
- Major difference is presence of about 10,000 additional households earning $100,000 or more in Charlottesville/Albemarle

Median Household Income

<table>
<thead>
<tr>
<th>Region</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlottesville Metro Area</td>
<td>$59,189</td>
</tr>
<tr>
<td>Staunton-Wboro Metro Area</td>
<td>$49,262</td>
</tr>
</tbody>
</table>

Households by Income Bracket

- Charlottesville-Albemarle
- Staunton-Augusta-Waynesboro
Community Profile: Poverty & Employment

### General Economic Indicators

<table>
<thead>
<tr>
<th>Geography</th>
<th>Median Household Income</th>
<th>Poverty Rate</th>
<th>Non-student Poverty Rate</th>
<th>Unemployment Rate (BLS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlottesville Metro Area</td>
<td>$59,189</td>
<td>15.2%</td>
<td>10.2%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Charlottesville</td>
<td>$47,218</td>
<td>27.5%</td>
<td>15.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Albemarle</td>
<td>$67,958</td>
<td>9.7%</td>
<td>8.4%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Staunton-Waynesboro Metro Area</td>
<td>$49,262</td>
<td>13.2%</td>
<td>13.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Staunton</td>
<td>$39,982</td>
<td>18.2%</td>
<td>17.8%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Augusta</td>
<td>$54,018</td>
<td>9.3%</td>
<td>9.4%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Waynesboro</td>
<td>$45,499</td>
<td>20.7%</td>
<td>20.8%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Community Profile: Educational Attainment

- The contrast in educational attainment is more dramatic than the contrast in income

Community Profile: Housing

- The dominant form of housing in both regions is single-family detached. Charlottesville has more multi-family.

Community Profile: Housing

- [Graph showing housing age distribution]
Community Profile: Housing

- **Home Values**
  - Number of units
  - Home Value
  - Under $150K, $150-250K, $250-400K, Over $400K
  - Charlottesville-Albemarle vs Staunton-Augusta-Waynesboro

Community Profile: Migration

- County-to-county migration numbers are unreliable for any single year, but it looks like Staunton/Augusta/Waynesboro has a net gain of about 200-300 people a year from the Charlottesville/Albemarle area.

- Staunton/Augusta/Waynesboro loses young adults, gains families and older migrants.

- Charlottesville/Albemarle has huge in-migration of young adults, loses them in their 30's and 40's, has small gains among older age groups.

QUESTIONS

Thomas Jefferson Planning District Commission

401 East Water Street
Charlottesville, VA 22902

Wood Hudson
Senior Planner

Resources: http://campo.tjpdc.org
SHRP2 I-64 Corridor Study Working Group Meeting #1

Friday November 18, 2016
1:00 PM to 3:00PM
Location: TJPDC Water Street Center, 407 East Water Street, Charlottesville, VA 22902

Agenda

1. Introductions (40 minutes)
   • Project team staff will lead the working group through brief introductions.

2. Project Overview (40 minutes)
   • Project team staff will provide PowerPoint presentation outlining the scope and goals for the corridor. Additionally, staff will provide an overview of existing conditions in the corridor. This will include community profiles and transportation performance measures.

3. Work Session: Identification of key issues and concerns in the corridor
   • Small groups breakouts (20 minutes)
     Working Group participants will break up into small groups where they will be asked to discuss amongst themselves and identify key issues that should/could be researched and addressed in the corridor study. A staff member will be on-hand to facilitate the discussion
   • Group work session (20 minutes)
     PDC staff will lead the working group through a facilitated discussion about issues identified in the small group work session.

4. Next meeting topics will be
   • Public Safety
   • Goals for the corridor

5. Upcoming meeting dates
   • Public Open House December 12 from 5:00-7:00pm (Water Street Center, 407 E. Water Street)
   • Working Group Meeting January Exact date/time TBD (Virginia Regional Transit, 51 Ivy Road Fishersville, VA)
Emergency Services Overview

I-64 Corridor Study
Traffic Accident Facts

• In 1966, traffic crashes resulted in over 50,000 fatalities and the fatality rate was three times as high as it is today. If the extraordinary progress in improving highway safety had not been made since that time, over 120,000 people would have died last year and hundreds of thousands more would have suffered traumatic injury.

• Death and injury from traffic crashes continue to be among the most serious public health problems facing our country. Motor vehicle injuries constitute 99% of non-fatal transportation injuries and 94% of transportation deaths. The statistics for 1996 alone offer a grim reality: there were over 6.8 million crashes, in which over 41,000 were killed and another 3.5 million were injured. With yearly increases in travel and no improvement over our current safety performance, fatalities and injuries could increase by 50 percent by 2020.

• Motor vehicle crashes are the number one safety problem in American transportation. They account for 94 percent of transportation deaths and 99 percent of transportation injury. In 1996, 41,907 people were killed and 3,511,000 people were injured in police reported crashes. The lifetime economic cost of these crashes is over $150 billion annually. The share borne by tax payers is staggering: the public pays 13 percent of the cost of injuries treated in an emergency department; 26 percent of the cost of injuries requiring hospitalization; and 48 percent of the cost of injuries treated in a rehabilitation hospital.

• Source NHTSA
Calls For Service

- Determined by cell tower location and sector
- Dispatched and coordinated by the PSAP with jurisdiction
- SAW agencies have access to common frequencies
- RIOS Interoperability for outside agencies
- Afton Mountain Communications Plan
Response

• Multi-Agency Coordination
  • Local, Regional, and State Resources
• Unified Command and NIMS
• Mutual Aid and Automatic Aid Agreements
• Regional MCI Plans
• Afton Mountain Incident Plan
• Tractor Trainer Accidents/Hazmat
Factors Impacting Response

- Heavy Traffic/Time of Day
- Weather
- Blocked Lanes of Travel
- Access/ Egress Issues at entrances and exits
  - Discussed gates for Afton Mountain
- Blocked Shoulders
- European Model
Local Impacts

- Detours and Reroutes
- Closing the interstate
- Capacity of local roadways
- Displaced Motorists
- Towed Vehicle Storage
Resources

• Regional TOC
• Interstate Camera Access
• Programmable Message Boards
• TIMS Training
• Va. Highway Incident Management Group
• Regional Highway Incident Management Groups
• Regional Exercises
• VDOT Safety Service Patrols
Summary

- Coordinated Multi-Agency Response
- Regional Planning, Training, and Exercises
- All Players Must be Included
- Response to Interstate Accidents is Hazardous for Responders
Questions/Discussion
SHRP2 Interstate 64 Corridor Plan

Shenandoah Piedmont area Collaborative Effort (SPaCE)

Working Group Meeting #2

January 31, 2017
Project Study Area
PlanWorks: Better planning. Better projects. (C01)

- Web based decision support tool
- Supports and improves collaborative decision making
- Built around key decision points in the project, LRTP, & planning process
- Provides a flexible roadmap for project planning and stakeholder involvement
Corridor Planning Toolkit

- The Decision Guide streamlines the transportation process by systematically building in collaboration. It was developed using examples of successful practice and with input from all partners in transportation decision making.
- The Decision Guide was developed from 23 in-depth, detailed case studies (Including the CA-MPO 2040 LRTP TCAPP Process)
Project Scope

1. Open a dialog with interests in the I64 Corridor
2. Build an understanding of the issues through collaborative discussions and by engaging the experts
3. Use transportation performance measure to identify deficiencies in the corridor
4. Identify ways to improve collaboration and communication on issues of governance, maintenance and project identification
5. Document lessons learned and produce a final document that outlines deficiencies and concept level solutions
Working Group Meetings

Meeting 1 (Nov)
• Scope and problem statement
• Project Goals and process

Meeting 2 (Jan)
• Goals
• Public Safety

Meeting 3 (Mar)
• Evaluation Criteria
• Economic Development & Accessibility

Meeting 4 (May)
• Identify Hotspots
• Environmental

Meeting 5 (Jul)
• Congestion and traffic
• Review problem areas

Meeting 6 (Aug)
• Lessons Learned
• Recommendation of problem areas & next steps

Public Open House Dec 12
Joint MPO Meeting
Joint MPO Meeting
Public Open House
Public Open House

- Crozet Library
- 18 people attended and provided comments
- Comment cards
- Online survey
- Poster maps
Public Comments

- “Crozet growth volume on I-64 and 250 – plan for this growth?”
- Pointing to Routes 151 and 250 – “Need to address this intersection”
- Pointing to 250 on Afton Mountain – “Second eastbound lane on 250?”
- Pointing to I-64 (mm 100) Afton Mountain – “Have to address this.”
- “Rarely encounter problems from Exit 94 to I-81.”
- Pointing to I-64 and I-81 interchange – “Have to address this.”
- Pointing to area between mm 114 (after Sun Hill) and 118 – “SPEED and following too closely a big factor here!”
- Pointing to Sun Hill (just past mm 114) – “Add a truck climbing lane?”
- “Signal timing between 250 between Broomley and 29 needs addressing.”
- “Can VDOT stage the emergency vehicles on 64 to help clean accidents during rush hour more rapidly?”
- “Make transparent layovers for these maps to define crash ‘hot spots.’”
Public Survey Results

- The majority of respondents travel the corridor 5 or more times per week.
- Most trips are commutes to and from work (46.7%), followed by leisure trips (33.3%).
- Safety was ranked as the highest priority for I-64 & 250, followed closely by congestion.
- None of the respondents utilize commuter services (i.e. RideShare, Park & Ride lots, or transit).
Public Survey Results

Comments & Recommendations:

- Truck climbing or additional lanes on I-64 were
- Better bike and pedestrian infrastructure on 250
- More signage warning drivers of conditions
- Excessive speeds need to be addressed
COR-1: Approve Scope and Process

First steps: coordinating partners and establishing formal lines of communications between groups that communicate infrequently. Evaluation of decision points and creating collaborative decision-making across multiple disciplines and tiers of government will be included.

Deliverables: Draft Scope to guide planning process; Aggregate data repository.

Outcomes:
- The geographical scope
- Technical Scope
- Web Data Repository

http://campo.tjpdc.org/i64-corridor/
COR-1 Outcomes

- Geographic Scope
The Technical scope is based on meeting the regional need of improving the safe efficient movement of goods and people through the study corridor. Due to the corridor being super-regional in nature the technical aspects of the corridor study focus heavily on improving inter-governmental and inter-agency communication, coordination, and facility management.

Data Repository A project specific webpage has been set up within the Charlottesville Albemarle MPO domain. [http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/). The site includes information about the project, an interactive map, and a growing inventory of corridor related studies GIS and reports.
COR-2: Approve Problem Statements/Opportunities

SPaCE will engage facilitated collaborative meetings, focused stakeholder groups, public input sessions and multi-media engagement to identify a common understanding of the issues and seek partner and stakeholder identification of problems and opportunities.

Deliverables: Work towards agreement among stakeholders on the deficiencies and potential opportunities. Staff collaborating with the Working Group have identified the following deficiencies:
COR-2 Deficiencies

- **Safety**
  - Crashes
  - Speed
  - Reckless driving

- **Peak hour congestion**
  - Congestion at key exits
  - Traffic at Afton caused by slow moving heavy vehicles
  - Commuter demand
  - Through traffic demand

- **State of good repair**
  - Roadway pavement conditions

- **Accessibility**
  - Transit
  - Carpooling

- **Land Use**
  - Housing affordability
  - Jobs and housing mismatch
  - Sprawl
COR-3: Goals

Process: elicit stakeholder perspective and partner approval on the comprehensive set of transportation, community and environmental goals. Focus will be regional outcomes of reducing congestion, improving safety and enhancing multi-modal options in the corridor supported by access to comprehensive data. Outcome: Develop a list set of goals guiding the selection of a set of solutions addressing opportunities and deficiencies.

Deliverables: Draft goals (review at next meeting)

Outcomes:
- Identify congestion and safety hotspots (Afton, Exit 118 etc.)
- Recommend areas for future studies (define scope and need of these studies)
- Identify areas of concern for inclusion in LRTPs and Statewide Plans etc.
Next steps

- MPO’s will be developing an MOU on cooperation in the corridor
- Continue data gathering and review
  - Econ Dev, Accessibility, Congestion, Environmental factors
- Work through COR 3, 4 & 5
- Next Working group Meeting End of March
- Joint MPO meeting May (Draft MOU)
Trip Generation (Demand)

Travel from Staunton-Augusta-Waynesboro Area to...

- Metropolitan Washington Region: 33%
- Hampton Roads Area: 13%
- Central Virginia Area: 7%
- Fredericksburg Area: 2%
- Harrisonburg-Rockingham Area: 2%
- Richmond Area: 1%
- Tri-Cities Area: 1%
- Winchester Area: 1%
- Roanoke Valley Area: 1%
- New River Valley Area: 1%
- Charlottesville-Albemarle Area: 1%
- North Carolina: 4%
- West Virginia: 1%
- Maryland: 1%
- Other: 1%

Travel from Charlottesville-Albemarle to...

