

# I-81/I-64 Inter-Regional Public Transportation Study

## Technical Memorandum #1



# Challenges, Needs and Opportunities

## Steering Committee and Stakeholders - Highlights

- There are commuters traveling through the corridor daily. There is likely to be bi-directional demand, with Charlottesville serving as the primary destination.
- Afton Mountain is a significant travel barrier for some drivers and there is traffic congestion on I-64. Local transit providers do get requests for service from the Shenandoah Valley to Charlottesville.
- There is demand from the Central Shenandoah region to access Charlottesville area medical facilities, specifically the UVA Medical Center and Sentara Martha Jefferson Hospital.
- JMU students need access to an airport – either Dulles or Charlottesville.
- There are parking concerns on both the JMU campus and the UVA campus.
- Potential riders will likely have first mile/last mile concerns.

# Challenges, Needs and Opportunities

## Steering Committee and Stakeholders – Highlights

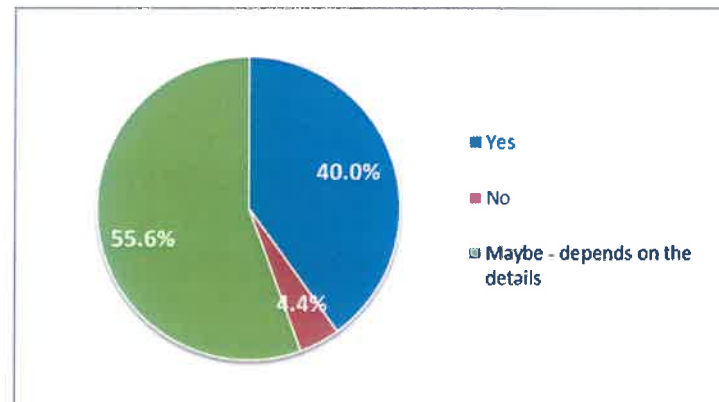
- Connections to Greyhound, Amtrak, and local bus services will be important.
- It is important that the service be accessible for people with disabilities, with relatively low fares.
- There is a need for park and ride lots in Harrisonburg and Staunton, and a need for improvements to the lot in Waynesboro.



# Commuter Survey Highlights

- 609 survey participants
- 96.2% think there is a need for service
- 40% would use bus service in the corridor
- 55.6% might use service, depending upon the details

Would You Use Bus Service in the Corridor?



# Commuter Survey Highlights

## Origins and Destinations

- Top Origins: Harrisonburg (29%), Staunton (25%), and Waynesboro (9%)
- Top Destinations: UVA Medical Center (19%), JMU (15%), and UVA (14%)

## Trip Purpose

- Work (63%), Errands (11%), Medical (6%), School (5%), Rail (4%), Air (4%)

## Frequency of Travel

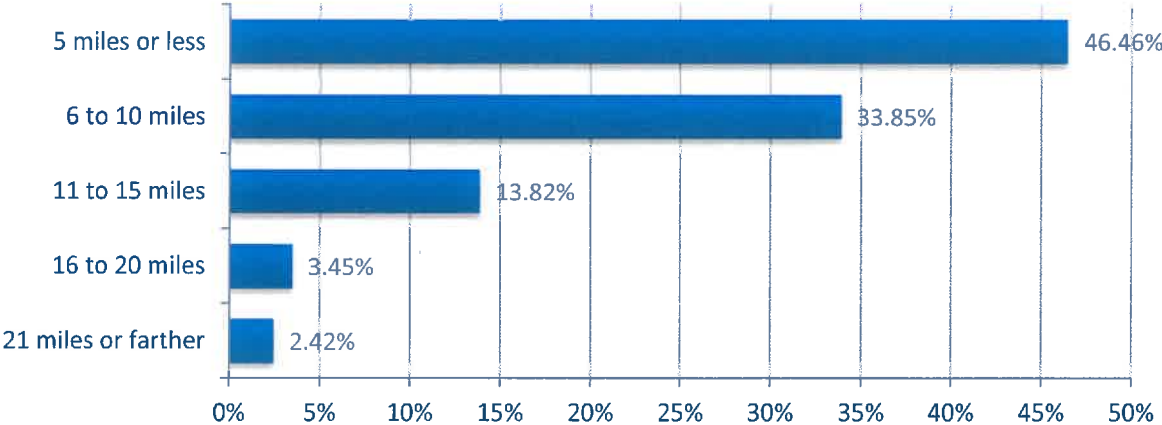
- Every weekday (48%), 4 weekdays (8.9%), 3 weekdays (8.9%)
- 1-3 weekdays/month (9.9%), less than 1 weekday/month (9.4%)
- Occasional Saturdays or Sundays (23.1%)

## Other

- 65% are not offered parking or transit subsidies, 19% not applicable, 12% parking only, 3% both, 2% transit only

