



Roanoke Valley Transportation PLANNING ORGANIZATION

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REGIONAL PERFORMANCE MEASURES REPORT

Roanoke Valley Transportation Planning Organization

DRAFT

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BACKGROUND

This report is being generated as part of a statewide effort among Transportation Management Area Metropolitan Planning Organizations (TMA MPO) to track common performance measures, evaluate the region's transportation system against its transportation goals and standards, and contribute to the Statewide Transportation Plan. The Roanoke Valley Transportation Planning Organization (RVTPPO), as a TMA MPO, is required by the state to track regional performance measures. The RVTPPO will be eligible for funding through sources only available to TMA MPOs and receipt of those funds is contingent upon the TPO's development, and the Commonwealth Transportation Board's approval, of the regional performance measures.

Regional performance measures fall under the following categories:

- Congestion Reduction
- Safety
- Bicycle and Pedestrian Facility Usage
- Transit Usage
- HOV Usage
- Jobs-to-Housing Ratio
- Job and Housing Access to Pedestrian Facilities
- Air Quality
- Airport Facility Usage
- Movement of Freight

Due to the lack of data for the southwest portion of the state, not all performance measures requested by the State are applicable to the Roanoke area particularly in the categories of congestion reduction and air quality. Such performance measures may be added in the future if data becomes available. A master list of all performance measures tracked by RVTPPO is included on the following page.

It should be noted that, in addition to data collection for all of the cities of Roanoke, Salem and the Town of Vinton, data is also collected for the localities which are only partially in the MPO area. Those localities are: Bedford, Botetourt, Montgomery and Roanoke Counties. For these localities, data was reported for the entire area and not just the portion falling in the MPO Study Area. The rationale is that because there is no clear way to isolate and capture data from these partial areas, it is more prudent to include the entire locality, then to completely omit it.

REGIONAL PERFORMANCE MEASURES FOR THE ROANOKE VALLEY AREA MPO

	Performance Measure	Data Requirements	Data Source	Level of Data Collection	Desired Trend	Preferred Reporting Format
1.0 Congestion Reduction						
1.1	Total Miles of Bicycle Lanes	Location and miles of bike lanes striped in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
1.2	Total Miles of Paved Shoulders	Location and miles of paved shoulders added in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
1.3	Total Miles of Wide Travel Lanes	Location and miles of wide travel lanes created in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
1.4	Total Miles of Signed Bicycle Routes	Location and miles of signed bike routes installed in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
1.5	Total Number of Share the Road Signs	Location and number of share the road signs installed in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
1.6	Total Number of Sharrows	Location and number of sharrows painted in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
1.7	Total Number of Bicycle Racks	Location and number of newly added bike racks in the past year.	Local governments and VDOT	MPO localities	Upwards	Table
2.0 Safety						
2.1	Number of Highway Fatalities and Fatality Rate per 100 million VMT	Number of Fatalities on Highways and VMT	DMV & VDOT	MPO localities	Downwards	Table and Bar Chart
2.2	Number of Highway Crashes and Crash Rate per 100 million VMT	Number of crashes on Highways and VMT	DMV & VDOT	MPO localities	Downwards	Table and Bar Chart
2.3	Annual Transit Collisions	Number of Collisions per Passenger Miles Travelled (PMT)	FTA	System	Downwards	Table
2.4	Annual Transit Injuries	Number of injuries per 100 million PMT	FTA	System	Downwards	Table
2.5	Annual Transit Fatalities	Number of fatalities per 100 million PMT	FTA	System	Downward (If 0 fatalities then Steady)	Table
2.6	Annual Aviation Crashes	Number of aviation crashes	NTSB Aviation Database, DOAV	MPO localities	Downwards	Table

REGIONAL PERFORMANCE MEASURES FOR THE ROANOKE VALLEY AREA MPO

	Performance Measure	Data Requirements	Data Source	Level of Data Collection	Desired Trend	Preferred Reporting Format
2.7	Annual Aviation Fatalities	Number of aviation fatalities	NTSB Aviation Database, DOAV	MPO localities	Downward	Table
2.8	Annual Bicycle Crashes	Number of bicycle crashes	DMV	MPO localities	Downwards	Table
2.9	Annual Bicycle Injuries	Number of bicycle injuries	DMV	MPO localities	Downwards	Table
2.10	Annual Bicycle Fatalities	Number of bicycle fatalities	DMV	MPO localities	Downward (If 0 fatalities then Steady)	Table
2.11	Annual Pedestrian Injuries	Number of pedestrian injuries	DMV	MPO localities	Downwards	Table
2.12	Annual Pedestrian Fatalities	Number of pedestrian fatalities	DMV	MPO localities	Downward (If 0 fatalities then Steady)	Table
3.0 Bicycle and Pedestrian Facility Usage						
3.1	Number of bicyclists by location	Number of bicyclists by location	Roanoke Valley Area MPO Annual National Bike and Pedestrian Documentation Project	By location	Upwards	Table
3.2	Number of pedestrians by location	Number of pedestrians by location	Roanoke Valley Area MPO Annual National Bike and Pedestrian Documentation Project	By location	Upwards	Table
3.3	Number of greenway users by location	Number of greenway users by location	Roanoke Valley Area MPO	By location	Upwards	Table
3.4	Number of Bicycle Friendly Businesses	Number of Bicycle Friendly Businesses	RideSolutions	MPO localities	Upwards	Table
4.0 Transit Usage						
4.1	Annual Unlinked Passenger Transit	# of transit trips	DRPT	System	Upwards	Table
4.2	Annual Unlinked Passenger Transit Trips Per Capita	# of transit trips and service area population	DRPT	System	Upwards	Table and Bar Graph
4.3	Annual Vehicle Revenue Miles	Transit Revenue Miles as reported by service provider	DRPT	System	Upwards	Table
4.4	Annual Vehicle Revenue Miles per Capita	Revenue miles and service area population	DRPT	System	Upwards	Table and Bar Graph
4.5	Annual Passenger Miles Traveled	Transit Passenger Miles	DRPT	System	Upwards	Table
4.6	Annual Passenger Miles Traveled per Capita	Transit Passenger Miles and service area population	DRPT	System	Upwards	Table and Bar Graph
4.7	Annual Smart Way Connector Bus Ridership	# of Smart Way Connector Bus Boardings	Greater Roanoke Transit Company	System	Upwards	Table

REGIONAL PERFORMANCE MEASURES FOR THE ROANOKE VALLEY AREA MPO

	Performance Measure	Data Requirements	Data Source	Level of Data Collection	Desired Trend	Preferred Reporting Format
5.0 HOV Usage						
5.1	# of Park and Ride Lots and Spaces	Number of P-n-R lots and spaces	VDOT	MPO localities	Upwards	Table and Line Chart Graph
5.2	# of members in Ride Solutions program	# of members in Ride Solutions program	RideSolutions	System	Upwards	Table
6.0 Jobs-to-Housing Ratio						
6.1	Ratio of jobs to households at the regional & jurisdictional levels	Jobs and Housing census data	Bureau of Economic Analysis for # of jobs; ACS Table B11016 Household Type by Household Size	By locality for MPO	Steady	Table and Line Chart Graph
6.2	Regional Linear Jobs-Households Dissimilarity index (0.0 to 1.0) *	Number of Jobs/ Households	Employment - Bureau of Economic Analysis, CA25N Total full-time and part-time employment by NAICS industry, Total employment (number of jobs) in 2011. Households – ACS Survey 2007-2012, B11016 Household Type by Household Size	By locality for MPO	Below 0.5	Table
6.3	Ratio of jobs to work force	Number of Jobs/ Civilian Labor Force	Bureau of Economic Analysis for # of jobs; Virginia Workforce Connection for labor market data (http://www.vawc.virginia.gov/analyzer/default.asp)	By locality for MPO	Upwards	Table
6.4	Inter and Intra regional commuting data	Commuting pattern data; % of workers working in the County in which they live	Census Journey to Work data from the Bureau of Economic Analysis	MPO	Upwards	Table or Map at MPO level
6.5	Mean Travel Time to Work	Commuting pattern data from Census	ACS; Table S0802. Means of Transportation to Work	MPO	Downwards	Table or GIS Map by locality for MPO

