Roanoke Valley Area
METROPOLITAN PLANNING ORGANIZATION

Staffed by the REGIONALcommission

PERFORMANCE MEASURES REPORT

Roanoke Valley Area Metropolitan 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 to evaluate the region's transportation system against its transportation goals and standards and contribute to the Statewide Transportation Plan. The Roanoke Valley Area Metropolitan Planning Organization (RVAMPO), as a new TMA MPO, is now required by the state to track regional performance measures. RVAMPO will be eligible for funding through sources only available to TMA MPOs and receipt of those funds is contingent upon the MPO'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
- 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 RVAMPO 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 to1.0) *	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
	* VRTC Study "Feasibility of Using Jobs/Housing Balance in Virginia Statewide Planning www.virginiadot.org/vtrc/main/online_reports/pdf/11-r1.pdf p. 26					

REGIONAL PERFORMANCE MEASURES FOR THE ROANOKE VALLEY AREA MPO						
	Performance Measure	**Data Requirements**	**Data Source**	**Level of Data Collection**	**Desired Trend**	**Preferred Reporting Format**
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
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
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
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
10.0 Movement of Freight						
10.1	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
10.2	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
Performance Measures will be prepared annually by October 15th, placed on the MPOs website, and then be linked to the State's Annual Performance Report.						

CHANGE OF TRENDS IN REGIONAL PERFORMANCE MEASURES

Beginning with this year's Report, data is being compared to the previous year, 2012, to analyze trends and to highlight performance.

CHANGE IN TRENDS OF REGIONAL PERFORMANCE MEASURES			
No.	Performance Measure	Desired Trend	Change from 2012 to 2013
	1.0 Congestion Reduction		
1.1	Total Miles of Bicycle Lanes	Upwards	28.0 or 197%
1.2	Total Miles of Paved Shoulders	Upwards	16.6 or 224%
1.3	Total Miles of Wide Travel Lanes①	Upwards	4.78 - Unchanged
1.4	Total Miles of Signed Bicycle Routes	Upwards	2.8 or 9%
1.5	Total Number of Share the Road Signs	Upwards	1 or 3.2%
1.6	Total Number of Sharrows	Upwards	7 or 78%
1.7	Total Number of Bicycle Racks	Upwards	32 or 45%
	2.0 Safety		
2.1	Number of Highway Fatalities	Downwards	20 or 36%
2.1	Fatality Rate per 100 Million Vehicle Miles Traveled	Downwards	197 or 36%
2.2	Number of Highway Crashes	Downwards	412 or 6%
2.2	Crash Rate per 100 Million Vehicle Miles Traveled	Downwards	4,360 or 6%
2.3	Annual Transit Collisions	Downwards	1 or 5%
2.4	Annual Transit Injuries	Downwards	60 or 107%
2.5	Annual Transit Fatalities	Downwards	0 - Unchanged
2.6	Annual Aviation Crashes	Downwards	2 or 200%
2.7	Annual Aviation Fatalities	Downwards	0 - Unchanged
2.8	Annual Bicycle Crashes	Downwards	18 or 35%
2.9	Annual Bicycle Injuries	Downwards	17 or 34%
2.10	Annual Bicycle Fatalities	Downwards	0 - Unchanged
2.11	Annual Pedestrian Injuries	Downwards	4 or 5%
2.12	Annual Pedestrian Fatalities	Downwards	2 or 67%
	3.0 Bicycle and Pedestrian Facility Usage		
3.1	Number of bicyclists by location②	Upwards	57 or 25%
3.2	Number of pedestrians by location③	Upwards	57 or 21%
3.3	Number of greenway users by location④	Upwards	36,941 or 10%
3.4	Number of Bicycle Friendly Businesses	Upwards	5 - Unchanged
	4.0 Transit Usage		
4.1	Annual Unlinked Passenger Transit Trips	Upwards	107,887 or 5%
4.2	Annual Unlinked Passenger Transit Trips Per Capita	Upwards	0.83 or 5%
4.3	Annual Vehicle Revenue Miles	Upwards	125,301 or 6%
4.4	Annual Vehicle Revenue Miles per Capita	Upwards	0.96 or 6%
4.5	Annual Passenger Miles Traveled	Upwards	492,219 or 5%
4.6	Annual Passenger Miles Traveled per Capita	Upwards	3.79 or 5%
4.7	Annual Smart Way Connector Bus Ridership	Upwards	3,489 or 25%

CHANGE IN TRENDS OF REGIONAL PERFORMANCE MEASURES			
No.	**Performance Measure**	**Desired Trend**	**Change from 2012 to 2013**
5.0 HOV Usage			
5.1	# of Park and Ride Lots and Spaces	Upwards	220 - Unchanged
5.2	# of members in Ride Solutions program⑤	Upwards	906 or 54%
6.0 Jobs-to-Housing Ratio			
6.1	Ratio of jobs to households at the regional & jurisdictional levels	Steady	Remains Steady
6.2	Regional Linear Jobs-Households Dissimilarity index (0.0 to1.0)⑥	Below 0.5	0.509
6.3	Ratio of jobs to work force	Upwards	.02 or 2%
6.4	Inter and Intra regional commuting data	Upwards	No comparison data
6.5	Mean Travel Time to Work	Downwards	.2 or 2%
7.0 Job and Housing Access to Transit			
7.1	% of population and/or households in TAZs served by transit⑦	Upwards	13%
7.2	% of employment in TAZs served by transit⑧	Upwards	15%
8.0 Job and Housing Access to Pedestrian Facilities			
8.1	# and % of residents who walk to work	Upwards	0.02 or 1%
9.0 Air Quality			
9.1	Annual # of Days when Ozone Levels were Above 8-Hour Standard	Downwards	1 or 100%
10.0 Movement of Freight			
10.1	Truck and Rail Mode Share, by value	Upwards	Unchanged
10.2	Truck and Rail Mode Share, by tons	Upwards	Unchanged