- Metropolitan Washington Region: 26%
- Hampton Roads Area: 5%
- Central Virginia Area: 6%
- Fredericksburg Area: 6%
- Harrisonburg-Rockingham Area: 1%
- Richmond Area: 1%
- Tri-Cities Area: 1%
- Roanoke Valley Area: 1%
- New River Valley Area: 26%
- Staunton-Augusta-Waynesboro Area: 1%
- North Carolina: 1%
- West Virginia: 1%
- Maryland: 1%
- Other: 1%

Source: VTRANS 2040
Trip Generation (Demand)

Travel from Staunton-Augusta-Waynesboro Area to... (clockwise starting from the top)
- Metropolitan Washington Region
- Danville Area
- Hampton Roads Area
- Central Virginia Area
- Fredericksburg Area
- Harrisonburg-Rockingham Area
- Richmond Area
- Tri-Cities Area
- Winchester Area
- Roanoke Valley Area
- New River Valley Area
- Charlottesville-Albemarle Area
- North Carolina
- West Virginia
- Maryland
- Other

33% 23%

Travel from Charlottesville-Albemarle to... (clockwise starting from the top)
- Metropolitan Washington Region
- Hampton Roads Area
- Central Virginia Area
- Fredericksburg Area
- Harrisonburg-Rockingham Area
- Richmond Area
- Tri-Cities Area
- Roanoke Valley Area
- New River Valley Area
- Staunton-Augusta-Waynesboro Area
- North Carolina
- West Virginia
- Maryland
- Other

28% 26%

Source: VTRANS 2040
Vehicle Traffic

Hourly Traffic Distribution – Weekdays

Monthly Traffic Distribution – Weekdays

Daily Person Hours of Delay per Mile

Source: VTRANS 2040
Pavement Condition
Analyzing Crashes: 2011-2016

- 3,140 total crashes
- Rear end collisions are the most prevalent
- 30 fatalities
- Average of 1.5 crashes per day
- 25% occur during peak afternoon commute times
- Fridays have slightly higher number
## Crash Severity

<table>
<thead>
<tr>
<th>Severity</th>
<th>Number</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Damage Only</td>
<td>2152</td>
<td>69%</td>
</tr>
<tr>
<td>Non-Visible Injury</td>
<td>257</td>
<td>8%</td>
</tr>
<tr>
<td>Visible Injury</td>
<td>548</td>
<td>17%</td>
</tr>
<tr>
<td>Ambulatory Injury</td>
<td>154</td>
<td>5%</td>
</tr>
<tr>
<td>Fatal Injury</td>
<td>29</td>
<td>1%</td>
</tr>
</tbody>
</table>

![Pie chart showing percentage distribution of crash severity](image-url)
## Crash Type

<table>
<thead>
<tr>
<th>Collision Type</th>
<th>Number</th>
<th>Fatality</th>
<th>Serious Injury</th>
<th>Serious or Fatal % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear End Collision</td>
<td>1023</td>
<td>3</td>
<td>31</td>
<td>3%</td>
</tr>
<tr>
<td>Fixed Object Off Road</td>
<td>687</td>
<td>6</td>
<td>44</td>
<td>7%</td>
</tr>
<tr>
<td>Angle</td>
<td>535</td>
<td>8</td>
<td>27</td>
<td>7%</td>
</tr>
<tr>
<td>Deer or Other Animal</td>
<td>466</td>
<td>0</td>
<td>2</td>
<td>.5%</td>
</tr>
<tr>
<td>Sideswipe (Either Direction)</td>
<td>222</td>
<td>2</td>
<td>6</td>
<td>4%</td>
</tr>
<tr>
<td>Non-Collision</td>
<td>72</td>
<td>2</td>
<td>17</td>
<td>26%</td>
</tr>
<tr>
<td>Head On</td>
<td>54</td>
<td>3</td>
<td>10</td>
<td>24%</td>
</tr>
<tr>
<td>Other</td>
<td>36</td>
<td>1</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>Fixed Object In Road</td>
<td>19</td>
<td>1</td>
<td>0</td>
<td>5%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>18</td>
<td>3</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td>Backed Into</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3140</strong></td>
<td><strong>29</strong></td>
<td><strong>146</strong></td>
<td></td>
</tr>
</tbody>
</table>
Severity Heat Map: 2011-2016

Assigned numeric value to Crash Severity:
• 1 = Property Damage Only
• 2 = Non-Visible Injury
• 3 = Visible Injury
• 4 = Ambulatory Injury
• 5 = Fatal Injury

Darker red indicates clustering of more severe crashes (3, 4, & 5)
Fatal Crashes: 2011-2016

- 29 Crashes that resulted in 30 Deaths
- 3 involved adverse weather conditions
- 4 crashes involved with 3-axle or more vehicle
- 6 Crashes were known to have impaired (drinking) motorists
- Majority occurred in morning & afternoon commute times
QUESTIONS

Thomas Jefferson Planning District Commission

401 East Water Street
Charlottesville, VA 22902

Wood Hudson
Senior Planner

Resources: http://campo.tjpdc.org/
VIRGINIA STATE POLICE

Motor Vehicle Crash Investigation Familiarization

Presented by
First Sergeant G. Scott VanLear

scott.vanlear@vsp.virginia.gov
540-885-2142
Crash or Accident?

- NO SUCH THING AS AN ACCIDENT
  - 2910 traffic laws*
  - 517 criminal laws*
  - Additionally there are Administrative Laws
    (Construction, Alcohol, and Status Offenses)
  
  * Source – Code of Virginia

- If you wreck you have violated one of these, thus you **crashed**!
Motor Vehicle Crash Investigation

Objectives

- To determine the violation of law.

- Obtain the necessary evidence to SUCCESSFULLY PROSECUTE the violator.

- Obtain the necessary information to file the required reports.

Source - Virginia State Police Manual
Motor Vehicle Crashes
Extent of Investigation

- Non-Reportable vs. Reportable Crashes
  - Reportable = $1,500 property damage and/or injury

- Criminal, Traffic, and/or Administrative
  - Fatal
  - Hit and Run
  - Assaults
  - Police Pursuits

Motor Vehicle Crashes

Extent of Investigation

- Severity/Circumstances of the Crash Determines Extent of the Investigation
  - Non-Reportable: Exchange of Information Only (unless an obvious serious violation of law such as DUI/DUID)
  - Reportable: Motor Vehicle Crash Investigation
  - Hit and Run: Criminal and Crash Investigation
  - Fatality or Possible Fatality: Extremely Detailed Criminal and Crash Investigation
  - Police/EMS: the above + Administrative Investigation

Criminal Investigation

- A Hit and Run is a CRIME by law
  - Requires Criminal Investigation and a Motor Vehicle Crash Investigation

- May be a MISDEMEANOR or FELONY
  - Attended Property, Personal Injury, Property Damage
  - Misdemeanor investigation is less involved than a Felony

- Scene Examination and Interviews are detailed, therefore more time consuming, since the preservation and recovery of evidence is detailed and documented correlating to the seriousness of the offense.
Criminal Investigation

- A Fatality is a HOMICIDE by law
  - Requires Extensive Criminal Investigation and a Motor Vehicle Crash Investigation
- Investigation of a Fatal Motor Vehicle Crash is extremely detailed and time consuming since the preservation and recovery of evidence must include/document EVERYTHING.
  - Laser Transit
  - Interrogation
  - Notes/Photos/LICAN/Seizure of Evidence
Motor Vehicle Crash Investigation
(On Site Duties)

- Secure the Scene (Officer Safety Issue)
- Care for the Injured
- Detailed Examination of the Scene
- Locate and Interview all Witnesses and Drivers
- Arrange Scene Cleanup

Source – Virginia State Police Manual
Motor Vehicle Crash Investigation
(On Site Duties)

- Secure the Scene (Officer Safety Issue)
  - Exposure to Secondary Threats
    - Weapons
    - Fire/Explosion
    - Traffic (Move out of Roadway or to another location)
  - Mental State of Parties Involved
    - Angry vs. Calm
    - Wanted/DUI/DUID
  - Preservation of Scene
    - Loss of Evidence
Motor Vehicle Crash Investigation
(On Site Duties)

- Secure the Scene (Officer Safety Issue)
- Care for the Injured
  - Fire/Rescue on Scene vs. call for Fire/Rescue
  - Triage
  - First Aide
Motor Vehicle Crash Investigation
(On Site Duties)

- Secure the Scene (Officer Safety Issue)
- Care for the Injured
- Detailed Examination of the Scene
  - Locate/Secure Physical Evidence
  - Mark Physical Evidence
  - Preserve Physical Evidence (Notes, Measurements, Photos, Packaging)
Motor Vehicle Crash Investigation
(On Site Duties)

- Secure the Scene (Officer Safety Issue)
- Care for the Injured
- Detailed Examination of the Scene
- Locate and Interview all Witnesses
  (Document their Account)
  - Drivers
  - Passengers
  - By-Standers
  - First Responders
Motor Vehicle Crash Investigation

(On Site Duties)

- Secure the Scene (Officer Safety Issue)
- Care for the Injured
- Detailed Examination of the Scene
- Locate and Interview all Witnesses and Drivers

Arrange Scene Cleanup

- Drive-away vs. Tow-away?
- Wreckers (Regular, Rollback, Large Wrecker, or Special Equipment/Crane required?)
- Debris cleanup? (Tow Service, FD, HAZMAT, VDOT)
- Roadway Repair?
Investigatory Conflicts

- **Fire and Rescue Priorities**
  - Care for Injured/Fire Suppression versus Scene Preservation

- **VDOT Priorities**
  - Roadway Closure/Property Damage Repair versus Detailed Investigation

- **Wrecker Services**
  - Vehicle Recovery versus Scene Preservation
  - Time = Money

- **THE PUBLIC**
  - Rubberneckers/morbid curiosity
  - Inattentive/Self absorbed
RESULTS

LOST REVENUE

- INTER-AGENCY TURMOIL
- PUBLIC OUTCRY
TRAFFIC BACKUPS
TRAFFIC BACKUPS
QUESTION

Why hasn’t the State Police focused attention to I-64 Corridor?
ANSWER

Because it is not a significant source of calls for service, and thus is not a predominant user of our resources.
WAIT

LET ME

EXPLAIN
IT'S ALL ABOUT PERSPECTIVE
Some Facts about Troopers

- 37% Time devoted to Highway Safety
- 20% Time devoted to Crash Investigation
- 18% Time devoted to Criminal Interdiction
- 15% Time devoted to Report Writing
- 6% Time devoted to Public Liaison and Other Agency Cooperation (Safety Talks, Presentations, Assists)
- 4% Time devoted to Maintaining Equipment and Professional Standards (Cars & Training)

Source – Virginia State Police Employee Work Profile
# 2015 Crash Facts

(Albemarle, Augusta, Charlottesville, Staunton, Waynesboro)

<table>
<thead>
<tr>
<th>Road</th>
<th>Fatal</th>
<th>PI</th>
<th>PDO</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-64</td>
<td>2</td>
<td>82</td>
<td>274</td>
<td>358</td>
</tr>
<tr>
<td>Ramps</td>
<td>0</td>
<td>1</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Rt. 250</td>
<td>9</td>
<td>199</td>
<td>362</td>
<td>570</td>
</tr>
<tr>
<td>I-81</td>
<td>0</td>
<td>68</td>
<td>179</td>
<td>247</td>
</tr>
<tr>
<td><strong>ALL</strong></td>
<td><strong>30</strong></td>
<td><strong>1541</strong></td>
<td><strong>3184</strong></td>
<td><strong>4755</strong></td>
</tr>
</tbody>
</table>

*Source - “https://public.tableau.com/profile/publish/Crashtools8_2/Main#!/publish-confirm”*
7.5% of the Reportable Crashes occurred on I-64
77% of those Reportable Crashes were Property Damage Only.
0.5% of those Reportable Crashes were Fatalities
1.5% of the TROOPER’S TIME is DEVOTED to Reportable Crashes on I-64.
QUESTIONS
SHRP2 I-64 Corridor Study Working Group Meeting # 2

January 31, 2017
1:00 PM to 3:00PM
Location: VRT Offices, 51 Ivy Ridge Lane, Fishersville, VA 22939

Agenda

1. **Introductions (10 minutes)**
   - Project team staff will lead the working group through brief introductions.

2. **Project Update and PlanWorks (20 minutes)**
   - Summary of the November Working Group Meeting
     i. Review of PlanWorks COR-1(Scoping) and COR-2 (Mission Statement)
   - Existing conditions and performance measures
     i. Safety
     ii. Congestion
     iii. Roadway Conditions
     iv. Freight
   - December Public Open House feedback

3. **Work Session #2: Public Safety (80 minutes)**

   **Presentations**
   - Sargent Scott VanLear – Area Commander: Augusta County - Virginia State Patrol
   - Gary Critzer – Director, Waynesboro Emergency Management Services

   **BREAK (10 minutes)**
   - Roy Reid – VDOT Regional Traffic Operations Manager, Staunton & Culpepper Districts
   - Rebecca Joyce – Senior Planner, Emergency Management Planning - CSPDC

4. **Action Items & Next Steps**

5. **Upcoming Meeting Topic**
   - Topic Economic Development/Accessibility PlanWorks COR-3 Evaluation Criteria
NWRO Traffic Operations

NWRO – Northwestern Regional Operations

VDOT’s Role in Incident Response

- **Maintenance**
  - Assist in safely and quickly clearing incidents and restoring the roadway to normal traffic.

- **Operations**
  - Facilitate the flow of traffic information to the motoring public
    - 511 (Website, App, Phone)
    - Message Signs
    - Media
Area of Responsibility – 2 Districts, 20 Counties

➢ Staunton District
  • 11 Counties
  • Interstates – I-64, I-81, I-66

➢ Culpeper District
  • 9 Counties
  • Interstates – I-64, I-66
Operation Responsibilities

- Traffic Operations Center (TOC)
  - TOC/SSP (Safety Service Patrol)
    - Incident Response
    - Motorist Assistance
    - Motorist Information
  - ITS Devices
    - Maintenance
    - Deployment
  - Signal Timing
    - Optimization of signal timing along parallel routes (e.g. US250) and interchanges
    - Coordination of signals on detour routes
NWRO Traffic Operations

- Incident Management
  - Traffic Incident Management Meetings
  - SHRPII Incident Management Training - Participated with VSP – Conducted 14 training classes in 2016
  - Long duration Incidents – Interstate Maintenance
    - VDOT Managed / Contractor Serviced

What we are doing on I-64 Corridor

- Establish Allowable Work Hours for planned roadway maintenance
- I-64 ATSM (Afton Mountain Safety Project)
  - 14 Cameras
  - 14 Message signs
  - 2 New weather stations
- Afton Mountain Communication Working Group
- Detour Plans
- Deer Crossing Messaging (Pilot)
- Deer Fencing near Exit 114(Ivy); VTRC Project
SHRP2 I-64 Corridor Study Working Group Meeting #3

March 30, 2017
1:00 PM to 3:00PM
Location: TJPDC 407 East Water Street, Charlottesville

Agenda

1. Introductions (5 minutes)
   • Project team staff will lead the working group through brief introductions.

2. Project Update and PlanWorks (15 minutes)
   • Summary of the January Working Group Meeting
     i. Review of PlanWorks COR-3
   • MPO Memorandum of Agreement

3. Work Session: (90 minutes)
   • Inter-Regional Transit Study – KFH Group
   • Rideshare – Sara Pennington, Rideshare Coordinator, TJPDC

   BREAK (5 minutes)
   • Operations Analyses Truck Climbing Lanes – VDOT
   • Economic Development – Greg Hitchin, City of Waynesboro Director of Economic Development

4. Action Items & Next Steps

5. Upcoming Meeting Topic
   • Topic Natural Resources and environment, PlanWorks COR-4 Environmental
Project Scope

1. Open a dialog with interests in the I64 Corridor
2. Build an understanding of the issues through collaborative discussions and by engaging the experts
3. Use transportation performance measure to identify deficiencies in the corridor
4. Identify ways to improve collaboration and communication on issues of governance, maintenance and project identification
5. Document lessons learned and produce a final document that outlines deficiencies and concept level solutions
Project Study Area
Corridor Planning Toolkit

- The Decision Guide streamlines the transportation process by systematically building in collaboration. It was developed using examples of successful practice and with input from all partners in transportation decision making.