REGIONAL PERFORMANCE MEASURES FOR THE ROANOKE VALLEY TPO

	Performance Measure	Data Requirements	Data Source	Level of Data Collection	Desired Trend	Preferred Reporting Format	Frequency of Update
7.0 Job and Housing Access to Transit							
7.1	% of population and/or households in TAZs served by transit	Transit GIS layer and % of households in TAZ's served by transit	TAZ Model Data and Transit GIS shapefiles	MPO Urban Areas	Upwards	GIS Map by TAZ	L RTP Update
7.2	% of employment in TAZs served by transit	Transit GIS layer and % of workers in TAZ's served by transit	TAZ Model Data and Transit GIS shapefiles	MPO Urban Areas	Upwards	GIS Map by TAZ	L RTP Update
8.0 Job and Housing Access to Pedestrian Facilities							
8.1	# and % of residents who walk to work	Population and number who walk to work	Census (ACS) Journey to Work data	MPO Localities (Census Data)	Upwards	Table	L RTP Update
9.0 Air Quality							
9.1	Annual # of Days when Ozone Levels were Above 8-Hour Standard	# of days Ozone levels are above 8-hour standard	DEQ	MPO	Downwards	Table and Bar Graph	Annual
10.0 Airport Facilities Usage							
10.1	Total, Enplaned, and Deplaned Passengers	# of passengers enplaning and deplaning all planes	Roanoke-Blacksburg Regional Airport Monthly Statistical Report	Airport Service Area	Upwards	Table	Annual
10.2	Total, Enplaned, and Deplaned Passengers by Carrier	# of passengers enplaning and deplaning by air carrier	Roanoke-Blacksburg Regional Airport Monthly Statistical Report	Airport Service Area	Upwards	Table	Annual
10.3	Total, Enplaned, and Deplaned Cargo	Pounds/tons of cargo enplaning/deplaning all planes	Roanoke-Blacksburg Regional Airport Monthly Statistical Report	Airport Service Area	Upwards	Table	Annual
10.4	Total Daily Scheduled Flights (Monday-Friday) by Carrier	# of daily scheduled flights (Monday-Friday)	Roanoke-Blacksburg Regional Airport Monthly Statistical Report	Airport Service Area	Upwards	Table	Annual
10.5	Total Actual Flights by Carrier	# of actual flights by air carrier	Roanoke-Blacksburg Regional Airport Monthly Statistical Report	Airport Service Area	Upwards	Table	Annual
10.6	Total Cancelled Departures by Carrier	# of cancelled flights by air carrier	Roanoke-Blacksburg Regional Airport Monthly Statistical Report	Airport Service Area	Downwards	Table	Annual
11.0 Movement of Freight							
11.1	Truck and Rail Mode Share, by value	Value of freight by mode share	Census Commodity Flow Data or Transearch data via VDOT Statewide License	MPO or as available	Upwards	Table and Bar Graph	As available
11.2	Truck and Rail Mode Share, by tons	Tonnage of freight by mode share	Census Commodity Flow Data or Transearch data via VDOT Statewide License	MPO or as available	Upwards	Table and Bar Graph	As available

CHANGE OF TRENDS IN REGIONAL PERFORMANCE MEASURES

Data is being compared to the previous year, 2014, to analyze trends and to highlight performance.

CHANGE IN TRENDS OF REGIONAL PERFORMANCE MEASURES					
No.	Performance Measure	Desired Trend	Change from 2012 to 2013	Change from 2013 to 2014	Change from 2014 to 2015
1.0 Congestion Reduction					
1.1	Total Miles of Bicycle Lanes	Upwards	28.0 or 197% ↑	7.5 or 2% ↑	3.8 or 1% ↑
1.2	Total Miles of Paved Shoulders	Upwards	16.6 or 224% ↑	21.9 or 92% ↑	0.72 or 2% ↑
1.3	Total Miles of Wide Travel Lanes	Upwards	Unchanged	21.5 or 30% ↑	4.58 or 5% ↑
1.4	Total Miles of Signed Bicycle Routes	Upwards	2.8 or 9% ↑	7.5 or 10% ↑	0.3 or 0.4% ↑
1.5	Total Number of Share the Road Signs	Upwards	1 or 3.2% ↑	3 or 10% ↑	3 or 10% ↑
1.6	Total Number of Sharrows	Upwards	7 or 78% ↑	Unchanged	Unchanged
1.7	Total Number of Bicycle Racks	Upwards	32 or 45% ↑	37 or 36% ↑	Unchanged
2.0 Safety					
2.1	Number of Highway Fatalities	Downwards	20 or 36% ↓	8 or 22% ↓	8 or 29% ↑
2.1	Fatality Rate per 100 Million Vehicle Miles Traveled ^①	Downwards	197 or 36% ↓	NO DATA	NO DATA
2.2	Number of Highway Crashes	Downwards	412 or 6% ↓	1,942 or 28% ↓	66 or 1% ↑
2.2	Crash Rate per 100 Million Vehicle Miles Traveled ^②	Downwards	4,360 or 6% ↓	NO DATA	NO DATA
2.3	Annual Transit Collisions	Downwards	1 or 5% ↓	2 or 100% ↓	Unchanged
2.4	Annual Transit Injuries	Downwards	60 or 107% ↑	8 or 62% ↓	4 or 80% ↓
2.5	Annual Transit Fatalities	Downwards	0 - Unchanged	Unchanged	Unchanged
2.6	Annual Aviation Crashes	Downwards	2 or 200% ↓	Unchanged	Unchanged
2.7	Annual Aviation Fatalities	Downwards	0 - Unchanged	Unchanged	Unchanged
2.8	Annual Bicycle Crashes	Downwards	18 or 35% ↓	4 or 12% ↑	NO DATA
2.9	Annual Bicycle Injuries	Downwards	17 or 34% ↓	3 or 9% ↑	NO DATA
2.10	Annual Bicycle Fatalities	Downwards	0 - Unchanged	2 or 200% ↑	NO DATA
2.11	Annual Pedestrian Injuries	Downwards	4 or 5% ↓	3 or 4% ↓	NO DATA
2.12	Annual Pedestrian Fatalities	Downwards	2 or 67% ↑	Unchanged	NO DATA
3.0 Bicycle and Pedestrian Facility Usage					
3.1	Number of bicyclists by location ^③	Upwards	57 or 25% ↓	NO DATA	NO DATA
3.2	Number of pedestrians by location ^③	Upwards	57 or 21% ↓	NO DATA	NO DATA
3.3	Number of greenway users by location ^③	Upwards	36,941 or 10% ↓	34,484 or 10% ↓	NO DATA
3.4	Number of Bicycle Friendly Businesses ^③	Upwards	5 - Unchanged	Unchanged	Unchanged
4.0 Transit Usage					
4.1	Annual Unlinked Passenger Transit Trips	Upwards	107,887 or 5% ↑	3,200 or 0.1% ↓	NO DATA
4.2	Annual Unlinked Passenger Transit Trips Per Capita	Upwards	0.83 or 5% ↑	.02 or 0.1% ↓	NO DATA
4.3	Annual Vehicle Revenue Miles	Upwards	125,301 or 6% ↑	137,118 or 6% ↓	NO DATA
4.4	Annual Vehicle Revenue Miles per Capita	Upwards	0.96 or 6% ↑	1.05 or 6% ↓	NO DATA
4.5	Annual Passenger Miles Traveled	Upwards	492,219 or 5% ↑	67,008 or 6% ↓	NO DATA
4.6	Annual Passenger Miles Traveled per Capita	Upwards	3.79 or 5% ↑	0.52 or 0.6% ↓	NO DATA
4.7	Annual Smart Way Connector Bus Ridership ^④	Upwards	3,489 or 25% ↑	NO DATA	NO DATA
5.0 HOV Usage					
5.1	# of Park and Ride Lots and Spaces	Upwards	220 - Unchanged	Unchanged	Unchanged
5.2	# of members in Ride Solutions program	Upwards	906 or 54% ↓	271 or 35% ↑	643 or 61% ↑
6.0 Jobs-to-Housing Ratio					
6.1	Ratio of jobs to households at the regional & jurisdictional levels	Steady	Remains Steady	Remains Steady	Remains Steady
6.2	Regional Linear Jobs-Households Dissimilarity index (0.0 to 1.0) ^⑥	Below 0.5	0.509 ↑	0.047 ↓	Unchanged
6.3	Ratio of jobs to work force	Upwards	.02 or 2% ↑	0.04 or 3% ↓	0.72 or 55% ↑

No.	Performance Measure	Desired Trend	Change from 2012 to 2013	Change from 2013 to 2014	Change from 2014 to 2015
7.0 Job and Housing Access to Transit					
7.1	% of population and/or households in TAZs served by transit	Upwards	13%	11%	Unchanged
7.2	% of employment in TAZs served by transit	Upwards	15%	13%	Unchanged
8.0 Job and Housing Access to Pedestrian Facilities					
8.1	# and % of residents who walk to work	Upwards	0.02 or 1%	159 or 0.15%	98 or 2%
9.0 Air Quality					
9.1	Annual # of Days when Ozone Levels were Above 8-Hour Standard	Downwards	1 or 100%	1 or 100%	Unchanged
10.0 Airport Facility Usage^⑤					
10.1	Total, Enplaned, and Deplaned Passengers	Upwards	DATA NOT TRACKED	601,434	4,763 or 0.8%
10.2	Total, Enplaned, and Deplaned Passengers by Carrier	Upwards	DATA NOT TRACKED	601,434	N/A
10.3	Total, Enplaned, and Deplaned Cargo	Upwards	DATA NOT TRACKED	502,035lbs; 251.01 tons	2%
10.4	Total Daily Scheduled Flights (Monday through Friday) by Carrier	Upwards	DATA NOT TRACKED	19	1 or 5%
10.5	Total Actual Flights by Carrier	Upwards	DATA NOT TRACKED	7,436	342 or 5%
10.6	Total Cancelled Departures by Carrier	Upwards	DATA NOT TRACKED	443	153 or 35%
11.0 Movement of Freight^⑥					
11.1	Truck and Rail Mode Share, by value	Upwards	Unchanged	Unchanged	Truck - 11%
11.2	Truck and Rail Mode Share, by tons	Upwards	Unchanged	Unchanged	Truck - 106%