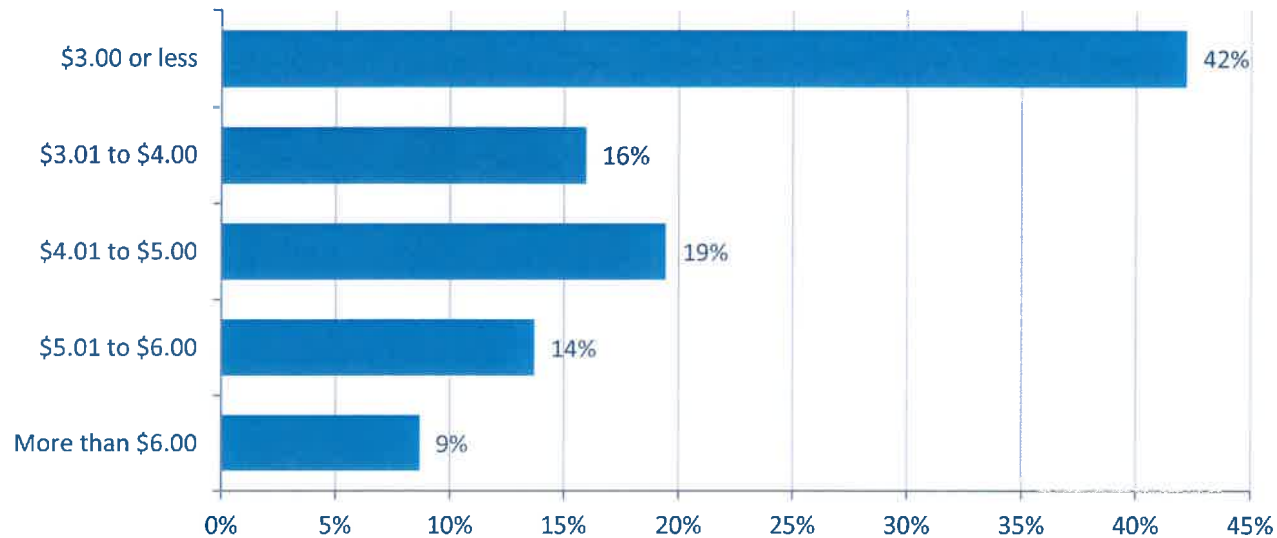
# Commuter Survey Highlights

## How far would you travel to reach a bus stop?



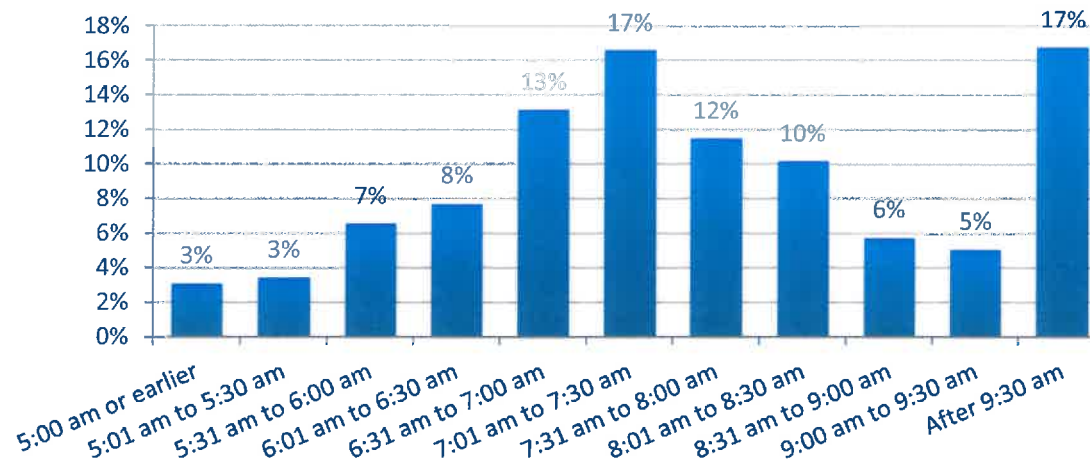
# Commuter Survey Highlights

**What fare would you be willing to pay for regional bus service between Harrisonburg and Charlottesville?