Notes explaining specific downward trends and trend comparison irregularities:

① 1.3: Total Miles of Wide Travel Lanes – In 2013, there was a significant amount of data collected/reported for the first time, which had not been in previous years. To accurately compare trends, only available data from 2012 and 2013 for the same road segments were analyzed;
② 3.1: Number of Bicyclists by Location and ③3.2: Number of Pedestrians by Location – Many locations during the 2013 counts either had no data from one or both of the two count days. For comparison analysis, only complete data for both days at the same locations in 2012 and 2013 were used;
④ 3.3: Number of Greenway Users by Location – Two locations in 2013 had incomplete data or equipment trouble. These locations were not used in comparing trend data in 2012 and 2013;
⑤ 5.2: # of Members in Ride Solutions Program – Purging unused/dormant accounts led to the sharp decrease;
⑥ 6.2: Regional Linear Jobs-Households Dissimilarity Index – The dissimilarity of households and jobs increased for the City of Roanoke, Roanoke County and the City of Salem. The decrease in the index from Botetourt County was not significant enough to keep it below the suggested .05 (index was .0509);
⑦ 7.1: % of Population and/or Households in TAZs Served by Transit – As the Urbanized area grew, population grew further away from existing bus stops. With the transit system not expanding, to meet the increase in population, a decrease resulted; and
⑧ 7.2: % of Employment in TAZs Served by Transit – As the Urbanized area grew, employment grew further away from existing bus stops. With the transit system not expanding, to meet the employment base, a decrease resulted.

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

4.1: Annual Unlinked Passenger Transit Trips – from 2010 to 2012, there is a steady increase in RADAR ridership of 9,226 or 18%
4.7: Annual Smart Way Connector Bus Ridership – from 2012 to 2013, there is a substantial increase in Smart Way ridership of 3,489 or 25%

1.0 CONGESTION REDUCTION

1.1 Total Miles of Bike Lanes

Locality	2012	**2013**
City of Roanoke	10.6	36.1
Roanoke County	5.0	5.0
Town of Vinton	1.1	1.1
Total Miles of Bicycle Lanes	**14.2**	**42.2**

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

1.2 Total Miles of Paved Shoulders

Locality	Segment	2012 (Miles)	2013 (Miles)
City of Roanoke	Franklin Road from Crossbow to Blue Ridge Parkway	0	2.13
Roanoke County	Catawba Valley Rd. from Electric Rd. to MPO Study Area Boundary	0.99	0.99
Roanoke County	Colonial Ave. from Electric Rd. to Penn Forest Blvd.	0	0.53
Roanoke County	Electric Rd. from Brambleton Ave. to Corporate Limits	6.41	6.41
Roanoke County	Electric Rd. from Catawba Valley Rd. to Interstate 81	0	0.96
Roanoke County	Electric Rd. from Corporate Limits to Starkey Rd.	0	1.48
Roanoke County	Electric Rd. from Starkey Rd. to Brambleton Ave.	0	2.84
Roanoke County	Hollins Rd. from Beaumont Rd. to Plantation Rd.	0	1.24
Roanoke County	Route 311 from Corporate Limits (I-81) to Kessler Mill Road	0	3.05
Roanoke County	Sanderson Dr. from Corporate Limits to Shadwell Dr.	0	0.43
Roanoke County	U.S. 11/460 from Corporate Limits to Technology	0	3.92
Total Miles of Paved Shoulders		**7.40**	**23.98**

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

1.3 Total Miles of Wide Travel Lanes

***Note**: The first table below shows wide travel lane data from the 2013 and 2014 Performance Measures Report (2012 and 2013 data). The second table below includes data reported for the first time in 2014 (2013 data only). In order to compare trends, available 2012 and 2013 data is used.*

Locality	Segment	2012 (Miles)	2013 (Miles)
City of Roanoke	24th St. from Baker Ave. to Melrose Ave.	0.83	0.83
City of Roanoke	Brambleton Ave. from Sewell Ln. to Welch Rd.	0.56	0.56
City of Roanoke	Brandon Ave. from Peters Creek Ext. to Edgewood St.	1.19	1.19
City of Roanoke	Shenandoah Ave. from Westside to Peters Creek Rd.	0.50	0.50
City of Roanoke	Wise Ave. from Corporate Limits to 18th St.	0.71	0.71
Roanoke County	Catawba Valley Rd. from Electric Rd. to MPO Study Area Boundary	0.99	0.99
	Total Miles of Wide Travel Lanes (2012)	**4.78**	**4.78**