Notes explaining specific trend comparison irregularities:

- ① 2.1: Fatality Rate per 100 Million Vehicle Miles Traveled – At the publication of this report, the Daily Vehicle Miles Traveled report had not been released by VDOT;
- ② 2.2: Crash Rate per 100 Million Vehicle Miles Traveled – At the publication of this report, the Daily Vehicle Miles Traveled report had not been released by VDOT
- ③ 3.1-3.4 – There was not consistent data available for both days of the NBPD counts. The greenways counters are not continual throughout the year for a lot of the trails. This is due to a lot of things – counters may have been moved to higher priority locations, batteries may have died, etc.;
- ④ 4.7: Annual SmartWay Connector Bus Ridership – At the publication of this report, the ridership numbers were not available;
- ⑤ 10.0-10.6: Airport Facility Usage – Although 2015 is the first year of data tracking for Airport Facility Usage, the table compares it with 2014.
- ⑥ 11.1 and 11.2: Truck and Rail Mode Share, by value and tons – Freight data was obtained for VDOT from 2012, which is now the most current data available. 2012 Truck data was made available through VDOT and a third-party provider. Due to the confidentiality of the Rail data, it could not be released.

The trends in the following performance measures are of significant note:

5.2: Number of Members in RIDE Solutions Program – There was a significant increase of 643 or 61% in new members to the RIDE Solutions Program from 2014 to 2015.

6.3: Ratio of Jobs to Work Force – Between 2014 and 2015, there was a 55% increase in the ratio of regional jobs to work force.

10.6: Total Cancelled Departures by Carrier – Between 2014 and 2015, the Roanoke-Blacksburg Regional Airport saw a 35% decrease (135) in the number of cancelled departures.

11.2: Truck and Rail Mode, by Share, in Tons – In the eight years between data sets (2004 and 2012) there was a 106% increase in the amount of Truck tonnage share for the region.

1.0 CONGESTION REDUCTION

1.1 Total Miles of Bike Lanes

Locality	2012	2013	2014	2015
Botetourt County	98.0	99.7	99.7	99.7
City of Roanoke	159.4	172.8	181.3	185.1
City of Salem	40.1	40.1	40.1	40.1
Roanoke County	82.7	82.7	82.7	82.7
Town of Vinton	4.8	4.8	4.8	4.8
Total Miles of Bicycle Lanes	385.0	400.1	408.6	412.4

Data Source:

Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update, Table 3.1 Bicycle Lane Locations and Mileage
<http://www.rvarc.org/bike/RVAMPO-BikewayPlan-2012Update.pdf>

Total Miles of Bike Lanes

Locality	2015
City of Roanoke	33.6
Roanoke County	2.48
Town of Vinton	1.13
Total Miles of Bike Lanes	37.3

1.2 Total Miles of Paved Shoulders

Locality	2012 (Miles)	2013 (Miles)	2014 (Miles)	2015 (Miles)
City of Roanoke	0	2.13	2.13	2.13
Botetourt County			14.8	14.8
Roanoke County	7.4	21.85	29.9	29.9
Total Miles of Paved Shoulders	7.40	23.98	46.79	47.51

Data Source:

RVTPPO Interactive Bicycle Map

<http://rvarc.maps.arcgis.com/apps/Viewer/index.html?appid=a5fb7d47b1384ff3b9bb4243e8357313>

1.3 Total Miles of Wide Travel Lanes

Locality	2013 (Miles)	2014 (Miles)	2015 (Miles)
Botetourt County	0	1.65	1.65
City of Roanoke	46.23	59.75	56.1
Roanoke County	5.95	11.36	10.4
City of Salem	15.94	16.87	16.9
Town of Vinton	3.71	3.71	3.71
Total Miles of Wide Travel Lanes (2014)	71.83	93.34	88.76

Data Source:

RVTPO Interactive Bicycle Map

<http://rvarc.maps.arcgis.com/apps/Viewer/index.html?appid=a5fb7d47b1384ff3b9bb4243e8357313>

1.4 Total Miles of Signed Bike Routes

Locality	Length (Miles) 2012	Length (Miles) 2013	Length (Miles) 2014	Length (Miles) 2015
City of Roanoke	27.4	31.2	38.7	39.0
City of Salem	19.9	19.9	19.9	19.9
Roanoke County	27.4	27.4	27.4	27.4
Town of Vinton	0	0	0	0
U.S. Bicycle Route 76	110.6	110.6	110.6	110.6
Total Miles of Signed Bike Routes	74.7	78.5	76.0	76.3

Data Source:

RVARC/RVAMPO Regional Interactive Bicycle Map

<http://www.arcgis.com/home/webmap/viewer.html?webmap=8d5594931b724f8493acdd2c7ec8820b&extent=-80.228,37.1613,-79.6901,37.3962>

1.5 Total Number of Share the Road Signs

Locality	Street	Number (2012)	Number (2013)	Number (2014)*
City of Roanoke	Brandon Ave.	4	4	4
City of Roanoke	Plantation Rd.	6	6	6
City of Roanoke	Shenandoah Ave.	3	3	3
City of Roanoke	US 220/Franklin Rd.	2	2	2
City of Roanoke	Williamson Rd.	6	6	6
Roanoke County	Catawba Valley Rd./311	1	1	3
Roanoke County	U.S. 460/West Main St.	7	7	7
Roanoke County	Wildwood Rd.	1	1	2
Total Number of Share the Road Signs		30	30	33

*No New Share the Road signs were installed in 2014 or 2015.

Data Source:

RVARC/RVTPO Regional Interactive Bicycle Map

<http://www.arcgis.com/home/webmap/viewer.html?webmap=8d5594931b724f8493acdd2c7ec8820b&extent=-80.228,37.1613,-79.6901,37.3962>

1.6 Total Number of Sharrows

Locality	Street	Location	2012	2013	2014*
City of Roanoke	2 nd	Church – signed bike route	X	X	X
City of Roanoke	Brandon	Brandon – Signed bike route		X	X
City of Roanoke	Campbell	Market – Signed bike route		X	X
City of Roanoke	Church	Market – signed bike route	X	X	X
City of Roanoke	Church	1 st – signed bike route	X	X	X
City of Roanoke	Colonial	26 th – terminus of Colonial bike lane	X	X	X
City of Roanoke	Colonial	Winding Way – terminus of Colonial bike lane	X	X	X
City of Roanoke	Gus Nicks	Corporate Limit to Orange Ave.		X	X
City of Roanoke	Market	Campbell Ave. to Church Ave.		X	X
City of Roanoke	Memorial	Cambridge – terminus of Memorial bike lane	X	X	X
City of Roanoke	Memorial/13 th	Cleveland – terminus of Memorial bike lane	X	X	X
City of Roanoke	Peters Creek Ext.	Peters Creek – Signed bike route		X	X
City of Roanoke	Salem	Williamson Rd. to Market St.		X	X
City of Roanoke	Walnut	Mill Mountain Greenway/Belleview	X	X	X
City of Roanoke	Wells	2 nd St. to Commonwealth		X	X
City of Roanoke	Williamson	Shenandoah to Salem – signed bike route	X	X	X
Total Number of Sharrows			9	16	16

* No new sharrows were installed in 2014 or 2015. Thermoplastic sharrows last 5+ years, depending on the level of traffic and other factors, and will be replaced as needed.

Data Source:

RVARC/RVAMPO Regional Interactive Bicycle Map

<http://www.arcgis.com/home/webmap/viewer.html?webmap=8d5594931b724f8493acdd2c7ec8820b&extent=-80.228,37.1613,-79.6901,37.3962>

1.7 Total Number of Bicycle Racks

Locality	Number of Racks	Number of Racks	Number of Racks
	2012	2013	2014
Botetourt County	0	0	1
City of Roanoke	51	80	105
City of Salem	6	7	9
Roanoke County	13	14	20
Town of Vinton	1	2	2
Total Number of Bicycle Racks in TPO	71*	103*	140*

*This number denotes all public and private bicycle racks. No new bike racks were added in 2015.

