
2011

Seat Belt Use in Virginia

Final Report



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Virginia Department of Motor Vehicles' Highway Safety Office

By:

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- The Preusser Research Group (PRG) for providing assistance in 2009 with project questions, data analysis files, and sampling protocols. It should be noted that PRG's final report written in 2008 provides the firm foundation on which this report is written. Much of the language in this report describing the sample, sampling plan, and so forth comes *directly* from PRG's writing in 2008 as those authors were the first to revise the Virginia sampling plan after 15 years and were the first to collect new data under the revised system. Interested readers should review the original 2008 report from PRG¹ or our 2009² implementation, and then read this latest report. We maintain the original PRG language of design to ensure readers beginning their reviews of Virginia efforts have at least some basic understanding of the sampling plan regardless of which year they first review.
- The data collectors from Old Dominion University's psychology department supervised by Dr. Bryan Porter: Ann Edwards, Jessica Ladage, Molly Liechty, Mindy Mills, Elaine Murphy, Rachel Phillips, and Thomas Richardson.

The report's contents are the responsibility of the authors and not the Virginia Highway Safety Office or Old Dominion University.

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¹ Leaf, W. A., Casanova, T. D., & Chaudhary, N. K. (2008). *2008 seat belt use in Virginia*. Trumbull, CT: Preusser Research Group, Inc. for the Virginia Highway Safety Office, Richmond, Virginia.

² Porter, B. E., Johnson, K. L., Dozier, J. E., & Braitman, A. L. (2009). *2009 seat belt use in Virginia*. Norfolk, Virginia: Old Dominion University for the Virginia Highway Safety Office.

Summary

Virginia's seat belt use sampling plan was revised in 2008 under the direction of the Preusser Research Group (PRG) and Virginia's Highway Safety Office. This new plan, the first in 15 years, followed NHTSA guidelines³. The plan used and ranked by population the 95 "counties" in Virginia (made up of actual county jurisdictions and contiguous independent cities). NHTSA guidelines required sampling from areas that together made up 85% of the population. Thirty-four of these counties did so, and were selected for design inclusion.

PRG with state approval proceeded to divide Virginia into three regions so that all areas of the state were represented. The three regions were the North (i.e., areas in the DC metropolitan area), the Southeast (i.e., areas from Richmond to Virginia Beach), and the Southwest (i.e., remainder of the state)⁴. Once the sampling plan for site selections was implemented, 15 counties of the original 34 were randomly selected (with population-weighted probabilities) for further review: five in the North, four in the Southeast, and six in the Southwest. Within these 15 counties, 136 sites were sampled for observation. Thirteen of the 15 counties provided eight sites each for observation; 16 sites were sampled each from two counties with high proportions of state vehicle miles traveled (VMT).

Within each of the 15 counties, sites were sampled from four road functional class strata: interstates/expressways, large (primary) arterials, small (secondary) arterials, and collectors. Road segments were randomly selected from all qualifying segments within the county with probabilities proportional to VMT.

Data collectors were experienced research assistants from Old Dominion University (ODU) who have worked in other field projects observing seat belt use. They were trained on the observation protocol created by PRG (and modified slightly by ODU). Proper shoulder belt use for drivers and front outboard passengers in passenger cars were recorded separately, as well as their gender. Type of vehicle was recorded. Drivers' cell phone use and volume counts were also observed but these data were for a different focus than what is reported here. Observations were conducted during two weeks of June 2011 immediately following the statewide Click It or Ticket program. Belt use was observed for more than 22,000 drivers and outboard front seat passengers in more than 18,000 passenger vehicles.

Driver belt use was 82.0% and passenger belt use was 79.4%, with **a total statewide weighted belt use of 81.8%**. Further analysis found belt use was lowest on collector roads, lower among male occupants than female occupants, and lower among occupants of pickup trucks compared to all other vehicle types. Belt usage was higher in the North and Southeast than in the Southwest. It is important to note, however, that the use rate in Southwest increased significantly from 2010, whereas the other two regions' rates remained nearly constant.

³ National Highway Traffic Safety Administration. (n.d.) *Uniform criteria for state observational surveys of seat belt use (final rule for section 157 surveys: 23 CFR Part 1340)*. Retrieved from http://www.nhtsa.dot.gov/nhtsa/whatsup/tea21/GrantMan/HTML/19c_StBeltSurvyReg23CFR1340.html.

⁴ PRG named this region the Southwest to encompass the remainder and majority of Virginia. However, note that within Virginia "Southwest" has a different meaning for which areas are involved; Southwest to Virginians typically means the far western counties of the state, near the Tennessee and Kentucky borders.

Introduction

The material that follows until noted is reprinted nearly in full from PRG's 2008 final report. Edits were made as relevant to provide clearer documentation of 2011 activities, clarifications of 2008's initial PRG work, or to use past tense to reflect work completed previous to 2011. The reprinting here is necessary to ensure readers understand how the 136 Virginia sites were selected whether they read the original 2008 implementation or the 2011 work first.

This report documents the design, observation, and analysis methodology which was used to determine a single seat belt use rate for the Commonwealth of Virginia during its 2011 Statewide Seat Belt Use Survey. The survey was conducted by Old Dominion University (ODU) in partnership with the Virginia Highway Safety Office.

Virginia has had an approved sampling plan in place since 1992, which contained 120 sites in 38 of its counties and independent cities. In 2003, Virginia added another 20 sites to increase the statistical power of the plan. Technically, the incorporated cities within Virginia are not part of their surrounding counties. As such, when selecting the areas for incorporation into the plan, based on selecting 85% of the total population, Virginia treated the cities and counties as independent areas. That is, a city could be included but the surrounding county might be excluded or vice versa. That plan was based on earlier population figures and was in need of updating. Rather than simply redraw the road sample, a modified design which used a new sample of counties with the independent cities combined with their surrounding counties was adopted.⁵

Virginia had a total population of 7,642,884 persons, according to Census Bureau estimates for July 2006⁶. The state is divided into 134 counties and independent cities, with populations ranging from less than 3,000 to more than 1,000,000. When the cities are combined with their surrounding counties for the purposes of this design, there are 95 “counties” including one area consisting of only cities (Norfolk, Portsmouth, Virginia Beach, Chesapeake, and Suffolk). Thirty-four of the “counties” account for 85.2% of the total population. The observation sites were drawn from 15 of those counties; one more than NHTSA's sampling recommendations.

Virginia compiled a listing of federal, state, major city and county, and local road segments for the 34 counties. For each segment, the listings included segment length and adjusted AADTs. Segments were also classified by road function type including urban/rural distinction. This allowed development of road type strata. The result was that all necessary information was provided for developing a sampling plan according to NHTSA guidelines. In all, 136 observation sites were selected, with the number in each road use stratum-county combination being equal except for two instances where selected counties accounted for a larger segment of the DVMT for the state—the number of sites per stratum was doubled in those counties.

⁵ For the purposes of this design, the areas referred to as “counties” will be understood to include independent cities that fall within or may reasonably be considered an extension of the counties as defined within Virginia.

⁶ 2006 was the latest available data when PRG redesigned Virginia's sample in 2008. Census data for 2006 reported by PRG no longer match data reported by the U.S. Census Bureau via its website for Virginia for 2006. However, the data reported here do match those reported by the Virginia Department of Health for 2006. Regardless, discrepancies between the two sources were not likely to affect sampling or results calculations in any meaningful way.

Procedures

Overall Design in 2008 Affecting 2011 Observations

The 2008 design included six steps:

1. Defined counties to be made up of standard Virginia counties plus contiguous independent cities and a new “South East Cities” county made up of Norfolk, Virginia Beach, Portsmouth, Chesapeake, and Suffolk.
2. Divided the state into three regions, shown in Figure 1, roughly corresponding to the DC area in the “North,” the region from Richmond to Virginia Beach in the “Southeast,” and the remainder of the state “Southwest”; the resulting regions included approximately equal populations.
3. Selected counties for observation from those which totaled more than 85% of the state’s population, with selected counties distributed across the three regions so that all parts of the state were well represented.
4. Stratified road segments by combining related functional-use classes within each county to produce four road use strata. Allocated the number of sites for observation equally by stratum-county, except for the two counties that represented a disproportionately large portion of the state’s total VMT: Fairfax County and the newly constructed “South East Cities” county. For these counties the number of sites selected was doubled but remained equally-distributed across road strata.
5. Randomly selected specific road segments for observation, within stratum within county, from all qualifying segments with probabilities proportional to their VMT.
6. Developed belt use estimation procedures and computations based on the design and Section 157 reliability requirements.

County Selection

Table 1 lists the 34 most populous Virginia counties, ordered by population according to 2006 Census estimates. These 34 counties account for 85.2% of the state’s total population for 2006 that was estimated in 2008. Population figures for the remaining counties are given in Appendix A.

A sample of 15 counties was selected, and those 15 counties are in bold font in Table 1. According to NHTSA’s Section 157 sampling design suggestions, in the case of 34 qualified counties, a sample of about 14 counties for seat belt observations is appropriate. One more county than the minimum suggested by NHTSA was used to keep the proportion of selected counties within each region similar to the proportion of total counties within each region. The selection procedure involved dividing the state into three geographic regions, allocating by region the number of counties to be selected based on the number of qualified counties in the region, and within region making successive random selections with the odds of selection proportional to the county’s population.

Regions were identified by population and geography. The counties outside of Washington DC (North Region) and around Virginia Beach and Richmond (Southeast Region) tend to be more populated. The third region includes Roanoke and the Southwest portion of the State. The North region contains 11 qualified counties; Southeast has 8 counties, and Southwest has 15 counties. The North and Southeast regions each contain about 36% of the State’s total population. The Southwest region contains about 28% of the population.

Table 1. Top 34 Counties Ordered by 2006 Estimated Population

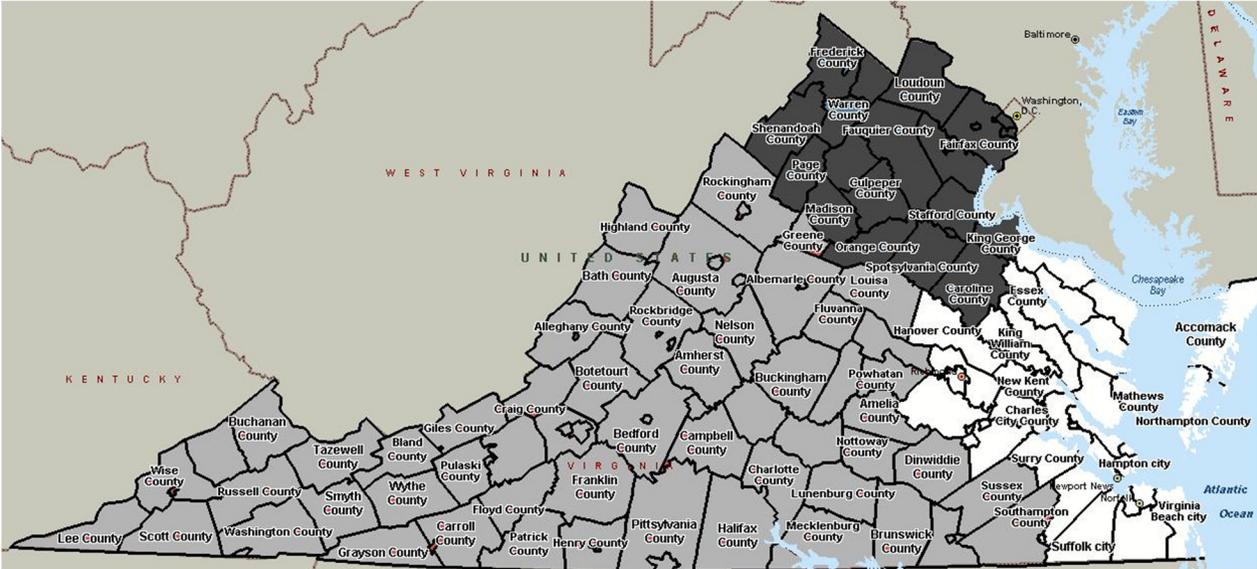
County	Region	2006 Population		Cumulative Population	
		N	%	Of Total	Of Top 34
Pulaski	SW	35,055	0.5%	15.3%	0.5%
Warren	N	36,102	0.5%	15.8%	1.1%
Halifax	SW	36,149	0.5%	16.2%	1.7%
Gloucester	SE	38,293	0.5%	16.7%	2.2%
Shenandoah	N	40,051	0.5%	17.3%	2.9%
Tazewell	SW	44,608	0.6%	17.9%	3.6%
Culpeper	N	44,622	0.6%	18.4%	4.2%
Wise	SW	45,548	0.6%	19.0%	4.9%
Franklin	SW	50,784	0.7%	19.7%	5.7%
Fauquier	N	66,170	0.9%	20.6%	6.8%
Washington	SW	69,480	0.9%	21.5%	7.8%
Henry	SW	71,153	0.9%	22.4%	8.9%
James City	SE	71,534	0.9%	23.4%	10.0%
Bedford	SW	72,756	1.0%	24.3%	11.2%
Prince George	SE	91,360	1.2%	25.5%	12.6%
Frederick	N	96,452	1.3%	26.8%	14.1%
Hanover	SE	98,983	1.3%	28.1%	15.6%
Montgomery	SW	99,066	1.3%	29.4%	17.1%
Pittsylvania	SW	107,087	1.4%	30.8%	18.8%
Rockingham	SW	113,449	1.5%	32.3%	20.5%
Augusta	SW	115,698	1.5%	33.8%	22.3%
Stafford	N	120,170	1.6%	35.4%	24.2%
Campbell	SW	120,387	1.6%	37.0%	26.0%
Albemarle	SW	132,350	1.7%	38.7%	28.1%
Spotsylvania	N	140,802	1.9%	40.6%	30.2%
Arlington	N	199,776	2.6%	43.2%	33.3%
Roanoke	SW	206,859	2.7%	45.9%	36.5%
Loudoun	N	268,817	3.5%	49.5%	40.7%
Chesterfield	SE	314,394	4.1%	53.6%	45.5%
York	SE	397,095	5.2%	58.8%	51.6%
Prince William	N	405,783	5.3%	64.2%	57.9%
Henrico	SE	477,312	6.3%	70.4%	65.3%
South East Cities*	SE	1,067,739	14.0%	84.5%	81.8%
Fairfax	N	1,180,638	15.5%	100.0%	100.0%
Top 34 Total		6,476,522	85.2%		
Virginia Total		7,603,539	100%		

* Includes the following cities: Norfolk, Portsmouth, Virginia Beach, Chesapeake and Suffolk
Bold-print counties were included in the sample.

The target sample of 15 counties was allocated across region roughly proportionally to the number of the 34 high-population counties in the region, i.e., 5 counties from the North region, 4 from the Southeast region and 6 from the Southwest region.

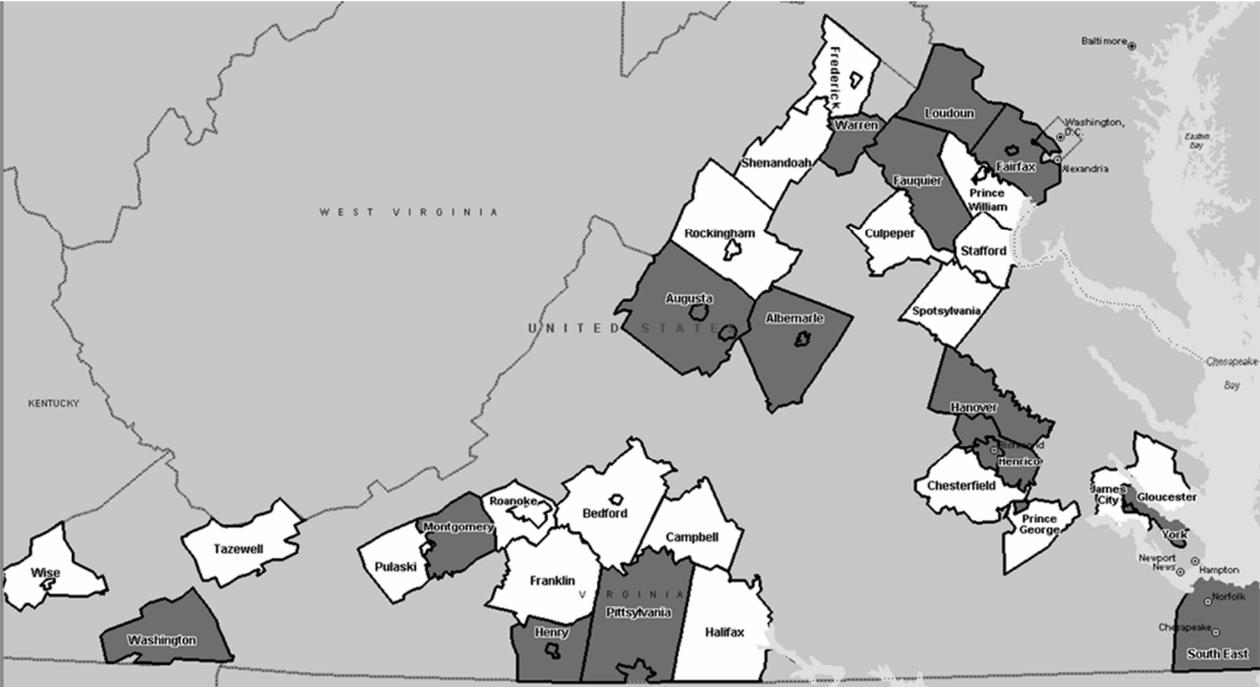
Counties were identified by region and their probability of selection was weighted according to their proportion of population of the 34 top-population counties in the region. First a county was selected by weighted-proportion random generation, then the county was removed from the pool. The remaining

counties were re-weighted according to the proportion of their populations among the remaining top-34 counties in their region. A second county was selected, etc. until the number of counties required for the region had been selected. Figure 1 shows the regions. Figure 2 Shows the 34 high-population counties as well as those selected (dark) and those not-selected (white).



Dark Gray = North (N); White = Southeast (SE); Lighter Gray = Southwest (SW)

Figure 1. Regional Break Down



White = Top-population county not selected; Dark = Top-population county selected

Figure 2. Top-Population Counties by Selection

Sampling Plan Development

The next step determined the distribution of the number of observation sites across counties.

For the 34 top-population counties, there were 35,400 miles of road segments with total DVMT of more than 161 million. The road segments included 2,000 miles of freeways and expressways, 1,600 miles of other major arterials, 3,000 miles of minor arterials, 6,900 miles of collectors, and about 21,700 miles of local roads. Data on all of these roadways were available to PRG for the development of this plan (from the Virginia Department of Transportation).

Of the listed segments, 17,400 miles and 99 million DVMT were within the sampled counties. Virginia roads are divided into 12 functional use classes following FHWA categories, from Rural Principal Arterial-Interstate to Urban Local. Local roads were eliminated from the sampling plan (local roads in the available data for the 15 sampled counties accounted for less than 6% of the DVMT despite their large number of miles). The numbers of road segments, excluding local roads, in the sample counties, organized by region, are shown in Table 2.