**

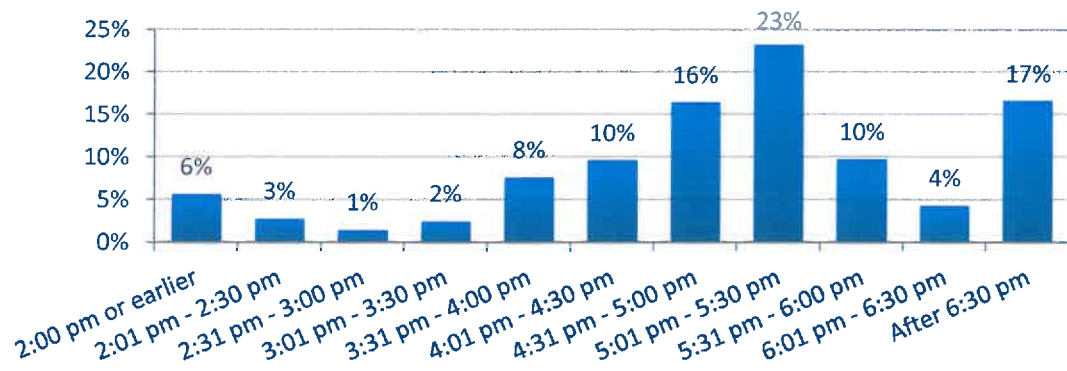


# Commuter Survey Highlights

## Morning Commute Departure Times



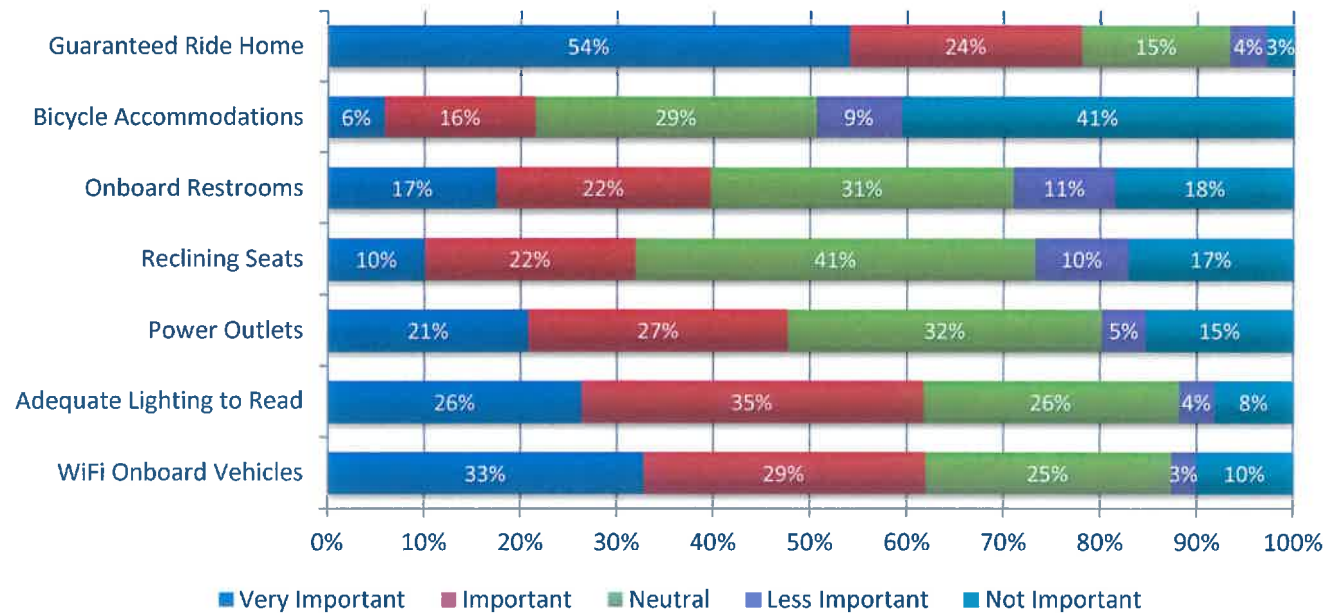
## Afternoon Commute Departure Times





# Commuter Survey Highlights

## Desired Amenities



# Commuter