Data Source:

RVARC/RVAMPO Regional Interactive Bicycle Map

<http://www.arcgis.com/home/webmap/viewer.html?webmap=8d5594931b724f8493acdd2c7ec8820b&extent=-80.228,37.1613,-79.6901,37.3962>

2.0 SAFETY

2.1 Number of Highway Fatalities

Locality	Highway Fatalities in 2011	Highway Fatalities in 2012	Highway Fatalities in 2013	Highway Fatalities in 2014	Highway Fatalities in 2015
Bedford County	10	21	9	7	6
Botetourt County	6	9	4	5	8
Montgomery County	6	11	7	4	6
City of Roanoke	5	4	5	7	4
Roanoke County	13	11	10	3	10
City of Salem	0	0	1	1	1
Town of Vinton	0	0	0	1	1
Total TPO	40	56	36	28	36

Fatality Rate per 100 Million VMT

Locality	Fatalities per 100 million VMT 2011	Fatalities per 100 million VMT 2012	Fatalities per 100 million VMT 2013	Fatalities per 100 million VMT 2014
Bedford County	2	4	1	3
Botetourt County	1	1	1	6
Montgomery County	1	2	1	2
City of Roanoke	1	1	1	3
Roanoke County	2	1	1	2
City of Salem	0	0	1	2
Town of Vinton	0	0	0	4
Total TPO	1	1	1	3

Note: At the publication of this report, the Daily Vehicle Miles Traveled report had not been released by VDOT.

Data Sources:

Fatalities: http://www.dmv.state.va.us/safety/crash_data/crash_facts/crash_facts_14.pdf Vehicle Miles Traveled (VMT): http://www.virginiadot.org/info/resources/Traffic_2013/VMTReport_1200_2013.pdf

2.2 Number of Highway Crashes

Locality	Highway Crashes in 2011	Highway Crashes in 2012	Highway Crashes in 2013	Highway Crashes in 2014	Highway Crashes in 2015
Bedford County	882	834	938	892	889
Botetourt County	648	652	631	586	611
Montgomery County	1,573	1,784	1,529	1,498	1,750
City of Roanoke	1,849	2,197	2,090	1,965	1,910
Roanoke County	1,191	1,273	1,128	1,011	1,151
City of Salem	493	522	546	491	597
Town of Vinton	147	137	125	80	111
Total TPO	6,783	7,399	6,987	5,045	5,111

Crash Rate per 100 Million VMT

Locality	Crashes per 100 million VMT (2011)	Crashes per 100 million VMT (2012)	Crashes per 100 million VMT (2013)	Crashes per 100 million VMT (2014)
Bedford County	146	139	151	398
Botetourt County	95	96	92	723
Montgomery County	247	262	226	908
City of Roanoke	238	292	282	747
Roanoke County	143	153	134	622
City of Salem	306	321	337	874
Town of Vinton	301	296	270	280
Total MPO	181	197	185	665

Note: At the publication of this report, the Daily Vehicle Miles Traveled report had not been released by VDOT.

Data Sources:

Crashes: http://www.dmv.state.va.us/safety/crash_data/crash_facts/crash_facts_15.pdf Vehicle Miles Traveled (VMT): http://www.virginiadot.org/info/resources/Traffic_2014/VMTRReport_1200_2014.pdf

2.3 Annual Transit Collisions

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
# of Collisions	0	0	6	1	0	0	0	2	2	2	0	0

Collision Rate per 100 Million Passenger Miles Traveled

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
# of Collisions per 100 million PMT	0	0	0	810	0	0	0	17	19	18	0	0

Data Source:

<https://www.transit.dot.gov/ntd/data-product/safety-security-time-series-data>

NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series; Transit Data for Demand Response and Motor Bus (Fixed-Route) Combined

2.4 Annual Transit Injuries

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Injuries	2	1	18	10	10	13	13	12	6	13	5	1

Injury Rate per 100 Million Passenger Miles Traveled

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Injuries per 100 million PMT	22	11	186	97	86	107	107	103	56	116	0	6

Data Source:

<https://www.transit.dot.gov/ntd/data-product/safety-security-time-series-data>

NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series; Transit Data for Demand Response and Motor Bus (Fixed-Route) Combined

2.5 Annual Transit Fatalities

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Fatalities	0	0	0	0	0	0	0	0	0	0	0	0	0

Fatality Rate per 100 Million Passenger Miles Traveled

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Fatalities per 100 million PMT	0	0	0	0	0	0	0	0	0	0	0	0	0

Data Source:

<https://www.transit.dot.gov/ntd/data-product/safety-security-time-series-data>

NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series; Transit Data for Demand Response and Motor Bus (Fixed-Route) Combined

2.6 Annual Aviation Crashes

	2010	2011	2012	2013	2014	2015
Annual Aviation Crashes	1	0	2	0	0	0

2.7 Annual Aviation Fatalities

	2010	2011	2012	2013	2014	2015
Annual Aviation Fatalities	1	0	0	0	0	0

Data Source:

FAA Accident Database & Synopses, http://www.nts.gov/_layouts/ntsb.aviation/index.aspx

2.8 Annual Bicycle Crashes

Locality	2009	2010	2011	2012	2013	2014	2015*
Bedford County	0	3	2	0	4	1	
Botetourt County	0	2	2	3	1	2	
Montgomery County	17	17	14	21	14	20	
City of Roanoke	14	14	12	18	7	9	
Roanoke County	1	0	0	1	4	2	
City of Salem	2	3	4	8	3	3	
Total Bicycle Crashes	34	39	34	51	33	37	

*Data not available for 2015.

Data Source:

Virginia DMV website – Virginia Bicycle Crashes by Jurisdiction Calendar Years 2009-2014,

https://www.dmv.virginia.gov/safety/crash_data/bicycle/pdf/crash_juris.pdf

2.9 Annual Bicycle Injuries

Locality	2009	2010	2011	2012	2013	2014	2015
Bedford County	0	5	2	0	4	0	
Botetourt County	0	1	2	3	1	2	
Montgomery County	15	17	12	21	14	21	
City of Roanoke	13	14	12	17	7	8	
Roanoke County	1	0	0	1	4	2	
City of Salem	2	2	4	8	3	3	
Total Bicycle Injuries	31	39	32	50	33	36	

*Data not available for 2015.

Data Source:

Virginia DMV website – Virginia Bicycle Injuries in Crashes by jurisdiction Calendar Years 2009-2014, https://www.dmv.virginia.gov/safety/crash_data/bicycle/pdf/injury_juris.pdf

2.10 Annual Bicycle Fatalities

Locality	2010	2011	2012	2013	2014	2015*
Bedford County	0	0	0	0	1	
Botetourt County	1	0	0	0	0	
Montgomery County	0	0	0	0	0	
City of Roanoke	0	0	0	0	1	
Roanoke County	0	0	0	0	0	
City of Salem	0	0	0	0	0	
Total Bicycle Fatalities	1	0	0	0	2	

*Data not available for 2015.

Data Source:

Virginia DMV website – Virginia Bicycle Fatalities in Crashes by Jurisdiction Calendar Years 2010-2014, https://www.dmv.virginia.gov/safety/crash_data/bicycle/pdf/fatality_juris.pdf

2.11 Annual Pedestrian Injuries

Locality	2010	2011	2012	2013	2014	2015*
Bedford County	4	3	3	5	8	
Botetourt County	2	2	1	0	4	
Montgomery County	24	23	20	28	15	
City of Roanoke	30	29	48	44	41	
Roanoke County	3	3	5	3	6	
City of Salem	7	10	9	2	5	
Total Pedestrian Injuries	70	70	86	82	79	

*Data not available for 2015.

Data Source:

Virginia DMV website – Pedestrian Injuries in Crashes by Jurisdiction Calendar Years 2010-2014, https://www.dmv.virginia.gov/safety/crash_data/pedestrian/pdf/injury_juris.pdf

2.12 Annual Pedestrian Fatalities

Locality	2010	2011	2012	2013	2014	2015*
Bedford County	0	1	0	1	1	
Botetourt County	0	0	0	0	0	
Montgomery County	0	0	1	2	1	
City of Roanoke	1	1	0	2	2	
Roanoke County	1	1	2	0	1	
City of Salem	1	0	0	0	0	
Total Pedestrian Fatalities	3	3	3	5	5	

*Data not available for 2015.