Table 2. Sampled County Traffic Information

Region	County	DVMT	% DVMT	# Segments	% Segments
North	Arlington	6,487,491	7	525	7
	Fairfax	24,329,819	25	1,400	18
	Fauquier	3,332,226	3	228	3
	Loudoun	6,046,790	6	349	4
	Warren	1,191,318	1	110	1
Southeast	Hanover	4,336,583	4	354	5
	Henrico	6,957,654	7	526	7
	South East*	23,611,495	24	1,767	26
	York	4,908,693	5	351	4
Southwest	Albemarle	4,207,492	4	387	5
	Augusta	4,095,185	4	533	7
	Henry	1,676,033	2	245	3
	Montgomery	2,819,540	3	280	4
	Pittsylvania	2,689,757	3	419	5
	Washington	2,473,702	2	359	5

* Includes the following cities: Norfolk, Portsmouth, Virginia Beach, Chesapeake and Suffolk.

The distribution of road segments across the 10 road functional use classifications (excluding Local) in the 15 sample counties is shown in Table 3. Some of these road segment classes were quite small. In order to produce categories that had significant numbers while still retaining meaningful distinctions, road segment classes were collapsed into just four strata: Interstates and Other Expressways (n = 1,913), Other Principal Arterials (n = 808), Minor Arterials (n = 2,015), and Collectors (n = 3,097).

DVMT figures were available for all the road segments in the Virginia database from the Virginia Department of Transportation and were used to guide the distribution of sites among the counties and road type strata.

The previous Virginia belt use plan prior to 2008 called for 140 total sites. In 2008, the number of sites was reduced to 136. The reduction of 4 sites was unlikely to substantially increase the relative error of estimate. In other states where PRG has been involved, designs with 100 - 150 sites routinely yielded relative errors of estimate well within NHTSA's requirement of less than 5%. Indeed, Virginia's relative standard error for 2011 with 136 sites was only 1.430%.

Table 3. Selected Counties; Number of Road Segments by Functional Class[†]

Region	County	Rural					Urban					Total
		Principal Arterial - Interstate	Principal Arterial - Other	Minor Arterial	Major Collector	Minor Collector	Principal Arterial - Interstate	Principal Arterial - Other Freeways or Expressways	Other Principal Arterial	Minor Arterial	Collector	
North	Arlington	0	0	0	0	0	158	20	57	173	117	525
	Fairfax	0	0	0	0	0	285	26	123	486	480	1,400
	Fauquier	32	28	18	114	36	0	0	0	0	0	228
	Loudoun	0	12	15	95	22	0	4	34	56	111	349
	Warren	19	4	12	33	10	0	0	12	13	7	110
Southeast	Hanover	27	2	15	64	71	62	0	11	29	73	354
	Henrico	4	0	0	2	0	223	0	49	142	106	526
	South East*	0	0	0	0	0	526	37	200	476	528	1,767
	York	16	0	4	5	0	84	9	34	104	95	351
Southwest	Albemarle	53	4	24	81	14	16	11	42	57	85	387
	Augusta	97	0	46	146	70	10	0	37	50	77	533
	Henry	0	6	5	53	15	0	8	32	62	64	245
	Montgomery	31	5	8	70	10	32	7	26	62	29	280
	Pittsylvania	0	19	27	113	61	0	7	47	71	74	419
	Washington	61	2	8	93	22	48	0	22	52	51	359
	Total	340	82	182	869	331	1,444	129	726	1,833	1,897	7,833

* Includes the following cities: Norfolk, Portsmouth, Virginia Beach, Chesapeake and Suffolk.

† Excludes Local Roads

Sites were distributed across counties such that two sites in each of the 4 categories of functional class were selected for each county, with two exceptions. Given the larger contribution to DVMT by Fairfax and the South East cities, the number of sites selected in these two areas was doubled (road strata remained equally distributed). This resulted in 8 sites each in 13 counties and 16 sites each in two counties.

Table 4 presents the distribution of belt observation sites by road strata across counties. This breakdown produces the total of 136 target sites.

Table 4. Observation Sites/Segments per County and Functional Road Stratum

Region	County	Interstates and Other Expressways	Other Principal Arterials	Minor Arterials	Collectors	Total
North	Arlington	2	2	2	2	8
	Fairfax	4	4	4	4	16
	Fauquier	2	2	2	2	8
	Loudoun	2	2	2	2	8
	Warren	2	2	2	2	8
Southeast	Hanover	2	2	2	2	8
	Henrico	2	2	2	2	8
	South East*	4	4	4	4	16
	York	2	2	2	2	8
Southwest	Albemarle	2	2	2	2	8
	Augusta	2	2	2	2	8
	Henry	2	2	2	2	8
	Montgomery	2	2	2	2	8
	Pittsylvania	2	2	2	2	8
	Washington	2	2	2	2	8
Total		34	34	34	34	136

* Includes the following cities: Norfolk, Portsmouth, Virginia Beach, Chesapeake and Suffolk.

Site Selection

The sample of roadway segments used as observation sites was randomly drawn from within county-stratum populations of road segments, with the probability of drawing any segment proportional to its proportion of the total DVMT within the county-stratum. In order to accomplish this, separately for each county-stratum “pool” of road segments, the following was determined:

1. Totaled the DVMT for the road segments in the county-stratum. For each segment, calculated the percentage its DVMT was of the total. With the segments in any order, computed cumulative percentages from the percentage of the first segment to 100%.
2. Generated a random number from a rectangular distribution between 0 and 100%.
3. Accepted as an observation site the first segment whose cumulative percentage was equal to or greater than the random number.
4. Removed that segment from the list, recomputed total DVMT and percentages and cumulative percentages, and returned to step 2.
5. Continued selecting until twice the required number of sites was selected, preserving the order of selection.

The sites first selected were used. In the event any sites proved unusable, the next site(s) in order were substituted. In the 2009 survey, ODU had to replace two sites with alternate locations from this substitution list. The alternates were the next listed substitutes within the same road strata. These alternates were also used in 2010 and 2011.

Seat Belt Usage Rate and Variability Calculations

Calculation of Overall Seat Belt Usage Rate

Seat belt use rates were calculated using formulas based on the proportion of the state's total DVMT (excluding local-road DVMT) "represented" by the site. Seat belt use rate calculations followed a four-step process.

First, estimated rates were calculated for each of the four road type strata within each county. The observed use rates for all of the sites within each stratum-county combination were combined by simple averaging, as shown in formula (1). Because the sites' original probability of inclusion in the sample was proportional to their DVMTs, averaging their use rates makes use of that sampling probability to reflect their different DVMTs.

$$P_{i(j)k} = \sum_{l=1}^{n_{i(j)k}} P_{i(j)kl} / n_{i(j)k} \quad (1)$$

where $i(j)$ = county i within region j , k = road type stratum, l = site within stratum and county, $n_{i(j)k}$ = number of sites within the stratum-county combination, and $P_{i(j)kl}$ = the observed seat belt use rate at site $i(j)kl$ = $B_{i(j)kl}/O_{i(j)kl}$, where $B_{i(j)kl}$ = total number of belted occupants (drivers and outboard front-seat passengers) observed at the site and $O_{i(j)kl}$ = total number of occupants whose belt use was observed at the site.

Second, a county-by-county seat belt use rate, $p_{i(j)}$, was obtained by combining county-stratum seat belt use rates across strata within counties, weighted by the stratum's relative contribution to total county DVMT:

$$P_{i(j)} = \frac{\sum_k DVMT_{i(j)k} P_{i(j)k}}{\sum_k DVMT_{i(j)k}} \quad (2)$$

where $DVMT_{i(j)k}$ = the DVMT of all road segments in stratum k in county $i(j)$ and $P_{i(j)k}$ = seat belt use rate for stratum k in county $i(j)$.

In the third step, weighted seat belt use rates for each region were obtained by combining and weighting the rates from the sampled counties in each region by their DVMT values and probabilities of being selected:

$$P_j = \frac{\sum_i DVMT_{i(j)} W_{i(j)} P_{i(j)}}{\sum_i DVMT_{i(j)} W_{i(j)}} \quad (3)$$

where $DVMT_{i(j)}$ = the total DVMT for county i in region j for all roadways other than local roads and $W_{i(j)} =$

the inverse of the probability of the county's selection: $W_{i(j)} = \frac{\sum_{l=1}^{N_{(j)}} Pop_{l(j)}}{n_{i(j)} Pop_{i(j)}}$ where $N_{(j)}$ = the number of top-

34 population counties in region j , $Pop_{l(j)}$ = U.S. Census estimates from July 1, 2006 of the population of top-34 counties in the region, $Pop_{i(j)}$ = U.S. Census estimates from July 1, 2006 of the selected county's population, and $n_{i(j)}$ = the number of counties selected in the region.

Finally, the statewide belt use rate was calculated by combining the region proportions weighted by their proportion of statewide DVMT:

$$p = \frac{\sum_{j=1}^3 DVMT_j p_j}{\sum_{j=1}^3 DVMT_j} \quad (4)$$

The result is a weighted combination of the individual site seat belt use rates.

Calculation of the Standard Error of the Overall Seat Belt Use Rate

Standard error of estimate values were estimated through a jackknife approach, based on the general formula:

$$\hat{\sigma}_{\hat{p}} = \left[\frac{n-1}{n} \sum_{i=1}^n (\hat{p}_i - \hat{p})^2 \right]^{1/2} \quad (5)$$

where $\hat{\sigma}_{\hat{p}}$ = standard deviation (standard error) of the estimated statewide seat belt use proportion \hat{p} (equivalent to p in the notation of formula 4; the overall weighted statewide belt use rate), n = the number of sites, i.e., 136, and \hat{p}_i = the estimated statewide belt use proportion with site i excluded from the calculation.

The relative error rate, i.e., $\hat{\sigma}_{\hat{p}} / \hat{p}$, was calculated, as was the 95% confidence interval, i.e., $\hat{p} \pm 1.96 \hat{\sigma}_{\hat{p}}$. These values are reported for the overall statewide seat belt use rate.

Calculation Implementation

An Excel spreadsheet was developed and used by PRG in 2008 in which raw data observations were recorded and belt use and variability calculations were performed. Calculation of seat belt usage rates followed the formulas provided above. PRG shared this Excel file with ODU. ODU personnel worked with PRG in 2009 to ensure accuracy in data and analysis was continued. Lessons learned were continued and applied in 2010 and 2011. For the statewide belt use figure which is suitable for reporting to NHTSA, all observations are included, i.e., all passenger vehicle types (i.e., *not* commercial vehicles, buses, or motorcycles), in-state and out-of-state vehicles, drivers, and outboard front seat passengers. It is normal that seat belt usage rates are calculated for subsets of interest, e.g., drivers alone, passengers alone, drivers and/or passengers within vehicle type, or males or females alone. The same calculations performed for the overall rate can be done for subsets of interest, substituting for the site $p_{i(j)kl}$ the site-subset $p'_{i(j)kl}$. However, weights based on all-vehicle DVMTs may not capture the traffic patterns of driver or vehicle-type subsets. Absent proper weights for the subsets, either all-vehicle DVMT weighted or un-weighted calculations may be used as long as the limitations are noted. The authors of this report indicate when data used are unweighted, raw numbers. Otherwise, the data discussed are weighted assessments.

Observations

From this point forward, the text includes more specific details of 2011 work adapted from PRG's 2008 project. While the content is very similar between PRG and ODU implementations, interested readers should refer to each document separately to compare the minor protocol differences in how data were collected.

Observers

Observers were hired and trained by ODU. All had conducted seat belt observations for ODU and Dr. Bryan Porter in previous projects, and were trained to the specific requirements of Virginia belt use observation. These observers performed all field data collections. Prior to any data collection, instructors reviewed the procedures with all observers in a training session which included on-street practice.

Scheduling

Observations were conducted during all seven days of the week during daylight hours, between 0700 and 1900. NHTSA guidelines allow sites to be clustered for efficient travel schedules, with random assignment of the first site within the cluster to a time slot and the remaining sites organized thereafter.⁷ Clusters were operationally defined for ODU as county, as sites within county were geographically close and it was most efficient to send observers to work a given county on a given day.

When ODU took over the contract for the survey in 2009, the leaders had the observed site list as published by PRG in the Appendix (and reproduced here in this report) but not the particular order of observation. Therefore, the ODU team first randomly assigned each county to be observed on a weekday or weekend. PRG considered weekday groupings and weekend groupings to be appropriate, and ODU followed suit. Further, NHTSA's report on 2008 seat belt use rates in the nation showed weekdays and weekends to have similar rates of use⁸, which when the authors selected the order of observations in 2009 made it reasonable to treat weekdays as a time group and weekends as a time group. Half of the Fairfax and the "South East" sites were randomly assigned to be observed on a weekday, and the other half on a weekend given there were double the number of sites in these areas. Further, ODU ensured that the same number of sites per strata for these two areas was observed on weekends as weekdays.

Then, once the county was assigned to weekday or weekend, one site within each was randomly assigned to one of eight time periods within the day: 0700 – 0830, 0830 – 1000, 1000 – 1130, 1130 – 1300, 1300 – 1430, 1430 – 1600, 1600 – 1730, and 1730 – 1900. This became the "anchor site" for the county. The route and schedule for the county's site observations worked around this anchor site at the specified time, such that observers worked sites most efficiently to ensure that the anchor site was collected at the time assigned. Other sites were observed throughout the other time slots listed. Essentially, this procedure while performed for travel efficiency per NHTSA allowances also created a near randomly scheduled observation protocol as a given site's observation time was determined by (a) weekday or weekend as randomly assigned and (b) where the site was in relation to a randomly assigned anchor site to a specific time period.

To remain consistent with 2009 and 2010, 2011 observations for each county remained on the same assigned day type (weekend or weekday) and in fact exact same day of week. The order of observations in each county and the time of observation were also the same. Had weather or other obstacle interfered, sites would have been rescheduled to the same day type and equivalent time period. However, despite some poor weather that threatened various sites in 2011, none had to be rescheduled to a different collection period.

⁷ See NHTSA (n.d.) referenced previously, section 1340.4(c).

⁸ NHTSA. (2009). *Seat belt use in 2008 – Overall results* (Research Note: DOT HS 811 036). Washington, DC: Author. Retrieved from <http://www-nrd.nhtsa.dot.gov/Pubs/811036.PDF>.

Data collectors were given packets of travel documents for each county assigned to them. They were directed to given counties' sites either on weekends or weekdays as assigned above, and were given the order of sites to observe each day (with order determined by the "anchor site"). Each collector was given driving directions and GPS coordinates, a Google Earth map of the road segment with suggested observation locations within the segment, and instructions on which direction of travel to observe. Direction of travel was determined by PRG in 2008 (see Appendix D: the site information lists a road segment with "from" and "to" information which indicates direction of observation). Once on site, observers had control over where to safely park and stand to observe the assigned traffic. Observers usually collected data at six sites per day; typically this meant collecting six sites in a county on day 1, with day 2 the observer picking up the remaining two sites for the county en route to the next county for another four sites before day 3.

Each of the 136 sites was observed for 55 minutes. The first and last 5-minute periods were reserved for traffic volume estimations for other work not reported here. The middle 45-minute period was used for seat belt observations of passenger vehicles' drivers and front-seat outboard occupants.

Site Observation Details

Sites, including alternatives, were provided by PRG's 2008 project. Details such as road name or number and begin and end points were compiled (see Appendix D). For street locations, and assuming they represented segments with generally equivalent traffic along the entire segment, suitable observation points were sought toward the middle of the segments but any location along the segment was accepted (safe places to park and work were the primary criteria). Locations were preferred that were near intersections which may cause vehicles to slow, increasing the time for observation and improving data completeness and accuracy. For limited access highway segments, traffic was typically observed on an exit ramp and a few times at an entrance ramp where it was slow enough to allow reliable, accurate, and safe measurements.

Data Collection

Data collection occurred per instructions in Appendix B. All passenger vehicles (passenger cars, pickup trucks, vans, and SUVs) were eligible to be observed. A paper and pencil recording method was used. For each site, information was documented, including city/town/area identifier, exact roadway location, date, day of week, time, weather condition, direction of traffic flow and lane(s) observed. Observations covered all through lanes. If traffic was too heavy to observe all lanes, then time was split among the lanes to give each through lane equal observation time. Information collected included belt use by driver and outboard front passenger (when present). Additionally, vehicle type and occupant sex were recorded. These variables are reported here in 2011 as comparison to PRG and ODU observations in 2008 - 2010, respectively. In addition, cell phone use of the driver was recorded for exploratory analyses but those data are for another project and are not presented in this report. (See sample datasheet in Appendix C).

Observer Instructions

The detailed procedures in Appendix B were distributed to observers. They reviewed them and then lead researchers also reviewed them during training sessions. In general, the procedures indicated:

- Length of observation period was exactly 45 minutes (with 5 pre and post minutes for volume measurements not related to the data presented here);
- Qualifying vehicles included cars, pickup trucks, sport utility vehicles, and vans (vans and mini-vans were observed separately, but combined for analyses);
- Qualifying occupants included the driver and the outboard, front seat passenger (children in that position who were in a child restraint seat and internal harness, but not booster seat, were excluded from the survey; child passengers who were in a booster seat or not and should have used a shoulder belt were observed);
- Each lane of traffic in the prescribed direction was observed for equal amounts of time;

- If traffic was too heavy for all qualifying vehicles to be recorded, a reference point some distance away on the road was chosen; when an observation was completed, the next qualifying vehicle to pass the reference point was the next one to be observed;
- If rain, heavy fog, or other inclement weather occurred, the observer halted the survey for up to 30 minutes while conditions cleared; if bad weather persisted, the site was rescheduled (no sites had to be rescheduled due to weather in 2011); and
- If construction or other activity compromised a site, the observer was to move to a nearby location (on the same street) and observe the same stream of traffic; if this was not feasible, an alternate site was selected (this procedure was not required in June 2011).

Building a Data Set

Observation data were entered by Old Dominion University assistants working for Dr. Bryan Porter in the department of psychology. A complete check of the data revealed few errors, all of which were corrected pre-analysis. The data set was analyzed using Microsoft Excel (spreadsheet and formulae provided by PRG and verified by ODU).

Official 2011 Virginia Statewide Use Rate Survey Results

Observers recorded belt use information on 18,483 drivers and 4,266 outboard front seat passengers across 136 sample sites within 15 counties. Table 5 displays the number of drivers and passengers observed per county, and in addition, separates the counties by region.

Table 5. Number of Observed Front Seat Occupants per County.