Survey Highlights

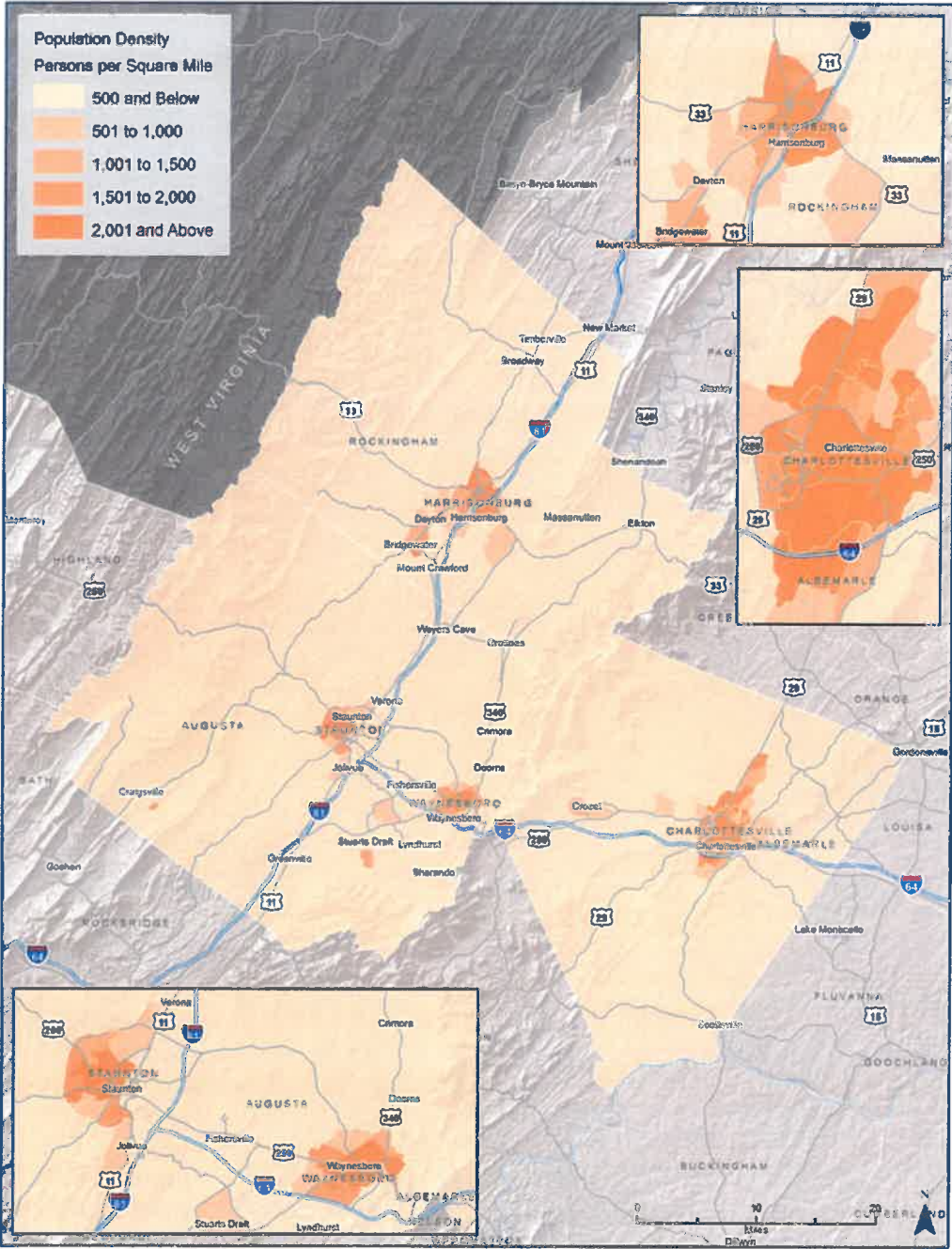
## Park and Ride Lots

- 52 of the survey participants use park and ride lots; 59.6% of these use unofficial lots.
- Need for Improvements
  - Better security and maintenance
  - Additional park and ride locations