Data Source:

Virginia DMV website – Pedestrian Fatalities in Crashes by Jurisdiction Calendar Years 2010-2014,
https://www.dmv.virginia.gov/safety/crash_data/pedestrian/pdf/fatality_juris.pdf

3.0 BICYCLE AND PEDESTRIAN FACILITY USAGE

3.1 Number of Bicyclists by Location

Location	2012*	2013*	2014***	2015****
10 th Street and Shenandoah Avenue	11	13**	No Data	No Data
10 th Street, Syracuse Avenue, Lick Run Greenway	13	No Data	No Data	No Data
13 th Street, Tayloe Street	21	8**	No Data	No Data
5 th Street, Luck Avenue	14	No Data	No Data	No Data
Brambleton Avenue, Spring Street	21	12**	No Data	No Data
Brandon Avenue, Edgewood Street, Mud Lick Road	30	23	No Data	No Data
Brandon Avenue, Franklin Road, McClanahan Street	9	18**	No Data	No Data
Colonial Avenue and Overland Drive	2	3	No Data	No Data
Ferdinand Avenue, 10 th Street	14	No Data	No Data	No Data
Franklin Road, Elm Avenue	5	No Data	No Data	No Data
Grandin Road, Brandon Avenue	33	16**	No Data	No Data
Grandin Road, Garst Mill Road	11	3**	No Data	No Data
Gus Nicks Boulevard, King Street, Vale/Dell	3	3**	No Data	No Data
Jefferson Street, Walnut Avenue	16	25	No Data	No Data
Memorial Avenue, Wasena Road., Roanoke Avenue, Roanoke River Greenway	160	101	No Data	No Data
Patterson Avenue, 13 th Street	20	19	No Data	No Data
Peters Creek Extension, Shenandoah Avenue	1	10**	No Data	No Data
Plantation Road, Preston Avenue, Columbia Avenue	5	No Data	No Data	No Data
Williamson Road, Campbell Avenue	15	13**	No Data	No Data
Total Bicyclists by Location	404	267	No Data	No Data

* The average of two count days, two hours each day.

** One of the two count days has no data

***There was no data gathered in 2014, due to inclement weather.

**** There was not consistent data available for both days of the NBPD counts. The greenways counters are not continual throughout the year for a lot of the trails. This is due to a lot of things – counters may have been moved to higher priority locations, batteries may have died, etc.

Data Source: National Bicycle and Pedestrian Documentation Project – 2015 City of Roanoke, VA, Bicycle and Pedestrian Counts

3.2 Number of Pedestrians by Location

Location	2012*	2013*	2014***	2015****
10 th Street and Shenandoah Avenue	18	15**	No Data	No Data
10 th Street, Syracuse Avenue, Lick Run Greenway	123	No Data	No Data	No Data
13 th Street, Tayloe Street	16	19**	No Data	No Data
5 th Street, Luck Avenue	42	No Data	No Data	No Data
Brambleton Avenue, Spring Road	6	9**	No Data	No Data
Brandon Avenue, Edgewood Street, Mud Lick Road	9	28	No Data	No Data
Brandon Avenue, Franklin Road, McClanahan Street	18	30**	No Data	No Data
Colonial Avenue and Overland Drive	2	5	No Data	No Data
Ferdinand Avenue, 10 th Street	28	No Data	No Data	No Data
Franklin Road, Elm Avenue	15	1**	No Data	No Data
Grandin Road, Brandon Avenue	52	23**	No Data	No Data
Grandin Road, Garst Mill Road	2	No Data	No Data	No Data
Gus Nicks Boulevard, King Street, Vale/Dell	5	6**	No Data	No Data
Jefferson Street, Walnut Avenue	38	45	No Data	No Data
Memorial Avenue, Wasena Road., Roanoke Avenue, Roanoke River Greenway	43	78	No Data	No Data
Patterson Avenue, 13 th Street	185	177	No Data	No Data
Peters Creek Extension, Shenandoah Avenue	2	4**	No Data	No Data
Plantation Road, Preston Avenue, Columbia Avenue	14	No Data	No Data	No Data
Williamson Road, Campbell Avenue	167	112**	No Data	No Data
Total Pedestrians by Location	785	542	No Data	No Data

* The average of two count days, two hours each day.

** One of the two count days has no data

***There was no data gathered in 2014, due to inclement weather.

**** There was not consistent data available for both days of the NBPD counts. The greenways counters are not continual throughout the year for a lot of the trails. This is due to a lot of things – counters may have been moved to higher priority locations, batteries may have died, etc.

Data Source:

National Bicycle and Pedestrian Documentation Project – 2015 City of Roanoke, VA, Bicycle and Pedestrian Counts

3.3 Number of Greenway Users by Location

Greenway	2012	2013	2014	2015**
Lick Run Greenway at 10 th Street	19,906	20,978	16,654	No Data
Murray Run Greenway Trail	16,177	17,791	15,452	No Data
Roanoke River Greenway 17th Street	37,603	29,556	36,057	No Data
Roanoke River Greenway Moyers Complex	40,162	76,488	59,611	No Data
Roanoke River Greenway Rivers Edge	227,900	166,860	167,841	No Data
Roanoke River Greenway at Underhill	28,535	16,152	15,991	No Data
Total Greenway Users*	406,210	346,090	311,606*	No Data

*For comparison purposes, only greenway counters with previous year's counts were used. Data was also excluded from counters which are no longer operational. The chart below represents new counters with data collection beginning in 2014.

Greenway	2014*
Hanging Rock Battlefield Trail	16,115
Pedestrian Bridge	201,274
Roanoke River Greenway – Green Hill Park	22,612
Total Greenway Users	240,001

Greenway	2014*
Lick Run Greenway at 10 th Street	16,654
Murray Run Greenway Trail	15,452
Roanoke River Greenway 17th Street	36,057
Roanoke River Greenway Moyers Complex	59,611
Roanoke River Greenway Rivers Edge	167,841
Roanoke River Greenway at Underhill	15,991
Hanging Rock Battlefield Trail	16,115
Pedestrian Bridge	201,274
Roanoke River Greenway – Green Hill Park	22,612
Total Greenway Users*	541,607*

**This table represents the total users from all counters collecting data in calendar year 2014. This number is not used for comparison purposes.*

***The greenways counters are not continual throughout the year for a lot of the trails. This is due to a lot of things – counters may have been moved to higher priority locations, batteries may have died, etc.*

Data Source:

Roanoke Valley-Alleghany Regional Commission - Regional Greenway and Trail User Count Program - Monthly Counts 2010-2015

3.4 Number of Bicycle Friendly Businesses

Business	Locality	Year Applied	Employees
Roanoke Valley-Alleghany Regional Commission	City of Roanoke	2008	12
Sharebike.org	City of Roanoke	2010	5
East Coasters Cycling & Fitness	City of Roanoke	2011	15
Carilion Clinic - Riverside	City of Roanoke	2012	500
Roanoke Regional Partnership	City of Roanoke	2012	6

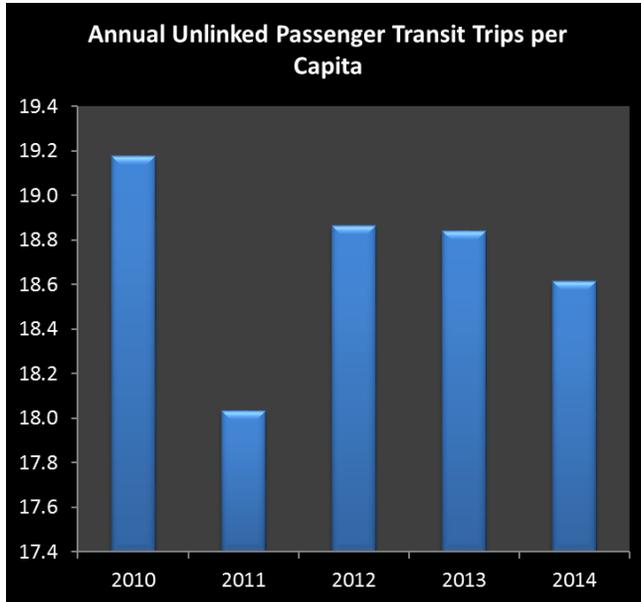
Data Source: The League of American Bicyclists – Bicycle Friendly Businesses, Current Bicycle Friendly Businesses Summer 2015. <http://bikeleague.org/bfa/awards>

4.0 TRANSIT USAGE

4.1 Annual Unlinked Passenger Transit Trips

	2010	2011	2012	2013	2014
Annual Unlinked Passenger Transit Trips per Capita	19.18	18.03	18.86	18.84	18.62
Unlinked Passenger Transit Trips – Valley Metro	2,440,846	2,291,101	2,391,001	2,382,029	2,344,919
Unlinked Passenger Transit Trips - RADAR	50,896	52,135	60,122	65,894	73,900
Annual Unlinked Passenger Transit Trips	2,491,742	2,343,236	2,451,123	2,447,923	2,418,819

4.2 Annual Unlinked Passenger Transit Trips Per Capita



	2010	2011	2012	2013	2014
2010 Service Area population (City of Salem, City of Roanoke, Town of Vinton)	129,932	129,932	129,932	129,932	129,932
Annual Unlinked Passenger Transit Trips per Capita	19.18	18.03	18.86	18.84	18.62

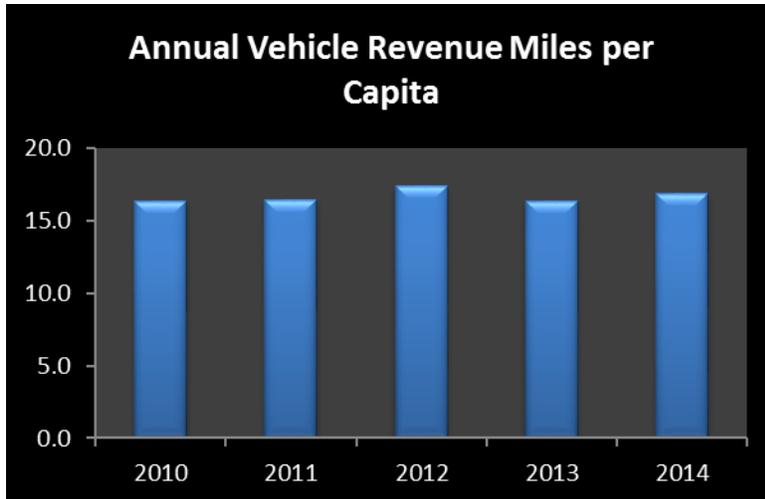
Data Sources:

NTD Database website – Annual Databases – RY 2014 Data Tables – Table 19: Transit Operating Statistics: Service Supply and Consumed <http://www.ntdprogram.gov/ntdprogram/pubs/dt/2013/excel/DataTables.htm>.
 Population data from 2010 Census <http://www.census.gov/2010census/data/>.