Region	County	Drivers	Passengers	Total
North	Arlington	1,151	199	1,350
	Fairfax	3,357	762	4,119
	Fauquier	682	112	794
	Loudoun	1,415	202	1,617
	Warren	840	357	1,197
Southeast	Hanover	819	339	1,158
	Henrico	1,649	253	1,902
	South East	2,335	562	2,897
	York	1,272	242	1,514
Southwest	Albemarle	917	187	1,104
	Augusta	739	172	911
	Henry	586	197	783
	Montgomery	928	209	1,137
	Pittsylvania	740	203	943
	Washington	1,053	270	1,323
Statewide Total		18,483	4,266	22,749

The overall belt use rate, for drivers and passengers combined, measured **81.8%** in 2011 (Standard Error = 1.170%; Relative Standard Error = 1.430%; 95 Percent Confidence Interval 79.5 – 84.1%).

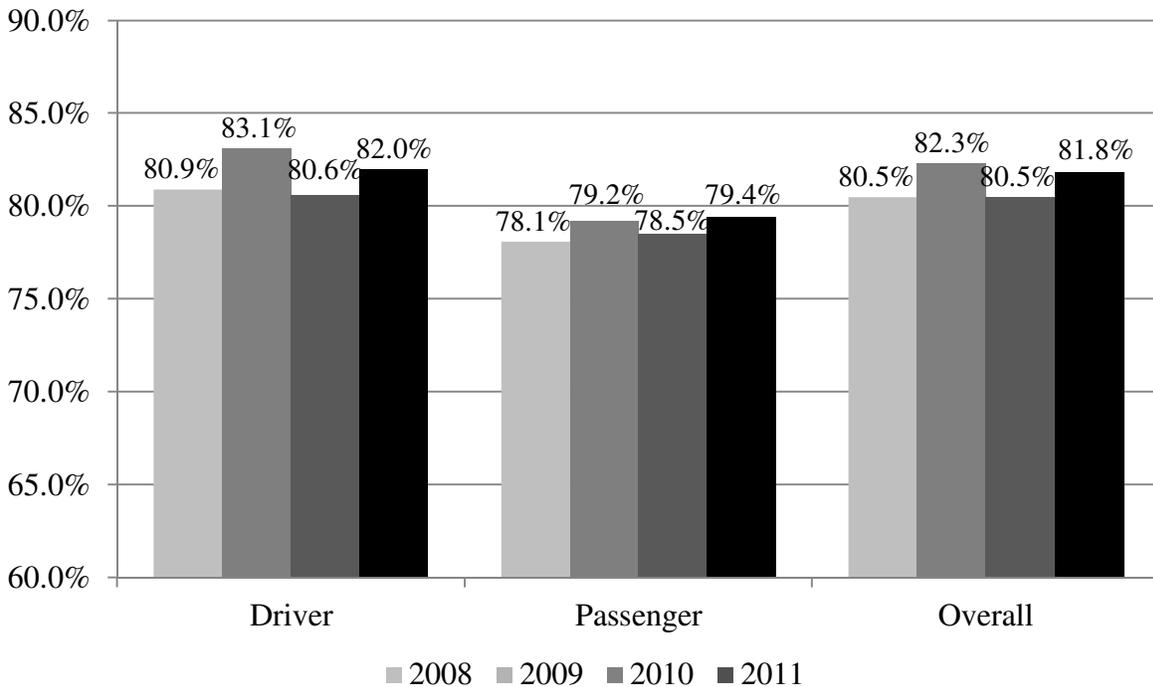


Figure 3. Weighted Seat Belt Use Rate in Virginia by Type of Front Seat Occupant and Overall

This rate is compared to the previous three years in Figure 3 and to all years during which an annual survey has been conducted in Figure 4. Referring to Figure 3, in particular, the 2011 overall use rate was second highest in the four years that this sample design has been active. Both drivers and passengers showed increases from 2010, with drivers up 1.4 points and passengers up 0.9 point.

The increase from 2010 was not statistically significant in a mathematical sense. However, it must be emphasized that yearly rates in and of themselves are not useful or reliable to inspect. It is more useful to look at trends in the data, and the 2011 rate helps further understand Virginia’s recent belt-use trend. From 2004 until 2008 the base rate fluctuated around 80%; since 2009 the base rate appears to have risen to a new level of 81% (see Figure 4). However, additional years of data are required to validate this shift.

Virginia Safety Belt Use Rates 1987 - 2011

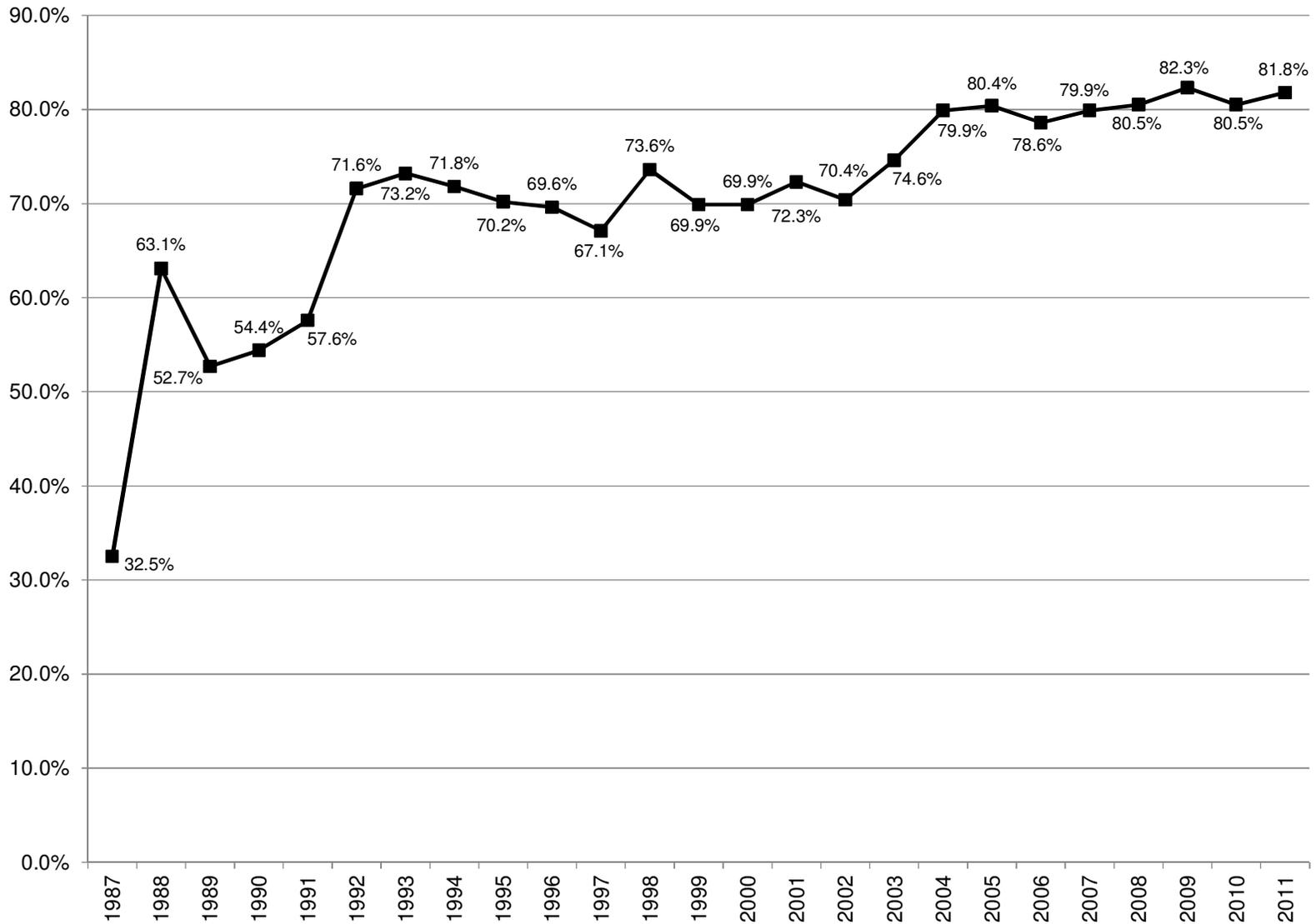


Figure 4. Virginia Statewide Observational Survey of Belt Use Results: 1987 – 2011

Descriptive Information

Belt use differed by roadway type. With only one exception (minor arterials in 2008), three of the major road types carrying the heaviest traffic showed belt use rates above 80%, with interstates/expressways showing, more reliably, rates above 82 - 83%. Observers measured lowest usage on collectors (in the 79% range), which are roadways usually found around neighborhoods in city limits. In fact, rates on collector roads have not changed in the four years of this sampling design and remain a critical road type for programmatic focus to increase belt use.

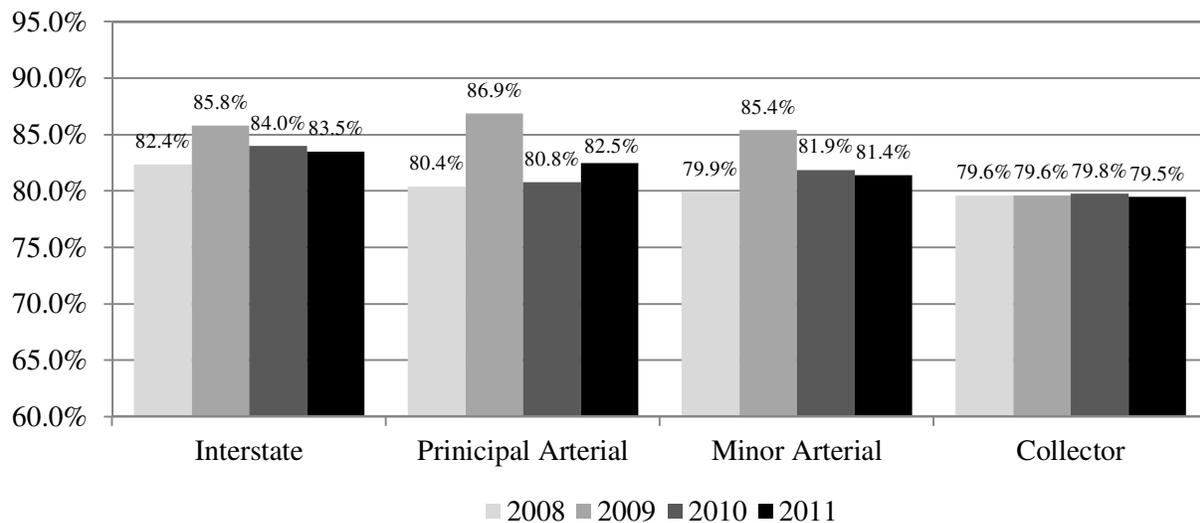


Figure 5. Observed Belt Use Rate by Roadway Type

In 2011, the survey results indicated that belt use was lower among male occupants compared to females (Figure 6), however men for the first time in this design surpassed 78% use. Females' use rates have fluctuated within three percentage points across these years yet remaining in the mid 80% range.

For males, specifically, passengers were less likely to be belted compared to male drivers (Figure 7). Male passengers measured almost six points lower than their driver counterparts, however their improvement from 2010 to 2011 was dramatic: a nearly six-point increase.

Less of a difference was found in belt use among female drivers and female passengers. Female driver and passenger use rates were essentially equivalent in 2011 (Figure 8). Passenger use rates have been similar since 2008 while driver use rates have fluctuated about four percentage points (there was also a 1.3 point increase in 2011 from 2010).