Locality	Segment	2013 (Miles)
City of Roanoke	13th St. NE from Orange Ave. to Mason Mill Rd.	1.38
City of Roanoke	22nd St. from Melrose Ave. to Salem Turnpike	0.14
City of Roanoke	5th St. SW from Day Ave. to Luck Ave.	0.25
City of Roanoke	5th St. SW from Salem to the Norfolk Southern RR Bridge	0.08
City of Roanoke	Aviation Dr. from Municipal Rd. to Hershberger Rd.	1.53
City of Roanoke	Brambleton Ave. from Montgomery Ave. to Corporate Limit	1.64
City of Roanoke	Brandon Ave. from Grandin Rd. to Sheffield Rd.	1.51
City of Roanoke	Burrell St. from Liberty Rd. to Orange Ave.	0.84
City of Roanoke	Campbell Ave. from Williamson Rd. to Norfolk Ave.	1.46
City of Roanoke	Colonial Ave. from Brandon Ave. to Wonju St.	0.68
City of Roanoke	Dale Ave. from 13th St. SE to Vernon St.	1.51
City of Roanoke	Edgewood St. from Malvern Rd. to Brandon Ave.	0.71
City of Roanoke	Franklin Rd. (U.S. 220 BUS) from Electric Rd. to Avenham Ave.	1.38
City of Roanoke	Gainsboro Rd. from Orange Ave. to Gilmer Ave.	0.97
City of Roanoke	Grandin Rd. from Brandon Ave. to Dover Dr.	2.10
City of Roanoke	Hollins Rd. from Orange Ave. to Mason Mill Rd.	1.62
City of Roanoke	Jefferson St. from Reserve Ave. to Weller Ave.	0.58
City of Roanoke	Kimball Ave. from Orange Ave. to Williamson Rd.	1.19
City of Roanoke	Loudon Ave. from 22nd St. to 24th St.	0.31
City of Roanoke	Main St. from Wasena Ave. to Hamilton Ter.	0.36
City of Roanoke	Main St. from Winona Ave. to Elm Ave.	0.43
City of Roanoke	Melrose Ave. from 22nd St. to 10th St.	2.28
City of Roanoke	Melrose Ave. from Overbrook St. to Corporate Limits	1.07
City of Roanoke	Orange Ave. from Williamson Rd. to Gus Nicks Blvd.	2.96
City of Roanoke	Patterson Ave. from 7th St. to Bridge St.	3.00
City of Roanoke	Plantation Rd. from Hollins Rd. to Corporate Limits	1.89
City of Roanoke	Reserve Ave. from Franklin Rd. to Jefferson St.	0.74
City of Roanoke	Riverland Rd. from 9th St. to Piedmont St.	2.13
City of Roanoke	Roanoke Memorial Bridge	1.46
City of Roanoke	Salem Ave. from Melrose Ave. to 22nd St.	0.22
City of Roanoke	Salem Tpke. from 24th St. to 30th St.	0.91
City of Roanoke	Walnut Ave. from Jefferson St. to Sylvan Rd.	1.18
City of Roanoke	Williamson Rd. from Hershberger Rd. to Angell Ave.	1.75
City of Roanoke	Williamson Rd. from Orange Ave. to Wells Ave.	2.15
City of Roanoke	Williamson Rd. from the Corporate Limits to Angell Ave.	1.32
Roanoke County	Brambleton Ave. from Crystal Creek Dr. to Corporate Limits	3.12

Locality	Segment	2013 (Miles)
Roanoke County	Merriman Rd. from Chaparral Dr. to Colonial Ave.	2.56
Roanoke County	Plantation Rd. from Magnolia Rd. to John Richardson Rd.	1.58
Roanoke County	Starkey Rd. from Electric Rd. to Ogden Rd.	0.82
City of Salem	8th St. from College Ave. to Roanoke Blvd.	0.60
City of Salem	Apperson Dr. from the Corporate Limits to Electric Rd.	1.98
City of Salem	College Ave. from Shanks Cross Rd. to Main St.	1.78
City of Salem	Colorado St. from Riverside Dr. to Shanks Cross Rd.	0.83
City of Salem	East Main St. (U.S. 460) from Lakehurst Ave. to Thompson Memorial Dr.	2.78
City of Salem	East Main St. (U.S. 460) from Lakehurst Dr. to East Corporate Limits	0.97
City of Salem	Idaho St. from Lynchburg Tpke. to Texas St.	0.91
City of Salem	Kessler Mill Rd. from Main St. to Garst St.	1.76
City of Salem	Roanoke Blvd. from Idaho St. to College Ave.	0.93
City of Salem	Texas St. from Roanoke Blvd. to Lynchburg Tpke.	0.55
City of Salem	Thompson Memorial Dr. from Main St. to North Corporate Limit (I-81)	2.85
Town of Vinton	Walnut Ave. from the Corporate Limits to Lee Ave.	1.59
Town of Vinton	Washington Ave. from the Corporate Limits to Pollard St.	2.12
	Total Miles of Wide Travel Lanes (2013)	**71.46**

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

1.4 Total Miles of Signed Bike Routes

Locality	Route Name	Length (Miles) 2012	Length (Miles) 2013
City of Roanoke	Brandon Avenue	1.62	1.62
City of Roanoke	Ferdinand Avenue	1.94	1.94
City of Roanoke	Maiden Lane	4.78	4.78
City of Roanoke	Market Street	1.24	1.24
City of Roanoke	Old Southwest	0	1.12
City of Roanoke	Peters Creek Extension	2.08	2.08
City of Roanoke	Shenandoah Avenue	8.13	8.13
City of Roanoke	Tinker Creek Greenway	2.06	2.06
City of Roanoke	Wise Avenue	0	1.70
City of Salem	Salem Signed Bicycle Route	11.10	11.10
	Total Miles of Signed Bike Routes	**32.95**	**35.77**

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)
City of Roanoke	Brandon Ave.	4	5
City of Roanoke	Peters Creek Ext.	8	8
City of Roanoke	Plantation Rd.	6	6
City of Roanoke	Shenandoah Ave.	3	3
City of Roanoke	US 220/Franklin Rd.	2	2
City of Roanoke	Williamson Rd.	6	6
Roanoke County	Catawba Valley Rd./311	1	1
Roanoke County/VDOT	Wildwood Rd.	1	1
	Total Number of Share the Road Signs	**31**	**32**

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

1.6 Total Number of Sharrows

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

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 2012	Number of Racks 2013
City of Roanoke	51	80
City of Salem	6	7
Roanoke County	13	14
Town of Vinton	1	2
Total Number of Bicycle Racks in MPO	**71***	**103***

**This number denotes all public and private bicycle racks.*

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
Bedford County	10	21	9
Botetourt County	6	9	4
Montgomery County	6	11	7
City of Roanoke	5	4	5
Roanoke County	13	11	10
City of Salem	0	0	1
Town of Vinton	0	0	0
Total MPO	**40**	**56**	**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
Bedford County	605	1,282	530
Botetourt County	321	484	213
Montgomery County	344	590	377
City of Roanoke	235	194	246
Roanoke County	570	481	435
City of Salem	-	-	225
Town of Vinton	-	-	-
Total MPO	**390**	**545**	**348**