4.3 Annual Vehicle Revenue Miles

	2010	2011	2012	2013	2014
Annual Vehicle Revenue Miles per Capita	16.37	16.46	17.42	16.37	16.87
Vehicle Revenue Miles – Valley Metro	1,559,061	1,551,608	1,649,475	1,552,657	1,556,728
Vehicle Revenue Miles - RADAR	568,269	586,668	614,102	573,802	635,587
Annual Vehicle Revenue Miles	2,127,330	2,138,276	2,263,577	2,126,459	2,192,315

4.4 Annual Vehicle Revenue Miles Per Capita



Data Sources:

NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series

<http://www.ntdprogram.gov/ntdprogram/data.htm>

Population data from 2010 Census <http://2010.census.gov/2010census/data/>

4.5 Annual Passenger Miles Traveled

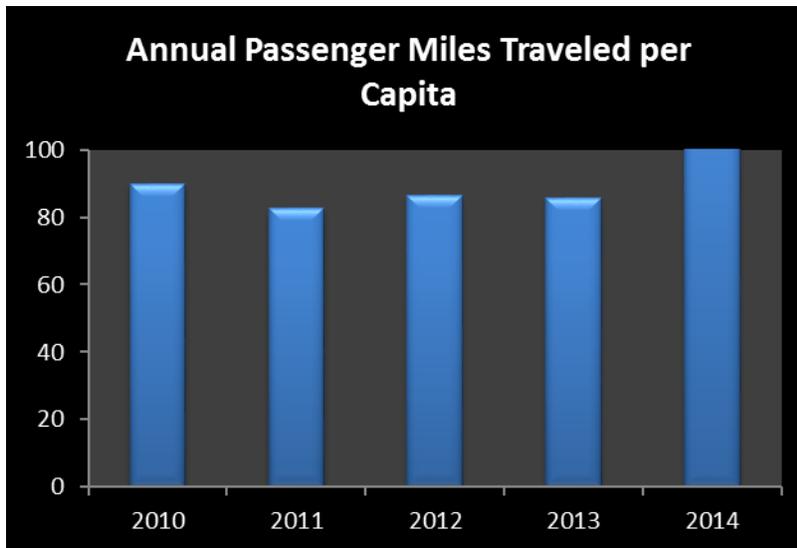
	2010	2011	2012	2013	2014
Annual Passenger Miles Traveled per Capita	90.04	82.62	86.41	85.89	124.99
Passenger Miles Traveled – Valley Metro	11,130,258	10,195,399	10,639,954	10,600,029	15,617,161
Passenger Miles Traveled - RADAR	568,269	539,674	587,338	560,255	622,845
Annual Passenger Miles Traveled	11,698,527	10,735,073	11,227,292	11,160,284	16,240,006

Data Sources:

NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series

<http://www.ntdprogram.gov/ntdprogram/data.htm>

4.6 Annual Passenger Miles Traveled Per Capita



Data Sources:

NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series
<http://www.ntdprogram.gov/ntdprogram/data.htm> Population data from 2010 Census
<http://2010.census.gov/2010census/data/>

4.7 Annual Smart Way Connector Bus Ridership

	2011	2012	2013	2014	2015
Annual Smart Way Connector Bus Ridership	4,855*	14,235	17,724	No data	No data

**Smart Way Connector service began on July 19, 2011.*

Data Source:

Smart Way Connector Data received from Valley Metro.

5.0 HOV USAGE

5.1 Number of Park and Ride Lots and Spaces

	2011	2012	2013	2014	2015
Total official lots	3	3	3	3	3
Total official spaces	137	137	137	137	137
Total unofficial lots	2	3	3	3	3
Total unofficial spaces	118	138	138	138	138

Category	Park and Ride Lot Name	Spaces
Official	I-81 Exit 128	30
Official	I-81 Exit 140	92
Official	I-81 Exit 150	15
Unofficial	Food Lion (Orange Avenue)	20
Unofficial	K-Mart Parking Lot (460 BUS, N. Franklin & Laurel Sts.)	82
Unofficial	Orange Market	44
Unofficial	Waldron Park	74

Data Source:

RideSolutions website: <http://ridesolutions.org/commuters/carpool/regional-park-rides/#prmap>.

5.2 Number of Members in Ride Solutions Program

	2011	2012	2013	2014	2015
Members in RIDE Solutions	2,260	1,685*	779*	1,050	1,693

Data Source:

RIDE Solutions member database.

6.0 JOBS-TO-HOUSING RATIO

6.1 Ratio of Jobs to Households at the Regional and Jurisdictional Levels

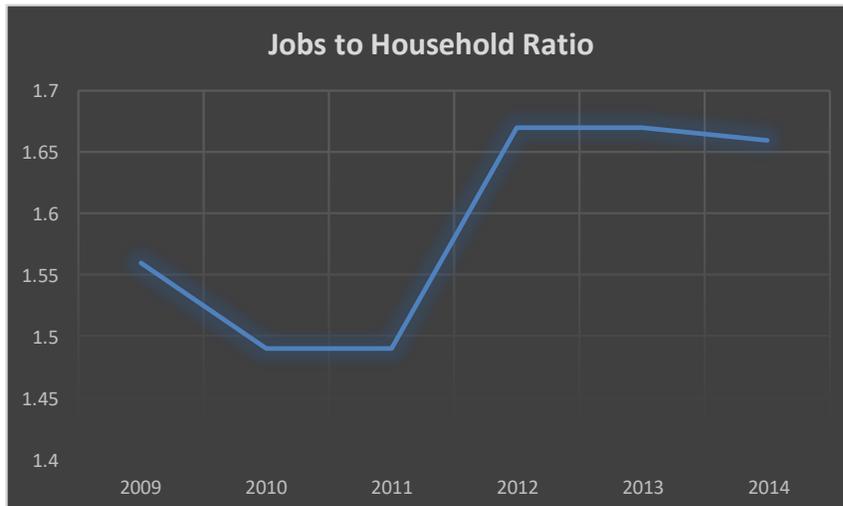
Locality	Jobs 2009	Households 2009	Ratio 2009	Jobs 2010	Households 2010	Ratio 2010
Botetourt County	15,980	12,672	1.26	15,300	12,918	1.18
City of Roanoke	75,762	42,187	1.80	74,772	42,833	1.75
Roanoke County and City of Salem*	80,539	47,141	1.71	79,343	47,723	1.68
Total MPO**	172,281	102,000	1.69	169,415	103,474	1.64

Locality	Jobs 2011	Households 2011	Ratio 2011	Jobs 2012	Households 2012	Ratio 2012
Botetourt County	15,563	12,789	1.22	16,322	12,822	1.27
City of Roanoke	74,851	42,892	1.75	75,709	42,644	1.78
Roanoke County and City of Salem*	79,664	47,919	1.66	80,565	47,829	1.68
Total TPO**	170,078	103,600	1.64	172,596	103,295	1.67

Locality	Jobs 2013	Households 2013	Ratio 2013	Jobs 2014	Households 2014	Ratio 2014
Botetourt County	16,739	12,825	1.31	16,777	12,867	1.30
City of Roanoke	76,079	42,494	1.79	76,006	42,549	1.79
Roanoke County and City of Salem*	78,962	47,836	1.65	79,133	48,150	1.64
Total TPO**	171,780	103,155	1.67	171,916	103,566	1.66

*The Bureau of Economic Analysis combined jobs data for Roanoke County, the Town of Vinton and the City of Salem, therefore to be consistent, the household data is combined.

**The data for Montgomery and Bedford Counties was excluded from this table because it included the City of Radford and Town of Bedford respectively.



Data Sources:

Employment - Bureau of Economic Analysis, CA25N Total full-time and part-time employment by NAICS industry, Total employment (number of jobs) in 2014.