- The Decision Guide was developed from 23 in-depth, detailed case studies (Including the CA-MPO 2040 LRTP TCAPP Process)
Working Group Meetings

Meeting 1 (Nov)
- Scope and problem statement
- Project Goals and process

Meeting 2 (Jan)
- Goals
- Public Safety

Meeting 3 (Mar)
- Evaluation Criteria
- Economic Development & Accessibility

Meeting 4 (May)
- Identify Hotspots
- Environmental

Meeting 5 (Jul)
- Congestion and traffic
- Review problem areas

Meeting 6 (Aug)
- Lessons Learned
- Recommendation of problem areas & next steps

Public Open House
Dec 12

Interim Updates

Joint MPO Meeting

Public Open House
COR-1: Approve Scope and Process

First steps: coordinating partners and establishing formal lines of communications between groups that communicate infrequently. Evaluation of decision points and creating collaborative decision-making across multiple disciplines and tiers of government will be included.

**Deliverables:** Draft Scope to guide planning process; Aggregate data repository.

**Outcomes:**
- The geographical scope
- Technical Scope
- Web Data Repository

[http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/)
COR-1 Outcomes

- Geographic Scope
COR-1 Outcomes

- The Technical scope is based on meeting the regional need of improving the safe efficient movement of **goods** and **people** through the study corridor. Due to the corridor being super-regional in nature the technical aspects of the corridor study focus heavily on improving inter-governmental and inter-agency communication, coordination, and facility management.

- Data Repository A project specific webpage has been set up within the Charlottesville Albemarle MPO domain. [http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/). The site includes information about the project, an interactive map, and a growing inventory of corridor related studies GIS and reports.
COR-2: Approve Problem Statements/Opportunities

SPaCE will engage facilitated collaborative meetings, focused stakeholder groups, public input sessions and multi-media engagement to identify a common understanding of the issues and seek partner and stakeholder identification of problems and opportunities.

**Deliverables:** Work towards agreement among stakeholders on the deficiencies and potential opportunities. Staff collaborating with the Working Group have identified the following deficiencies:
COR-2 Deficiencies

- **Safety**
  - Crashes
  - Speed
- **Peak hour congestion**
  - Congestion at key exits
  - Traffic at Afton caused by slow moving heavy vehicles
  - Commuter demand
  - Through traffic demand
- **State of good repair**
  - Roadway pavement conditions
- **Accessibility**
  - Transit
  - Carpooling
- **Land Use**
  - Housing affordability
  - Jobs and housing mismatch
COR-3: Goals

Process: elicit stakeholder perspective and partner approval on the comprehensive set of transportation, community and environmental goals. Focus will be regional outcomes of reducing congestion, improving safety and enhancing multi-modal options in the corridor supported by access to comprehensive data. Outcome: Develop a list set of goals guiding the selection of a set of solutions addressing opportunities and deficiencies.

Deliverables: Draft goals
COR-3 Corridor Goals

1. **Improve** the overall function of the corridor by increasing the efficiency and safety of which goods and people move through the corridor.

2. **Facilitate** communication among MPOs, Local Governments, VDOT and DRPT on planning issues in the corridor.

3. **Minimize** the impact that any projects have on natural resources and the environment.
Status Update

- Project Webpage – **Completed**
- Draft MOU – **Draft Completed**
- Database of Plans and Studies – **Collecting Information**
- Draft Corridor Study Report – **Developing outline**
- Joint MPO Meetings – **Hosted 1 of 2**
Between the CA-MPO and the SAW-MPO

Focuses on how we can better integrate our planning for the corridor

Provide support when seeking funding for corridor related projects

Provides a framework for future cooperation and Joint Meetings
Next Steps

- Next working group meeting End of May
- Draft MOU for review by Policy Boards
- Work through COR 4 & 5 @ staff level
- Finalize analyses of hotspots & deficiencies
- Develop draft plan and report
QUESTIONS

Thomas Jefferson Planning District Commission

401 East Water Street
Charlottesville, VA 22902

Wood Hudson
Senior Planner

Resources: http://campo.tjpdc.org/
I-81/I-64 Inter-Regional Public Transportation Study

Presentation to
SHRP2 I-64 Corridor Working Group
March 30, 2017
Study Scope

- Assess potential need and demand for regional transit service connecting Harrisonburg, Staunton, Waynesboro and Charlottesville
- Develop service alternatives appropriate to the need and demand
- Estimate ridership, revenue, and costs
- Develop organizational options for implementation of the regional service
Challenges, Needs and Opportunities

• Bi-directional demand, with Charlottesville serving as the primary destination
• Afton Mountain is a significant travel barrier
• Significant Charlottesville area medical destinations, specifically the UVA Medical Center and Sentara Martha Jefferson Hospital
• Parking concerns on both the JMU campus and the UVA campus
Challenges, Needs and Opportunities - continued

• JMU students need access to an airport – either Dulles or Charlottesville – Dulles will soon have limited service via a new route, to be implemented in FY18

• First mile/last mile concerns

• Connections to Greyhound, Amtrak, and local bus services are needed

• Park and ride lots are needed in Harrisonburg and Staunton, and a need for improvements to the lot in Waynesboro

• Service needs to be accessible for people with disabilities, with relatively low fares
Previous Plans and Studies

- Albemarle County Comprehensive Plan (rail)
- CSPDC TDP
- SAW MPO 2040 LRTP
- HDPT TDP - intercity bus service along I-81
- JMU Transportation Department Surveys
- JAUNT TDP
- Virginia Intercity Bus Plan
Survey Highlights

• Commuter survey conducted in April, 2016
• On-line, 609 responses
• 96% reported a need for service between the Shenandoah Valley and Charlottesville
  • 40% would use
  • 56% might use
• 81% of respondents currently drive alone
• Travel purposes
  • Work – 63%
  • Errands – 11%
  • Medical – 6%
  • School – 5%
• Primary destinations
  • UVA Medical – 19%
  • UVA – 14%
  • Downtown Charlottesville – 5%
  • JMU – 15%
• Low fare desired
• Amenities: Guaranteed ride home, Wi-Fi, comfortable seats, lighting
Demand Methodology

Survey Responses
Census LEHD Data
Intercity Bus Demand Model
UVA and JMU Employment Data
Commuting Patterns

1,257 Commuters to Downtown and UVA Medical from the Shenandoah Valley

237 Commuters to Martha Jefferson Hospital area from the Shenandoah Valley
Commuting Patterns

556 commuters through the corridor to Harrisonburg

- Staunton
- Weyers Cave
- Charlottesville
- Waynesboro
- Verona
- Fishersville
Projected Demand

- **Total projected annual demand:** 44,620
- Based on 255 annual service days, average daily ridership would be 175 passenger trips, including both directions
- Would require (at least) three round-trips (six one-way vehicle trips if demand is bi-directional over the corridor)
- Peak demand would require more capacity
- Demand would likely start smaller and build to this level
Service Alternatives Considered

• Option 1: Full Corridor, Bi-Directional service

• Option 2: Full Corridor, Bi-Directional service, No Martha Jefferson

• Option 3: Full Corridor, Peak direction only

• Option 4: Originate service in Weyers Cave
Proposed Route
Preferred Alternative: Full Corridor, Bi-Directional Service

- 23 revenue hours per weekday
- 5,865 annual revenue hours
- 193,300 annual revenue miles
- Projected demand: 44,620 annual passenger trips
- Three vehicles required (plus 1 spare/backup)
Purposes of the Service

As designed, the inter-regional service will provide:

- A public transportation connection between two major state universities – James Madison University and the University of Virginia.

- Commuter bus service for residents of the Shenandoah Valley who work in Charlottesville, including those who work hospital shifts at UVA Hospital (7:00 a.m. to 3:00 p.m. and 7:00 a.m. to 7:00 p.m.) and those who work a more traditional office schedule.

- Commuter bus service between Staunton and JMU.

- A connection between Augusta Health, UVA Hospital, Martha Jefferson Hospital.

- A public transportation option for area residents who do not drive to access medical appointments in Charlottesville.

- A meaningful connection to both Greyhound and Amtrak. These connections would allow Shenandoah Valley residents to connect to Richmond and the Northeast corridor. A meaningful connection to Greyhound is important, as it could allow for 100% federal funding for the trips that provide this connection.
Sample Schedule – For Planning Purposes

<table>
<thead>
<tr>
<th>Eastbound Stops</th>
<th>a.m. service</th>
<th>p.m. service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bus 1</td>
<td>Bus 2</td>
</tr>
<tr>
<td>James Madison University- Godwin</td>
<td>6:30</td>
<td>8:30</td>
</tr>
<tr>
<td>Harrisonburg - Park and Ride, TBD</td>
<td>6:35</td>
<td>8:35</td>
</tr>
<tr>
<td>Weyers Cave - Park and Ride, TBD</td>
<td>6:48</td>
<td>8:48</td>
</tr>
<tr>
<td>Staunton - transit hub</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Staunton - Park and Ride, TBD</td>
<td>5:50</td>
<td>7:06</td>
</tr>
<tr>
<td>Augusta Health - Fishersville</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Waynesboro Park and Ride</td>
<td>6:05</td>
<td>7:20</td>
</tr>
<tr>
<td>Waynesboro transit hub</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>University of Virginia - University Drive, Charlottesville</td>
<td>6:45</td>
<td>8:00</td>
</tr>
<tr>
<td>University of Virginia Medical Center, Charlottesville</td>
<td>6:47</td>
<td>8:02</td>
</tr>
<tr>
<td>Downtown Charlottesville - Greyhound</td>
<td>6:51</td>
<td>8:06</td>
</tr>
<tr>
<td>Martha Jefferson</td>
<td>n.s.</td>
<td>8:20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Charlottesville</th>
<th>Short Break</th>
<th>Short Break</th>
<th>Service Break</th>
<th>Service Break</th>
<th>Short Break</th>
<th>Short Break</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Westbound Stops</th>
<th>a.m. service</th>
<th>p.m. service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bus 1</td>
<td>Bus 2</td>
</tr>
<tr>
<td>Martha Jefferson</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Downtown Charlottesville - Greyhound</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Downtown Charlottesville - Amtrak</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>University of Virginia Medical Center, Charlottesville</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>University of Virginia - University Drive, Charlottesville</td>
<td>n.s.</td>
<td>7:00</td>
</tr>
<tr>
<td>Waynesboro transit hub</td>
<td>n.s.</td>
<td>7:40</td>
</tr>
<tr>
<td>Waynesboro Park and Ride</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Augusta Health - Fishersville</td>
<td>n.s.</td>
<td>7:55</td>
</tr>
<tr>
<td>Staunton Park and Ride</td>
<td>7:30</td>
<td>n.s.</td>
</tr>
<tr>
<td>Staunton Transit Center</td>
<td>7:40</td>
<td>8:15</td>
</tr>
<tr>
<td>Weyers Cave Park and Ride</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Harrisonburg Park and Ride</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>JMU- Godwin</td>
<td>8:15</td>
<td>9:00</td>
</tr>
<tr>
<td>Harrisonburg</td>
<td>Short Break</td>
<td>Short Break</td>
</tr>
</tbody>
</table>
Service Considerations

- Need to limit stops to provide express service
- Riders desire amenities - guaranteed ride home, Wi-Fi, comfortable seats, lighting, power
- Need for stop(s) in non-urbanized area to permit access to Section 5311 funding (Weyers Cave)
- Need for schedules connecting to Greyhound within two-hour window for Greyhound in-kind match
- Schedules will need to consider needs of three markets – commuters, intercity travelers, and day-trippers
- Potential to break at Capital Area Transit
- Need for new park and ride lots
Fares

• Comparable services in Virginia
  – Smartway fare Blacksburg-Roanoke is $4.00 each way,
  – JAUNT service Nelson-Wintergreen is $4.00 each way

• Proposal is $5.00 Harrisonburg/Weyers Cave-Charlottesville, $4.00 Staunton/Waynesboro-Charlottesville. Lower fare for trips within the Shenandoah Valley

• Multi-trip discounts for commuters
Operating Costs—Preferred Option:

• Operating Expenses – Labor, fuel, insurance, etc.

• Leased or contractor capital in recognition of guidance from DRPT with regard to the near-term availability of capital funds

• Estimate of $444,590 annually, using a smaller vehicle
Vehicles

—Preferred Option

Leased or contractor-owned

- Smaller 25-30 seat truck-bus: approximately $185,000 (seven to ten-year vehicle)—startup
- Over-the-road coach (55 seat): $600,000 (12 year vehicle)—future years
- Each option would include passenger amenities
## Potential Funding

<table>
<thead>
<tr>
<th>Operating Costs, Including the Cost of Vehicles</th>
<th>Estimated Annual Operating Parameters</th>
<th>Estimated Funding Splits</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Corridor, Bi-Directional Service</td>
<td>Service Hours</td>
<td>Revenue Miles</td>
<td>Operating Costs</td>
</tr>
<tr>
<td></td>
<td>5,865</td>
<td>193,300</td>
<td>$444,590</td>
</tr>
</tbody>
</table>

Cost estimates assume smaller vehicles, leased or owned by the service provider.
Per unit cost is $2.30 a mile, referenced from the low end of costs from the Virginia Intercity Bus Plan.
The low end was used to reflect the smaller, less expensive vehicles.
A fare of $3.00 each way was used to estimate farbox revenue.
This is lower than the proposed fare and was used to account for multi-trip discounts that may potentially be offered.

In-kind match for S.5311 may be an option for trips that connect with Greyhound, if this project is part of the Intercity Bus Program.
Park and Ride Needs

**Harrisonburg**
- JMU Lots R11 and R10 adjacent to I-81 Exit 245
- Future use of state park and ride when intersection is reconfigured

**Weyers Cave**
- Augusta County Weyers Cave Road widening Smart Scale grant application includes construction of a 50-60 space lot – Exit 235
- Short-term options include lease of space or BRCC

**Staunton**
- Staunton Crossing Area – Smart Scale application submitted
- Short-term options include leasing space from retailers on Route 250

**Waynesboro**
- Improvements to current lot- Smart Scale application submitted
Organizational Options

• CSPDC as grant applicant/contracting entity
  – Operation by contracted operator
  – Vehicles leased or owned by operator

• Regional provider as grant applicant/administrator and service operator
  – Leased vehicles

For both options: A regional stakeholder advisory committee would be formed
Next Steps

- Development of final service and organizational plan
- Development of implementation plan
RideShare: It’s nice to share!