Data Sources:

Fatalities: http://www.dmv.state.va.us/safety/crash_data/crash_facts/crash_facts_13.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
Bedford County	882	834	938
Botetourt County	648	652	631
Montgomery County	1,573	1,784	1,529
City of Roanoke	1,849	2,197	2,090
Roanoke County	1,191	1,273	1.128
City of Salem	493	522	546
Town of Vinton	147	137	125
Total MPO	**6,783**	**7,399**	**6,987**

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)
Bedford County	53,324	50,917	55,255
Botetourt County	34,622	35,089	33,659
Montgomery County	90,262	95,762	82,330
City of Roanoke	86,878	106,688	102,924
Roanoke County	52,226	55,672	49,046
City of Salem	111,740	117,139	122,956
Town of Vinton	109,710	108,067	98,601
Total MPO	**66,161**	**71,993**	**67,633**

Data Sources:
Crashes: http://www.dmv.state.va.us/safety/crash_data/crash_facts/crash_facts_13.pdf *Vehicle Miles Traveled (VMT):* *http://www.virginiadot.org/info/resources/Traffic_2013/VMTReport_1200_2013.pdf*

2.3 Annual Transit Collisions

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
# of Collisions	0	0	0	6	1	0	0	0	2	2	2

Collision Rate per 100 Million Passenger Miles Traveled

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
# of Collisions per 100 million PMT	0	0	0	0	10	0	0	0	17	19	18

Data Source:
http://www.ntdprogram.gov/ntdprogram/data.htm

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

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Injuries	7	2	1	18	10	10	13	13	12	6	13

Injury Rate per 100 Million Passenger Miles Traveled

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Injuries per 100 million PMT	77	22	11	186	97	86	107	107	103	56	116

Data Source:
http://www.ntdprogram.gov/ntdprogram/data.htm
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
Total Fatalities	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
Total Fatalities per 100 million PMT	0	0	0	0	0	0	0	0	0	0	0

Data Source:
http://www.ntdprogram.gov/ntdprogram/data.htm
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
2.7 Annual Aviation Fatalities

	2010	2011	2012	2013
Annual Aviation Crashes	1	0	2	0
Annual Aviation Fatalities	1	0	0	0

Data Source:
FAA Accident Database & Synopses, http://www.ntsb.gov/aviationquery/index.aspx

2.8 Annual Bicycle Crashes

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

Data Source:
Virginia DMV website – Virginia Bicycle Crashes by Jurisdiction Calendar Years 2009-2013, http://www.dmvnow.com/safety/crash_data/bicycle/pdf/crash_juris.pdf

2.9 Annual Bicycle Injuries

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

Data Source:
Virginia DMV website – Virginia Bicycle Injuries in Crashes by jurisdiction Calendar Years 2009-2013, http://www.dmvnow.com/safety/crash_data/bicycle/pdf/injury_juris.pdf.

2.10 Annual Bicycle Fatalities

Locality	2009	2010	2011	2012	2013
Bedford County	0	0	0	0	0
Botetourt County	0	1	0	0	0
Montgomery County	1	0	0	0	0
City of Roanoke	0	0	0	0	0
Roanoke County	0	0	0	0	0
City of Salem	0	0	0	0	0
Total Bicycle Fatalities	**1**	**1**	**0**	**0**	**0**

Data Source:
Virginia DMV website – Virginia Bicycle Fatalities in Crashes by Jurisdiction Calendar Years 2009-2013, http://www.dmvnow.com/safety/crash_data/bicycle/pdf/fatality_juris.pdf.

2.11 Annual Pedestrian Injuries

Locality	2009	2010	2011	2012	2013
Bedford County	3	4	3	3	5
Botetourt County	0	2	2	1	0
Montgomery County	9	24	23	20	28
City of Roanoke	19	30	29	48	44
Roanoke County	4	3	3	5	3
City of Salem	8	7	10	9	2
Total Pedestrian Injuries	**43**	**70**	**70**	**86**	**82**

Data Source:
Virginia DMV website – Pedestrian Injuries in Crashes by Jurisdiction Calendar Years 2009-2013, http://www.dmvnow.com/safety/crash_data/pedestrian/pdf/injury_juris.pdf.

2.12 Annual Pedestrian Fatalities

Locality	2009	2010	2011	2012	2013
Bedford County	0	0	1	0	1
Botetourt County	0	0	0	0	0
Montgomery County	2	0	0	1	2
City of Roanoke	1	1	1	0	2
Roanoke County	1	1	1	2	0
City of Salem	0	1	0	0	0
Total Pedestrian Facilities	**4**	**3**	**3**	**3**	**5**

Data Source:
Virginia DMV website – Pedestrian Fatalities in Crashes by Jurisdiction Calendar Years 2009-2013, http://www.dmvnow.com/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*
Memorial Avenue, Wasena Road., Roanoke Avenue, Roanoke River Greenway	160	101
10th Street and Shenandoah Avenue	11	13**
Colonial Avenue and Overland Drive	2	3
Peters Creek Extension, Shenandoah Avenue	1	10**
Gus Nicks Boulevard, King Street, Vale/Dell	3	3**
Grandin Road, Brandon Avenue	33	16**
13th Street, Tayloe Street	21	8**
5th Street, Luck Avenue	14	No Data
Patterson Avenue, 13th Street	20	19
Ferdinand Avenue, 10th Street	14	No Data
Brandon Avenue, Edgewood Street, Mud Lick Road	30	23
Williamson Road, Campbell Avenue	15	13**
Plantation Road, Preston Avenue, Columbia Avenue	5	No Data
Brambleton Avenue, Spring Street	21	12**
10th Street, Syracuse Avenue, Lick Run Greenway	13	No Data
Brandon Avenue, Franklin Road, McClanahan Street	9	18**
Jefferson Street, Walnut Avenue	16	25
Franklin Road, Elm Avenue	5	No Data
Grandin Road, Garst Mill Road	11	3**
Total Bicyclists by Location	**404**	**267**