Households – ACS Survey 2010-2014, B11016 Household Type by Household Size

http://www.bea.gov/iTable/index_regional.cfm

6.2 Regional Linear Jobs-Households Dissimilarity Index (0.0 to 1.0)

Locality	Jobs 2011 (W)	Households 2011 (B)	Dissimilarity Index 2011	Jobs 2012 (W)	Households 2012 (B)	Dissimilarity Index 2012
Botetourt County	15,563	12,789	0.0097	16,322	12,822	0.0080
City of Roanoke	74,851	42,892	0.0222	75,709	42,644	0.0252
Roanoke County and City of Salem	79,664	47,919	0.0152	80,565	47,829	0.0177
Total TPO	170,078	103,600	0.0471	172,596	103,295	0.0509

Locality	Jobs 2013 (W)	Households 2013 (B)	Dissimilarity Index 2013	Jobs 2014 (W)	Households 2014 (B)	Dissimilarity Index 2014
Botetourt County	16,739	12,825	0.0070	16,777	12,867	0.0070
City of Roanoke	76,079	42,494	0.0266	76,006	42,549	0.0262
Roanoke County and City of Salem	78,962	47,836	0.0138	79,133	48,150	0.0131
Total TPO	171,780	103,155	0.0474	171,916	103,566	0.0464

*The data for Montgomery and Bedford Counties was excluded from this table because it included the City of Radford and Town of Bedford respectively.

*The Bureau of Economic Analysis combined jobs data for Roanoke County and the City of Salem, therefore to be consistent, the household data is combined.

Data Sources:

Employment - Bureau of Economic Analysis, CA25N Total full-time and part-time employment by NAICS industry, Total employment (number of jobs) in 2014.

Households – ACS Survey 2010-2014, B11016 Household Type by Household Size

Dissimilarity Index equation:
$$\frac{1}{2} \sum_{i=1}^N \left| \frac{b_i}{B} - \frac{w_i}{W} \right|$$

6.3 Ratio of Jobs to Work Force

Locality	2011 Jobs	2011 Civilian Labor Force	2011 Ratio of Jobs to Labor Force	2012 Jobs	2012 Civilian Labor Force	2012 Ratio of Jobs to Labor Force
Botetourt County	15,697	17,509	0.90	16,322	17,570	0.93
City of Roanoke	74,869	47,704	1.57	75,709	47,654	1.59
Roanoke County and City of Salem	80,074	61,922	1.29	80,565	61,773	1.30
Total TPO	170,640	127,135	1.34	172,596	126,997	1.36

Locality	2013 Jobs	2013 Civilian Labor Force	2013 Ratio of Jobs to Labor Force	2014 Jobs	2014 Civilian Labor Force	2014 Ratio of Jobs to Labor Force
Botetourt County	16,739	17,667	0.95	16,777	17,754	0.94
City of Roanoke	76,079	49,885	1.53	79,133	50,276	1.57
Roanoke County and City of Salem	78,962	63,003	1.25	171,916	63,339	2.71
Total TPO	171,780	130,555	1.32	267,826	131,369	2.04

*The data for Montgomery and Bedford Counties was excluded from this table because it included the Cities of Radford and Bedford respectively.

*The Bureau of Economic Analysis combined jobs data for Roanoke County and the City of Salem, therefore to be consistent, the household data is combined.

Data Sources:

Employment - Bureau of Economic Analysis, CA25N Total full-time and part-time employment by NAICS industry, Total employment (number of jobs) in 2014.

Civilian Labor Force – Virginia Workforce Connection, Labor Force Employment and Unemployment (LAUS) data.

6.4 Inter and Intra Regional Commuting Data

The table below indicates the percentage of residents working in the locality in which they live.

Locality	1970	1980	1990	2000	2010
Bedford County	-	-	-	-	31%
Botetourt County	38%	36%	31%	35%	31%
City of Roanoke	74%	72%	69%	63%	62%
Montgomery County	-	-	-	-	82%
Roanoke County	-	-	-	-	33%
City of Salem	-	-	-	-	47%

Data Source:

U.S. Census – 2009-2013 5-Year ACS County to County Commuting Flows for the United States and Puerto Rico: 2009-2013

<http://www.census.gov/hhes/commuting/files/2013/Table%201%20County%20to%20County%20Commuting%20Flows-%20ACS%202009-2013.xlsx>.

6.5 Mean Travel Time to Work

Locality	2005-2009 ACS Estimate (minutes)	2006-2010 ACS Estimate (minutes)	2007-2011 ACS Estimate (minutes)	2008-2012 ACS Estimate (minutes)	2009-2013 ACS Estimate (minutes)	2010-2014 ACS Estimate (minutes)
Bedford County	26.2	30.6	Unavailable	27.2	27.6	27.1
Botetourt County	Unavailable	Unavailable	Unavailable	26.3	25.6	26.2
Montgomery County	17.8	Unavailable	Unavailable	17.9	17.8	17.7
City of Roanoke	18.2	18.8	17.7	18.6	18.4	18.6
Roanoke County	20.4	21.3	Unavailable	20.3	20.3	20.4
City of Salem	17.7	Unavailable	Unavailable	17.3	17.2	16.9

Data Source:

American Community Survey 5-Year Estimates, Table S0801: Commuting Characteristics by Sex.

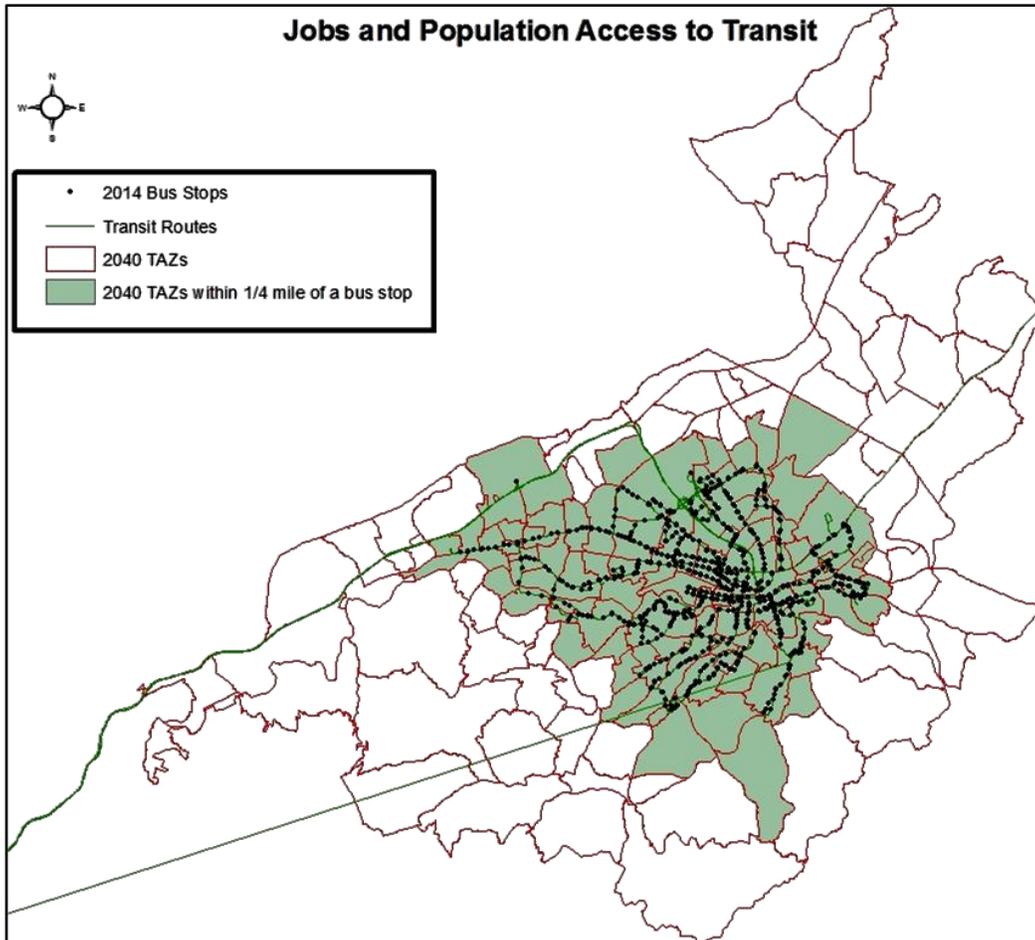
7.0 JOB AND HOUSING ACCESS TO TRANSIT

7.1 Percent of population and/or households in TAZs served by transit

Data Year	% of Population in TAZs served by Transit
2005	66%
2010	53%
2012	64%

7.2 Percent of employment in TAZs served by transit

Data Year	% of Employment in TAZs served by Transit
2005	82%
2010	67%
2012	80%



Note: 2012 estimates of population and employment were updated in August 2015.