A program of the Thomas Jefferson Planning District Commission in cooperation with the Central Shenandoah Planning District Commission
Introduction

- RideShare works to help reduce traffic congestion by decreasing the number of single occupant vehicles
- A program of the TJ PDC
- Expanded to CSPDC in 2009
- Serves anyone commuting into or out of the TJ Planning District (City of Charlottesville, Counties of Albemarle, Fluvanna, Greene, Louisa, Nelson) and Central Shenandoah Planning District (Counties of Augusta, Bath, Highland, Rockbridge, and Rockingham, and the Cities of Buena Vista, Harrisonburg, Lexington, Staunton, and Waynesboro)
RideShare Coverage Area
Services

▪ Car/vanpool matching
▪ SchoolPool
▪ Guaranteed Ride Home Program
▪ Park and Ride lot information & marketing
▪ Transportation referral for the region (Commuter Information toll-free number and website)
▪ Employer services
Rideshare Locations
Rideshare Locations along 64 Corridor
Average Parking Spaces Filled for 2016
Find a ride match at www.rideshareinfo.org
Use by Locality

- Active Data Base Registrants – 518 total
- Waynesboro/Staunton- 80
- CSPDC area- 145
- Average match rate is 51%
- Guaranteed Ride Home Registrants – 175 Total
  A - 31, C – 31, F - 8, G - 10, L - 10, N – 10

- If everyone opted to carpool just one day a week, the traffic on the nation’s major highways and roads would be reduced by as much as 20%.
A Major TJPDC Program

RideShare is part of the transportation program, which makes up the majority of TJPDC’s Operating Budget. The RideShare program accounts for 19% of TJPDC operations.

FY15 Operating Costs
$1,021,254

RideShare Funding for FY15

- DRPT Grant: $137,200
- Charlottesville: $7,013
- Albemarle County: $15,892
- Fluvanna County: $4,098
- Greene County
- Louisa County: $5,276
- Nelson County: $2,380

Total: $171,859

Grant for FY16 = $139,258
Thank You!

Please visit [www.rideshareinfo.org](http://www.rideshareinfo.org) or contact RideShare for ways to reduce your transportation footprint!
Operations Problem

➢ I-64 Westbound
  ▪ From MM 105 to MM 99
  ▪ Weekday evening Peak hours

➢ Speed Differentials
  ▪ Steep grades
  ▪ Mix of passenger vehicles and freight traffic

➢ Lane Utilization
  ▪ Driver behavior (lane changing, braking, small gaps)
  ▪ Existing law for trucks & comb. vehicles traveling below posted speed limit

➢ Congestion
  ▪ Reduced speeds
  ▪ Reduced travel time
Approach

- Operational Analysis (2015-16)
  - Crashes
  - Grades
  - Traffic volume and mix
  - Speeds
  - Lane utilization
  - Truck climbing lane warrants evaluation (AASHTO)

- VISSIM Model (2016)
  - Model exiting traffic conditions
  - Evaluate potential solutions
Findings

➢ **Average Daily Traffic (ADT):** 18,700 vehicles (14% Trucks)

➢ **PM Peak Hour:** 5-6 PM (M-F)
   1,840 vehicles (9% Trucks)

➢ **Posted Speed Limit:** 65 MPH

➢ **85th percentile speed:** +71 MPH

➢ **MM105.5 to 100.2**
  ▪ Overall travel speeds decrease as vehicles travel uphill

➢ **MM104 (5-6PM)**
  ▪ 73% (1,350) of vehicles are using the inside/left lane

➢ **MM 100.2**
  ▪ 21% of vehicles traveling in the right/outer lane are traveling at speeds lower than 50 MPH
Findings

➢ Consistent Pattern observed from data:
  ➢ Non-Peak period—Truck Volume in left lane is lower than the truck volume in right lane
  ➢ Peak Period (4:00-6:00 pm)---Truck volume in Left Lane exceeds the Right Lane truck volume

➢ Field Observations during PM peak period: Trucks that move to the left lane generally do so to overtake slow moving Trucks in the right lane
5-Year Crash Analysis

- I-64 WB - MM 104 – 99
  - 76 total crashes from 2010 – 2014
  - 52.05 crashes per 100 Million VMT
    +2.64% from Culpeper District Average
    +20.28% from Staunton District Average
  - No Fatal crashes
  - 41% (31) Rear-End crashes (highest type)
  - (7) Non-rear end; attributed to speed differentials

- 50% of all crashes Rear-end or speed related
If ONE of the following principles is satisfied, consideration of a truck climbing lane IS WARRANTED:

**Critical Length of Grade:** Length of grade exceeds the critical length of grade.

✓ Segment meets criteria

**Service Flow Volume:** Service flow volume is greater than 1,000 vehicles per hour per lane (vphpl) but less than 1,700 vphpl.

✓ Segment meets criteria

**Operational Assessment (Level of Service):** Existing level of service exceeds LOS D and would be improved one grade level with the addition of a truck climbing lane.

X Segment does not meet criteria
Traffic Model Findings

➢ 100% Truck Restriction on Left Lane was modeled

➢ Left Lane impacts: In the higher grades, average speed goes up in the left lane, compared to existing conditions; Speed difference is significant (5% increase), although less volume is processed.

➢ Right Lane impacts: Speed difference is minimal over existing and more volume is processed

➢ Average speed (Trucks & Cars combined) slows down around 3:00 PM and starts increasing around 7:00 PM
Potential Solutions and challenges

- Interim Solutions: Upgrade existing signs and use Changeable Message Signs (CMS) to alert trucks to use the right lane
- Monitor & Evaluate effectiveness

Static Signing: Completed 2016

CMS signs activated 3/23/17 (M-F; 3-7:00 PM)

- CMS sign message at MM 102 & 104
- CMS sign at MM 110 displays travel time to I-81/Staunton
Potential Solutions and challenges

➢ Temporary Solution - FHWA Hard Shoulder Running

  ▪ [Link](http://ops.fhwa.dot.gov/publications/fhwahop10023/chap4.htm)

  ▪ Approval must be obtained from FHWA for Hard Shoulder Running

  ▪ Providing Refuge/Pull-offs for breakdowns needed

  ▪ The intent is for these facilities to be temporary in nature and not a permanent solution for long-term capacity provision

  ▪ Requires an ITS system to operate dynamically

➢ Construction of a westbound truck climbing lane.

➢ Funding
QUESTIONS?
SHRP2 I-64 CORRIDOR
Waynesboro Economic Development

March 30, 2017
Orientation

CBD

94

96

99
Exit 94 – Circa 1980

D-153
Two Miles of Growth
SHRP2 I-64 Corridor Study Working Group Meeting #4

May 31, 2017
1:00 PM to 3:00PM
Location: Virginia Regional Transit
51 Ivy Ridge Lane, Fishersville

Agenda

1. Introductions (5 minutes)
   • Project team staff will lead the working group through brief introductions.

2. Project Update and PlanWorks (15 minutes)
   • Summary of the March Working Group Meeting
     i. Review of PlanWorks COR-4
     ii. Corridor plan interactive map preview
   • MPO Memorandum of Agreement update

3. Work Session: (90 minutes)
   • Park Management and Transportation needs – Sally Hurlbert National Park Service
   • Vehicle Wildlife Conflict, reducing wildlife conflict through fencing – Bridget Donaldson VTRC

   BREAK (5 minutes)

   • Environmental Resources and Permitting - John Chiles VDOT Culpeper District

4. Action Items & Next Steps

5. Upcoming Meeting Topic: Congestion and Traffic (problem areas)

6. Next Meeting Date: July 26, 2017 at 1:00pm. Location Charlottesville TJPDC
SHRP2 Interstate 64 Corridor Plan

Shenandoah Piedmont area Collaborative Effort (SPaCE)

Working Group Meeting #4

May 31, 2017
Corridor Planning Toolkit

- The Decision Guide streamlines the transportation process by systematically building in collaboration. It was developed using examples of successful practice and with input from all partners in transportation decision making.

- The Decision Guide was developed from 23 in-depth, detailed case studies (Including the CA-MPO 2040 LRTP TCAPP Process)
Project Scope

1. Open a dialog with interests in the I64 Corridor
2. Build an understanding of the issues through collaborative discussions and by engaging the experts
3. Use transportation performance measure to identify deficiencies in the corridor
4. Identify ways to improve collaboration and communication on issues of governance, maintenance and project identification
5. Document lessons learned and produce a final document that outlines deficiencies and concept level solutions
Project Study Area REVISE MAP
BOUNDARY
# Working Group Meetings

| Meeting 1 (Nov) | • Scope and problem statement  
• Project Goals and process |
| Meeting 2 (Jan) | • Goals  
• Public Safety |
| Meeting 3 (Mar) | • Evaluation Criteria  
• Economic Development & Accessibility |
| Meeting 4 (May) | • Identify Hotspots  
• Environmental |
| Meeting 5 (Jul) | • Congestion and traffic  
• Review problem areas |
| Meeting 6 (Aug) | • Lessons Learned  
• Recommendation of problem areas & next steps |

- **Public Open House Dec 12**
- **Interim Updates**
- **Joint MPO Meeting**
- **Public Open House**
COR-1: Approve Scope and Process

First steps: coordinating partners and establishing formal lines of communications between groups that communicate infrequently. Evaluation of decision points and creating collaborative decision-making across multiple disciplines and tiers of government will be included.

**Deliverables:** Draft Scope to guide planning process; Aggregate data repository.

**Outcomes:**
- The geographical scope
- Technical Scope
- Web Data Repository

[http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/)
COR-1 Outcomes

- Geographic Scope
COR-1 Outcomes

- The Technical scope is based on meeting the regional need of improving the safe efficient movement of goods and people through the study corridor. Due to the corridor being super-regional in nature the technical aspects of the corridor study focus heavily on improving inter-governmental and inter-agency communication, coordination, and facility management.

- Data Repository A project specific webpage has been set up within the Charlottesville Albemarle MPO domain. [http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/). The site includes information about the project, an interactive map, and a growing inventory of corridor related studies GIS and reports.
COR-2: Approve Problem Statements/Opportunities

SPaCE will engage facilitated collaborative meetings, focused stakeholder groups, public input sessions and multi-media engagement to identify a common understanding of the issues and seek partner and stakeholder identification of problems and opportunities.

**Deliverables:** Work towards agreement among stakeholders on the deficiencies and potential opportunities. Staff collaborating with the Working Group have identified the following deficiencies:
COR-2 Deficiencies

- Safety
  - Crashes
  - Speed
- Peak hour congestion
  - Congestion at key exits
  - Traffic at Afton caused by slow moving heavy vehicles
  - Commuter demand
- State of good repair
  - Roadway pavement conditions
- Accessibility
  - Transit
  - Carpooling
- Land Use
  - Housing affordability
  - Jobs and housing mismatch
COR-3: Goals

Process: elicit stakeholder perspective and partner approval on the comprehensive set of transportation, community and environmental goals. Focus will be regional outcomes of reducing congestion, improving safety and enhancing multi-modal options in the corridor supported by access to comprehensive data. Outcome: Develop a list set of goals guiding the selection of a set of solutions addressing opportunities and deficiencies.

Deliverables: Draft goals
COR-3 Corridor Goals

1. **Improve** the overall function of the corridor by increasing the efficiency and safety of which goods and people move through the corridor.

2. **Facilitate** communication among MPOs, Local Governments, VDOT and DRPT on planning issues in the corridor.

3. **Minimize** the impact that any projects have on natural resources and the environment.
Status Update

- Project Webpage – Completed
- Draft MOU – Draft Completed
- Database of Plans and Studies – Draft interactive map published
- Draft Corridor Study Report – Filling In outline and Data
- Joint MPO Meetings – Hosted 1 of 2
Between the CA-MPO and the SAW-MPO

Focuses on how we can better integrate our planning for the corridor

Provide support when seeking funding for corridor related projects

Provides a framework for future cooperation and Joint Meetings
Has been reviewed by MPO committees

Comments provided by VDOT (Districts)

Planned adoption of the MOU at September joint MPO meeting.
Next Steps

- Next working group meeting July 26 (Charlottesville)
- Draft MOU for review by Policy Boards
- Work through remaining CORs
- Finalize analyses of hotspots & deficiencies with input from VDOT
- Develop draft plan and report
Hotspots - Safety

Crash Severity Heat Map (2011-2016)

Legend
- I-64
- US 250
- Focus Area
- County boundaries

Crash Severity
- High
- Low
Hotspots - STARS
Hotspots - Congestion

Hotspots – Pavement Conditions

Pavement Condition of Major Roadways

- City of Staunton
- City of Waynesboro
- Augusta County
- Nelson County
- Albemarle County
- City of Charlottesville

Pavement Condition
- EXCELLENT 42%
- GOOD 43%
- FAIR 9%
- POOR 3%
- VERY POOR <1%
- NOT RATED <1%

MPO Areas
Focus Area
Proposed Projects in the Corridor

- Truck Climbing Lanes
- Park and Ride lots
- Transit
- Intersection Improvements
- Interchange Improvements
Interactive Project Summary Map

- [https://tjpdc.maps.arcgis.com/apps/MapJournal/index.html?appid=4409d504cadc47a9b125f4d7003670c4](https://tjpdc.maps.arcgis.com/apps/MapJournal/index.html?appid=4409d504cadc47a9b125f4d7003670c4)
QUESTIONS

Thomas Jefferson Planning District Commission

401 East Water Street
Charlottesville, VA 22902

Wood Hudson
Senior Planner

Resources: http://campo.tjpdc.org/
Animal-Vehicle Collision Research and Mitigation
I-64 Charlottesville-Waynesboro

Bridget Donaldson
Senior Research Scientist
Virginia Transportation Research Council
1.25 million DVCs in the U.S.

VDOT spends ~ $4.1 million/year on carcass management

*State Farm Insurance projections for the entire insurance industry. Includes deer, elk, and moose
VDOT asked VTRC to look into potential mitigation for deer crashes.

VDOT safety analysis: Afton Mountain Area
Collision Types
Staunton to Charlottesville, I-64 MM 87-118
(2012-2016)

- Fixed Object Off Road: 384
- Rear End: 302
- Deer (police records): 224

Approx 1 in 6 result in injury
Collision Types
Staunton to Charlottesville, I-64 MM 87-118
(2012-2016)

- Deer (police records): 1,056*
- Fixed Object Off Road: 384
- Rear End: 302
- Deer (police records): 224
- Carcass Removals: 34

* 2.75 higher than top police-reported crash type

Deer crashes are 53% of all crashes
Deer Crash Data
I-64 in Albemarle County (MM 102 -131).
Deer Crash Data with Carcass Removals
I-64 in Albemarle County (MM 102 -131).
Collision Types, I-64 in Albemarle County

[Diagram showing bar graph with data for collision types from 2013 to 2016, with categories: Rear End, Colliding with Fixed Object off Road, Side Swipe, and Deer.]
Collision Types, I-64 in Albemarle County

*Working on means to collect carcass removal data statewide*
Deer and Bear Carcasses (1 mi segments) 2012-2016

D-190

I-64 Mile Markers

Staunton

0 10 20 30 40 50 60 70 80 90

87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118

Charlottesville

Deer
Bear

Afton Mtn

6/1/2017
Virginia Deer Crash Data (2012 – 2016)
Effective Mitigation

Underpasses/overpasses with fencing: 86% DVC reduction
Study Background

- The U.S. road system includes more than 582,000 bridges longer than 20 feet, 480,000 of which are over waterways.*

- The road system also includes millions of smaller structures, many of which serve as passageways for wildlife.*

- Because these structures were not designed for wildlife passage, they have no fencing.