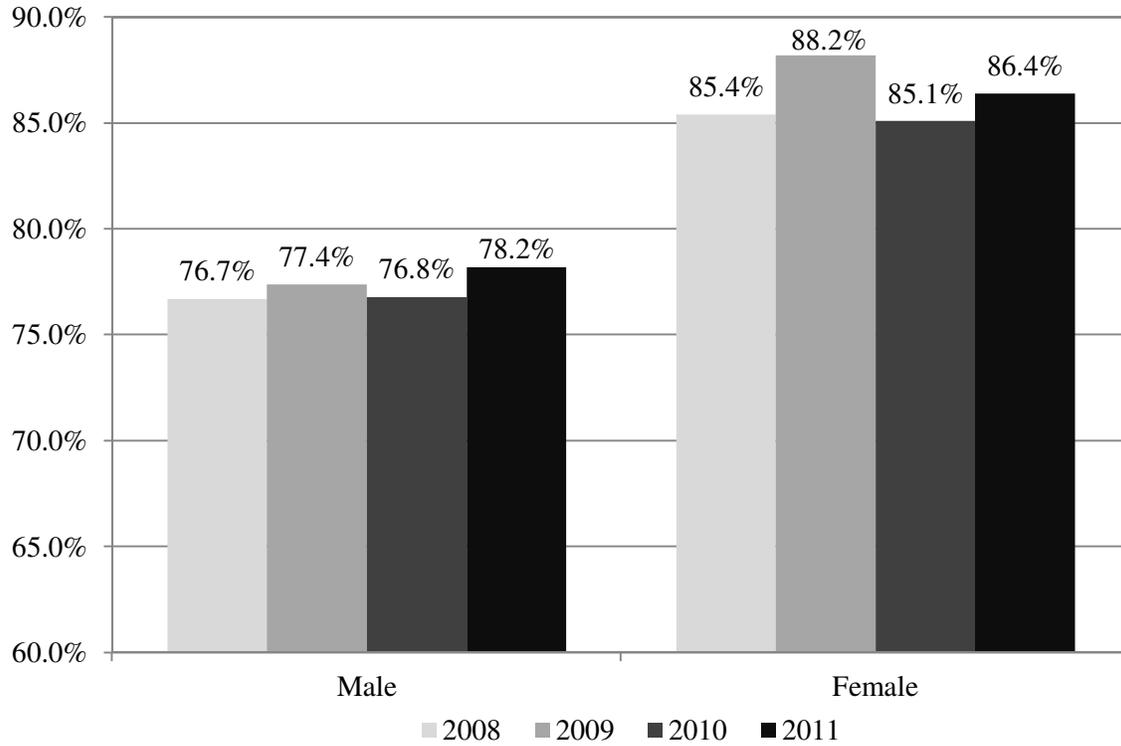


Figure 6. Observed Occupant Belt Use Rate by Gender

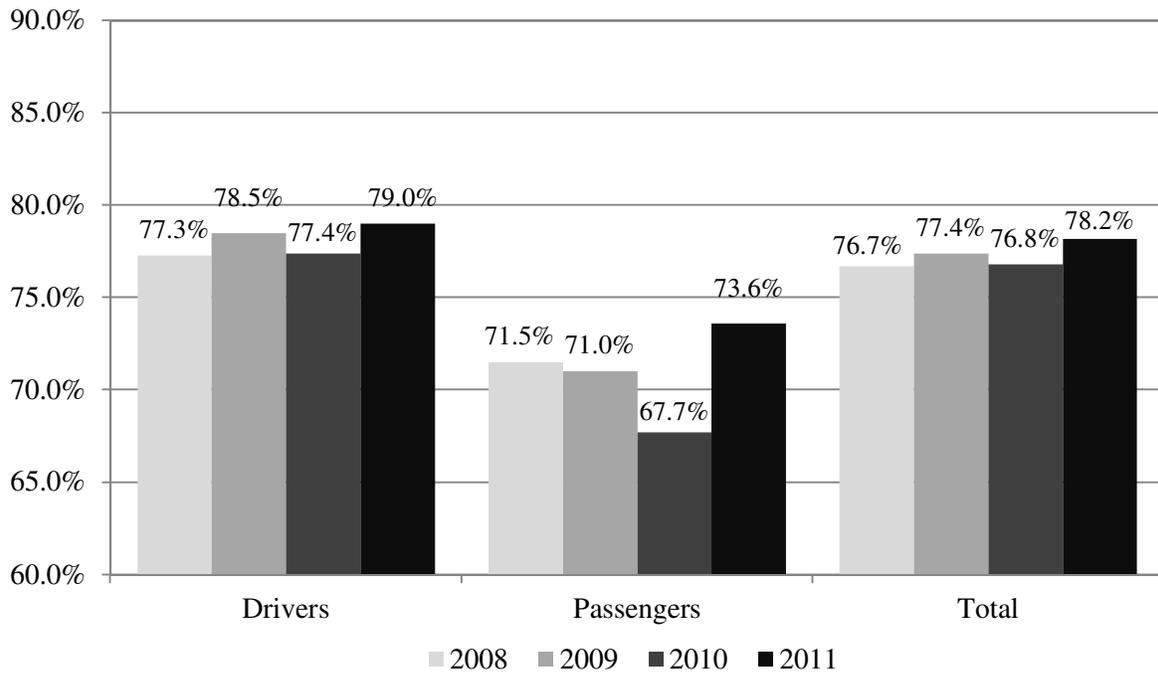


Figure 7. Male Observed Belt Use Rate by Seating Position

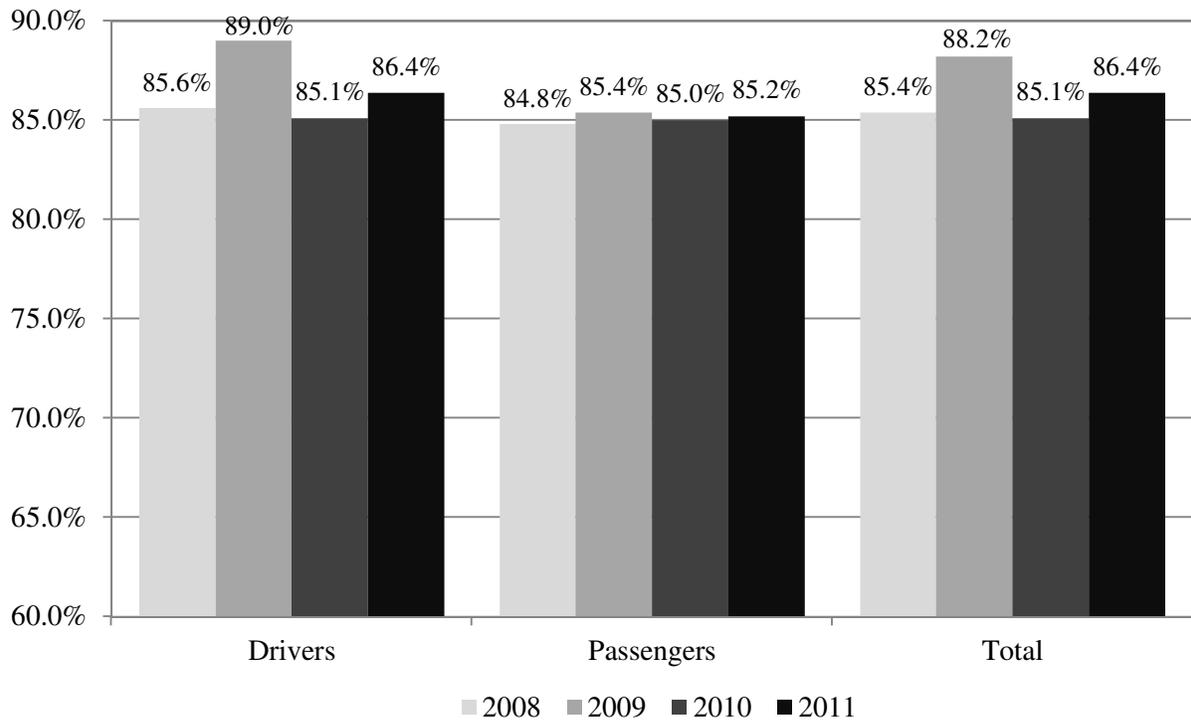


Figure 8. Female Observed Belt Use Rate by Seating Position

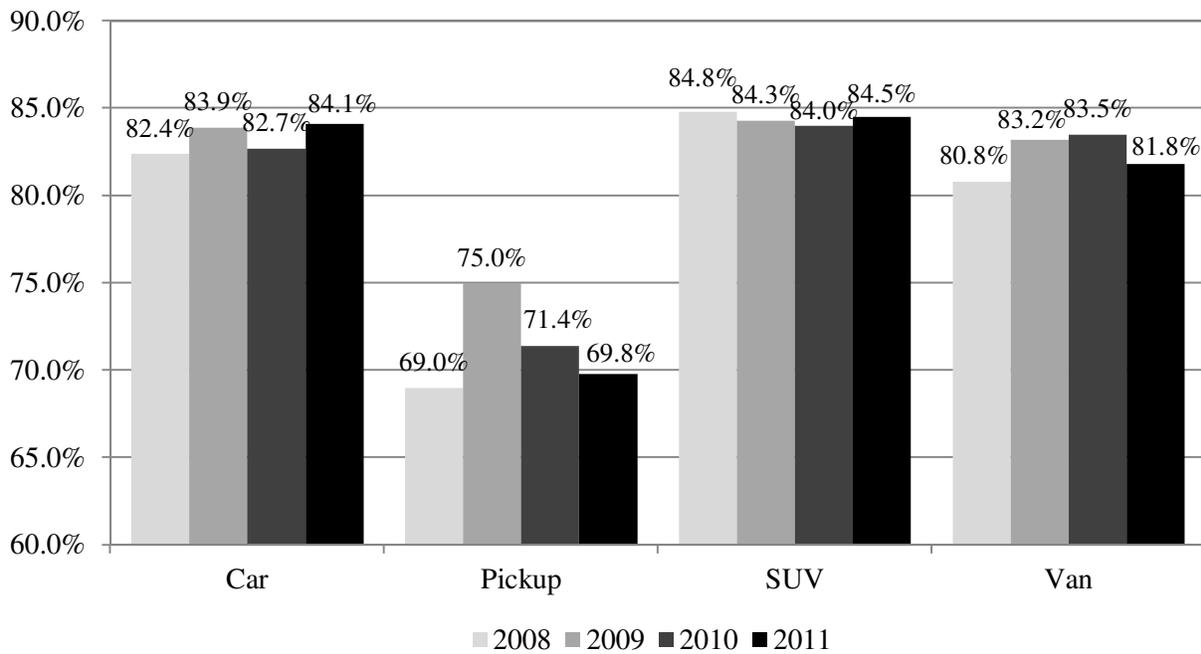


Figure 9. Observed Belt Use Rate by Vehicle Type

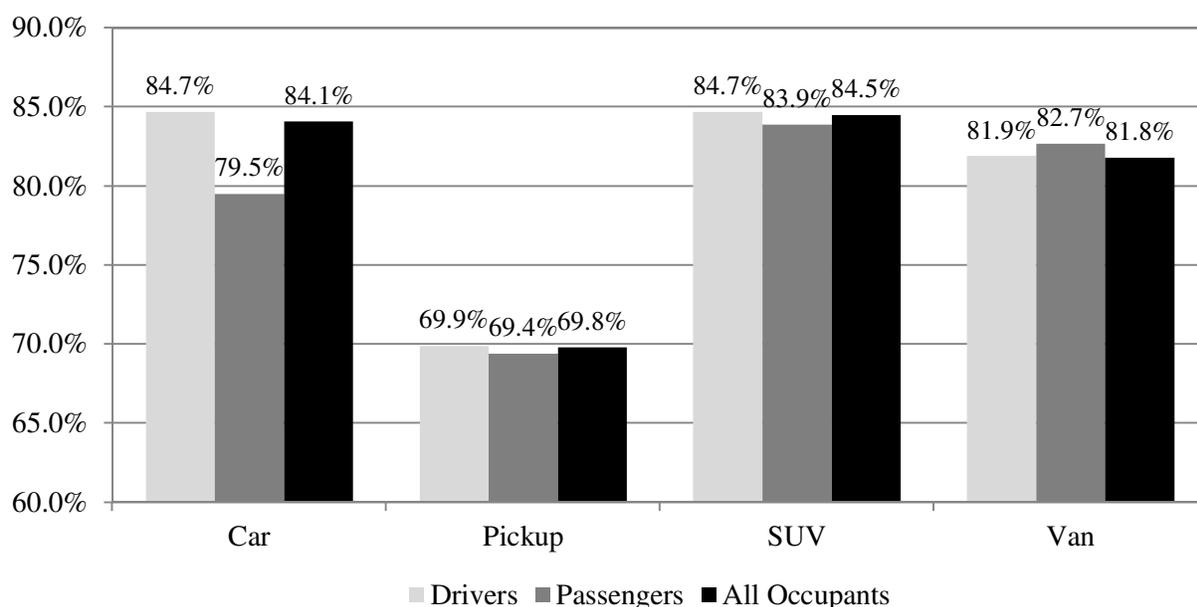


Figure 10. Observed Belt Use Rate by Vehicle Type and Seating Position 2011

Results from the 2011 survey indicated a consistent, lower belt use among occupants in pickup trucks when compared to other vehicle types (Figure 9). In fact, the use rate for pickup truck occupants *decreased* from 2010 levels and is once again in the 60 percent range (69.8%). Occupants in pickup trucks were mostly male (82.7% of occupants in pickup trucks were male), and as previously indicated, male occupants were less likely to be observed wearing a seat belt than were females. Occupants in other vehicle types had similar use rates, with the lowest of these observed for mini-vans/vans (81.8%). In addition, looking only at 2011, drivers and passengers had similar use rates for all vehicle types except passenger cars, in which passengers had rates more than five percentage points lower than drivers (Figure 10).

Regional Information

In 2011, belt use was higher in the North (84.0%) and Southeast regions (82.8%) than in the Southwest (76.3%). Figure 11 shows regional comparisons from 2008 – 2011. While the North and Southeast rates have held mostly steady over these years, the Southwest region had shown significant decreases in use rates *until* 2011. From 2010 to 2011, the Southwest showed a 4.9 percent point increase which was the major reason for Virginia’s belt use rate increase from 80.5% to 81.8% in the same time frame (Southwest is weighted less than the North and Southeast due to population and VMT differences that are used in the current sampling design, which is why Southwest must show bigger increases – or decreases – than the other regions to impact Virginia’s reported rate).

Figure 12 shows 2011’s total occupant belt use by county grouped within region. *Use rates shown in the graph are based on each county’s raw data. The county use rates presented in the figure below should be interpreted with caution.* The survey design was not intended to provide county-by-county belt use rates but rather a single statewide use rate. Observation sites were not sampled in such a way to reflect weighted estimates of county belt usage, but rather statewide representation.

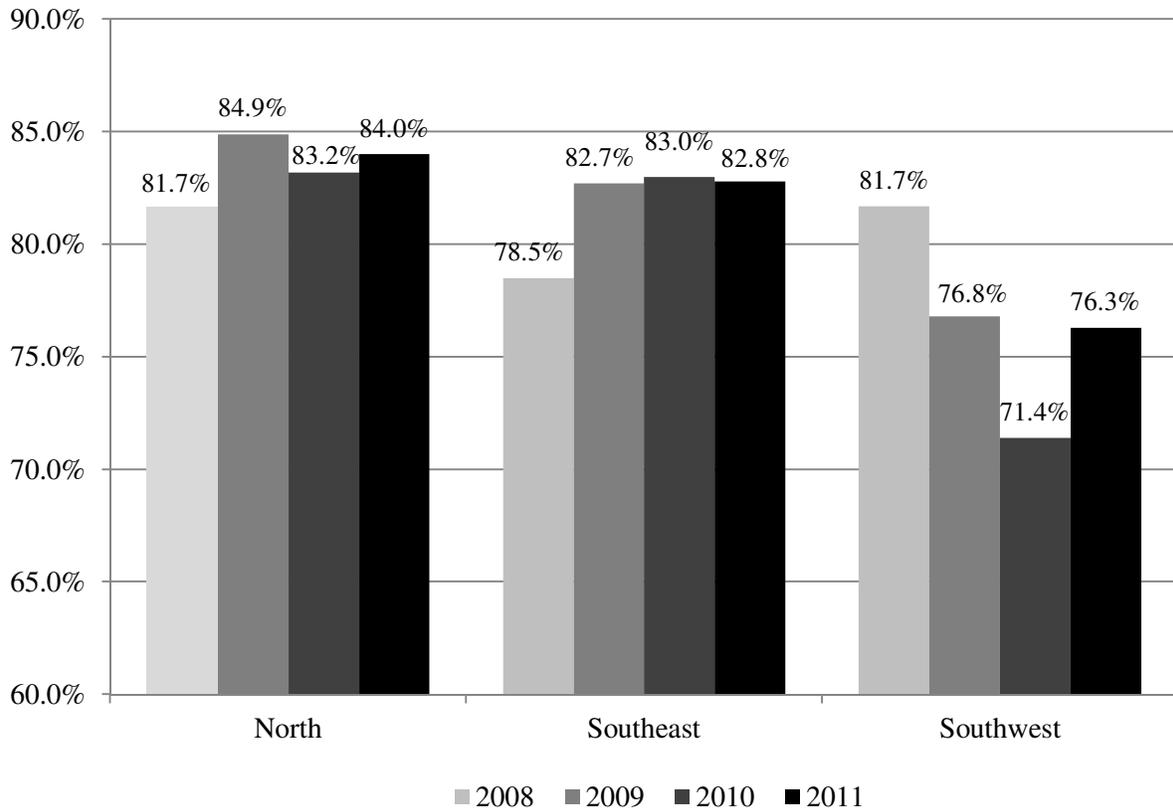


Figure 11. Observed Belt Use Rates by Region

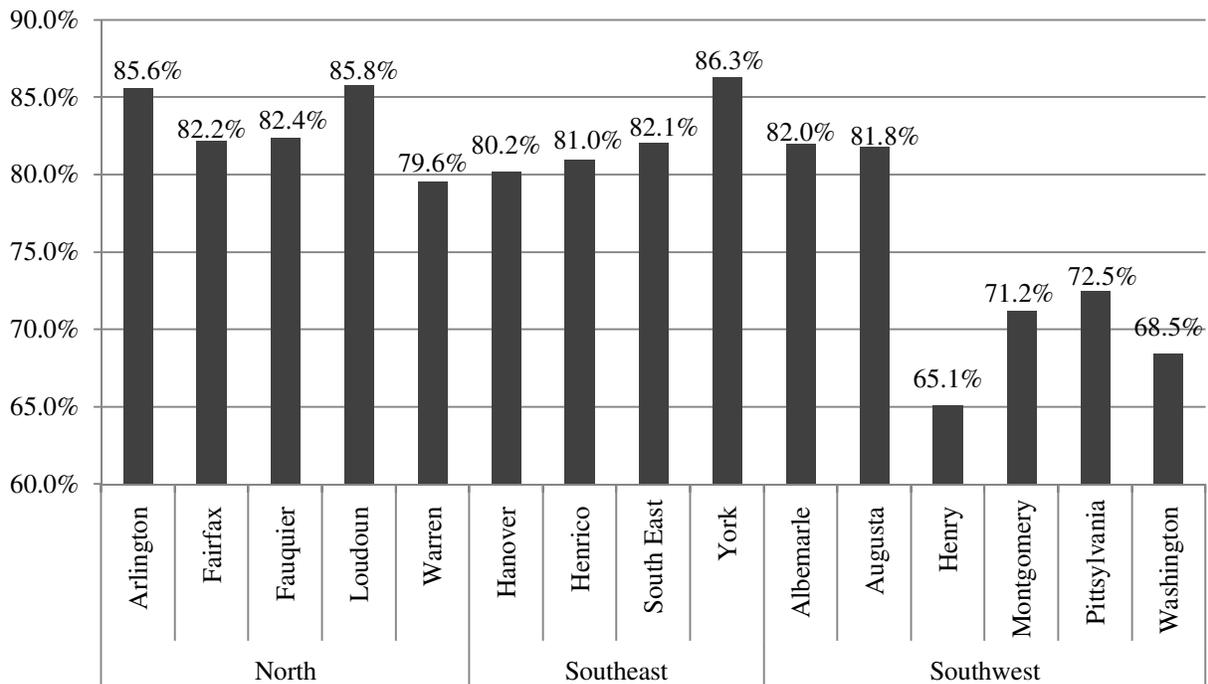


Figure 12. Observed Belt Use Rate by County and Region

From Figure 12 on, *all remaining figures are unweighted, raw numbers and as above should be interpreted with caution.* Figures 13 – 15 show 2008 to 2011 comparisons for each county within each region. Most of the counties in the North and Southeast regions increased in use rate from 2008 levels. However, only two of the Southwest counties had higher rates in 2011 than those in 2008. While the region overall had a significant increase in the rate from 2010 to 2011, the current use is still lower than what was observed in 2008 by almost five percent points.

The statewide survey also found a consistent pattern of lower observed belt use among pickup occupants regardless of region (Figure 16), although pickup truck occupants in Southwest had the lowest use at 60.7%. Further, 2008 to 2011 comparisons of belt use across vehicle types for each region are given in Figures 17 – 19. Only in the Southwest region did seat belt rates increase for *all* vehicle types from 2010 to 2011 (even for pickups, which improved to 60.7% from 58.8%).

Figure 20 shows the consistency in lower belt use of males when compared to females on a regional level. Rates for both genders fell or held steady from 2010 to 2011 for the North and Southeast; both men and women showed increases in the same time period in the Southwest.