** The average of two count days, two hours each day.*
*** One of the two count days has no data*

Data Source: National Bicycle and Pedestrian Documentation Project – 2012 City of Roanoke, VA, Bicycle and Pedestrian Counts

3.2 Number of Pedestrians by Location

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

** The average of two count days, two hours each day.*
*** One of the two count days has no data*

Data Source:
Roanoke Valley-Alleghany Regional Commission - Regional Greenway and Trail User Count Program - Monthly Counts 2010-2013

3.3 Number of Greenway Users by Location

Greenway	2012	2013
Carvins Cove Four Gorges Trail	12,732	Incomplete Data
Lick Run Greenway at 10th	19,906	20,978
Lick Run Greenway Valley View	10,447	Equipment Malfunction
Mill Mountain Greenway	12,748	18,265
Murray Run Greenway Trail	16,177	17,791
Roanoke River Greenway 17th Street	37,603	29,556
Roanoke River Greenway Moyers Complex	40,162	76,488
Roanoke River Greenway Rivers Edge	227,900	166,860
Roanoke River Greenway at Underhill	28,535	16,152
Total Greenway Users	**406,210**	**346,090**

Data Source:
Roanoke Valley-Alleghany Regional Commission - Regional Greenway and Trail User Count Program - Monthly Counts 2010-2013

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 Bike Shop, Inc.	City of Roanoke	2011	15
Carilion Clinic - Riverside	City of Roanoke	2012	500
Roanoke Regional Partnership	City of Roanoke	2012	6

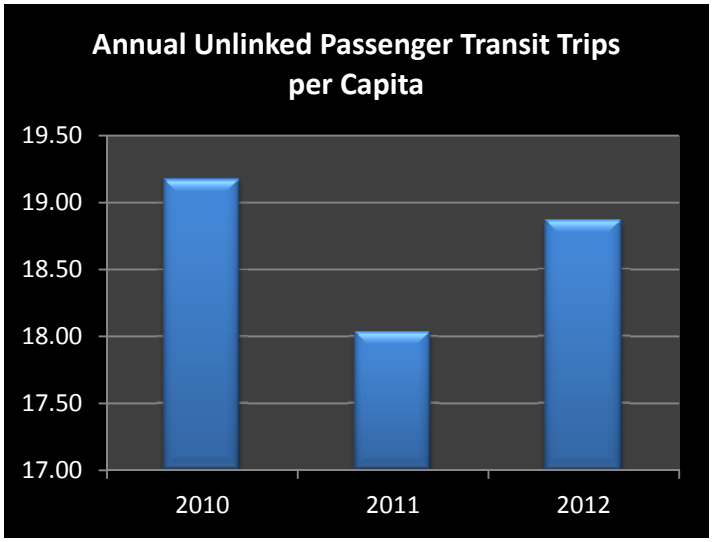
Data Source: The League of American Bicyclists – Bicycle Friendly Businesses, Current Bicycle Friendly Businesses Spring 2014.
http://bikeleague.org/sites/default/files/Spring2014_New_Renew_BFB_List_All_Organized.pdf

4.0 TRANSIT USAGE

4.1 Annual Unlinked Passenger Transit Trips

	2010	2011	2012
Annual Unlinked Passenger Transit Trips per Capita	**19.18**	**18.03**	**18.86**
Unlinked Passenger Transit Trips – Valley Metro	2,440,846	2,291,101	2,391,001
Unlinked Passenger Transit Trips - RADAR	50,896	52,135	60,122
Annual Unlinked Passenger Transit Trips	**2,491,742**	**2,343,236**	**2,451,123**

4.2 Annual Unlinked Passenger Transit Trips Per Capita



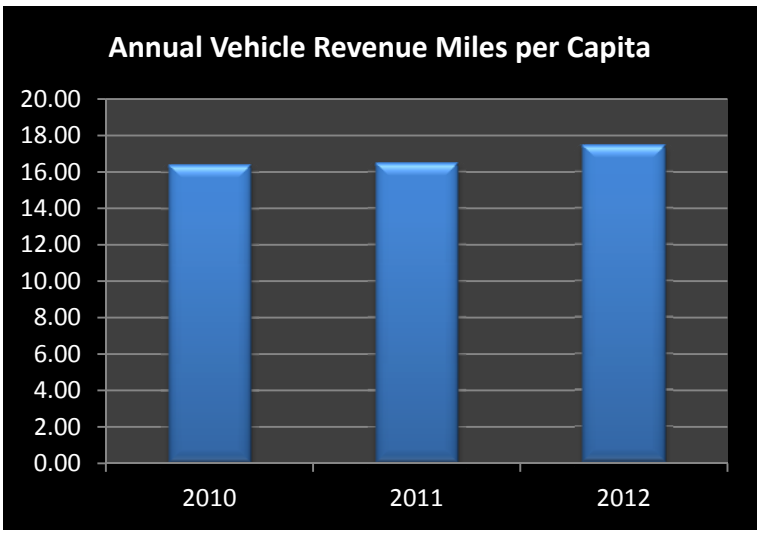
	2010	2011	2012
2010 Service Area population (City of Salem, City of Roanoke, Town of Vinton)	129,932	129,932	129,932
Annual Unlinked Passenger Transit Trips per Capita	**19.18**	**18.03**	**18.86**

Data Sources:
NTD Database website – Annual Databases – RY 2012 Data Tables – Transit Operating Statistics: Service Supply and Consumed
http://www.ntdprogram.gov/ntdprogram/pubs/dt/2012/excel/DataTables.htm.
Population data from 2010 Census http://www.census.gov/2010census/data/.