Research is needed to establish how retrofitting an individual existing underpass with fencing affects AVCs and the use of the structure.

First, data is needed to support fencing recommendations

*Forman et al., 2003
Purpose of Study

Evaluate activity and behavior of white-tailed deer and other wildlife along
(1) unfenced isolated underpasses and
(2) a forested riparian corridor with no viable underpasses
307 ft span

10 x 12 ft openings
189 ft long
Methods

• Collect carcass removal data (2012-present)

• Monitor study sites with cameras
Camera Monitoring (2 yrs)
52 cameras deployed March 2013
Camera Monitoring

Primary questions:

Underpasses

• Wildlife use of the underpasses (full crossings vs turning back)
• Activity and behavior along the adjacent roadside
• Roadside activity relative to distance from the underpass

Drainage Corridor with no underpass

• Activity and behavior of wildlife at drainage/interstate intersection compared to farther away from intersection
Results

Deer and Bear Carcasses 2013-2014

9.2 DVCs per mile per year
Bear: 18 bear deaths (2 yrs)
RESULTS

Deer Carcasses per Month
Deer Activity by Time of Day (Sep to Nov)
PHOTOS

336,000 total

• ~ 1/3 deer
• 35 black bears
• Few thousand photos of other species
Wildlife Activity
Site 1 vs Site 2 (2 yrs)

Underpass Use

Site 1 culvert
Site 2 bridge

Roadside Activity (per camera)

Site 1 roadside
Site 2 roadside

6/1/2017
Site 1 Deer Activity: 1,152 per yr
Deer activity along the roadside adjacent to the culvert was 3 times greater than activity through the underpass.
Site 1 Deer Activity: 1,115 per yr

Roadside deer activity was 3 times less than activity through the underpass D-208.
Site 1 Deer
Activity:
1,115 per yr

Site 2 Deer
Activity:
1,253 per yr
Roadside deer activity was 3 times less than activity through the underpass

DVCs at each site:
7.5/mi/yr
Roadside
Roadside Behavior
Deer per Day

Deer Activity Along Road

\((n) = \text{Total Deer Activity over 2-yr Period}\)
Fencing and escape structures for just one underpass is expected to result in a savings in costs associated with deer-vehicle collisions of $501,473 over its service life. 

Assuming $6,617 per DVC (Huijser, 2009)

Fencings is cost effective when it prevents 1 DVC per mile per year.
Implementation

Fencing installation at 2 underpasses Feb-June 2017
Implementation

- deer warning messages on changeable message signs, Oct and Nov 5pm to 9am (Crozet to Afton Mountain)
Opportunities?

Potential Target for Virginia Road Ecology Working Group (FWS, DGIF, DCR, conserv groups)

I-64 Mile Markers

Mechum’s Bridge 110.6
Culvert 115.3
South River Bridge 96.5
Stockton Bridge 108.4
Afton Mtn

Deer
Bear

6/1/2017
Funding Opportunities for Wildlife Crossings

- Highway Safety Improvement Program
- Transportation Enhancements program (FAST ACT) – funds habitat connectivity projects
- Assoc of Fish and Wildlife Agencies
- VDOT’s Research Implementation funds
- Grants
- Foundations
- Private Donations
- Local Taxes
Thank you

Technical Review Panel
Vernon Hoke (Project Champion)
David Morris
Amy O’Leary
Nelson Lafon (VDGIF)

Camera Pole Installation
Danny Huffer
Gary Wheeler

Field/Research Assistance
Lewis Lloyd
Michael Crawley
Olivia Daniszewski
Lark Washington

Site Visits
Vernon Hoke
David Morris
VJ Kulkarni
Braden Chapmen
Bill Jones
Darrel Hayes
Nelson Lafon
Jim Bowman
David Kocka
Al Bourgeois
Mike Pelton

Implementation of Recommendations
Dean Gustafson
Matthew Shiley
Sharad Uprety
David Pearce
Jimmy White

Report available
http://vtrc.virginiadot.org  Report 16-R4
Bridget.Donaldson@vdot.virginia.gov
SHRP2 I-64 Corridor Plan
Environmental Considerations

John Chiles
VDOT Culpeper District
Big Picture

✓ Environmental Review Process (ERP)
✓ National Environmental Policy Act (NEPA)
✓ State Environmental Review Process (State)
✓ Endangered species
✓ Water Quality Permits
  • Cultural Resource (Section 106)
  • Hazardous Materials
  • Noise
  • Air
Why Consider Environmental Factors?

- It’s the law
- Civil penalties
- Criminal penalties
- Criminal prosecution
- Basis for lawsuits
- Loss of efficiencies

- Loss of federal funds
- Resource agency relations
- Public relations
- Travel and tourism
- Schedule and budget
Environmental Factors to Avoid/Minimize

- Wetlands
- Streams
- Endangered species
- Historic properties
- Hazardous materials
- Outdoor easements
- Public parks, recreational areas, wildlife refuges
- Agricultural / Forestal Districts
- Noise
- Environmental Justice
ERP

- Coordinate with environmental staff to use studies identified in ERP to inform scoping process
- Manage project changes, and communicate project design and schedule changes to environmental staff
- Use input from Environmental staff to adjust budget and schedule (task durations)
NEPA

• Provide timely additional project details to environmental staff
• Avoid/minimize impacts to facilitate lowest level of NEPA document
• Recommend increasing foot print of your study areas/ NEPA Study window to be larger than the project footprint to avoid repeated survey efforts
• Purpose & Need
## Reality Check: External influence - FHWA

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Time (Duration)</th>
<th>Cost</th>
<th>Controlling Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCE</td>
<td>1 Week</td>
<td>&lt;$500</td>
<td>FHWA</td>
</tr>
<tr>
<td>PCE</td>
<td>3 Months</td>
<td>&lt;$1,000</td>
<td>FHWA</td>
</tr>
<tr>
<td>CE</td>
<td>Up to 8 months</td>
<td>$1,000-$10,000</td>
<td>FHWA</td>
</tr>
<tr>
<td>EA</td>
<td>14 months</td>
<td>$30,000-$500,000</td>
<td>FHWA*</td>
</tr>
<tr>
<td>EIS</td>
<td>3+ years</td>
<td>3 million+</td>
<td>FHWA*</td>
</tr>
</tbody>
</table>

*FHWA influenced by federal environmental agencies
VDOT’s Record: NEPA Documents for FHWA (April 2016-April 2017)

• Blanket Categorical Exclusion – 16.2%

• Programmatic Categorical Exclusion – 75.0%

• Categorical Exclusion – 5.8%

• Environmental Assessment / Environmental Impact Statement – 3%
Endangered Species

• Provide project details to environmental lead
• Avoid/minimize impacts to:
  – Facilitate lowest level of effect determination
  – Eliminate or reduce time of year restrictions
• Consider requirement to update endangered species review, ex survey have expirations and must be revisited
• Manage project changes, and communicate project design and schedule changes to environmental staff
• Critical Path, determine presence of species within action areas due to seasonal constraints for surveys. Long Durations for “Biological Opinions” from USFWS on impacts
• Endangered species
  – Time of year restrictions (up to 7 months; construction season)
  – Surveys (up to $20,000 and 2 years) and relocations
Threatened & Endangered Species

Federal Species

• James Spinymussel *Pleurobema collina*

• Madison Cave Isopod *Antrolana lira*

• Swamp Pink *Helonias bullata*

• Indiana Bat *Myotis sodalis*

• Northern Long-eared Bat *Myotis septentrionalis*
Endangered Species

State Species

• Peregrine Falcon
• Loggerhead Shrike
• Bald Eagles
• Little Brown Bat
• Tri-colored Bat
• Anadromous Fish
Historic Resources:

- The terms “historic resources” or “cultural resources” refer to properties such as buildings, bridges, archaeological sites, cemeteries, battlefields, designed landscapes, traditional cultural properties, and districts (a geographically- and thematically-defined group of resources), usually 50 years of age or older, that may have historical significance.

- Ensure that potential harmful effects to historic properties are identified and considered early in project planning so that these effects can be avoided or minimized.

- Consider this to be a critical path and should be started early to avoid future schedule delays, ex. Consulting parties, MOA’s, etc...
Historic Districts

- Jefferson Carter Rural Historic District
- Southern Albemarle Rural Historic District
- Greenwood Afton Historic Districts
- Yancey Mills Historic District
# Reality Check: External Influence – FHWA and Others

<table>
<thead>
<tr>
<th>Study/Evaluation</th>
<th>Time (Duration)</th>
<th>Cost</th>
<th>Controlling Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 106</td>
<td>6 months-1 year</td>
<td>$50,000-$500,000</td>
<td>FHWA, DHR*, ACHP*</td>
</tr>
<tr>
<td>Agricultural/Forestal District</td>
<td>5 months</td>
<td>$1,000 - $5,000</td>
<td>Local Government</td>
</tr>
<tr>
<td>4(f)</td>
<td>6-8 months</td>
<td>$50,000+</td>
<td>FHWA/DOI*</td>
</tr>
</tbody>
</table>

*DHR - Department of Historic Resources;  *ACHP - President's Advisory Council on Historic Preservation;  *DOI - Department of Interior
Water Quality Permits

- Identify potential impacts associated with culvert replacements/extensions, bridges, roadway widening, etc...
- Requires delineation of WOUS to identify Streams & Wetlands
- Utilize VDOT IACM (Inter Agency Coordination Meeting) process
Permit Costs

• Processing fees
• Public notice
• Mitigation
  – Design, ROW, construction, monitoring
  – Wetlands: $100,000+/acre
  – Streams: $650+/linear foot
• Erosion and sedimentation control
  – Design, construction, monitoring
• Monitoring and reporting (including post-construction)
## Reality Check: External Influences – Corps of Engineers

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Time</th>
<th>Compensatory Mitigation Required</th>
<th>Public Notice</th>
<th>Agency Pre-Const. Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Permit / Non-Reporting Permit</td>
<td>15-30 days</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nationwide</td>
<td>60-75 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Regional</td>
<td>60-120+ days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>State Program General Permit</td>
<td>60-75 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Standard</td>
<td>180-360+ days</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## Reality Check: External Influences – Department of Environmental Quality (DEQ)

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Time</th>
<th>Compensatory Mitigation Required</th>
<th>Public Notice</th>
<th>Agency Pre-const. Review</th>
<th>State Water Control Board Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No permit</td>
<td>15-30</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>VWPP* General</td>
<td>45 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>VWPP*</td>
<td>180 - 220 days</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*VWPP-Virginia Water Protection Permit
## Reality Check: External Influence – Virginia Marine Resources Commission (VMRC)

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Time</th>
<th>Compensatory Mitigation Required</th>
<th>Public Notice</th>
<th>Agency Pre-Const. Review</th>
<th>VMRC Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA General Permit 1 (VGP-1)</td>
<td>45-75 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Standard</td>
<td>180+ days</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Hazardous Materials

- UST
- AST
- Contaminated Soil & Groundwater
- Solid Waste
- Evaluated potential to impact previously reported release sites and new sites.
Noise

• A highway is being built on a new location
• An existing highway is being redesigned with a significant change in its alignment
• The number of through traffic lanes on an existing highway is being increased
• The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza
VOF Easements

• An open-space easement is an interest in property voluntarily offered by a landowner that limits the property’s uses in order to protect its conservation and open-space values

• Numerous VOF Easements along I-64 corridor in Albemarle County
Take Control

• Avoiding and minimizing impacts will reduce FHWA and regulatory agency control of your schedule and budget
How do you manage your destiny?

- Understand your environmental role on Project Team
- Involve environmental staff
- Manage project scope
- Identify environmental issues early
- Avoid/minimize impacts:
  - Project footprint
  - Shift alignment
  - Modify typical section
  - Retaining walls
  - Pier spacing
  - Countersink pipes
  - Eliminate channelization and stream relocation; stream impacts
  - Use bridges, bottomless arches
  - Construction BMPs
SHRP2 I-64 Corridor Study Working Group Meeting #5

July 26, 2017
1:00 PM to 3:00PM
Location: Thomas Jefferson PDC
401 East Water Street

Agenda

1. Introductions (5 minutes)
   - Project team staff will lead the working group through brief introductions.

2. Project Update and PlanWorks (15 minutes)
   - Summary of the May Working Group Meeting
     i. Review of PlanWorks COR-5
   - MPO Memorandum of Agreement update and September joint MPO Meeting

3. Work Session: (90 minutes)
   - Freight Planning – Erik Johnson, VDOT Freight Planning Office
   - Freight Movement – Kevin Reilly - Rio Logistics (Waynesboro)

   BREAK (5 minutes)
   - Rail Freight - Brian Freeman, Buckingham Branch Railroad

4. Action Items & Next Steps
   - Draft Corridor plan recommendations

5. Upcoming Meeting Topic: Final Meeting, Lessons Learned, problem areas and next steps

6. Next Meeting Date: Early September – Date and Location TBD
SHRP2 Interstate 64 Corridor Plan

Shenandoah Piedmont area Collaborative Effort (SPaCE)

Working Group Meeting

July 26, 2017
Project Study Area
PlanWorks: Better planning. Better projects. (C01)

- Web-based decision support tool
- Supports and improves collaborative decision making
- Built around key decision points in the project, LRTP, & planning process
- Provides a flexible roadmap for project planning and stakeholder involvement
Corridor Planning Toolkit

- The Decision Guide streamlines the transportation process by systematically building in collaboration. It was developed using examples of successful practice and input from all partners in transportation decision making.

- The Decision Guide was developed from 23 in-depth, detailed case studies (Including the CAMPO 2040 LRTP TCAPP Process)
Project Scope

- Open a dialog with interests in the I-64 Corridor
- Build an understanding of the issues through collaborative discussions and by engaging the experts
- Use transportation performance measures to identify deficiencies in the corridor
- Identify ways to improve collaboration and communication on issues of governance, maintenance and project identification
- Document lessons learned and produce a final document that outlines deficiencies and concept level solutions
| Meeting 1 (Nov) | • Scope and problem statement  
• Project Goals and process |
| Meeting 2 (Jan) | • Goals  
• Public Safety |
| Meeting 3 (Mar) | • Evaluation Criteria  
• Economic Development & Accessibility |
| Meeting 4 (May) | • Identify Hotspots  
• Environmental |
| Meeting 5 (Jul) | • Congestion and freight  
• Review problem areas |
| Meeting 6 (Aug) | • Lessons Learned  
• Recommendation of problem areas & next steps |

- **Public Open House Dec 12**
- **Interim Updates**
- **Public Open House**
- **Joint MPO Meeting September**
COR-1: Approve Scope and Process

First steps: coordinating partners and establishing formal lines of communications between groups that communicate infrequently. Evaluation of decision points and creating collaborative decision-making across multiple disciplines and tiers of government will be included.