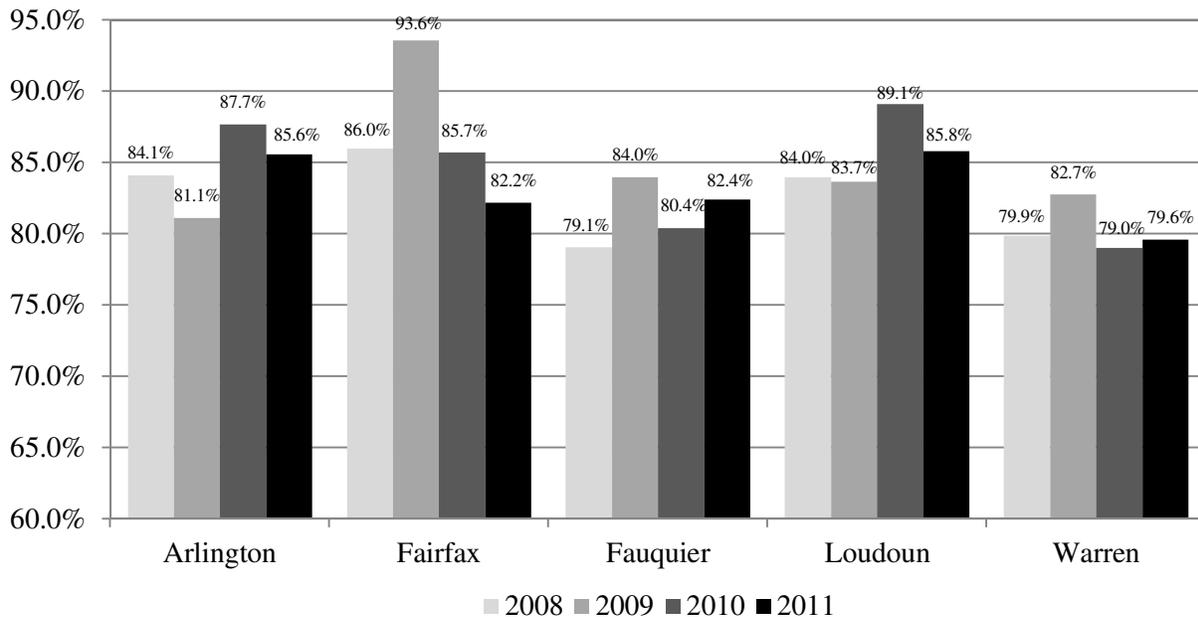


Figure 13. North Regional Observed Belt Use Rate by County

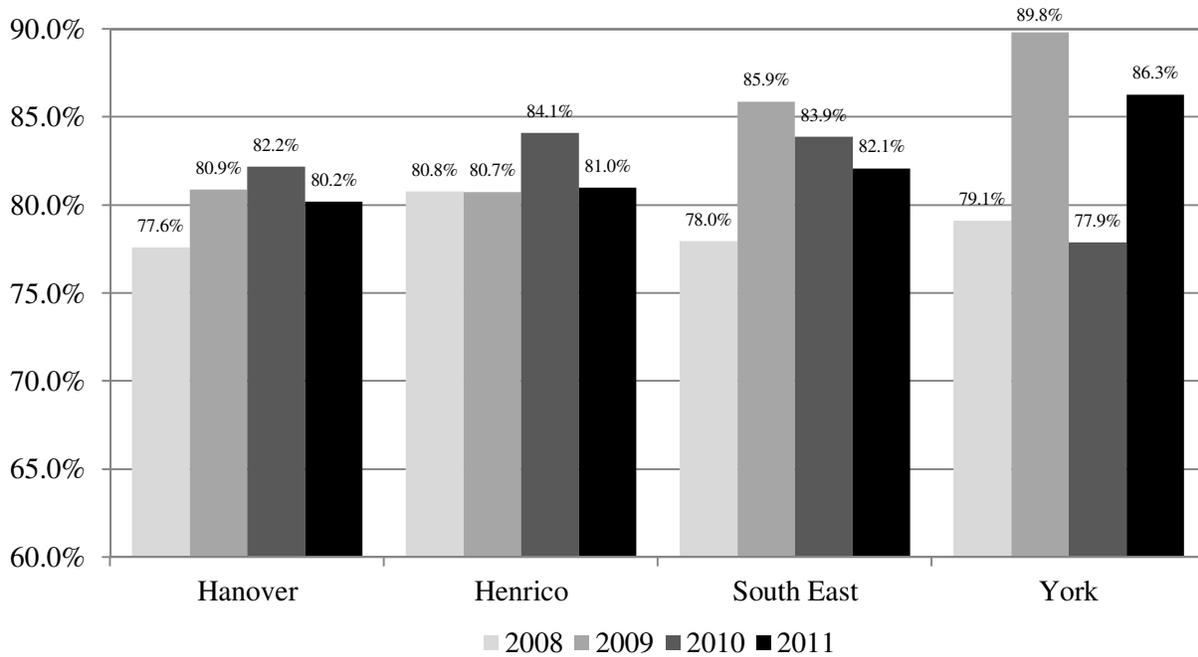


Figure 14. Southeast Regional Observed Belt Use Rate by County

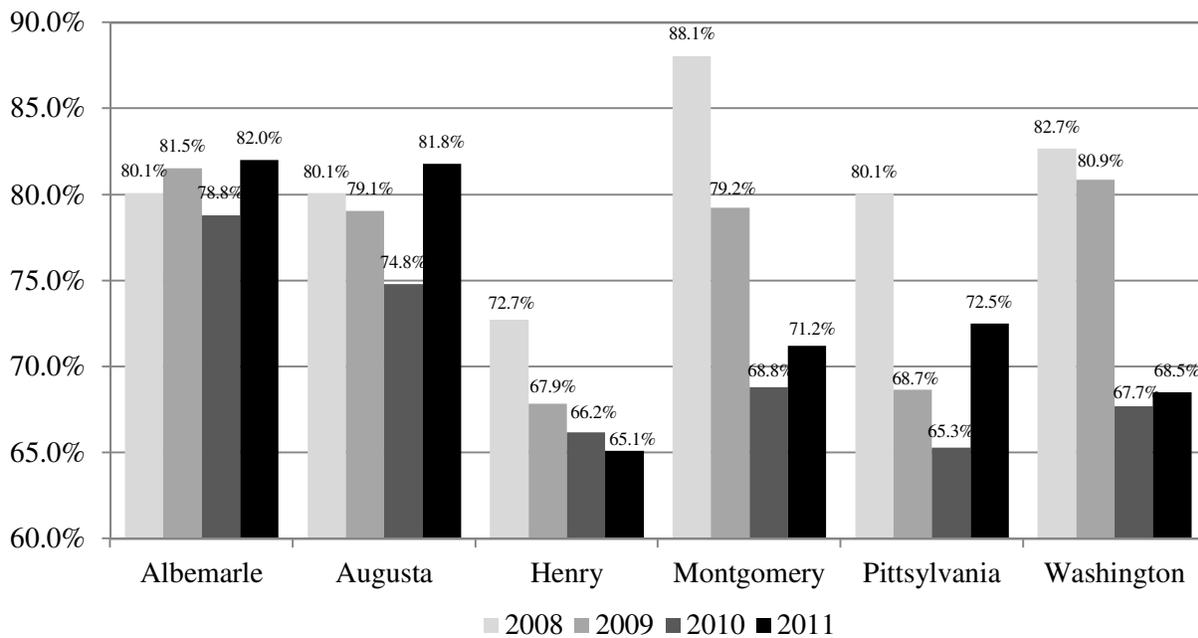


Figure 15. Southwest Regional Observed Belt Use Rate by County

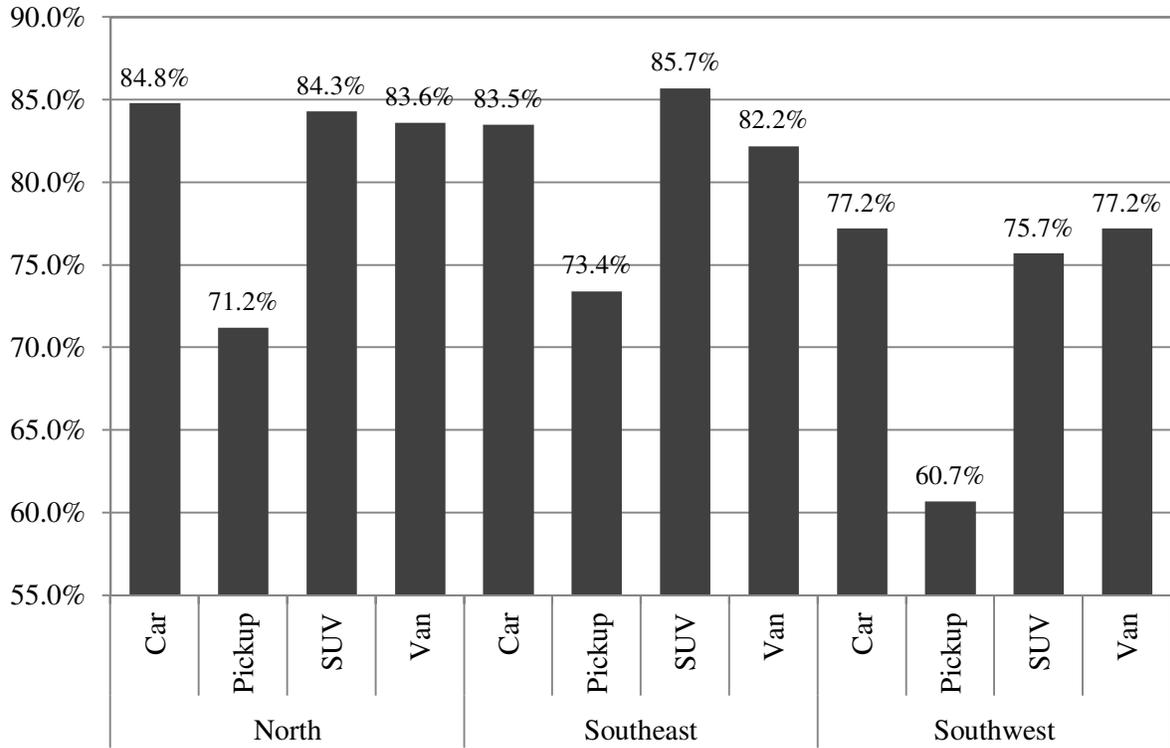


Figure 16. Observed Belt Use Rate by Vehicle Type and Region 2011

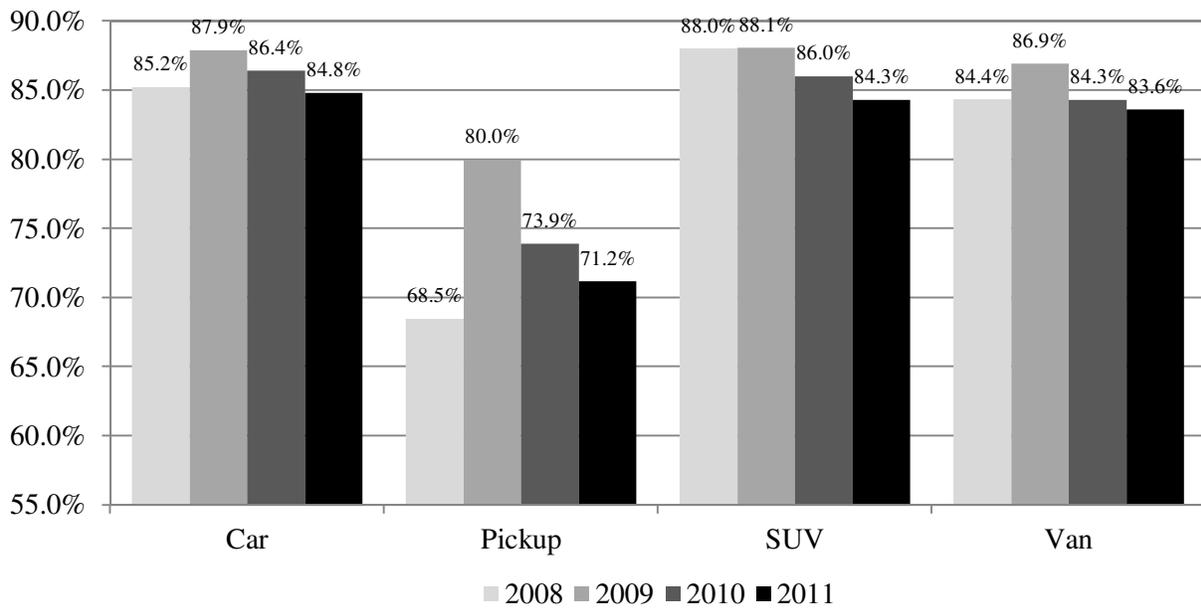


Figure 17. North Regional Observed Belt Use Rate by Vehicle Type

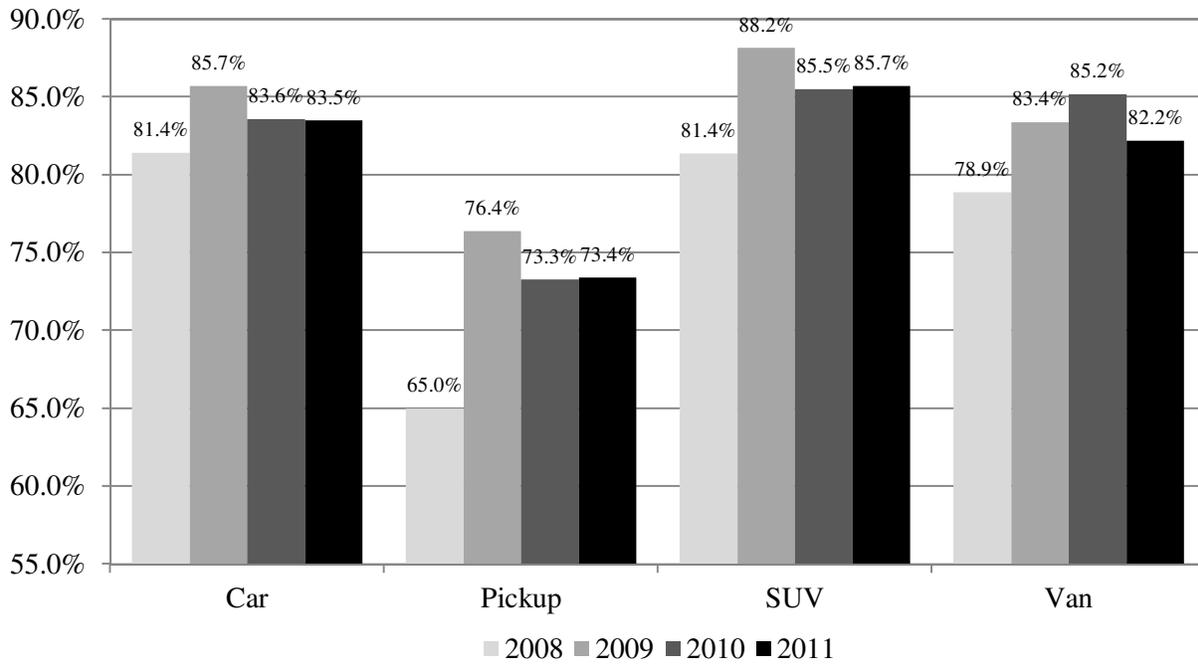


Figure 18. Southeast Regional Observed Belt Use Rate by Vehicle Type

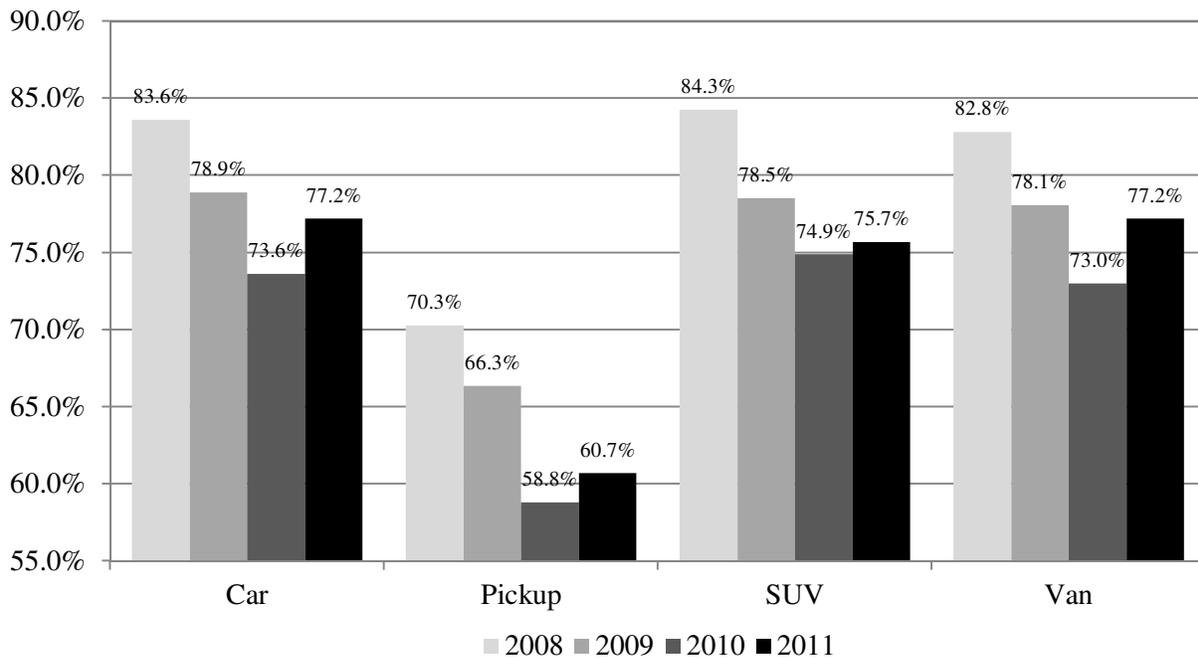


Figure 19. Southwest Regional Observed Belt Use Rate by Vehicle Type

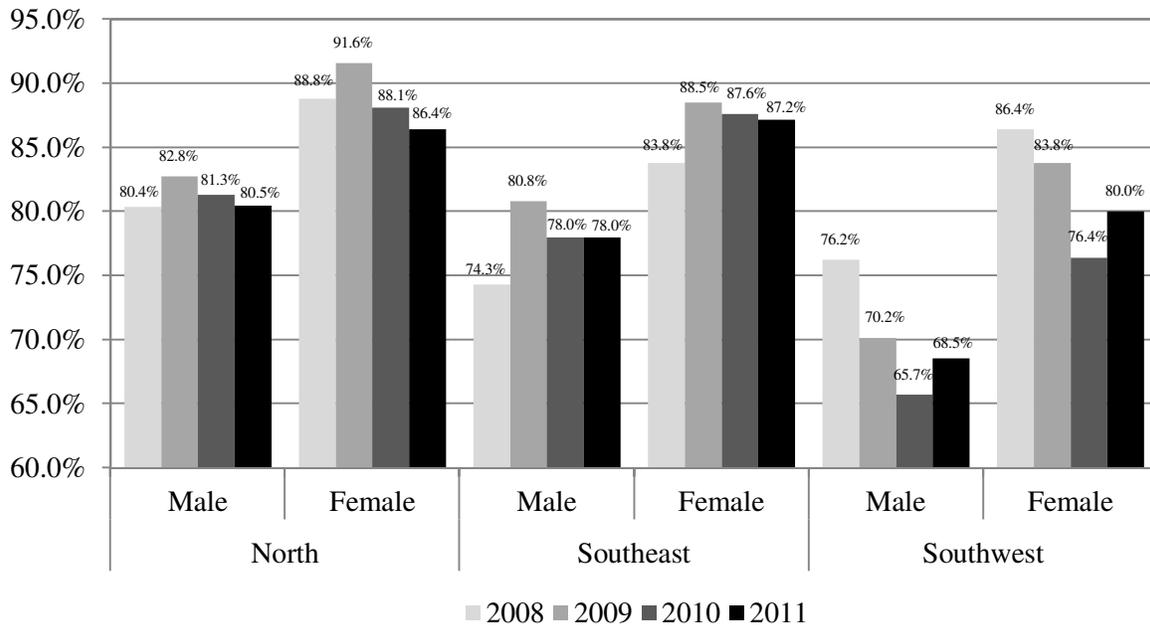


Figure 20. Observed Belt Use Rate by Gender of Occupant and Region

Discussion

The 2011 seat belt use rate for Virginia was 81.8%, an increase from 2010 of 1.3 percent points. Virginia’s overall use rate from 2004 through 2008 hovered around 80%, with some years higher and others lower. Since 2009, there appears to be a “new baseline” for Virginia of 81% toward which 2011 contributed, but conclusive evidence of the baseline shift of one percent point in these recent years requires additional data for verification. Virginia continues to deploy high-intensity media and enforcement to affect change in occupant protection, and such a shift in the baseline use rate – if substantiated - results from the numerous agencies and partners involved with state officials. Future efforts to increase belt use in Virginia, and to reach this last 19 - 20% of non-users, should consider new strategies to augment traditional media and enforcement programs. Adding positive messaging, cultural design, and social marketing to the traditional punishment-based media and enforcement strategies may help speed up improvements in occupation protection.

In addition, belt use rates were higher in the North and Southeast regions of Virginia, with lower rates observed in the Southwest. The Southwest, however, significantly increased in 2011 and was the major reason the overall Virginia rate also increased. Males and occupants of pickup trucks continued to have lower rates than females and occupants of other passenger vehicles. Further, collector roads remain the lowest-use-observed areas and should be targeted more by future program elements.

In all, the authors hope that this report provides useful information for state officials to focus future behavior-change programs to increase seat belt use. Virginia continues to work toward improving its road safety and the results here should help it enhance successes by knowing where and with whom to direct programs to increase seat belt use.

Appendix A. 61 Least Populous Virginia Counties per 2006 Estimates Taken in 2008

County	Region	Pop.	% Pop.	Cum. % Pop.
Highland	SW	2,510	0.0%	0.0%
Bath	SW	4,814	0.1%	0.1%
Craig	SW	5,179	0.1%	0.2%
Bland	SW	6,903	0.1%	0.3%
King and Queen	SE	6,903	0.1%	0.3%
Surry	SE	7,119	0.1%	0.4%
Rappahannock	N	7,203	0.1%	0.5%
Charles City	SE	7,221	0.1%	0.6%
Richmond	SE	9,142	0.1%	0.7%
Mathews	SE	9,184	0.1%	0.9%
Cumberland	SW	9,465	0.1%	1.0%
Middlesex	SE	10,615	0.1%	1.1%
Essex	SE	10,633	0.1%	1.3%
Lancaster	SE	11,519	0.2%	1.4%
Sussex	SW	12,249	0.2%	1.6%
Charlotte	SW	12,491	0.2%	1.8%
Amelia	SW	12,502	0.2%	1.9%
Northumberland	SE	12,820	0.2%	2.1%
Lunenburg	N	13,219	0.2%	2.3%
Northampton	SE	13,609	0.2%	2.4%
Madison	N	13,613	0.2%	2.6%
Appomattox	SW	14,128	0.2%	2.8%
Clarke	N	14,565	0.2%	3.0%
Floyd	SW	14,789	0.2%	3.2%
Nelson	SW	15,161	0.2%	3.4%
King William	SE	15,381	0.2%	3.6%
Nottoway	SW	15,572	0.2%	3.8%
Buckingham	SW	16,099	0.2%	4.0%
Dickenson	SW	16,182	0.2%	4.2%
Greensville	SW	16,631	0.2%	4.4%
New Kent	SE	16,852	0.2%	4.7%

County	Region	Pop.	% Pop.	Cum. % Pop.
Westmoreland	SE	17,188	0.2%	4.9%
Giles	SW	17,403	0.2%	5.1%
Greene	SW	17,709	0.2%	5.3%
Brunswick	SW	17,938	0.2%	5.6%
Patrick	SW	19,212	0.3%	5.8%
Goochland	SW	20,085	0.3%	6.1%
Prince Edward	SW	20,530	0.3%	6.4%
King George	N	21,780	0.3%	6.7%
Alleghany	SW	22,673	0.3%	7.0%
Grayson	SW	22,841	0.3%	7.3%
Scott	SW	22,882	0.3%	7.6%
Lee	SW	23,787	0.3%	7.9%
Page	N	24,104	0.3%	8.2%
Buchanan	SW	24,409	0.3%	8.5%
Fluvanna	SW	25,058	0.3%	8.8%
Dinwiddie	SW	25,695	0.3%	9.2%
Southampton	SW	26,614	0.4%	9.5%
Caroline	N	26,731	0.4%	9.9%
Powhatan	SW	27,649	0.4%	10.2%
Wythe	SW	28,640	0.4%	10.6%
Russell	SW	28,790	0.4%	11.0%
Carroll	SW	29,450	0.4%	11.4%
Louisa	SW	31,226	0.4%	11.8%
Orange	N	31,740	0.4%	12.2%
Botetourt	SW	32,228	0.4%	12.6%
Amherst	SW	32,239	0.4%	13.1%
Mecklenburg	SW	32,381	0.4%	13.5%
Smyth	SW	32,506	0.4%	13.9%
Rockbridge	SW	34,533	0.5%	14.4%
Isle of Wight	SE	34,723	0.5%	14.8%
Total Pop.		1,127,017		

Appendix B. Seat Belt Observation Procedures (ODU Adaptations)

The total observation period will consist of 45 minutes of driver and passenger seat belt use observations.