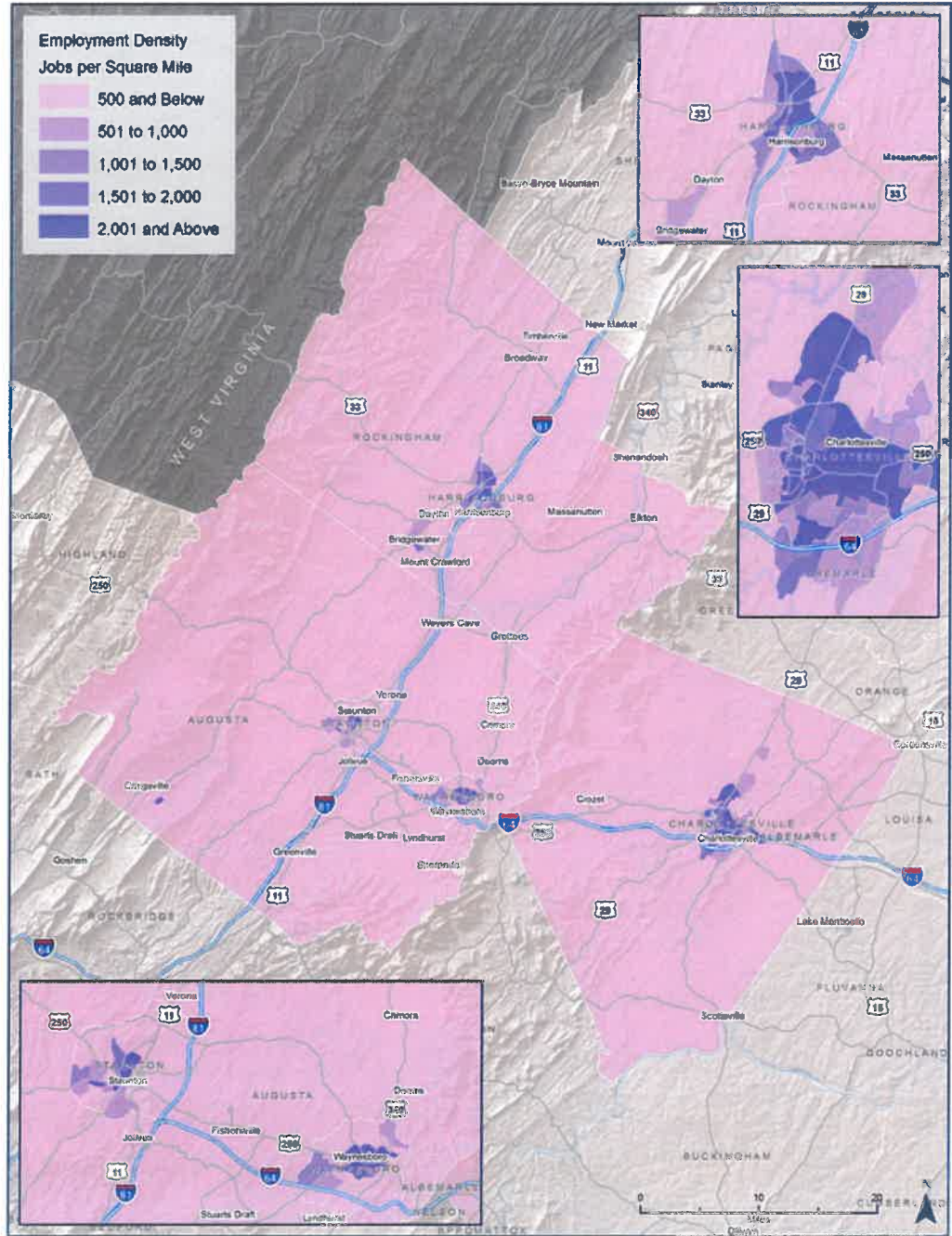
# Population and Commuting

# Population Density



# Population and Commuting

# Employment Density



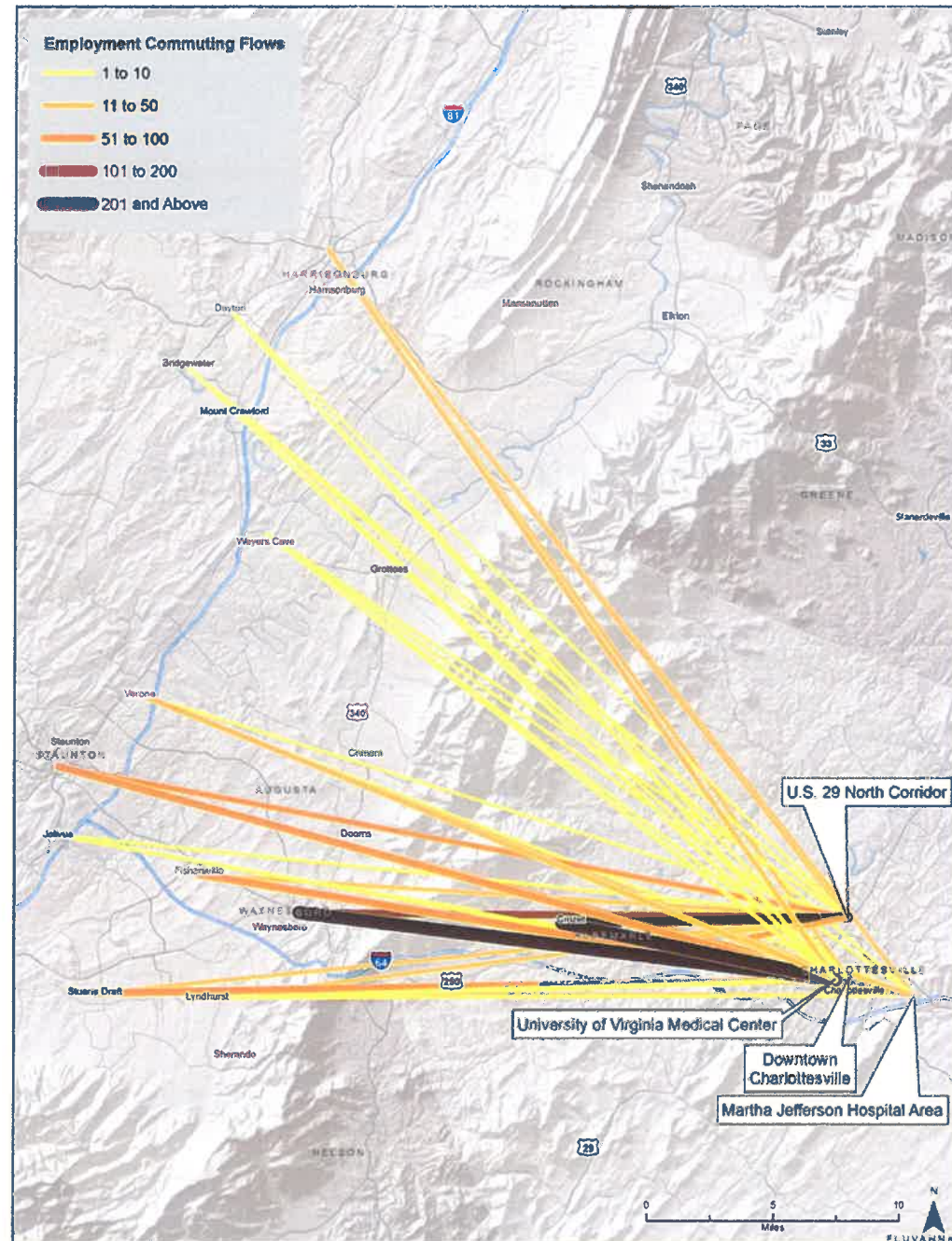


# Commute Patterns in the Study Area

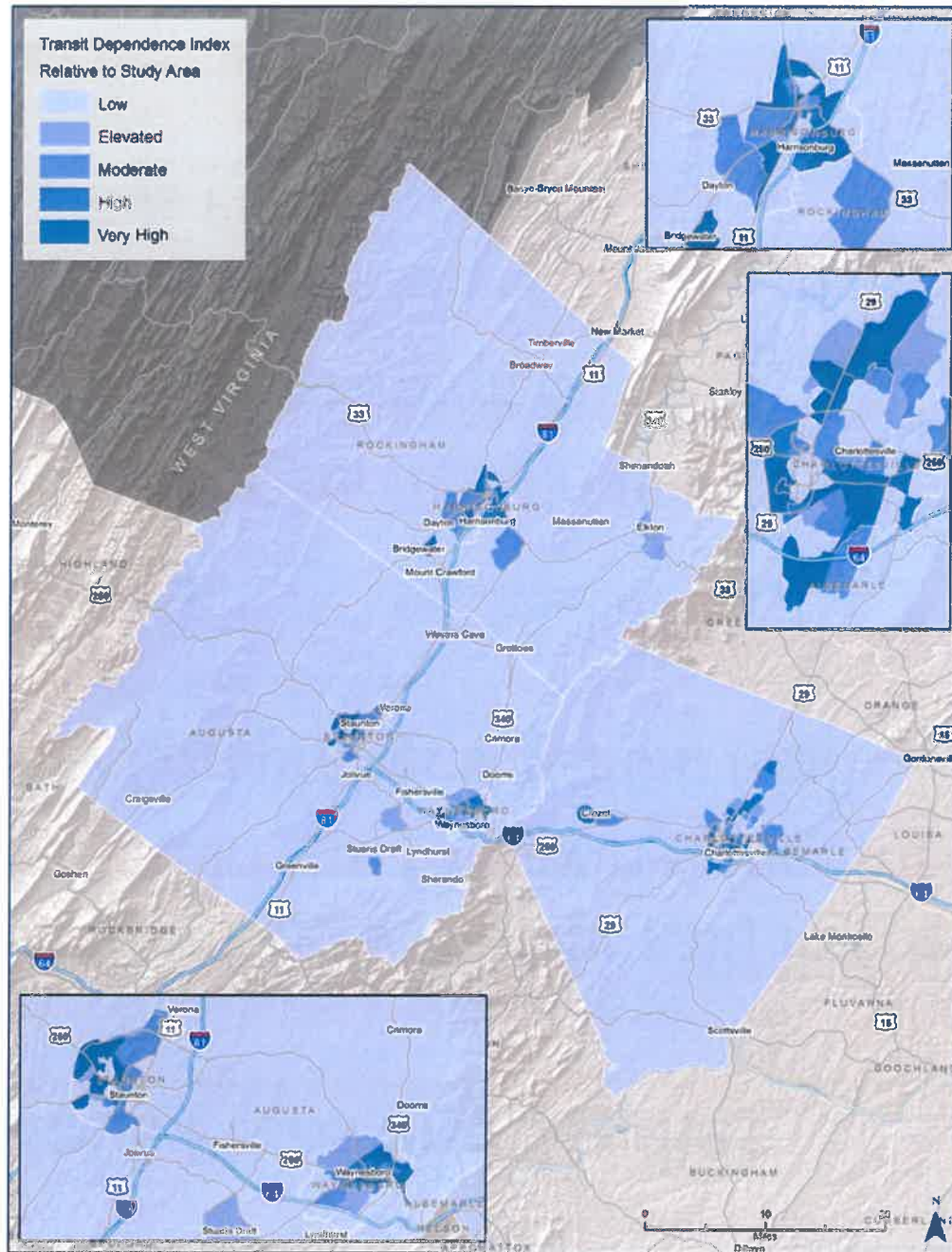
		<i>To</i>						
		Albemarle County	Augusta County	Charlottesville City	Harrisonburg City	Rockingham County	Staunton City	Waynesboro City
<i>From</i>	Albemarle County	16,960	522	12,937	549	296	322	381
	Augusta County	1,407	11,064	1,047	2,454	2,613	3,824	3,230
	Charlottesville City	5,968	133	6,811	211	94	146	102
	Harrisonburg City	226	530	173	7,365	4,478	307	189
	Rockingham County	607	1,547	435	13,070	12,543	563	466
	Staunton City	382	2,466	382	685	428	2,950	686
	Waynesboro City	905	2,090	717	326	292	677	2,280