**Deliverables:**
Draft Scope to guide planning process; Aggregate data repository.

**Outcomes:**
- The geographical scope
- Technical Scope
- Web Data Repository [http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/)
The Technical scope is based on meeting the regional need of improving the safe efficient movement of goods and people through the study corridor. Due to the corridor being super-regional in nature, the technical aspects of the corridor study focus heavily on improving inter-governmental and inter-agency communication, coordination, and facility management.

Data Repository A project specific webpage has been set up within the Charlottesville Albemarle MPO domain. [http://campo.tjpdc.org/i64-corridor/](http://campo.tjpdc.org/i64-corridor/). The site includes information about the project, an interactive map, and a growing inventory of corridor related studies GIS and reports.
COR-2: Approve Problem Statements/Opportunities

SPaCE will engage facilitated collaborative meetings, focused stakeholder groups, public input sessions and multi-media engagement to identify a common understanding of the issues and seek partner and stakeholder identification of problems and opportunities.

Deliverables:
Work towards agreement among stakeholders on the deficiencies and potential opportunities. Staff, collaborating with the Working Group have identified the following deficiencies:
COR-2 Deficiencies

- **Safety**
  - Crashes
  - Speed

- **Peak hour congestion**
  - Congestion at key exits
  - Traffic at Afton caused by slow moving heavy vehicles
  - Commuter demand
  - Through traffic demand

- **State of good repair**
  - Roadway pavement conditions
  - Bridges

- **Accessibility**
  - Transit
  - Carpooling

- **Land Use**
  - Housing affordability
  - Jobs and housing mismatch
  - Development patterns
COR-3: Goals

Process: elicit stakeholder perspective and partner approval on the comprehensive set of transportation, community and environmental goals. Focus will be regional outcomes of reducing congestion, improving safety and enhancing multi-modal options in the corridor supported by access to comprehensive data.

Outcome: Develop a list set of goals guiding the selection of a set of solutions addressing opportunities and deficiencies.

Deliverables:

- Draft corridor goals
- Approve goals for the corridor project
1. Improve the overall function of the corridor by increasing the efficiency and safety of which goods and people move through the corridor.

2. Enhance communication among MPOs, Local Governments, VDOT and DRPT on planning issues in the corridor.

3. Minimize the impact that any projects have on natural resources and the environment.
COR-4 Environmental

- Vehicle wildlife conflicts
  - Deer crashes (~51% of crashes)
- Sensitive endangered species habitats
  - Afton Area
  - Stream crossings
- Cultural and historic considerations
  - Conservation easements
  - Historic districts & archeological sites
- Managed Lands
  - Adjacency to NPS and USFW lands
COR-5 Evaluation Criteria

- **Congestion**
  - AM, PM Congestion at key exits
  - Travel options (Transit, TDM)

- **Safety**
  - Crash hotspots and crash rates
  - Stream crossings

- **Operations and Maintenance**
  - Bridge sufficiency rating
  - Pavement conditions

- **Communication**
  - Joint Meetings
  - Project applications supported
  - MOU
Status Update

- Project Webpage – **Completed**
- Draft MOU – **September Joint MPO Meeting**
- Database of Plans and Studies – **Interactive map online**
- Draft Corridor Study Report – **Drafting report**
- Joint MPO Meetings – **Next Meeting September**
Congestion Analysis

- Average Annual Daily Traffic (Current and Forecasted)
- Volume to Capacity Ratio (Current and Forecasted)
Average Annual Daily Traffic (AADT)

Average Annual Daily Traffic (AADT)
Change in AADT - Exit 94
Change in AADT - Exit 118
Change in AADT - Exit 124

Old: 49,000
New: 67,082
Change: 18,082

Old: 47,000
New: 46,987
Change: -13

Old: 37,000
New: 59,524
Change: 22,524

Old: 37,000
New: 59,524
Change: 22,524
Volume to Capacity Ratio (V to C Ratio)
Volume to Capacity Ratio (V to C Ratio)
V to C Ratio – Exit 94

Volume to Capacity Ratio on Major Roadways (2014)
V to C Ratio – Exit 94

Volume to Capacity Ratio on Major Roadways (2035)
Volume to Capacity Ratio on Major Roadways (2015)
Volume to Capacity Ratio - Exit 118
Volume to Capacity Ratio on Major Roadways (2015)
Volume to Capacity Ratio on Major Roadways (2030)

V to C Ratio - Exit 124
Pavement Conditions

Pavement Condition of Major Roadways

City of Staunton
City of Waynesboro
Augusta County
Nelson County
Albemarle County
City of Charlottesville

Pavement Condition
- EXCELLENT 42%
- GOOD 43%
- FAIR 9%
- POOR 3%
- VERY POOR <1%
- NOT RATED <1%

MPO Areas
Focus Area
Freight Traffic - Virginia

Source: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework
Freight Traffic – I-64 Corridor

Source: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework
QUESTIONS

Thomas Jefferson Planning District Commission

401 East Water Street
Charlottesville, VA 22902

Wood Hudson
Senior Planner

Resources: http://campo.tjpdc.org/
I-64 Corridor Study – Freight

Erik Johnson, Freight Planning Specialist
July 26, 2017
Virginia’s Freight Generators
Study Area’s Freight Generators
D-287

Study Area vs Total Virginia
Base Year (2012) Tons
Study Area vs Total Virginia

Mid-term (2025) Tons
Study Area vs Total Virginia
Horizon Year (2040) Tons
Top Origins – 2012 Tons

Top Origins - Tons

<table>
<thead>
<tr>
<th>Year</th>
<th>Origin State</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td>PA</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
</tr>
<tr>
<td></td>
<td>TN</td>
</tr>
<tr>
<td></td>
<td>OH</td>
</tr>
<tr>
<td></td>
<td>WV</td>
</tr>
<tr>
<td></td>
<td>GA</td>
</tr>
<tr>
<td></td>
<td>KY</td>
</tr>
<tr>
<td></td>
<td>SC</td>
</tr>
<tr>
<td></td>
<td>IN</td>
</tr>
</tbody>
</table>

Sum of Tons for each Origin State (group) 1 broken down by Year. The view is filtered on Origin State (group) 1 and Year. The Origin State (group) 1 filter excludes AB, AG, AL and 69 more. The Year filter excludes 2025 and 2040.
Top Origins – 2025 Tons

Sum of Tons for each Origin State (group) 1 broken down by Year. The view is filtered on Origin State (group) 1 and Year. The Origin State (group) 1 filter excludes AB, AG, AL and 69 more. The Year filter excludes 2012 and 2040.
Top Origins – 2040 Tons

Sum of Tons for each Origin State (group) 1 broken down by Year. The view is filtered on Origin State (group) 1 and Year. The Origin State (group) 1 filter excludes AB, AG, AL and 69 more. The Year filter excludes 2012 and 2025.
Top Destinations – 2012 Tons

Sum of Tons for each Destination State (group) broken down by Year. The view is filtered on Destination State (group) and Year. The Destination State (group) filter excludes Canada & Mexico. The Year filter excludes 2025 and 2040.
Top Destinations - 2025 Tons

Sum of Tons for each Destination State (group) broken down by Year. The view is filtered on Destination State (group) and Year. The Destination State (group) filter excludes Canada & Mexico. The Year filter excludes 2012 and 2040.
### Top Destinations - Tons

<table>
<thead>
<tr>
<th>Year</th>
<th>Destination...</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2040</td>
<td>VA</td>
<td>14M</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>13M</td>
</tr>
<tr>
<td></td>
<td>MD</td>
<td>12M</td>
</tr>
<tr>
<td></td>
<td>PA</td>
<td>11M</td>
</tr>
<tr>
<td></td>
<td>DC</td>
<td>10M</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>9M</td>
</tr>
<tr>
<td></td>
<td>NY</td>
<td>8M</td>
</tr>
<tr>
<td></td>
<td>GA</td>
<td>7M</td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>6M</td>
</tr>
<tr>
<td></td>
<td>TN</td>
<td>5M</td>
</tr>
<tr>
<td></td>
<td>WV</td>
<td>4M</td>
</tr>
<tr>
<td></td>
<td>SC</td>
<td>3M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0M</td>
</tr>
</tbody>
</table>

Sum of Tons for each Destination State (group) broken down by Year. The view is filtered on Destination State (group) and Year. The Destination State (group) filter excludes Canada & Mexico. The Year filter excludes 2012 and 2025.
Top Origins - Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Origin States</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td>NV</td>
</tr>
<tr>
<td></td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
</tr>
<tr>
<td></td>
<td>CA</td>
</tr>
<tr>
<td></td>
<td>PA</td>
</tr>
<tr>
<td></td>
<td>TN</td>
</tr>
<tr>
<td></td>
<td>GA</td>
</tr>
<tr>
<td></td>
<td>SC</td>
</tr>
<tr>
<td></td>
<td>TX</td>
</tr>
<tr>
<td></td>
<td>OH</td>
</tr>
<tr>
<td></td>
<td>KY</td>
</tr>
</tbody>
</table>

Value

Sum of Value for each Origin State (group) broken down by Year. The view is filtered on Year and Origin State (group). The Year filter keeps 2012. The Origin State (group) filter excludes Canada & Mexico.
Top Origins – 2025 Value

Sum of Value for each Origin State (group) broken down by Year. The view is filtered on Year and Origin State (group). The Year filter keeps 2025. The Origin State (group) filter excludes Canada & Mexico.
Top Origins - Value

Year | Origin State...
--- | ---
2040 | NV
    | VA
    | NC
    | TX
    | CA
    | TN
    | NJ
    | OH
    | PA
    | MD
    | GA
    | SC
    | KY

Sum of Value for each Origin State (group) broken down by Year. The view is filtered on Year and Origin State (group), The Year filter keeps 2040. The Origin State (group) filter excludes Canada & Mexico.
D-299

Top Destinations – 2012 Value

Top Destinations - Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>DC</td>
</tr>
<tr>
<td></td>
<td>PA</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
</tr>
<tr>
<td></td>
<td>GA</td>
</tr>
<tr>
<td></td>
<td>NY</td>
</tr>
<tr>
<td></td>
<td>OH</td>
</tr>
<tr>
<td></td>
<td>TN</td>
</tr>
<tr>
<td></td>
<td>SC</td>
</tr>
<tr>
<td></td>
<td>IN</td>
</tr>
<tr>
<td></td>
<td>KY</td>
</tr>
</tbody>
</table>

Value

Sum of Value for each Destination State broken down by Year. The view is filtered on Year and Destination State. The Year filter keeps 2012. The Destination State filter keeps 13 of 87 members.
Top Destinations – 2025 Value

Top Destinations - Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2025</td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td>DC</td>
</tr>
<tr>
<td></td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>PA</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
</tr>
<tr>
<td></td>
<td>GA</td>
</tr>
<tr>
<td></td>
<td>NY</td>
</tr>
<tr>
<td></td>
<td>TN</td>
</tr>
<tr>
<td></td>
<td>OH</td>
</tr>
<tr>
<td></td>
<td>KY</td>
</tr>
<tr>
<td></td>
<td>IN</td>
</tr>
<tr>
<td></td>
<td>SC</td>
</tr>
</tbody>
</table>

Value

Sum of Value for each Destination State broken down by Year. The view is filtered on Year and Destination State. The Year filter keeps 2025. The Destination State filter keeps 13 of 87 members.
Top Destinations – 2040 Value

Top Destinations - Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2040</td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td>DC</td>
</tr>
<tr>
<td></td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>PA</td>
</tr>
<tr>
<td></td>
<td>TN</td>
</tr>
<tr>
<td></td>
<td>GA</td>
</tr>
<tr>
<td></td>
<td>NY</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
</tr>
<tr>
<td></td>
<td>OH</td>
</tr>
<tr>
<td></td>
<td>IN</td>
</tr>
<tr>
<td></td>
<td>KY</td>
</tr>
<tr>
<td></td>
<td>SC</td>
</tr>
</tbody>
</table>