4.3 Annual Vehicle Revenue Miles

	2010	2011	2012
Annual Vehicle Revenue Miles per Capita	**16.37**	**16.46**	**17.42**
Vehicle Revenue Miles – Valley Metro	1,559,061	1,551,608	1,649,475
Vehicle Revenue Miles - RADAR	568,269	586,668	614,102
Annual Vehicle Revenue Miles	**2,127,330**	**2,138,276**	**2,263,577**

4.4 Annual Vehicle Revenue Miles Per Capita



	2010	2011	2012
2010 Service Area population (City of Salem, City of Roanoke, Town of Vinton)	129,932	129,932	129,932
Annual Vehicle Revenue Miles per Capita	**16.37**	**16.46**	**17.42**

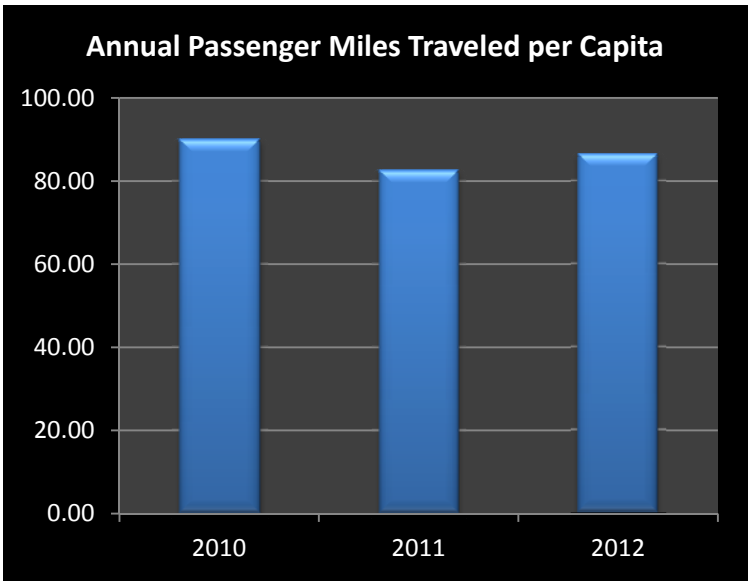
Data Sources:
NTD Database website – Access NTD Data - Safety & Security Data – Safety & Security Time Series http://www.ntdprogram.gov/ntdprogram/data.htm
Population data from 2010 Census http://2010.census.gov/2010census/data/

4.5 Annual Passenger Miles Traveled

	2010	2011	2012
Annual Passenger Miles Traveled per Capita	**90.04**	**82.62**	**86.41**
Passenger Miles Traveled – Valley Metro	11,130,258	10,195,399	10,639,954
Passenger Miles Traveled - RADAR	568,269	539,674	587,338
Annual Passenger Miles Traveled	**11,698,527**	**10,735,073**	**11,227,292**

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



	2010	2011	2012
2010 Service Area population (City of Salem, City of Roanoke, Town of Vinton)	129,932	129,932	129,932
Annual Passenger Miles Traveled per Capita	**90.04**	**82.62**	**86.41**

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
Annual Smart Way Connector Bus Ridership	4,855*	14,235	17,724

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

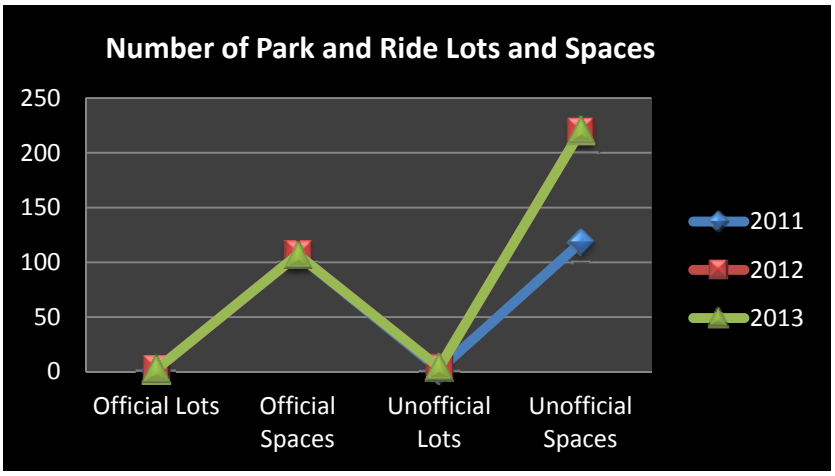
Data Source:
Smart Way Connector Data received from Valley Metro.

5.0 HOV USAGE

5.1 Number of Park and Ride Lots and Spaces

	2011	2012	2013
Total official lots	2	2	2
Total official spaces	107	107	107
Total unofficial lots	2	4	4
Total unofficial spaces	118	220	220

Category	Park and Ride Lot Name	Spaces
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
Members in RIDE Solutions	2,260	1,685*	779*

**Note: the decrease in membership in 2012 and 2013 was due to updating the RIDE Solutions database, to remove unused or dormant accounts. The 2012 and 2013 numbers reflect active accounts.*

Data Source:
RIDE Solutions member database.