# Commute Patterns in the Study Area

- To the four major employment centers in Charlottesville



# Transit Dependence Index





## Previous Plans and Studies

The need for transit linkages (bus or rail) in the corridor is mentioned in the following documents:

- 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

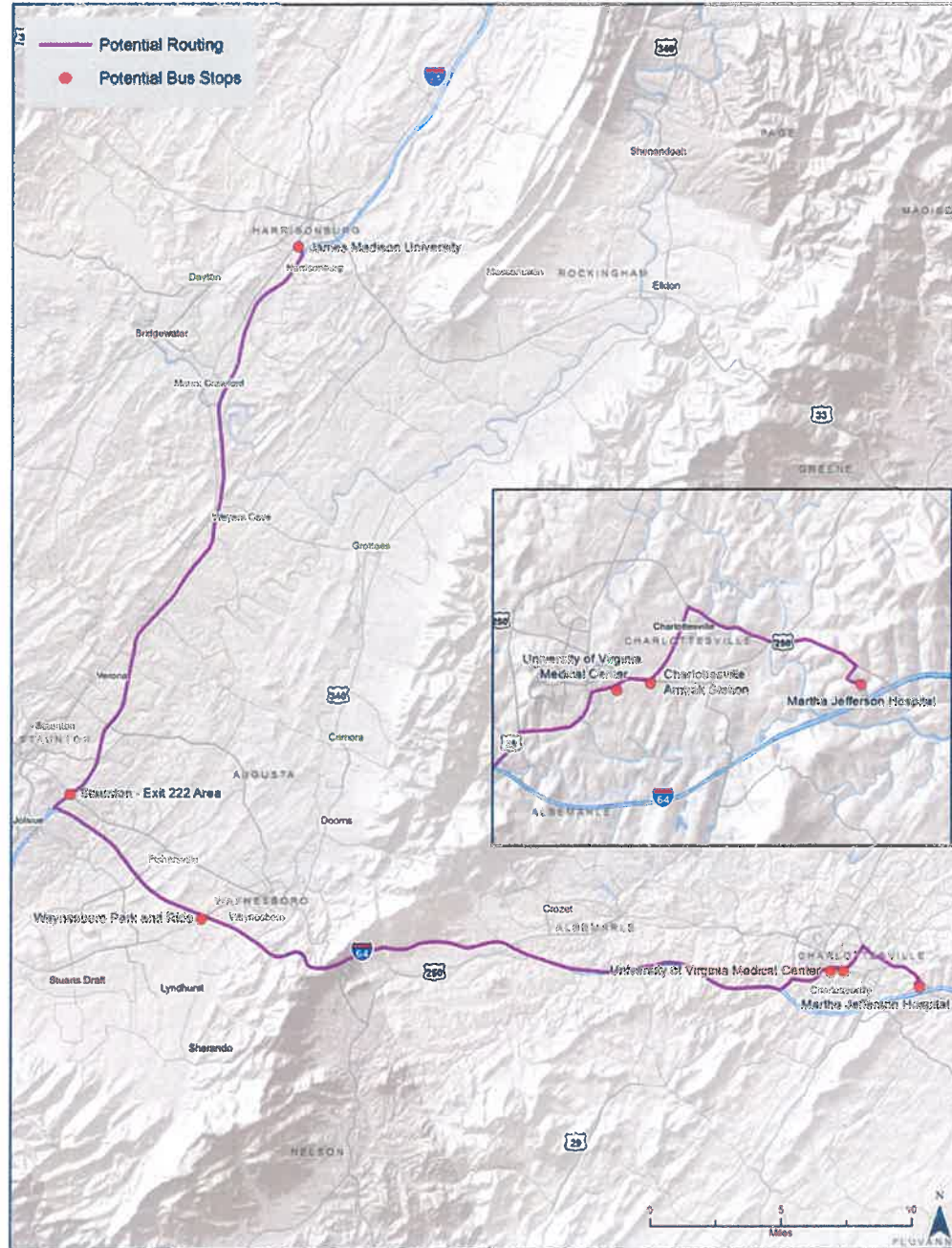


# Demand Estimates

Market	Estimated Annual Demand- # of Passenger Trips
Commuter Trips- both directions	22,800
Intercity Bus (Greyhound-Type) Trips	5,000
Other Types of Trips	8,000
<b>Total Estimated Annual Demand</b>	<b>35,800</b>

# Preliminary Alternatives

## Travel Corridor



# Preliminary Alternatives

- **Option 1a: Harrisonburg – Staunton – Waynesboro – Charlottesville**
  - Brings people to Charlottesville work destinations before 7:00 a.m.