Driver and Passenger Seat Belt Use Observation Session

- Qualifying vehicles include passenger automobiles, pickup trucks, sport utility vehicles, jeeps, or vans (private, public and commercial; *ODU Note: mini-vans were coded separately from vans, but were combined for analyses reported here*). Vehicles with separate cargo areas (e.g., pickup trucks), whether the areas are open or covered, should be coded as “pickups”; Jeeps, Broncos, Blazers, and similar vehicles should be coded as SUVs. Eligible vehicles should be observed regardless of the state in which they are registered.
- Belt use will be observed for front seat occupants only. Observe and record data for the driver and passenger in the right front seat. If there is more than one front seat passenger, observe only the “outside” passenger. Do not record data for passengers in the back seat or for a third passenger riding in the middle of the front seat.
- If a child is present in the front seat in a child restraint seat except booster seat, do not record anything. However, children riding in the front seat, regardless of age, who are not in child restraint seats or are in booster seats should be observed as any other front seat passenger. (*ODU Note: The authors added the booster seat language as this child seat is categorically different from harness-based seats in that it requires the use of a shoulder strap; observers recorded safety-belt use using the shoulder strap component.*)
- Each observation period will last for exactly 45 minutes. (*ODU Note: Five minutes before and after the 45-minute observation period were used for volume estimations, but those data are not reported here.*)

The following procedures will be used in conducting observations of seat belt use:

1. As you observe a qualifying vehicle, record the type of vehicle (car, truck, SUV, or van; *ODU Note: mini-vans and vans were coded separately but combined for analyses in this report*) and the sex (male or female) and shoulder restraint use (yes or no) of the front seat occupants (driver and front seat “outside” passenger only).
2. If you notice a lap belt in use without a shoulder belt, it should be recorded as not restrained. Only shoulder belts are to be counted.
3. If the person has the shoulder strap under his/her arm or behind the back, record this as not restrained.
4. Observe traffic in each lane for an equal amount of time, and in the direction specified, throughout the 45-minute observation time-period.
5. In many situations, it will be possible to observe every vehicle in the designated lane. However, if traffic is too heavy for you to observe every vehicle, you should determine a reference point up the road. After the current vehicle has been coded, select the next vehicle to pass the reference point in the appropriate lane as the next one to be coded.
6. Do not observe if it is raining or foggy or if there is other inclement weather which precludes safe and effective observation. If the weather is unsuitable when you would start or becomes unsuitable, do not collect data. Find a dry place and wait 30 minutes to see if the weather improves (*ODU Note: PRG used 15 minutes; the authors here used 30 minutes after determining there was sufficient time in the day to wait*). If the weather improves enough, begin observing again and extend the observation period to make up for the time missed. Otherwise, you will have to reschedule the site. (Note: you may observe in light fog, drizzle, or mist). (*ODU Note: Lead researchers were consulted before sites were abandoned due to weather; none were rescheduled in 2011.*)
7. If more than one data sheet is used, staple the sheets together at the end of the observation period and note the number of sheets used at the top of the first data form.
8. It may happen that the site you are assigned is seriously compromised due to construction or other activity. If this occurs, you may move one block in any direction on the same street such that you are observing the same stream of traffic that would have normally been observed had there been no obstruction. If moving one block will not solve the problem, then do not conduct the observation. An alternate site will be selected and observed at a future time. (*ODU Note: Lead researchers verified site locations and placements prior to collections; movement away from these sites would have been carried out with consultation before the collector adjusted his/her position; no repositions were required in 2011.*)

Appendix C. Virginia Seat Belt Observation Form (ODU Adaptations)⁹

State Summer Safety Belt Observation Form

Observer: _____ Primary or Secondary: _____
 Date: _____ Start Time: _____
 Day of Week: _____ End Time: _____
 Site Number: _____ Site: _____

Observed From: _____

Number of Lanes: _____

Notes: _____

Total Observation = 45 minutes
 Observation Times per Lane if Congested
 1 lane = 45 minutes 3 lanes = 15 minutes each
 2 lanes = 22.5 minutes each 4 lanes = 11.25 minutes each

Volume 1: _____

Volume 2: _____

	Lane	Vehicle Type					Driver		Passenger		Driver		Weather		
		<small>C Car</small>	<small>T Truck</small>	<small>S SUV</small>	<small>V Van</small>	<small>M Mini-Van</small>	Gender	Belt Use	Gender	Belt Use	Cell Use				
1		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
2		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
3		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
4		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
5		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
6		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
7		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
8		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
9		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
10		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
11		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
12		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
13		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
14		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
15		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
16		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
17		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
18		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
19		C	T	S	V	M	M	F	Y	N	M	F	Y	N	
20		C	T	S	V	M	M	F	Y	N	M	F	Y	N	

⁹ All lanes were observed simultaneously unless there was congestion. If there was congestion, observers used the time per lane key listed in the header of the datasheet. Also, while observers coded vans separate from mini-vans, these were combined into “vans” for analysis purposes reported in this document.

Appendix D. Virginia Site List

Note: Bold print Site IDs were observed in 2011.

County	Site Id	Road Type	Description
Albemarle	19101	Interstate/Freeways/Expressways	IS-64() from US 250 near Yancy Mills to 02-637
Albemarle	19102	Interstate/Freeways/Expressways	IS-64() from Urban Boundary to 02-616 Black Cat Rd
Albemarle	19103	Interstate/Freeways/Expressways	US-250(Monacan Trail Rd) from US 29; Bus US 250 Ivy Rd to WCL Charlottesville
Albemarle	19104	Interstate/Freeways/Expressways	US-250(Ivy Rd) from Functional Class Change to US 29; Bus US 250 Ivy Rd
Albemarle	19105	Interstate/Freeways/Expressways	IS-64() from Nelson County Line to US 250 Near Yancy Mills
Albemarle	19106	Interstate/Freeways/Expressways	IS-64() from 02-631 5th St to SR 20 Scottsville Rd
Albemarle	19201	Other Principle Arterials	US-29(Seminole Trail) from 02-1520 Hollymeade Rd to 02-649 Airport Rd. Proffit Rd
Albemarle	19202	Other Principle Arterials	US-29(Seminole Trail) from NCL Charlottesville to 02-631 Rio Rd
Albemarle	19203	Other Principle Arterials	US-29(Seminole Trail) from 02-631 Rio Rd to 02-1520 Hollymeade Rd
Albemarle	19204	Other Principle Arterials	US-29(Seminole Trail) from 02-649 Airport Rd. Proffit Rd to 02-1510 Camelot Dr
Albemarle	19205	Other Principle Arterials	US-29(Monacan Trail Rd) from Nelson County Line to 02-692 Plank Rd
Albemarle	19206	Other Principle Arterials	US-250(Richmond Rd) from SR 20 Stony Point Rd to I-64 East of Charlottesville
Albemarle	19301	Minor Arterial	104-3409(Meade Ave) from E Market St to High St E
Albemarle	19302	Minor Arterial	2-631(Rio Rd West) from US 29 Seminole Trail to 02-743 Hydraulic Rd
Albemarle	19303	Minor Arterial	SR-240(Crozet Ave) from US 250 Rockfish Gap Trnpk to 02-810; Three Notchd Rd
Albemarle	19304	Minor Arterial	SR-20(Scottsville Rd) from 02-708 Red Hill Rd to Urban Boundary
Albemarle	19305	Minor Arterial	SR-20(Scottsville Rd) from Urban Boundary to 02-742 Avon St
Albemarle	19306	Minor Arterial	US-250(Ivy Rd) from SR 240 Three Notchd Rd to 02-637 Woods Rd
Albemarle	19401	Collector	2-606(Dickerson Rd) from 02-649 Airport Rd to Functional Class Change
Albemarle	19402	Collector	SR-53(Thomas Jefferson Pkwy) from 02-729 Milton Rd to Fluvanna County Line
Albemarle	19403	Collector	2-691(Jarmans Gap Rd) from 02-611; Greenwood Rd to 02-1215 Killdeer Lane
Albemarle	19404	Collector	2-631(Rio Rd East) from 02-652 Brook Rd to US 29 Seminole Trail
Albemarle	19405	Collector	SR-6(Irish Rd) from 02-627 Porters Rd to SR 20 W. Scottsville Rd
Albemarle	19406	Collector	104-3413(2nd Street South East) from E South St to E Water St
Augusta	20101	Interstate/Freeways/Expressways	IS-81() from Rockbridge County Line to US 11 North of Greenville
Augusta	20102	Interstate/Freeways/Expressways	IS-81() from US 11 North of Greenville to 07-654
Augusta	20103	Interstate/Freeways/Expressways	IS-81() from SR 256 Weyers Cave Rd to Rockingham County Line
Augusta	20104	Interstate/Freeways/Expressways	IS-81() from 07-654 White Hill Rd to SR 262
Augusta	20105	Interstate/Freeways/Expressways	IS-64() from I-81 South Interchange to 07-608

County	Site Id	Road Type	Description
Augusta	20106	Interstate/Freeways/Expressways	IS-81() from US 250 to SR 275 Woodrow Wilson Pkwy
Augusta	20201	Other Principle Arterials	US-250(Main St) from Carman Ave to Hopeman Pkwy
Augusta	20202	Other Principle Arterials	US-250(Main St) from Hopeman Pkwy to US 340 Rosser Ave
Augusta	20203	Other Principle Arterials	US-340(Delphine Ave) from 7th St to Second St
Augusta	20204	Other Principle Arterials	US-250(Richmond Rd) from Statler Blvd to Frontier Dr
Augusta	20205	Other Principle Arterials	SR-254(Beverly St) from Grubert St to Thornrose Ave
Augusta	20206	Other Principle Arterials	US-340(Rosser Ave) from Lew Dewitt Blvd to Northgate Ave
Augusta	20301	Minor Arterial	SR-42(Buffalo Gap Hwy) from 07-720 to US 250 Churchville
Augusta	20302	Minor Arterial	SR-42(Buffalo Gap Hwy) from SR 254 Parkersburg Tpke to 07-720
Augusta	20303	Minor Arterial	132-4927(Spring Hill Rd) from Churchville Ave to Donaghe St
Augusta	20304	Minor Arterial	SR-252(Middlebrook Ave) from Bridge St to Lewis Street
Augusta	20305	Minor Arterial	US-340(East Side Hwy) from NCL Waynesboro to 07-612
Augusta	20306	Minor Arterial	US-250 Churchville Ave) from SR 42 E. Buffalo Gap Hwy to 07-732 Franks Mill Rd
Augusta	20401	Collector	136-5113(Charlotte Ave) from Main St to 3rd St
Augusta	20402	Collector	SR-254(New Hope Rd) from ECL Staunton to SR 262 Woodrow Wilson Pkwy
Augusta	20403	Collector	7-648(Christians Creek Rd) from 07-647 Hammond Lane to 07-608 Tinkling Spring Rd
Augusta	20404	Collector	7-612(Laurel Hill Rd) from 07-1921 Adams Lane to I-81
Augusta	20405	Collector	7-608(Tinkling Spring Rd) from 07-648 Christians Creek Road to 07-637 Jericho Road
Augusta	20406	Collector	7-664(Mt Torry Rd) from 07-814 Love Road to 07-610 Howardsville Tpke
Henry	21101	Interstate/Freeways/Expressways	US-58(William F Stone Hwy) from 44-650 Insburg Rd to Bus US 58 A L Philpott Hwy
Henry	21102	Interstate/Freeways/Expressways	US-220(WilliamFStone Hwy)fr Bus US220 S.Greensboro Rd to US58;Bus US58 ALPhilpott Hwy
Henry	21103	Interstate/Freeways/Expressways	US-220(William F Stone Hwy) from US 58; Bus US 58 A L Philpott Hwy to 44-609 Dillons Fork Rd
Henry	21104	Interstate/Freeways/Expressways	US-58(William F Stone Hwy) from US 220; Bus US 220 Greensboro Rd to 44-650 Insburg Rd
Henry	21105	Interstate/Freeways/Expressways	US-220(William F Stone Hwy) from 44-609 Dillons Fork Rd to Functional Class Change
Henry	21106	Interstate/Freeways/Expressways	US-220(William F Stone Hwy) from SR 57 Appalachian Dr to Functional Class Change
Henry	21201	Other Principle Arterials	C4US-220(Memorial Blvd) from Fayette St to NCL Martinsville
Henry	21202	Other Principle Arterials	C9US-58(A L Philpott Hwy) from 44-930 Dogwood Dr to US 58 William F Stone Hwy

County	Site Id	Road Type	Description
Henry	21203	Other Principle Arterials	US-220(Greensboro Rd) from SR 87 Morehead Ave to NCL Ridgeway
Henry	21204	Other Principle Arterials	C9US-58(Memorial Blvd) from Bus US 220 Greensboro Rd to SCL Martinsville
Henry	21205	Other Principle Arterials	C9US-58(A L Philpott Hwy) from SR 57 Chatham Rd to 44-930 Dogwood Dr
Henry	21206	Other Principle Arterials	US-58(A L Philpott Hwy) from 44-620 Old Liberty Dr to 44-610 Axton Rd
Henry	21301	Minor Arterial	SR-174(Liberty St) from Inman St to Clearview Dr
Henry	21302	Minor Arterial	A1SR-57() from SR 57 Bassett to 44-903 Stanleytown
Henry	21303	Minor Arterial	SR-57() from SR 57 Alt Bassett to 44-903 Stanleytown
Henry	21304	Minor Arterial	44-966(Rives Rd) from Bus US 220 to SCL Martinsville
Henry	21305	Minor Arterial	SR-87() from North Carolina State Line to SCL Ridgeway
Henry	21306	Minor Arterial	US-58(A L Philpott Hwy) from Patrick County Line to 44-695 Spencer-Preston Rd
Henry	21401	Collector	44-684() from US 58. A L Philpott Hwy to 44-609; 44-747
Henry	21402	Collector	44-662(Clearview Dr) from NCL Martinsville to Old SR 57
Henry	21403	Collector	44-687(Stones Dairy Rd) from 44-626 Morningside Rd to 44-681 Smith Rd
Henry	21404	Collector	44-698() from 44-687 NORTH to 44-780 Out A Way Dr; John Henry Rd
Henry	21405	Collector	44-890(Figsboro Rd) from SR 108; 44-657 Old Quarry Rd to Franklin County Line
Henry	21406	Collector	44-647(Mountain Valley Rd) from US 58; 44-610 to 44-600 Summerset Dr
Montgomery	22101	Interstate/Freeways/Expressways	US-460() from Bus US 460 to ECL Christiansburg
Montgomery	22102	Interstate/Freeways/Expressways	IS-81() from SCL Christiansburg to US 11. US 460
Montgomery	22103	Interstate/Freeways/Expressways	IS-81() from NCL Christiansburg to 60-603 Ironto
Montgomery	22104	Interstate/Freeways/Expressways	IS-81() from SR 232 to SR 177
Montgomery	22105	Interstate/Freeways/Expressways	IS-81() from SCL Christiansburg to US 11. US 460
Montgomery	22106	Interstate/Freeways/Expressways	IS-81() from SR 177 to SR 8
Montgomery	22201	Other Principle Arterials	US-11() from ECL Radford to 60-663 Walton Dr
Montgomery	22202	Other Principle Arterials	SR-232() from I-81 to SCL Radford
Montgomery	22203	Other Principle Arterials	US-11(Roanoke St) from Craig St to SR 111 Depot St
Montgomery	22204	Other Principle Arterials	SR-232(First St) from SCL Radford to Bolling Street
Montgomery	22205	Other Principle Arterials	US-11(Norwood St) from Whitehall St to ECL Radford
Montgomery	22206	Other Principle Arterials	US-460() from Giles County Line to NCL Blacksburg
Montgomery	22301	Minor Arterial	US-11(Radford Rd) from 60-663 Walton Dr to 60-662 Harmon Dr
Montgomery	22302	Minor Arterial	SR-8(Riner Rd) from Floyd County Line to 60-658 N of Riner; Meadow Creek Rd
Montgomery	22303	Minor Arterial	US-11(Roanoke St) from Tower Rd. Hampton Rd to ECL Christiansburg
Montgomery	22304	Minor Arterial	C7US-460(N Franklin St) from NCL Christiansburg to SR 114 Peppers Ferry Rd
Montgomery	22305	Minor Arterial	SR-177(Tyler Rd) from 60-600 S. Tyler Rd to SCL Radford; Rock Rd
Montgomery	22306	Minor Arterial	SR-114(Peppers Ferry Blvd) from E 60-659 Vicker Switch Rd to WCL Christiansburg