Sum of Value for each Destination State broken down by Year. The view is filtered on Year and Destination State. The Year filter keeps 2040. The Destination State filter keeps 13 of 87 members.
## Top 15 Commodities – Tons (2012)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Products Except for Animal Feed (other)</td>
<td>2,084,409</td>
</tr>
<tr>
<td>Non-Metallic Mineral Products</td>
<td>1,725,176</td>
</tr>
<tr>
<td>Other Prepared Food Stuffs, and Fats and Oils</td>
<td>1,593,123</td>
</tr>
<tr>
<td>Waste and Scrap (except of agriculture or food)</td>
<td>1,436,346</td>
</tr>
<tr>
<td>Other Coal and Petroleum Products</td>
<td>1,179,437</td>
</tr>
<tr>
<td>Wood Products</td>
<td>1,100,794</td>
</tr>
<tr>
<td>Logs and Other Wood in the Rough</td>
<td>874,703</td>
</tr>
<tr>
<td>Plastics and Rubber</td>
<td>835,490</td>
</tr>
<tr>
<td>Milled Grain Products and Preparations, and Bakery Products</td>
<td>781,999</td>
</tr>
<tr>
<td>Other Chemical Products and Preparations</td>
<td>760,467</td>
</tr>
<tr>
<td>Other Non-Metallic Minerals</td>
<td>629,255</td>
</tr>
<tr>
<td>Articles of Base Metal</td>
<td>615,018</td>
</tr>
<tr>
<td>Furniture, Mattresses and Mattress Supports, Lamps, Lighting Fittings, and Illuminated Signs</td>
<td>488,793</td>
</tr>
<tr>
<td>Meat, Fish, and Seafood and Their Preparations</td>
<td>467,189</td>
</tr>
<tr>
<td>Animal Feed and Products of Animal Origin</td>
<td>449,284</td>
</tr>
</tbody>
</table>
# Top 15 Commodities – Tons (2025)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Metallic Mineral Products</td>
<td>2,945,292</td>
</tr>
<tr>
<td>Agricultural Products Except for Animal Feed (other)</td>
<td>2,028,037</td>
</tr>
<tr>
<td>Waste and Scrap (except of agriculture or food)</td>
<td>1,981,369</td>
</tr>
<tr>
<td>Other Prepared Food Stuffs, and Fats and Oils</td>
<td>1,894,126</td>
</tr>
<tr>
<td>Wood Products</td>
<td>1,450,970</td>
</tr>
<tr>
<td>Other Coal and Petroleum Products</td>
<td>1,326,862</td>
</tr>
<tr>
<td>Plastics and Rubber</td>
<td>1,293,519</td>
</tr>
<tr>
<td>Logs and Other Wood in the Rough</td>
<td>1,229,574</td>
</tr>
<tr>
<td>Other Chemical Products and Preparations</td>
<td>1,109,425</td>
</tr>
<tr>
<td>Milled Grain Products and Preparations, and Bakery Products</td>
<td>995,942</td>
</tr>
<tr>
<td>Other Non-Metallic Minerals</td>
<td>858,457</td>
</tr>
<tr>
<td>Articles of Base Metal</td>
<td>753,526</td>
</tr>
<tr>
<td>Furniture, Mattresses and Mattress Supports, Lamps, Lighting Fittings, and Illuminated Signs</td>
<td>675,719</td>
</tr>
<tr>
<td>Meat, Fish, and Seafood and Their Preparations</td>
<td>621,810</td>
</tr>
<tr>
<td>Animal Feed and Products of Animal Origin</td>
<td>602,091</td>
</tr>
</tbody>
</table>
## Top 15 Commodities – Tons (2040)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Metallic Mineral Products</td>
<td>3,921,905</td>
</tr>
<tr>
<td>Waste and Scrap (except of agriculture or food)</td>
<td>2,679,685</td>
</tr>
<tr>
<td>Agricultural Products Except for Animal Feed (other)</td>
<td>2,346,761</td>
</tr>
<tr>
<td>Other Prepared Food Stuffs, and Fats and Oils</td>
<td>2,278,380</td>
</tr>
<tr>
<td>Plastics and Rubber</td>
<td>1,825,698</td>
</tr>
<tr>
<td>Other Chemical Products and Preparations</td>
<td>1,463,915</td>
</tr>
<tr>
<td>Wood Products</td>
<td>1,442,559</td>
</tr>
<tr>
<td>Milled Grain Products and Preparations, and Bakery Products</td>
<td>1,263,399</td>
</tr>
<tr>
<td>Other Coal and Petroleum Products</td>
<td>1,238,004</td>
</tr>
<tr>
<td>Logs and Other Wood in the Rough</td>
<td>1,117,512</td>
</tr>
<tr>
<td>Other Non-Metallic Minerals</td>
<td>949,393</td>
</tr>
<tr>
<td>Meat, Fish, and Seafood and Their Preparations</td>
<td>896,044</td>
</tr>
<tr>
<td>Furniture, Mattresses and Mattress Supports, Lamps, Lighting Fittings, and Illuminated Signs</td>
<td>874,742</td>
</tr>
<tr>
<td>Animal Feed and Products of Animal Origin</td>
<td>772,605</td>
</tr>
<tr>
<td>Articles of Base Metal</td>
<td>729,985</td>
</tr>
</tbody>
</table>
# Top 15 Commodities – Value (2012)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous Manufactured Products</td>
<td>6,036,461,517</td>
</tr>
<tr>
<td>Electronic and Other Electrical Equipment and Components, and Office Equipment</td>
<td>4,031,940,516</td>
</tr>
<tr>
<td>Motorized and Other Vehicles (including parts)</td>
<td>3,427,224,858</td>
</tr>
<tr>
<td>Transportation Equipment</td>
<td>3,164,559,139</td>
</tr>
<tr>
<td>Machinery</td>
<td>2,904,666,288</td>
</tr>
<tr>
<td>Plastics and Rubber</td>
<td>2,693,390,425</td>
</tr>
<tr>
<td>Textiles, Leather, and Articles of Textiles or Leather</td>
<td>2,254,955,343</td>
</tr>
<tr>
<td>Other Chemical Products and Preparations</td>
<td>2,159,973,268</td>
</tr>
<tr>
<td>Meat, Fish, and Seafood and Their Preparations</td>
<td>1,855,333,664</td>
</tr>
<tr>
<td>Articles of Base Metal</td>
<td>1,813,638,012</td>
</tr>
<tr>
<td>Agricultural Products Except for Animal Feed (other)</td>
<td>1,710,902,058</td>
</tr>
<tr>
<td>Other Prepared Food Stuffs, and Fats and Oils</td>
<td>1,675,525,120</td>
</tr>
<tr>
<td>Milled Grain Products and Preparations, and Bakery Products</td>
<td>1,198,419,320</td>
</tr>
<tr>
<td>Furniture, Mattresses and Mattress Supports, Lamps, Lighting Fittings, and Illuminated Signs</td>
<td>1,182,381,363</td>
</tr>
<tr>
<td>Metallic Ores and Concentrates</td>
<td>769,397,447</td>
</tr>
</tbody>
</table>
## Top 15 Commodities – Value (2025)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous Manufactured Products</td>
<td>28,372,753,910</td>
</tr>
<tr>
<td>Electronic and Other Electrical Equipment and Components, and Office Equipment</td>
<td>8,940,223,034</td>
</tr>
<tr>
<td>Transportation Equipment</td>
<td>5,805,980,896</td>
</tr>
<tr>
<td>Motorized and Other Vehicles (including parts)</td>
<td>4,986,418,676</td>
</tr>
<tr>
<td>Machinery</td>
<td>4,439,585,458</td>
</tr>
<tr>
<td>Plastics and Rubber</td>
<td>4,190,864,112</td>
</tr>
<tr>
<td>Metallic Ores and Concentrates</td>
<td>3,955,619,483</td>
</tr>
<tr>
<td>Other Chemical Products and Preparations</td>
<td>3,263,612,763</td>
</tr>
<tr>
<td>Meat, Fish, and Seafood and Their Preparations</td>
<td>2,437,560,894</td>
</tr>
<tr>
<td>Articles of Base Metal</td>
<td>2,333,064,794</td>
</tr>
<tr>
<td>Textiles, Leather, and Articles of Textiles or Leather</td>
<td>2,202,035,409</td>
</tr>
<tr>
<td>Other Prepared Food Stuffs, and Fats and Oils</td>
<td>2,032,113,981</td>
</tr>
<tr>
<td>Agricultural Products Except for Animal Feed (other)</td>
<td>1,801,564,239</td>
</tr>
<tr>
<td>Furniture, Mattresses and Mattress Supports, Lamps, Lighting Fittings, and Illuminated Signs</td>
<td>1,629,580,042</td>
</tr>
<tr>
<td>Milled Grain Products and Preparations, and Bakery Products</td>
<td>1,480,803,022</td>
</tr>
</tbody>
</table>
## Top 15 Commodities – Value (2040)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous Manufactured Products</td>
<td>59,766,818,650</td>
</tr>
<tr>
<td>Electronic and Other Electrical Equipment and Components, and Office Equipment</td>
<td>23,180,813,265</td>
</tr>
<tr>
<td>Transportation Equipment</td>
<td>10,960,938,218</td>
</tr>
<tr>
<td>Metallic Ores and Concentrates</td>
<td>8,425,330,230</td>
</tr>
<tr>
<td>Machinery</td>
<td>6,354,767,749</td>
</tr>
<tr>
<td>Motorized and Other Vehicles (including parts)</td>
<td>6,061,216,233</td>
</tr>
<tr>
<td>Plastics and Rubber</td>
<td>5,943,812,656</td>
</tr>
<tr>
<td>Other Chemical Products and Preparations</td>
<td>4,535,665,783</td>
</tr>
<tr>
<td>Meat, Fish, and Seafood and Their Preparations</td>
<td>3,450,775,852</td>
</tr>
<tr>
<td>Textiles, Leather, and Articles of Textiles or Leather</td>
<td>2,721,669,633</td>
</tr>
<tr>
<td>Other Prepared Food Stuffs, and Fats and Oils</td>
<td>2,479,910,861</td>
</tr>
<tr>
<td>Articles of Base Metal</td>
<td>2,456,652,680</td>
</tr>
<tr>
<td>Furniture, Mattresses and Mattress Supports, Lamps, Lighting Fittings, and Illuminated Signs</td>
<td>2,434,969,874</td>
</tr>
<tr>
<td>Agricultural Products Except for Animal Feed (other)</td>
<td>2,307,042,186</td>
</tr>
<tr>
<td>Milled Grain Products and Preparations, and Bakery Products</td>
<td>1,818,723,911</td>
</tr>
</tbody>
</table>
27 Years of Growth and Innovation
Freight Rail in the Shenandoah Valley

1. **Short Line** - What is a short line railroad and how does it fit into the national rail system?

2. **Buckingham Branch** - What is the background on the Buckingham Branch Railroad?

3. **Regional Impact** - What is rail’s impact on the region and what is the importance of rail to regional economic development?

4. **Challenges** - What challenges does the Buckingham Branch face in terms of infrastructure, access and other issues?

5. **Highway Traffic** - Can rail make a difference on the I-64 Corridor traffic congestion?
What is a short line railroad and how does it fit into the national transportation system?
“Short Line” Railroad

- **Number** - Approximately 600 short line railroads in the US

- **Track Miles** – Short Lines operate 47,500 miles of track (29% of all freight track) compared to 95,000 miles for Class 1 RRs

- **Small Business** – Average 30 employees; operate 79 miles of track
“Short Line” Railroad

- **Revenue definition** - Annual Operating Revenue less than $36.6 million

- **Connectivity** - Connect thousands of customers to the US main line rail network to offer seamless service for shipping lane

- **Rail Preservation** - Typically operating on track that would have otherwise been abandoned by a larger railroad
Hallmarks of the Short Line Industry

- **Customer Focus** - flexible and responsive to the unique needs of each customer

- **Entrepreneurial Spirit** – success is dependent on aggressively pursuing business, advocating for customers, and investing in track

- **Connecting to Markets** – Short Lines are often the only direct link to national rail network for rural and small town America

- **Business Development** – Focused regional marketing & sales relationship and transload offerings
What is the background of the Buckingham Branch Railroad?
1988
BBRR Founded

March 6, 1989
Ran First Train
7 Employees

1999, 10 years
17 Employees

2005
56 Employees

Spring 2007
BB takes over 24/7 Dispatching & Signals
73 Employees

Dec 21, 2004
R&A Division leased from CSX

May 2009
VA Southern Division Begins
77 Employees

1988
Employees
2

2005
Employees
25th Anniversary
99 Employees

Miles of Track
17

Present
84 Employees

Locomotives
1

October 2014
25th Anniversary
99 Employees

2017
Employees
84

Miles of Track
275

Locomotives
17
Trackage in Virginia

- Buckingham Branch Railroad
- Other Railroads
- Junctions
- Buckingham Branch Stations
- Junctions and BB Stations

Distance Scale:
- 0 10 Miles 25 Miles 50 Miles
- 0 10 KM 25 KM 50 KM
Current Operation

- 7 train crews running 30 trains a week
- \( \approx 12,500 \) Carloads/year
  - Local - 1000
  - NS – 3000
  - CSX - 8500

- Approximately 20 CSX Overhead trains each week.
- 170,000 Empty cars/year

- Amtrak’s “Cardinal” runs both directions 3 days a week amidst local and CSX Westbound traffic
Safety is No 1 and the Buckingham Branch is heavily regulated
Training and Management Critical to Regulatory Compliance

Selected Regulatory Agencies -

- FRA
- FCC
- OSHA
- EPA
- FMCSA
- PHMSA
- TSA
- FEMA
- Va SCC
Investing In Our People

- Safety and Training Days are held each quarter for transportation, track, mechanical, and signal departments
- Hands-on and classroom training
- Safety training is held for all staff including office personnel
To remain viable, BB must make significant capital investment each year

- **Investment in:**
  - Track
  - Signals
  - Rolling Stock
  - Vehicles
  - Bridges
  - Highway Crossings
  - Heavy Equipment
  - Maintenance Facilities

- **Primary funding sources are Buckingham Branch and Virginia Rail Preservation Fund**
Investing in our Infrastructure: R&A Division

➢ **Tie Replacement**
  • 140,000 completed, 60,000 to go
  • 600 Tons of Ballast per mile
  • 1,000 ties per mile

➢ **Rail Replacement**
  • ≈ ½ mile curve patch each year
  • 10 mile CWR on Piedmont this year

➢ **Undercutting**
  • Surface Improvement
  • Joint Replacement
  • Improved Drainage

➢ **New Siding**
  • More efficient movement of empty trains

➢ **Crossing surface replacements**
Tie and Surface Upgrades

- **Completed Work**
- **Not Yet Completed**

- **Junctions**
- **Buckingham Branch Stations**
- **Junctions and BB Stations**

0 10 Miles 25 Miles 50 Miles
0 10 KM 25 KM 50 KM
Investing in our equipment

New Power - GP 38-2’s
State-of-the Art Buckingham Branch Technology

LED light upgrades at grade crossings for improved reliability and visibility

Fiber optic in RoW

Tablets for train crews
Samsung tablets enable train crews to update car deliveries and pick-ups in real time.
R&A Wayside Signal Upgrade

- 125 miles
- Replacing existing open pole lines with new electronic track circuits
- Existing pole line being removed
- 9 phases
- Final Cutover was October 2016
State-of-the-Art Technology

• LED light upgrades at grade crossings for improved reliability and visibility

• Pole line was not always reliable or safe

• New signals travel through the rail
What is rail impact on the region?
Overall Regional Rail Impact

1. Buckingham Branch freight customers
2. Shenandoah Valley Railroad freight customers
3. Norfolk Southern freight customers (north-south lines through Charlottesville and Waynesboro)
4. Amtrak passenger service from Charlottesville to Staunton (Cardinal Line from DC to Chicago)
Selected BB Customers Across I-64

- Houff's Feed & Fertilizer
- Cooperative Augusta
- Dixie Gas & Oil
- Flint Group
- Valley Recycling
- Lanford Brothers Co.
- Stella-Jones
- University of Virginia
- Luck Stone
Other Selected BB Customers

- WestRock
- SUNOCO
- klöckner pentaplast
- Martin Marietta Materials
- PURINA
- Bakery Feeds®
- KOPPERS
- SPECIALTY COATING & LAMINATING
- Dominion
- U.S. SILICA
What are challenges for BB?
Primary challenges

1. **Rail funding** - Threat to state Rail Preservation funding

2. **Capital investment** - Constant BB capital investment requirement – while competing with trucks that use publicly funded highways

3. **Lack of viable sites** – Jurisdictions not rail oriented – very limited rail-served sites and buildings available between Staunton and Charlottesville

4. **US Industrial Economy** – Sluggish growth

5. **Supply Chain** – Just-in-time shipping trend favors speed and inventory reductions vs. lower freight costs
Can rail make a difference in corridor traffic congestion?
How can rail make a difference

1. **Rail served projects** – Every rail car takes 3-5 trucks off the highway for new or expanded manufacturing / distribution projects located on rail

2. **Transload/Intermodal** – Enables companies not located on rail to ship by rail / truck combination

3. **Passenger service** – Continued support for Amtrak service and future consideration of local passenger service / commuter service
Buckingham Branch Transload – Intermodal Service

• 70+% of future, new rail freight business will come from transload / intermodal

• 3 existing BB transload locations in corridor –
  • Staunton (C&O Flats)
  • Fishersville (Downtown)
  • Keswick (Louisa Road & Hunt Club Road)
BB Transload Locations

Potential Transload Sites

- Buckingham Branch Railroad
- Other Railroads

- Existing Track & Land
- Land Available
- No Tracks

0 10 Miles 25 Miles 50 Miles
0 10 KM 25 KM 50 KM
Transload Example - Doswell Trans-load Facility
Partner with Houff and ABC Trucking

**Customer** – Nestle-Purina

**Freight** – Bentonite (Powdered Clay) from Wyoming by rail to Doswell

**Use** – Trucked to Purina’s kitty litter facility in King William
SHRP2 Interstate 64 Corridor Plan

Shenandoah Piedmont area Collaborative Effort (SPaCE)

Final Working Group Meeting #6

September 22, 2017
Agenda

1. Status update
2. Plan Update
3. Draft Project Recommendations
4. Next Steps
Status Update

- Project Webpage – Completed
- Draft MOU – Pending Review
- Database of Plans and Studies – Map Online
- Joint MPO Meetings – Completed
- Draft Corridor Study Report – Drafting
Status Update

SHRP2 Interstate 64 Corridor Study

The SHRP2 Interstate 64 Corridor Study is a collaborative effort between the Charlottesville Albemarle MPO and the Staunton Augusta Waynesboro MPO. The project focuses on the 40 mile Interstate 64 corridor between Charlottesville and Staunton.