Harrisonburg	5:00	Martha Jefferson Hospital	15:15
Staunton	5:36	Charlottesville Amtrak	15:30
Waynesboro	5:50	UVA Medical	15:25
UVA Medical Center	6:31	Waynesboro	16:06
Charlottesville Amtrak	6:36	Staunton	16:20
Charlottesville Greyhound	6:39	Harrisonburg	16:56
Martha Jefferson	6:54		

- **Option 1b: Charlottesville – Waynesboro - Staunton – Harrisonburg**
  - Same vehicle as Option 1a

Charlottesville Amtrak	7:30	Harrisonburg	17:10
UVA Medical Center	7:35	Staunton	17:46
Waynesboro	8:11	Waynesboro	18:00
Staunton	8:25	UVA Medical	18:41
Harrisonburg	9:01	Charlottesville Amtrak	18:46

Yellow shading denotes timed connection

# Preliminary Alternatives

- **Option 2: Charlottesville – Waynesboro - Staunton - Harrisonburg**
  - Second option for the westbound commute- using a second vehicle

Charlottesville Amtrak	6:30
UVA Medical Center	6:35
Waynesboro	7:11
Staunton	7:25
Harrisonburg	8:01

- **Option 3: Harrisonburg – Staunton – Waynesboro – Charlottesville – Adding Fishersville**
  - Return trip of Option 2 above
  - Mid-day break

Harrisonburg	8:15
Staunton	8:51
Fishersville	9:03
Waynesboro	9:15
UVA Medical	10:00
Martha Jefferson Hospital	10:15

Martha Jefferson Hospital	13:15
Charlottesville Greyhound	13:30
UVA Medical	13:25
Waynesboro	14:06
Fishersville	14:18
Staunton	14:30
Harrisonburg	15:06

# Preliminary Alternatives

- **Option 4: Harrisonburg – Staunton – Waynesboro – Charlottesville**
  - Similar to Option 1a, but with later originating time in Harrisonburg

Harrisonburg	6:30	Martha Jefferson Hospital	17:00
Staunton	7:06	Charlottesville Greyhound	17:14
Waynesboro	7:20	Charlottesville Amtrak	17:15
UVA Medical Center	8:01	UVA Medical	17:20
Charlottesville Amtrak	8:05	Waynesboro	18:01
Charlottesville Greyhound	8:08	Staunton	18:15
Martha Jefferson Hospital	8:23	Harrisonburg	18:51

Charlottesville Greyhound	9:00	Harrisonburg	11:00
Charlottesville Amtrak	9:05	Staunton	11:36
UVA Medical	9:10	Waynesboro	11:50
Waynesboro	9:51	UVA Medical Center	12:31
Fishersville	10:03	Charlottesville Amtrak	12:36
Staunton	10:15	Charlottesville Greyhound	12:39
Harrisonburg	10:51		

# Preliminary Alternatives

## Additional Options

- Short-Turns
- Additional Stops



# Preliminary Alternatives

## Annual Operating Cost Estimates

Service Metric	Service Pattern	
	3 round trips per day, 254 days	4 round trips per day, 254 days
Annual Revenue Service Miles	97,536	130,048
Annual Revenue Service Hours	3,048	4,064
Cost Estimate Using Local Cost Per Hour - \$70.65	\$ 215,341	\$ 287,122
Cost Estimate Using Smartway Cost Per Hour - \$92.29	\$ 281,300	\$ 375,067
Cost Estimate -Cost Per Mile - Low End- VA Intercity Bus Plan - \$2.30 mile	\$ 224,333	\$ 299,110
Cost Estimate- Cost Per Mile - Mid-Range- VA Intercity Bus Plan - \$3.65 mile	\$ 356,006	\$ 474,675
Cost Estimate - Cost Per Mile - High End- VA Intercity Bus Plan- \$4.40 mile	\$ 429,158	\$ 572,211

# Preliminary Alternatives

## Capital Expenses

- Vehicles
  - Traditional intercity coach - \$600,000
  - Smaller vehicle - \$200,000





# Preliminary Alternatives

## Capital Expenses, continued

- Park and Ride Needs
  - Harrisonburg
  - Staunton
  - Waynesboro Improvements



## Next Steps

- **Refine alternatives**
  - Service Parameters
    - First mile/last mile
  - Organizational Parameters
    - Reach out to VDOT – park and ride needs
- **Develop Draft Plan**
  - Revise based on feedback
- **Develop Final Plan**