County	Site Id	Road Type	Description
Montgomery	22401	Collector	US-11(Roanoke Rd) from 60-631 Brake Rd to Roanoke County Line
Montgomery	22402	Collector	126-4655(Preston St) from Eighth St to First St
Montgomery	22403	Collector	US-11(Roanoke St) from ECL Christiansburg to 60-753 Old Town Rd
Montgomery	22404	Collector	60-655(Mt Zion Rd) from 60-781 Lick Run Rd to WCL Blacksburg
Montgomery	22405	Collector	154-3501(S Franklin St) from Alleghany St to US 460 Main St
Montgomery	22406	Collector	60-600(Tyler Rd) from 60-693 N. Childress Rd to 60-627 Barn Rd
Pittsylvania	23101	Interstate/Freeways/Expressways	US-29(Danville Expwy) from SR 86. S Main St to Goodyear Blvd
Pittsylvania	23102	Interstate/Freeways/Expressways	US-29(Danville Expwy) from Elizabeth St to SR 86. S Main St
Pittsylvania	23103	Interstate/Freeways/Expressways	US-29(Danville Expwy) from US 58. US 360 South Boston Rd to NCL Danville
Pittsylvania	23104	Interstate/Freeways/Expressways	US-29(Danville Expwy) from US 58 to Elizabeth St
Pittsylvania	23105	Interstate/Freeways/Expressways	US-29(Danville Expwy) from Goodyear Blvd to US 58. US 360 South Boston Rd
Pittsylvania	23201	Other Principle Arterials	US-58(South Boston Rd) from US 29 Danville Expressway; Bus US 58 to Kentuck Rd
Pittsylvania	23202	Other Principle Arterials	US-58() from Henry County Line to 71-622 West of Brosville
Pittsylvania	23203	Other Principle Arterials	US-29() from Bus US 29 South of Gretna to SR 40 West Gretna Rd
Pittsylvania	23204	Other Principle Arterials	US-29(Danville Expwy) from SR 360 to BUS US 29 North of Danville
Pittsylvania	23205	Other Principle Arterials	CFUS-58(Riverside Dr) from Central Blvd to Piney Forest Rd
Pittsylvania	23206	Other Principle Arterials	US-58(South Boston Rd) from Kentuck Rd to ECL Danville
Pittsylvania	23301	Minor Arterial	SR-40(W Gretna Rd) from Franklin County Line to 71-799 Climax Rd
Pittsylvania	23302	Minor Arterial	SR-40(E Gretna Rd) from 71-640 Renan Rd; Riceville Rd to Halifax County Line
Pittsylvania	23303	Minor Arterial	108-3772(Piedmont Dr) from SR 51 Westover Dr to US 29 Bus; Central Blvd
Pittsylvania	23304	Minor Arterial	SR-293(North Main St) from US 58. US 360 Riverside Dr to Worsham St
Pittsylvania	23305	Minor Arterial	SR-51(Westover Dr) from WCL Danville to Lamberth Dr
Pittsylvania	23306	Minor Arterial	SR-293(North Main St) from Worsham St to SR 360 Richmond Blvd
Pittsylvania	23401	Collector	C2US-29(N Main St) from SR-57 N. Depot St to NCL Chatham
Pittsylvania	23402	Collector	71-685(Chalk Level Rd) from 71-691 N. Mill Creek Rd to 71-690 Coles Rd
Pittsylvania	23403	Collector	71-640(Renan Rd) from SR 40 to 71-670 Deer View Rd
Pittsylvania	23404	Collector	71-659(Laurel Grove Rd) from 71-729 Kentuck Rd to Halifax County Line
Pittsylvania	23405	Collector	71-703() from 71-834 S. Jones Mill Rd to 71-1433 Cherrystone Rd
Pittsylvania	23406	Collector	108-3773(Gypsum Rd) from SCL Danville to Goodyear Blvd
Washington	24101	Interstate/Freeways/Expressways	IS-81() from I-381 to US 11. US 19
Washington	24102	Interstate/Freeways/Expressways	IS-81() from Old Airport Rd to NCL Bristol
Washington	24103	Interstate/Freeways/Expressways	IS-81() from 95-611 to SR 140
Washington	24104	Interstate/Freeways/Expressways	IS-81() from SR 140 to SCL Abingdon
Washington	24105	Interstate/Freeways/Expressways	IS-81() from US 11. US 58 to 95-704

County	Site Id	Road Type	Description
Washington	24106	Interstate/Freeways/Expressways	IS-81() from US 11. US 19 to Old Airport Rd
Washington	24201	Other Principle Arterials	US-19(Porterfield Hwy) from 95-802 Mendota Rd to Russell County Line
Washington	24202	Other Principle Arterials	T US-11(Randall St) from US 421 Cumberland St to SR 113 Moore St; Oakview Ave
Washington	24203	Other Principle Arterials	US-421(Gate City Hwy) from Island Rd to W US 11 N Euclid Ave; W State St
Washington	24204	Other Principle Arterials	US-11(Euclid Ave) from State St to Vance St
Washington	24205	Other Principle Arterials	US-19(Porterfield Hwy) from 95-700 Rich Valley Rd to 95-802 Mendota Rd
Washington	24206	Other Principle Arterials	SR-140(Jonesboro Rd) from SCL Abingdon to US 11 Main St
Washington	24301	Minor Arterial	US-11(Main St/Lee Hwy) from US Alt 58. SR 75. Cummings St to Tanner St
Washington	24302	Minor Arterial	US-11(Main St/Lee Hwy) from Tanner St to Thompson Dr
Washington	24303	Minor Arterial	US-11(Lee Highway) from Island Rd to Bonham Rd
Washington	24304	Minor Arterial	102-3318(Old Airport Rd) from I-81 Exit 7 to US 11 Lee Hwy
Washington	24305	Minor Arterial	102-3308(Kings Mill Pike) from Valley Dr to Old Airport Rd
Washington	24306	Minor Arterial	US-58(Gate City Hwy) from 95-633 E. Reedy Creek Rd to WCL Bristol
Washington	24401	Collector	95-645(Wallace Pike) from NCL Bristol to 95-657 Goose Creek Rd
Washington	24402	Collector	SR-91(Monte Vista Dr) from BUS SR 91 Maple St to NCL Glade Spring
Washington	24403	Collector	SR-91() from US 11 to SCL Glade Spring
Washington	24404	Collector	95-633(Reedy Creek Rd) from 95-641 Camp Ground Rd to 95-640 Benhams Rd
Washington	24405	Collector	102-3325(Piedmont Ave) from 102-6 Glenway Ave to 102-3312 Valley Dr
Washington	24406	Collector	SR-80(Glennbrook Ave) from US 11 Lee Hwy to 95-609 Hillman Hwy
Arlington	10101	Interstate/Freeways/Expressways	IS-395() from US 1 Jefferson Davis Hwy to George Washington Parkway
Arlington	10102	Interstate/Freeways/Expressways	IS-395() from SR 236 Duke St to Seminary Rd
Arlington	10103	Interstate/Freeways/Expressways	SR-90005(GW Memorial Parkway)from NCL Alexandria to 00-6741 Spout Run Pkwy
Arlington	10104	Interstate/Freeways/Expressways	SR-110(Jefferson Davis Hwy) from SR 27 to US 1 Jefferson Davis Hwy
Arlington	10105	Interstate/Freeways/Expressways	SR-90005(George Washington Memorial Parkway) from 1st Street to NCL Alexandria
Arlington	10106	Interstate/Freeways/Expressways	IS-66() from Lynn St Rosslyn to DC Line. Potomac River; Roosevelt Bridge
Arlington	10107	Interstate/Freeways/Expressways	IS-395(Northbound Express Lane) from Reversible Lane Split to District of Columbia Line
Arlington	10108	Interstate/Freeways/Expressways	IS-66() from Sycamore St to SR 237 Fairfax Drive
Arlington	10109	Interstate/Freeways/Expressways	SR-110(Jefferson Davis Hwy) from Arlington Ridge Rd to SR 27
Arlington	10110	Interstate/Freeways/Expressways	IS-395() from SR 236 Duke St to Seminary Rd
Arlington	10201	Other Principle Arterials	SR-236(Duke St) from SR 241 Telegraph Rd to US 1 SB Henry St
Arlington	10202	Other Principle Arterials	SR-7(King St) from Russell Rd to West St
Arlington	10203	Other Principle Arterials	SR-7(King St) from I-395 to Braddock Rd

County	Site Id	Road Type	Description
Arlington	10204	Other Principle Arterials	US-29(Lee Highway) from SR 237 Par. Washington Blvd to SR 120 Glebe Rd
Arlington	10205	Other Principle Arterials	US-1(Jefferson Davis Hwy) from Monroe Ave to NCL Alexandria
Arlington	10206	Other Principle Arterials	SR-7(King St) from WCL Alexandria to Maintenance Jurisdiction Change
Arlington	10207	Other Principle Arterials	US-1(Jefferson Davis Hwy) from NCL Alexandria to SR 120 Glebe Rd
Arlington	10208	Other Principle Arterials	SR-120(Glebe Rd) from SR 237 Fairfax Dr to US 50
Arlington	10209	Other Principle Arterials	US-1(Patrick St) from SCL Alexandria. I-95. I-495 to Franklin St
Arlington	10210	Other Principle Arterials	SR-244(Columbia Pike) from Fairfax County Line to SR 120 Glebe Rd
Arlington	10301	Minor Arterial	100-18(West St) from Duke St to Wythe St
Arlington	10302	Minor Arterial	0-6755(Highland St) from Pershing Dr to 10th St
Arlington	10303	Minor Arterial	0-6710(George Mason Dr) from SR 244 Columbia Pike to Pershing Dr
Arlington	10304	Minor Arterial	0-6737(Carlin Springs Rd) from Fairfax County Line to 5th Rd
Arlington	10305	Minor Arterial	0-6737(Carlin Springs Rd) from US 50 Arlington Blvd to George Mason Dr
Arlington	10306	Minor Arterial	100-6592(Braddock Rd) from Beauregard St to SR 7 King St
Arlington	10307	Minor Arterial	0-9(Harrison St) from 00-6809 Patrick Henry Dr to US 29 Lee Hwy
Arlington	10308	Minor Arterial	100-21(Fairfax St) from Franklin St to Montgomery St
Arlington	10309	Minor Arterial	SR-237(Fairfax Dr) from SR 120 Glebe Rd. Ballston to 10th St
Arlington	10310	Minor Arterial	100-6591(Mt Vernon Ave) from Braddock Rd to Commonwealth Ave
Arlington	10401	Collector	0-6723(Eades St) from Fort Scott Dr to 20th St
Arlington	10402	Collector	0-6724(Crystal Dr) from 26th St to 12th St
Arlington	10403	Collector	0-6743(Quincy St) from SR 237 Fairfax Dr to Washington Blvd
Arlington	10404	Collector	0-16(Randolph St) from SR 120. N Glebe Rd to 00-6608 Wilson Blvd
Arlington	10405	Collector	0-6759(N Veitch St) from 00-6757 N Veitch Street to US 29
Arlington	10406	Collector	0-15(Quinn St) from 00-6608 Wilson Blvd to Key Blvd
Arlington	10407	Collector	0-6725(Fern St) from 23 rd Street S to Army Navy Drive
Arlington	10408	Collector	0-5(Courthouse Rd) from SR 244 Columbia Pike to FR-703; Walter Reed Dr
Arlington	10409	Collector	SR-400(Washington St) from Queen St to Madison St
Arlington	10410	Collector	0-6770(Chesterbrook Rd) from SR 120 Glebe Rd to 29-689; Fairfax County Line
Fairfax	11101	Interstate/Freeways/Expressways	IS-495(Capital Beltway) from SR 236 Little River Tpke to 29-650 Gallows Rd
Fairfax	11102	Interstate/Freeways/Expressways	IS-495(Capital Beltway) from 29-620 Braddock Rd to SR 236 Little River Tpke
Fairfax	11103	Interstate/Freeways/Expressways	IS-66() from ECL Vienna Rt 243 Nutley St to I-495 Capital Beltway
Fairfax	11104	Interstate/Freeways/Expressways	IS-95() from US 1 to Frm I-95 NB North of 29-642 Lorton Rd
Fairfax	11105	Interstate/Freeways/Expressways	SR-267(Dulles Toll Rd) from 29-828 Wiehle Ave to 29-674 Hunter Mill Rd
Fairfax	11106	Interstate/Freeways/Expressways	IS-66() from SR 28 Sully Rd to 29-7100 Fairfax County Parkway
Fairfax	11201	Other Principle Arterials	US-1(Richmond Hwy) from SR 235 N. Mount Vernon Hwy to SR 241 Kings Hwy North

County	Site Id	Road Type	Description
Fairfax	11202	Other Principle Arterials	29-7100(Fairfax County Pkwy) from US 29 Lee Highway to I-66
Fairfax	11203	Other Principle Arterials	29-7100(Fairfax County Pkwy) from I-66 to 29-7700 Fair Lakes Pkwy
Fairfax	11204	Other Principle Arterials	SR-7(Leesburg Pike) from SR 193 Georgetown Pike to SR 267 Dulles Toll Rd
Fairfax	11205	Other Principle Arterials	29-0(Fairfax County Pkwy) from 29-636 Hooes Rd to 29-643 Lee Chapel Rd
Fairfax	11206	Other Principle Arterials	SR-123() from I-495 Capital Beltway to SR 309 Old Dominion Drive
Fairfax	11301	Minor Arterial	29-650(Gallows Rd) from 29-769 S. Oak St to 29-7078 Gallows Rd
Fairfax	11302	Minor Arterial	29-620(Braddock Rd) from 29-638 Rolling Rd to 29-710 Wakefield Chapel Rd
Fairfax	11303	Minor Arterial	29-644(Franconia Rd) from 29-613 W. Beulah St to 29-613 E. Van Dorn St
Fairfax	11304	Minor Arterial	29-620(Braddock Rd) from 29-652 E. Twinbrook Rd to 29-651 Guinea Rd
Fairfax	11305	Minor Arterial	29-665(Fox Mill Rd) from 29-666 Monroe St to 29-5731 John Milton Dr
Fairfax	11306	Minor Arterial	153-6669(Beulah Rd) from SR 123 Maple Ave to WCL Vienna
Fairfax	11401	Collector	29-635(Hayfield Rd) from 29-611 E. Telegraph Rd to 29-8690 Kingstowne Village Pkwy
Fairfax	11402	Collector	29-611(Old Colchester Rd) from 29-3180 Hassett St to SR 242 Gunston Rd
Fairfax	11403	Collector	29-3647(Lake Braddock Dr) from 29-8248 to 29-638 Rolling Rd
Fairfax	11404	Collector	29-608(West Ox Rd) from 29-7100 Fairfax County Pkwy to 29-668 McLearn Rd
Fairfax	11405	Collector	29-666(Monroe St) from 29-608; West Ox Rd to 29-665 Fox Mill Rd
Fairfax	11406	Collector	29-602(Seneca Rd) from SR 193 Georgetown Pike to 29-603 Beach Mill Rd
Fauquier	12101	Interstate/Freeways/Expressways	IS-66() from BUS US 17 to SR 245
Fauquier	12102	Interstate/Freeways/Expressways	IS-66() from US 17 Winchester Rd to SR 55
Fauquier	12103	Interstate/Freeways/Expressways	IS-66() from 30-688 Leeds Manor Rd to US 17 Winchester Rd
Fauquier	12104	Interstate/Freeways/Expressways	IS-66() from SR 245 to Prince William County Line
Fauquier	12105	Interstate/Freeways/Expressways	IS-66() from SR 245 to Prince William County Line
Fauquier	12106	Interstate/Freeways/Expressways	IS-66() from Warren County Line to 30-688 Leeds Manor Rd
Fauquier	12201	Other Principle Arterials	US-17(Marsh Rd) from 30-634 Morrisville to SR 28 Catlett Rd
Fauquier	12202	Other Principle Arterials	US-17(Marsh Rd) from SR 28 Catlett Rd to US 15. US 29 Opal
Fauquier	12203	Other Principle Arterials	US-29(Lee Highway) from Bus US15. BusUS29 N of Warrenton to 30-693 Old Alexandria Tpke
Fauquier	12204	Other Principle Arterials	US-17(James Madison Hwy) from 30-628 Blantyre Rd to SR 245 Old Tavern Rd
Fauquier	12205	Other Principle Arterials	US-29(Lee Highway) from 30-693 Old Alexandria Tpke to SR 215 Vint Hill Rd
Fauquier	12206	Other Principle Arterials	US-15(James Madison Hwy) from SR 28 Catlett Rd to US 17 Marsh Rd
Fauquier	12301	Minor Arterial	US-50(John S Mosby Hwy) from US 17 Winchester Rd. Paris to Loudoun County Line
Fauquier	12302	Minor Arterial	US-50(John S Mosby Hwy) from 53-611 Saint Louis Rd to Loudoun County Line
Fauquier	12303	Minor Arterial	SR-28(Catlett Rd) from US 17 North of Bealeton to 30-610 Midland
Fauquier	12304	Minor Arterial	US-50(John S Mosby Hwy) from Loudoun County Line to 53-611 Saint Louis Rd

County	Site Id	Road Type	Description
Fauquier	12305	Minor Arterial	C6US-17(Broadview Ave) from Bus US 211 Waterloo St to Bus US 29 Lee Hwy
Fauquier	12306	Minor Arterial	C2US-15(Lee Highway) from US 29 Bus US 211; Blackwell Rd to NCL Warrenton
Fauquier	12401	Collector	156-3(Oak Springs Dr) from Broadview Ave to Branch Dr
Fauquier	12402	Collector	30-709(Belvoir Rd; Zulla Rd) from US 17 Winchester Rd to 30-702 N; Rock Hill Rd
Fauquier	12403	Collector	30-643(Meetze Rd) from 30-672 Duhollow Rd to ECL Warrenton
Fauquier	12404	Collector	30-600(Beverleys Mill Rd) from 30-821 Pilgrims Rest Rd to US 29 Lee Hwy
Fauquier	12405	Collector	30-600(Broad Run Church Rd) from US 29 Lee Hwy to 30-675 Kelly Rd
Fauquier	12406	Collector	30-603(Bastable Mill Rd) from SR 28; 30-616 to 30-667 W; Old Dumfries Rd
Loudoun	13101	Interstate/Freeways/Expressways	SR-267(Dulles Toll Rd) from SR 28 Sully Rd to Fairfax County Line
Loudoun	13102	Interstate/Freeways/Expressways	SR-267(Dulles Greenway) from US 15 Leesburg Bypass to SCL Leesburg
Loudoun	13103	Interstate/Freeways/Expressways	SR-267(Dulles Toll Rd) from SR 28 Sully Rd to Fairfax County Line
Loudoun	13104	Interstate/Freeways/Expressways	SR-267(Dulles Greenway) from US 15 Leesburg Bypass to SCL Leesburg
Loudoun	13201	Other Principle Arterials	SR-7(Market St East) from US 15. Bus SR 7 Market St to ECL Leesburg
Loudoun	13202	Other Principle Arterials	SR-7(Harry Flood Byrd Hwy) from 53-760 Near Bluemont to Bus SR 7 West of Round Hill
Loudoun	13203	Other Principle Arterials	SR-7(Harry Flood Byrd Hwy) from 53-704 Hamilton Station Rd to SR 9. Bus SR 7 Clarkes Gap
Loudoun	13204	Other Principle Arterials	SR-267(Dulles Greenway) from SCL Leesburg to 53-659 Belmont Ridge Rd
Loudoun	13205	Other Principle Arterials	SR-28(Sully Rd) from 53-625 Waxpool Rd to SR 7 Harry Byrd Hwy
Loudoun	13206	Other Principle Arterials	SR-7(Harry Flood Byrd Hwy) from SR 28 Sully Rd to Fairfax County Line
Loudoun	13301	Minor Arterial	C2SR-7(Market St) from 253-4200 Catocin Circle to US 15; SR 7
Loudoun	13302	Minor Arterial	53-606(Old Ox Rd) from SR 28 Sully Rd to 53-605 Rock Hill Rd
Loudoun	13303	Minor Arterial	53-1582(Algonkian Pkwy) from 53-1794 Cascades Pkwy to Whitewater Dr
Loudoun	13304	Minor Arterial	SR-9(Charles Town Pike) from 53-690 Hillsboro Rd to SR 287 Berlin Tpke
Loudoun	13305	Minor Arterial	SR-9(Charles Town Pike) from 53-704 Hamilton Station Rd to SR 7 Clarkes Gap
Loudoun	13306	Minor Arterial	US-15(James Monroe Hwy) from 53-704 Church Rd to SCL Leesburg
Loudoun	13401	Collector	53-662(Clarks Gap Rd) from SR 9 MID. Charles Town Pike to 53-665 S. High St
Loudoun	13402	Collector	53-620(Braddock Rd) from 53-659 Gum Spring Rd to Fairfax County Line
Loudoun	13403	Collector	US-50(Washington St) from W 53-626 The Plains Rd to ECL Middleburg
Loudoun	13404	Collector	53-625(Waxpool Rd) from 53-1950 Loudoun County Pkwy to SR 28 Sully Rd
Loudoun	13405	Collector	SR-287(Berlin Tpke) from SCL Lovettsville to NCL Lovettsville
Loudoun	13406	Collector	53-621(Evergreen Mills Rd) from 53-659 S. Gum Spring Rd to 53-659 N. Belmont Ridge Rd
Warren	14101	Interstate/Freeways/Expressways	IS-81() from Shenandoah County Line to Frederick County Line
Warren	14102	Interstate/Freeways/Expressways	IS-66() from SR 79 to Fauquier County Line