The project is made possible by funding provided by FHWA SHRP2 Implementation Assistance Program. The corridor study focuses on using the PlanWorks Decision Guide to inform the corridor study process and increase cooperation and collaboration between agencies and localities.

Open the Corridor Study Storyboard and Map

Project Fact Sheet
User Survey and Comment Form

Why do the study?

The Interstate 64 corridor between Charlottesville and Staunton was constructed in the 1960's and has been incrementally upgraded over the intervening years. However, the roadway still remains primarily a four lane rural Interstate. As the regions at either end of the study area have grown so has the demands on the roadway. Demographic and social trends have resulted in a significant number of commuting trips utilizing the corridor as people make their way from home to work. This demand mixed with increasing freight and through traffic demands have resulted in a number of high profile traffic incidents and road closures. Furthermore, the corridor passes through three VDOT construction districts and four regional transportation planning districts (two MPOs and two Rural Areas). This structure has resulted in a number of parties having interests in the corridor but infrequently working together to look at the corridor holistically.

Who is involved?

The study is being guided by the Policy Boards of the Charlottesville Albemarle MPO and the Staunton Augusta Waynesboro MPO who will be meeting jointly three times during the study. Information about joint meeting dates and scheduled is available at the CA-MPO or SAW-MPO Policy board web pages. The Policy boards and MPO staff are being supported by a working group whose membership includes representatives from VDOT construction districts, MPOs, local government staff, and experts from state and federal transportation agencies.
MEMORANDUM OF UNDERSTANDING BETWEEN THE CHARLOTTESVILLE-ALBEMARLE METROPOLITAN PLANNING ORGANIZATION AND THE STAUNTON-AUGUSTA-WAYNESBORO METROPOLITAN PLANNING ORGANIZATION REGARDING INTER REGIONAL TRANSPORTATION PLANNING WITHIN THE I-64 CORRIDOR BETWEEN THE CITIES OF CHARLOTTESVILLE AND STAUNTON, VIRGINIA

This Memorandum of Understanding is made and entered into as of September 27, 2017, by and between the Charlottesville-Albemarle Metropolitan Planning Organization, hereinafter referred to as the CA-MPO, and the Staunton-Augusta-Waynesboro Metropolitan Planning Organization, hereinafter referred to as the SAWMPO.

WHEREAS, the 37 mile east-west segment of Interstate 64 connecting the cities of Charlottesville, Waynesboro and Staunton, Virginia, and the counties of Augusta and Albemarle, Virginia, is the primary multi-modal transportation corridor linking the Piedmont and Shenandoah Valley regions of Virginia, functioning as a critical link within the State’s comprehensive transportation network for both inter-regional and interstate commerce; and

WHEREAS, the formal coordination of short- and long-range planning activities among local, regional, state and federal government agencies is instrumental to the improvement of transportation planning activities and the development of new transportation facilities within this corridor to produce an efficient, safe and cost effective transportation network; and

WHEREAS, the CA-MPO and the SAWMPO enter into this MOU to conduct transportation and transit planning and development activities within the I-64 corridor in a mutually beneficial manner to each MPO’s unique transportation needs, and to the larger area as a whole; and

WHEREAS, transportation planning activities shall address planning for all transportation modes including, but not limited to, rail, bike and pedestrian planning, transit and travel demand management; and

WHEREAS, this MOU provides the framework for each MPO to review, comment, and provide letters of support for each other’s transportation projects, Long Range Transportation Plans, grant applications, Transportation Improvement Programs, and, when necessary, for projects under other transportation and transit activities located within, or that may affect, the corridor.

NOW, THEREFORE, be it agreed and agreed to by the CA-MPO and the SAWMPO to conduct inter-regional transportation planning in a collaborative manner within the I-64 corridor. It is also agreed that the following articles will guide the inter-regional cooperative efforts.

**Article 1**

**Corridor Boundaries**

The corridor boundary is defined as Interstate 64 from mile marker 124 westward to Interstate 81 south to mile marker 220 and to Interstate 81 north to mile marker 222, and US-250 from the Charlottesville US-29/US-250 bypass westward to the US-250 intersection in Staunton with Frontier Drive and North Frontier Drive. The corridor boundary includes the city of Charlottesville, Waynesboro and Staunton and the counties of Augusta, Albemarle, and Nelson; and includes major transportation and multi-modal routes and connections that provide important corridor access points located within one-half mile of either I-64 or US-250. These connections include rail facilities serving Buckingham Branch, Norfolk Southern and Amtrak rail operations.

**Article 2**

**Planning Activities**

Each MPO’s Policy Board shall retain the sole decision making body regarding projects and transportation plans that fall within their respective jurisdictions. However, this MOU recognizes that transportation planning activities and projects within the corridor boundaries, listed in Article 1, should receive special attention if they may have an
Status Update

Database of Plans

SHRP II I-64 Corridor Study

The SHRP2 Interstate 64 corridor project is a joint study between the Charlottesville Albemarle MPO and the Staunton Augusta Waynesboro MPO. The goal of the project is to utilize the Federal Highway Administration’s SHRP II PlanWorks corridor planning decision guide.

Project Location

The study area spans the I-64 Corridor from Pantops, east of Charlottesville to the City of Staunton. The study area crosses multiple jurisdictional boundaries and roadways, including two Charlottesville MPOs, two counties...
Draft Plan Sections

- Executive Summary
- Introduction ✔
- Background ✔
- Use of PlanWorks
- Public and Working Group Involvement ✔
- Existing Conditions ✔
- Recommendations and Hotspots
- Implementation
- Lessons Learned
Draft Project Recommendations

- **Safety**
  - Address slow moving vehicles at Afton and Ivy
  - Address over capacity interchanges
  - Reduce vehicle wildlife conflicts
  - Improve problem intersections

- **Truck Traffic**
  - Provide truck climbing lanes for slower moving vehicles

- **TDM/Transit**
  - Add additional park and ride facilities
  - Support transit within the corridor

- **Communication and coordination**
  - Work with VDOT & DRPT to coordinate planning
Draft Recommendations

- Draft recommendations identified by working group and local planning staff
- Recommendations address issues identified during the deficiency analyses and from other plans, studies or reports
- Recommendations fall into 3 categories
  - Bike and Pedestrian
  - Capacity and Operations
  - Safety
- Recommendations are either specific (x intersection) or general (develop a communications plan)
## Draft Recommendations

<table>
<thead>
<tr>
<th>Type</th>
<th>Recommendation</th>
<th>Topic Addressed</th>
<th>Project ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>Connect Route 76 to Blue Ridge Tunnel Access</td>
<td>Recreation</td>
<td>1</td>
</tr>
<tr>
<td>BP</td>
<td>Waynesboro to Western portal of Blue Ridge tunnel access</td>
<td>Recreation</td>
<td>1</td>
</tr>
<tr>
<td>BP</td>
<td>Widen paved shoulders on US-250 from Old TPK Rd to Brooksville Rd.</td>
<td>Safety</td>
<td>17</td>
</tr>
<tr>
<td>BP</td>
<td>Widen shoulders on US250 from Afton to Route 6</td>
<td>Safety</td>
<td>18</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Interchange improvements at Exit 94</td>
<td>Congestion</td>
<td>2</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Interchange improvements at Exit 118</td>
<td>Congestion</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Interchange improvements at Exit 120</td>
<td>Congestion</td>
<td>4</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Interchange improvements at Exit 124</td>
<td>Congestion</td>
<td>5</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Improvements to the intersection of Miller School Road/US 250</td>
<td>Safety</td>
<td>6</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Route 240 /US 250 intersection improvements</td>
<td>Safety</td>
<td>7</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>US 250 Crozet intersection realignment (Rockfish Gap Turnpike and Three Notche'd Rd)</td>
<td>Safety</td>
<td>7</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>complete implementation of ATSMS system in Afton</td>
<td>Congestion</td>
<td>19</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Truck climbing lanes westbound between MM 104 &amp; 99</td>
<td>Congestion</td>
<td>20</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Truck climbing lanes between MM 113&amp;119 both direc</td>
<td>Congestion</td>
<td>21</td>
</tr>
</tbody>
</table>
## Draft Recommendations

<table>
<thead>
<tr>
<th>Type</th>
<th>Recommendation</th>
<th>Topic Addressed</th>
<th>Project ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;O</td>
<td>Waynesboro Southern Corridor (Route 340 to intersection of Route 624)</td>
<td>Congestion</td>
<td>22</td>
</tr>
<tr>
<td>S</td>
<td>Wildlife exclusion fencing South River Bridge</td>
<td>Safety</td>
<td>8</td>
</tr>
<tr>
<td>S</td>
<td>Wildlife exclusion fencing Christians Creek Bridge</td>
<td>Safety</td>
<td>9</td>
</tr>
<tr>
<td>S</td>
<td>Wildlife exclusion fencing Stockton Creek Bridge</td>
<td>Safety</td>
<td>10</td>
</tr>
<tr>
<td>S</td>
<td>Intersection improvements at US 250 and Route 151</td>
<td>Safety</td>
<td>11</td>
</tr>
<tr>
<td>S</td>
<td>Additional emergency crossovers around Afton mountain</td>
<td>Safety</td>
<td>24</td>
</tr>
<tr>
<td>TDM</td>
<td>New park and ride lot at Exit 124</td>
<td>Congestion</td>
<td>12</td>
</tr>
<tr>
<td>TDM</td>
<td>New park and ride lot at Exit 121</td>
<td>Congestion</td>
<td>13</td>
</tr>
<tr>
<td>TDM</td>
<td>New park and ride lot at Exit 107 (Crozet)</td>
<td>Congestion</td>
<td>14</td>
</tr>
<tr>
<td>TDM</td>
<td>New Park and Ride lot at Exit 99</td>
<td>Congestion</td>
<td>15</td>
</tr>
<tr>
<td>TDM</td>
<td>Park and Ride lot improvements at Exit 94</td>
<td>Congestion</td>
<td>16</td>
</tr>
<tr>
<td>TDM</td>
<td>Crozet commuter transit service</td>
<td>Congestion</td>
<td>25</td>
</tr>
<tr>
<td>TDM</td>
<td>I-81/I-64 Inter-Regional transit service</td>
<td>Congestion</td>
<td>24</td>
</tr>
</tbody>
</table>
Draft Recommendations

- Project recommendations sourced from studies, working group input and from deficiency analyses.
- Recommendations include bike ped improvements, congestion mitigation and TDM.
## Draft Recommendations

<table>
<thead>
<tr>
<th>Type</th>
<th>Recommendation</th>
<th>Topic Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;O</td>
<td>Widen I 64 to three travel lanes each direction</td>
<td>Congestion</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>Lifecore drive corridor</td>
<td>Congestion</td>
</tr>
<tr>
<td>C&amp;O</td>
<td>US 250 access management plan from Waynesboro to Staunton</td>
<td>Congestion</td>
</tr>
<tr>
<td>S</td>
<td>Greater driver information signage usage</td>
<td>Safety</td>
</tr>
<tr>
<td>S</td>
<td>App based weather and roadway condition notifications for drivers</td>
<td>Safety</td>
</tr>
<tr>
<td>S</td>
<td>Signage warning about sun blindness at key locations east and west bound</td>
<td>Safety</td>
</tr>
<tr>
<td>S</td>
<td>Afton incident management plan and communications upgrades</td>
<td>Safety</td>
</tr>
<tr>
<td>S</td>
<td>Detour plan for I 64 between MM 107 and 94</td>
<td>Safety</td>
</tr>
</tbody>
</table>
Vehicle Wildlife Conflict Hotspots

- Crashes involving wildlife are the number 1 source of accidents in the corridor.
- These crashes can be reduced or eliminated through low cost solutions
- Increased habitat connectivity
Additional park and ride lots in the corridor would help reduce roadway volume and provide options for travelers.

Eventually park and ride lots could be linked with transit service.
Truck Climbing Lanes

- Continue to monitor traffic and accidents and congestion at MM 105-99 (W) and 114-118 (E & W)
- Explore temporary or interim solutions such as shoulder running lanes or extended weave lanes
Interchanges & Intersections

- Implement specific interchange improvements along I-64 to add capacity, enhance safety, and reduce cut through truck traffic.
- Implement intersection improvements consistent with local government visions at key locations along US 250 and other primary roadways.
Next Steps

- Provide a draft to the working group by late October
- Comments from working group by mid-November
- Finalize plan by December
- Submit at least one corridor related project for Smart Scale Round 3 (Spring 2019)
Lessons Learned

- To collaborate effectively between regions you must communicate early and often.
- Focus on shared problems and challenges.
- Understand behavior in the corridor as a whole.
- Involve all relevant agencies in discussions.
- Focus on cost effective solutions that improve overall corridor efficiency.
- No one size fits all approach or solution. Guidance like PlanWorks must be flexible.
QUESTIONS