Data Sources:

2040 TAZs and associated 2012 estimates of population and employment.

2015 Valley Metro fixed-route and Smart Way Bus Stops

8.0 JOB AND HOUSING ACCESS TO PEDESTRIAN FACILITIES

8.1 Number and Percent of Residents Who Walk to Work

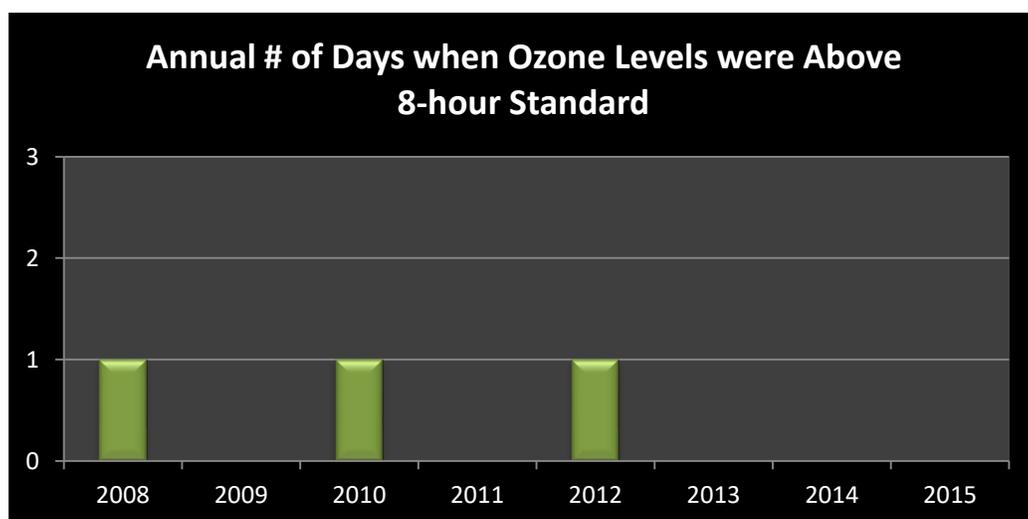
Locality	# of Residents who Walk to Work				Total # of Workers 16 and Over				% of Workers who Walk to Work			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Botetourt County	67	56	67	76	16,364	16,335	15,834	15,734	0.40%	0.34%	0.42%	0.48%
Roanoke County	585	600	458	306	45,826	46,024	44,927	44,814	1.35%	1.30%	1.02%	0.68%
City of Roanoke	874	920	1,129	1,175	44,094	44,396	44,401	45,136	1.98%	2.07%	2.54%	2.60%
City of Salem	494	435	617	481	11,595	11,210	11,707	12,127	4.30%	3.88%	5.27%	3.97%
Total TPO	4,153	4,201	4,360	4,262	193,877	194,553	188,746	196,887	2.14%	2.16%	2.31%	2.16%

Data Source: 2010-2014 American Community Survey 5-Year Estimates, Table B08301.

9.0 AIR QUALITY

9.1 Annual Number of Days when Ozone Levels Were Above the 8-Hour Standard

Year	# days above 8-hour standard
2008	1
2009	0
2010	1
2011	0
2012	1
2013	0
2014	0
2015	0



Data Source:

Department of Environmental Quality -

<http://www.deq.virginia.gov/Programs/Air/AirQualityForecasting/Eighthourozoneexceedances.aspx>.

10.0 AIRPORT FACILITY USAGE

10.1 Total, Enplaned and Deplaned Passengers

	2014	2015
Enplaned Passengers	302,484	299,597
Deplaned Passengers	298,950	297,074
	601,434	596,671

Data Source:

Roanoke-Blacksburg Regional Airport, Air Traffic Report December 2015

http://flyroa.com/sites/default/files/December%202015%20v3_0.pdf

10.2 Total, Enplaned and Deplaned Passengers by Carrier

Enplaned Passengers	2014	2015
Allegiant Air	30,432	30,906
American Airlines	126,456	123,442
Delta Airlines	94,650	91,387
United Airlines	49,208	51,365
Charters – Domestic	1,738	2,497
Charters – International	0	0
TOTAL	302,484	299,597

Deplaned Passengers	2014	2015
Allegiant Air	29,162	30,022
American Airlines	124,983	121,788
Delta Airlines	93,779	91,272
United Airlines	49,188	51,496
Charters – Domestic	1,838	2,496
Charters – International	0	0
TOTAL	298,950	297,074

Data Source:

Roanoke-Blacksburg Regional Airport, Air Traffic Report December 2015

http://flyroa.com/sites/default/files/December%202015%20v3_0.pdf

10.3 Total Enplaned and Deplaned Cargo

	2014	2015
Enplaned Cargo		
Pounds	12,382,924	12,372,667
Tons (US)	6,191.46	6,186.33
Deplaned Cargo		
Pounds	12,717,190	13,229,482
Tons (US)	6,358.60	6,614.74
TOTAL		
Pounds	25,100,114	25,602,149
Tons (US)	12,550.06	12,801.07

Data Source:

Roanoke-Blacksburg Regional Airport, Air Traffic Report December 2015

http://flyroa.com/sites/default/files/December%202015%20v3_0.pdf

10.4 Total Daily Scheduled Flights (Monday through Friday) by Carrier

Total Daily Scheduled Flights (M-F) by Carrier	2014	2015
American Airlines	10	11
Delta Airlines	5	5
United Airlines	4	4
TOTAL	19	20

Data Source:

Roanoke-Blacksburg Regional Airport, Air Traffic Report December 2015

http://flyroa.com/sites/default/files/December%202015%20v3_0.pdf

10.5 Total Actual Flights by Carrier

Number of Actual Flights (Monday-Sunday)	2014	2015
Allegiant Air	203	214
American Airlines	3,766	3,759
Delta Airlines	1,909	1,613
United Airlines	1,536	1,481
Charters – Domestic	22	27
Charters – International	0	0
TOTAL	7,436	7,094

Data Source:

Roanoke-Blacksburg Regional Airport, Air Traffic Report December 2015

http://flyroa.com/sites/default/files/December%202015%20v3_0.pdf

10.6 Total Cancelled Departures by Carrier

Number of Cancelled Departures (Monday-Sunday)	2014	2015
Allegiant Air	0	0
American Airlines	186	194
Delta Airlines	77	28
United Airlines	180	68
TOTAL	443	290

Data Source:

Roanoke-Blacksburg Regional Airport, Air Traffic Report December 2015

http://flyroa.com/sites/default/files/December%202015%20v3_0.pdf

11.0 MOVEMENT OF FREIGHT

11.1 Truck and Rail Mode Share, by Value

Origin Location	2004 Truck	2004 Rail	2012 Truck
Bedford County	\$7,135,051,088	\$183,704	\$8,521,605,573
Botetourt County	\$915,736,229	\$13,061,615	\$3,282,339,213
Montgomery County	\$2,911,552,479	\$144,610	\$9,464,865,042
Roanoke County	\$7,402,847,256	\$69,863	\$9,494,127,568
City of Roanoke	\$15,625,412,933	\$1,645,909	\$13,126,063,978
City of Salem	\$15,920,228,318	\$3,025,520	\$4,313,288,187
Total Value	\$49,910,828,303	\$18,131,221	\$48,202,289,562

Destination Location	2004 Truck	2004 Rail	2012 Truck
Bedford County	\$3,261,476,793	\$12,505,796	\$4,716,634,479
Botetourt County	\$4,983,794,770	\$9,278,637	\$2,462,848,427
Montgomery County	\$5,725,409,793	\$20,832,612	\$5,279,345,245
Roanoke County	\$2,127,568,295	\$18,134,007	\$3,816,917,789
City of Roanoke	\$7,894,637,680	\$19,015,654	\$18,863,431,107
City of Salem	\$4,129,808,893	\$10,683,020	\$2,990,257,310
Total Value	\$28,122,696,229	\$90,449,726	\$38,129,434,357

**Note: 2012 Truck data was made available through VDOT and a third-party provider. Due to the confidentiality of the Rail data, it could not be released.*

11.2 Truck and Rail Mode Share, by Tons

Origin Location	2004 Truck	2004 Rail	2012 Truck
Bedford County	1,885,091	209	5,519,667
Botetourt County	1,696,893	12,115	9,739,686
Roanoke County	3,261,429	288	4,259,253
Montgomery County	4,104,445	316	6,681,898
City of Roanoke	6,134,111	1,871	10,522,031
City of Salem	2,252,915	1,169	3,870,786
Total Value	19,334,884	15,968	40,593,321

Destination Location	2004 Truck	2004 Rail	2012 Truck
Bedford County	2,801,871	7,263	5,352,527
Botetourt County	2,402,830	9,985	6,811,291
Montgomery County	5,359,526	42,770	5,687,619
Roanoke County	2,038,500	18,633	4,055,365
City of Roanoke	4,959,179	11,370	13,926,010
City of Salem	1,386,790	7,816	2,578,405
Total Value	18,948,696	97,837	38,411,217

**Note: 2012 Truck data was made available through VDOT and a third-party provider. Due to the confidentiality of the Rail data, it could not be released.*

Data Sources:

2007 Global Insight Inc. Transearch 2004 Virginia Freight Flows.
2012 IHS Global Inc. Transearch 2012 Virginia Freight Flows.