County	Site Id	Road Type	Description
Warren	14103	Interstate/Freeways/Expressways	IS-66() from US 340. US 522 Winchester Rd to SR 79
Warren	14104	Interstate/Freeways/Expressways	IS-66() from US 340. US 522 Winchester Rd to SR 79
Warren	14105	Interstate/Freeways/Expressways	IS-66() from I-81 to US 340. US 522 Winchester Rd
Warren	14106	Interstate/Freeways/Expressways	IS-66() from I-81 to US 340. US 522 Winchester Rd
Warren	14201	Other Principle Arterials	US-522(Commerce Ave) from Main St to Happy Creek Rd
Warren	14202	Other Principle Arterials	US-522(Winchester Rd) from Old NCL Front Royal to I-66
Warren	14203	Other Principle Arterials	US-522(Commerce Ave) from SR 55 South St to Main St
Warren	14204	Other Principle Arterials	US-340(North Royal Ave) from E Main St to 6th St
Warren	14205	Other Principle Arterials	US-522(Chester Gap Rd) from Criser Rd to SR 55 South St
Warren	14206	Other Principle Arterials	US-522(North Royal Ave) from Commerce Ave to 14th St
Warren	14301	Minor Arterial	US-522(Winchester Rd) from Functional Class Change to 93-627 Reliance Rd
Warren	14302	Minor Arterial	US-340(Stonewall Jackson Hwy) from 93-613 N. Bentonville Browntown Rd to 93-607 Rocky Ln
Warren	14303	Minor Arterial	US-340(Stonewall Jackson Hwy) from 93-607 Rocky Lane to 93-619 Rivermont Dr
Warren	14304	Minor Arterial	112-4010(Shenandoah Ave) from Kendrick Lane to 14Th St
Warren	14305	Minor Arterial	112-4006(6th St) from US 340 North Royal Ave to Commerce Ave
Warren	14306	Minor Arterial	SR-48(Skyline Dr) from Rappahannock County Line to US 340; Front Royal
Warren	14401	Collector	93-619(Rivermont Dr) from 93-615 S; Stokes Airport Rd to 93-673 McCoys Ford Road
Warren	14402	Collector	93-661(Fairground Rd) from 93-658 Rockland Rd to US 522 Winchester Rd
Warren	14403	Collector	SR-55(Strasburg Rd) from 93-626 Andrews Rd to WCL Front Royal
Warren	14404	Collector	93-619(Rivermont Dr) from US 340 Stonewall Jackson Hwy to 93-677 Catlett Mountain Road
Warren	14405	Collector	SR-55(John Marshall Hwy) from ECL Front Royal to SR 79 Apple Mountain Rd
Warren	14406	Collector	SR-55(Strasburg Rd) from Shenandoah County Line to 93-626 Andrews Rd
Hanover	15101	Interstate/Freeways/Expressways	IS-295() from Henrico County Line to US 301. SR 2 Chamberlayne Rd
Hanover	15102	Interstate/Freeways/Expressways	IS-295() from US 360 Mechanicsville Tpke to 42-615 Creighton Rd
Hanover	15103	Interstate/Freeways/Expressways	IS-95() from SR 30 Kings Dominion Boulevard to Caroline County Line
Hanover	15104	Interstate/Freeways/Expressways	IS-95() from NCL Ashland to SR 30 Kings Dominion Boulevard
Hanover	15105	Interstate/Freeways/Expressways	IS-95() from 42-656 Sliding Hill Rd to 42-802 Lewistown Rd
Hanover	15106	Interstate/Freeways/Expressways	IS-95() from NCL Ashland to SR 30 Kings Dominion Boulevard
Hanover	15201	Other Principle Arterials	US-360(Mechanicsville Tpk) from 42-606 Old Church Rd; Studley Rd to King William Cty Line
Hanover	15202	Other Principle Arterials	US-360(Mechanicsville Tpk)fr 42-615 Walnut Grove Rd to 42-606 Old Church Rd; Studley Rd

County	Site Id	Road Type	Description
Hanover	15203	Other Principle Arterials	US-360(Mechanicsville Tnpg) from I-295 to 42-643 Lee Davis Road
Hanover	15204	Other Principle Arterials	US-301(Chamberlayne Rd) from 42-640 Shady Grove Rd to 42-643 Ashcake Rd
Hanover	15206	Other Principle Arterials	US-301(Chamberlayne Rd) from 42-643 Ashcake Rd to 42-653 Whippoorwill Rd
Hanover	15301	Minor Arterial	SR-156(Cold Harbor Rd) from 42-615 Creighton Rd to 42-643 Lee Davis Rd
Hanover	15302	Minor Arterial	SR-30(Kings Dominion Boulevard) from 42-688 Doswell Road to Caroline County Line
Hanover	15303	Minor Arterial	US-33(Mountain Rd) from 42-670 Farrington Rd to Henrico County Line
Hanover	15304	Minor Arterial	SR-54(West Patrick Henry Rd) from 42-671 Scotchtown Road to 42-687 Yankeetown Road
Hanover	15305	Minor Arterial	SR-54(West Patrick Henry Rd) from 42-687 Yankeetown Road to NCL Ashland
Hanover	15306	Minor Arterial	US-33(Mountain Rd) from Louisa County Line to 42-715 Beaver Dam Rd; Clazemont Rd
Hanover	15401	Collector	42-623(Ashland Rd) from SR 271 Pouncey Tract Rd to 42-624 W. Abner Church Rd
Hanover	15402	Collector	42-635(Sandy Valley Rd) from 42-633 Beulah Church Rd to 42-634 Beatties Mill Rd
Hanover	15403	Collector	42-643(Rural Point Rd) from 42-627 E. Pole Green Rd to 42-606 Studley Rd
Hanover	15404	Collector	42-637(Atlee Station Rd) from 42-1207 Westone Rd to 42-656 Sliding Hill Rd
Hanover	15405	Collector	42-643(New Ashcake Rd) from 42-766 Marboro Rd to 42-656 Sliding Hill Rd
Hanover	15406	Collector	42-715(Beaver Dam Rd) from US 33 Mountain Rd to 42-608 Parsons Road
Henrico	16102	Interstate/Freeways/Expressways	IS-295() from US 33 Staples Mill Rd to Woodman Rd
Henrico	16103	Interstate/Freeways/Expressways	IS-195() from NCL Richmond to SCL Richmond
Henrico	16104	Interstate/Freeways/Expressways	IS-95() from US 301 Chamberlayne Ave to SR 73 Parham Rd
Henrico	16105	Interstate/Freeways/Expressways	IS-64() from SR 33 Nine Mile Road to Laburnum Ave
Henrico	16106	Interstate/Freeways/Expressways	IS-295() from SR 895 Pocahontas Parkway to SR 5 New Market Rd
Henrico	16201	Other Principle Arterials	43-7518(Parham Rd) from River Rd to SR 6 Patterson Ave
Henrico	16202	Other Principle Arterials	43-7555(Laburnum Ave) from Williamsburg Rd to I-64
Henrico	16203	Other Principle Arterials	43-7518(Parham Rd) from Three Chopt Rd to I-64
Henrico	16204	Other Principle Arterials	US-250(Broad St) from Parham Rd to Hungary Springs Rd
Henrico	16205	Other Principle Arterials	US-360(Mechanicsville Tnpg) from ECL Richmond to Laburnum Ave
Henrico	16206	Other Principle Arterials	43-7518(Parham Rd) from 43-7663 Woodman Road to US 1 Brook Rd
Henrico	16301	Minor Arterial	US-33(Staples Mill Rd) from SR 157; Springfield Rd; Mountain Rd to 43-7526 Hungary Rd
Henrico	16302	Minor Arterial	43-7657(Forest Ave) from Three Chopt Rd to Glenside Dr
Henrico	16303	Minor Arterial	43-7514(Gaskins Rd) from River Rd to Patterson Ave
Henrico	16304	Minor Arterial	US-250(Broad St) from Cox Rd to Gaskins Rd

County	Site Id	Road Type	Description
Henrico	16305	Minor Arterial	US-1(Brook Rd) from I-295 to Virginia Center Parkway
Henrico	16306	Minor Arterial	43-7514(Gaskins Rd) from Three Chopt Rd to I-64
Henrico	16401	Collector	43-7655(Carolina Ave) from Laburnum Ave to Richmond-Henrico Tpke
Henrico	16402	Collector	SR-157(Pemberton Rd) from Three Chopt Rd to US 250; Broad St
Henrico	16403	Collector	43-7591(Hanover Rd) from Nine Mile Rd to Airport Dr
Henrico	16405	Collector	43-7707(West End Dr) from Greenford Dr to 43-7526 Hungary Rd
Henrico	16406	Collector	43-45(Sadler Rd) from 43-46 Dominion Blvd. to 43-7706 Lake Brook Dr
South East	17101	Interstate/Freeways/Expressways	IS-64() from Greenbrier Parkway to SR 168 Battlefield Blvd
South East	17102	Interstate/Freeways/Expressways	IS-64() from SR 194 Chesapeake Blvd to SR 247 Norview Ave
South East	17103	Interstate/Freeways/Expressways	IS-264() from SR 405 Ballentine Blvd to US 13 Military Hwy
South East	17104	Interstate/Freeways/Expressways	IS-64() from US 17 George Washington Hwy to US 13. US 460 Military Hwy
South East	17105	Interstate/Freeways/Expressways	IS-564() from I-64 to SR 406 International Ter Blvd
South East	17106	Interstate/Freeways/Expressways	IS-264() from US 460. SR 168. SR 166 Brambleton Ave to SR 405 Ballentine Blvd
South East	17107	Interstate/Freeways/Expressways	US-58(Military Highway) from ECL Suffolk to I-664
South East	17108	Interstate/Freeways/Expressways	IS-264(Elizabeth River Downtown Tunnel) from SR 141 Effingham St to WCL Norfolk
South East	17109	Interstate/Freeways/Expressways	IS-664(Hampton Roads Beltway) from SCL Hampton to Roanoke Avenue; Chestnut St
South East	17110	Interstate/Freeways/Expressways	IS-264() from SR 405 Ballentine Blvd to US 13 Military Hwy
South East	17201	Other Principle Arterials	SR-337(Hampton Blvd) from 49th St Old Dominion University to SR 165 Little Creek Rd
South East	17202	Other Principle Arterials	SR-168(Tidewater Dr) from SR 165 Little Creek Rd to Bay View Blvd
South East	17203	Other Principle Arterials	US-17(GW Hwy) from 131-8796 Ballahack Rd to BUS US 17 George Washington Hwy
South East	17204	Other Principle Arterials	US-460(Granby St) from Thole St to SR 165 Little Creek Rd
South East	17205	Other Principle Arterials	US-460(Granby St) from Willow Wood Dr to Thole St
South East	17206	Other Principle Arterials	SR-337(Hampton Blvd) from SR 165 Little Creek Rd to SR 406 International Terminal Blvd
South East	17207	Other Principle Arterials	US-60(Shore Dr) from Seashore State Park Entrance to Atlantic Ave
South East	17208	Other Principle Arterials	US-13(Military Highway) from SR 196 Canal Dr to SR 166 Bainbridge Blvd
South East	17209	Other Principle Arterials	C1SR-168(Battlefield Blvd) from Volvo Pkwy to I-64
South East	17210	Other Principle Arterials	US-60(4th View St) from I-64 to Ocean View Ave East
South East	17301	Minor Arterial	SR-165(Princess Anne Rd) from 134-7837 Edwin Dr to SR 190 Kempsville Rd
South East	17302	Minor Arterial	134-8638(Wesleyan Dr) from Diamond Springs Rd to Haygood Dr
South East	17303	Minor Arterial	SR-165(Cedar Rd) from 131-8798 Bells Mill Rd East to Bus SR 168 Battlefield Blvd

County	Site Id	Road Type	Description
South East	17304	Minor Arterial	SR-239(Victory Blvd) from US 58 Airline Blvd to I-264
South East	17305	Minor Arterial	SR-165(Little Creek Rd) from US 460 Granby St to Diven St
South East	17306	Minor Arterial	134-11(Independence Blvd South) from SR 225; I-264 to Holland Rd
South East	17307	Minor Arterial	124-8554(Crawford St) from County St to Wythe St
South East	17308	Minor Arterial	121-4(Oyster Point Rd) from US 60; Warwick Blvd to SR 143; Jefferson Ave
South East	17309	Minor Arterial	US-60(Warwick Blvd) from Mercury Blvd to Huntington Ave
South East	17310	Minor Arterial	134-8669(Princess Anne Rd) from Sandbridge Rd to General Booth Blvd
South East	17401	Collector	134-8819(Greenwich Rd) from Newtown Rd to Witchduck Rd
South East	17402	Collector	134-8733(Little Neck Rd) from Va Beach Blvd to Lynnhaven Rd
South East	17403	Collector	134-8678(Sullivan Blvd) from Aragona Blvd to Haygood Rd
South East	17404	Collector	Route 4 (Indian Creek Rd) from Battlefield Blvd to WCL Virginia Beach
South East	17405	Collector	134-8691(West Neck Rd) from Indian River Rd to North Landing Rd
South East	17406	Collector	134-8667(Salem Rd) from Elbow Rd to Lynnhaven Pkwy
South East	17407	Collector	131-6(Woodlake Dr) from Greenbriar Pkwy to Old Greenbriar Pkwy
South East	17408	Collector	134-8673(Sandbridge Rd) from Lotus Dr to Sandpiper Rd
South East	17409	Collector	121-12(Canon Blvd) from Thimble Shoals Blvd to SR 171
South East	17410	Collector	134-8726(Potters Rd) from Great Neck Rd to First Colonial Rd
York	18101	Interstate/Freeways/Expressways	IS-64() from SR 199 W. Humelsine Pkwy; 99-646 Newman Rd to SR 143 Camp Peary Rd
York	18102	Interstate/Freeways/Expressways	IS-64() from SR 199 W. Humelsine Pkwy; 99-646 Newman Rd to SR 143 Camp Peary Rd
York	18103	Interstate/Freeways/Expressways	IS-64(Hampton Roads Beltway) from SR 167 LaSalle Ave to US 60. SR 143 Settlers Landing Rd
York	18104	Interstate/Freeways/Expressways	IS-64() from Hampton Roads Center Parkway to SR 134 Magruder Blvd
York	18105	Interstate/Freeways/Expressways	IS-64() from SR 143 Camp Peary Rd to SR 199 E. Humelsine Pkwy
York	18106	Interstate/Freeways/Expressways	IS-64() from US 258. SR 134 Mercury Blvd to I-664 Hampton Roads Beltway
York	18201	Other Principle Arterials	114-7033(Armistead Ave) from Mercury Blvd to Tide Mill Lane
York	18202	Other Principle Arterials	US-258(Mercury Blvd) from Aberdeen Road to SR 415 Power Plant Pkwy
York	18203	Other Principle Arterials	SR-105(Ft Eustis Blvd) from NCL Newport News to US 17
York	18204	Other Principle Arterials	US-17(George Washington Mem Hwy) from SR 134 Hampton Hwy to 99-621 Grafton Dr
York	18205	Other Principle Arterials	US-258(Mercury Blvd) from SR 415 Power Plant Pkwy to I-64
York	18206	Other Principle Arterials	SR-134(Hampton Hwy) from SR 171 Victory Blvd to 99-600 Big Bethel Rd
York	18301	Minor Arterial	SR-415(Power Plant Pkwy) from Pine Chapel Rd to Briarfield Rd
York	18302	Minor Arterial	SR-152(Todds Ln) from ECL Newport News to Big Bethel Rd
York	18303	Minor Arterial	SR-415(Queen St) from Briarfield Rd to Michigan Dr

County	Site Id	Road Type	Description
York	18304	Minor Arterial	114-7021(Big Bethel Rd) from Todds Lane to Hampton Roads Center Pkwy
York	18305	Minor Arterial	SR-134(Armistead Ave) from Queen St to US 60 Settlers Landing Rd
York	18306	Minor Arterial	US-258(Mercury Blvd) from Lasalle Avenue to SR 278 King Street
York	18401	Collector	99-620(Lakeside Dr) from US 17 George Washington Mem Hwy to 99-614 Showalter Rd
York	18402	Collector	147-7043(Hunts Neck Rd) from Pasture Rd to Edwards Rd
York	18403	Collector	114-7008(Nickerson Blvd) from Andrews Blvd to SR 169; Old Buckroe Rd
York	18404	Collector	114-7047(Beach Rd) from Fox Hill Rd to Lighthouse Dr
York	18405	Collector	SR-171(Poquoson Ave) from Poquoson Ave to Bunting Rd
York	18406	Collector	SR-169(Fox Hill Rd) from Woodland Road to Clemwood Pkwy