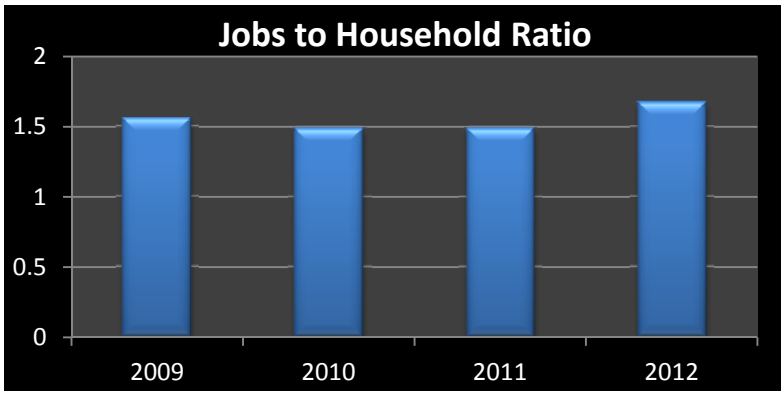
6.0 JOBS-TO-HOUSING RATIO

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 MPO**	**170,078**	**103,600**	**1.64**	**172,596**	**103,295**	**1.67**

**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.*
***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 2012.
Households – ACS Survey 2007-2012, B11016 Household Type by Household Size

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 MPO	**170,078**	**103,600**	**0.0471**	**172,596**	**103,295**	**0.0509**

**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 2011.
Households – ACS Survey 2007-2012, 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	Ratio of Jobs to Labor Force	2012 Jobs	2012 Civilian Labor Force	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 MPO	**170,640**	**127,135**	**1.34**	**172,596**	**126,997**	**1.36**

**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 2012.
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
Botetourt County	38%	36%	31%	35%	34%
City of Roanoke	74%	72%	69%	63%	63%
Roanoke County and City of Salem	42%	45%	49%	53%	-
Roanoke County	-	-	-	-	34%
City of Salem	-	-	-	-	47%

Data Source:
U.S. Census – 2006-2010 5-Year ACS County to County Worker Flow Files – Table 1
Residence County to Workplace County Flows Sorted by Residence Geography: 2006-2010
www.census.gov/population/metro/files/commuting/Table1.xlsx
2012 American Community Survey – Commuting Characteristics by Sex

*Supplemental Data**

Locality	Live and Work in the Same Locality 2011	
	Number	**Percent**
Bedford County	4,279	16
Botetourt County	2,779	31
Montgomery County	19,234	60
City of Roanoke	17,875	43
Roanoke County	9,155	22
City of Salem	3,050	33

**This data is supplemental and is obtained and measured through unemployment claims and surveys in cooperation with the Census Bureau and the Virginia Employment Commission.*

Data Source:
U.S. Census Bureau – OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2011. http://onthemap.ces.census.gov/.

6.5 Mean Travel Time to Work

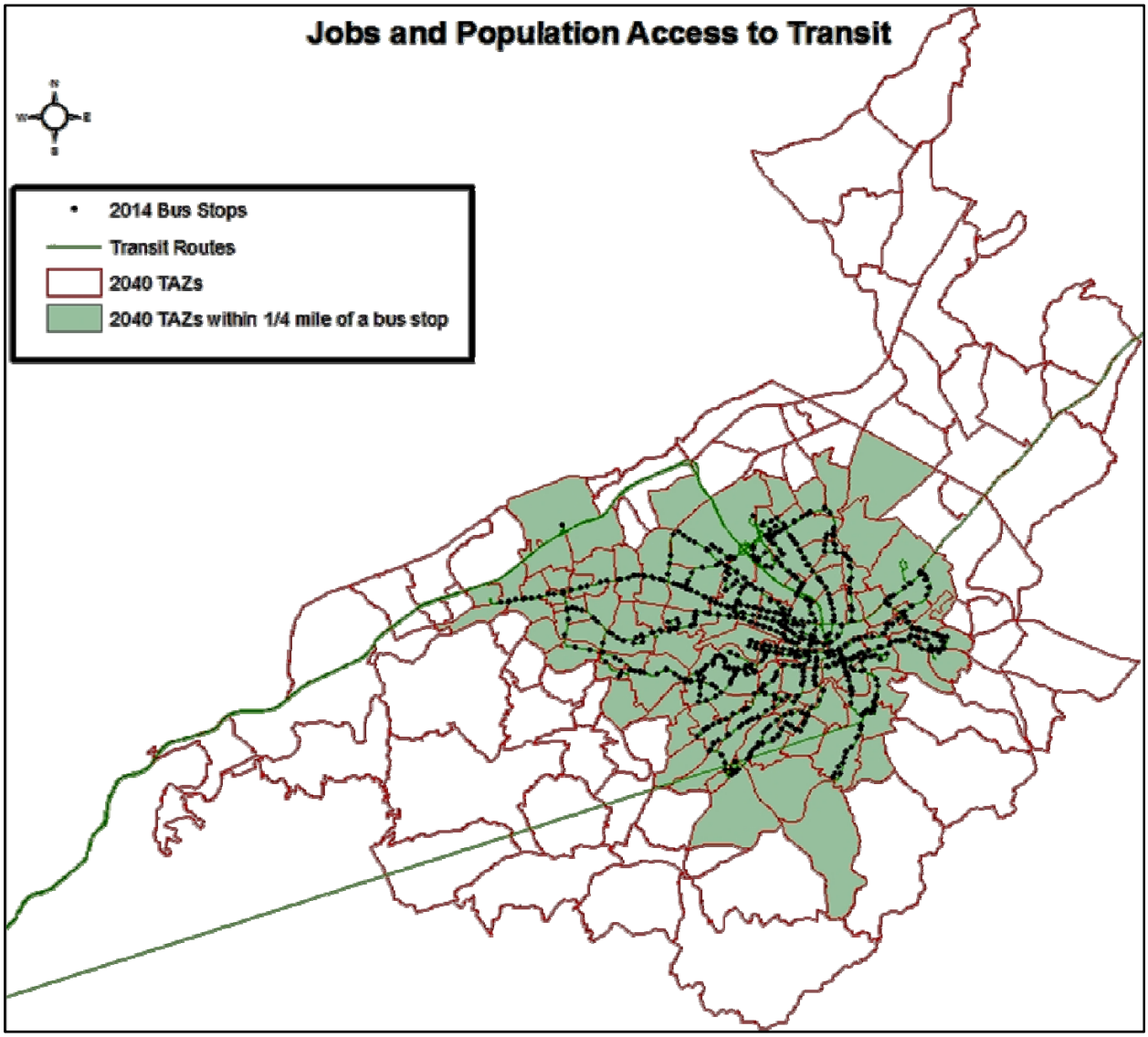
Locality	2005-2009 ACS Estimate (minutes)	2006-2010 ACS Estimate (minutes)	2007-2011 ACS Estimate (minutes)	2008-2012 ACS Estimate (minutes)
Bedford County	26.2	30.6	Not Available	27.2
Botetourt County	Not Available	Not Available	Not Available	26.3
Montgomery County	17.8	Not Available	Not Available	17.9
City of Roanoke	18.2	18.8	17.7	18.6
Roanoke County	20.4	21.3	Not Available	20.3
City of Salem	17.7	Not Available	Not Available	17.3

Data Source:
American Community Survey 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
7.2 Percent of employment in TAZs served by transit

Data Year	% of Population in TAZs served by Transit	% of Employment in TAZs served by Transit
2005	66%	82%
2014	53%	67%



Data Sources:
2040 TAZs and associated 2014 estimates of population and employment.
2014 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

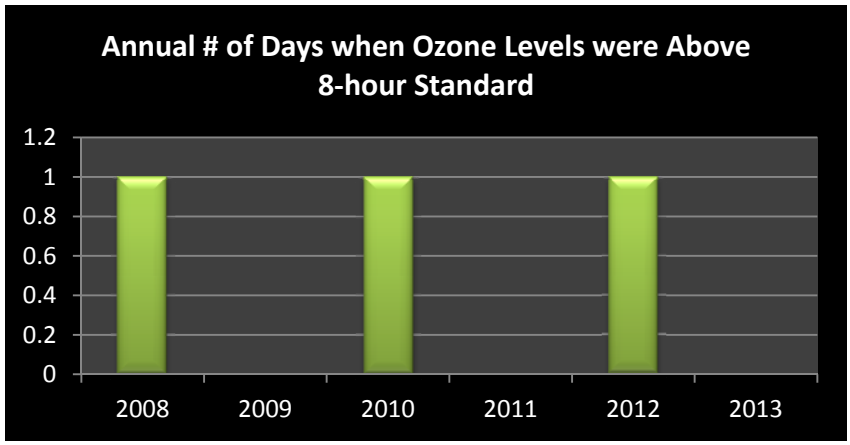
Locality	# of Residents who Walk to Work			Total # of Workers 16 Years and Over			% of Workers who Walk to Work		
	2010	**2011**	**2012**	**2010**	**2011**	**2012**	**2010**	**2011**	**2012**
Bedford County	226	235	209	32,451	32,485	32,525	0.70%	0.72%	0.64%
Botetourt County	111	67	56	16,102	16,364	16,335	0.70%	0.40%	0.34%
Montgomery County	1,846	1,898	1,981	42,730	43,513	44,063	4.32%	4.36%	4.50%
City of Roanoke	922	874	920	43,849	44,094	44,396	2.10%	1.98%	2.07%
Roanoke County	619	585	600	46,456	45,826	46,024	1.33%	1.35%	1.30%
City of Salem	499	494	435	11,528	11,595	11,210	4.32%	4.30%	3.88%
Total MPO	**4,223**	**4,153**	**4,201**	**193,116**	**193,877**	**194,553**	**2.18%**	**2.14%**	**2.16%**

Data Source: 2008-2012 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
	0
2010	1
2011	0
2012	1
2013	0



Data Source:
Department of Environmental Quality -
http://www.deq.virginia.gov/Programs/Air/AirQualityForecasting/Eighthourozoneexceedances.aspx.

10.0 MOVEMENT OF FREIGHT

10.1 Truck and Rail Mode Share, by Value

Origin Location	Truck	Rail
Bedford County	$7,135,051,088	$183,704
Botetourt County	$915,736,229	$13,061,615
Montgomery County	$2,911,552,479	$144,610
Roanoke County	$7,402,847,256	$69,863
City of Roanoke	$15,625,412,933	$1,645,909
City of Salem	$15,920,228,318	$3,025,520
Total Value in 2004	**$49,910,828,303**	**$18,131,221**

Destination Location	Truck	Rail
Bedford County	$3,261,476,793	$12,505,796
Botetourt County	$4,983,794,770	$9,278,637
Montgomery County	$5,725,409,793	$20,832,612
Roanoke County	$2,127,568,295	$18,134,007
City of Roanoke	$7,894,637,680	$19,015,654
City of Salem	$4,129,808,893	$10,683,020
Total Value in 2004	**$28,122,696,224**	**$90,449,726**

Data Sources:
2007 Global Insight Inc. Transearch 2004 Virginia Freight Flows.

10.2 Truck and Rail Mode Share, by Tons

Origin Location	Truck	Rail
Bedford County	1,885,091	209
Botetourt County	1,696,893	12,115
Roanoke County	3,261,429	288
Montgomery County	4,104,445	316
City of Roanoke	6,134,111	1,871
City of Salem	2,252,915	1,169
Total Value in 2004	19,334,884	15,968

Destination Location	Truck	Rail
Bedford County	2,801,871	7,263
Botetourt County	2,402,830	9,985
Montgomery County	5,359,526	42,770
Roanoke County	2,038,500	18,633
City of Roanoke	4,959,179	11,370
City of Salem	1,386,790	7,816
Total Value in 2004	18,948,696	97,837

Data Sources:
2007 Global Insight Inc. Transearch 2004 Virginia Freight Flows.